

Supplementary Materials

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Supplementary Table S1. A list of primers for nuclear 18 small subunit gene locus and their references

Primer name	Primer sequence (5'-3')	Reference
EAF3	TCGACAATCTGGTTGATCCTGCCAG	Marin et al. (2003)
G800R	CATTACTCCGGTCTACAGACCAACAGG	Marin et al. (2003)
G500F	GAATGAGTACAATCTAAACCCCTTAAC	Marin et al. (2003)
ITS055R	CTCCTTGGTCCGTGTTTCAAGACGGG	Marin et al. (2003)

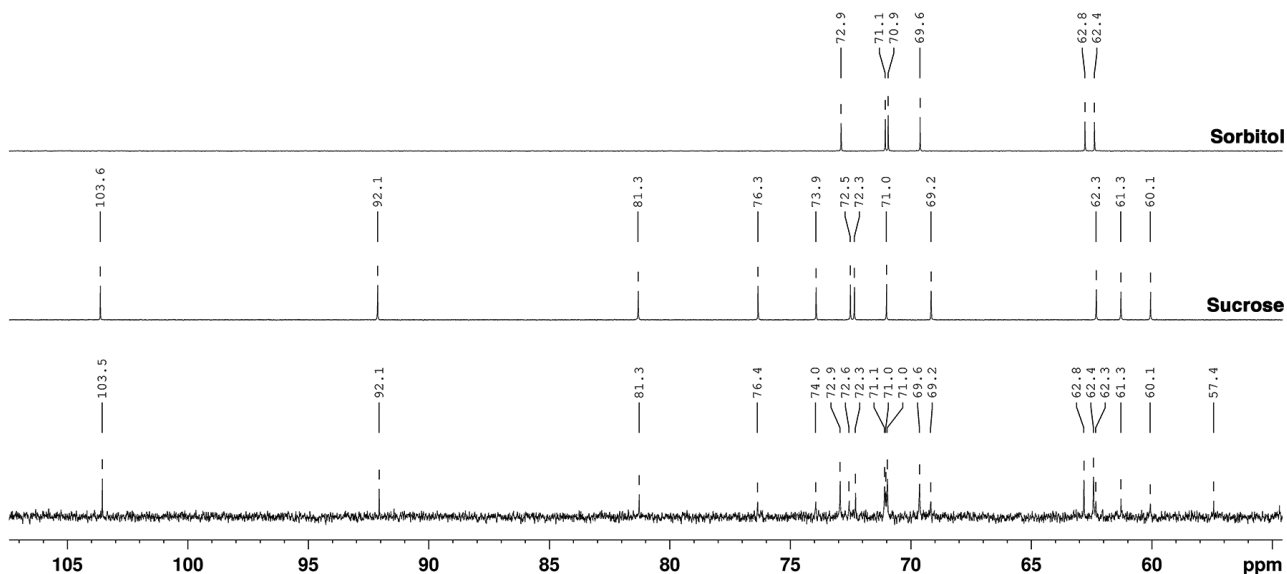
Cycling conditions were done according to the references.

Supplementary Table S2. Absolute concentrations of sorbitol and sucrose measured in cellular extracts of the strains during high-performance liquid chromatography analysis

Strain	Species assignment	Sorbitol	Sucrose	Sorbitol : Sucrose ratio
SAG 1.92	<i>Desmococcus olivaceus</i> ^a	322	28	11.5 : 1
ACOI 1475	<i>Desmococcus vulgaris</i>	442	16	27.6 : 1
J 1303	<i>Deuterostichococcus marinus</i> ^a	116	106	1.1 : 1
SAG 10.97	<i>Deuterostichococcus epilithicus</i>	132	92	1.4 : 1
ASIB-IB-37	<i>Deuterostichococcus tetrallantoideus</i> ^a	28	44	0.6 : 1
SAG 11.88	<i>Diplosphaera epiphytica</i> ^a	376	69	5.4 : 1
SAG 41.84	" <i>Gloeotila contorta</i> "	0	135	0 : 1
SAG 2481	<i>Protostichococcus edaphicus</i> ^a	230	74	3.1 : 1
SAG 380-1	<i>Pseudostichococcus monallantoideus</i> ^a	89	9	9.9 : 1
ASIB-BS-658	<i>Stichococcus</i> sp.	322	80	4 : 1
CALU-1142	<i>Stichococcus undulatus</i> ^a	295	126	2.3 : 1
LB 1820	<i>Stichococcus sequoieti</i> ^a	242	111	2.2 : 1
SAG 335-8	<i>Stichococcus bacillaris</i>	115	78	1.5 : 1
ACOI-95	<i>Stichococcus bacillaris</i>	222	138	1.6 : 1
SAG 56.91	<i>Stichococcus bacillaris</i>	200	127	1.6 : 1
CCAP 379/1A	<i>Stichococcus bacillaris</i> ^a	151	121	1.2 : 1
ACSSI 84	<i>Stichococcus</i> sp.	99	34	2.9 : 1
IT-203	<i>Stichococcus</i> sp.	117	117	1 : 1
ASIB-BS-57	<i>Stichococcus</i> sp.	115	40	2.9 : 1
ACSSI 273	<i>Stichococcus</i> sp.	173	143	1.2 : 1
ACOI-1477	<i>Stichococcus</i> sp.	285	74	3.9 : 1
SWN 282	<i>Stichococcus</i> sp.	201	71	2.8 : 1
J 1302	<i>Teratostichococcus jenerensis</i> ^a	74	17	4.4 : 1
SAG 2406	<i>Tritostichococcus solitus</i> ^a	81	18	4.5 : 1

"Species assignment" refers to the most recent taxonomic classification of the available strain or taxon. The ratios of sorbitol-to-sucrose are to the far right. Values are expressed in $\mu\text{mol g}^{-1}$ algal dry weight.

^aAuthentic strains.



Supplementary Fig. S1. ¹³C-NMR spectrum of sugar alcohols produced by SAG 56.91 *Stichococcus bacillaris*, overlaid with spectra for sorbitol and sucrose. No other sugars or sugar alcohols were present, indicative of a typical *Stichococcus* expression pattern.

REFERENCES

- Marin, B., Palm, A., Klingberg, M. & Melkonian, M. 2003. Phylogeny and taxonomic revision of plastid-containing Euglenophytes based on SSU rDNA sequence comparisons and synapomorphic signatures in the SSU rRNA secondary structure. *Protist* 154:99–145.