Green Light Suppresses Cell Growth but Enhances Photosynthetic Rate and MIB Biosynthesis in PE-Containing *Pseudanabaena*

Tengxin Cao[a,b,d], Ming Su[a,d,*], Yufan Ai[a,d], Ziyi Yang[a,d], Jinbo Zhao[a,c], Min Yang[a,d,*]

[a] *State Key Laboratory of Environmental Aquatic Chemistry, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, P.O. Box 2871, Beijing, 100085,*

[b] *Sino-Danish College, Sino-Danish Center for Education and Research, University of Chinese Academy of Sciences, Zhongguancun East Rd. 80, Beijing, 100190,*

[c] *School of Civil Engineering, Chang'an University, Xi'an, 710054,*

[d] *University of Chinese Academy of Sciences, Beijing, 100049,*

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[1] State Key Laboratory of Environmental Aquatic Chemistry, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences

[2] Sino-Danish College, Sino-Danish Center for Education and Research, University of Chinese Academy of Sciences

[3] School of Civil Engineering, Chang'an University

[4] University of Chinese Academy of Sciences

[*] Correspondence: Ming Su <mingsu@rcees.ac.cn>, Min Yang <yangmin@rcees.ac.cn>

Supplementary Material

Figures and/or tables are provided below as the supplementary evidences to the main text.

[*]Corresponding author
Email addresses: mingsu@rcees.ac.cn (Ming Su), yangmin@rcees.ac.cn (Min Yang)

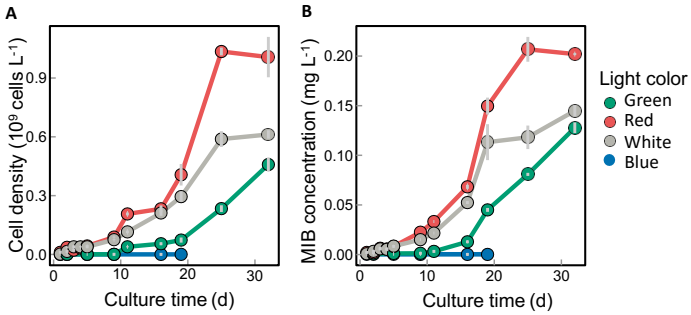

Fig. S1: The cell density (A) and MIB concentration (B) of MIB-producing *Pseudanabaena cinerea* under different light color.

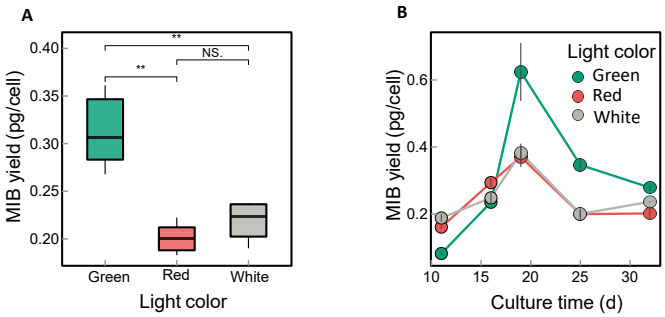

Fig. S2: The cellular MIB yield of MIB-producing *Pseudanabaena cinerea* under different light color (A) and culture time (B).

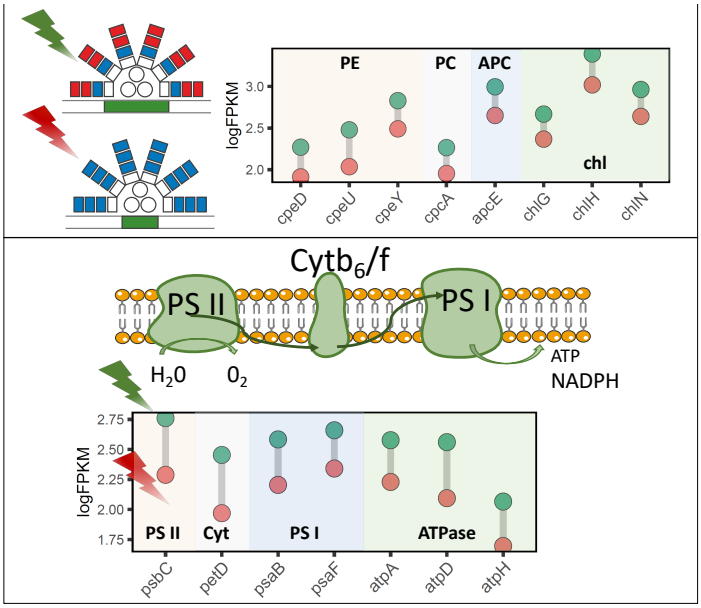

Fig. S3: The expression level (expressed in log10FPKM) of genes encoding phycobilisomes (PE□*cpeD*, *cpeU*, and *cpeY*; PC: *cpcA*; APC: *apcE*; chlorophyll: *chlG*, *chlH*, and *chlN*), photosystem II (*psbC*), photosystem I (*psaB* and *psaF*), photoelectron transfer pigments (*petD*) of MIB-producing *Pseudanabaena cinerea* under green light and red light.

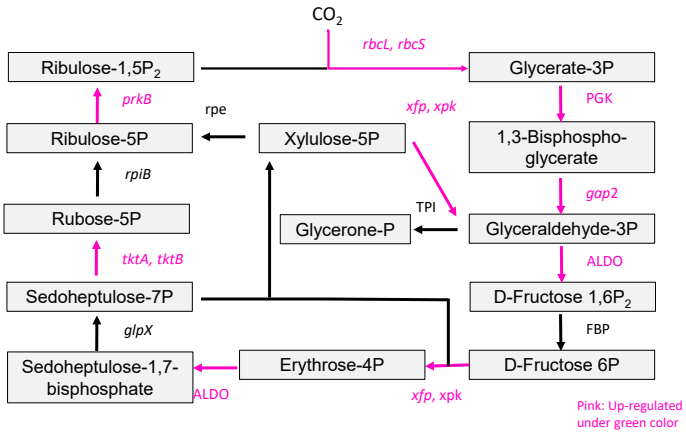

Fig. S4: The detailed biosynthesis pathway of carbon fixation in MIB-producing *Pseudanabaena cinerea*. Pink symbols represented the up-regulated genes under green light compared to red light.

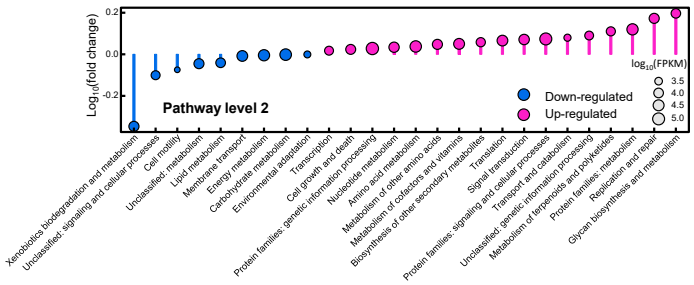

Fig. S5: The up-regulated and down-regulated pathways under green light compared to red light at pathway levels 2. Pink and blue symbols represented the up-regulated and down-regulated pathways by green light compared to red light.

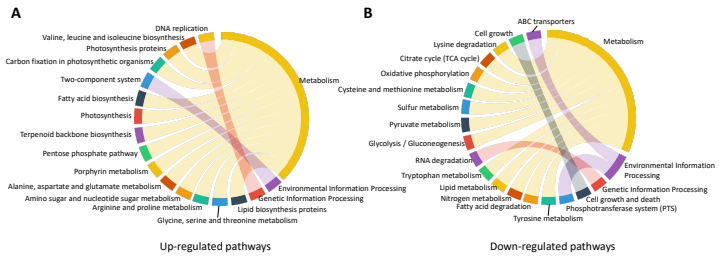

Fig. S6: The up-regulated and down-regulated pathways under green light compared to red light. The Metabolism, environmental information processing, genetic information processing, and cell growth and death are the physiological functions at pathway level 1.

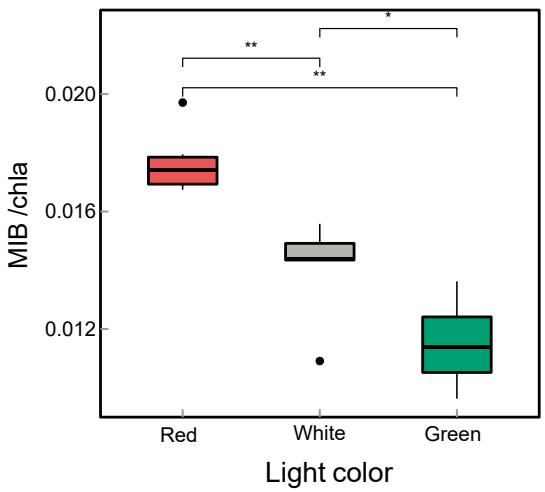

Fig. S7: The MIB yield per chl *a* production of MIB-producing *Pseudanabaena cinerea* under different light color.

Pathway level3	Pathway level1	Gene Num	Richfactor	p-value
Photosynthesis-antenna proteins	Metabolism	15	0.5172	0.0000
Ribosome	Genetic Information Processing	19	0.3585	0.0000
Carbon fixation	Metabolism	8	0.5333	0.0000
Photosynthesis	Metabolism	17	0.2982	0.0000
Glycolysis / Gluconeogenesis	Metabolism	10	0.3846	0.0001
RNA degradation	Genetic Information Processing	8	0.3478	0.0015
Pentose phosphate pathway	Metabolism	6	0.3529	0.0054
Glyoxylate and dicarboxylate metabolism	Metabolism	6	0.3333	0.0074
Citrate cycle (TCA cycle)	Metabolism	4	0.3333	0.0287
Pyruvate metabolism	Metabolism	6	0.2400	0.0383
Cysteine and methionine metabolism	Metabolism	6	0.1875	0.1069
Bacterial secretion system	Environmental Information Processing	4	0.2667	0.0618
Starch and sucrose metabolism	Metabolism	4	0.2500	0.0759
Biotin metabolism	Metabolism	3	0.2308	0.1452
Sulfur metabolism	Metabolism	4	0.2353	0.0915
Protein export	Genetic Information Processing	3	0.2000	0.1988
Sulfur relay system	Genetic Information Processing	3	0.2000	0.1988
Terpenoid backbone biosynthesis	Metabolism	3	0.21429	0.1714

Table S1: The enrichment pathways of *Pseudanabaena cinerea* in response to different light color.