

Supporting Information Table S1 Census in the main model photosynthetic organisms of the enzymes that convert glycerate-3-phosphate into D-fructose-6-phosphate and that equilibrate the hexose-phosphate pool (D-fructose-6-phosphate, D-glucose-6-phosphate and D-glucose-1-phosphate). The number of isoforms for each enzyme is indicated in the table. *E. sil*: *Ectocarpus siliculosus* (brown algae); *P. tri*: *Phaeodactylum tricornutum*; *T. pse*: *Thalassiosira pseudonana* (Diatoms); *A. tha*: *Arabidopsis thaliana* (Plants); *O. luc*: *Ostreococcus lucimarinus*, *C. rei*: *Chlamydomonas reinhardtii* (green algae) ; *C. mer*: *Cyanidioschyzon merolae* (red algae).

	EC number	<i>E. sil</i>	<i>P. tri</i>	<i>T. pse</i>	<i>A. tha</i>	<i>O. luc</i>	<i>C. rei</i>	<i>C. mer</i>
Phosphoglycerate kinase	2.7.2.3	5	3	5	3	2	1	1
Glyceraldehyde-3-phosphate dehydrogenase	1.2.1.13	5	6	5	3	2	1	1
Triosephosphate isomerase	5.3.1.1	3	1	2	2	3	2	1
Fructose-bisphosphate aldolase	4.1.2.13	3	1	2	8	3	4	2
Fructose-1,6-bisphosphatase	3.1.3.11	3	3	2	2	2	1	3
Glucose-6-phosphate isomerase	5.3.1.9	2	3	3	2	1	1	2
Phosphoglucomutase	5.4.2.2	2	2	2	3	1	2	2