

Table S1. Characteristics of 46 marine Thaumarchaeota single-cell amplified genomes.

SAG ID (SCGC-)	IMG Taxon ID	Location ¹	Latitude	Longitude	Date	Depth (m)	Temp eratur e (°C)	Salinit y (PSU)	Assembl y size ² (Mbp)	No. contigs	No. genes
AB-661-I02	2524023096	WW	64°24.16'S	64°55.9'W	11Jan2011	80	-0.51	33.93	0.52	70	685
AB-661-L21	2524023084	WW	64°24.16'S	64°55.9'W	11Jan2011	80	-0.51	33.93	0.51	51	646
AB-661-M19	2524023095	WW	64°24.16'S	64°55.9'W	11Jan2011	80	-0.51	33.93	0.58	57	740
AB-663-F14	2523533633	CDW	64°24.16'S	64°55.9'W	11Jan2011	400	1.4	34.64	0.57	107	776
AB-663-G14	2524023085	CDW	64°24.16'S	64°55.9'W	11Jan2011	400	1.4	34.64	0.58	78	755
AB-663-N18	2524023093	CDW	64°24.16'S	64°55.9'W	11Jan2011	400	1.4	34.64	0.36	53	450
AB-663-O07	2524023092	CDW	64°24.16'S	64°55.9'W	11Jan2011	400	1.4	34.64	0.48	37	598
AB-663-P07	2524023094	CDW	64°24.16'S	64°55.9'W	11Jan2011	400	1.4	34.64	0.82	38	1010
AAA160-J20	2529292698	GOM	43°50'39.87"N	69°38'27.49"W	16Sep2009	1	22.3	30	0.56	99	726
AAA007-O23	2527291500	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	1.13	67	1393
AAA001-A19	2513237067	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.76	223	1114
AAA007-N19	2513237068	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.89	194	1295
AAA007-C21	2524023106	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.28	185	451
AAA007-E15	2524023107	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.45	244	704
AAA007-G17	2524023108	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.34	189	581
AAA007-M20	2524023109	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.30	253	503
AAA007-N23	2524023110	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.17	123	298
AAA008-E02	2524023111	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.53	283	838
AAA008-E15	2524023112	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.46	236	706
AAA008-E17	2524023113	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.43	257	730
AAA008-G03	2524023114	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.53	236	852
AAA008-M21	2524023115	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.36	197	606
AAA008-M23	2524023116	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.35	171	558
AAA008-N07	2524023117	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.28	163	489
AAA008-O05	2524023118	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.35	150	557
AAA008-O18	2524023119	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.39	234	653
AAA008-P02	2524023120	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.44	195	735
AAA008-P23	2524023121	SA	12°29'41.4"S	4°59'55.2"W	01Dec2007	800	4.8	34.5	0.50	230	801
AAA288-I14	2513237066	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	1.06	153	1534
AAA288-J14	2513237065	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.68	253	1073

AAA288-C17	2524023122	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.59	269	953
AAA288-D03	2524023123	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.53	335	880
AAA288-D22	2524023124	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.55	234	859
AAA288-E09	2524023125	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.55	300	887
AAA288-G05	2524023126	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.71	242	1063
AAA288-K02	2524023127	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.66	319	1053
AAA288-K05	2524023128	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.49	279	803
AAA288-K20	2524023097	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.57	288	888
AAA288-M04	2524023098	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.56	327	917
AAA288-M23	2524023099	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.51	320	847
AAA288-N15	2524023100	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.27	170	500
AAA288-N23	2524023101	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.49	248	768
AAA288-O17	2524023102	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.13	127	249
AAA288-O22	2524023103	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.37	178	621
AAA288-P02	2524023104	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.86	307	1274
AAA288-P18	2524023105	NP	22°45' N	158°00' W	09Sep2009	770	4.7	34.3	0.68	335	1091

¹WW (Antarctic Winter Water), CDW (Antartic Circumpolar Deep Water), GOM (Gulf of Maine), SA (South Atlantic gyre), NP (North Pacific gyre).

²The cultured reference strain *Nitrosopumilus maritimus* scm1 has a genome size of 1.65 Mbp.