

Genome	Metagenome <sup>1</sup>	Depth	Isolation source	Polymorphic sites <sup>2</sup> (%)	pN	pS	pN/pS ratio	Abundance (RPKG <sup>3</sup> )	γ/μ	Recombination coverage
<i>Alteromonas macleodii</i> AD45	SRR5788341 (Geotraces GA03)	MES	North Atlantic Ocean	13.72	0.25	0.57	0.29	56.21	4.15	0.43
<i>Alteromonas macleodii</i> AD45	SRR5788169 (Geotraces GA03)	SRF	North Atlantic Ocean	8.59	0.24	0.53	0.30	63.63	4.09	0.44
<i>Alteromonas macleodii</i> AD45	SRR5788344 (Geotraces GA03)	SRF	North Atlantic Ocean	3.09	0.08	0.20	0.22	44.18	3.47	0.44
<i>Erythrobacter citreus</i> LAMA 915	SAMN10839296	DCM	Mediterranean Sea	4.14	0.23	0.45	0.30	14.23	4.51	0.35
<i>Erythrobacter citreus</i> LAMA 915	ERR599112 (TARA_056)	MES	Indian Ocean	7.27	0.14	0.26	0.39	9.02	4.54	0.39
<i>Erythrobacter citreus</i> LAMA 915	ERR598999 (TARA_122)	MES	South Pacific Ocean	1.61	0.02	0.04	0.19	12.23	5.30	0.39
<i>Ca. Nitrosopelagicus brevis</i> CN25	SRR5788020 (Geotraces GA02)	MES	South Atlantic Ocean	33.63	1.65	2.90	0.78	172.24	17.12	0.58
<i>Ca. Nitrosopelagicus brevis</i> CN25	SRR5787994 (Geotraces GA03)	MES	North Atlantic Ocean	34.70	1.26	1.78	0.82	139.46	17.17	0.58
<i>Ca. Nitrosopelagicus brevis</i> CN25	SRR5788063 (Geotraces GA03)	MES	North Atlantic Ocean	21.37	0.48	0.73	0.70	73.04	13.26	0.53
MG-II Thalamoarchaea	SRR5788230 (Geotraces GA02)	MES	North Atlantic Ocean	22.36	0.47	0.49	0.61	41.22	17.03	0.34
MG-II Thalamoarchaea	SRR5788131 (Geotraces GA10)	SRF	South Atlantic Ocean	8.92	0.13	0.26	0.19	29.84	28.12	0.50
MG-II Thalamoarchaea	SRR5788284 (Geotraces GA02)	DCM	North Atlantic Ocean	5.71	0.09	0.17	0.36	37.28	15.22	0.33
<i>Prochlorococcus marinus</i> MED4	SRR5788024 (Geotraces GA02)	DCM	South Atlantic Ocean	47.97	1.83	2.42	0.82	203.15	48.80	0.79
<i>Prochlorococcus marinus</i> MED4	SRR5787990 (Geotraces GA02)	DCM	South Atlantic Ocean	42.79	1.48	2.03	0.79	195.22	61.11	0.80
<i>Prochlorococcus marinus</i> MED4	SRR5788058 (Geotraces GP13)	MES	South Pacific Ocean	44.62	1.47	1.99	0.71	144.10	56.86	0.81
<i>Synechococcus</i> sp. CC9902	SRR5788434 (Geotraces GA02)	SRF	North Atlantic Ocean	33.13	0.91	1.14	0.58	46.06	11.11	0.36
<i>Synechococcus</i> sp. CC9902	SRR5788234 (Geotraces GA02)	SRF	North Atlantic Ocean	12.80	0.26	0.36	0.53	25.10	8.92	0.39
<i>Synechococcus</i> sp. CC9902	SRR5788109 (Geotraces GA02)	SRF	North Atlantic Ocean	5.26	0.08	0.14	0.31	18.58	6.52	0.36

<sup>1</sup>SRF: surface; DCM: deep chlorophyll maximum; MES: mesopelagic.

<sup>2</sup>Percentage of polymorphic sites per gene.

<sup>3</sup>Reads per Kilobase of Genome and Gigabase of Metagenome.