Table 1 S1:

 Experiment design to test the interactive effects of temperature, pH, and nutrients on gross photosynthesis.

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| --- | --- | --- |
| Nutrients concentrations(KNO3:K3PO4) | pH | Temperature (°C) |
|   |   | 24°C |
|   | 7.5 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
| 1.0:0.1  | 8.2 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
|   | 8.6 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
|   | 7.5 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
| 5.0:0.5 | 8.2 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
|   | 8.6 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
|   | 7.5 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
| 10.0:1.0 | 8.2 | 28°C |
|   |   | 33°C |
|   |   | 24°C |
|   | 8.6 | 28°C |
|   |   | 33°C |
|   | 7.5 | 24°C |
|   |   | 28°C |
|   |   | 33°C |
| Control treatment | 8.2 | 24°C |
|   |   | 28°C |
|   |   | 33°C |
|   | 8.6 | 24°C |
|   |   | 28°C |
|   |   | 33°C |