Supplementary Material
Protein Nanowires: The Electrification of the Microbial World and Maybe Our Own

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The conductivity of a relatively small number of microbially produced protein nanowires has been evaluated to date because conductivity measurements are laborious. Randomly screening the microbial world for conductive protein nanowires is not yet technically feasible. Therefore, a selection process to identify likely candidates is needed. From the available conductivity measurements it appears that pilin/archaellin monomers likely to be assembled in into e-pili and e-archeaella (i.e. e-pilins and e-archaellins) will have an abundance of aromatic amino acids above the minimum threshold of 9% found in known e-pili; and (3) no large gaps (>40 amino acids) within the pilin monomer that lack aromatic amino acids (1). Further analysis of the available genome sequences of bacteria and archaea thought to be electroactive, as well as metagenomic data from anaerobic methane-oxidizing consortia that are potentially electroactive revealed putative e-pilins and e-archaellins from a broad phylogenetic range of bacteria and archaea (Supplementary Table 1).

Supplementary Table 1. Putative e-pili found in a diversity of Bacteria and Archaea in Alphabetic Order by Phylum

Species	Number of amino acids[1]	Number of aromatic amino Acids	Percent aromatic amino acids	Gap w/o Aromatics[2]	Locus ID	Phylum	Class	Order	Family
Acidithrix ferrooxidans	144	14	9.72	25	AFO_01365	Actinobacteria	Acidimicrobiia	Acidimicrobiales	Acidimicrobiaceae
Ferrimicrobium acidiphilum	163	15	9.20	32	Q367DRAFT_01793	Actinobacteria	Acidimicrobiia	Acidimicrobiales	Acidimicrobiaceae
Ferrithrix thermotolerans	172	17	9.88	27	EJ54DRAFT_00492	Actinobacteria	Acidimicrobiia	Acidimicrobiales	Acidimicrobiaceae
Hydrogenobacter thermophilus	88	14	15.91	27	Hydth_0253	Aquificae	Aquificae	Aquificales	Aquificaceae
Hydrogenobacter thermophilus	155	22	14.19	22	Hydth_0658	Aquificae	Aquificae	Aquificales	Aquificaceae
Hydrogenobacter thermophilus	189	25	13.23	16	Hydth_1431	Aquificae	Aquificae	Aquificales	Aquificaceae
Thermocrinis ruber	132	17	12.88	22	Theru_1134	Aquificae	Aquificae	Aquificales	Aquificaceae
Prolixibacter denitrificans	125	14	11.20	40	Ga0181020_10443	Bacteroidetes	Bacteroidia	Marinilabiliales	Prolixibacteraceae
Caldisericum exile	129	14	10.85	29	CSE_13170	Caldiserica	Caldisericia	Caldisericales	Caldisericaceae
Caldisericum exile	177	32	18.08	19	CSE_13250	Caldiserica	Caldisericia	Caldisericales	Caldisericaceae
Caldisericum exile	182	24	13.19	21	CSE_13310	Caldiserica	Caldisericia	Caldisericales	Caldisericaceae
Caldisericum exile	140	14	10.00	42	CSE_14670	Caldiserica	Caldisericia	Caldisericales	Caldisericaceae
Caldisericum exile	168	20	11.90	24	CSE_15700	Caldiserica	Caldisericia	Caldisericales	Caldisericaceae
Calditerrivibrio nitroreducens	119	16	13.45	22	Calni_0149	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Deferribacter autotrophicus	57	8	14.04	22	WP_149265799	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Deferribacter desulfuricans	59	8	13.56	22	DEFDS_1270	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Flexistipes sinusarabici	60	8	13.33	22	WP_013887342	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Geovibrio thiophilus	140	16	11.43	22	K300DRAFT_1049	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Geovibrio thiophilus	134	14	10.45	22	K300DRAFT_1050	Deferribacteres	Deferribacteres	Deferribacterales	Deferribacteraceae
Thermus scotoductus	111	10	9.01	37	WP_038068616	Deinococcus-Thermus	Deinococci	Thermales	Thermaceae
Alicyclobacillus contaminans	109	11	10.09	28	G463DRAFT_00356	Firmicutes	Bacilli	Bacillales	Alicyclobacillaceae
Bacillus subterraneus	133	14	10.53	25	Ga0077506_107138	Firmicutes	Bacilli	Bacillales	Bacillaceae
Bacillus subtilis	133	12	9.02	33	U712_12060	Firmicutes	Bacilli	Bacillales	Bacillaceae
Bacillus thuringiensis	146	25	17.12	15	Ga0111280_114278	Firmicutes	Bacilli	Bacillales	Bacillaceae
Tepidibacillus fermentans	114	13	11.40	32	Ga0126213_11834	Firmicutes	Bacilli	Bacillales	Bacillaceae
Enterococcus faecalis	141	22	15.60	28	Ga0399220_01_1952321_1952764	Firmicutes	Bacilli	Lactobacillales	Enterococcaceae
Enterococcus faecalis	141	22	15.60	28	Ga0399220_01_1952	Firmicutes	Bacilli	Lactobacillales	Enterococcaceae

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Anaerosolibacter carboniphilus	105	11	10.48	28	Ga0415316_16_27903_28247	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Anaerosolibacter carboniphilus	138	20	14.49	25	Ga0415316_16_34173_34610	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Caloramator fervidus	124	16	12.90	38	Ga0056065_00030	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Caloranaerobacter ferrireducens	111	10	9.01	25	Ga0308728_101715	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium aceticum	137	21	15.33	15	CACET_c18330	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium aceticum	101	15	14.85	19	CACET_c27740	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium acetobutylicum	141	17	12.06	22	CAC2100	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium acetobutylicum	133	16	12.03	20	CAC2101	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium kluyveri	122	13	10.66	20	CKL_1207	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium ljungdahlii	121	11	9.09	27	CLJU_c10920	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium thiosulfatireducens	142	17	11.97	25	WP_150844840	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Clostridium ultunense	141	17	12.06	29	CULDRAFT_01744	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Natronincola peptidovorans	177	16	9.04	31	WP_090438371	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Thermotalea metallivorans	138	17	12.32	25	WP_068555160	Firmicutes	Clostridia	Clostridiales	Clostridiaceae
Desulfitobacterium chlororespirans	159	24	15.09	14	EJ42DRAFT_03096	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfitobacterium dehalogenans	151	25	16.56	14	Desde_2966	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfitobacterium hafniese	156	20	12.82	18	Dhaf_3553	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfosporosinus fructosivorans	153	18	11.76	19	WP_135547716	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfosporosinus meridei	114	11	9.65	22	Desmer_0976	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfosporosinus meridiei	114	11	9.65	22	Desmer_0976	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum alcoholivorax	147	16	10.88	24	H569DRAFT_00254	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum alcoholivorax	182	19	10.44	36	H569DRAFT_03578	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum alcoholivorax	121	11	9.09	25	H569DRAFT_03103	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum reducens	140	21	15.00	25	Dred_1026	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum reducens	112	13	11.61	21	Dred_3049	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Desulfotomaculum	160	18	11.25	31	Desru_3109	Firmicutes	Clostridia	Clostridiales	Peptococcaceae

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Pelotomaculum sp	169	24	14.20	20	Ga0073689_1072	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Thermincola ferriacetica	100	9	9.00	26	TferDRAFT_00608	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Thermincola potens	100	9	9.00	26	TherJR_1751	Firmicutes	Clostridia	Clostridiales	Peptococcaceae
Anaerobranca californiensis	143	20	13.99	18	EJ12DRAFT_00456	Firmicutes	Clostridia	Clostridiales	Proteinivoraceae
Anaerobranca californiensis	134	14	10.45		EJ12DRAFT_00441	Firmicutes	Clostridia	Clostridiales	Proteinivoraceae
Dethiobacter alkaliphilus	114	12	10.53	25	DealDRAFT_0772	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas palmitatica	128	16	12.50	24	Ga0128340_10255	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas palmitatica	118	12	10.17	34	Ga0128340_10265	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas sp. JGI 000170CP_G06	113	11	9.73	22	Ga0153857_10404	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas wolfei	148	16	10.81	24	Swol_0536	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas wolfei methylbutyratica	148	16	10.81	24	Ga0126451_11840	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas zehnderi	157	19	12.10	20	Ga0124040_12622	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophomonas zehnderi	133	12	9.02	27	Ga0124040_12621	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Syntrophothermus lipocalidus	146	17	11.64	22	Slip_0396	Firmicutes	Clostridia	Clostridiales	Syntrophomonadaceae
Acetohalobium arabaticum	109	10	9.17	25	Acear_1770	Firmicutes	Clostridia	Halanaerobiales	Halobacteroidaceae
Orenia metallireducens	139	19	13.67	36	Ga0139028_10291	Firmicutes	Clostridia	Halanaerobiales	Halobacteroidaceae
Orenia metallireducens	122	11	9.02	38	Ga0139028_106178	Firmicutes	Clostridia	Halanaerobiales	Halobacteroidaceae
Caldanaerobacter subterraneus	161	16	9.94	31	Ga0310466_10291	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Carboxydothermus ferrireducens	137	19	13.87	19	CarfeDRAFT_00001450	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Carboxydothermus hydrogenoformans	137	19	13.87	19	CHY_0635	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Carboxydothermus islandicus	137	20	14.60	19	Ga0346999_2021	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Carboxydothermus pertinax	138	19	13.77	19	Ga0346998_1554	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Moorella humiferrea	121	11	9.09	31	WP_106006102	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Moorella humiferrea	141	15	10.64	28	WP_106006103	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Moorella humiferrea	172	18	10.47	42	WP_106006106	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Moorella stamsii	120	11	9.17	31	Ga0309394_10513	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Moorella stamsii	115	14	12.17	25	Ga0309394_10517	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Tepidanaerobacter sp	144	17	11.81	30	TepRe1_1415	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae

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Tepidanaerobacter sp Re1	145	14	9.66	22	TepRe1_1417	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Tepidanaerobacter syntrophicus	140	16	11.43	30	Ga0248248_109374	Firmicutes	Clostridia	Thermoanaerobacterales	Thermoanaerobacteraceae
Pelosinus fermentans	149	16	10.74	29	Ga0248297_2354	Firmicutes	Negativicutes	Selenomonadales	Sporomusaceae
Pelosinus lilaceae	159	15	9.43	20	UFO1_1776	Firmicutes	Negativicutes	Selenomonadales	Sporomusaceae
Sporomusa ovata	119	12	10.08	25	G571DRAFT_00990	Firmicutes	Negativicutes	Selenomonadales	Sporomusaceae
Sporomusa silvacetica	119	12	10.08	25	Ga0336821_2460	Firmicutes	Negativicutes	Selenomonadales	Sporomusaceae
Sporomusa sphaeroides	114	14	12.28	25	SPSPH_15410	Firmicutes	Negativicutes	Selenomonadales	Sporomusaceae
Sporanaerobacter acetigenes	152	14	9.21	35	EJ96DRAFT_00445	Firmicutes	Tissierellia	Tissierellales	Tissierellaceae
Sporanaerobacter acetigenes	179	22	12.29	23	EJ96DRAFT_00443	Firmicutes	Tissierellia	Tissierellales	Tissierellaceae
Dethiosulfatibacter aminovorans	126	12	9.52	22	EJ55DRAFT_00807	Firmicutes	Tissierellia	unclassified Tissierellia	
Dethiosulfatibacter aminovorans	117	12	10.26	22	EJ55DRAFT_00808	Firmicutes	Tissierellia	unclassified Tissierellia	
Leptospirillum ferriphilum	136	15	11.03	38	LFML04_0966	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiraceae
Leptospirillum ferrooxidans	146	14	9.59	22	LFE_0495	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiraceae
Rhodopseudomonas palustris	131	15	11.45	24	RPE_2661	Proteobacteria	alphaproteobacteria	Rhizobiales	Bradyrhizobiaceae
Acidiphilium angustum	130	12	9.23	24	T342DRAFT_01602	Proteobacteria	alphaproteobacteria	Rhodospirillales	Acetobacteraceae
Acidiphilium rubrum	130	12	9.23	24	Ga0104712_111112	Proteobacteria	alphaproteobacteria	Rhodospirillales	Acetobacteraceae
Acidocella aromatica	132	12	9.09	28	Ga0415365_01_443706_444155	Proteobacteria	alphaproteobacteria	Rhodospirillales	Acetobacteraceae
Leptothrix mobilis	142	18	12.68	22	Ga0310535_0991	Proteobacteria	betaproteobacteria	Burkholderiales	Burkholderiales genera incertae sedis
Pseudogulbenkiana ferrooxidans	129	18	13.95	24	WP_008955084	Proteobacteria	betaproteobacteria	Neisseriales	Chromobacteriaceae
Pseudogulbenkiana ferrooxidans	118	12	10.17	22	WP_008955093	Proteobacteria	betaproteobacteria	Neisseriales	Chromobacteriaceae
Pseudogulbenkiana ferrooxidans	131	14	10.69	22	WP_008952214	Proteobacteria	betaproteobacteria	Neisseriales	Chromobacteriaceae
Ferriphaselus amnicola	135	14	10.37	22	Ga0325215_2722	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Gallionella capsiferriformans	125	13	10.40	22	Galf_0171	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Sideroxydans lithotrophicus	133	12	9.02	23	Slit_2082	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Sulfuricella denitrificans	138	15	10.87	22	2533684932	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Sulfuriferula thiophila	138	17	12.32	19	Ga0399904_1683	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Sulfurirhabdus autotrophica	137	15	10.95	22	Ga0244719_10323	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae

Sulfurirhabdus autotrophica	139	14	10.07	22	Ga0244719_1362	Proteobacteria	betaproteobacteria	Nitrosomonadales	Gallionellaceae
Sulfuritalea hydrogenivorans	144	13	9.03	22	WP_041100254	Proteobacteria	betaproteobacteria	Nitrosomonadales	Sterolibacteriaceae
Thiobacillus denitrificans	126	13	10.32	33	Tbd_1865	Proteobacteria	betaproteobacteria	Nitrosomonadales	Thiobacillaceae
Azonexus hydrophilus	122	13	10.66	33	G471DRAFT_2125	Proteobacteria	betaproteobacteria	Rhodocyclales	Azonexaceae
Thauera humireducens	144	16	11.11	22	Ga0213668_112217	Proteobacteria	betaproteobacteria	Rhodocyclales	Zoogloeaceae
Desulfarculus baarsii	130	13	10.00	24	ADK84707	Proteobacteria	deltaproteobacteria	Desulfarculales	Desulfarculaceae
Desulfocarbo indianensis	130	12	9.23	24	Ga0081924_1001958	Proteobacteria	deltaproteobacteria	Desulfarculales	Desulfarculaceae
Desulfatibacillum alphiphaticivorans	114	14	12.28	22	Dalk_3114	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfatibacillum alphiphaticivorans	116	11	9.48	25	Dalk_1373	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfobacter hydrogenophilus	167	16	9.58	35	WP_111952979	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfobacterium autotrophicum	59	9	15.25	22	HRM2_27700	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfofaba hansenii	143	19	13.29	22	Ga0205213_103919	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfospira joergensenii	145	14	9.66	22	F608DRAFT_4571	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobacteraceae
Desulfocapsa sulfexigens	60	7	11.67	22	UWK_02275	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Desulfocapsa thiozymogenes	144	15	10.42	22	A316_01724	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Desulfotalea psychrophila	70	9	12.86	22	DP2041	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Desulfotalea psychrophila	120	12	10.00	22	DP1456	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Desulfurivibrio alkaliphilus	182	20	10.99	27	DaAHT2_2283	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Desulfonauticus submarinus	117	11	9.40	23	Ga0070487_10136	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfohalobiaceae
Desulfovermiculus halophilus	145	14	9.66	25	N902DRAFT_00254	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfohalobiaceae
Desulfovermiculus halophilus	120	12	10.00	20	N902DRAFT_02359	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfohalobiaceae
Desulfomicrobium baculatum	121	12	9.92	34	Dbac_3434	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfomicrobiaceae
Desulfovibrio bastinii	147	17	11.56	28	G496DRAFT_02933	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio brasiliensis	133	13	9.77	22	Ga0128338_10609	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio carbinolicus	162	19	11.73	21	Ga0397664_3514	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio	112	13	11.61	34	EK04DRAFT_02036	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae

desulfuricans									
Desulfovibrio gracilis	125	13	10.40	22	BR08DRAFT_00601	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio gracilis	127	12	9.45	22	BR08DRAFT_00602	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio idahonensis	119	11	9.24	22	BR09DRAFT_03157	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio longus	129	13	10.08	22	G452DRAFT_1226	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio mexicanus	119	11	9.24	22	Ga0070557_1670	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfovibrio sulfodismutans	154	16	10.39	23	WP_163301444	Proteobacteria	deltaproteobacteria	Desulfovibrionales	Desulfovibrionaceae
Desulfurella acetivorans	140	15	10.71	34	Desace_0849	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Desulfurella multipotens	143	14	9.79	27	Ga0056076_00842	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea alviniae	114	16	14.04	15	G415DRAFT_0791	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea alviniae	147	18	12.24	22	G415DRAFT_0792	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea alviniae	61	8	13.11	22	G415DRAFT_0872	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea jasoniae	199	23	11.56	34	EK17DRAFT_0428	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea jasoniae	112	15	13.39	36	EK17DRAFT_0911	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea jasoniae	168	17	10.12	29	EK17DRAFT_1375	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea maritima	59	8	13.56	22	Hipma_0737	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Hippea maritima	164	17	10.37	22	Hipma_1130	Proteobacteria	deltaproteobacteria	Desulfurellales	Desulfurellaceae
Desulfurobacterium indicum	125	15	12.00	23	Ga0347347_463	Proteobacteria	deltaproteobacteria	Desulfurobacteriales	Desuflurobacteriaceae
Desulfurobacterium thermolithotrophum	128	19	14.84	22	Dester_0850	Proteobacteria	deltaproteobacteria	Desulfurobacteriales	Desuflurobacteriaceae
Desulfuromonas thiophila	59	8	13.56	22	Ga0056074_12312	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Desulfuromusa kysingii	60	9	15.00	22	Ga0056096_02700	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Malonomonas rubra	123	13	10.57	22	EJ68DRAFT_00117	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Malonomonas rubra	59	10	16.95	22	EJ68DRAFT_00580	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter acetylenicus	64	8	12.50	22	Ga0174877_112174	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter acetylenicus	123	14	11.38	21	Ga0174877_111717	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter carbinolicus	170	21	12.35	24	Pcar_2143	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter carbinolicus	185	17	9.19	34	Pcar_2144	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter carbinolicus	131	12	9.16	33	Pcar_2154	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter propionicus	64	7	10.94	22	Ppro_1656	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
Pelobacter seleniigenes	59	10	16.95	22	N909DRAFT_0006	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Desulfuromonadaceae
"Geomonas edaphica"	64	7	10.94	22	WP_129125765	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
"Geomonas ferrireducens"	59	8	13.56	22	WP_136525585	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
"Geomonas oryzae"	64	8	12.50	22	WP_136513000	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
"Geomonas terrae"	64	7	10.94	22	WP_135870226	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geoalkalibacter ferrihydriticus	61	8	13.11	22	Ga0056053_00657	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geoalkalibacter	66	10	15.15	22	WP_040199521	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae

subterraneus									
Geobacter anodireducens	65	7	10.77	22	Ga0133348_112105	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter argillaceus	65	6	9.23	22	Ga0052872_01800	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter argillaceus	65	6	9.23	22	Ga0052872_01802	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter bemidjiensis	66	9	13.64	22	Gbem_2590	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter bremensis	64	10	15.63	22	K419DRAFT_00801	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter lovleyi	60	6	10.00	22	Glov_2096	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter metallireducens	59	9	15.25	22	Gmet_1399	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter pelophilus	124	14	11.29	22	Ga0347001_01_394178_394585	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter pickeringii	60	7	11.67	22	Ga0069007_111762	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter soli	65	7	10.77	22	Ga0077628_111580	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter sp. M18	64	6	9.38	22	GM18_2492	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter sp. M21	64	6	9.38	22	GM21_1636	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter sp. OR-1	64	8	12.50	22	WP_041974243	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter sulfurreducens	61	6	9.84	22	GSU1496	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geobacter toluenoxydans	77	8	10.39	22	Ga0128344_12739	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geopsychrobacter electrodiphilus	64	7	10.94	22	D888DRAFT_2042	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geothermobacter ehrlichii	120	14	11.67	23	Ga0244669_10189	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Geothermobacter ehrlichii	62	9	14.52	22	Ga0244669_101102	Proteobacteria	deltaproteobacteria	Desulfuromonadales	Geobacteraceae
Anaeromyxobacter dehalogenans	188	18	9.57	26	A2cp1_0669	Proteobacteria	deltaproteobacteria	Myxococcales	Cystobacterineae
Anaeromyxobacter sp RBG	161	18	11.18	37	Ga0154716_108720	Proteobacteria	deltaproteobacteria	Myxococcales	Cystobacterineae
Myxococcus xanthus	208	21	10.10	31	WP_011555734	Proteobacteria	deltaproteobacteria	Myxococcales	Myxococcaceae
Desulfomonile tiedjei	134	15	11.19	30	Desti_3736	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Desulfomonile tiedjei	139	13	9.35	30	Desti_3145	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Smithella sp F21	109	11	10.09	22	Ga0059255_00913	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Smithella sp F21	166	16	9.64	36	Ga0059255_01296	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Smithella sp ME-1	142	20	14.08	21	Ga0038566_102574	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Smithella sp ME-1	81	8	9.88	22	Ga0038566_108923	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus aciditrophicus	110	12	10.91	22	SYN_00814	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus gentianae	129	16	12.40	17	Ga0074853_14012	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus gentianae	124	12	9.68	20	Ga0074853_103140	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus gentianae	120	11	9.17	26	Ga0074853_10999	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus sp G20	129	14	10.85	23	Ga0063310_00264	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Syntrophus sp. RIFOXYC2_FULL_54-9	143	16	11.19	26	Ga0156700_12733	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae

Syntrophus sp. RIFOXYC2_FULL_54_9	152	15	9.87	40	Ga0156700_12734	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophaceae
Desulfoglaeba alkanexedens	142	19	13.38	28	Ga0097685_112250	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Desulfoglaeba alkanexedens	148	14	9.46	29	Ga0097685_112248	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacter sp DG_60	159	17	10.69	40	Ga0111222_10275	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacter_fumaroxidans	138	17	12.32	33	Sfum_2558	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacter_fumaroxidans	141	15	10.64	37	Sfum_0126	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacterales bacterium Delta_03	110	10	9.09	23	Ga0154228_11166	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacterales bacterium Delta_03	110	10	9.09	23	Ga0154228_14366	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacterales bacterium GWC2_56_13	112	11	9.82	23	Ga0154454_106515	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophobacterales bacterium RBG_19FT_COMBO_59_10	143	17	11.89	23	Ga0154884_10387	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae
Syntrophorhabdus aromaticivorans	128	13	10.16	27	SynarDRAFT_0290	Proteobacteria	deltaproteobacteria	Syntrophobacterales	Syntrophorhabdaceae
Deferrisoma camini	126	14	11.11	22	DefcaDRAFT_3087	Proteobacteria	deltaproteobacteria	unclassified deltaproteobacteria	
Dissulfuribacter thermophilus	130	15	11.54	25	WP_067615408	Proteobacteria	deltaproteobacteria	unclassified deltaproteobacteria	
Dissulfuribacter thermophilus	141	16	11.35	23	DBT_0123	Proteobacteria	deltaproteobacteria	unclassified deltaproteobacteria	
Dissulfuribacter thermophilus	130	15	11.54	24	DBT_0128	Proteobacteria	deltaproteobacteria	unclassified deltaproteobacteria	
Dissulfurirhabdus thermomarina	60	7	11.67	22	WP_163298855	Proteobacteria	deltaproteobacteria	unclassified deltaproteobacteria	
Sulfuricaulis limicola	174	18	10.34	22	Ga0258544_11912	Proteobacteria	gammaproteobacteria	Acidiferrobacterales	Acidiferrobacteraceae
Ferrimonas balearica	165	17	10.30	22	Fbal_0401	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Ferrimonas futtsuensis	174	22	12.64	22	G505DRAFT_01246	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Ferrimonas kyonanensis	164	19	11.59	22	H598DRAFT_00119	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Ferrimonas kyonanensis	169	18	10.65	22	H598DRAFT_02276	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Ferrimonas sediminum	169	20	11.83	22	WP_090362508	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Ferrimonas sediminum	175	22	12.57	22	WP_090365039	Proteobacteria	gammaproteobacteria	Alteromonadales	Ferrimonadaceae
Shewanella baltica	171	19	11.11	22	Sbal175DRAFT_2072	Proteobacteria	gammaproteobacteria	Alteromonadales	Shewanellaceae

Shewanella japonica	126	13	10.32	33	Ga0198655_111312	Proteobacteria	gammaproteobacteria	Alteromonadales	Shewanellaceae
Shewanella livingstonensis	124	12	9.68	34	Ga0397901_3456	Proteobacteria	gammaproteobacteria	Alteromonadales	Shewanellaceae
Shewanella pealeana	172	19	11.05	22	Spea_3315	Proteobacteria	gammaproteobacteria	Alteromonadales	Shewanellaceae
Serratia liquefaciens	154	17	11.04	37	M495_19940	Proteobacteria	gammaproteobacteria	Enterobacterales	Yersiniaceae
Serratia marcescens	131	12	9.16	30	Ser94DRAFT_3844	Proteobacteria	gammaproteobacteria	Enterobacterales	Yersiniaceae
Pseudomonas stutzeri	122	13	10.66	25	Psest_0808	Proteobacteria	gammaproteobacteria	Pseudomonadales	Pseudomonadaceae
Metallibacterium scheffleri	127	13	10.24	36	WP_081127719	Proteobacteria	gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae
Metallibacterium scheffleri	155	15	9.68	30	WP_081127244	Proteobacteria	gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae
Metallibacterium scheffleri	126	13	10.32	27	WP_168708890	Proteobacteria	gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae
Metallibacterium scheffleri	126	13	10.32	27	WP_081129858	Proteobacteria	gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae
Mariprofundus aestuarium	153	15	9.80	22	Ga0263988_11521	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus aestuarium	141	13	9.22	30	Ga0263988_111426	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus aestuarium	160	15	9.38	27	Ga0263988_111430	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus ferrinatatus	159	16	10.06	27	Ga0263277_11984	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus ferrinatatus	141	13	9.22	30	Ga0263277_11988	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus ferrinatatus	187	19	10.16	33	Ga0263277_111747	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus ferrooxydans	160	18	11.25	27	A37KDRAFT_01712	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus ferrooxydans	153	15	9.80	22	A37KDRAFT_02006	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus micogutta	142	15	10.56	29	Ga0166461_12227	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Mariprofundus micogutta	158	18	11.39	27	Ga0166461_12231	Proteobacteria	zetaproteobacteria	Mariprofundales	Mariprofundaceae
Thermovirga lienii	153	15	9.80	39	Tlie_0062	Synergistetes	Synergistia	Synergistales	Synergistaceae
Thermosulfurimonas dismutans	150	22	14.67	23	TDIS_1362	Thermodesulfobacteria	Thermodesulfobacteria	Thermodesulfobacteriales	Thermodesulfobacteriaceae
Thermosulfurimonas dismutans	171	25	14.62	17	TDIS_2013	Thermodesulfobacteria	Thermodesulfobacteria	Thermodesulfobacteriales	Thermodesulfobacteriaceae
Thermotoga maritima	160	18	11.25	30	Thema_1715	Thermotogae	Thermotogae	Thermotogales	Thermotogaceae
Candidatus Electronema sp. GS	166	22	13.25	20	TAA75411	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Candidatus Electrothrix aarhusiensis	174	19	10.92	28	RWX44375	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae
Candidatus Electrothrix	170	20	11.76	22	RWX49752	Proteobacteria	deltaproteobacteria	Desulfobacterales	Desulfobulbaceae

communis									
Enriched cells of cold seep sediment from Jaco Scar, coast of Costa Rica, Pacific Ocean - ANME aggregate	138	18	13.04	22	Ga0402027_211_7002_7454	Proteobacteria	deltaproteobacteria	Desulfobacterales	unclassified Desulfobacterales
Sediment cell enrichment communities from methane seep in Santa Monica Basin, California	160	15	9.38	18	Ga0255429_109616	Proteobacteria	deltaproteobacteria	Desulfobacterales	unclassified Desulfobacterales
Enriched cells of cold seep sediment from Jaco Scar, coast of Costa Rica, Pacific Ocean - ANME aggregate	99	11	11.11	22	Ga0402001_443_2097_2438	Proteobacteria	deltaproteobacteria	Desulfobacterales	unclassified Desulfobacterales
Candidatus Marsarchaeota G2 archaeon BE_D	266	35	13.16	27	PSO06057	Candidatus Marsarchaeota	Candidatus Marsarchaeota group 2		
Metallosphaera prunae	283	39	13.78	43	QCO31065	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Metallosphaera sedula	283	39	13.78	27	Msed_1330	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Metallosphaera yellowstonensis	285	39	13.68	27	MetMK1DRAFT_00014300	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Saccharolobus solfataricus	289	40	13.84	27	WP_010923832	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Sulfodiicoccus acidiphilus	268	36	13.43	36	BBD73228	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Sulfolobus acidocaldarius	293	34	11.60	27	Saci_1178	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Sulfolobus islandicus	287	39	13.59	27	WP_029163833	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Sulfurisphaera tokodaii	288	38	13.19	27	WP_010980606	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae
Pyrococcus yayanosii	255	30	11.76	25	PYCH_12410	Crenarchaeota	Thermococci	Thermococcales	Thermococcacee
Archaeoglobus fulgidus	193	21	10.88	33	AF1055	Euryarchaeota	Archaeoglobi	Archaeoglobales	Archaeoglobaceae
Archaeoglobus profundus	208	24	11.54	30	ADB58439	Euryarchaeota	Archaeoglobi	Archaeoglobales	Archaeoglobaceae
Geoglobus acetivorans	193	19	9.84	32	Ga0069441_11963	Euryarchaeota	Archaeoglobi	Archaeoglobales	Archaeoglobaceae
Geoglobus acetivorans	189	21	11.11	25	Ga0069441_11964	Euryarchaeota	Archaeoglobi	Archaeoglobales	Archaeoglobaceae
Methanoculleus chikugoensis	190	21	11.05	26	WP_074369502	Euryarchaeota	Methanomicrobia	Methanomicrobiales	Methanomicrobiaceae
Methanoculleus sediminis	187	19	10.16	30	WP_048185443	Euryarchaeota	Methanomicrobia	Methanomicrobiales	Methanomicrobiaceae
Methanoculleus sp. MH98A	176	20	11.36	29	WP_048114339	Euryarchaeota	Methanomicrobia	Methanomicrobiales	Methanomicrobiaceae

Methanospirillum hungatei	164	18	10.98	35	Mhun_3140	Euryarchaeota	Methanomicrobia	Methanomicrobiales	Methanospirillaceae
"Sediment cell enrichment communities from methane seep in Santa Monica Basin, California, United Staets - ANME aggregate"	168	18	10.71	27	Ga0255419_101503	Euryarchaeota	Methanomicrobia	Methanosarcinales	ANME-2 cluster
Methanococcoides sp. AM1	175	18	10.29	24	WP_135612969	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Methanohalophilus euhalobius	188	22	11.70	35	WP_105460445	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Methanosarcina acetivorans	179	17	9.50	29	MA3061	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Methanosarcina acetivorans	204	23	11.27	26	MA3062	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Methanosarcina horonobensis	185	18	9.73	31	Ga0072443_111234	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Methanosarcina sp. DH1	208	20	9.62	30	Ga0399897_3553	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae
Pyrococcus furiosus	260	31	11.92	25	PF0337	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus celer	258	27	10.47	28	Ga0225983_11306	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus chitonophagus	257	27	10.51	27	Ga0225912_111910	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus eurythermalis	258	26	10.08	25	Ga0069357_12493	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus guaymasensis	254	25	9.84	25	Ga0129129_11828	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus indicus	260	26	10.00	25	WP_139681201	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus kodakaraensis	286	28	9.79	32	Q9V2X1	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus kodakaraensis	271	36	13.28	25	Q9V2W7	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus kodakaraensis	214	20	9.35	27	Q9V2W8	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus litoralis	247	23	9.31	27	OCC_10374	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus litoralis	307	28	9.12	29	OCC_10379	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus nautili	259	26	10.04	25	BD01_1148	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus onnurineus	261	27	10.34	28	TON_1185	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus peptonophilus	256	25	9.77	27	Ga0133415_11413	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee
Thermococcus profundus	212	21	9.91	27	WP_088857827	Euryarchaeota	Thermococci	Thermococcales	Thermococcacee

Thermoplasma acidophilum	227	21	9.25	29	Ta0553	Euryarchaeota	Thermoplasmata	Thermoplasmatales	Thermoplasmataceae

[1] The amino acid length is given for mature pili after signal peptide sequence removal at the prepilin cleavage site.
[2] Largest number of consecutive amino acids without an aromatic amino acid in the pilin sequence.

Reference

1. Walker DJF, Nevin KP, Nonnenmann SS, Holmes DE, Woodard TL, Ward JE, Rotaru A-E, Mcinerney MJ, Lovley DR. 2020. Syntrophus conductive pili demonstrate that common hydrogen-donating syntrophs can have a direct electron transfer option. ISME J 14:837-846.