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Supplementary

A Summer of Cyanobacterial Blooms in Belgian Waterbodies: Microcystin Quantification and Molecular Characterizations

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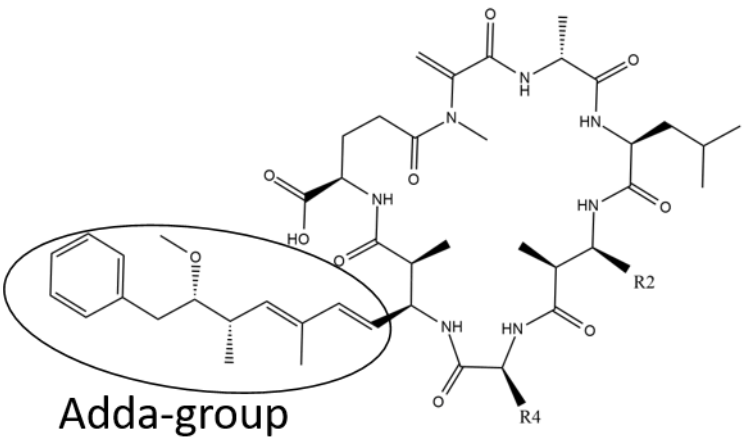

Figure S1. Microcystin core structure with annotated adda-group.

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Table S1. Overview of experimental data for the water samples, concentrations of MC congeners and total microcystin (μg L^{-1}), presence of genes coding for 16S rRNA and *mcyE*. molecular identification, coverage and identity % of the most similar hit by BLAST and primer used for Sanger sequencing. The first three characters of the samples annotation indicate the sample location, while the last two numbers indicate the week of the year when the sample was collected. Samples are grouped by origin, Flanders. Brussels and Wallonia. N.A. indicates samples for which no PCR was performed. "-" represent samples were no visible bands were obtained after gel electrophoresis of the PCR products or sequencing results were off too pore a quality to provide a reliable result. "?" represent inconclusive PCR results where the band was visible but was too faint or not at the correct height. The asterisk * indicates that the sequence was obtained on the basis of a PCR reaction produced with the primer pair 359F-781R, whereas the others sequences were obtained with 359F-32S30R. "i" denotes the samples that were analyzed using Illumina technology.

Samples	MC-RR μg L^{-1}	MC-LA μg L^{-1}	MC-LF μg L^{-1}	MC-LR μg L^{-1}	MC-LY μg L^{-1}	MC-LW μg L^{-1}	MC-YR μg L^{-1}	MC-WR μg L^{-1}	Total microcystin μg L^{-1}	16s rRNAs	Fresh biomass (10^{-6} g L^{-1})	*mcyE*	Molecular identification (genus)	coverage (%)	Per. Identity (%)	primer
AN1.32	0.44	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.67	+	5.4	+	-	-	-	
AN2.32	0.00	0.00	8.74	121.77	9.75	2.22	0.00	0.00	142.48	+	15.4	+	*Dolichospermum*	100	100	359F
AN2.37	12.77	0.00	<LOQ	6.16	<LOQ	0.00	1.41	0.44	20.78	+	5.6	+	*Synechococcus*	100	99.16	359F
AN3.37	0.00	0.00	16.64	105.94	12.75	2.35	0.00	0.00	137.68	+	3.7	+	*Romeria*	99.71	98.65	359F
GH1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	4.9	-	-	-	-	
VL1.32	206.29	3.73	0.00	75.43	0.13	<LOQ	43.79	24.04	353.40	+	37.7	+	*Microcystis*	100	98.98	781R*
VL1.36	357.34	30.31	0.90	196.15	2.66	3.44	103.32	52.56	746.69	+	30.4	+	-	-	-	
VL2.34	1565.98	4.28	0.52	538.41	1.16	0.83	241.32	68.41	2420.91	+	13.2	+	*Dolichospermum*	100	100	359F
VL2.36i	75.24	0.39	<LOQ	30.00	0.11	0.00	18.45	4.74	128.93	+	2.2	+	*Microcystis*	100	97.81	781R*
VL2.2.36	1726.08	7.40	3.02	594.51	3.49	1.60	277.00	185.71	2798.81	+	102.8	+	*Microcystis*	100	99.68	359F*
VL3.34	0.16	0.24	0.00	<LOQ	0.00	0.00	0.00	0.27	0.67	+	3.6	+	*Dolichospermum*	100	99.70	359F
BL1.29	66.89	7.79	<LOQ	75.62	0.00	0.32	97.30	1.25	249.18	+	4.3	+	*Microcystis*	100	100	781R*
													Synechococcus/Merismopedia	100	98.78	359F

BL1.30	143.54	13.45	<LOQ	132.23	0.00	0.59	179.54	3.67	473.01	+	2.3	+	*Microcystis*	100	99.13	781R*
BL1.35	132.87	14.41	0.19	179.06	<LOQ	0.56	275.91	2.84	605.85	+	2.9	+	-	-	-	
BL2.29	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.68	+	3.8	-	-	-	-	
BL3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	10.22	-	-	-	-	
BL4.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	3.5	-	-	-	-	
BL4.35	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	+	1.5	-	*Aphanizomenon*	100	100	359F
BL5.29i	0.81	0.00	0.00	0.41	0.00	0.00	0.00	0.00	1.22	+	0.6	+	*Dolichospermum*	100	100	359F
BL5.35	0.89	0.00	0.00	0.44	0.00	0.00	<LOQ	0.00	1.33	+	12.2	+	*Dolichospermum*	100	100	359F
BL6.29	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	+	17.8	-	*Dolichospermum*	100	100	359F
BL6.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	3.7	+	-	-	-	
BL7.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	5.5	+	*Dolichospermum*	99.82	99.26	359F
BL7.35	0.00	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.00	+	2.2	+	-	-	-	
BL8.35	0.51	0.00	0.00	0.39	0.00	0.00	0.16	0.00	1.07	+	2.5	+	*Microcystis*	100	99.65	359F*
BV1.34	7.68	0.00	0.00	3.57	0.00	0.00	1.40	<LOQ	12.65	+	1.4	+	*Microcystis*	100	97.94	781R*
BV2.34	13.65	0.00	0.00	3.92	0.00	0.00	3.04	1.03	21.63	+	2.3	+	*Microcystis*	100	99.82	23S30R
BV2.35	4.53	0.00	0.00	1.70	<LOQ	0.00	0.80	0.31	7.34	+	1.9	+	*Synechococcus*	99.81	96.85	359F
BV3.35	1213.11	0.71	0.56	364.91	1.42	0.95	188.58	61.09	1831.32	+	2.5	-	*Phormidium*	100	98.02	359F
B04.27	0.65	0.00	0.00	0.41	0.00	0.00	0.00	0.00	1.06	+	2.3	+	*Aphanizomenon*	100	97.97	359F

B04.28	0.57	0.00	0.00	0.45	0.00	0.00	0.00	0.00	1.02	+	2.7	+	-	-	-	
B04.29	0.25	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.25	+	3.0	+	*Aphanizomenom*	100	100	359F
													Planktothrix	100	98.42	781R*
B04.30	<LOQ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	0.9	N.A.	-	-	-	
B04.31	0.98	0.00	0.00	0.45	0.00	0.00	0.00	0.00	1.43	+	1.2	+	*Dolichospermum*	100	94.52	359F
B04.32	0.72	0.00	0.00	0.49	0.00	0.00	0.00	0.00	1.21	+	2.1	+	-	-	-	
B04.34	1.03	0.00	0.00	0.83	0.00	0.00	0.00	0.00	1.86	+	1.8	-	*Aphanizomenon*	99.83	98.09	359F
B04.35	0.38	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.70	+	2.2	?	-	-	-	
B04.36	0.19	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.41	+	2.0	+	-	-	-	
B04.37	0.27	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.56	+	2.1	+	-	-	-	
E04.27	0.12	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.12	N.A.	6.1	?	N.A.	N.A.	N.A.	
E04.28	0.36	<LOQ	0.00	0.33	0.00	0.00	0.18	0.00	0.87	+	1.7	+	-	-	-	
E04.29	0.29	0.00	0.00	0.49	0.00	0.00	0.47	0.00	1.26	+	2.3	+	*Aphanizomenon*	99.85	99.85	359F
E04.30	1.93	0.80	0.00	6.96	0.00	0.00	9.12	0.15	18.96	+	1.6	N.A.	-	-	-	
E04.31	1.57	0.40	0.00	3.25	0.00	0.00	8.85	0.00	14.07	+	1.4	N.A.	-	-	-	
E04.32	0.51	<LOQ	0.00	0.94	0.00	0.00	2.60	0.00	4.05	+	2.2	+	*rhodoplast*	98.9	95.48	781R
E04.34	1.71	0.24	0.00	2.31	0.00	0.00	5.13	0.00	9.39	+	2.3	+	*Microcystis*	99	97.00	359F*
E04.35	3.17	1.50	0.00	10.64	0.00	0.00	28.02	<LOQ	43.34	+	2.1	?	-	-	-	

E04.36	1.70	0.46	0.00	3.21	0.00	0.00	8.41	0.00	13.78	+	2.1	+	*Microcystis*	100	94.00	359F
E04.37	0.99	0.21	0.00	1.97	0.00	0.00	4.20	0.00	7.38	N.A.	2.4	+	N.A.	N.A.	N.A.	
H02.27	<LOQ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	3.1	?	*Synechococcus*	100	99.59	359F
H02.28	0.60	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.60	+	2.2	+	-	-	-	
H02.29	0.53	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.69	+	1.1	N.A.	-	-	-	
H02.30	2.18	0.00	0.00	0.87	0.00	0.00	<LOQ	0.00	3.05	+	1.0	N.A.	-	-	-	
H02.31	3.16	0.00	0.00	0.71	0.00	0.00	0.18	0.00	4.05	+	0.8	+	*Planktothrix*	99.44	94.99	359F
H02.32	3.66	0.00	0.00	0.69	0.00	0.00	<LOQ	0.00	4.35	+	2.1	+	*Aphanizomenon*	100	99.16	359F
H02.34	3.32	0.00	0.00	0.69	0.00	0.00	0.18	0.00	4.18	+	1.9	+	-	-	-	
H02.35	2.37	0.00	0.00	0.43	0.00	0.00	<LOQ	0.00	2.80	+	1.9	?	*Planktothrix*	100	100	359F
H02.36	2.33	0.00	0.00	0.36	0.00	0.00	<LOQ	0.00	2.69	+	3.5	?	*Synechococcus*	99.80	99.45	23S30R
H02.37	0.64	0.00	0.00	0.12	0.00	0.00	<LOQ	0.00	0.76	N.A.	3.7	-	-	-	-	
I01.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	+	4.6	+	-	-	-	
I01.28	0.13	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.13	+	2.7	?	*Cyanobium*	100	98.10	781R
I01.29	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	+	1.3	?	-	-	-	
I01.30	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	+	1.9	N.A.	-	-	-	
I01.31	1.26	0.00	0.00	0.24	0.00	0.00	0.15	0.00	1.66	+	0.8	N.A.	-	-	-	
I01.32	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	+	2.3	N.A.	-	-	-	
I01.34	0.44	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.56	+	1.7	+	-	-	-	
I01.35	0.15	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.15	+	1.8	+	*Synechococcus*	100	99.81	359F
I01.36	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	+	2.1	-	-	-	-	

I01.37	0.44	0.00	0.00	<LOQ	0.00	0.00	0.00	0.00	0.44	+	2.7	+	*Cyanobium*	100	97.30	781R*
I04.27	<LOQ	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.04	+	1.9	+	*Aphanizomenon*	100	99.64	359F
I04.28	0.91	0.00	0.00	0.48	0.00	0.00	<LOQ	0.00	1.39	+	1.5	+	*Aphanizomenon*	99.84	98.85	359F
I04.29	0.83	0.00	0.00	0.33	<LOQ	0.00	<LOQ	0.00	1.16	+	1.1	+	*Dolichospermum*	100	100	359F
I04.30	6.11	0.00	0.00	2.90	0.42	0.00	0.36	0.00	9.79	+	3.3	+	*Dolichospermum*	99.83	99.16	359F
I04.31	42.34	0.00	0.00	17.62	3.74	0.52	2.38	<LOQ	66.61	+	2.5	+	*Dolichospermum*	100	99.39	359F
I04.32	17.70	0.00	<LOQ	6.92	1.34	0.27	1.73	<LOQ	27.96	+	3.3	+	*Microcystis*	100	99.66	359F*
													Dolichospermum	99.75	98.25	359F
I04.34	51.87	<LOQ	0.15	13.95	2.05	0.46	3.44	0.27	72.18	+	3.5	+	*Microcystis*	100	98.65	359F
I04.35	106.98	0.86	0.45	36.09	7.50	1.16	7.19	0.32	160.54	+	2.2	+	-	-	-	
I04.36	167.40	1.15	0.77	56.88	11.22	1.76	10.59	0.58	250.35	+	2.9	+	*Planktothrix*	99.11	95.63	359F
I04.37	140.98	0.73	0.58	43.02	7.40	1.12	7.44	0.28	201.54	+	3.9	+	*Cyanodictyon*	100	98.62.	359F

Table S2. Overview of sampling sites in the different regions, water sample annotation, waterbody type and specific monitoring for cyanobacteria.

Place annotation	Name	Waterbody type	Monitored	Place annotation	Name	Waterbody type	Monitored
	Wallonia				**Brussels**		
IO1	Lac de Falemprise, Cerfontaine	Recreational lake	Yes	BL1	Boudewijn park fase 1. Jette	Shallow pond	No
EO4	Grand large, Mons	Recreational lake	Yes	BL2	Boudewijn park fase 2. Jette	Shallow pond	No
BO4	Renipont-Plage, Lasne	Recreational lake	Yes	BL3	Big Mellaert pond. Sint-Pieters-Wolluwe	Shallow pond	No
HO2	Sport complex Saint-Leger, Saint-Lèger	Recreational lake	Yes	BL4	Tercoigne laan. Watermaal-Bosvoorde	Shallow pond	No
IO4	Lac de Bambois, Fosses-La-Ville	Recreational lake	Yes	BL5	Red cloister 3.Oudergem	Shallow pond	No
	Flanders			BL6	Leybeekpond. Watermael-Bosvoorde	Shallow pond	No
GH1	Sedimentation pond Gasthuisberg, Leuven	Sedimentation pond	No	BL7	Rue de pecheries.Watermaal-Bosvoorde	Shallow pond	No
AN1	Resort De kempen, Mol	Recreational shallow pond	Yes	BL8	Little Mellaert pond. Sint-Pieters-Wolluwe	Shallow pond	No
AN2	Hof van Eden, Westerloo	Recreational shallow pond	Yes	BV1	Quai des Péniches. Sint-Jan-Molenbeek	Canal	No
VL1	Kleine vijver provincial domain Kessel-Lo, Kessel-Lo	Shallow pond	No	BV2	Qaui de Heembeek Ferry stop. Heembeek	Canal	No
VL2	Vossem pond Park, Vossem	Shallow pond	No	BV3	Quai des Charbonnages. Sint-Jan-Molenbeek	Canal	No
VL3	Gordaal pond, Tervuren	Shallow pond	No				
AN3	Zilverstrand, Mol	Recreational Lake	Yes				

Table S3. Detailed information for taxonomic identification based on BLAST analysis. * Samples for which PCR with different primers gave different dominant taxa.

Place	Sample	qseqid	Accession number	Title	% identity	length	mismatch	gaps	e value	bitscore
Hof van Eden, Westerloo	AN2.32	GS20-C085-AWil-20-359F	MH669067	*Dolichospermum circinale* NRERC-107	100	577	0	0	0	1066
	AN2.37	GS20-C088-AWil-26-359F	AM709627	*Synechococcus* sp. PCC 7920	99.165	599	5	0	0	1079
Zilverstrand, Mol	AN3.37	GS20-C089-AWil-27-359F	JQ819251	*Romeria* sp. KLL-H-201	98.651	667	5	4	0	1179
Kleine vijver provincial domain Kessel-Lo, Kessel-Lo	VL1.32	GS20-C114-AWil-19-781R	LC557463	*Microcystis aeruginosa* NIES-90	98.985	197	2	0	1.71E-93	353
Vossem pond Park, Vossem	VL2.34	GS20-C086-AWil-21-359F	FN691909	*Dolichospermum flos-aquae* 04-57	100	427	0	0	0	789
	VL2.36	GS20-C116-AWil-24-781R	LC557463	*Microcystis aeruginosa* NIES-90	97.81	274	4	2	6.57E-129	472
	VL2.36bis	GS20-C064-AWil-25-359F	LC557463	*Microcystis aeruginosa* NIES-90	99.681	313	1	0	2.04E-159	573
Gordaal Vijver, Tervuren	VL3.34	GS20-C087-AWil-22-359F	FN691909	*Dolichospermum flos-aquae* 04-57	99.703	673	2	0	0	1232
Boudewijn park fase 1, Jette	BL1.29*	GS19-G066-AWil-1-781R	LC557461	*Microcystis aeruginosa* NIES-104	100	341	0	0	1.31E-176	630
	BL1.29*	GS20-C072-AWil-1-359F	MT376739	*Synechococcus* sp. SR-R4S2	98.785	494	6	0	0	880

		GS20-C072-AWil-1-359F	EF088332	*Merismopedia sp.* CENA106	98.785	494	6	0	0	880
	BL1.30	GS19-G068-AWil-5-781R	LC557461	*Microcystis aeruginosa* NIES-104	99.13	345	0	3	1.03E-172	617
Tercoigne laan, Watermaal-Bosvoorde	BL4.35	GS20-C080-AWil-11-359F	MN104685	*Aphanizomenon flos-aquae* NRERC-020	100	649	0	0	0	1199
Red cloister 3, Oudergem	BL5.29	GS20-C073-AWil-3-359F	KC955174	*Dolichospermum flos-aquae* CHAB 1657	100	509	0	0	0	941
	BL5.35	GS20-C081-AWil-12-359F	MT558568	*Dolichospermum planctonicum* ANCD0809	100	429	0	0	0	793
Leybeekpond, Watermael-Bosvoorde	BL6.29	GS20-C074-AWil-4-359F	MT558568	*Dolichospermum planctonicum* ANCD0809	100	540	0	0	0	998
Rue de pecheries, Watermaal-Bosvoorde	BL7.30	GS20-C077-AWil-7-359F	LC096267	*Dolichospermum flos-aquae* NIES-75	99.259	540	3	1	0	977
Little Mellaert pond, Sint-Pieters-Wolluwe	BL8.35	GS19-G073-AWil-15-359F	LC557461	*Microcystis aeruginosa* NIES-104	99.655	290	0	1	4.1E-146	529
Quai des Péniches, Sint-Jan-Molenbeek	BV1.34*	GS19-G072-AWil-8-781R	LC557463	*Microcystis aeruginosa* NIES-90	97.938	194	4	0	1.67E-88	337
	BV1.34*	GS20-C131-AWil-8-23S30R	CP039373	*Synechococcus sp.* CB0101	95.161	62	1	1	2.74E-16	97.1
Qaui de Heembeek Ferry stop, Heembeek	BV2.34	GS20-C132-AWil-9-23S30R	AP019314	*Microcystis viridis* NIES-102.	99.818	550	1	0	0	1011

	BV2.35	GS20-C083-AWil-16-359F	MT376735	*Synechococcus sp.* SR-C1	96.846	539	16	1	0	900
Quai des Charbonnages, Sint-Jan Molenbeek	BV3.35	GS20-C084-AWil-17-359F	EU196622	*Phormidium* cf. tergestinum Drak	98.023	354	7	0	3E-173	619
Renipont-Plage, Lasne	B04.27	GS20-C107-AWil-59-359F	MT443970	*Aphanizomenon gracile* FBCC-A274	97.967	541	11	0	0	939
	B04.29*	GS19-G118-AWil-69-781R	LC455659	*Planktothrix agardhii* NIES-905	98.423	317	5	0	5.78E-155	558
	B04.29*	GS20-C111-AWil-69-359F	MT443970	*Aphanizomenon gracile* FBCC-A274	100	442	0	0	0	817
	B04.31	GS20-C092-AWil-31-359F	MT443970	*Aphanizomenon gracile* FBCC-A274	94.521	292	16	0	9.21E-123	451
		GS20-C092-AWil-31-359F	CP051206	*Dolichospermum flos-aquae* CCAP 1403/13F	94.521	292	16	0	9.21E-123	451
	B04.34	GS20-C104-AWil-53-359F	MT443970	*Aphanizomenon gracile* FBCC-A274	98.087	575	10	1	0	1000
Grand large, Mons	E04.29	GS20-C112-AWil-71-359F	MN104685	*Aphanizomenon flos-aquae* NRERC-020	99.846	650	0	1	0	1194
	E04.32	GS20-C121-AWil-46-781R	LT622877	Liagora brachyclada chloroplast isolate J.0126	95.48	177	8	0	2E-72	283
	E04.34	GS19-G105-AWil-51-359F	LC557461	*Microcystis aeruginosa* NIES-104	97.00	309	1	0	4E-145	518

	E04.36	GS20-C067-AWil-43-359F	LC557461	*Microcystis aeruginosa* NIES-104	95.082	297	1	9	4E-120	435
Sport complex Saint-Leger, Saint-Lèger	H02.27	GS20-C106-AWil-58-359F	MT376735	*Synechococcus sp.* SR-C1	99.591	489	2	0	0	893
	H02.31	GS20-C093-AWil-32-359F	LC455659	*Planktothrix agardhii* NIES-905	94.986	359	12	6	7.15E-155	558
	H02.32	GS20-C102-AWil-49-359F	LC037454	*Aphanizomenon sp.* NIES-3732	99.161	477	2	2	0	857
	H02.35	GS20-C096-AWil-36-359F	LC455659	*Planktothrix agardhii* NIES-905	100	498	0	0	0	920
	H02.36	GS19-G115-AWil-67-359F	MT376735	*Synechococcus sp.* SR-C1	99.66	296	1	0	5.39E-150	542
Lac de Falemprise, Cerfontaine	I01.28	GS20-C124-AWil-65-781R	KM218863	*Cyanobium* sp. UMPCCC 1208	98.099	263	5	0	4.88E-125	459
	I01.35	GS20-C097-AWil-37-359F	MT376735	*Synechococcus sp.* SR-C1	99.815	541	1	0	0	994
	I01.37	GS19-G098-AWil-42-781R	AM710381	*Cyanobium sp.* JJR2A5	97.297	296	8	0	2.55E-138	503
Lac de Bambois, Fosses-La-Ville	I04.27	GS20-C105-AWil-57-359F	AJ293129	*Aphanizomenon flos-aquae* PMC9706	99.638	552	2	0	0	1009
	I04.28	GS20-C109-AWil-62-359F	EU078530	*Aphanizomenon gracile* LMECYA 9	98.851	609	6	1	0	1085

	I04.29	GS20-C113-AWil-72-359F	AP018316	*Dolichospermum compactum* NIES-806	100	588	0	0	0	1086
	I04.30	GS20-C090-AWil-29-359F	AP018316	*Dolichospermum compactum* NIES-806	99.157	593	4	1	0	1066
	I04.31	GS20-C091-AWil-30-359F	AP018316	*Dolichospermum compactum* NIES-806	99.391	657	4	0	0	1192
	I04.32*	GS19-G101-AWil-47-359F	LC557461	*Microcystis aeruginosa* NIES-104	99.656	291	1	0	3.18E-147	532
	I04.32*	GS20-C101-AWil-47-359F	GU197633	*Dolichospermum circinale* CHAB233	98.25	400	6	1	0	699
	w19.I04.34	GS20-C069-AWil-52-359F	LC557461	*Microcystis aeruginosa* NIES-104	98.653	297	1	3	1.96E-144	523
	I04.36	GS20-C100-AWil-45-359F	LC455659	*Planktothrix agardhii* NIES-905	95.633	229	5	5	3.3E-96	363
	I04.37	GS20-C098-AWil-39-359F	AM710382	*Cyanodictyon* sp. JJCD	98.618	217	3	0	6.72E-103	385

Table S4. Number of reads and BLAST analysis of the representative sequence of the OTUs obtained with the Illumina amplicon sequencing.

#OTU ID	BL5.29. Red Cloister Oudergem	VL1.36. Kessel-Lo Provincial Domain	Accession number of the most similar cultured hit	Name of the most similar cultured hit	% identity	length	mismatch	gaps	e value	bitscore
OTU_72	5027	12	AY701560	*Anabaena ellipsoides* Ana HB	100	362	0	0	0	669
OTU_28	1517	37200	LC557463	*Microcystis aeruginosa* NIES-90	100	362	0	0	0	669
OTU_231	318	230	HE975013	*Aphanizomenon flos-aquae* CCAP 1401/7	100	362	0	0	0	669
OTU_346	185	0	AB610891	*Synechococcus sp*. Suigetsu-CG2	97.79	362	8	0	6E-175	625
OTU_559	127	1	EU078524	*Anabaena spiroides* LMECYA 161	99.448	362	2	0	0	658
OTU_582	76	1	LC319779	*Dolichospermum sp*. NIES-1951	99.171	362	3	0	0	652
OTU_678	61	0	FN691909	*Dolichospermum flos-aquae* 04-57	100	362	0	0	0	669
OTU_537	50	41	CP003495	*Cyanobium gracile* PCC 6307	100	362	0	0	0	669
OTU_649	25	0	AM710380	*Cyanobium sp*. JJM10D5	99.724	362	1	0	0	664
OTU_627	20	0	GU936926	Chlorophyta symbiont of *Lubomirskia* sp. isolate R53	100	362	0	0	0	669
OTU_4	0	7	LT634149	*Timaviella circinata* GR4	99.448	362	2	0	0	658
OTU_5	0	7	MH688842	*Hormoscilla* cf. pringsheimii Us-s-6-2	98.619	362	5	0	6E-180	641
OTU_6	0	7	KM052844	*Leptolyngbya sp*. LCR-CYANT35	99.724	362	1	0	0	664

Table S5. Validation results for UHPLC-MS/MS method quantification method of 8 MCs and Nodularin in filtered cyanobacterial biomass. The different validation concentration levels Limit of detection (LOD) was set at lowest tested concentration where signal to noise ratio was higher than 3. Limit of Quantification (LOQ) was selected as lowest concentration for which the method was validated. Signal to noise ratio for LOQ should be above 20. Additionally, values for recovery, repeatability, reproducibility, measurement uncertainty (MU) and R^2 of the linear curve are presented.

Toxins	Spiked Concentration	Recovery (%)	Repeatability (%)	Reproducibility (%)	MU (%)	Average S/N LOD (5.63 µg kg-1)	Average S/N LOQ (12.5 µg kg-1)	R^2
MC-RR	12.5 µg kg-1	88.00%	4.18%	21.94%	43.88%	531.24	765.34	0.9994
	50 µg kg-1	89.00%	10.54%	10.54%	21.07%			
	125 µg kg-1	92.00%	5.82%	15.65%	31.29%			
	Average	89.67%	6.85%	16.04%	32.08%			
MC-LA	12.5 µg kg-1	100.00%	5.67%	14.40%	28.80%	69.07	134.83	0.9992
	50 µg kg-1	89.00%	5.46%	7.71%	15.41%			
	125 µg kg-1	101.00%	2.45%	6.81%	13.62%			
	Average	96.67%	4.53%	9.64%	19.28%			
MC-LF	12.5 µg kg-1	95.00%	3.12%	18.51%	37.02%	64.03	139.69	0.9992
	50 µg kg-1	88.00%	5.85%	9.88%	19.76%			
	125 µg kg-1	101.00%	1.65%	3.67%	7.33%			
	Average	94.67%	3.54%	10.68%	21.37%			
MC-LR	12.5 µg kg-1	99.00%	4.71%	8.81%	17.62%	116.82	265.64	0.9988
	50 µg kg-1	92.00%	6.53%	7.04%	14.09%			
	125 µg kg-1	101.00%	1.45%	3.21%	6.43%			
	Average	97.33%	4.23%	6.36%	12.71%			
MC-LY	12.5 µg kg-1	96.00%	4.45%	13.11%	26.21%	51.57	78.84	0.9992
	50 µg kg-1	88.00%	3.12%	8.29%	16.57%			
	125 µg kg-1	100.00%	1.92%	4.76%	9.53%			
	Average	94.67%	3.16%	8.72%	17.44%			
MC-LW	12.5 µg kg-1	100.00%	6.63%	11.12%	22.23%	42.89	92.86	0.9989
	50 µg kg-1	90.00%	3.39%	11.93%	23.87%			
	125 µg kg-1	102.00%	2.21%	6.26%	12.51%			
	Average	97.33%	4.08%	9.77%	19.54%			
MC-YR	12.5 µg kg-1	100.00%	6.38%	9.52%	19.05%	75.26	139.15	0.9987
	50 µg kg-1	94.00%	4.55%	4.55%	9.10%			

	125 μg kg-1	98.00%	3.09%	3.58%	7.15%			
	Average	97.33%	4.67%	5.88%	11.77%			
MC-WR	12.5 μg kg-1	96.00%	9.69%	9.69%	19.38%	83.91	148.68	0.999
	50 μg kg-1	91.00%	9.57%	12.86%	25.73%			
	125 μg kg-1	100.00%	3.73%	4.90%	9.81%			
	Average	95.67%	7.67%	9.15%	18.31%			
SUM	112.5 μg kg-1	96.00%	3.24%	11.27%	22.55%	N.A.	N.A.	N.A.
	450 μg kg-1	91.00%	2.84%	5.46%	10.91%			
	1125 μg kg-1	99.00%	2.09%	3.76%	7.52%			
	Average	95.33%	2.72%	6.83%	13.66%			

Table S6. Results of the ion ratio for the validation of the UHPLC-MS/MS method quantification method of 8 MCs and Nodularin in filtered cyanobacterial biomass. Acceptation criteria are based on European Decision 2002/EC/657.

Toxin	MC-RR	NOD	MC-LA	MC-LF	MC-LR	MC-LY	MC-LW	MC-YR	MC-WR
Average ion ratio	13.37%	46.65%	51.91%	41.51%	31.66%	45.82%	49.20%	33.21%	40.21%
Standard Deviation ion ratio	0.39%	2.08%	7.59%	2.43%	1.26%	3.68%	6.15%	3.19%	8.11%

Table S7. Detection results for 6 additional microcystin congeners with a limit of detection (LOD) at 0.1 μg L^{-1}. Not detected is abbreviated by "n.d.". Detected MCs are annotated as > LOD.

Samples	MC-HtyR	dm MC-LR/D-asp MC-LR	D-asp-Dhb MC-RR/dm MC-RR	MC-HilR
AN1.32	n.d.	n.d.	> LOD	n.d.
AN2.32	n.d.	> LOD	> LOD	> LOD
AN2.37	> LOD	> LOD	> LOD	> LOD
AN3.37	n.d.	> LOD	n.d.	> LOD
GH1.30	n.d.	n.d.	n.d.	n.d.
VL1.32	n.d.	> LOD	> LOD	> LOD
VL1.36	n.d.	> LOD	> LOD	> LOD
VL2.34	n.d.	> LOD	> LOD	> LOD
VL2.36i	n.d.	> LOD	> LOD	> LOD
VL2.2.36	n.d.	> LOD	> LOD	> LOD
VL3.34	n.d.	n.d.	n.d.	n.d.
BL1.29	> LOD	> LOD	> LOD	> LOD
BL1.30	> LOD	> LOD	> LOD	> LOD
BL1.35	> LOD	> LOD	> LOD	> LOD
BL2.29	n.d.	> LOD	n.d.	n.d.
BL3.30	n.d.	n.d.	n.d.	n.d.
BL4.30	n.d.	n.d.	n.d.	n.d.
BL4.35	n.d.	n.d.	n.d.	n.d.
BL5.29i	n.d.	n.d.	n.d.	n.d.
BL5.35	n.d.	n.d.	> LOD	n.d.
BL6.29	n.d.	n.d.	n.d.	n.d.
BL6.35	n.d.	n.d.	n.d.	n.d.
BL7.30	n.d.	n.d.	n.d.	n.d.
BL7.35	n.d.	n.d.	n.d.	n.d.
BL8.35	n.d.	n.d.	> LOD	n.d.
BV1.34	n.d.	> LOD	> LOD	> LOD
BV2.34	> LOD	> LOD	> LOD	> LOD
BV2.35	> LOD	> LOD	> LOD	> LOD
BV3.35	n.d.	> LOD	> LOD	> LOD

B04.27	n.d.	n.d.	> LOD	n.d.
B04.28	n.d.	n.d.	> LOD	n.d.
B04.29	n.d.	n.d.	> LOD	n.d.
B04.30	n.d.	n.d.	> LOD	n.d.
B04.31	n.d.	n.d.	> LOD	n.d.
B04.32	n.d.	> LOD	> LOD	n.d.
B04.34	n.d.	n.d.	> LOD	n.d.
B04.35	n.d.	n.d.	> LOD	n.d.
B04.36	n.d.	n.d.	> LOD	n.d.
B04.37	n.d.	n.d.	> LOD	n.d.
E04.27	n.d.	n.d.	> LOD	n.d.
E04.28	n.d.	> LOD	> LOD	n.d.
E04.29	n.d.	> LOD	> LOD	n.d.
E04.30	> LOD	> LOD	> LOD	> LOD
E04.31	n.d.	> LOD	> LOD	> LOD
E04.32	n.d.	> LOD	> LOD	n.d.
E04.34	n.d.	> LOD	> LOD	> LOD
E04.35	> LOD	> LOD	> LOD	> LOD
E04.36	> LOD	> LOD	> LOD	> LOD
E04.37	n.d.	> LOD	> LOD	> LOD
H02.27	n.d.	n.d.	> LOD	n.d.
H02.28	n.d.	n.d.	> LOD	n.d.
H02.29	n.d.	n.d.	> LOD	n.d.
H02.30	n.d.	> LOD	> LOD	n.d.
H02.31	> LOD	> LOD	> LOD	n.d.
H02.32	n.d.	> LOD	> LOD	n.d.
H02.34	n.d.	> LOD	> LOD	n.d.
H02.35	n.d.	> LOD	> LOD	n.d.
H02.36	n.d.	> LOD	> LOD	n.d.
H02.37	n.d.	> LOD	> LOD	n.d.
I01.27	n.d.	n.d.	n.d.	n.d.
I01.28	n.d.	n.d.	n.d.	n.d.

I01.29	n.d.	n.d.	n.d.	n.d.
I01.30	n.d.	n.d.	n.d.	n.d.
I01.31	n.d.	n.d.	> LOD	n.d.
I01.32	n.d.	n.d.	n.d.	n.d.
I01.34	n.d.	n.d.	> LOD	n.d.
I01.35	n.d.	n.d.	> LOD	n.d.
I01.36	n.d.	n.d.	> LOD	n.d.
I01.37	n.d.	n.d.	> LOD	n.d.
I04.27	n.d.	n.d.	n.d.	n.d.
I04.28	> LOD	> LOD	> LOD	n.d.
I04.29	n.d.	> LOD	> LOD	n.d.
I04.30	n.d.	> LOD	> LOD	n.d.
I04.31	n.d.	> LOD	> LOD	> LOD
I04.32	n.d.	> LOD	> LOD	> LOD
I04.34	n.d.	> LOD	> LOD	> LOD
I04.35	n.d.	> LOD	> LOD	> LOD
I04.36	n.d.	> LOD	> LOD	> LOD
I04.37	n.d.	> LOD	> LOD	> LOD

Table S8. Overview of the single sequences amplified by the Sanger method used for taxonomic identification based on BLAST analysis.

Sample number and primer number	Genus name	Sanger sequence
AN2.32_359F	*Dolichospermum*	AGGCTCTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAAAAAAATGACGGTACCTGAGGAATAAGCATCGG CTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAG GGTCCGCAGGTGGCATTGTAAGTCTGCTGTTAAAGAGTCTAGCTCAACTAGATAAAAGCAGTGGAAACTA CAAAGCTAGAGTTTGGTCGGGGCAGAAGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAG AACACCAGTGGCGAAGGCGTTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAAT GGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCT GTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATT GACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGC TTGACATGTCACGAATCCTGTG
AN2.37_359F	*Synechococcus*	TTCCGTGCCAGCAGCCGCGGTAATACGGGAGTGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCC GCAGGCGGCCTTGTAAGTCTGTCGTTAAAGCGTGGAGCTCAACTCCATTTAAGCGATGGAAACTACAAGG CTGGAGTGTGGTAGGGGCAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAAGAACAC CAGTGGCGAAGGCGCTCTGCTGGGCCATAACTGACGCTCATGGACGAAAGCCAGGGGAGCGAAAGGGAT TAGATACCCCTGTAGTCCTGGCCGTAAACGATGAACACTAGGTGTCGGGGGAATCGACCCCCTCGGTGTC GTAGCCAACGCGTTAAGTGTTCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACGG GGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAGGGCTTGACA TGCTGCGAATCCCCTGGAAACGAGGGAGTGCCTTCGGGAGCGCAGAGACAGGTGGTGCATGGCTGTCGTC AGCTCGTGTCGTGAGATGTTGGGTTAAGTCCCGCAACGAGCG
AN3.37_359F	*Romeria*	AGGAGGCCTTAGGGTTGTAAACCTCTTTTCTCTGGGAAGAAGAACTGACGGTACCAGAGGAATAAGCCTC GGCTAACTCCGTGCCAGCAGCCGCGGTAAGACGGAGGAGGCGAGCGTTATCCGGAATTATTGGGCGTAA AGCGTCCGCAGGCGGTTTATCAAGTCTGCTGTCAAAGACTACAGCTTAACTGTGGGCAGGCAGTGGAAAC TGATGAACTAGAGAGCGGTAGGGGTAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGA AGAACACCAGTGGCGAAGGCGCTCTACTGGGCCGTTACTGACGCTGAGGGACGAAAGCTAGGGGAGCGA AAGGGATTAGATACCCCTGTAGTCCTAGCTGTAAACGATGGATACTAGGTGTTGGGCGTATCGACCCGTC CAGTACCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAA TTGACGGGGGCCCGCACAAGCGGTGGAGGATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAG GCTTGACATCCTGCGAATCCTTCAGAGATGAGGGAGTGCCTTCGGGAGCGCAGAGACAGGTGGTGCATGG CTGTCGTCAGCTCGTGTCGTGAGATGTTGGGTTAAGTC
VL1.32_781R	*Microcystis*	GCCACCGATGTTCTTCCCAATCTCTACGCATTTCACCGCTACACTGGGAATTCCTGCTACCCCTACTGCTCT CTAGTCTGCCAGTTTCCACCGCCTTTATGTCGTTAAGCAACCTGATTTGACAGCAGACTTGGCTGACCACC TGCGGACGCTTTACGCCCAATAATTCCGGATAACGCTTGCCTCCCCCGTATTACCGCGGCTGCTGGCACGG AGTTAGCCGATGCTGATTCCTCAAGTACCGTCA

VL2.34_359F	*Dolichospermum*	TCTGAAGGAAGCATGACGAGGAAATCACTACGCTCTGGGGTTGTAGCCTCTTTTCTAATGGAAGAAGTGC TGTTGGTACCTGGGTGTTAATCATCGTCTAACTCCGGGGAAGCTGCCGCGGTCTTACGGAGGATGCAAGC GTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGAAAGTCTGCTGTTCAGAGGTTGGGTC AACCAAATAAGAGCAGTGGAAACTACAAAGCTAGAGTTTGGTCGGGGCAGAGGGAATTCCTGGTGTAGC GGTGAAATGCGTAGATATCAGGAAGAACACCAGTGGCGAAGGCGCTCTGCTAGGCCGAGACTGACACTG AGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACT AGGCGTAGCTCGTATCGACCCGAGCTGTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCA GGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGAT GCAACGCGAAGAACCTTACCAAGGCTTGACATGTCACGAATCCTGTAGAAATATAGGAGTGCCTTCGGGA GCGTGAACACAGGTGGTGCATGGCTGTCGTCAGCTCGTGTCGTGAGATGTTGGGTTAAGTC
VL2.36.bis_359F	*Microcystis*	TCTGACGGTACTTGAGGAATCAGCCTCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCA AGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCAGGTGGTCAGCCAAGTCTGCTGTCAAATCAGGTT GCTTAACGACCTAAAGGCGGTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGGAATTCCCAGTG TAGCGGTGAAATGCGTAGAGATTGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGAC ACTCATGGACGAAAGCTAGGGGAGCGAAAGGGATTAA
VL2.36_781R	*Microcystis*	TCTCTACGCATTTCACCGCTACACTGGGAATTTCCTGCTGCCCCTACTGCTCTCTAGTCTGCCAGTTTCCAC CGCCTTTAGGTCGTTAAGCAACCTGATTTGACAGCAGACTTGGCTGACCACCTGCGGACGCTTTACGCCCC AATAATTCCGGATAACGCTTGCCTCCCCCGTATTACCGCGGCTGCTGGCACGGAGTTAGCCGATGCTGATT CCTCAAGTACCGTC
VL3.34_359F	*Dolichospermum*	TCTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCTAA CTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCC GCAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAGAGCAGTGGAAACTACAAA GCTAGAGTTTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACA CCAGTGGCGAAGGCGCTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGG ATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTG CCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGAC GGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGA CATGTCACGAATCCTGTAGAAATATAGGAGTGCCTTCGGGAGCGTGAACACAGGTGGTGCATGGCTGTCG TCAGCTCGTGTCGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAAC
BL1.29_359F	*Synechococcus/* *Merismopedia*	AGCCGCGGTAATACGGGGGAGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCAGGTGGTCTG CCAAGTCTGCTGTCAAATCATGTTGCTTAACTACCTAAAGGCGGTGGAAACTGGCAGACTAGAGAGCATT AGGGGTAGCAGGAATTCCCAGTGTAGCGGTGAAATGCGTAGATATTGGGAAGAACATCGGTGGCGAAAG CGTGCTACTGGGCTGTATCTGACACTCAGGGACGAAAGCTAGGGGAGCGAAAGGGAT
BL1.29_781R	*Microcystis*	AATGGGCGAAAGCCTGACGGAGCAACGCCGCGTGAGGGAGGAAGGTCTTTGGATTGTAAACCTCTTTTCT CAAGGAAGAAGTTCTGACGGTACTTGAGGAATCAGCCTCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA CGGGGGAGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCAGGTGGTCAGCCAAGTCTGCCGT

BL1.30_781R	*Microcystis*	CAAATCAGGTTGCTTAACGACCTAAAGGCGGTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGG AATTCCCAGTGTAGCGGTGAAATGCGTAGAGATTGGGAAGAACATCGGTGGCGAAAGCGTGC CAATGGGCGAAAGCCTGACGGAGCAACGCCGCGTGAGGGAGGAAGGTCTTTGGATTGTAAACCTCTTTTC TCAAGGAAGAAGTTCTGACGGTACTTGAGGAATCAGCCTCGGCTAACTCCGTGCCAGCAGCCGCGGTAAT ACGGGGGAGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCAGGTGGTCAGCCAAGTCTGCC GTCAAATCAGGTTGCTTAACGACCTAAAGGCGGTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCA GGAAATTCCCAGTGTAGCGGTGAAATGCGTAGAGATTGGGAAGAAACATCGGTGGCGAAAAGCGTGC GGCTCTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGC TAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGG GTCCGCAGGTGGCATTGTAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAGAGCAGTGGAAACTAC AAAGCTAGAGTGTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGA ACACCAGTGGCGAAGGCGCTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAAT GGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCT GTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATT GACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGC TTGACATGTCACGAATCCTATTGAAAGATGGGAGTGCCTTCGGGAGCGTGAACACAGGTGGTGCATGGCT GTCGTCAGCTCGTGTCGTGAGATGT
BL4.35_359F	*Aphanizomenon*	TCCGATTATGTTCTACTTTCTCGGGAGCAGCTCTGTGGGATTGTAAACCTCTTTATCTCAGGGTAAGAAACA ATGACGGTACGTGAGGAATAGGCATCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAA GCGTTATCCGGAATGATTGGGCGTAAAGAGTCCGTAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTCTAG CTCAACTAGATAAGAGCAGTGGAAACTACAAAGCTAGAGTTTGGTCGGGGCAGAAGGAATTCCTGGTGT AGCGGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGAAGGCGTTCTGCTAGGCCGAGACTGACA CTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGAT ACTAGGCGTAGCTCGTATCGACCCGAGCTGTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTAC GCAGGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTC GATGCAACGCGAAGAACCTTACCAAGGCTTGACATGTCACGAATCCTGTAGAAATATAGGAGTGCCTTCG GGAGCGTGAACACAGGTGGTGCATGGCTGTCGTCAGCTCGTGTCGTGAGATG
BL5.29_359F	*Dolichospermum*	
BL5.35_359F	*Dolichospermum*	TCCGGAAGGGGCCGCACGGTCGCGTAGGACGCTCTGGCGTTCTCTCCTCTTTTCTCACGGAAGAAAAGAT GACGGTACCTGAGGAATAGGCATCGGGTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGC GTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTCTAGCT CAACTAGATAAGAGCAGTGGAAACTACAAAGCTAGAGTTTGGTCGGGGCAGAAGGAATTCCTGGTGTAG CGGTGAAATGCGTAGATATCAGGAAGAACACCAGTGGCGAAGGCGTTCTGCTAGGCCGAGACTGACACT GAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATAC TAGGCGTAGCTCGTATCGACCCGAGCTGTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGC AGGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGA

BL6.29_359F	*Dolichospermum*	TGCAACGCGAAGAACCTTACCAAGGCTTGACATGTCACGAATCCTGTGGAAACATAGGAGTGCCTTCGGG AGCGTGAACACAGGTGGTGCATGGCTGTCGTCAGCTCGTGTCGTGAGATGTTGGG AGGCTCTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAAAAAAATGACGGTACCTGAGGAATAAGCATCGG CTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAG GGTCCGCAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTCTAGCTCAACTAGATAAGAGCAGTGGAAACTA CAAAGCTAGAGTTTGGTCGGGGCAGAAGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAG AACACCAGTGGCGAAGGCGTTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAAT GGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCT GTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATT GACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAA
BL7.30_359F	*Dolichospermum*	GGCTCTTGGGTTGTAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCT AACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGG TCCGCAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAGAGCAGTGGAAACTACA AAGCTAGAGTTTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAA CACCGGTGGCGAAGGCGCTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATG GGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTG TGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTG ACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAG
BL8.35_359F	*Microcystis*	GCCTCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCAAGCGTTATCCGGAATTATTGGGC GTAAAGCGTCCGCAGGTGGTCAGCCAAGTCTGCCGTCAAATCAGGTTGCTTAACGACCTAAAGGCGGTGG AAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGGAATTTCCCAGTGTAGCGGTGAAATGCGTAGAGAT TGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGACACTCAGGGACGAAAGCTAGGGG AGCGAAAGGGAT
BV1.34_23S30R	*Synechococcus*	TATAGCATCGTTTCATTCCCAATTGTTTAATTTCAAACGTGGGTTGAAAAGACGCTGGGTTCACCAGATAC TTGCATTTGAAGTGTAATTATTTGGAGATTCAGCAGAACCTTGACAACTGCATAGGTAAGTCTGGAAAGA AAGCATCTCATAGATGTCCAGAAGCGAAAGCGAC
BV1.34_781R	*Microcystis*	TCCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCAAGCGTTATCCGGAATCATTGGGCGTAAAGCGTCC GCAGGTGGTCAGCCAAGTCAGCTGTCAAATCAGGTTGCTTAACGACATAAAGGCGGTGGAAACTGGCAG ACTAGAGAGCAGTAGGGGTAGCGGGAATTCCCAGTGTAGCGGTGAAATGCGTAGAG
BV2.34_23S30R	*Microcystis*	AGCAAACCCGGCGTCAGTTCAGATTGCAGGCTGCAACTCGCCTGCATGAAGGAGGAATCGCTAGTAATCG CCGGTCAGCATACGGCGGTGAATTCGTTCCCGGGCCTTGTACACACCGCCCGTCACACCATGGAAGCTGG TCACGCCCGAAGTCATTACCTCAACCGCAAGGAGGGGGATGCCTAAGGCAGGGCTAGTGACTGGGGTGA AGTCGTAACAAGGTAGCCGTACCGGAAGGTGTGGCTGGATCACCTCCTTAAAGGGAGACCTAATTCAGGT ATAAGACGAAAAAAAAGTAGTCCCTACCAAGAATCAATCCCAAAAGGTCGGAACGAGGTATGAGGCTTT CAAACTAGGTTCTGGGTTCATAAAAGACCTGAATCAGGAACAAGGGCTATTAGCTCAGGTGGTTAGAGCG

BV2.35_359F	*Synechococcus*	CACCCCTGATAAGGGTGAGGTCCCTGGTTCGAGTCCAGGATGGCCCACCTGCACAGGTGGCAAAAACAA GAGAAGCGAGGAATCAGCACCTTATCTTATATACATATATAAGAGAGAATGCTGGCTCTGAGT TGTAACCTCTTTTCTCAAGGAAGAAGTTCTGACGGTACTTGAGGAATCAGCCACGGCTAATTCCGTGCCAG CAGCCGCGGTAATACGGGGGTGGCAAGCGTTATCCGGAATCATTGGGCGTAAAGCGTCCGCAGGTGGCTT TGTAAGTCTGCTGTTAAAGCGTGGAGCTTAACTCCCTTTCAGCGGTGGAAACTGCAAAACTTGAGTGTGGT AGGGGCAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAAGAACACCAGTGGCGAAG GCGCTCTGCTGGGCCATATCTGACACTCATGGACGAAAGCCAGGGGAGCGAAAGGGATTAGATACCCCT GTAGTCCTGGCCGTAAACGATGAACACTAGGCGTCGGGGGAATCGACCCCCTCGGTGTCGTAGCCAACGC GTTAAGTGTTCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACA AGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAGACTTGACA
BV3.35_359F	*Phormidium*	TCCGCTTAACAACACAGCCGCTCAGGCTATGTACGTTCTGTGGATGTAACCTCTTTTCTCAGGGAAGACAT CTGACGGTACCTGAGGAATAAACGTCGAAGTAACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCA AGCGTTATCCGGAATGATTGGGCGTAAAGCGTCCGCAGGTGGTTTTTCAAGTCTGCTGTTAAAGACCGGG GCTTAACTCCAGGCAAGCAGTGGAAACTGAAAGACTAGAGTATGGTAGGGGCAGAGGGAATTCCTGGTG TAGCGGTGAAATGCGTAGAGCTCAGGAAGAACATCGGTGGCGAAGGCGCTCTGCTAGGCCGAAACTGAC ACTCAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCTGTAAACGATGGA TACTAGGTGTTGTCTGTATCGACCCGAACTGTGCCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTAC GCACGCAAGTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTC GATGCAACGCGA
B04.27_359F	*Aphanizomenon*	CTTTTCTCAGGGAAGAACACAATGACGGTACCTGAGGAATAAGCATCGGCTAACTCCGTGCCAGCAGCCG CGGTAATACGGGGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGCAA GTCTGCTGTTAAAGAGTTTGGCTCAACCTCATAAAAGCAGTGGAAACTGCAAAGCTAGAGTGTGGTCGGG GCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGAGATCAGGAAGAACACCGGTGGCGAAGGCGCT CTGCTAGGCCATAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGT CCTAGCCGTAAACGATGGATACTAGGCGTGGCTCGTATCGACCCGAGCTGTGCCGTAGCTAACGCGTTAA GTATCCCGCCTGGGGAGTACGCACGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGG TGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGACATCTC
B04.29_359F	*Aphanizomenon*	TACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGTAAGTCTGCT GTTAAAGAGTTTGGCTCAACCAAATAAAAGCAGTGGAAACTACAAAGCTAGAGTGTGGTCGGGGCAGAG GGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGAAGGCGCTCTGCTA GGCCAAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGC CGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTGCCGTAGCTAACGCGTTAAGTATCC CGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGT ATGTGGTTTAATTCGATGCAACGCGA
B04.29_781R	*Planktothrix*	CGGAGCAAGACCGCGTGGGGGAGGAAGGTTCTTGGATTGTCAACCCCTTTTTTCAGGGAAGAACACAATG ACGGTACCTGAGGAATAAGCATCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGGGGATGCAAGCG

B04.31_359F	*Aphanizomenon/Dolichospermum*	TTATCCGGAATGATTGGGCGTAAAGAGTCCGTAGGTGGTCATCCAAGTCTGCTGTTAAAGAGCGAGGCTT AACCTCGTAAAGGCAGTGGAAACTGGAAGACTAGAGTGTAGTAGGGGCAGAGGGAATTCCCGGTGTAGC GGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGA GTTGTAAACCTCTTTTCTCAGGAAGAACATCTTGCGGGTCTTGGAGGATTAACCATCGGTTATTTCCGGGC CACCACCCGGGGAATTCCGGAGGGTGCAGCGTTTTTCGGGATTGTTGGGGGGTAAGGGGCCCGCAGGGG GCTTTGTAGTTCGGCTGTTAAACATGTTGCTTCACTCCATTTCAGCGATGGAAACTACAAGGCTAGAGTGT GGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGA AGGCGCTCTGCTGGGCCATAACTGACACTGATGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCC CTGTAGTCCTGGCCGTAAACGATGAATACTAGGCGTAGCTCGAATCGACCCCCTCTGTGTCGTAGCTAACG CGTTAAGTGTTCCGCCTGGGGAGTACGCACGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCAC AAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGA
B04.34_359F	*Aphanizomenon*	CTTGGGTTGTAACCTCTTTTCTCAGGGAAGAACAAATTGACGGTACCTGAGGAATAACCATCGGCTAATTC CGGGCCACCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCCGC AGGGGGCATTGTAATTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAAAGCAATGGAAACTACAAAGCT AGAGTGTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACACCG GTGGCGAAGGCGCTCTGCTAGGCCAAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTA GATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGAATCGACCCGAGCTGTGCCGT AGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCACGCAACTGTGAAACTCAAAGGAATTGACGGGG GCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGACATG TCACGAATTCCGTTGAA
E04.29_359F	*Aphanizomenon*	CTCTTGGGTTGTAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCTAA CTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCC GCAGGTGGCATTGTAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAGAGCAGTGGAAACTACAAAG CTAGAGTGTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACAC CAGTGGCGAAGGCGCTCTGCTAGGCCGAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGA TTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTGC CGGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGACG GGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGAC ATGTCACGAATCCTATTGAAAGATGGGAGTGCCTTCGGGAGCGTGAACACAGGTGGTGCATGGCTGTCGT CAGCTCGTGTCGTGAGATGTTGG
E04.32_781R	rhodoplast	TCTTCCTATCTCTACGCATTTCACCGCTACACTGGGAATTCCCTCTACCTCTACTGCACTCTAGTCTGCTAGT TTCCACCGCCTTTATGACGTTAAGCCCCGAGATTTAACAGCAGACTTGGTAGGCCACCTACAGACGCTTTA CGCCCAGTGATTCCGGATAACGCTTGCATCCTCCGTATTACCGCGGCTGCTGGCACGGAGTTAGCCGATGC TTATTCCTCAAGTACCGTCAGTACTTCTTCC
E04.34_359F	*Microcystis*	CTTGAGGTACTTGAGGAACAGCCTCGGCTCACTCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCAAGC GTTTTCCGGAATTATTGGGCGTAAAGCGTCCGCAGGTGGTCTTCCAAGTCTGCCGTCAAATCACGTTGCTT

E04.36_359F	*Microcystis*	AACCACCTAAAGGCGGTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGGAATTCCCAGTGTAGC GGTGAAATGCGTAGAGATTGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGACACTC AGGGACGAAAGCTAGGGGAGCGAAAGGGATA GTACTGAGGAAAAGCCTGGCTAACTCTGTGCCGCAGCCGCGGTAAACGGGGGAGGCAAGCGTTTTTCCGG ATTATTGGGCGTAAAGCGTCCGCAGGTGGTCTGCCAAGTCTGCCGTCAAATATCGTTGCTTAACCACCTAA AGGCGGTGGAAATGGCAGACTAGAGTGCAGTAGGGGTAGCAGGAATTCCCAGTGTAGCGGTGAAATGCG TAATATTGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGACACTCAGGGACGAAAGCT AGGGGAGCG
H02.27_359F	*Synechococcus*	GCCTCTGGGCTGTAAACCTCTTTTCTCAAGGAAGAAGATCTGACGGTACTTGAGGAATAAGCCACGGCTA ATTCCGTGCCAGCAGCCGCGGTAATACGGGAGTGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTC CGCAGGCGGCCTTGTAAGTCTGCCGTTAAAGCGTGGAGCTTAACTCCATTTCGGCGATGGAAACTACAAG GCTTGAGTGTGGTAGGGGCAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAAGAACA CCAGTGGCGAAGGCGCTCTGCTGGGCCATAACTGACGCTCATGGACGAAAGCCAGGGGAGCGAAAGGG ATTAGATACCCCTGTAGTCCTGGCCGTAAACGATGAACACTAGGTGTCGGGGGAATCGACCCCCTCGGTG TCGTAGCCAACGCGTTAAGTGTTCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACG GG
H02.31_359F	*Planktothrix*	TGCGTTGGAAGGGTGGGCTGGAGGGAGAGCCTCTTGGGACTGTCAACCTCTTTTCTCAGGGAAGAACACC ATGACGGTCCCTGAGGATAAAGCATCGGCTAACTCCGTGCCAGCACCCGCGGTAATACGGGGGATGCAA GCGTTATCCGGAATGATTGGGCGTAAAGAGTCCGTAGGTGGTCATCCAAGTCTGCTGTTAAAGATGAAGC TTAACCTCTTTCGGCAGTGGAAACTGGAAGATAGAGTGTAGTAGGGGCAGAGGGAATTCCTGGTGTAGCG GTGAAATGCGTAGAGTCAGGAAGAACACCGGTGGCGAAGGCGCTCTGCTGGGCTATAACTGACACTGAG GGCGAAAGCTAGGGGAGCGAATGGGATTAGATACCCC
H02.32_359F	*Aphanizomenon*	AACCTCTTTTCTCAGGGAAGAAAAACACGACGGTACCTTGAGGAATAAGCATCGGCTAACTCCGTGCCAG CAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGTA GTGTAAGTCTGCTGTTAAAGAATCACGCTCAACGTGATCAAAGCAGTGGAAACTACACAACTAGAGTACG GTAGGGGCAGAAGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGAA AGCGTTCTGCTAGACCTGTACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCC AGTAGTCCTAGCCGTAAACGATGGATACTAGGTGTGGCTTGTATCGACCCGAGCCGTACCGTAGCTAACG CGTTAAGTATCCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGATTGACGGG
H02.35_359F	*Planktothrix*	CCGTGCCAGCAGCCGCGGTAATACGGGGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGAGTCCG TAGGTAGTCATCCAAGTCTGCTGTTAAAGAGCGAGGCTTAACCTCGTAAAGGCAGTGGAAACTGGAAGAC TAGAGTGTAGTAGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGAGATCAGGAAGAACACC GGTGGCGAAGGCGCTCTGCTGGGCTATAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATT AGATACCCCAGTAGTCCTAGCGGTAAACGATGGAAACTAGGTGTGGCCTGTATCGACCCGGGCCGTGCCG AAGCAAACGCGTTAAGTTTCCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACGGG

H02.36_359F	*Synechococcus*	GGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAGGACTTGACATCTCTGGAATCTC CTCTGGGCTGTAACCTCTTTTCTCAAGGAAGAAGATCTGACGGTACTTGATGAATAAGCCACGGCTAATTC CGTGCCAGCAGCCGCGGTAATACGGGAGTGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCA GGCGGCCTTGTAAGTCTGTCGTTAAAGCGTGGAGCTTAACTCCATTTCAGCGATGGAAACTGCAAGGCTTG AGTGTGGTAGGGGCAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAAGAACACCAGT GGCGAAGGCGCTCTGCTGGGCCATAACTGACGCTCATGGACGAAAGCCAGGGGAGCGAAAGGGATTAGA TACCCCTGTAGTCCTGGCCGTAAACGATGAACACTAGGTGTCGGGGGAATCGACCCCCTCGGTGTCGTAG CCAACGCGTTAAGTGTTCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACGGGGGC CCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTAC
I01.28_781R	*Cyanobium*	ACCGCTACACCGGGAATTTCCTCTGCCCTACCACACTCTAGTTCTACAGTTTCCATCGCTGAAATGGAGTTAAGCTCCACGTTTTAACGACAGACTTGTAAAACCGCCTGCGGACGCTTTACGCCCAATAATTCCGGATAACGCTTGCCACTCCCGTATTACCGCGGCTGCTGGCACGGAATTAGCCGAGGCTTATTCATCAAGTACCGTCAGATCTTCTTCCTTGATAAAAGAGGTTTACAGCCCACAGGCCTTCATCCCTCACGCGGCGTTGCTCCGTCAGGCTTTC
I01.35_359F	*Synechococcus*	AGGCCTCTGGGCTGTAAACCTCTTTTCTCAAGGAAGAAGATCTGACGGTACTTGAGGAATAAGCCACGGCTAATTCCGTGCCAGCAGCCGCGGTAATACGGGAGTGGCAAGCGTTATCCGGAATTATTGGGCGTAAAGCGTCCGCAGGCGGCCTTGTAAGTCTGTCGTTAAAGCGTGGAGCTTAACTCCATTTCAGCGATGGAAACTACAAGGCTTGAGTGTGGTAGGGGCAGAGGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAAGAACACCAGTGGCGAAGGCGCTCTGCTGGGCCATAACTGACGCTCATGGACGAAAGCCAGGGGAGCGAAAGGGATTAGATACCCCTGTAGTCCTGGCCGTAAACGATGAACACTAGGCGTCGGGGGAATCGACCCCCTCGGTGTCGTAGCCAACGCGTTAAGTGTTCCGCCTGGGGAGTACGCACGCAAGTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGA
I01.37_781R	*Cyanobium*	ATGGGCGAAAGCCTGACGGAGCAACGCCGCGTGAGGGATGAAGGCCTGTGGGCTGTAAACCTCTTTTCTCAAGGAAGAAGATCTGACGGTACTTGAGGAATAAGCCACGGCTAATTCCGTGCCAGCAGCCGCGGTAATACGGGAGAGGCAAGCGTTATCCGGAATCATTGGGCGTAAAGCGTCCGCAGGCGGCCTTGCAAGTCTGTCGTTAAAGCGTGGAGCTTAACTCCATAAAAGCGGTGGAAACTACAAGGCTAGAGTGTGGTAGGGGCAGAGGGAATTCCCGGTGTAGCGGT
I04.27_359F	*Aphanizomenon*	GCTCTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAACAAAATGACGGTACCTGAGGAATAAGCATCGGCTAATTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGTAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAAATAAGAGCAGTGGAAACTACAAAGCTAGAGTGTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACACCGGTGGCGAAGGCGCTCTGCTAGGCCAAAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTGCCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGACGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGG

I04.28_359F	*Aphanizomenon*	GCTCTTGGGTTGTAACCTCTTTTCTCAGGGAAGAACAACATGACGGTACCTGAGGAATAAGCATCGGCTA ACTCCGTGCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGT CCGCAGGTGGCATTGTAAGTCTGCTGTTAAAGAGTTTGGCTCAACCAGATAAGAGCAGTGGAAACTACAA AGCTAGAGTGTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAAC ACCGGTGGCGAAGGCGCTCTGCTAGGCCAAGACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGG GATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGT GCCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGA CGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTG ACATGTCACGAATTCTGTTGAAATATGGGAGTGCCTTCGGGAGCGTGAACACA
I04.29_359F	*Dolichospermum*	CTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCTAAC TCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCC GCAGGTGGCATAGTAAGTCTGCTGTTAAAGAGTCACGCTCAACGTGATAAGAGCAGTGGAAACTACAAA GCTAGAGTATGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACA CCGGTGGCGAAGGCGCTCTGCTAGGCCAAAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGG ATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTG CCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGAC GGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGA CATGTCACGAATCCTGTAGAAATATAGGAGTGCC
I04.30_359F	*Dolichospermum*	GGCTCTTGGGTTGTAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCT AACTCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGG TCCGCAGGTGGCATAGTAAGTCTGCTGTTAAAGAGTCTGGCTCAACGAGATAAGAGCAGTGGAAACTACA AAGCTAGAGTTTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAA CACCGGTGGCGAAGGCGCTCTGCTAGGCCAAAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATG GGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTG TGCCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGA CGGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTG ACATGTCACGAATCCTGTAGAAATATAGGAGTGCCT
I04.31_359F	*Dolichospermum*	CTTGGGTTGTAAACCTCTTTTCTCAGGGAAGAACAGAATGACGGTACCTGAGGAATAAGCATCGGCTAAC TCCGTGCCAGCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCGGAATGATTGGGCGTAAAGGGTCC GCAGGTGGCATAGAAAGTCTGCTGTTAAAGAGTCTGGCTCAACCTGATAAGAGCAGTGGAAACTACAAA GCTAGAGTATGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGATATCAGGAAGAACA CCGGTGGCGAAGGCGCTCTGCTAGGCCAAAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGG ATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAGCTCGTATCGACCCGAGCTGTG CCGTAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGCAGGCAACTGTGAAACTCAAAGGAATTGAC GGGGGCCCGCACAAGCGGTGGAGTATGTGGTTTAATTCGATGCAACGCGAAGAACCTTACCAAGGCTTGA

I04.32_359F	*Microcystis*	CATGTCACGAATCCTGTAGAAATATAGGAGTGCCTTAGGGAGCGTGAACACAGGTGGTGCATGGCTGTCG TCAGCTCGTGTCGTGAGATGTTGGGTTAAGTCC ATCAGCCTCGGCTAACTCCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCAAGCGTTATCCGGAATTATT GGGCGTAAAGCGTCCGCAGGTGGTCATCCAAGTCTGCCGTCAAATCAGGTTGCTTAACGACCTAAAGGCG GTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGGAATTCCCAGTGTAGCGGTGAAATGCGTAGA GATTGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGACACTCAGGGACGAAAGCTAG GGGAGCGAAAGGG
I04.32_359F	*Dolichospermum*	CTGAGGAATAAGCATCGGCTAACTCCGGGCCACCAGCCGCGGTAATACGGAGGATGCAAGCGTTATCCG GAATGATTGGGCGTAAAGGGTCCGCAGGTGGCATTGAAAGTCTGCTGTTAAAGAGTCTGGCTCAACCTGA TAAGAGCAGTGGAAACTACAAAGCTAGAGTTTGGTCGGGGCAGAGGGAATTCCTGGTGTAGCGGTGAAA TGCGTAGATATCAGGAAGAACACCGGTGGCGAAGGCGCTCTGCTAGGCCAAACTGACACTGAGGGACGA AAGCTAGGGGAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGTAG CTCGTATCGACCCGAGCTGTGCCGGAGCTAACGCGTTAAGTATCCCGCCTGGG
I04.34_359F	*Microcystis*	GGAATTCAGCCTCGGCTAACTTCCGTGCCAGCAGCCGCGGTAATACGGGGGAGGCAAGCGTTTATCCGGA ATTATTGGGCGTAAAGCGTCCGCAGGTGGTCAGCCAAGTCTGCCGTCAAATCAGGTTGCTTAACCACCTA AAGGCGGTGGAAACTGGCAGACTAGAGAGCAGTAGGGGTAGCAGGAATTCCCAGTGTAGCGGTGAAATG CGTAGAGATTGGGAAGAACATCGGTGGCGAAAGCGTGCTACTGGGCTGTATCTGACACTCAGGGACGAA AGCTAGGGGAGCGAAAGGG
I04.36_359F	*Planktothrix*	AGTCTGCTGTTAAAGAGGGAGGCTTAACCTCTTTCGGCAGTGGAAACTGGAAGATAGAGTGTGGTAGGGG CAGAGGGAATTCCTGGTGTAGCGGTGAAATGCGTAGAGTCAGGAAGAACACCGGTGGCGAAGGCGCTCT GCTGGGCTATAACTGACACTGAGGGACGAAAGCTAGGGGAGCGAATGGGTTAGATACCCCAGTAGTCCT AGCGGAAACGATGGAACT
I04.37_359F	*Cyanodictyon*	GGAGCTTAACTCCATTTCAGCGGTGGAAACTACAAAGCTTGAGTGTGGTAGGGGCAGAGGGAATTCCCGG TGTAGCGGTGAAATGCGTAGATATCGGGAAGAACACCAGTGGCGAAGGCGCTCTGCTGGGCCATAACTG ACACTCATGGACGAAAGCCAGGGGAGCGAATGGGATTAGATACCCCTGTAGTCCTGGCCGTAAACGATG AACACTAGG