SUPPLEMENT TABLES

Table S1. Diagnostic pigments used in this study. Mean pigment maxima and replicate filter precision values are calculated using observations (n = 86) from a number of randomly selected sites during the three cruises. CV: coefficient of variation; sd: standard deviation.

Diagnostic pigments	Pigment abbreviation	Mean observed maximum ± sd [$\mu g\ l^{-1}$]	Mean replicate filter precision ± sd [% CV]
Total chlorophyll a	TChla	2.433 ± 0.110	2.59 ± 0.05
Total chlorophyll b	TChlb	0.209 ± 0.105	2.56 ± 0.23
19'-butanoyloxyfucoxanthin	But-fuco	0.044 ± 0.045	2.47 ± 1.00
19'-hexanoyloxyfucoxanthin	Hex-fuco	0.095 ± 0.028	2.00 ± 0.04
Alloxanthin	Allo	0.094 ± 0.052	1.35 ± 1.12
Fucoxanthin	Fuco	1.578 ± 1.401	3.57 ± 1.55
Peridinin	Perid	0.037 ± 0.004	8.04 ± 1.13
Zeaxanthin	Zea	0.478 ± 0.238	3.49 ± 0.16
Divinyl chlorophyll a	DVChl-a	0.074 ± 0.005	1.08 ± 0.90
Chlorophyll c1 + chlorophyll c2	Chl_c12	0.283 ± 0.122	2.89 ± 0.43
Chlorophyll c3	Chl_c3	0.168 ± 0.123	3.80 ± 0.36
Lutein	Lut	0.025 ± 0.020	3.15 ± 0.46
Prasinoxanthin	Pras	0.065 ± 0.059	2.94 ± 0.55

Table S2. Initial pigment ratio matrix used in CHEMTAX analysis.

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes	0	0	0	0	0	0	0	0.039	0	0.172	0.334	0	1
Cryptophytes	0	0.104	0	0	0.44	0	0	0	0.253	0	0	0	1
Cyanobacteria Type 2	0	0	0	0	0	0	0	0.656	0	0	0	0	1
Cyanobacteria Type 4	0	0	0	0	0	0	0	0.389	0	0	0	1	1
Diatoms Type 1	0	0.179	0	0	0.775	0	0	0	0	0	0	0	1
Diatoms Type 2	0.083	0.284	0	0	0.998	0	0	0	0	0	0	0	1
Dinoflagellates	0	0.245	0.804	0	0	0	0	0	0	0	0	0	1
Haptophytes Type 6	0.146	0.168	0	0.015	0.195	0	1.214	0	0	0	0	0	1
Haptophytes Type 8	0.276	0.167	0	0.373	0.476	0	0.684	0	0	0	0	0	1
Prasinophytes	0	0	0	0	0	0.222	0	0.057	0	0.011	0.911	0	1

Table S3. Pigment ratio limit matrix used in CHEMTAX analysis.

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes	0	0	0	0	0	0	0	1175	0	191	175	0	1
Cryptophytes	0	0	0	0	0	0	0	0	220	0	0	0	1
Cyanobacteria Type 2	0	0	0	0	0	0	0	293	0	0	0	0	1
Cyanobacteria Type 4	0	0	0	0	0	0	0	293	0	0	0	1	1
Diatoms Type 1	409	0	0	0	124	0	0	0	0	0	0	0	1
Diatoms Type 2	409	0	0	0	124	0	0	0	0	0	0	0	1
Dinoflagellates	0	0	190	0	0	0	0	0	0	0	0	0	1
Haptophytes Type 6	390	0	0	522	1130	0	1194	0	0	0	0	0	1
Haptophytes Type 8	390	0	0	522	1130	0	1194	0	0	0	0	0	1
Prasinophytes	0	0	0	0	0	606	0	1732	0	671	281	0	1

Table S4. Normalized final pigment ratio matrices from CHEMTAX analysis. Average pigment ratios values and coefficients of variation derived from all pigment clusters (see Figure S1) are shown for each sampling period.

March 2016

Mean

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes	0	0	0	0	0	0	0	0.039	0	0.137	0.358	0	1
Cryptophytes	0	0.102	0	0	0.428	0	0	0	0.277	0	0	0	1
Cyanobacteria Type 2	0	0	0	0	0	0	0	0.571	0	0	0	0	1
Cyanobacteria Type 4	0	0	0	0	0	0	0	0.411	0	0	0	1.005	1
Diatoms Type 1	0	0.198	0	0	0.805	0	0	0	0	0	0	0	1
Diatoms Type 2	0.091	0.262	0	0	0.808	0	0	0	0	0	0	0	1
Dinoflagellates	0	0.253	0.869	0	0	0	0	0	0	0	0	0	1
Haptophytes Type 6	0.158	0.175	0	0.015	0.195	0	1.129	0	0	0	0	0	1
Haptophytes Type 8	0.313	0.177	0	0.332	0.456	0	0.609	0	0	0	0	0	1
Prasinophytes	0	0	0	0	0	0.313	0	0.039	0	0.010	0.852	0	1

Coefficient of variation (%)

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes								13		26	15		0
Cryptophytes		11			19				14				0
Cyanobacteria Type 2								17					0
Cyanobacteria Type 4								9				7	0
Diatoms Type 1		13			13								0
Diatoms Type 2	15	14			19								0
Dinoflagellates		10	10										0
Haptophytes Type 6	8	9		8	5		7						0
Haptophytes Type 8	5	6		8	12		5						0
Prasinophytes						8		63		63	23		0

May 2016

Mean

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes	0	0	0	0	0	0	0	0.040	0	0.167	0.329	0	1
Cryptophytes	0	0.100	0	0	0.421	0	0	0	0.237	0	0	0	1
Cyanobacteria Type 2	0	0	0	0	0	0	0	0.641	0	0	0	0	1
Cyanobacteria Type 4	0	0	0	0	0	0	0	0.400	0	0	0	1.068	1
Diatoms Type 1	0	0.174	0	0	0.742	0	0	0	0	0	0	0	1
Diatoms Type 2	0.104	0.260	0	0	0.809	0	0	0	0	0	0	0	1
Dinoflagellates	0	0.245	0.754	0	0	0	0	0	0	0	0	0	1
Haptophytes Type 6	0.167	0.180	0	0.015	0.172	0	1.094	0	0	0	0	0	1
Haptophytes Type 8	0.280	0.177	0	0.341	0.470	0	0.623	0	0	0	0	0	1
Prasinophytes	0	0	0	0	0	0.227	0	0.054	0	0.008	0.893	0	1

Coefficient of variation (%)

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes								5		41	18		0
Cryptophytes		10			12				22				0
Cyanobacteria Type 2								26					0
Cyanobacteria Type 4								12				10	0
Diatoms Type 1		9			10								0
Diatoms Type 2	13	17			14								0
Dinoflagellates		5	8										0
Haptophytes Type 6	12	6		3	4		5						0
Haptophytes Type 8	11	7		6	15		13						0
Prasinophytes						53		41		42	14		0

September 2016

Mean

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes	0	0	0	0	0	0	0	0.039	0	0.162	0.341	0	1
Cryptophytes	0	0.115	0	0	0.389	0	0	0	0.265	0	0	0	1
Cyanobacteria Type 2	0	0	0	0	0	0	0	0.675	0	0	0	0	1
Cyanobacteria Type 4	0	0	0	0	0	0	0	0.390	0	0	0	0.987	1
Diatoms Type 1	0	0.155	0	0	0.716	0	0	0	0	0	0	0	1
Diatoms Type 2	0.101	0.244	0	0	0.895	0	0	0	0	0	0	0	1
Dinoflagellates	0	0.252	0.802	0	0	0	0	0	0	0	0	0	1
Haptophytes Type 6	0.164	0.178	0	0.016	0.172	0	1.043	0	0	0	0	0	1
Haptophytes Type 8	0.294	0.158	0	0.352	0.455	0	0.716	0	0	0	0	0	1
Prasinophytes	0	0	0	0	0	0.196	0	0.048	0	0.008	0.893	0	1

Coefficient of variation (%)

Class / Pigment	Chl_c3	Chl_c1_c2	Peri	But-f	Fuco	Pras	Hex-f	Zea	Allo	Lut	Chl_b_tot	DV_Chla	Chl_a
Chlorophytes								12		34	21		0
Cryptophytes		8			19				15				0
Cyanobacteria Type 2								9					0
Cyanobacteria Type 4								9				12	0
Diatoms Type 1		7			9								0
Diatoms Type 2	15	26			22								0
Dinoflagellates		2	9										0
Haptophytes Type 6	11	19		7	4		21						0
Haptophytes Type 8	12	5		4	16		9						0
Prasinophytes						38		50		26	15		0