

SUPPORTING INFORMATION

Haptophyte Diversity and Vertical Distribution Explored by 18S and 28S Ribosomal RNA Gene

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Fig. S1a. Heat map showing proportional abundances of all 18S rRNA gene OTUs for the different samples and replicates. Proportional read abundance was scaled by color (white indicates that no reads were recorded).

Fig. S1b. Heat map showing proportional abundances of all 28S rRNA gene OTUs for the different samples and replicates. Proportional read abundance was scaled by color (white indicates that no reads were recorded).

Fig. S2. Rank-abundance curves for 18S (a) and 28S rRNA gene (b). The abundant OTUs are shown in blue (the three most abundant in dark blue). Red indicates rare taxa.

Fig. S3. Mean-difference (Bland-Altman) plot showing level of agreement between technical replicates for OTU proportional abundances in the 18S and 28S rRNA gene datasets. Average differences (± 1.45 and ± 0.83 standard deviation of the difference for 18S and 28S respectively) are represented as dotted lines.

Fig. S4. Vertical distribution of coccolithophore families observed at the OF2 station. Samples at 1 m and 8 m depths were used for the method comparison.

Table S1. Total number of reads at the beginning and end of the bioinformatics analysis and changes in the number of unique sequences (OTUs, operational taxonomic units) along the analysis process.

Table S2a. Haptophyte V4 18S rRNA OTUs recorded in the Skagerrak in August 2013. Red OTUs were removed after subsampling. Taxonomic assignments are based on phylogenetic placement.

Table S2b. Haptophyte D1-D2 28S rRNA OTUs recorded in the Skagerrak in August 2013. Red OTUs were removed after subsampling. Taxonomic assignments are based on phylogenetic placement.

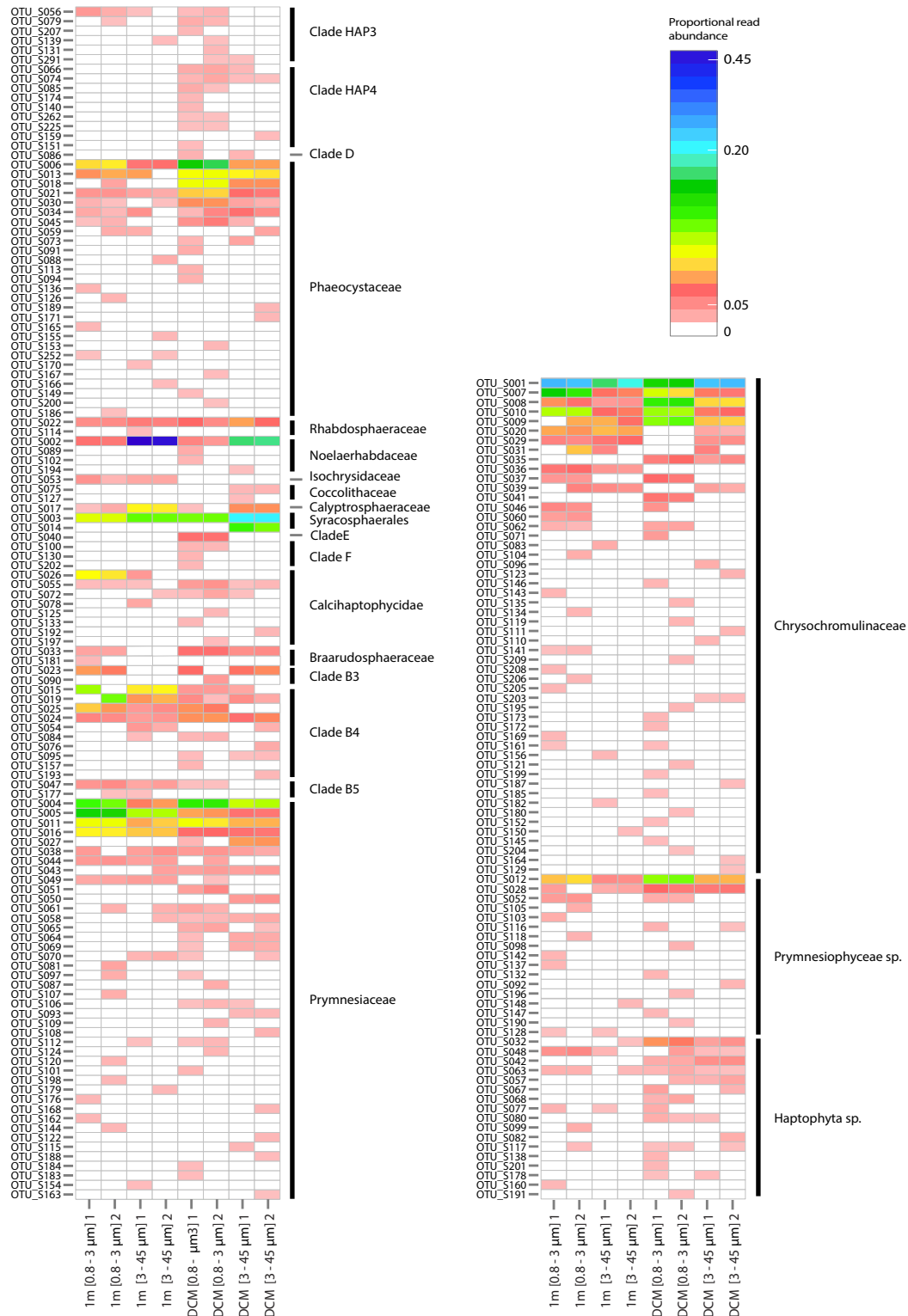
Table S3. Total and proportional read abundances and OTUs within each major clade for 18S and 28S rRNA genes.

Table S4. a) Overview over matching of 18S OTUs to other databases. Total: Total number of OTUs in each group. $\geq 99\%$ any sequence: Number of OTUs that have $\geq 99\%$ BLAST match with either any sequence in the Haptophyta-PiP database, or an OTU from Oslofjorden from Egge et al. 2015a. $\geq 99\%$ Hapto-PiP_ENV: Number of OTUs that have $\geq 99\%$ BLAST match with an “environmental sequence” in the Haptophyta-PiP database. $\geq 99\%$ Hapto-PiP_CULT: Number of OTUs that have $\geq 99\%$ BLAST match with a sequence from a cultured species in the Haptophyta-PiP database. $\geq 99\%$ OF-OTUs: Number of OTUs that have $\geq 99\%$ BLAST match with an OTU previously obtained by HTS of samples from

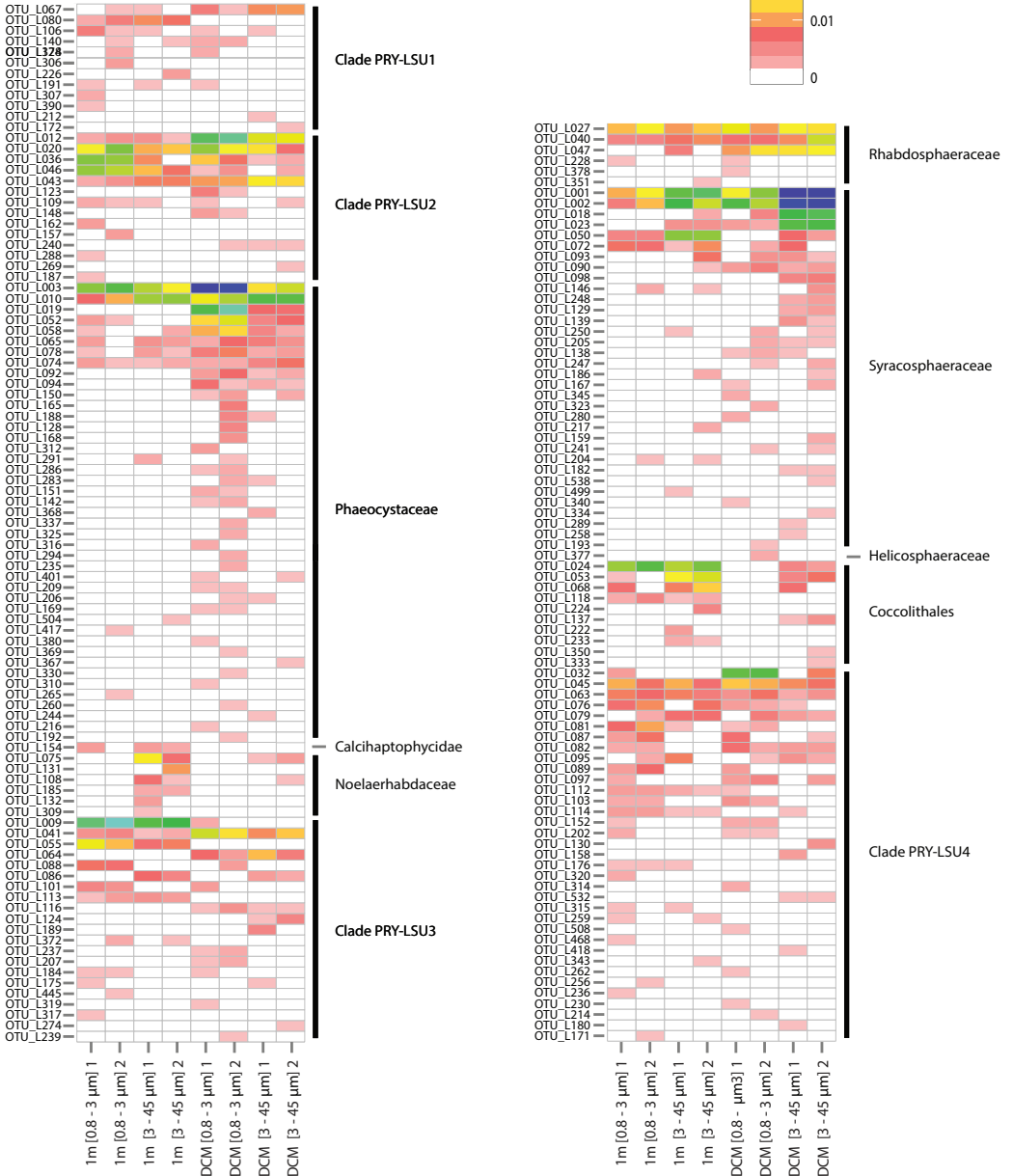
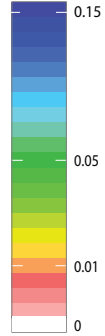
Oslofjorden (these may represent either cultured species, environmental sequences obtained by Sanger sequencing, or novel sequences from the Egge et al. 2015a study). $\geq 99\%$ OF-OTU & $< 99\%$ with any Hapto-PiP sequence: Number of OTUs that have $\geq 99\%$ match to an OTU from Egge et al. (2015 a,b), but at the same time is $< 99\%$ similar to any sequence present in Hapto-PiP. The numbers from $\geq 99\%$ Hapto-PiP_ENV and $\geq 99\%$ Hapto-PiP_CULT may not add up, because environmental sequences in the Haptophyta-PiP database may also come from species that exist in culture.

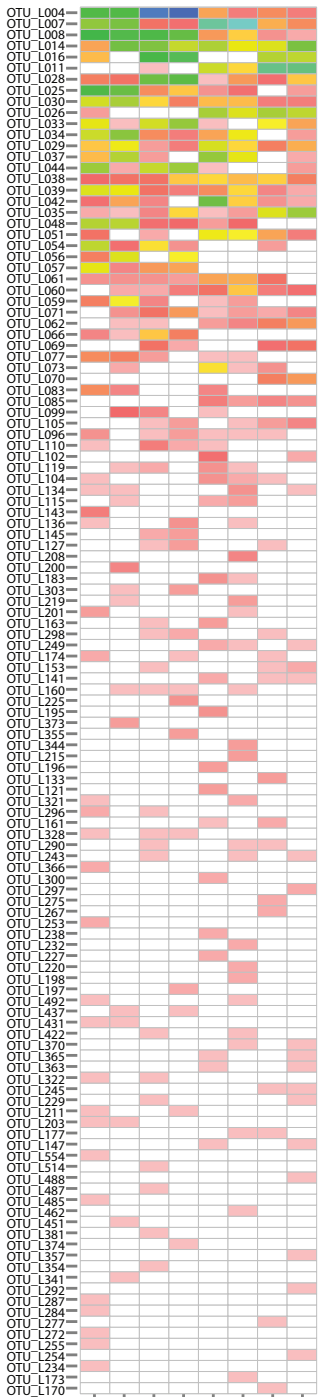
b) Overview over matching of 28S OTUs to the 28S haptophyta reference database, consisting of sequences from cultured strains.

File S1. Description of how the haptophyte 28S reference database was created.

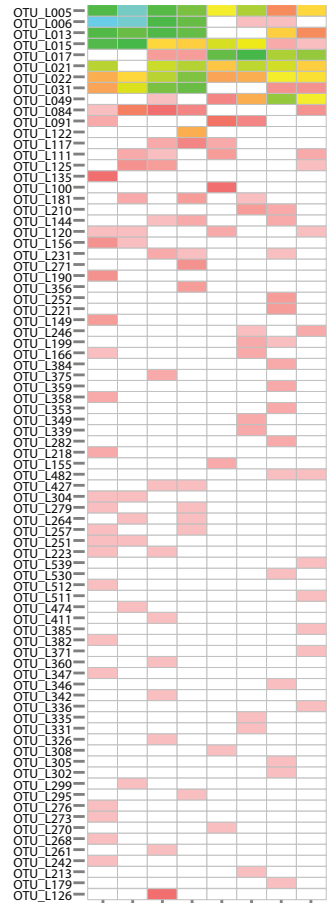


Proportional read abundance



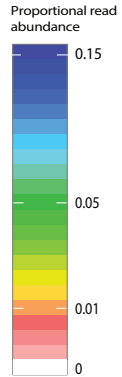


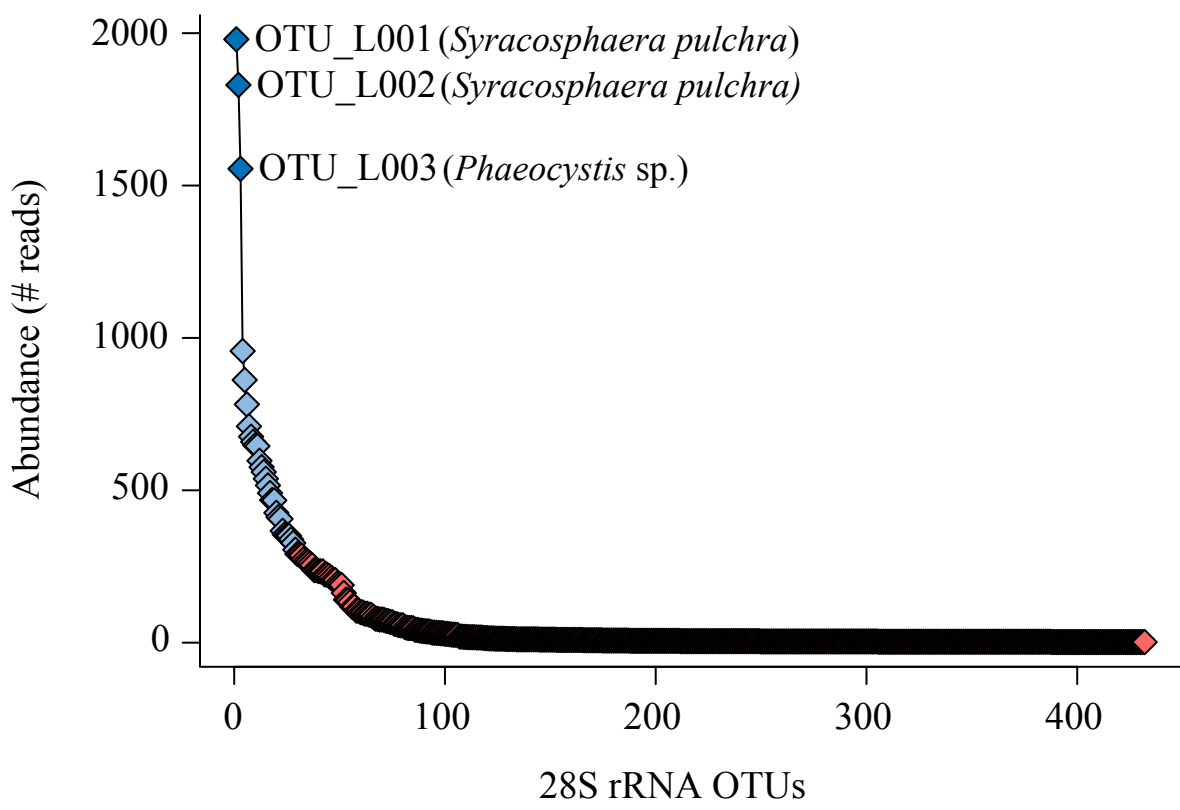
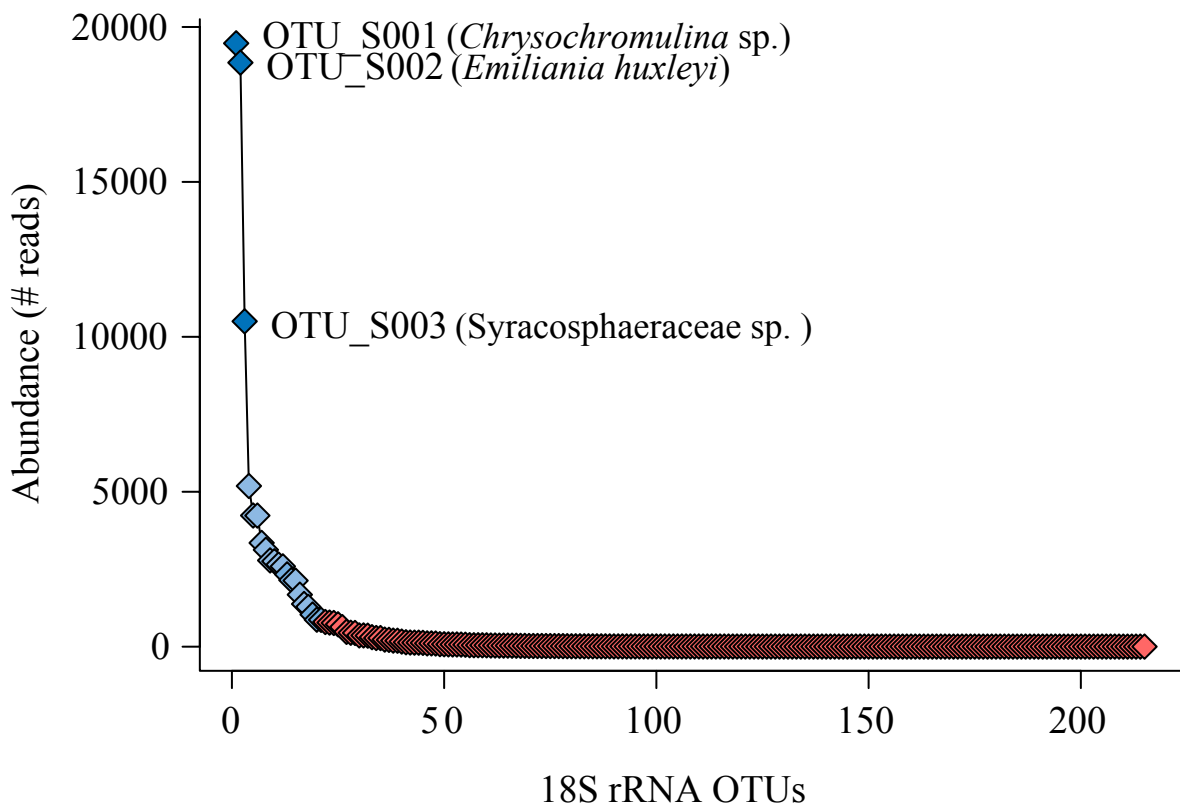
Chrysochromulinaceae



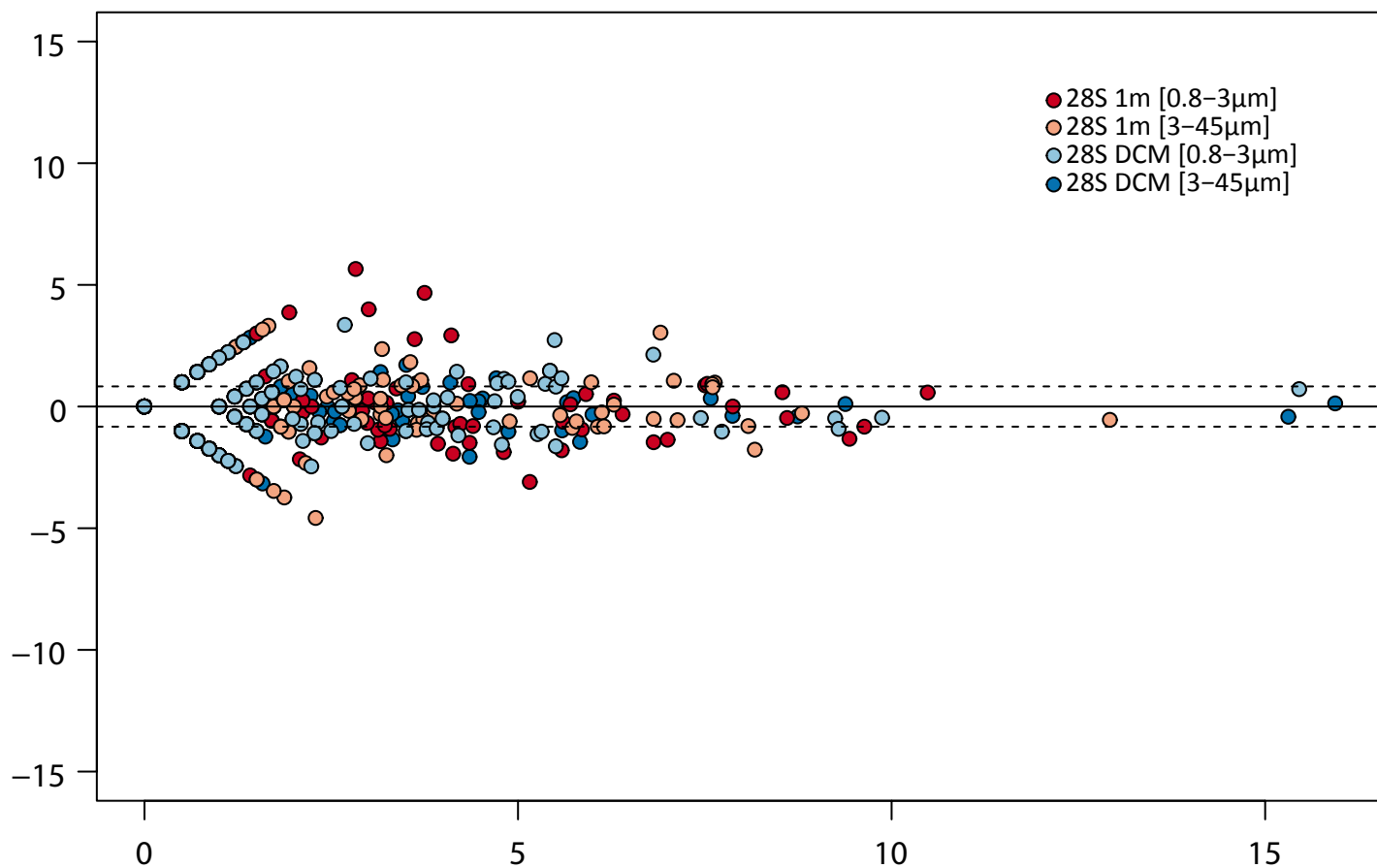
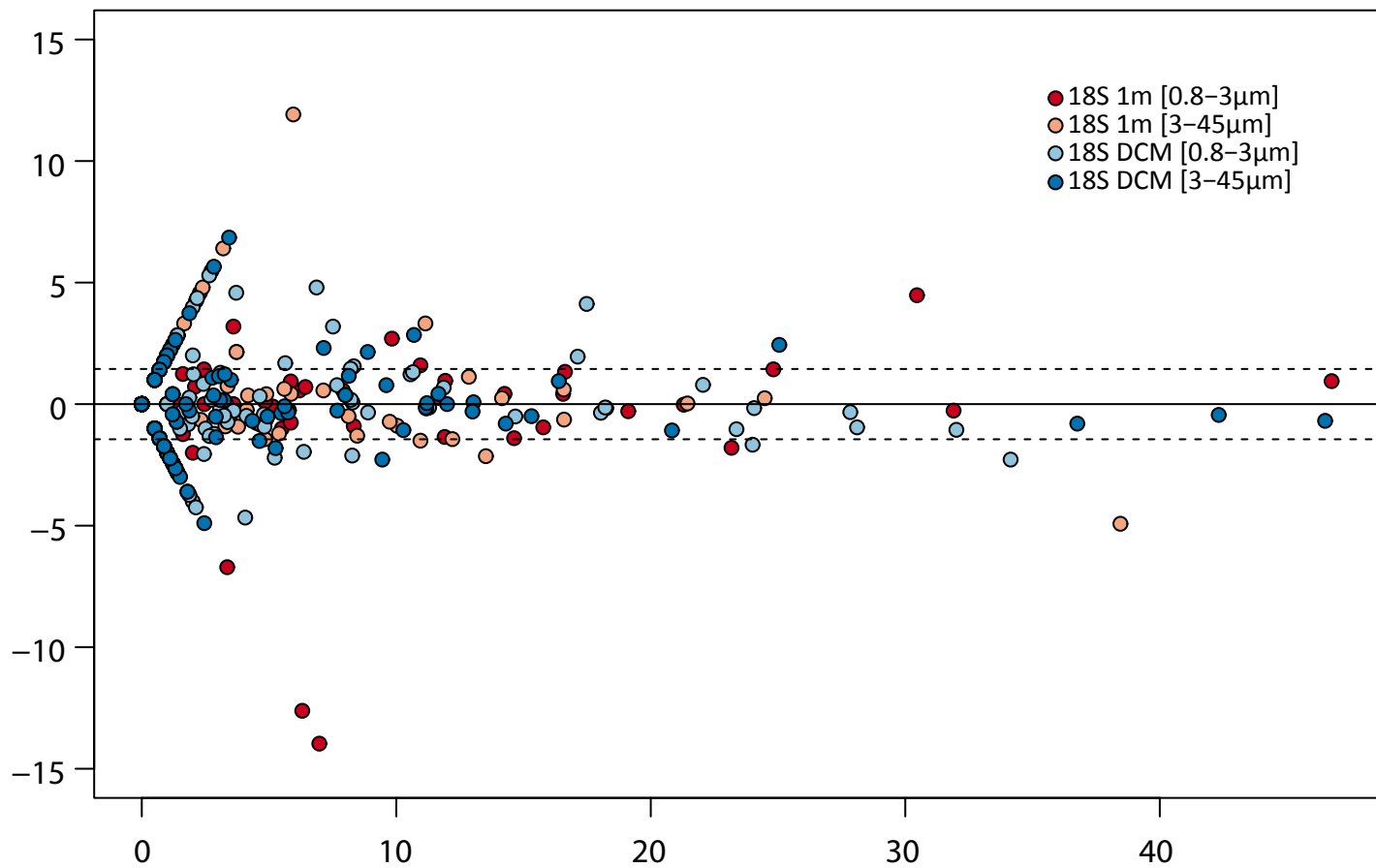
Prymnesiaceae

Prymnesiophyceae sp.





Difference in OTU abundances



Average of OTU abundances

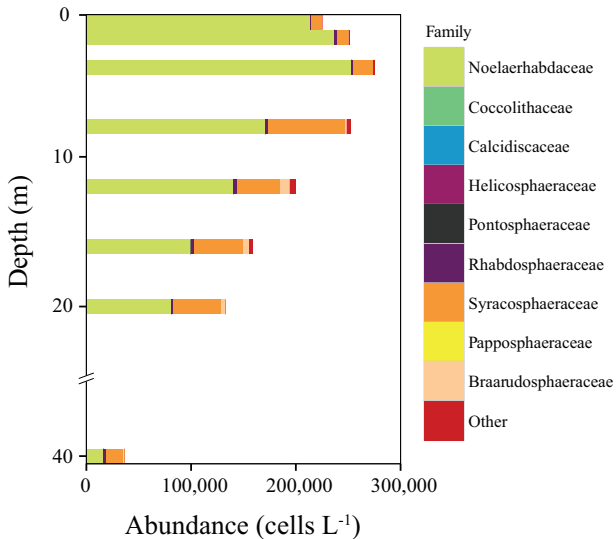


Table S1. Total number of reads at the beginning and end of the bioinformatics analysis and changes in the number of unique sequences (OTUs, operational taxonomic units) along the analysis process.

	18S rRNA		28S rRNA	
	Total reads	Unique reads	Total reads	Unique reads
AmpliconNoise output	120,282		38,795	
Reads after removal of <365 bp and homopolymers >8bp	112,958	2,096	30,981	2,594
Haptophyta reads	112,399	1,897	30,892	2,549
Chimeric reads removed	7,454		288	
Clustering output (number of OTUs)		722		1,135
(Double) Singletons removed		507		703
Final number of OTUs		215		432
Final number of reads	104,345		29,751	

Table S2a Haptophyte V4 18S rRNA OTUs recorded in the Skagerrak in August 2013. Red OTUs were removed after subsampling. Taxonomic assignments are based on phylogenetic placement.

OTU ID	Total reads (N)	Total reads (%)	Total reads after subsampling (N)	Total reads after subsampling (%)	Depth	Size fraction	Group	Lowest taxonomic level possible to determine
OTU_S001	19473	18.66	13715	18.74	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S002	18849	18.06	11413	15.59	Both	Both	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_S003	10500	10.06	6669	9.11	Both	Both	Syracosphaeraceae	Syracosphaeraceae
OTU_S004	5186	4.97	3893	5.32	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_S005	4234	4.06	3364	4.60	Both	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_S006	4231	4.05	3252	4.44	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S007	3349	3.21	2847	3.89	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S008	3126	3.00	2293	3.13	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S009	2784	2.67	1976	2.70	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S010	2757	2.64	2255	3.08	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S011	2650	2.54	1963	2.68	Both	Both	Prymnesiaceae	Prymnesiaceae
OTU_S012	2592	2.48	1928	2.63	Both	Both	Prymnesiophyceae	Prymnesiophyceae
OTU_S013	2334	2.24	1614	2.21	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S014	2148	2.06	1258	1.72	Only DCM	Only nano	Syracosphaeraceae	Syracosphaeraceae
OTU_S015	2132	2.04	1690	2.31	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S016	1679	1.61	1235	1.69	Both	Both	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_S017	1378	1.32	810	1.11	Both	Both	Calyptrosphaeraceae	<i>Calyptrosphaera sphaeroidea</i>
OTU_S018	1284	1.23	927	1.27	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S019	1037	0.99	775	1.06	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S020	871	0.83	632	0.86	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S021	866	0.83	640	0.87	Both	Both	Phaeocystaceae	<i>Phaeocystis cordata</i>

OTU_S022	797	0.76	520	0.71	Both	Both	Rhabdosphaeraceae	Algirosphaera robusta
OTU_S023	778	0.75	559	0.76	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S024	765	0.73	557	0.76	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S025	722	0.69	579	0.79	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S026	633	0.61	577	0.79	Only 1m	Both	Calcihaptophycidae	Calcihaptophycidae
OTU_S027	479	0.46	276	0.38	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_S028	449	0.43	298	0.41	Both	Both	Prymnesiophyceae	Prymnesiophyceae
OTU_S029	443	0.42	287	0.39	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S030	364	0.35	276	0.38	Both	Both	Phaeocystaceae	<i>Phaeocystis globosa</i>
OTU_S031	363	0.35	283	0.39	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina scutellum</i>
OTU_S032	355	0.34	273	0.37	Both	Both	Haptophyta	Haptophyta
OTU_S033	307	0.29	229	0.31	Both	Both	Braarudosphaeraceae	Braarudosphaeraceae
OTU_S034	280	0.27	192	0.26	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S035	278	0.27	196	0.27	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S036	229	0.22	187	0.26	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S037	220	0.21	183	0.25	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S038	196	0.19	140	0.19	Both	Both	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_S039	192	0.18	130	0.18	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S040	165	0.16	135	0.18	Only DCM	Only pico	Clade D-E-F	Clade E
OTU_S041	143	0.14	118	0.16	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S042	134	0.13	82	0.11	Only DCM	Both	Haptophyta	Haptophyta
OTU_S043	130	0.12	88	0.12	Both	Both	Prymnesiaceae	Prymnesiaceae
OTU_S044	129	0.12	96	0.13	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_S045	123	0.12	94	0.13	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S046	107	0.10	97	0.13	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S047	106	0.10	92	0.13	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B5
OTU_S048	102	0.10	94	0.13	Both	Both	Haptophyta	Haptophyta

OTU_S049	82	0.08	60	0.08	Both	Both	Prymnesiaceae	<i>Chrysocampanula spinifera</i>
OTU_S050	79	0.08	49	0.07	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_S051	74	0.07	57	0.08	Only DCM	Only pico	Prymnesiaceae	Prymnesiaceae
OTU_S052	71	0.07	60	0.08	Both	Only pico	Prymnesiophyceae	Prymnesiales
OTU_S053	71	0.07	53	0.07	Only 1m	Both	Isochrysidaceae+Clade C1	<i>Isochrysis</i>
OTU_S054	68	0.07	36	0.05	Both	Only nano	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S055	63	0.06	56	0.08	Both	Both	Calcihaptophycidae	Calcihaptophycidae
OTU_S056	49	0.05	38	0.05	Both	Both	Clade HAP3-4	Clade HAP3
OTU_S057	47	0.05	24	0.03	Only DCM	Both	Haptophyta	Haptophyta
OTU_S058	47	0.05	26	0.04	Both	Both	Prymnesiaceae	Prymnesiaceae
OTU_S059	46	0.04	28	0.04	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S060	44	0.04	41	0.06	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S061	38	0.04	32	0.04	Both	Both	Prymnesiaceae	Prymnesiaceae
OTU_S062	38	0.04	35	0.05	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S063	34	0.03	31	0.04	Both	Both	Haptophyta	Haptophyta
OTU_S064	34	0.03	21	0.03	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_S065	34	0.03	24	0.03	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_S066	32	0.03	24	0.03	Only DCM	Both	Clade HAP3-4	Clade HAP4
OTU_S067	31	0.03	21	0.03	Only DCM	Both	Haptophyta	Haptophyta
OTU_S068	26	0.02	17	0.02	Only DCM	Only pico	Haptophyta	Haptophyta
OTU_S069	26	0.02	17	0.02	Only DCM	Both	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_S070	22	0.02	14	0.02	Both	Both	Prymnesiaceae	Prymnesiophyceae
OTU_S071	22	0.02	19	0.03	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S072	22	0.02	16	0.02	Both	Both	Calcihaptophycidae	Calcihaptophycidae
OTU_S073	22	0.02	18	0.02	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S074	21	0.02	18	0.02	Only DCM	Both	Clade HAP3-4	Clade HAP4
OTU_S075	20	0.02	7	0.01	Only DCM	Only nano	Coccolithales	<i>Coccolithus</i>

OTU_S076	19	0.02	9	0.01	Only DCM	Only nano	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S077	19	0.02	14	0.02	Both	Both	Haptophyta	Haptophyta
OTU_S078	18	0.02	11	0.02	Only 1m	Only nano	Calcihaptophycidae	<i>Tergestiella adriatica</i>
OTU_S079	16	0.02	13	0.02	Both	Both	Clade HAP3-4	Clade HAP3
OTU_S080	14	0.01	10	0.01	Only DCM	Both	Haptophyta	Haptophyta
OTU_S081	14	0.01	13	0.02	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S082	14	0.01	7	0.01	Both	Only nano	Haptophyta	Haptophyta
OTU_S083	13	0.01	8	0.01	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S084	13	0.01	10	0.01	Both	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S085	12	0.01	10	0.01	Only DCM	Both	Clade HAP3-4	Clade HAP4
OTU_S086	12	0.01	9	0.01	Only DCM	Both	Clade D-E-F	Clade D
OTU_S087	11	0.01	8	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S088	11	0.01	8	0.01	Only 1m	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S089	10	0.01	8	0.01	Only DCM	Only pico	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_S090	9	0.01	7	0.01	Only DCM	Only pico	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B3
OTU_S091	9	0.01	8	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S092	9	0.01	4	0.01	Only DCM	Only nano	Prymnesiophyceae	Prymnesiophyceae
OTU_S093	8	0.01	6	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_S094	8	0.01	6	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S095	8	0.01	5	0.01	Only DCM	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S096	8	0.01	7	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S097	8	0.01	8	0.01	Both	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S098	8	0.01	5	0.01	Only DCM	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S099	8	0.01	7	0.01	Only 1m	Only pico	Haptophyta	Haptophyta
OTU_S100	8	0.01	7	0.01	Only DCM	Only pico	Clade D-E-F	Clade F
OTU_S101	7	0.01	4	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S102	7	0.01	4	0.01	Only DCM	Only pico	Noelaerhabdaceae	<i>Emiliania huxleyi</i>

OTU_S103	7	0.01	7	0.01	Only 1m	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S104	7	0.01	7	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina scutellum</i>
OTU_S105	7	0.01	7	0.01	Only 1m	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S106	7	0.01	6	0.01	Only DCM	Both	Prymnesiaceae	Prymnesiaceae
OTU_S107	7	0.01	7	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S108	7	0.01	5	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_S109	7	0.01	5	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S110	7	0.01	4	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S111	6	0.01	4	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S112	6	0.01	5	0.01	Both	Both	Prymnesiaceae	Prymnesiaceae
OTU_S113	6	0.01	6	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S114	6	0.01	2	0.003	Only 1m	Only nano	Rhabdosphaeraceae	Rhabdosphaeraceae
OTU_S115	6	0.01	3	0.004	Only DCM	Only nano	Prymnesiaceae	Prymnesiaceae
OTU_S116	6	0.01	6	0.01	Only DCM	Both	Prymnesiophyceae	Prymnesiales
OTU_S117	5	0.00	5	0.01	Both	Both	Haptophyta	Haptophyta
OTU_S118	5	0.00	5	0.01	Only 1m	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S119	5	0.00	4	0.01	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S120	5	0.00	4	0.01	Only 1m	Only pico	Prymnesiaceae	Prymnesiaceae
OTU_S121	5	0.00	3	0.004	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S122	5	0.00	3	0.004	Only DCM	Only nano	Prymnesiaceae	Prymnesiaceae
OTU_S123	5	0.00	5	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina scutellum</i>
OTU_S124	5	0.00	4	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S125	4	0.00	3	0.004	Only DCM	Only pico	Calcihaptophycidae	Calcihaptophycidae
OTU_S126	4	0.00	4	0.01	Only 1m	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S127	4	0.00	2	0.003	Only DCM	Only nano	Coccolithales	Coccolithales
OTU_S128	4	0.00	2	0.003	Only 1m	Both	Prymnesiophyceae	Prymnesiophyceae
OTU_S129	4	0.00	1	0.001	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>

OTU_S130	4	0.00	4	0.01	Only DCM	Only pico	Clade D-E-F	Clade F
OTU_S131	4	0.00	3	0.004	Only DCM	Only pico	Clade HAP3-4	Clade HAP3
OTU_S132	4	0.00	4	0.01	Only DCM	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S133	4	0.00	3	0.004	Only DCM	Only pico	Calcihaptophycidae	Calcihaptophycidae
OTU_S134	4	0.00	4	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S135	4	0.00	4	0.01	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S136	4	0.00	4	0.01	Only 1m	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S137	4	0.00	4	0.01	Only 1m	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S138	4	0.00	4	0.01	Only DCM	Only pico	Haptophyta	Haptophyta
OTU_S139	4	0.00	3	0.004	Both	Both	Clade HAP3-4	Clade HAP3
OTU_S140	4	0.00	3	0.004	Only DCM	Only pico	Clade HAP3-4	Clade HAP4
OTU_S141	4	0.00	4	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S142	4	0.00	4	0.01	Only 1m	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S143	4	0.00	4	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S144	4	0.00	3	0.004	Only 1m	Only pico	Prymnesiaceae	Prymnesiaceae
OTU_S145	4	0.00	2	0.003	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S146	4	0.00	4	0.01	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S147	4	0.00	3	0.004	Only DCM	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S148	4	0.00	3	0.004	Only 1m	Only nano	Prymnesiophyceae	Prymnesiophyceae
OTU_S149	4	0.00	2	0.003	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S150	4	0.00	2	0.003	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S151	4	0.00	2	0.003	Only DCM	Only pico	Clade HAP3-4	Clade HAP4
OTU_S152	4	0.00	2	0.003	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina scutellum</i>
OTU_S153	4	0.00	3	0.004	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S154	4	0.00	2	0.003	Only 1m	Only nano	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_S155	4	0.00	3	0.004	Only 1m	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S156	4	0.00	3	0.004	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>

OTU_S157	4	0.00	4	0.01	Only DCM	Only pico	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S158	3	0.00	0	0.000	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_S159	3	0.00	2	0.003	Only DCM	Both	Clade HAP3-4	Clade HAP4
OTU_S160	3	0.00	3	0.004	Only 1m	Only pico	Haptophyta	Haptophyta
OTU_S161	3	0.00	3	0.004	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S162	3	0.00	3	0.004	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S163	3	0.00	1	0.001	Only DCM	Only nano	Prymnesiaceae	Prymnesiaceae
OTU_S164	3	0.00	1	0.001	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S165	3	0.00	3	0.004	Only 1m	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S166	3	0.00	2	0.003	Only 1m	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S167	3	0.00	2	0.003	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S168	3	0.00	3	0.004	Only DCM	Only nano	Prymnesiaceae	<i>Haptolina</i>
OTU_S169	3	0.00	3	0.004	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S170	3	0.00	2	0.003	Only 1m	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S171	3	0.00	3	0.004	Only DCM	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S172	3	0.00	3	0.004	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S173	3	0.00	3	0.004	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S174	3	0.00	3	0.004	Only DCM	Only pico	Clade HAP3-4	Clade HAP4
OTU_S175	3	0.00	0	0.000	Only 1m	Only nano	Prymnesiophyceae	Prymnesiophyceae
OTU_S176	3	0.00	3	0.004	Only 1m	Only pico	Prymnesiaceae	Prymnesiaceae
OTU_S177	3	0.00	2	0.003	Only 1m	Both	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B5
OTU_S178	3	0.00	3	0.004	Only DCM	Both	Haptophyta	Haptophyta
OTU_S179	3	0.00	3	0.004	Only 1m	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_S180	3	0.00	2	0.003	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S181	3	0.00	3	0.004	Only 1m	Only pico	Prymnesiophyceae	Braarudosphaeraceae
OTU_S182	3	0.00	2	0.003	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S183	3	0.00	2	0.003	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>

OTU_S184	3	0.00	2	0.003	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_S185	3	0.00	2	0.003	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S186	3	0.00	1	0.001	Both	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S187	3	0.00	2	0.003	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina rotalis</i>
OTU_S188	3	0.00	2	0.003	Only DCM	Only nano	Prymnesiaceae	Prymnesiaceae
OTU_S189	3	0.00	3	0.004	Only DCM	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S190	3	0.00	2	0.003	Only DCM	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S191	3	0.00	2	0.003	Only DCM	Only pico	Haptophyta	Haptophyta
OTU_S192	3	0.00	3	0.004	Only DCM	Only nano	Calcihaptophycidae	Calcihaptophycidae
OTU_S193	3	0.00	3	0.004	Only DCM	Only nano	Prymnesiales Clade B3-B4-B5	Prymnesiales Clade B4
OTU_S194	3	0.00	1	0.001	Only DCM	Only nano	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_S195	3	0.00	3	0.004	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S196	3	0.00	3	0.004	Only DCM	Only pico	Prymnesiophyceae	Prymnesiophyceae
OTU_S197	3	0.00	2	0.003	Only DCM	Only pico	Calcihaptophycidae	Calcihaptophycidae
OTU_S198	3	0.00	3	0.004	Only 1m	Only pico	Prymnesiaceae	Prymnesiaceae
OTU_S199	3	0.00	2	0.003	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S200	3	0.00	1	0.001	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S201	3	0.00	3	0.004	Only DCM	Only pico	Haptophyta	Haptophyta
OTU_S202	3	0.00	3	0.004	Only DCM	Only pico	Clade D-E-F	Clade F
OTU_S203	3	0.00	3	0.004	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S204	3	0.00	1	0.001	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S205	3	0.00	3	0.004	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina scutellum</i>
OTU_S206	3	0.00	3	0.004	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S207	3	0.00	3	0.004	Only DCM	Only pico	Clade HAP3-4	Clade HAP3
OTU_S208	3	0.00	3	0.004	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S209	3	0.00	3	0.004	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_S225	2	0.00	2	0.003	Only DCM	Only pico	Clade HAP3-4	Clade HAP4

OTU_S228	2	0.00	0	0.000	Only 1m	Both	Clade HAP3-4	Clade HAP3
OTU_S252	2	0.00	2	0.003	Only 1m	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_S253	2	0.00	0	0.000	Only DCM	Both	Prymnesiaceae	Prymnesiaceae
OTU_S262	2	0.00	2	0.003	Only DCM	Only pico	Clade HAP3-4	Clade HAP4
OTU_S291	2	0.00	2	0.003	Only DCM	Both	Clade HAP3-4	Clade HAP3

Table S2b. Haptophyte D1-D2 28S rRNA OTUs recorded in the Skagerrak in August 2013. Red OTUs were removed after subsampling. Taxonomic assignments are based on phylogenetic placement.

OTU ID	Total reads (N)	Total reads (%)	Total reads after subsampling (N)	Total reads after subsampling (%)	Depth	Size fraction	Group	Lowest taxonomic level possible to determine
OTU_L001	1980	6.66	740.00	5.87	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L002	1830	6.15	685.00	5.43	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L003	1555	5.23	679.00	5.38	Both	Both	Phaeocystaceae	Phaeocystis
OTU_L004	957	3.22	494.00	3.92	Both	Both	Chrysochromulinaceae	Chrysochromulina acantha
OTU_L005	862	2.90	365.00	2.89	Both	Both	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L006	782	2.63	339.00	2.69	Both	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L007	710	2.39	318.00	2.52	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L008	676	2.27	299.00	2.37	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina throndsenii/ C. campanulifera</i>
OTU_L009	659	2.22	319.00	2.53	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L010	648	2.18	269.00	2.13	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L011	645	2.17	224.00	1.78	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L012	597	2.01	232.00	1.84	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L013	576	1.94	257.00	2.04	Both	Both	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_L014	560	1.88	257.00	2.04	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L015	538	1.81	234.00	1.85	Both	Both	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L016	516	1.73	234.00	1.85	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L017	491	1.65	198.00	1.57	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L018	468	1.57	160.00	1.27	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L019	467	1.57	188.00	1.49	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L020	426	1.43	180.00	1.43	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L021	412	1.38	186.00	1.47	Both	Both	Prymnesiaceae	<i>Haptolina</i>

OTU_L022	406	1.36	174.00	1.38	Both	Both	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L023	367	1.23	137.00	1.09	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L024	355	1.19	178.00	1.41	Both	Both	Coccolithales	Coccolithaceae
OTU_L025	352	1.18	155.00	1.23	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L026	351	1.18	130.00	1.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina throndsenii</i>
OTU_L027	339	1.14	140.00	1.11	Both	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L028	327	1.10	157.00	1.24	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L029	305	1.03	117.00	0.93	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L030	291	0.98	133.00	1.05	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L031	289	0.97	140.00	1.11	Both	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L032	286	0.96	124.00	0.98	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L033	274	0.92	127.00	1.01	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L034	268	0.90	125.00	0.99	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina throndsenii</i>
OTU_L035	265	0.89	93.00	0.74	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L036	260	0.87	118.00	0.94	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L037	254	0.85	116.00	0.92	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L038	238	0.80	102.00	0.81	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L039	238	0.80	101.00	0.80	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L040	235	0.79	84.00	0.67	Both	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L041	234	0.79	87.00	0.69	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L042	234	0.79	95.00	0.75	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L043	224	0.75	89.00	0.71	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L044	223	0.75	110.00	0.87	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L045	219	0.74	94.00	0.75	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L046	213	0.72	101.00	0.80	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L047	207	0.70	77.00	0.61	Both	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L048	205	0.69	91.00	0.72	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>

OTU_L049	195	0.66	80.00	0.63	Both	Both	Prymnesiaceae	<i>Prymnesium neolepis</i>
OTU_L050	192	0.65	100.00	0.79	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L051	189	0.64	74.00	0.59	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L052	163	0.55	61.00	0.48	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L053	141	0.47	63.00	0.50	Both	Both	Calyptosphaeraceae	<i>Calyptosphaera sphaeroidea</i>
OTU_L054	139	0.47	64.00	0.51	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L055	133	0.45	55.00	0.44	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L056	118	0.40	57.00	0.45	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L057	118	0.40	55.00	0.44	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina rotalis</i>
OTU_L058	105	0.35	42.00	0.33	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L059	105	0.35	41.00	0.32	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L060	100	0.34	48.00	0.38	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L061	99	0.33	51.00	0.40	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L062	95	0.32	32.00	0.25	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L063	95	0.32	53.00	0.42	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L064	92	0.31	32.00	0.25	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L065	91	0.31	30.00	0.24	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L066	85	0.29	32.00	0.25	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L067	79	0.27	32.00	0.25	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L068	78	0.26	41.00	0.32	Both	Both	Coccolithales	Coccolithales
OTU_L069	76	0.26	27.00	0.21	Both	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L070	76	0.26	22.00	0.17	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L071	75	0.25	36.00	0.29	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L072	72	0.24	38.00	0.30	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L073	71	0.24	26.00	0.21	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L074	68	0.23	25.00	0.20	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L075	67	0.23	31.00	0.25	Both	Only nano	Noelaerhabdaceae	<i>Emiliania huxleyi</i>

OTU_L076	62	0.21	33.00	0.26	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L077	61	0.21	26.00	0.21	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L078	58	0.19	26.00	0.21	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L079	57	0.19	27.00	0.21	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L080	57	0.19	28.00	0.22	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L081	51	0.17	25.00	0.20	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L082	49	0.16	19.00	0.15	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L083	48	0.16	21.00	0.17	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L084	48	0.16	27.00	0.21	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L085	47	0.16	18.00	0.14	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L086	42	0.14	18.00	0.14	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L087	42	0.14	20.00	0.16	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L088	40	0.13	19.00	0.15	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L089	39	0.13	14.00	0.11	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L090	38	0.13	15.00	0.12	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L091	37	0.12	16.00	0.13	Both	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L092	37	0.12	14.00	0.11	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L093	36	0.12	18.00	0.14	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L094	33	0.11	11.00	0.09	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L095	33	0.11	19.00	0.15	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L096	32	0.11	11.00	0.09	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina thronsdensei</i>
OTU_L097	32	0.11	13.00	0.10	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L098	31	0.10	11.00	0.09	Only DCM	Only nano	Syracosphaeraceae	<i>Coronosphaera mediterranea</i>
OTU_L099	31	0.10	14.00	0.11	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L100	29	0.10	7.00	0.06	Only DCM	Both	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_L101	29	0.10	12.00	0.10	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L102	28	0.09	9.00	0.07	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>

OTU_L103	27	0.09	10.00	0.08	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L104	26	0.09	8.00	0.06	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L105	26	0.09	13.00	0.10	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L106	25	0.08	10.00	0.08	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L108	20	0.07	9.00	0.07	Both	Only nano	Noelaerhabdaceae	<i>Emiliana huxleyi</i>
OTU_L109	20	0.07	6.00	0.05	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L110	19	0.06	10.00	0.08	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina thronsdensii</i>
OTU_L111	19	0.06	8.00	0.06	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L112	18	0.06	10.00	0.08	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L113	18	0.06	11.00	0.09	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L114	18	0.06	9.00	0.07	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L115	18	0.06	6.00	0.05	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L116	17	0.06	7.00	0.06	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L117	17	0.06	9.00	0.07	Both	Both	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L118	17	0.06	10.00	0.08	Both	Both	Coccolithales	Coccolithales
OTU_L119	16	0.05	8.00	0.06	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina leadbeateri</i>
OTU_L120	15	0.05	5.00	0.04	Both	Both	Prymnesiaceae	<i>Haptolina brevifila</i>
OTU_L121	15	0.05	3.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina leadbeateri</i>
OTU_L122	14	0.05	14.00	0.11	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L123	14	0.05	7.00	0.06	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L124	14	0.05	6.00	0.05	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L125	13	0.04	8.00	0.06	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L126	13	0.04	7.00	0.06	Only 1m	Only nano	Prymnesiophyceae	Zygodiscales
OTU_L127	13	0.04	5.00	0.04	Both	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L128	13	0.04	5.00	0.04	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L129	13	0.04	5.00	0.04	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L130	12	0.04	4.00	0.03	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)

OTU_L131	12	0.04	12.00	0.10	Only 1m	Only nano	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_L132	12	0.04	3.00	0.02	Only 1m	Only nano	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_L133	12	0.04	3.00	0.02	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L134	12	0.04	7.00	0.06	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L135	11	0.04	7.00	0.06	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L136	11	0.04	6.00	0.05	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L137	11	0.04	5.00	0.04	Only DCM	Only nano	Coccolithales	<i>Coccolithus braarudii</i>
OTU_L138	11	0.04	4.00	0.03	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L139	11	0.04	5.00	0.04	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L140	11	0.04	6.00	0.05	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L141	11	0.04	4.00	0.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L142	11	0.04	3.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L143	11	0.04	6.00	0.05	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L144	11	0.04	5.00	0.04	Both	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L145	11	0.04	5.00	0.04	Both	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L146	10	0.03	7.00	0.06	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L147	10	0.03	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L148	10	0.03	4.00	0.03	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L149	10	0.03	3.00	0.02	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L150	10	0.03	6.00	0.05	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L151	10	0.03	3.00	0.02	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L152	10	0.03	5.00	0.04	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L153	10	0.03	4.00	0.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L154	9	0.03	8.00	0.06	Only 1m	Both	Calcihaptophycidae	Calcihaptophycidae incertae sedis
OTU_L155	9	0.03	2.00	0.02	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L156	9	0.03	5.00	0.04	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L157	9	0.03	3.00	0.02	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)

OTU_L158	9	0.03	3.00	0.02	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L159	9	0.03	2.00	0.02	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L160	9	0.03	4.00	0.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L161	9	0.03	3.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L162	9	0.03	3.00	0.02	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L163	9	0.03	4.00	0.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L164	9	0.03	0.00	0.00	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L165	9	0.03	6.00	0.05	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L166	9	0.03	3.00	0.02	Both	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L167	8	0.03	3.00	0.02	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L168	8	0.03	4.00	0.03	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L169	8	0.03	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L170	8	0.03	1.00	0.01	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L171	8	0.03	1.00	0.01	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L172	8	0.03	1.00	0.01	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L173	8	0.03	1.00	0.01	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L174	8	0.03	4.00	0.03	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina throndsenii/ C. Campanulifera</i>
OTU_L175	8	0.03	2.00	0.02	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L176	7	0.02	3.00	0.02	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L177	7	0.02	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L178	7	0.02	4.00	0.03	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L179	7	0.02	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L180	7	0.02	1.00	0.01	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L181	7	0.02	6.00	0.05	Both	Both	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L182	7	0.02	2.00	0.02	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L183	7	0.02	5.00	0.04	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>

OTU_L184	7	0.02	3.00	0.02	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L185	7	0.02	4.00	0.03	Only 1m	Only nano	Noelaerhabdaceae	<i>Emiliana huxleyi</i>
OTU_L186	7	0.02	3.00	0.02	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L187	7	0.02	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L188	7	0.02	6.00	0.05	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L189	6	0.02	5.00	0.04	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L190	6	0.02	4.00	0.03	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_L191	6	0.02	3.00	0.02	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L192	6	0.02	1.00	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L193	6	0.02	1.00	0.01	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L194	6	0.02	0.00	0.00	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L195	6	0.02	4.00	0.03	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L196	6	0.02	3.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L197	6	0.02	2.00	0.02	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina thronsdensii</i>
OTU_L198	6	0.02	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L199	6	0.02	3.00	0.02	Only DCM	Both	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L200	6	0.02	5.00	0.04	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L201	6	0.02	4.00	0.03	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L202	6	0.02	4.00	0.03	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L203	6	0.02	2.00	0.02	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L204	6	0.02	2.00	0.02	Only 1m	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L205	6	0.02	4.00	0.03	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L206	6	0.02	2.00	0.02	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L207	6	0.02	3.00	0.02	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L208	6	0.02	5.00	0.04	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L209	6	0.02	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L210	6	0.02	5.00	0.04	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>

OTU_L211	6	0.02	2.00	0.02	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L212	6	0.02	1.00	0.01	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU1
OTU_L213	5	0.02	1.00	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L214	5	0.02	1.00	0.01	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L215	5	0.02	3.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L216	5	0.02	1.00	0.01	Both	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L217	5	0.02	2.00	0.02	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L218	5	0.02	2.00	0.02	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L219	5	0.02	4.00	0.03	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L220	5	0.02	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L221	5	0.02	3.00	0.02	Both	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L222	5	0.02	3.00	0.02	Only 1m	Only nano	Coccolithales	<i>Chrysotila stipitata</i>
OTU_L223	5	0.02	2.00	0.02	Only 1m	Both	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L224	5	0.02	5.00	0.04	Only 1m	Only nano	Coccolithales	<i>Umbilicosphaera</i>
OTU_L225	5	0.02	4.00	0.03	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L226	5	0.02	3.00	0.02	Only 1m	Only nano	Prymnesiophyceae	Clade PRY-LSU1
OTU_L227	5	0.02	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L228	5	0.02	2.00	0.02	Both	Only pico	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L229	5	0.02	2.00	0.02	Both	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L230	5	0.02	1.00	0.01	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L231	5	0.02	4.00	0.03	Both	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L232	5	0.02	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L233	5	0.02	3.00	0.02	Only 1m	Only nano	Calyptosphaeraceae	<i>Calyptosphaera sphaeroidea</i>
OTU_L234	5	0.02	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L235	5	0.02	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L236	5	0.02	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L237	5	0.02	3.00	0.02	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)

OTU_L238	5	0.02	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina leadbeateri</i>
OTU_L239	5	0.02	1.00	0.01	Both	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L240	5	0.02	3.00	0.02	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L241	5	0.02	2.00	0.02	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L242	5	0.02	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina</i>
OTU_L243	5	0.02	3.00	0.02	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L244	5	0.02	1.00	0.01	Both	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L245	5	0.02	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L246	5	0.02	3.00	0.02	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L247	5	0.02	3.00	0.02	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L248	5	0.02	5.00	0.04	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L249	5	0.02	4.00	0.03	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L250	5	0.02	4.00	0.03	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L251	4	0.01	2.00	0.02	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L252	4	0.01	3.00	0.02	Only DCM	Only nano	Prymnesiaceae	<i>Haptolina ericina</i>
OTU_L253	4	0.01	2.00	0.02	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina rotalis</i>
OTU_L254	4	0.01	1.00	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L255	4	0.01	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L256	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L257	4	0.01	2.00	0.02	Both	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L258	4	0.01	1.00	0.01	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L259	4	0.01	2.00	0.02	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L260	4	0.01	1.00	0.01	Both	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L261	4	0.01	1.00	0.01	Only 1m	Both	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L262	4	0.01	1.00	0.01	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L263	4	0.01	0.00	0.00	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L264	4	0.01	2.00	0.02	Only 1m	Both	Prymnesiaceae	<i>Haptolina</i>

OTU_L265	4	0.01	1.00	0.01	Only 1m	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L266	4	0.01	0.00	0.00	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L267	4	0.01	2.00	0.02	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L268	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L269	4	0.01	1.00	0.01	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L270	4	0.01	1.00	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L271	4	0.01	4.00	0.03	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina ericina</i>
OTU_L272	4	0.01	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L273	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L274	4	0.01	1.00	0.01	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L275	4	0.01	2.00	0.02	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L276	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L277	4	0.01	1.00	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina thronsdensei</i>
OTU_L278	4	0.01	0.00	0.00	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L279	4	0.01	2.00	0.02	Only 1m	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L280	4	0.01	2.00	0.02	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L281	4	0.01	0.00	0.00	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L282	4	0.01	2.00	0.02	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L283	4	0.01	3.00	0.02	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L284	4	0.01	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L285	4	0.01	0.00	0.00	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L286	4	0.01	3.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L287	4	0.01	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L288	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L289	4	0.01	1.00	0.01	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L290	4	0.01	3.00	0.02	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L291	4	0.01	3.00	0.02	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>

OTU_L292	4	0.01	1.00	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina thronsdensii</i>
OTU_L293	4	0.01	0.00	0.00	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L294	4	0.01	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L295	4	0.01	1.00	0.01	Both	Only nano	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L296	4	0.01	3.00	0.02	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L297	4	0.01	2.00	0.02	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L298	4	0.01	4.00	0.03	Both	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L299	4	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta/fragaria</i>
OTU_L300	4	0.01	2.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L302	4	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L303	4	0.01	4.00	0.03	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina thronsdensii</i>
OTU_L304	4	0.01	2.00	0.02	Both	Only pico	Prymnesiaceae	<i>Haptolina brevifila</i>
OTU_L305	4	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L306	4	0.01	3.00	0.02	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU1
OTU_L307	4	0.01	2.00	0.02	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU1
OTU_L308	3	0.01	1.00	0.01	Only DCM	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L309	3	0.01	1.00	0.01	Only 1m	Only nano	Noelaerhabdaceae	<i>Emiliania huxleyi</i>
OTU_L310	3	0.01	1.00	0.01	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L311	3	0.01	0.00	0.00	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L312	3	0.01	3.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L313	3	0.01	0.00	0.00	Only DCM	Only pico	Prymnesiaceae	<i>Haptolina brevifila</i>
OTU_L314	3	0.01	2.00	0.02	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L315	3	0.01	2.00	0.02	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L316	3	0.01	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L317	3	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L318	3	0.01	0.00	0.00	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L319	3	0.01	1.00	0.01	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)

OTU_L320	3	0.01	2.00	0.02	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L321	3	0.01	3.00	0.02	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L322	3	0.01	2.00	0.02	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L323	3	0.01	2.00	0.02	Only DCM	Only pico	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L324	3	0.01	3.00	0.02	Only 1m	Only nano	Prymnesiophyceae	Clade PRY-LSU1
OTU_L325	3	0.01	2.00	0.02	Both	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L326	3	0.01	1.00	0.01	Only 1m	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L327	3	0.01	0.00	0.00	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L328	3	0.01	3.00	0.02	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L329	3	0.01	0.00	0.00	Only DCM	Only pico	Prymnesiophyceae	Clade PRY-LSU1
OTU_L330	3	0.01	1.00	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L331	3	0.01	1.00	0.01	Only DCM	Both	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L332	3	0.01	0.00	0.00	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina</i>
OTU_L333	3	0.01	1.00	0.01	Only DCM	Both	Coccolithales	Coccolithaceae
OTU_L334	3	0.01	1.00	0.01	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L335	3	0.01	1.00	0.01	Only DCM	Only pico	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L336	3	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L337	3	0.01	2.00	0.02	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L338	3	0.01	0.00	0.00	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L339	3	0.01	2.00	0.02	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L340	3	0.01	1.00	0.01	Only DCM	Only pico	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L341	3	0.01	1.00	0.01	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L342	3	0.01	1.00	0.01	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L343	3	0.01	1.00	0.01	Both	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L344	3	0.01	3.00	0.02	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L345	3	0.01	2.00	0.02	Only DCM	Only pico	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L346	3	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Dicrateria rotunda</i>

OTU_L347	3	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Haptolina ericina</i>
OTU_L348	3	0.01	0.00	0.00	Only DCM	Only pico	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L349	3	0.01	2.00	0.02	Only DCM	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L350	3	0.01	1.00	0.01	Only DCM	Only nano	Calyptosphaeraceae	<i>Calyptosphaera sphaeroidea</i>
OTU_L351	3	0.01	1.00	0.01	Both	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L352	3	0.01	0.00	0.00	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L353	3	0.01	2.00	0.02	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L354	3	0.01	1.00	0.01	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L355	3	0.01	3.00	0.02	Only 1m	Only nano	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L356	3	0.01	3.00	0.02	Only 1m	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L357	3	0.01	1.00	0.01	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L358	3	0.01	2.00	0.02	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L359	3	0.01	2.00	0.02	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L360	3	0.01	1.00	0.01	Only 1m	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L362	3	0.01	0.00	0.00	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L363	3	0.01	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L364	3	0.01	0.00	0.00	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L365	3	0.01	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L366	3	0.01	2.00	0.02	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L367	3	0.01	1.00	0.01	Only DCM	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L368	3	0.01	2.00	0.02	Only DCM	Only nano	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L369	3	0.01	1.00	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L370	3	0.01	2.00	0.02	Only DCM	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L371	3	0.01	1.00	0.01	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L372	3	0.01	3.00	0.02	Only 1m	Both	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L373	3	0.01	3.00	0.02	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L374	3	0.01	1.00	0.01	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>

OTU_L375	3	0.01	2.00	0.02	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina brevifila</i>
OTU_L376	3	0.01	0.00	0.00	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L377	3	0.01	2.00	0.02	Only DCM	Only pico	Helicosphaeraceae	<i>Helicosphaera</i>
OTU_L378	3	0.01	1.00	0.01	Only DCM	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L379	3	0.01	0.00	0.00	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L380	3	0.01	1.00	0.01	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L381	3	0.01	1.00	0.01	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L382	3	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L383	3	0.01	0.00	0.00	Only 1m	Only pico	Prymnesiaceae	<i>Prymnesium</i>
OTU_L384	3	0.01	2.00	0.02	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L385	3	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L386	3	0.01	0.00	0.00	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L387	3	0.01	0.00	0.00	Both	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L388	3	0.01	0.00	0.00	Only 1m	Only pico	Prymnesiaceae	<i>Dicrateria rotunda</i>
OTU_L389	3	0.01	0.00	0.00	Only DCM	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L390	3	0.01	1.00	0.01	Both	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L392	2	0.01	0.00	0.00	Only DCM	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>
OTU_L397	2	0.01	0.00	0.00	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L401	2	0.01	2.00	0.02	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L411	2	0.01	1.00	0.01	Both	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L417	2	0.01	1.00	0.01	Only 1m	Only pico	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L418	2	0.01	1.00	0.01	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L422	2	0.01	2.00	0.02	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L426	2	0.01	0.00	0.00	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L427	2	0.01	2.00	0.02	Only 1m	Only nano	Prymnesiaceae	<i>Haptolina ericina/hirta/fragaria</i>
OTU_L431	2	0.01	2.00	0.02	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L434	2	0.01	0.00	0.00	Only DCM	Both	Rhabdosphaeraceae	<i>Algirosphaera robusta</i>

OTU_L435	2	0.01	0.00	0.00	Both	Only pico	Prymnesiaceae	<i>Prymnesium kappa</i>
OTU_L437	2	0.01	2.00	0.02	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina simplex</i>
OTU_L440	2	0.01	0.00	0.00	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L443	2	0.01	0.00	0.00	Both	Only pico	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L445	2	0.01	1.00	0.01	Only 1m	Only pico	Prymnesiophyceae	Clade PRY-LSU3 (Clade E-F?)
OTU_L451	2	0.01	1.00	0.01	Only 1m	Only pico	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L461	2	0.01	0.00	0.00	Only DCM	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L462	2	0.01	1.00	0.01	Only DCM	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L468	2	0.01	1.00	0.01	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L474	2	0.01	1.00	0.01	Only 1m	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L482	2	0.01	2.00	0.02	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium polylepis</i>
OTU_L483	2	0.01	0.00	0.00	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L484	2	0.01	0.00	0.00	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU1
OTU_L485	2	0.01	1.00	0.01	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L487	2	0.01	1.00	0.01	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina acantha</i>
OTU_L488	2	0.01	1.00	0.01	Both	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L490	2	0.01	0.00	0.00	Only 1m	Both	Calcihaptophycidae	Calcihaptophycidae incertae sedis
OTU_L492	2	0.01	2.00	0.02	Both	Only pico	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L498	2	0.01	0.00	0.00	Both	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)
OTU_L499	2	0.01	1.00	0.01	Only 1m	Both	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L500	2	0.01	0.00	0.00	Only DCM	Only nano	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L504	2	0.01	1.00	0.01	Both	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L508	2	0.01	1.00	0.01	Both	Only pico	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L511	2	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Prymnesium</i>
OTU_L512	2	0.01	1.00	0.01	Only 1m	Both	Prymnesiaceae	<i>Haptolina</i>
OTU_L514	2	0.01	1.00	0.01	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina camella</i>
OTU_L528	2	0.01	0.00	0.00	Only DCM	Both	Prymnesiophyceae	Clade PRY-LSU2 (Clade D?)

OTU_L530	2	0.01	1.00	0.01	Only DCM	Both	Prymnesiaceae	<i>Prymnesium</i>
OTU_L532	2	0.01	2.00	0.02	Only DCM	Only nano	Prymnesiophyceae	Clade PRY-LSU4 (Clade B3-4-5?)
OTU_L538	2	0.01	1.00	0.01	Only DCM	Only nano	Syracosphaeraceae	<i>Syracosphaera pulchra</i>
OTU_L539	2	0.01	1.00	0.01	Only DCM	Only nano	Prymnesiaceae	<i>Haptolina ericina/hirta /fragaria</i>
OTU_L554	2	0.01	1.00	0.01	Only 1m	Both	Chrysochromulinaceae	<i>Chrysochromulina</i>
OTU_L555	2	0.01	0.00	0.00	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>
OTU_L557	2	0.01	0.00	0.00	Only DCM	Both	Phaeocystaceae	<i>Phaeocystis</i>

Table S3. Total and proportional read abundances and OTUs within each major clade for 18S and 28S rRNA genes.

Family/Clade	18S rRNA				28S rRNA			
	Total reads (N)	Total reads (%)	Total OTUs (N)	Total OTUs (%)	Total reads (N)	Total reads (%)	Total OTUs (N)	Total OTUs (%)
Chrysochromulinaceae	34586	33.1	52	24.2	10039	33.7	134	31.0
Noelaerhabdaceae	18869	18.1	4	1.9	121	0.4	6	1.4
Prymnesiaceae	15262	14.6	44	20.5	5047	17.0	91	21.1
Syracosphaeraceae	12648	12.1	2	0.9	5172	17.4	38	8.8
Phaeocystaceae	9630	9.2	27	12.6	3415	11.5	49	11.3
Prymnesiales Clade B3-B4-B5	5667	5.4	14	6.5	0	0.0	0	0.0
Prymnesiophyceae_sp.	3187	3.1	18	8.4	4526	15.2	94	21.8
Calyptrosphaeraceae	1378	1.3	1	0.5	149	0.5	3	0.7
Haptophyta_sp.	805	0.8	17	7.9	0	0.0	0	0.0
Rhabdosphaeraceae	803	0.8	2	0.9	796	2.7	8	1.9
Calcihaptophycidae	750	0.7	8	3.7	9	0.0	1	0.2
Braarudosphaeraceae	310	0.3	2	0.9	0	0.0	0	0.0
Clade D-E-F	192	0.2	5	2.3	0	0.0	0	0.0
Clade HAP3-4	163	0.2	16	7.4	0	0.0	0	0.0
Isochrysidaceae	71	0.1	1	0.5	0	0.0	0	0.0
Coccolithales	24	0.0	2	0.9	474	1.6	7	1.6
Helicosphaeraceae	0	0.0	0	0.0	3	0.0	1	0.2
TOTAL	104345		215		29751		432	

Table S4. a) Overview over matching of 18S OTUs to other databases. Total: Total number of OTUs in each group. $\geq 99\%$ any sequence: Number of OTUs that have $\geq 99\%$ BLAST match with either any sequence in the Haptophyta-PiP database, or an OTU from Oslofjorden from Egge et al. 2015a. $\geq 99\%$ Hapto-PiP_ENV: Number of OTUs that have $\geq 99\%$ BLAST match with an “environmental sequence” in the Haptophyta-PiP database. $\geq 99\%$ Hapto-PiP_CULT: Number of OTUs that have $\geq 99\%$ BLAST match with a sequence from a cultured species in the Haptophyta-PiP database. $\geq 99\%$ OF-OTUs: Number of OTUs that have $\geq 99\%$ BLAST match with an OTU previously obtained by HTS of samples from Oslofjorden (these may represent either cultured species, environmental sequences obtained by Sanger sequencing, or novel sequences from the Egge et al. 2015a study). $\geq 99\%$ OF-OTU & $< 99\%$ with any Hapto-PiP sequence: Number of OTUs that have $\geq 99\%$ match to an OTU from Egge et al. (2015 a,b), but at the same time is $< 99\%$ similar to any sequence present in Hapto-PiP. The numbers from $\geq 99\%$ Hapto-PiP_ENV and $\geq 99\%$ Hapto-PiP_CULT may not add up, because environmental sequences in the Haptophyta-PiP database may also come from species that exist in culture.

b) Overview over matching of 28S OTUs to the 28S haptophyta reference database, consisting of sequences from cultured strains.

a)

Group	Total	$\geq 99\%$ any sequence	$\geq 99\%$ Hapto-PiP ENV	$\geq 99\%$ Hapto-PiP CULT	$\geq 99\%$ OF-OTUs	$\geq 99\%$ OF-OTU & $< 99\%$ with any Hapto-PiP sequence
Clade HAP3-4	16	7	5	NA	5	2
Clade D-E-F	5	2	2	NA	2	0
Phaeocystaceae	27	8	7	2	6	1
Noelaerhabdaceae	4	1	1	1	1	0
Isochrysidaceae + Clade EV	4	2	1	1	2	1
Rhabdosphaeraceae	2	1	1	1	1	0
Coccolithales	2	1	1	1	1	0
Calyptosphaeraceae	1	1	0	1	1	0
Syracosphaeraceae	2	1	1	1	1	0
Helicosphaeraceae	1	0	0	0	0	0
Calcihaptophycidae <i>incertae sedis</i>	5	2	0	1	1	1
Braarudosphaeraceae	2	1	1	0	1	0
Prymnesiales Clade B3-B4-B5	14	7	3	NA	7	4
Prymnesiaceae	44	17	8	7	16	9

Chrysochromulinaceae	52	18	13	4	18	5
Prymnesiophyceae sp.	17	3	1	0	3	2
Haptophyta sp.	17	3	2	0	2	1
Sum	215	75	47	20	68	26

b)

Group	Total	$\geq 97\%$ sequence from cultured strain
Phaeocystaceae	49	9
Noelaerhabdaceae	6	4
Rhabdosphaeraceae	8	1
Coccolithales	7	1
Calyptosphaeraceae	3	1
Syracosphaeraceae	38	1
Helicosphaeraceae	1	0
Calcihaptophycidae <i>incertae sedis</i>	2	1
Prymnesiaceae	91	18
Chrysochromulinaceae	134	10
Prymnesiophyceae_sp.	93	1
Sum	432	47

File S1. Description of how the haptophyte 28S reference database was created.

The 28S D1-D2 reference database was created based on the 28S database from Bittner et al. 2013. All the sequences from cultured species were selected. In addition to these sequences, we searched GenBank for haptophyte 28S sequences using the following custom script in Biopython (Cock et al. 2009):

```
import sys
from Bio import Entrez
Entrez.email = "your@email.here"

#Search nucleotide database using Entrez for entries with these terms
handle = Entrez.esearch(db="nucleotide", term="(Haptophyceae OR Haptophyta) AND (large
subunit ribosomal RNA OR 28s OR 23s) NOT WGS[keyword]", usehistory="y",
retmax=5000)
result = Entrez.read(handle)

#Get genbank-entries for ids in "IdList"
net_handle = Entrez.efetch(db="nucleotide", rettype="gb", id=result["IdList"],
retmode="text")
data = net_handle.read()
net_handle.close()
out_handle = open("haptosLSUor28Sor23s_genbank.txt", "w")
out_handle.write(data)
out_handle.close()
```

The genbak-file was parsed into a table with the following script:

```
#!/usr/bin/env python

import sys
from Bio import SeqIO
from Bio.Blast import NCBIXML
#Usage: $python gbparse_euk.py outfile.txt infile.gb
OUT = open(sys.argv[1], 'w')
OUT.write("Accno\tLength\tOrganism\tTaxonomy\tStrain\tIsolate\tCulture_collection\tVouc
her\tIsolation_source\tClone\tOrganelle\tGene\tProduct\tMolecule_type\tNote\tDB_xref\tPri
mers\tCountry\tYear_submitted\tAuthor\tKeyword\tSequence\n")
result_handle = open(sys.argv[2])
gbfiles = SeqIO.parse(result_handle, 'gb')
for rec in gbfiles:
    acc = rec.id
    sequence = str(rec.seq)
    length = str(len(rec.seq))
    recfeat1 = rec.features[1]
    source = rec.features[0]
    if 'organism' in rec.annotations:
        organism = rec.annotations['organism']
    if 'taxonomy' in rec.annotations:
        taxonomy = "_".join(rec.annotations['taxonomy'])
    if 'clone' in source.qualifiers:
        clone = source.qualifiers['clone'][0]
    else:
        clone = ""
```

```

if 'source' in rec.annotations:
    gensource = rec.annotations['source']
else:
    gensource = ""
if 'isolation_source' in source.qualifiers:
    isolation_source = source.qualifiers['isolation_source'][0]
else:
    isolation_source = ""
if 'country' in source.qualifiers:
    country = source.qualifiers['country'][0]
else:
    country = ""
if 'strain' in source.qualifiers:
    strain = source.qualifiers['strain'][0]
else:
    strain = ""
if 'isolate' in source.qualifiers:
    isolate = source.qualifiers['isolate'][0]
else:
    isolate = ""
if 'culture_collection' in source.qualifiers:
    cultcol = source.qualifiers['culture_collection'][0]
else:
    cultcol = ""
if 'specimen_voucher' in source.qualifiers:
    voucher = source.qualifiers['specimen_voucher'][0]
else:
    voucher = ""
if 'PCR_primers' in source.qualifiers:
    primers = ".".join(source.qualifiers['PCR_primers'])
else:
    primers = ""
if 'gene' in recfeat1.qualifiers:
    whichgene = recfeat1.qualifiers['gene'][0]
else:
    whichgene = ""
if 'product' in recfeat1.qualifiers:
    product = recfeat1.qualifiers['product'][0]
else:
    product=""
if 'mol_type' in source.qualifiers:
    molecule_type = source.qualifiers['mol_type'][0]
else:
    molecule_type = ""
if 'organelle' in source.qualifiers:
    organelle = source.qualifiers['organelle'][0]
else:
    organelle = ""
if 'note' in source.qualifiers:
    note = source.qualifiers['note'][0]
else:
    note = ""
if 'db_xref' in source.qualifiers:
    db_xref=source.qualifiers['db_xref'][0]
else:

```



```

db_xref=""
if 'references' in rec.annotations:
    pubref = rec.annotations['references'][0]
    authors = pubref.authors
    firstaut = authors.split(".")[0]
else:
    firstaut = ""
if 'date' in rec.annotations:
    date = rec.annotations['date']
    submyear = rec.annotations['date'][7:11]
if 'keywords' in rec.annotations:
    keyword = rec.annotations['keywords'][0]
    fields = [acc, length, organism, taxonomy, strain, isolate, cultcol,voucher, isolation_source,
clone, organelle, whichgene, product, molecule_type, note, db_xref, primers, country,
submyear, firstaut, keyword, sequence]
    OUT.write("\t".join(fields)+ "\n")
OUT.close()

```

From this table we selected all sequences from cultured strains. These were aligned in Geneious 8.1.8, and sequences that did not cover the region spanned by the primer pair LSU1 were removed. The alignment was trimmed at the start of the forward end end of the reverse primer. Identical sequences were removed. This left 184 haptophyte "LSU1" reference sequences from cultured strains.

The taxonomy of the sequences (from class to genus level) was determined according to Edvardsen et al. (2016).

To create a reference alignment for the phylogenetic analyses, the reference sequences were aligned in MAFFT v.6 with the Q-INS-I method (Katoh & Toh 2008)

References:

Cock PA, Antao T, Chang JT, Bradman BA, Cox CJ, Dalke A, Friedberg I, Hamelryck T, Kauff F, Wilczynski B and de Hoon MJL (2009) Biopython: freely available Python tools for computational molecular biology and bioinformatics. [Bioinformatics, 25, 1422-1423](#)

Katoh, K. & Toh, H. 2008. Improved accuracy of multiple ncRNA alignment by incorporating structural information into a MAFFT- based framework. BMC Bioinformatics, 9:212. doi:10.1186/ 1471-2105-9-21