

Table S3. Genomic parameters of LAGs recovered in this study with ANI > 99.5% to MAGs retrieved from Lake Baikal 1250 and 1350 m deep.

Taxonomy	MAG	Genome Size (bp)	Number of Contigs	Longest Contig Size (bp)	CheckM Completeness (%)	Checkm Contamination (%)
Acidobacteria	Vicinamibacterales-Baikal1600m-PB-G1	4,886,496	43	733,256	92.4	4.8
	Acidobacteria Baikal-deep-G12	3,248,293	182	109,448	79.2	4.3
Actinobacteria	Ca. Planktophila-Baikal1600m-PB-G5	1,448,997	10	388,832	81.2	0.5
	Ca. Planktophila Baikal-deep-G30	1,083,458	58	84,945	72.9	0.5
	Thermoleophilia-Baikal1600m-PB-G15	1,630,020	3	840,662	89.9	0.9
	Thermoleophilia Baikal-deep-G28	1,496,510	19	226,797	85.8	0.0
	Thermoleophilia-Baikal1600m-PB-G16	2,256,336	1	2,256,336	98.4	0.4
	Thermoleophilia Baikal-deep-G21	1,496,510	19	226,797	83.3	0.7
	Ilumatobacteraceae-Baikal1600m-PB-G11	2,345,733	11	855,656	94.7	0.5
	Ca. Nanopelagiales Baikal-deep-G14	1,686,946	104	75,118	86.1	0.8
	Acidimicrobiia-Baikal1600m-PB-G2	2,144,435	8	1,670,992	77.8	1.3
	Acidimicrobia Baikal-deep-G23	2,252,929	180	52,426	85.3	1.3
	Ilumatobacteraceae-Baikal1600m-PB-G10	2,120,470	3	1,629,087	97.9	1.3
	Ilumatobacteraceae Baikal-deep-G17	1,762,442	73	82,555	85.9	6.2
	Ca. Nanopelagicus-Baikal1600m-PB-G4	1,215,619	6	725,322	79.8	0.0
	Ca. Nanopelagiales Baikal-deep-G27	1,081,859	71	49,511	70.6	0.1
	Acidimicrobiia-Baikal1600m-PB-G3	2,083,303	11	823,156	96.6	2.7
	Acidimicrobiia Baikal-deep-G22	1,765,868	93	64,582	96.6	2.1
Alphaproteobacteria	Ca. Fonsibacter-Baikal1600m-PB-G20	946,322	4	627,042	75.5	0.0
	Ca. Fonsibacter Baikal-deep-G36	997,510	66	66,508	95.2	3.7
	Pseudolabrys-Baikal1600m-PB-G21	2,738,833	15	461,811	86.3	0.8
	Pseudolabrys Baikal-deep-G38	2,494,857	119	94,749	88.2	1.3
	Acetobacteraceae-Baikal1600m-PB-G19	3,427,791	9	1,497,302	98.5	2.0
Bacteroidetes	Acetobacteraceae Baikal-deep-G58	1,946,587	55	177,716	63.1	0.0
	Bacteroidetes-Baikal1600m-PB-G24	1,675,431	10	367,283	87.7	0.0
	Bacteroidetes Baikal-deep-G73	1,192,243	86	50,581	76.2	1.4
Gammaproteobacteria	Methyloglobulus-Baikal1600m-PB-G30	2,053,671	12	506,236	95.3	1.3
	Methyloglobulus Baikal-deep-G142	1,106,434	124	32,022	52.6	0.0
	Methylopumilus-Baikal1600m-PB-G31	1,302,697	3	641,110	95.6	0.0
	Methylopumilus planktonicus Baikal-deep-G83	1,171,301	35	110,517	94.2	0.0
	Burkholderiales-Baikal1600m-PB-G29	2,746,740	11	863,158	96.8	2.8
Patescibacteria	Betaproteobacteria Baikal-deep-G89	2,062,253	128	76,030	82.5	3.2
	Ca. Levybacteria-Baikal1600m-PB-G34	907,563	1	907,563	65.4	0.0
	Levybacteria-Baikal-deep-G183	677,466	13	174,588	65.4	0.0
	Ca. Paceibacteria-Baikal1600m-PB-G35	1,059,132	6	755,885	74.7	0.0
	Parcubacteria-Baikal-deep-G184	793,660	24	89,033	62.9	0.0
	Ca. Gracilbacteria-Baikal1600m-PB-G33	919,098	17	231,563	39.6	1.8
	Paceibacteria-bacterium-Baikal-deep-G197	321,018	41	14,845	34.5	0.0
	Ca. Paceibacteria-Baikal1600m-PB-G36	582,052	1	582,052	56.1	0.0
	Paceibacteria-bacterium-Baikal-deep-G200	369,798	36	28,033	45.1	0.0
	Ca. Saccharibacteria-Baikal1600m-PB-G46	724,546	1	724,546	65.6	0.0
	Patescibacteria-bacterium-Baikal-deep-G192	511,372	39	42,074	59.3	0.0
	Patescibacteria-Baikal1600m-PB-G49	737,753	1	737,753	71.3	0.0
	Patescibacteria-bacterium-Baikal-deep-G193	578,258	29	53,386	56.1	0.0
	Ca. Paceibacteria-Baikal1600m-PB-G38	803,329	1	803,329	68.6	0.0
	Kaiserbacteraceae-bacterium-Baikal-deep-G195	620,591	49	46,288	44.0	1.0
	Ca. Staskawiczbacteria-Baikal1600m-PB-G48	522,042	2	500,723	56.7	0.0
	Staskawiczbacteriaceae-bacterium-Baikal-deep-G187	721,116	72	32,480	42.9	5.6
	Ca. Paceibacteria-Baikal1600m-PB-G40	592,655	5	171,467	66.9	0.0
	Parcubacteria-Baikal-deep-G185	527,091	29	63,755	69.2	0.0
	Ca. Paceibacteria-Baikal1600m-PB-G42	558,371	2	485,322	76.0	0.0
Planctomycetes	Paceibacteria-bacterium-Baikal-deep-G202	465,688	24	52,092	75.1	0.0
	Ca. Paceibacteria-Baikal1600m-PB-G43	754,737	1	754,737	71.7	0.0
	Taylorbacteraceae-bacterium-Baikal-deep-G189	685,593	28	65,363	66.0	3.4
	Zavarzinella-Baikal1600m-PB-G53	5,219,492	29	457,339	75.3	4.6
	Gemmataceae Baikal-deep-G171	5,712,728	169	175,789	93.0	4.7
	Gemmataceae-Baikal1600m-PB-G50	4,600,205	10	1,108,979	97.2	1.1
	Gemmataceae Baikal-deep-G161	4,189,651	99	410,398	97.0	1.1
	Gemmataceae-Baikal1600m-PB-G51	4,632,407	21	804,744	93.2	1.1
Thaumarchaeota	Gemmataceae Baikal-deep-G173	2,760,053	276	37,240	86.4	2.3
	Nitrosarchaeum-Baikal1600m-PB-G54	1,280,083	4	793,988	99.0	2.4
	Nitrosarchaeum Baikal-deep-G181	957,170	79	44,673	71.7	1.0
	Nitrosarchaeum-Baikal1600m-PB-G55	1,245,765	2	764,480	99.0	1.0
	Nitrosarchaeum Baikal-deep-G180	716,049	83	55,419	68.0	0.0