

## Photosynthetic picoeukaryote assemblages in the South China Sea from the Pearl River estuary to the SEATS station

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**Supplement.** List of sequence assignments in this study (Table S1) and salinity distribution at the surface and 75 m depth in the northern South China Sea during the cruise (Fig. S1)

Table S1. List of all the operational taxonomic units (OTUs, grouping sequences with similarities >98%) recovered in this study. For each OTU, a representative sequence is provided with its taxonomic affiliation, its GenBank closest relative with accession number (12 September 2013 database), the sequence percent similarity, BLAST score, Query/Subject ratio, and OTU frequency from each library. MAST = novel marine stramenopiles

Clone	Taxonomy	OTU					OTU frequency				
		Closest relative	GenBank Accession	Similarity (%)	BLAST score	Query/Subject	CC02A740	CC02A105	CC02A175	CC02SE05	CC02SE75
<b>Alveolata</b>											
CC02A740.057	Alveolates group I	Uncultured eukaryote clone C5	FN263032	100	3241	1755/1755	54	41	21	58	40
CC02A105.015		Uncultured eukaryote clone 1815F07	FR874747	99	3199	1738/1741	14	18	2	1	9
CC02A740.038		Uncultured marine alveolate	EU304548	99	3229	1753/1755	1	1	2	2	0
CC02SE75.027		Uncultured alveolate clone F1	FN263030	99	3199	1746/1753	0	1	1	0	2
CC02A105.002		Uncultured marine picoeukaryote clone 1802G10	FR874416	99	3193	1745/1753	1	1	0	1	0

CC02A175.097		Uncultured eukaryote clone SCM37C10	AY664999	99	3171	1740/1751	0	0	3	0	0
CC02A105.031		Uncultured phytoplankton clone Q1-17	JQ420086	99	3197	1747/1755	0	1	1	0	0
CC02A105.109		Uncultured eukaryote clone SCM27C44	AY665057	98	3061	1711/1738	0	1	0	0	0
CC02A175.057		Uncultured alveolate clone OLI1175.86	DQ145114	98	3029	1703/1732	0	0	1	0	0
CC02A175.039		Uncultured eukaryote clone SCM37C10	AY664999	93	2523	1625/1753	0	0	1	0	0
CC02SE75.051		Uncultured eukaryote clone 77	HQ446961	99	3145	1736/1752	0	0	0	0	1
CC02SE75.018	Alveolates group II	Uncultured eukaryote clone SCM37C36	AY664989	99	3227	1753/1756	0	0	0	0	3
CC02A175.012		Uncultured alveolate clone RS.12f.10m.00140	KC582877	96	2881	1695/1762	0	0	2	0	0
CC02A105.093		Uncultured eukaryote clone SCM37C7	AY664997	99	3214	1749/1753	0	1	0	0	1
CC02A175.026		Uncultured eukaryote clone SSRPC57	EF172875	99	3025	1667/1681	0	0	2	0	0
CC02A105.084		Uncultured eukaryote clone NAMA KO-23	AB252763	98	2964	1671/1704	0	2	0	0	0
CC02A175.021		Uncultured alveolate clone RS.12f.10m.264	KC582927	99	3212	1752/1759	0	0	1	0	0
CC02A175.020		Amoebophrya sp. ex Karlodinium micrum	AF472553	96	2880	1691/1757	0	0	1	0	0
CC02A175.023		Uncultured eukaryote clone SSRPC41	EF172863	98	2872	1639/1681	0	0	1	0	0
CC02A175.013		Uncultured eukaryote clone SSRPC54	EF172866	99	3040	1670/1682	0	0	1	0	0
CC02A175.003		Uncultured eukaryote clone SSRPC86	EF172923	98	2825	1611/1644	0	0	1	0	0
CC02SE75.014		Uncultured alveolate clone RS.12f.10m.0035	KC582892	95	2721	1667/1763	0	0	0	0	1
CC02SE75.004		Uncultured alveolate clone RS.12f.10m.00140	KC582877	89	2135	1570/1772	0	0	0	0	1
CC02SE75.013		Uncultured alveolate clone RS.12f.10m.316	KC582919	97	2922	1703/1762	0	0	0	0	1
CC02A175.093		Uncultured eukaryote clone SSRPC86	EF172923	99	2902	1619/1643	0	0	1	0	0
CC02A175.089		Uncultured marine dinoflagellate clone Ma131_1A49	FJ032678	98	2939	1645/1671	0	0	1	0	0

CC02A175.086		Uncultured eukaryote clone E_NY_2E08	JN832827	91	2263	1559/1721	0	0	1	0	0
CC02A175.084		Uncultured eukaryote clone MAL106_6_A1	JQ956267	99	3066	1672/1678	0	0	1	0	0
CC02A175.083		Uncultured eukaryote clone SSRPC27	EF172904	99	2979	1660/1682	0	0	1	0	0
CC02A175.077		Uncultured alveolate clone RS.12f.10m.163	KC582951	95	2795	1681/1763	0	0	1	0	0
CC02A175.096		Uncultured alveolate clone RS.12f.10m.243	KC582935	99	3101	1732/1758	0	0	1	0	0
CC02A175.073		Uncultured eukaryote clone SSRPB41	EF172798	99	2939	1599/1603	0	0	1	0	0
CC02A175.071		Uncultured alveolate clone RS.12f.10m.004	KC582905	99	3166	1738/1750	0	0	1	0	0
CC02SE05.104		Uncultured alveolate clone RS.12f.10m.41	KC582939	97	3000	1715/1759	0	0	0	1	0
CC02A175.062			KC582927	97	3007	1715/1759	0	0	1	0	0
CC02A175.052		Uncultured alveolate clone RS.12f.10m.316	KC582919	99	3240	1757/1759	0	0	1	0	0
CC02A105.037		Uncultured alveolate clone RS.12f.10m.163	KC582951	99	3182	1747/1759	0	1	0	0	0
CC02SE75.049		Uncultured alveolate clone RS.12f.10m.0032	KC582888	92	2442	1621/1767	0	0	0	0	1
CC02SE75.098		Uncultured marine eukaryote clone UEPAC05Ap2	AY129031	92	2486	1672/1764	0	0	0	0	1
CC02SE75.059		Uncultured marine eukaryote clone UEPACEp3	AY129038	94	2665	1661/1766	0	0	0	0	1
CC02A175.035		Uncultured eukaryote clone E_MO_3E06_OTU24	JN832721	98	2948	1680/1721	0	0	2	0	0
CC02SE75.073	Alveolates group III	Uncultured eukaryote clone SCM15C23	AY664993	99	3118	1735/1757	0	0	0	0	1
CC02A175.017	Alveolates group V	Uncultured syndiniales clone 1528	JF791009	96	2861	1693/1759	0	0	1	0	0
CC02SE75.065		Uncultured syndiniales clone 1528	JF791009	98	3024	1720/1757	0	0	0	0	1
CC02A175.008	Ciliophora	Uncultured marine eukaryote clone SA2_1B7	EF527117	94	2508	1577/1683	0	0	1	0	0
CC02A105.107		Pelagostrobilidium sp. PCC-2012	JQ781699	95	2662	1628/1718	0	1	0	0	0
CC02A740.035		Uncultured marine eukaryote clone UEPACAIp5	AY129053	99	3145	1718/1725	1	0	0	0	0
CC02A175.103		Uncultured marine eukaryote clone NW414.24	DQ120009	99	3064	1697/1716	0	0	1	0	0

CC02A105.053		Uncultured eukaryote clone SCM16C16	AY665062	95	2671	1634/1725	0	1	0	0	0
CC02SE05.030	Dinophyceae	Uncultured eukaryote clone SCM15C21	AY664971	99	3101	1730/1755	0	0	0	1	1
CC02SE05.116		Uncultured marine eukaryote clone M3_18B06	DQ103863	96	2811	1683/1760	0	0	0	1	0
CC02A105.103		Uncultured eukaryote clone SCM37C24	AY664894	99	3197	1748/1756	0	1	0	0	0
CC02A175.070		Uncultured eukaryote clone E_MO_3F01_OTU3	JN832716	99	2968	1637/1651	0	0	1	0	0
CC02A175.085		Uncultured eukaryote clone SCM15C21	AY664971	99	3118	1734/1756	0	0	1	0	0
CC02A105.081		Uncultured eukaryote clone SCM28C40	AY664893	99	3129	1734/1754	0	1	0	0	0
CC02SE75.088		Uncultured marine eukaryote clone CNCIII05_240	HM581707	88	2104	1567/1774	0	0	0	0	1
CC02A740.096		Uncultured eukaryote clone SCM38C48	AY664878	98	3092	1728/1755	1	0	0	0	0
CC02A175.101	Unknown group	Uncultured dinoflagellate clone PROSOPE.EM-110m.155	EU793783	97	2750	1597/1645	0	0	1	0	0
<b>Chlorophyta</b>											
CC02A105.021	Prasinophyceae	Uncultured prasinophyte clone RA001219.46	AY425303	99	3193	1733/1735	6	15	0	19	2
CC02A105.073		Prasinophyte sp. RCC 287	AY425302	99	3171	1722/1724	3	2	0	6	1
CC02A740.025		Eukaryote clone OLI11305	AJ402358	99	3144	1735/1750	2	1	0	2	3
CC02SE75.062		Uncultured Chlorophyta clone RS.12f.10m.53	KC583125	99	3173	1724/1727	0	0	0	0	2
CC02SE05.073		Uncultured Prasinophyceae clone Biosope_T19.017	FJ537305	96	2828	1675/1744	0	0	0	1	1
CC02A175.041		Uncultured Chlorophyta clone RS.12f.10m.0069	KC583054	99	3182	1733/1738	1	0	1	0	0
CC02SE05.087		Uncultured Prasinophyceae clone Biosope_T41.051	FJ537325	99	3110	1726/1747	0	0	0	2	0
CC02SE05.022		Uncultured Prasinophyceae clone Biosope_T19.017	FJ537305	99	3142	1725/1737	0	0	0	2	0
CC02A105.058		<i>Pycnococcus provasolii</i>	FR865764	99	3230	1751/1752	0	1	0	0	0
CC02SE05.011		Uncultured Prasinophyceae clone Biosope_T84.034	FJ537354	99	3147	1733/1748	0	0	0	1	0
CC02SE75.104		Uncultured Prasinophyceae clone Biosope_T19.019	FJ537307	96	2856	1674/1735	0	0	0	0	1
CC02A105.012		Uncultured prasinophyte clone BL000921.10	AY425318	100	3203	1734/1734	0	1	0	0	0

CC02SE75.020		Bathycoccus prasinos isolate CCMP1898	JX625115	100	3206	1736/1736	0	0	0	0	1
<b>Fungi</b>											
CC02A105.091	Fungi	Meira sp. JCM 18504	AB778894	99	3214	1742/1743	0	2	0	0	0
CC02SE05.095		Tetracladium marchalianum	AF388580	98	3035	1718/1755	0	0	0	1	0
<b>Haptophyta</b>											
CC02A175.081	Prymnesio- phyceae	Phaeocystis globosa isolate CCMP1524	AF182109	99	3212	1754/1762	0	0	1	0	0
CC02A175.029		Uncultured marine haptophyte clone Biosope_T58.080	FJ537336	94	2712	1681/1781	0	0	1	0	0
<b>Rhizaria</b>											
CC02A740.069	Cercozoa	Uncultured eukaryote clone DSGM-58	AB275058	97	2854	1665/1724	1	0	0	0	0
CC02A175.076	Radiolaria	Astrosphaera hexagonalis	AB490706	99	3088	1695/1706	0	0	4	0	0
CC02A175.061		Uncultured marine Polycystinea clone OLI011-75m.62	EU287798	98	3079	1736/1769	0	0	3	0	0
CC02A175.002		Chaunacanthid sp. 218	AF018158	99	3110	1720/1738	0	0	2	0	0
CC02A175.018		Uncultured Polycystinea clone Biosope_T33.044	FJ537313	99	3210	1750/1756	0	0	1	0	0
CC02A175.001		Haliommatidium sp.	AF018159	99	3092	1722/1748	0	0	1	0	0
CC02A175.005		Uncultured marine eukaryote clone MO010.500.0014	GU246576	93	2497	1617/1747	0	0	1	0	0
CC02SE75.011		Uncultured marine Polycystinea clone OLI011-75m.50	EU287795	98	3018	1716/1755	0	0	0	0	1
CC02A175.088		Astrosphaera hexagonalis	AB490706	98	2957	1672/1707	0	0	1	0	0
CC02A175.053		Uncultured marine Polycystinea clone OLI011-75m.47	EU287792	99	3134	1739/1759	0	0	1	0	0
CC02A175.051		Spongodiscus resurgens isolate 8029	AB246696	95	2719	1634/1712	0	0	1	0	0
CC02A175.050		Trizona brandti isolate Ros6	JN811202	96	2728	1634/1709	0	0	1	0	0
CC02SE75.046		Uncultured eukaryote clone SCM38C4	AY665068	98	3055	1721/1753	0	0	0	0	1
CC02SE75.056		Uncultured taxopodid-like clone LC22_5EP_23	DQ504355	99	3040	1662/1670	0	0	0	0	1
CC02SE75.054		Hexacontium pachydermum	AB284519	96	2761	1643/1714	0	0	0	0	1
CC02SE75.023		Uncultured marine Polycystinea clone OLI011-75m.62	EU287798	96	2880	1702/1771	0	0	0	0	1
<b>Stramenopiles</b>											
CC02A105.056	Labyrinthulea	Uncultured stramenopile clone 905st23-36	JQ782096	99	3208	1753/1761	1	1	0	0	0

CC02A175.044		Uncultured marine eukaryote clone HE001005.112	AY381171	91	2213	1509/1660	0	0	1	0	0
CC02SE75.039		Eukaryote marine clone ME1-24	AF363207	93	2586	1657/1782	0	0	0	0	1
CC02SE05.044	MAST	Uncultured marine eukaryote clone BL010625.32	AY381217	98	3064	1714/1741	0	3	0	2	0
CC02A105.047		Uncultured heterokont clone LC23_5EP_40	DQ504337	97	2813	1628/1679	0	1	0	0	0
CC02SE75.060		Uncultured stramenopile clone 155D3Ae6e7	JQ781996	99	3181	1730/1734	0	0	0	0	1
CC02A175.025		Uncultured heterokont clone LC23_5EP_40	DQ504337	92	2268	1495/1624	0	0	2	0	0
CC02A175.105		Uncultured stramenopile clone 155D3Ae6i8	JQ782003	99	3214	1759/1768	0	0	1	0	1
CC02A175.019	Picobiliphytes	Uncultured marine eukaryote clone NW617.02	DQ060525	98	3072	1733/1767	0	0	2	0	0

Fig. S1. Distribution of salinity (PSU) in the northern South China Sea (SCS) at the surface (A) and 75m (B), during the overall CHOICE-C winter cruise. Dots correspond to stations sampled

