Table S2 – Characteristics of the bacterial strains and plasmids used in this study

Strain/Plasmid	Relevant features	Reference
	Escherichia coli	
CM404	*E. coli* strain harboring the self-transmissible plasmid pRK2013 enabling the conjugative transfer of RSF1010-derived pC plasmids into cyanobacteria	(Mermet-Bouvier and Chauvat, 1994)
TOP10	*E. coli* strain for cloning	Invitrogen
NEB 5-alpha	*E. coli* strain for cloning	New England Biolabs
NEB 10-beta	*E. coli* strain for cloning	New England Biolabs
	Cloning vectors	
pTwist	Amp^R plasmid vector	Twist Biosciences
pUC4K	Source of the Km^R marker with no transcription terminator	Pharmacia
pC	RSF1010-derived plasmid (Sp^R/Sm^R, Cm^R) harboring the strong p_R promoter for constitutive gene expression in *E. coli* and cyanobacteria	(Veaudor et al., 2018)
	Replicative plasmids for strong constitutive expression of terpene synthase genes in cyanobacteria	
pCLS	pC derived plasmid (Sp^R/Sm^R, Cm^S) harboring the *Mentha spicata* 4S-limonene synthase gene (LS) cloned between the *Nde*I and *EcoR*I restriction sites	(Chenebault *et al.*, 2020)
pCFS	pC derivative (Sp^R/Sm^R, Cm^S) carrying the *Picea abies* farnesene synthase gene (FS) cloned between *Nde*I and *EcoR*I	(Blanc-Garin *et al.*, 2022)
	Replicative plasmids for strong constitutive expression of terpene synthase encoding genes and *crtE* genes in cyanobacteria	
pCLS-CrtE$_{6803}$	pCLS derived plasmid (Sm^R/Sp^R) harboring the *crtE* gene from S.6803 cloned downstream the LS gene between the *EcoRI* and *AclI* sites	This study
pCLS-CrtE$_{7002}$	pCLS derived plasmid (Sm^R/Sp^R) harboring the *crtE* gene from S.7002 cloned downstream the LS gene, between the *EcoRI* and *AclI* sites	This study
pCFS-CrtE$_{6803}$	pCFS derived plasmid (Sm^R/Sp^R) harboring the *crtE* gene from S.6803 cloned downstream the FS gene, between the *EcoRI* and *AclI* sites	This study
pCFS-CrtE$_{7002}$	pCFS derived plasmid (Sm^R/Sp^R) harboring the *crtE* gene from S.7002 cloned downstream the FS gene, between the *EcoRI* and *AclI* sites	This study
	Plasmids used for deletion of *cruF crtR*, *phaAB*, *ccmK or crtE* in *Synechocystis* PCC 6803	
pTwist_CrtR	pTwist harboring an *Eco*RV restriction site flanked by two platforms of homology for deletion of the *crtR* open reading frame from the ATG start codon to the 245 amino acids of *CrtR* from *Synechocystis* PCC 6803. The 67 last amino acids are conserved to avoid the truncation of *slr1543.*	This study & Twist Biosciences
pCrtR_Km	pTwist_CrtR harboring a Km^R cassette cloned in the *EcoRV* site	This study
pTwist_CruF	pTwist harboring an *Eco*RV restriction site flanked by two platforms of homology for deletion of the *cruF* open reading frame from the amino acid 100 to the amino acid 271 from *Synechocystis* PCC 6803 to avoid truncation of genes *sll0813 and sll0815*	This study and Twist Biosciences
pCruF_Km	pTwist_CruF harboring a Km^R cassette cloned in the *Eco*RV site	This study
pTwist_phaAB	pTwist harboring an *Eco*RV restriction site flanked by two platforms of homology for deletion or *phaA* and *phaB* genes	This study and Twist Biosciences

pphaAB_Km	pTwist_phaAB harboring a Km^R cassette cloned in the *Eco*RV site	This study
pTwist_CcmK3K4_Km	pTwist_CcmK3K4 harboring a Km^R cassette cloned in the *Swa*I et *Bam*HI site	This study and Twist Bioscience
Replicative plasmids for strong constitutive expression of *rbc* operon or *prk* genes from various cyanobacteria		
pC-rbcLXS_Scy6803	pC derivative plasmid (Sp^R/Sm^R) harboring the ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO) encoding operon (*rbcLXS*) from *Synechocystis* PCC 6803 cloned in between the *Nde*I and *Eco*RI restriction sites	This study
pC-rbcLS_Sco7942	pC derivative plasmid (Sp^R/Sm^R) harboring the ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO) encoding operon (*rbcLS*) from *Synechococcus* PCC 7942 cloned in between the *Nde*I and *Eco*RI restriction sites	This study
pC-rbcLXS_Sco7002	pC derivative plasmid (Sp^R/Sm^R) harboring the ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO) encoding operon (*rbcLXS*) from *Synechococcus* PCC 7002 cloned in between the *Nde*I and *Eco*RI restriction site	This study
pC- rbcLXS_Cya7425	pC derivative plasmid (Sp^R/Sm^R) harboring the ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO) encoding operon (*rbcLXS*) from *Cyanothece* PCC 7425 cloned in between the *Nde*I and *Eco*RI restriction site	This study
pC-prk_Cya7425	pC derivative plasmid (Sp^R/Sm^R) harboring the phosphoribulokinase encoding gene (prk) from Cyanothece PCC 7425 cloned in between the *Nde*I and *Eco*RI restriction sites	This study

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