

Supplementary Table 1. GC content, lineage category, and organism possessing the top hit protein of the BLAST result of the protein-coding gene of *Symbiobacterium thermophilum*.

STH gene number	GC content (%)	Lineage category	Organism possessing the top hit protein	Organism possessing similar protein below the second hit
1	63.1	Bacilli	<i>Brevibacillus brevis</i>	
2	64.49	Clostridia	<i>Thermincola</i> sp. JR	
3	67.98	Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
4	67.81	Clostridia	<i>Thermincola</i> sp. JR	
5	68.25	Clostridia	<i>Thermincola</i> sp. JR	
6	64.47	Clostridia	<i>Thermoanaerobacter tengcongensis</i>	
7	66.29	Clostridia	<i>Heliobacterium modesticaldum</i>	
8	70.79	Clostridia	<i>Syntrophothermus lipocalidus</i>	
9	70.97	Clostridia	<i>Ammonifex degensi</i>	
10	65.71	Clostridia	<i>Thermincola</i> sp. JR	
11	70.58	Clostridia	<i>Natranaerobius thermophilus</i>	
12	74.73	Bacilli	<i>Geobacillus</i> sp. WCH70	
13	71.74	Bacilli	<i>Geobacillus</i> sp. Y412MC10	
14	64.24	Clostridia	<i>Clostridium thermocellum</i>	
15	67.67	Clostridia	<i>Thermincola</i> sp. JR	
16	66.59	Clostridia	<i>Desulfotomaculum reducens</i>	
17	66.31	Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
18	69.38	Clostridia	<i>Clostridium thermocellum</i>	
19	68.63	Bacilli	<i>Geobacillus</i> sp. Y412MC10	
20	64.57	Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Geobacillus</i> sp. Y412MC61
21	69.2	Cyanobacteria	<i>Nostoc punctiforme</i>	
22	60.81	Clostridia	<i>Moorella thermoacetica</i>	
23	66.66	Proteobacteria	<i>Minibacterium massiliensis</i>	
24	64.03	Archaea/Eukaryota	<i>Natrialba magadii</i>	
25	65	Proteobacteria	<i>Desulfobacterium autotrophicum</i>	
26	64.55	Proteobacteria	<i>Geobacter sulfurreducens</i>	
27	66.89	Proteobacteria	<i>Thiomicrospira crunogenans</i>	
28	69.34	Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Bacillus cereus</i> ATCC 14579

29	69.69 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
30	73.31 Proteobacteria	Minibacterium massiliensis	
31	73.04 Bacilli	Brevibacillus brevis	
32	71.42 No hit	none	
33	67.81 Chloroflexi	Herpetosiphon aurantiacus	
34	71.21 Proteobacteria	Rhodoferax ferrireducens	
35	67.63 Thermotogae	Kosmotoga olearia	
36	77.28 Clostridia	Alkaliphilus metalliredigen	
37	69.86 Clostridia	Alkaliphilus orelandi	
38	68.97 Thermotogae	Kosmotoga olearia	
39	62.5 Clostridia	Thermincola sp. JR	
40	66.78 Clostridia	Carboxydotherrmus hydrogenoforman	
41	69.51 Bacilli	Geobacillus sp. Y412MC10	
42	62.76 Bacilli	Bacillus tusciae	
43	62.6 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
44	57.61 Symbiobacterium	Symbiobacterium thermophilun	Brevibacillus brevis
45	60.42 Symbiobacterium	Symbiobacterium thermophilun	Clostridium thermocellun
46	59.17 No hit	none	
47	54.87 No hit	none	
48	65.55 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
49	64.67 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
50	60.73 Symbiobacterium	Symbiobacterium thermophilun	Pseudomonas stutzeri
51	62.75 Symbiobacterium	Symbiobacterium thermophilun	Solibacter usitatus
52	60.99 Symbiobacterium	Symbiobacterium thermophilun	Marinobacter aquaeolei
53	60.37 Symbiobacterium	Symbiobacterium thermophilun	Marinobacter aquaeolei
54	65.63 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
55	64.15 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
56	61.59 No hit	none	
57	65.01 Symbiobacterium	Symbiobacterium thermophilun	Paenibacillus sp. JDR-2
58	68.51 Symbiobacterium	Symbiobacterium thermophilun	Brevibacillus brevis
59	66.85 No hit	none	
60	70.24 Clostridia	Anaerocellum thermophilun	
61	72.78 Clostridia	Thermincola sp. JR	

62	72.8 Clostridia	Thermincola sp. JR
63	72.22 Clostridia	Thermoanaerobacter tengcongensis
64	67.98 Thermotogae	Kosmotoga olearia
65	69.59 Clostridia	Thermincola sp. JR
66	66.51 Bacilli	Brevibacillus brevis
67	70.26 Clostridia	Syntrophothermus lipocalidus
68	75.49 Clostridia	Halothermothrix orenii
69	70.43 Bacilli	Bacillus pseudofirmus
70	75.25 Bacilli	Bacillus pseudofirmus
71	63.33 Clostridia	Syntrophothermus lipocalidus
72	66.44 Clostridia	Pelotomaculum thermopropionicum
73	67.41 Clostridia	Caldicellulosiruptor saccharolyticus
74	76.68 Proteobacteria	Geobacter sulfurreducens
75	72.47 Bacilli	Bacillus cereus G9842
76	70.27 Clostridia	Desulfotomaculum acetoxidans
77	67.57 Clostridia	Halothermothrix orenii
78	75.65 Bacilli	Bacillus cereus G9842
79	67.61 Clostridia	Halothermothrix orenii
80	64.36 Archaea/Eukaryota	Ferroglobus placidus
81	68.61 Clostridia	Veillonella parvula
82	69.02 Thermotogae	Thermotoga neapolitana
83	66.29 No hit	none
84	59.45 No hit	none
85	64.98 Clostridia	Syntrophomonas wolfe
86	63.24 Archaea/Eukaryota	Thalassiosira pseudonana
87	65.64 Clostridia	Carboxydotherrmus hydrogenoformans
88	65.95 Clostridia	Thermincola sp. JR
89	66.4 Clostridia	Carboxydotherrmus hydrogenoformans
90	67.01 Clostridia	Thermincola sp. JR
91	66.45 Clostridia	Thermincola sp. JR
92	70.95 Clostridia	Pelotomaculum thermopropionicum
93	74.04 Actinobacteria	Rubrobacter xylanophilus
94	71.04 Bacilli	Bacillus cereus ZK

95	67.88 Bacilli	Alicyclobacillus acidocaldarius
96	70.63 Proteobacteria	Xanthobacter autotrophicus
97	71.18 Clostridia	Heliobacterium modesticaldun
98	70.12 Clostridia	Thermincola sp. JR
99	67.22 Clostridia	Desulfitobacterium hafniense DCB-2
100	78.08 No hit	none
101	69.98 Clostridia	Pelotomaculum thermopropionicum
102	74.93 Actinobacteria	Stackebrandtia nassauensis
103	62.65 Clostridia	Desulfitobacterium hafniense DCB-2
104	68.13 Clostridia	Anaerocellum thermophilum
105	66.66 Clostridia	Moorella thermoacetica
106	69.84 Clostridia	Carboxydotherrnus hydrogenoforman
107	70.78 Proteobacteria	Burkholderia sp. CCGE1002
108	66.84 Bacilli	Bacillus selenitireducens
109	68.59 Clostridia	Carboxydotherrnus hydrogenoforman
110	67.55 Clostridia	Moorella thermoacetica
111	67.5 Clostridia	Moorella thermoacetica
112	67.77 Clostridia	Moorella thermoacetica
113	69.14 Bacilli	Geobacillus sp. Y412MC10
114	71.87 Clostridia	Clostridium thermocellum
115	66.57 Clostridia	Clostridium difficile R20291
116	64.53 No hit	none
117	70.39 Clostridia	Desulfitobacterium hafniense Y51
118	69.17 Clostridia	Thermoanaerobacter mathranii
119	73.44 Clostridia	Clostridium cellulolyticum
120	74.64 Bacteroidetes/Chlorob	Pedobacter heparinus
121	71.47 Thermotogae	Thermosipho melanesiensis
122	66.66 Clostridia	Thermincola sp. JR
123	62.75 Clostridia	Thermincola sp. JR
124	72.58 Clostridia	Natranaerobius thermophilus
125	66.51 Clostridia	Moorella thermoacetica
126	70.74 Clostridia	Desulfotomaculum reducens
127	66.73 Bacilli	Bacillus licheniformis DSM13

128	66.97 Others	Thermanaerovibrio acidaminovorans	
129	66.55 Others	Thermanaerovibrio acidaminovorans	
130	69.63 Clostridia	Alkaliphilus oremlandii	
131	72.95 Deinococcus-Thermus	Deinococcus geothermali	
132	70.48 Chloroflexi	Thermomicrobium roseum	
133	65.78 Bacilli	Geobacillus sp. Y412MC10	
134	69.34 Bacilli	Bacillus thuringiensis Al Hakan	
135	73.06 Bacilli	Brevibacillus brevis	
136	67.63 Bacilli	Paenibacillus sp. JDR-2	
137	72.22 Clostridia	Pelotomaculum thermopropionicum	
138	72.77 Clostridia	Clostridium cellulolyticum	
139	65.65 Clostridia	Thermincola sp. JR	
140	67.85 Clostridia	Pelotomaculum thermopropionicum	
141	68.88 Clostridia	Candidatus Desulforudis audaxviator	
142	68.25 Clostridia	Carboxydotherrnus hydrogenoformans	
143	67.94 Clostridia	Pelotomaculum thermopropionicum	
144	64.48 Symbiobacterium	Symbiobacterium thermophilum	Bacillus amyloliquefaciens
145	65.95 Symbiobacterium	Symbiobacterium thermophilum	Bacillus pseudofirmus
146	66.33 Symbiobacterium	Symbiobacterium thermophilum	Bacillus pumilus
147	65.03 Symbiobacterium	Symbiobacterium thermophilum	Geobacter bemidjensis
148	63.42 Symbiobacterium	Symbiobacterium thermophilum	Bacillus amyloliquefaciens
149	67.65 Symbiobacterium	Symbiobacterium thermophilum	Pelobacter carbinolicus
150	74.18 Bacilli	Paenibacillus sp. JDR-2	
151	66.21 Clostridia	Thermincola sp. JR	
152	69.69 Archaea/Eukaryota	Candidatus Methanoregula boone	
153	67.81 Bacilli	Lactobacillus salivarius	
154	63.8 Actinobacteria	Frankia sp. EAN1pec	
155	64.53 Clostridia	Clostridium phytofermentans	
156	73.04 Chloroflexi	Chloroflexus sp. Y-400-fl	
157	77.89 Archaea/Eukaryota	Pyrococcus horikoshii	
158	71.61 Clostridia	Clostridium tetani E88	
159	68.76 Bacilli	Bacillus cereus B4264	
160	68.12 Proteobacteria	Yersinia enterocolitica	

161	68.09 Proteobacteria	Myxococcus xanthus
162	70.7 Bacilli	Bacillus megaterium QM B1551
163	72.88 Actinobacteria	Kribbella flavida
164	71.41 Bacilli	Brevibacillus brevis
165	64.7 Bacilli	Oceanobacillus iheyensis
166	71.45 Bacilli	Geobacillus sp. Y412MC10
167	67.78 Clostridia	Thermincola sp. JR
168	72.66 Deinococcus-Thermus	Deinococcus deserti
169	66.98 Clostridia	Candidatus Desulforudis audaxviator
170	71.46 No hit	none
171	67.83 Clostridia	Heliobacterium modesticaldum
172	66.66 Bacilli	Geobacillus sp. Y412MC10
173	75.68 Bacilli	Bacillus weihenstephanensis
174	69.65 Clostridia	Clostridium phytofermentans
175	71.79 No hit	none
176	68.71 Bacilli	Bacillus clausii
177	67.2 Proteobacteria	Burkholderia phytofirmans
178	68.03 Clostridia	Thermincola sp. JR
179	70.19 Proteobacteria	Shewanella baltica OS155
180	71.26 Clostridia	Clostridium difficile 630
181	66.02 Dictyoglomi	Dictyoglomus turgidum
182	70 No hit	none
183	68.43 Fibrobacteres/Acidobacteria	Acidobacterium capsulatum
184	73.89 No hit	none
185	77.89 Clostridia	Thermoanaerobacter mathranii
186	67.21 Clostridia	Thermoanaerobacter tengcongensis
187	70.3 Clostridia	Halothermothrix orenii
188	74.86 Clostridia	Caldicellulosiruptor saccharolyticus
189	69.84 Clostridia	Pelotomaculum thermopropionicum
190	66.06 Clostridia	Desulfotomaculum reducens
191	65.58 Clostridia	Natranaerobius thermophilus
192	65.51 Clostridia	Thermincola sp. JR
193	69.56 Clostridia	Veillonella parvula

194	70.46 Clostridia	Pelotomaculum thermopropionicum
195	72.3 Clostridia	Alkaliphilus metalliredigen
196	71.31 Clostridia	Heliobacterium modesticaldun
197	72.27 No hit	none
198	65.6 Bacilli	Alicyclobacillus acidocaldarius
199	62.59 Chloroflexi	Herpetosiphon aurantiacus
200	69.39 Deinococcus-Thermus	Truepera radiovictrix
201	66.66 Clostridia	Clostridium phytofermentans
202	70.25 Clostridia	Natranaerobius thermophilus
203	69.71 Bacilli	Paenibacillus sp. JDR-2
204	67.23 Bacilli	Geobacillus sp. WCH70
205	72.63 Bacilli	Geobacillus sp. Y412MC10
206	69.67 Thermotogae	Thermotoga sp. RQ2
207	68 No hit	none
208	64.37 Proteobacteria	Rhodospirillum rubrum
209	64.77 No hit	none
210	66.98 Bacilli	Geobacillus sp. Y412MC10
211	70.27 Bacilli	Brevibacillus brevis
212	67.82 Bacteroidetes/Chlorobi	Chitinophaga pinensis
213	70.48 Bacilli	Bacillus tusciae
214	71.49 Deinococcus-Thermus	Meiothermus ruber
215	64.74 Bacilli	Geobacillus sp. Y412MC10
216	64.81 Aquificae	Persephonella marina
217	68.9 Clostridia	Alkaliphilus orelandi
218	65.42 Clostridia	Thermoanaerobacter tengcongensis
219	69.46 Archaea/Eukaryota	Methanobacterium
220	70.98 Thermotogae	Thermosiphon africanus
221	65.76 Proteobacteria	Geobacter lovleyi
222	69.66 Thermotogae	Fervidobacterium nodosum
223	68.63 Clostridia	Syntrophomonas wolfe
224	68.63 Clostridia	Clostridium difficile R20291
225	69.44 Clostridia	Moorella thermoacetica
226	69.01 Clostridia	Natranaerobius thermophilus

227	67.9 Symbiobacterium	Symbiobacterium thermophilum	
228	74.97 Deinococcus-Thermus	Meiothermus silvanus	
229	69.28 Clostridia	Thermoanaerobacter sp. X514	
230	72.91 Bacilli	Bacillus tusciae	
231	70.24 Clostridia	Candidatus Desulforudis audaxviator	
232	67.88 Clostridia	Thermoanaerobacter tengcongensis	
233	68.5 No hit	none	
234	72.52 Clostridia	Clostridium thermocellum	
235	74.87 Clostridia	Syntrophothermus lipocalidus	
236	75.41 Clostridia	Desulfotomaculum reducens	
237	75.81 Clostridia	Desulfotomaculum reducens	
238	72.09 Others	Thermanaerovibrio acidaminovorans	
239	70.64 Clostridia	Pelotomaculum thermopropionicum	
240	69.46 Clostridia	Alkaliphilus metalliredigen	
241	67.86 Actinobacteria	Rubrobacter xylanophilus	
242	68.95 Clostridia	Carboxydotherrmus hydrogenoformans	
243	73.6 No hit	none	
244	73.28 Clostridia	Pelotomaculum thermopropionicum	
245	65.24 Clostridia	Desulfotomaculum reducens	
246	75.62 No hit	none	
247	65.79 Symbiobacterium	Symbiobacterium thermophilum	Actinobacillus succinogenes
248	68.21 Clostridia	Anaerocellum thermophilum	
249	67.51 Clostridia	Moorella thermoacetica	
250	66.1 No hit	none	
251	75.25 Clostridia	Desulfotomaculum acetoxidans	
252	68.84 Clostridia	Caldicellulosiruptor saccharolyticus	
253	69.16 Proteobacteria	Myxococcus xanthus	
254	67.38 Proteobacteria	Myxococcus xanthus	
255	66.54 Proteobacteria	Myxococcus xanthus	
256	74.59 Archaea/Eukaryota	Branchiostoma floridae (Florida)	
257	70.95 Clostridia	Halothermothrix orenii	
258	71.01 Clostridia	Halothermothrix orenii	
259	69.42 Clostridia	Thermoanaerobacter sp. X514	

260	62.75	Clostridia	Clostridium cellulolyticum	
261	62.43	Bacilli	Bacillus tusciae	
262	70.83	No hit	none	
263	67.54	No hit	none	
264	63.29	No hit	none	
265	64.19	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
266	67.2	No hit	none	
267	60.13	No hit	none	
268	62.89	No hit	none	
269	63.79	No hit	none	
270	59.03	Bacilli	Bacillus selenitireducens	
271	63.73	Clostridia	Desulfotomaculum acetoxidans	
272	62.14	Symbiobacterium	Symbiobacterium thermophilum	Pseudomonas stutzeri
273	61.11	Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
274	60.2	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
275	62.37	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
276	66.79	Symbiobacterium	Symbiobacterium thermophilum	Alicyclobacillus acidocaldarius
277	62.2	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. WCH70
278	48.27	Proteobacteria	Nitrobacter winogradskyi	
279	44.84	No hit	none	
280	62.02	No hit	none	
281	57.86	No hit	none	
282	62.93	Archaea/Eukaryota	Methanosarcina acetivorans	
283	68.17	Clostridia	Ammonifex degensi	
284	61.13	Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
285	65.7	Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter tengcongensis
286	64.15	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
287	62.17	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus kaustophilus
288	66.98	No hit	none	
289	69.58	Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus ZK
290	61.9	No hit	none	
291	66.76	Symbiobacterium	Symbiobacterium thermophilum	Paenibacillus sp. JDR-2
292	76.17	Clostridia	Clostridium acetobutylicum	

293	61.39	Clostridia	Thermoanaerobacter pseudethanolicus	
294	65.94	Others	Acholeplasma laidlawi	
295	64.58	No hit	none	
296	64.61	Thermobaculum	Thermobaculum terrenum	
297	61.29	Proteobacteria	Haliangium ochraceum	
298	61.93	Actinobacteria	Catenulispora acidiphila	
299	59.17	Clostridia	Thermoanaerobacter tengcongensis	
300	75.06	Clostridia	Thermoanaerobacter tengcongensis	
301	65.98	Bacilli	Geobacillus sp. Y412MC10	
302	73.95	Symbiobacterium	Symbiobacterium thermophilum	Acidobacteria bacterium
303	70.99	Symbiobacterium	Symbiobacterium thermophilum	Bacillus pseudofirmus
304	69.96	Chloroflexi	Roseiflexus sp. RS-1	
305	65.04	Clostridia	Carboxydothermus hydrogenoformans	
306	62.2	Symbiobacterium	Symbiobacterium thermophilum	
307	58	Symbiobacterium	Symbiobacterium thermophilum	
308	65.89	Symbiobacterium	Symbiobacterium thermophilum	Mycobacterium gilvum
309	56.8	Deinococcus-Thermus	Thermus thermophilus HB27	
310	59.71	Deinococcus-Thermus	Thermus thermophilus HB27	
311	60.36	Deinococcus-Thermus	Thermus thermophilus HB27	
312	60.19	Deinococcus-Thermus	Thermus thermophilus HB27	
313	59	No hit	none	
314	61.46	No hit	none	
315	59.24	Symbiobacterium	Symbiobacterium thermophilum	Methylobacterium nodulans
316	61.11	Symbiobacterium	Symbiobacterium thermophilum	
317	65.12	Symbiobacterium	Symbiobacterium thermophilum	
318	66.81	Symbiobacterium	Symbiobacterium thermophilum	
319	62.1	Symbiobacterium	Symbiobacterium thermophilum	Sulfolobus tokodaii
320	62.33	Bacilli	Lactococcus lactis subsp. lactis KF147	
321	60.99	Clostridia	Clostridium phytofermentans	
322	63.34	Bacilli	Alicyclobacillus acidocaldarius	
323	69.58	No hit	none	
324	65.54	No hit	none	
325	65.56	Aquificae	Hydrogenobacter thermophilus	

326	64.38 No hit	none	
327	61.19 Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
328	63.63 Clostridia	Clostridium botulinum A Hal	
329	67.6 Bacilli	Geobacillus sp. Y412MC10	
330	68.53 No hit	none	
331	66 No hit	none	
332	58.79 No hit	none	
333	56.37 Clostridia	Desulfotomaculum reducens	
334	54.71 Clostridia	Desulfotomaculum reducens	
335	53.52 No hit	none	
336	63.22 Clostridia	Eubacterium rectale	
337	71.68 Bacilli	Bacillus tusciae	
338	63.17 Bacilli	Bacillus tusciae	
339	70.29 Bacilli	Brevibacillus brevis	
340	63.94 Clostridia	Moorella thermoacetica	
341	64.44 Clostridia	Natranaerobius thermophilus	
342	69.42 Bacilli	Bacillus megaterium QM B1551	
343	70.07 Clostridia	Pelotomaculum thermopropionicum	
344	70.7 Clostridia	Carboxydotherrmus hydrogenoformans	
345	70.9 Clostridia	Desulfotomaculum reducens	
346	64.54 Clostridia	Alkaliphilus metalliredigen	
347	72.74 Proteobacteria	Pasteurella multocida	
348	73.33 Bacilli	Bacillus megaterium DSM319	
349	63.33 Clostridia	Clostridium acetobutylicum	
350	66.31 Proteobacteria	Burkholderia vietnamiensis	
351	67.27 Bacilli	Brevibacillus brevis	
352	71.73 Clostridia	Thermoanaerobacter italicus	
353	72.07 Clostridia	Desulfotomaculum reducens	
354	68.29 Clostridia	Thermoanaerobacter mathranii	
355	67.9 Bacilli	Bacillus cereus G9842	
356	70.83 Clostridia	Thermincola sp. JR	
357	64.8 Bacilli	Geobacillus kaustophilus	
358	63.21 Symbiobacterium	Symbiobacterium thermophilum	Myxococcus xanthus

359	63.05 Clostridia	Heliobacterium modesticaldun	
360	70.97 Clostridia	Pelotomaculum thermopropionicun	
361	66.74 Clostridia	Desulfotomaculum reducens	
362	70.08 Bacilli	Leuconostoc mesenteroide	
363	71.32 Clostridia	Thermincola sp. JR	
364	71.24 Clostridia	Thermoanaerobacter tengcongensis	
365	71.13 Chloroflexi	Thermomicrobium roseum	
366	67.69 Clostridia	Pelotomaculum thermopropionicun	
367	74.35 Clostridia	Clostridium difficile R20291	
368	69.82 Proteobacteria	Chromohalobacter salexigenis	
369	64.1 Clostridia	Thermoanaerobacter pseudethanolicus	
370	70.25 Bacteroidetes/Chlorob	Rhodothermus marinus	
371	67.09 Bacilli	Geobacillus sp. Y412MC61	
372	67.35 Clostridia	Thermincola sp. JR	
373	67.12 Clostridia	Moorella thermoacetica	
374	67.63 Clostridia	Alkaliphilus oremlandi	
375	69.86 Clostridia	Desulfitobacterium hafniense DCB-2	
376	65.67 Clostridia	Carboxydothermus hydrogenoformans	
377	61.29 Clostridia	Pelotomaculum thermopropionicun	
378	65.74 Symbiobacterium	Symbiobacterium thermophilum	Pedobacter heparinus
379	74.81 Proteobacteria	Ralstonia eutropha JMP134	
380	66.24 No hit	none	
381	65.66 Cyanobacteria	Cyanothece sp. ATCC 51142	
382	71.2 Clostridia	Moorella thermoacetica	
383	67.09 Clostridia	Thermincola sp. JR	
384	65.78 Clostridia	Heliobacterium modesticaldun	
385	73.06 Proteobacteria	Syntrophus aciditrophicus	
386	75.14 No hit	none	
387	73.91 Thermotogae	Thermotoga neapolitana	
388	73.23 Proteobacteria	Burkholderia cenocepacia MC0-3	
389	72.15 Actinobacteria	Acidothermus cellulolyticus	
390	70.67 Actinobacteria	Arthrobacter sp. FB24	
391	73 Proteobacteria	Desulfovibrio magneticus	

392	72.87 Chloroflexi	Thermomicrobium roseum
393	71.01 No hit	none
394	72.46 Proteobacteria	Burkholderia thailandensis
395	58.33 No hit	none
396	75.42 Clostridia	Natranaerobius thermophilus
397	72.07 Clostridia	Clostridium thermocellum
398	69.97 Clostridia	Clostridium thermocellum
399	76.02 No hit	none
400	71.56 No hit	none
401	73.65 No hit	none
402	73.3 No hit	none
403	70.43 No hit	none
404	72.03 Proteobacteria	Geobacter uraniumreducens
405	68.2 Bacilli	Alicyclobacillus acidocaldarius
406	68.54 No hit	none
407	73.42 Proteobacteria	Burkholderia xenovorans
408	67.39 Bacilli	Lysinibacillus sphaericus
409	67.78 Clostridia	Pelotomaculum thermopropionicum
410	59 Actinobacteria	Nocardioides sp. JS614
411	69.19 Bacilli	Bacillus tusciae
412	68.8 Bacilli	Brevibacillus brevis
413	70.43 Bacilli	Geobacillus sp. Y412MC10
414	68.86 Bacilli	Lactobacillus salivarius
415	68.12 Clostridia	Moorella thermoacetica
416	71.6 Clostridia	Moorella thermoacetica
417	70.76 Chloroflexi	Thermomicrobium roseum
418	69.77 Clostridia	Pelotomaculum thermopropionicum
419	67.17 Bacilli	Bacillus pumilus
420	67.09 Clostridia	Heliobacterium modesticaldun
421	61.65 Clostridia	Heliobacterium modesticaldun
422	71.64 Clostridia	Natranaerobius thermophilus
423	69.23 Clostridia	Desulfotomaculum reducens
424	72.67 Clostridia	Heliobacterium modesticaldun

425	66.18	Clostridia	Halothermothrix orenii	
426	68.95	Clostridia	Thermincola sp. JR	
427	72.91	Bacilli	Geobacillus thermodenitrificans	
428	69.31	No hit	none	
429	65.07	Clostridia	Desulfotomaculum acetoxidans	
430	67.87	Clostridia	Thermoanaerobacter mathranii	
431	63.19	Clostridia	Thermincola sp. JR	
432	70.81	Clostridia	Heliobacterium modesticaldum	
433	70.7	Clostridia	Desulfitobacterium hafniense Y51	
434	73.52	Clostridia	Pelotomaculum thermopropionicum	
435	74.17	Clostridia	Thermoanaerobacter mathranii	
436	64.32	Clostridia	Pelotomaculum thermopropionicum	
437	71.29	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
438	70.69	Bacilli	Alicyclobacillus acidocaldarius	
439	67.1	Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter tengcongensis
440	61.08	Symbiobacterium	Symbiobacterium thermophilum	Clostridium botulinum B1 Okra
441	65.53	Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter tengcongensis
442	63.54	Clostridia	Clostridium cellulolyticum	
443	64.22	No hit	none	
444	66.89	Clostridia	Moorella thermoacetica	
445	71.8	Clostridia	Fingoldia magna	
446	71.11	Proteobacteria	Rhodopseudomonas palustris HaA2	
447	72.17	Proteobacteria	Rhodopseudomonas palustris HaA2	
448	71.65	Clostridia	Moorella thermoacetica	
449	72.83	Bacilli	Bacillus cereus ATCC 10987	
450	70.02	Others	Thermanaerovibrio acidaminovorans	
451	70.96	Bacilli	Alicyclobacillus acidocaldarius	
452	71.57	Cyanobacteria	Gloeobacter violaceus	
453	69.94	Symbiobacterium	Symbiobacterium thermophilum	Anabaena sp. PCC7120
454	70.57	Clostridia	Carboxydotherrmus hydrogeniformans	
455	72.87	Dictyoglomi	Dictyoglomus turgidum	
456	70.33	Bacilli	Bacillus cereus ATCC 10987	
457	72.19	Clostridia	Desulfotomaculum reducens	

458	68.91 No hit	none	
459	68.23 Bacilli	Brevibacillus brevis	
460	69.3 Chloroflexi	Roseiflexus sp. RS-1	
461	72.32 Bacilli	Bacillus halodurans	
462	71.92 Chloroflexi	Roseiflexus castenholzii DSM13941	
463	70.53 Actinobacteria	Mycobacterium vanbaalenii	
464	72.69 Chloroflexi	Roseiflexus castenholzii DSM13941	
465	76.54 No hit	none	
466	75.32 Proteobacteria	Sorangium cellulosum	
467	69.57 Bacilli	Brevibacillus brevis	
468	65.63 Clostridia	Clostridium botulinum A3 Loch Maree	
469	66.66 Clostridia	Clostridium botulinum Ba4	
470	68.26 Bacilli	Brevibacillus brevis	
471	69.53 Chloroflexi	Roseiflexus castenholzii DSM13941	
472	69.31 No hit	none	
473	75.14 Clostridia	Pelotomaculum thermopropionicum	
474	76.35 No hit	none	
475	72.17 Clostridia	Thermincola sp. JR	
476	66.66 Clostridia	Carboxydotherrmus hydrogeniformans	
477	70.3 Clostridia	Moorella thermoacetica	
478	68.2 Clostridia	Thermincola sp. JR	
479	68.27 No hit	none	
480	62.73 Symbiobacterium	Symbiobacterium thermophilum	Bacillus tusciae
481	71.73 Clostridia	Desulfitobacterium hafniense DCB-2	
482	64.62 Clostridia	Moorella thermoacetica	
483	71.86 Clostridia	Alkaliphilus oremlandii	
484	68.72 No hit	none	
485	74.09 Chloroflexi	Herpetosiphon aurantiacus	
486	68.47 Bacilli	Bacillus pseudofirmus	
487	68.31 Chloroflexi	Herpetosiphon aurantiacus	
488	64.39 Clostridia	Desulfitobacterium hafniense DCB-2	
489	68.98 Clostridia	Desulfitobacterium hafniense Y51	
490	64.97 Clostridia	Clostridium beijerinckii	

491	66.39 Clostridia	Desulfitobacterium hafniense DCB-2	
492	68.67 Chloroflexi	Chloroflexus aggregans	
493	70.82 Chloroflexi	Chloroflexus aggregans	
494	70.53 Clostridia	Heliobacterium modesticaldun	
495	74.77 No hit	none	
496	70.34 Deinococcus-Thermus	Truepera radiovictrix	
497	65.22 No hit	none	
498	73.85 Actinobacteria	Leifsonia xyli xyli CTCB07	
499	73.46 Clostridia	Halothermothrix orenii	
500	62.03 Clostridia	Desulfotomaculum reducens	
501	68.22 Clostridia	Thermincola sp. JR	
502	66.47 Clostridia	Desulfotomaculum reducens	
503	68.92 Bacilli	Bacillus cereus ATCC 10987	
504	66.55 Clostridia	Clostridium thermocellum	
505	68.64 Clostridia	Pelotomaculum thermopropionicum	
506	74.4 Clostridia	Desulfotomaculum reducens	
507	71.8 Clostridia	Thermoanaerobacter tengcongensis	
508	76.09 Clostridia	Clostridium thermocellum	
509	72.11 Symbiobacterium	Symbiobacterium thermophilum	Thermomicrobium roseum
510	72.93 Symbiobacterium	Symbiobacterium thermophilum	Staphylothermus marinus
511	71.91 Symbiobacterium	Symbiobacterium thermophilum	
512	68.48 Chloroflexi	Herpetosiphon aurantiacus	
513	67.82 Clostridia	Carboxydothermus hydrogenoformans	
514	61.58 Clostridia	Desulfitobacterium hafniense DCB-2	
515	65.77 Clostridia	Desulfitobacterium hafniense DCB-2	
516	74.34 Clostridia	Desulfitobacterium hafniense DCB-2	
517	71.94 Clostridia	Desulfotomaculum acetoxidans	
518	69.51 Chloroflexi	Herpetosiphon aurantiacus	
519	69.71 Clostridia	Thermoanaerobacter pseudethanolicus	
520	70.07 Clostridia	Clostridium thermocellum	
521	77.94 No hit	none	
522	75.36 No hit	none	
523	70.91 Cyanobacteria	Thermosynechococcus elongatus	

524	68.53 Clostridia	Alkaliphilus metalliredigen	
525	72.11 Bacilli	Bacillus megaterium DSM319	
526	73.5 Clostridia	Syntrophothermus lipocalidus	
527	72.05 Clostridia	Syntrophomonas wolfe	
528	70.73 Clostridia	Heliobacterium modesticaldun	
529	66.08 Clostridia	Thermoanaerobacter italicus	
530	68.16 Clostridia	Thermincola sp. JR	
531	66.87 Clostridia	Thermoanaerobacter italicus	
532	72.01 Clostridia	Clostridium botulinum B Eklund 17E	
533	68.35 Bacilli	Listeria innocua	
534	66.56 Clostridia	Thermincola sp. JR	
535	68.96 Bacilli	Geobacillus sp. Y412MC61	
536	72.23 Symbiobacterium	Symbiobacterium thermophilum	Gemmatimonas aurantiaca
537	70.33 Bacilli	Geobacillus sp. WCH70	
538	74.18 Chloroflexi	Sphaerobacter thermophilus	
539	70.04 Clostridia	Thermincola sp. JR	
540	72.95 Proteobacteria	Anaeromyxobacter dehalogenans 2CP-1	
541	69.86 Proteobacteria	Mesorhizobium sp. BNC1	
542	68.54 Proteobacteria	Teredinibacter turnerae	
543	70.32 Proteobacteria	Dinoroseobacter shibae	
544	63.58 Bacteroidetes/Chlorobi	Prosthecochloris aestuarii	
545	70.09 Clostridia	Clostridium cellulolyticum	
546	70.27 Symbiobacterium	Symbiobacterium thermophilum	Chloroflexus sp. Y-400-fl
547	71.26 Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
548	72.34 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus B4264
549	68.5 Bacilli	Bacillus subtilis	
550	70.88 Thermobaculum	Thermobaculum terrenum	
551	74.65 Proteobacteria	Granulobacter bethesdensis	
552	72.8 Bacilli	Lactobacillus casei ATCC 334	
553	72.82 Bacilli	Bacillus licheniformis DSM13	
554	70.49 Proteobacteria	Escherichia coli O26:H11 11368	
555	74.95 Clostridia	Thermoanaerobacter sp. X514	
556	67.98 Actinobacteria	Streptomyces griseus	

557	70.98 Clostridia	Thermoanaerobacter sp. X514	
558	68.31 Clostridia	Thermoanaerobacter sp. X514	
559	72.63 Clostridia	Thermoanaerobacter sp. X514	
560	63.84 Clostridia	Thermoanaerobacter sp. X514	
561	65.65 Bacilli	Streptococcus sanguinis	
562	69.33 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus Q1
563	64.74 Clostridia	Clostridium difficile 63C	
564	64.74 Clostridia	Pelotomaculum thermopropionicum	
565	70.13 Bacilli	Geobacillus sp. Y412MC61	
566	70.12 Actinobacteria	Rubrobacter xylanophilus	
567	71.07 Proteobacteria	Aromatoleum aromaticum EbN1	
568	70.2 Clostridia	Thermincola sp. JR	
569	69.76 Clostridia	Alkaliphilus orelandi	
570	71.46 Symbiobacterium	Symbiobacterium thermophilum	Halomicrobium mukohatae
571	69.53 Clostridia	Alkaliphilus orelandi	
572	73.6 Symbiobacterium	Symbiobacterium thermophilum	Minibacterium massiliensis
573	66.89 Clostridia	Moorella thermoacetica	
574	65.84 Clostridia	Pelotomaculum thermopropionicum	
575	70.28 Clostridia	Desulfotomaculum reducens	
576	68.99 Chloroflexi	Sphaerobacter thermophilus	
577	75.23 Cyanobacteria	Gloeobacter violaceus	
578	74.82 Actinobacteria	Saccharopolyspora erythraea	
579	74.65 Actinobacteria	Streptomyces griseus	
580	77.3 Actinobacteria	Streptomyces griseus	
581	71.63 Archaea/Eukaryota	Nitrosopumilus maritimus	
582	73.93 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus thermodenitrificans
583	76.01 Bacilli	Bacillus tusciae	
584	72.37 Thermobaculum	Thermobaculum terrenum	
585	62.53 Clostridia	Desulfotomaculum reducens	
586	66.4 Clostridia	Carboxydotherrmus hydrogeniformans	
587	66.93 Clostridia	Veillonella parvula	
588	66.06 Clostridia	Moorella thermoacetica	
589	67.1 Chloroflexi	Thermomicrobium roseum	

590	68.6 Bacilli	Geobacillus sp. Y412MC61	
591	61.08 Symbiobacterium	Symbiobacterium thermophilum	Clostridium botulinum B1 Okra
592	69.42 Bacilli	Paenibacillus sp. JDR-2	
593	64.94 Bacilli	Bacillus cereus ATCC 14579	
594	69.1 Others	Leptospira borgpetersenii L55C	
595	72.03 Deinococcus-Thermus	Meiothermus ruber	
596	66.66 Bacilli	Lysinibacillus sphaericus	
597	75.71 Bacilli	Streptococcus suis SC84	
598	71.99 Clostridia	Thermincola sp. JR	
599	73.24 Proteobacteria	Mesorhizobium loti	
600	69.89 Chloroflexi	Herpetosiphon aurantiacus	
601	73.8 Thermotogae	Kosmotoga olearia	
602	74.21 Clostridia	Anaerococcus prevotii	
603	70.46 No hit	none	
604	71.2 Clostridia	Thermoanaerobacter sp. X514	
605	70.89 Dictyoglomi	Dictyoglomus thermophilum	
606	70.85 Bacilli	Brevibacillus brevis	
607	71.64 Archaea/Eukaryota	Methanosarcina barkeri	
608	72.36 Thermotogae	Thermotoga lettingae	
609	73.5 Chloroflexi	Herpetosiphon aurantiacus	
610	74.07 Bacilli	Brevibacillus brevis	
611	73.2 Clostridia	Alkaliphilus metalliredigen	
612	72.6 Proteobacteria	Methylocella silvestris	
613	69.3 Bacilli	Bacillus tusciae	
614	67.53 No hit	none	
615	62.86 Cyanobacteria	Cyanothece sp. PCC 8801	
616	68.92 Bacilli	Geobacillus sp. C56-T3	
617	65.21 No hit	none	
618	66.27 No hit	none	
619	66.19 Clostridia	Carboxydotherrmus hydrogeniformans	
620	61.37 Proteobacteria	Anaeromyxobacter sp. K	
621	68.02 Clostridia	Clostridium novyi	
622	72.07 No hit	none	

623	68.48 Clostridia	Carboxydotherrnus hydrogenoforman	
624	72.63 Clostridia	Pelotomaculum thermopropionicun	
625	73.59 Clostridia	Clostridium perfringens ATCC 13124	
626	74.63 Clostridia	Clostridium botulinum Ba4	
627	68.85 Bacilli	Bacillus subtilis	
628	73.93 Dictyoglomi	Dictyoglomus thermophilun	
629	71.17 Bacilli	Paenibacillus sp. JDR-2	
630	68.69 Deinococcus-Thermus	Deinococcus geothermali:	
631	72.2 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
632	67.72 Bacilli	Paenibacillus sp. JDR-2	
633	67.24 Bacilli	Geobacillus sp. Y412MC10	
634	72.96 Symbiobacterium	Symbiobacterium thermophilun	Bacillus cereus ZK
635	73.17 Symbiobacterium	Symbiobacterium thermophilun	Thermobaculum terrenun
636	70 Symbiobacterium	Symbiobacterium thermophilun	Bacillus licheniformis DSM13
637	66.87 Actinobacteria	Arthrobacter chlorophenicus:	
638	71.71 Clostridia	Coprothermobacter proteolyticus:	
639	76.98 No hit	none	
640	63.29 Proteobacteria	Rhodobacter sphaeroides ATCC 17025	
641	72.96 Chloroflexi	Sphaerobacter thermophilus	
642	64.57 Proteobacteria	Desulfomicrobium baculatum:	
643	65.5 Proteobacteria	Geobacter metallireducen:	
644	73.24 Bacilli	Brevibacillus brevis	
645	69.49 Bacilli	Geobacillus thermodenitrifican:	
646	69.44 Bacilli	Brevibacillus brevis	
647	67.75 Chloroflexi	Dehalococcoides sp. VS	
648	71.97 Chloroflexi	Herpetosiphon aurantiacus	
649	68.99 Chloroflexi	Roseiflexus sp. RS-1	
650	74.91 Actinobacteria	Rubrobacter xylanophilus	
651	67.67 Proteobacteria	Desulfobacterium autotrophicum	
652	70.93 Clostridia	Veillonella parvula:	
653	71.31 Thermotogae	Petrotoga mobilis	
654	75.25 Symbiobacterium	Symbiobacterium thermophilun	Petrotoga mobilis
655	73.51 Symbiobacterium	Symbiobacterium thermophilun	Petrotoga mobilis

656	76.48 Cyanobacteria	Thermosynechococcus elongatus	
657	73.87 Archaea/Eukaryota	Uncultured methanogenic archaeon RC	
658	72.24 Proteobacteria	Ochrobactrum anthropi	
659	69.48 Clostridia	Pelotomaculum thermopropionicum	
660	64.68 Bacilli	Bacillus pseudofirmus	
661	67.41 Bacilli	Lysinibacillus sphaericus	
662	61.19 Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
663	65.47 Chloroflexi	Sphaerobacter thermophilus	
664	66.09 Chloroflexi	Sphaerobacter thermophilus	
665	67.04 Chloroflexi	Sphaerobacter thermophilus	
666	65.27 Chloroflexi	Sphaerobacter thermophilus	
667	65.26 Chloroflexi	Sphaerobacter thermophilus	
668	66.23 Proteobacteria	Pseudomonas mendocina	
669	67.4 Archaea/Eukaryota	Uncultured methanogenic archaeon RC	
670	60.44 Symbiobacterium	Symbiobacterium thermophilum	Rhodospirillum centenum
671	66.66 Thermotogae	Thermotoga naphthophila	
672	63.8 No hit	none	
673	66.84 Proteobacteria	Aromatoleum aromaticum EbN1	
674	69.12 Dictyoglomi	Dictyoglomus thermophilus	
675	64.66 No hit	none	
676	69.6 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
677	69.66 Clostridia	Clostridium cellulolyticum	
678	69.75 Bacilli	Bacillus thuringiensis Al Hakan	
679	73.41 No hit	none	
680	66.76 Archaea/Eukaryota	Thermoproteus neutrophilus	
681	64.31 Archaea/Eukaryota	Pyrobaculum caldifontis	
682	63.04 Archaea/Eukaryota	Thermoproteus neutrophilus	
683	66.32 Archaea/Eukaryota	Thermoproteus neutrophilus	
684	66.96 Archaea/Eukaryota	Pyrobaculum arsenaticum	
685	76.93 No hit	none	
686	72.25 Proteobacteria	Anaeromyxobacter dehalogenans 2CP-C	
687	66.06 Bacilli	Brevibacillus brevis	
688	74.81 Clostridia	Halothermothrix orenii	

689	73.69 Actinobacteria	Geodermatophilus obscurus	
690	69.17 Chloroflexi	Sphaerobacter thermophilus	
691	75.57 Chloroflexi	Sphaerobacter thermophilus	
692	71.36 Proteobacteria	Cupriavidus taiwanensis	
693	70.4 Clostridia	Thermincola sp. JR	
694	72.34 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus ATCC 14579
695	74.55 Symbiobacterium	Symbiobacterium thermophilum	Clostridium botulinum A2
696	69.39 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus G9842
697	73.97 Deinococcus-Thermus	Deinococcus radiodurans	
698	71.79 Chloroflexi	Herpetosiphon aurantiacus	
699	71.79 Clostridia	Clostridium thermocellum	
700	63.35 Bacilli	Geobacillus sp. WCH70	
701	73.24 Clostridia	Pelotomaculum thermopropionicum	
702	72.64 Bacilli	Alicyclobacillus acidocaldarius	
703	67.62 Clostridia	Ammonifex degensi	
704	68.98 Clostridia	Ammonifex degensi	
705	66.66 Clostridia	Ammonifex degensi	
706	66.94 Clostridia	Ammonifex degensi	
707	68.35 Clostridia	Ammonifex degensi	
708	64.77 Clostridia	Ammonifex degensi	
709	75.76 Clostridia	Ammonifex degensi	
710	69.73 Clostridia	Alkaliphilus metalliredigen	
711	71.57 Bacilli	Bacillus selenitireducens	
712	65.41 Clostridia	Moorella thermoacetica	
713	66.62 Clostridia	Moorella thermoacetica	
714	71.21 Clostridia	Natranaerobius thermophilus	
715	66.14 No hit	none	
716	67.59 Bacilli	Bacillus selenitireducens	
717	70.56 No hit	none	
718	69.8 Bacilli	Bacillus subtilis	
719	64.21 Chloroflexi	Sphaerobacter thermophilus	
720	69.87 Bacilli	Brevibacillus brevis	
721	69.1 Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum

722	68.89 Bacilli	Bacillus tusciae	
723	70.14 Bacilli	Anoxybacillus flavithermus	
724	64.68 Chloroflexi	Sphaerobacter thermophilus	
725	74.45 Archaea/Eukaryota	Nematostella vectensis (sea anemone)	
726	65.42 Proteobacteria	Rhodospirillum centenun	
727	70.53 Actinobacteria	Conexibacter woesei	
728	73.17 Actinobacteria	Cellulomonas flavigena	
729	64.11 Clostridia	Carboxydothemus hydrogenoforman	
730	66.01 Clostridia	Heliobacterium modesticaldun	
731	68.82 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
732	68.37 Symbiobacterium	Symbiobacterium thermophilun	Desulfitobacterium hafniense DCB-2
733	72 Archaea/Eukaryota	Tetrahymena thermophila	
734	66.85 Bacilli	Geobacillus sp. C56-T3	
735	67.93 Symbiobacterium	Symbiobacterium thermophilun	Geobacillus sp. Y412MC61
736	68.25 Bacilli	Geobacillus sp. Y412MC10	
737	65.5 Bacilli	Geobacillus sp. WCH70	
738	66.66 No hit	none	
739	73.45 Bacilli	Bacillus halodurans	
740	67.44 Thermotogae	Thermosiphon africanus	
741	69.85 Chloroflexi	Chloroflexus sp. Y-400-fl	
742	70.81 Bacilli	Geobacillus sp. Y412MC10	
743	71.15 Archaea/Eukaryota	Nematostella vectensis (sea anemone)	
744	64.26 Symbiobacterium	Symbiobacterium thermophilun	Geobacillus sp. Y412MC61
745	69.5 Symbiobacterium	Symbiobacterium thermophilun	Thermincola sp. JR
746	68.58 Clostridia	Pelotomaculum thermopropionicun	
747	69.24 Clostridia	Carboxydothemus hydrogenoforman	
748	70.35 Clostridia	Carboxydothemus hydrogenoforman	
749	73.4 Clostridia	Pelotomaculum thermopropionicun	
750	69.49 Clostridia	Moorella thermoacetica	
751	69.35 Clostridia	Carboxydothemus hydrogenoforman	
752	73.91 Clostridia	Clostridium tetani E88	
753	70.01 Actinobacteria	Jonesia denitrificans	
754	67.97 Symbiobacterium	Symbiobacterium thermophilun	Geobacillus sp. Y412MC10

755	68.23 Others	Actinosynnema mirum	
756	69.38 Symbiobacterium	Symbiobacterium thermophilum	
757	71.86 Clostridia	Natranaerobius thermophilus	
758	73.35 Proteobacteria	Thauera sp. MZ1T	
759	73.8 Proteobacteria	Aromatoleum aromaticum EbN1	
760	69.73 Proteobacteria	Rhodopseudomonas palustris TIE-1	
761	67.68 Cyanobacteria	Cyanobacteria Yellowstone A-Primus	
762	68.3 Clostridia	Clostridium cellulolyticum	
763	68.34 Bacteroidetes/Chlorobacteria	Rhodothermus marinus	
764	66.35 Chloroflexi	Thermomicrobium roseum	
765	62.71 No hit	none	
766	66.09 Clostridia	Carboxydothermus hydrogenoformans	
767	69.58 Clostridia	Thermoanaerobacter pseudethanolicus	
768	72.1 Proteobacteria	Burkholderia phymatum	
769	59.51 Symbiobacterium	Symbiobacterium thermophilum	Yersinia enterocolitica
770	72.1 Clostridia	Halothermothrix orenii	
771	75.07 Proteobacteria	Pseudomonas syringae pv. syringae B728a	
772	69.69 Clostridia	Coprothermobacter proteolyticus	
773	71.16 Bacilli	Geobacillus sp. C56-T3	
774	73.47 Archaea/Eukaryota	Methanosarcina barkeri	
775	73.51 Clostridia	Thermincola sp. JR	
776	72.6 Symbiobacterium	Symbiobacterium thermophilum	
777	73.97 Cyanobacteria	Anabaena sp. PCC7120	
778	70.18 Bacilli	Brevibacillus brevis	
779	73.21 Bacilli	Geobacillus kaustophilus	
780	74.55 Cyanobacteria	Trichodesmium erythraeum	
781	73.15 Thermobaculum	Thermobaculum terrenum	
782	72.45 Symbiobacterium	Symbiobacterium thermophilum	Anoxybacillus flavithermus
783	71.99 Bacilli	Bacillus cytotoxis NVH 391-98	
784	73.15 No hit	none	
785	73.76 Aquificae	Thermocrinis albus	
786	70.02 Bacilli	Oceanobacillus iheyensis	

787	65.5 Symbiobacterium	Symbiobacterium thermophilum	Paenibacillus sp. JDR-2
788	62.6 Chloroflexi	Thermomicrobium roseum	
789	63.66 Clostridia	Finegoldia magna	
790	60.52 No hit	none	
791	72.18 Symbiobacterium	Symbiobacterium thermophilum	Meiothermus silvanus
792	71.42 Symbiobacterium	Symbiobacterium thermophilum	Meiothermus silvanus
793	70.11 Clostridia	Anaerocellum thermophilum	
794	73.18 Clostridia	Moorella thermoacetica	
795	68.01 Clostridia	Thermoanaerobacter sp. X514	
796	68.26 Clostridia	Moorella thermoacetica	
797	69.76 Archaea/Eukaryota	Methanosarcina acetivorans	
798	68.12 Chloroflexi	Chloroflexus sp. Y-400-fl	
799	72.12 Clostridia	Syntrophomonas wolfe	
800	69.18 Clostridia	Desulfotomaculum reducens	
801	68.61 Proteobacteria	Desulfatibacillum alkenivorans	
802	67.7 Clostridia	Natranaerobius thermophilus	
803	67.36 Clostridia	Coprothermobacter proteolyticus	
804	73.11 Clostridia	Desulfotomaculum reducens	
805	67.88 Bacilli	Bacillus halodurans	
806	67.81 No hit	none	
807	70.77 Deinococcus-Thermus	Meiothermus silvanus	
808	69.42 Clostridia	Thermoanaerobacter tengcongensis	
809	69.97 Thermotogae	Fervidobacterium nodosum	
810	72.8 Chloroflexi	Chloroflexus aurantiacus	
811	59.84 Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
812	47.13 No hit	none	
813	51.3 No hit	none	
814	74.2 Chloroflexi	Herpetosiphon aurantiacus	
815	73.55 Chloroflexi	Herpetosiphon aurantiacus	
816	71.9 Chloroflexi	Herpetosiphon aurantiacus	
817	70.2 Clostridia	Pelotomaculum thermopropionicum	
818	67.68 Clostridia	Ammonifex degensi	
819	73.58 Clostridia	Desulfotomaculum acetoxidans	

820	73.19 Bacilli	Paenibacillus sp. JDR-2	
821	67.22 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
822	68.35 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
823	67.42 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
824	69.77 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
825	70.13 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter mathranii
826	70.83 Symbiobacterium	Symbiobacterium thermophilum	Methanocaldococcus sp. FS406-22
827	71.57 Clostridia	Heliobacterium modesticaldum	
828	70.53 Bacilli	Geobacillus sp. Y412MC61	
829	64.61 Deinococcus-Thermus	Thermus thermophilus HB8	
830	73.35 Bacilli	Bacillus subtilis	
831	71.86 Clostridia	Clostridium botulinum Ba4	
832	69.65 Bacilli	Bacillus pseudofirmus	
833	69.5 Clostridia	Desulfitobacterium hafniense Y51	
834	73.9 Bacilli	Brevibacillus brevis	
835	71.9 No hit	none	
836	70.07 Bacilli	Bacillus weihenstephanensis	
837	68.93 Bacilli	Geobacillus sp. C56-T3	
838	69.62 Bacilli	Bacillus tusciae	
839	71.19 Bacilli	Brevibacillus brevis	
840	66.5 Clostridia	Thermoanaerobacter mathranii	
841	67.54 Clostridia	Syntrophothermus lipocalidus	
842	68.94 No hit	none	
843	67.58 Chloroflexi	Herpetosiphon aurantiacus	
844	69.11 Actinobacteria	Conexibacter woesei	
845	61.4 Clostridia	Clostridium thermocellum	
846	69.32 Clostridia	Natranaerobius thermophilus	
847	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
848	69.44 Clostridia	Pelotomaculum thermopropionicum	
849	72.98 Bacilli	Geobacillus sp. C56-T3	
850	58.33 No hit	none	
851	73.75 Bacilli	Bacillus cereus ZK	
852	66.66 Clostridia	Thermincola sp. JR	

853	63.76 No hit	none	
854	68.66 No hit	none	
855	71.45 Archaea/Eukaryota	Candidatus Methanoregula boone	
856	71.35 Archaea/Eukaryota	Candidatus Methanoregula boone	
857	74.81 No hit	none	
858	66.5 Actinobacteria	Mycobacterium leprae Br4923	
859	64.44 No hit	none	
860	65.31 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus AH820
861	65.37 No hit	none	
862	64.84 No hit	none	
863	69.92 Actinobacteria	Rubrobacter xylanophilus	
864	67.16 Clostridia	Heliobacterium modesticaldun	
865	66.1 Bacilli	Bacillus pseudofirmus	
866	65.96 Clostridia	Natranaerobius thermophilus	
867	68.75 Deinococcus-Thermus	Thermus thermophilus HB8	
868	67.24 Clostridia	Desulfitobacterium hafniense DCB-2	
869	70.48 Clostridia	Alkaliphilus metalliredigen	
870	65.33 Symbiobacterium	Symbiobacterium thermophilum	
871	66.32 Symbiobacterium	Symbiobacterium thermophilum	
872	68.61 Others	Treponema denticola	
873	72.97 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
874	68.76 Clostridia	Anaerocellum thermophilum	
875	71.39 Clostridia	Thermincola sp. JR	
876	69.48 Cyanobacteria	Anabaena sp. PCC7120	
877	69.69 Bacilli	Brevibacillus brevis	
878	62.59 Chloroflexi	Chloroflexus sp. Y-400-fl	
879	71.01 Clostridia	Alkaliphilus orelandi	
880	64.1 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
881	68.09 Clostridia	Carboxydotherrnus hydrogenoforman	
882	70.3 Clostridia	Clostridium thermocellum	
883	71.44 Clostridia	Thermoanaerobacter sp. X514	
884	73.04 Bacilli	Geobacillus sp. Y412MC10	
885	65.95 Bacilli	Brevibacillus brevis	

886	74.89 Actinobacteria	Conexibacter woesei	
887	68.44 No hit	none	
888	72.87 Clostridia	Clostridium botulinum E3	
889	70.53 No hit	none	
890	72.63 Clostridia	Carboxydotherrnus hydrogenoforman	
891	72.87 Clostridia	Candidatus Desulforudis audaxviator	
892	73.15 Chloroflexi	Chloroflexus sp. Y-400-fl	
893	69.89 Bacilli	Staphylococcus epidermidis RP62A	
894	64.41 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
895	75.18 Proteobacteria	Desulfatibacillum alkenivorans	
896	74.04 Clostridia	Halothermothrix orenii	
897	71.94 Clostridia	Clostridium thermocellum	
898	73.64 Clostridia	Clostridium botulinum B1 Okra	
899	68.92 Clostridia	Clostridium thermocellum	
900	65.98 Clostridia	Alkaliphilus orelandi	
901	72.42 Others	Thermanaerovibrio acidaminovorans	
902	73.61 Clostridia	Syntrophomonas wolfe	
903	75.07 Thermotogae	Kosmotoga olearia	
904	69.84 Proteobacteria	Methylobacterium sp. 4-46	
905	67.42 Symbiobacterium	Symbiobacterium thermophilum	
906	68.01 Chloroflexi	Sphaerobacter thermophilus	
907	64.7 Clostridia	Clostridium kluyveri NBRC 12016	
908	72.69 No hit	none	
909	65.89 No hit	none	
910	67.45 Bacilli	Bacillus tusciae	
911	72.06 Bacteroidetes/Chlorob	Dyadobacter fermentans	
912	67.23 No hit	none	
913	72.81 Cyanobacteria	Gloeobacter violaceus	
914	64.84 Bacilli	Alicyclobacillus acidocaldarius	
915	68.98 Chloroflexi	Sphaerobacter thermophilus	
916	76.05 Clostridia	Desulfitobacterium hafniense DCB-2	
917	66.66 Clostridia	Desulfitobacterium hafniense Y51	
918	68.69 Proteobacteria	Pseudomonas aeruginosa LESB58	

919	69.01 Proteobacteria	Desulfovibrio vulgaris Miyazaki F	
920	69.16 Chloroflexi	Herpetosiphon aurantiacus	
921	67.24 Proteobacteria	Desulfobacterium autotrophicum	
922	68.23 No hit	none	
923	62.55 Bacilli	Bacillus tusciae	
924	67.87 Clostridia	Heliobacterium modesticaldum	
925	71.31 Actinobacteria	Geodermatophilus obscurus	
926	64.81 Bacilli	Bacillus tusciae	
927	64.85 Bacilli	Bacillus tusciae	
928	72.72 No hit	none	
929	73.22 Bacteroidetes/Chlorobi	Capnocytophaga ochracea	
930	73.78 Bacilli	Bacillus tusciae	
931	66.66 Bacilli	Bacillus tusciae	
932	63.23 Proteobacteria	Dechloromonas aromatica	
933	70.19 Clostridia	Thermoanaerobacter tengcongensis	
934	61.16 Proteobacteria	Anaeromyxobacter sp. Fw109-5	
935	74.26 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter sp. X514
936	67 Bacilli	Geobacillus sp. Y412MC10	
937	74.24 Bacteroidetes/Chlorobi	Porphyromonas gingivalis W83	
938	70.84 Chloroflexi	Sphaerobacter thermophilus	
939	71.42 Clostridia	Desulfotomaculum acetoxidans	
940	71.53 Bacilli	Bacillus megaterium DSM319	
941	72.99 Archaea/Eukaryota	Fusarium graminearum	
942	73.02 Proteobacteria	Legionella pneumophila Philadelphia	
943	69.85 Chloroflexi	Thermomicrobium roseum	
944	75.89 Bacilli	Bacillus weihenstephanensis	
945	72.9 Chloroflexi	Herpetosiphon aurantiacus	
946	67.37 Deinococcus-Thermus	Thermus thermophilus HB8	
947	69.13 Archaea/Eukaryota	Drosophila simulans	
948	69.76 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
949	71.16 Clostridia	Moorella thermoacetica	
950	59.3 Clostridia	Clostridium difficile 630	
951	56.43 Clostridia	Clostridium difficile 630	

952	61.27	Clostridia	Clostridium difficile R20291	
953	62.64	Bacilli	Pediococcus pentosaceus	
954	62.84	Clostridia	Clostridium difficile 63C	
955	62.79	Clostridia	Clostridium phytofermentans	
956	70.13	Bacilli	Brevibacillus brevis	
957	65.29	Proteobacteria	Sorangium cellulosum	
958	72.47	Actinobacteria	Acidothermus cellulolyticus	
959	73.51	Clostridia	Moorella thermoacetica	
960	71.33	Others	Thermodesulfovibrio yellowstoni	
961	71.47	Actinobacteria	Rhodococcus opacus	
962	68.12	No hit	none	
963	75.16	Bacilli	Geobacillus sp. Y412MC10	
964	72.46	Clostridia	Moorella thermoacetica	
965	64.39	Bacilli	Alicyclobacillus acidocaldarius	
966	69.13	No hit	none	
967	74.24	Cyanobacteria	Cyanobacteria Yellowstone A-Primo	
968	74.05	Cyanobacteria	Cyanothece sp. PCC 7424	
969	76.06	Clostridia	Desulfotomaculum acetoxidans	
970	72.02	No hit	none	
971	72.05	Chloroflexi	Roseiflexus castenholzii DSM13941	
972	71.48	Bacilli	Brevibacillus brevis	
973	68.26	Chloroflexi	Herpetosiphon aurantiacus	
974	69.68	Clostridia	Clostridium botulinum A Hal	
975	72.71	Symbiobacterium	Symbiobacterium thermophilum	Thermus thermophilus HB8
976	70.15	Clostridia	Syntrophothermus lipocalidus	
977	67.08	Symbiobacterium	Symbiobacterium thermophilum	Desulfitobacterium hafniense DCB-2
978	71.65	Symbiobacterium	Symbiobacterium thermophilum	Candidatus Methanosphaerula palustris
979	73.33	Clostridia	Desulfotomaculum acetoxidans	
980	75.03	Bacilli	Bacillus tusciae	
981	69.41	Proteobacteria	Geobacter lovleyi	
982	69.28	Proteobacteria	Geobacter lovleyi	
983	65.86	Bacilli	Bacillus tusciae	
984	64.34	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61

985	72.08 Chloroflexi	Herpetosiphon aurantiacus	
986	68.68 Clostridia	Thermincola sp. JR	
987	62.38 Clostridia	Moorella thermoacetica	
988	67.04 No hit	none	
989	71.43 Clostridia	Clostridium thermocellum	
990	68.26 Clostridia	Carboxydothermus hydrogenoformans	
991	67.9 Bacilli	Bacillus selenitireducens	
992	70.78 Bacilli	Bacillus cereus G9842	
993	68.84 Bacilli	Brevibacillus brevis	
994	62.79 Actinobacteria	Mycobacterium sp. KMS	
995	73.45 No hit	none	
996	74.4 Chloroflexi	Roseiflexus castenholzii DSM13941	
997	72.14 Proteobacteria	Ralstonia metallidurans	
998	74.44 Chloroflexi	Chloroflexus sp. Y-400-fl	
999	62.96 No hit	none	
1000	71.96 Proteobacteria	Shewanella piezotolerans WP3	
1001	74.04 Clostridia	Alkaliphilus metalliredigen	
1002	67.53 Bacilli	Geobacillus sp. C56-T3	
1003	75.91 Bacilli	Bacillus pseudofirmus	
1004	65.43 Clostridia	Desulfotomaculum acetoxidans	
1005	67.54 Bacilli	Exiguobacterium sp. AT1b	
1006	62.69 No hit	none	
1007	74.91 No hit	none	
1008	69.71 Clostridia	Alkaliphilus metalliredigen	
1009	67.04 Symbiobacterium	Symbiobacterium thermophilum	Heliobacterium modesticaldum
1010	66.66 Clostridia	Desulfotomaculum reducens	
1011	73.98 Clostridia	Heliobacterium modesticaldum	
1012	69.54 No hit	none	
1013	68.68 Clostridia	Syntrophothermus lipocalidus	
1014	73.24 Proteobacteria	Sorangium cellulosum	
1015	72.58 No hit	none	
1016	70.77 Actinobacteria	Kineococcus radiotolerans	
1017	72.22 No hit	none	

1018	71.56 Symbiobacterium	Symbiobacterium thermophilum	Solibacter usitatus
1019	68.03 Archaea/Eukaryota	Botryotinia fuckeliana	
1020	69.74 Symbiobacterium	Symbiobacterium thermophilum	Chromohalobacter salexigenans
1021	74.62 Bacteroidetes/Chlorobacteria	Robiginitalea biformata	
1022	73.53 Actinobacteria	Mycobacterium sp. JLS	
1023	72.14 Actinobacteria	Rhodococcus erythropolis	
1024	73.13 No hit	none	
1025	72.87 Chloroflexi	Sphaerobacter thermophilus	
1026	73.98 Proteobacteria	Halothiobacillus neapolitanus	
1027	58.79 No hit	none	
1028	67.59 Thermotogae	Thermotoga maritima	
1029	73.99 Clostridia	Desulfitobacterium hafniense DCB-2	
1030	67.16 Clostridia	Heliobacterium modesticaldun	
1031	71.56 Clostridia	Clostridium thermocellum	
1032	69.61 Bacteroidetes/Chlorobacteria	Chitinophaga pinensis	
1033	74.79 Bacilli	Paenibacillus sp. JDR-2	
1034	67.25 Clostridia	Heliobacterium modesticaldun	
1035	70.04 No hit	none	
1036	66.66 Clostridia	Clostridium beijerincki	
1037	64.45 Chloroflexi	Thermomicrobium roseum	
1038	64.72 Bacilli	Oceanobacillus iheyensis	
1039	70.95 Clostridia	Thermincola sp. JR	
1040	68.51 Symbiobacterium	Symbiobacterium thermophilum	Desulfitobacterium hafniense DCB-2
1041	67.94 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
1042	74.59 No hit	none	
1043	65 Clostridia	Clostridium botulinum B Eklund 17E	
1044	75.07 No hit	none	
1045	67.94 Bacilli	Bacillus tusciae	
1046	65.88 Clostridia	Clostridium botulinum E3	
1047	65.85 Deinococcus-Thermus	Meiothermus ruber	
1048	68.66 No hit	none	
1049	72.59 No hit	none	
1050	69.69 Clostridia	Syntrophothermus lipocalidus	

1051	69.48 Symbiobacterium	Symbiobacterium thermophilum	Bacillus pumilus
1052	72.96 Clostridia	Clostridium thermocellum	
1053	73.69 Clostridia	Natranaerobius thermophilus	
1054	75.47 Others	Brachyspira hyodysenteriae	
1055	75.59 Proteobacteria	Geobacter uraniumreducens	
1056	73.55 Bacteroidetes/Chlorob	Rhodothermus marinus	
1057	68.01 No hit	none	
1058	63.88 No hit	none	
1059	69.88 No hit	none	
1060	69.6 Clostridia	Clostridium tetani E88	
1061	66.81 Clostridia	Clostridium kluyveri DSM 555	
1062	68.75 Thermobaculum	Thermobaculum terrenum	
1063	71.78 Clostridia	Ammonifex degensi	
1064	69.01 Clostridia	Desulfitobacterium hafniense Y51	
1065	75.06 No hit	none	
1066	70.75 Clostridia	Heliobacterium modesticaldum	
1067	67.87 Chloroflexi	Roseiflexus castenholzii DSM13941	
1068	68.23 Actinobacteria	Streptosporangium roseum	
1069	72.02 Actinobacteria	Stackebrandtia nassauensis	
1070	73.24 Chloroflexi	Roseiflexus castenholzii DSM13941	
1071	70.22 Bacilli	Alicyclobacillus acidocaldarius	
1072	67.19 Bacilli	Geobacillus sp. Y412MC10	
1073	72.38 Clostridia	Thermincola sp. JR	
1074	72.79 Clostridia	Moorella thermoacetica	
1075	71.42 Bacilli	Paenibacillus sp. JDR-2	
1076	65.28 Bacilli	Bacillus tusciae	
1077	70.25 Symbiobacterium	Symbiobacterium thermophilum	
1078	74.3 Bacilli	Brevibacillus brevis	
1079	70.73 Clostridia	Alkaliphilus orelandi	
1080	70.26 Clostridia	Clostridium acetobutylicum	
1081	72.61 Clostridia	Alkaliphilus orelandi	
1082	68.8 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
1083	70.07 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR

1084	61.78 Bacilli	Bacillus subtilis	
1085	70.75 Clostridia	Thermoanaerobacter pseudethanolicu:	
1086	72.04 Bacilli	Bacillus cereus G9842	
1087	63.83 Symbiobacterium	Symbiobacterium thermophilum	Staphylococcus epidermidis RP62A
1088	71.72 Clostridia	Thermoanaerobacter tengcongensis:	
1089	70.51 Clostridia	Halothermothrix oreni:	
1090	72.56 Symbiobacterium	Symbiobacterium thermophilum	Halothermothrix oreni:
1091	63.16 Bacilli	Bacillus tusciae	
1092	57.94 Proteobacteria	Syntrophus aciditrophicus	
1093	65.53 Clostridia	Clostridium thermocellum	
1094	71.12 Bacilli	Bacillus tusciae	
1095	70.31 Clostridia	Moorella thermoacetica:	
1096	69.36 Bacilli	Bacillus tusciae	
1097	77 Clostridia	Desulfotomaculum acetoxidans:	
1098	73.36 Bacilli	Geobacillus kaustophilus	
1099	68.47 Clostridia	Desulfotomaculum acetoxidans:	
1100	73.32 Clostridia	Desulfotomaculum acetoxidans:	
1101	76.13 Clostridia	Desulfotomaculum acetoxidans:	
1102	71.89 Clostridia	Candidatus Desulforudis audaxviator:	
1103	73.4 Clostridia	Desulfotomaculum reducens:	
1104	55.07 No hit	none	
1105	67.82 Bacilli	Geobacillus sp. WCH70	
1106	72.19 Clostridia	Thermincola sp. JR	
1107	67.89 Clostridia	Thermoanaerobacter tengcongensis:	
1108	69.33 Clostridia	Thermoanaerobacter tengcongensis:	
1109	68.32 Clostridia	Thermoanaerobacter tengcongensis:	
1110	72.35 Clostridia	Thermoanaerobacter tengcongensis:	
1111	72.23 Chloroflexi	Sphaerobacter thermophilus	
1112	69.13 Clostridia	Thermoanaerobacter pseudethanolicu:	
1113	67.09 Clostridia	Pelotomaculum thermopropionicum	
1114	71.82 Clostridia	Clostridium thermocellum	
1115	71.28 Clostridia	Pelotomaculum thermopropionicum	
1116	68.66 Bacilli	Bacillus tusciae	

1117	77.49 Bacilli	Bacillus tusciae	
1118	71.82 Clostridia	Thermoanaerobacter tengcongensis	
1119	72.42 Bacteroidetes/Chlorob	Rhodothermus marinus	
1120	68.7 Clostridia	Thermoanaerobacter sp. X514	
1121	68.27 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
1122	66.99 Clostridia	Moorella thermoacetica	
1123	73.1 Clostridia	Clostridium perfringens 13	
1124	64.26 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1125	71.11 No hit	none	
1126	69.52 Bacteroidetes/Chlorob	Rhodothermus marinus	
1127	77 Proteobacteria	Acidiphilium cryptum JF-5	
1128	61.58 Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
1129	62.25 Symbiobacterium	Symbiobacterium thermophilum	Alicyclobacillus acidocaldarius
1130	59.25 Bacilli	Bacillus tusciae	
1131	61.8 Clostridia	Carboxydothermus hydrogenoformans	
1132	60.25 Proteobacteria	Sinorhizobium medicae	
1133	48.4 Symbiobacterium	Symbiobacterium thermophilum	
1134	49.26 Symbiobacterium	Symbiobacterium thermophilum	
1135	49.17 Bacilli	Exiguobacterium sibiricum	
1136	61.18 Symbiobacterium	Symbiobacterium thermophilum	Rhodococcus opacus
1137	69.12 Clostridia	Pelotomaculum thermopropionicum	
1138	65.59 No hit	none	
1139	70.81 Chloroflexi	Sphaerobacter thermophilus	
1140	75.09 No hit	none	
1141	74.72 Actinobacteria	Kineococcus radiotolerans	
1142	70.65 Bacilli	Bacillus tusciae	
1143	72.84 Actinobacteria	Rubrobacter xylanophilus	
1144	65.04 Others	Deferribacter desulfuricans SSM1	
1145	66 Archaea/Eukaryota	Thermococcus gammatolerans	
1146	65.91 Clostridia	Acidaminococcus fermentans	
1147	66.42 Clostridia	Acidaminococcus fermentans	
1148	70.82 Bacilli	Bacillus halodurans	
1149	72.36 Clostridia	Carboxydothermus hydrogenoformans	

1150	69.8 Symbiobacterium	Symbiobacterium thermophilum	Conexibacter woesei
1151	70.83 Symbiobacterium	Symbiobacterium thermophilum	Thermodesulfovibrio yellowstoni
1152	74.41 Clostridia	Clostridium tetani E88	
1153	70.26 No hit	none	
1154	72.78 Others	Candidatus Protochlamydia	
1155	66.84 Others	Brachyspira hyodysenteriae	
1156	69.25 Archaea/Eukaryota	Thermofilum pendens	
1157	67.41 Clostridia	Clostridium botulinum E2	
1158	69.87 Clostridia	Candidatus Desulforudis audaxviator	
1159	73.85 Clostridia	Desulfotomaculum reducens	
1160	73.3 Clostridia	Desulfotomaculum acetoxidans	
1161	69.63 Chloroflexi	Sphaerobacter thermophilus	
1162	69.17 Clostridia	Heliobacterium modesticaldum	
1163	72.26 Clostridia	Thermincola sp. JR	
1164	74.09 Cyanobacteria	Acaryochloris marina	
1165	69.39 Clostridia	Eubacterium rectale	
1166	69.9 Clostridia	Desulfitobacterium hafniense DCB-2	
1167	71.22 Bacteroidetes/Chlorobi	Rhodothermus marinus	
1168	60.85 Bacteroidetes/Chlorobi	Prosthecochloris aestuarii	
1169	69.5 Deinococcus-Thermus	Meiothermus silvanus	
1170	68.29 Bacilli	Bacillus tusciae	
1171	69.52 Clostridia	Desulfotomaculum reducens	
1172	66.87 Bacilli	Alicyclobacillus acidocaldarius	
1173	69.49 Symbiobacterium	Symbiobacterium thermophilum	Streptosporangium roseum
1174	63.42 No hit	none	
1175	67.56 Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
1176	69.57 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus ZK
1177	67.82 Symbiobacterium	Symbiobacterium thermophilum	Pseudomonas fluorescens Pf-5
1178	72.74 No hit	none	
1179	73.52 No hit	none	
1180	66.83 Bacilli	Bacillus cytotoxis NVH 391-98	
1181	64.54 Actinobacteria	Acidothermus cellulolyticus	
1182	65.22 Symbiobacterium	Symbiobacterium thermophilum	Thermobifida fusca

1183	66.14 Symbiobacterium	Symbiobacterium thermophilum	
1184	66.02 Clostridia	Syntrophomonas wolfe	
1185	66.07 No hit	none	
1186	68.94 Clostridia	Thermoanaerobacter pseudethanolicus	
1187	73.73 Clostridia	Thermoanaerobacter tengcongensis	
1188	71.71 Proteobacteria	Geobacter sulfurreducens	
1189	69.71 Clostridia	Alkaliphilus oremlandii	
1190	76.98 Clostridia	Pelotomaculum thermopropionicum	
1191	68.66 Bacilli	Bacillus tusciae	
1192	75.08 Proteobacteria	Desulfovibrio vulgaris DP4	
1193	69.54 No hit	none	
1194	61.05 Symbiobacterium	Symbiobacterium thermophilum	Rhodospirillum centenum
1195	70.6 Clostridia	Thermoanaerobacter tengcongensis	
1196	68.97 Clostridia	Thermoanaerobacter tengcongensis	
1197	68.88 Bacilli	Paenibacillus sp. JDR-2	
1198	68.38 Bacilli	Paenibacillus sp. JDR-2	
1199	67.46 Bacilli	Paenibacillus sp. JDR-2	
1200	66.9 Clostridia	Desulfitobacterium hafniense Y51	
1201	72.93 Clostridia	Clostridium perfringens SM101	
1202	76.33 No hit	none	
1203	72.52 Clostridia	Desulfotomaculum reducens	
1204	70.81 Clostridia	Thermincola sp. JR	
1205	68.54 Clostridia	Desulfotomaculum reducens	
1206	69.74 Clostridia	Veillonella parvula	
1207	75.41 Clostridia	Desulfotomaculum reducens	
1208	70.44 Clostridia	Syntrophothermus lipocalidus	
1209	67.57 Bacilli	Anoxybacillus flavithermus	
1210	75.37 Bacilli	Bacillus cereus Q1	
1211	70.65 Clostridia	Heliobacterium modesticaldum	
1212	70.28 Clostridia	Heliobacterium modesticaldum	
1213	68.35 Chloroflexi	Sphaerobacter thermophilus	
1214	69.51 Clostridia	Clostridium cellulolyticum	
1215	72 Clostridia	Moorella thermoacetica	

1216	69.54 Clostridia	<i>Pelotomaculum thermopropionicum</i>
1217	64.59 Clostridia	<i>Syntrophothermus lipocalidus</i>
1218	74.28 Chloroflexi	<i>Roseiflexus</i> sp. RS-1
1219	69.1 Clostridia	<i>Desulfitobacterium hafniense</i> DCB-2
1220	75.89 Bacilli	<i>Brevibacillus brevis</i>
1221	62.43 Clostridia	<i>Desulfotomaculum reducens</i>
1222	62.77 Clostridia	<i>Heliobacterium modesticaldun</i>
1223	73.67 Clostridia	<i>Clostridium cellulolyticum</i>
1224	66.66 Clostridia	<i>Caldicellulosiruptor saccharolyticus</i>
1225	74.56 Clostridia	<i>Moorella thermoacetica</i>
1226	73.86 Clostridia	<i>Moorella thermoacetica</i>
1227	68.68 Clostridia	<i>Heliobacterium modesticaldun</i>
1228	68.46 Clostridia	<i>Alkaliphilus metalliredigen</i>
1229	57.73 Proteobacteria	<i>Rhodospirillum rubrum</i>
1230	69.72 Bacilli	<i>Bacillus tusciae</i>
1231	66.91 Clostridia	<i>Carboxydotherrnus hydrogenoformans</i>
1232	61.27 Cyanobacteria	<i>Cyanothece</i> sp. ATCC 51142
1233	67.56 Deinococcus-Thermus	<i>Thermus thermophilus</i> HB8
1234	67.78 Clostridia	<i>Halothermothrix orenii</i>
1235	66.79 Bacilli	<i>Geobacillus</i> sp. Y412MC61
1236	66.66 Clostridia	<i>Halothermothrix orenii</i>
1237	72.68 Bacilli	<i>Brevibacillus brevis</i>
1238	71.17 Bacilli	<i>Lysinibacillus sphaericus</i>
1239	69.43 Proteobacteria	<i>Geobacter lovleyi</i>
1240	66.95 Clostridia	<i>Thermoanaerobacter pseudethanolicus</i>
1241	70.49 Clostridia	<i>Thermincola</i> sp. JR
1242	64.92 Bacilli	<i>Exiguobacterium sibiricum</i>
1243	70.05 Clostridia	<i>Heliobacterium modesticaldun</i>
1244	73.16 Clostridia	<i>Clostridium thermocellum</i>
1245	70.4 Clostridia	<i>Syntrophothermus lipocalidus</i>
1246	75.51 Clostridia	<i>Clostridium botulinum</i> B Eklund 17E
1247	66.28 Actinobacteria	<i>Atopobium parvulum</i>
1248	66.66 Actinobacteria	<i>Atopobium parvulum</i>

1249	64.98 Actinobacteria	Atopobium parvulum	
1250	65.07 Actinobacteria	Thermobifida fusca	
1251	72.14 Actinobacteria	Atopobium parvulum	
1252	70.81 Symbiobacterium	Symbiobacterium thermophilum	Bacillus cereus Q1
1253	70.79 Actinobacteria	Acidimicrobium ferrooxidans DSM	
1254	71.42 Chloroflexi	Sphaerobacter thermophilus	
1255	73.25 Symbiobacterium	Symbiobacterium thermophilum	
1256	69.2 Clostridia	Heliobacterium modesticaldun	
1257	70.09 Clostridia	Desulfotomaculum acetoxidans	
1258	72.41 Clostridia	Thermincola sp. JR	
1259	76.64 Clostridia	Syntrophothermus lipocalidus	
1260	70.79 Clostridia	Thermincola sp. JR	
1261	70 Clostridia	Desulfotomaculum reducens	
1262	62.68 Clostridia	Ammonifex degensi	
1263	64.36 Others	Candidatus Protochlamydia	
1264	68.43 Proteobacteria	Photobacterium profundum	
1265	65.39 Clostridia	Desulfotomaculum acetoxidans	
1266	68.03 Clostridia	Clostridium cellulolyticum	
1267	67.21 Clostridia	Clostridium botulinum A Hal	
1268	72.12 Chloroflexi	Thermomicrobium roseum	
1269	72.28 Actinobacteria	Rubrobacter xylanophilus	
1270	71.81 Chloroflexi	Chloroflexus sp. Y-400-fl	
1271	69.37 Symbiobacterium	Symbiobacterium thermophilum	Heliobacterium modesticaldun
1272	70.9 Proteobacteria	Burkholderia ambifaria MC40-6	
1273	74.13 Proteobacteria	Myxococcus xanthus	
1274	70.53 Chloroflexi	Roseiflexus castenholzii DSM13941	
1275	71.82 Clostridia	Thermoanaerobacter mathranii	
1276	67.9 Bacilli	Lactobacillus rhamnosus Lc 705	
1277	69.42 Clostridia	Clostridium beijerincki	
1278	67.9 Clostridia	Coprothermobacter proteolyticus	
1279	72.06 Archaea/Eukaryota	Methanopyrus kandleri	
1280	74.01 Bacilli	Geobacillus sp. C56-T3	
1281	68.68 No hit	none	

1282	68.2 Fibrobacteres/Acidobacteria	Solibacter usitatus	
1283	73.77 Chloroflexi	Sphaerobacter thermophilus	
1284	73.35 Chloroflexi	Sphaerobacter thermophilus	
1285	71.99 Chloroflexi	Sphaerobacter thermophilus	
1286	71.16 Actinobacteria	Thermobispora bispora	
1287	72.59 No hit	none	
1288	70.31 No hit	none	
1289	57.83 Bacilli	Geobacillus sp. WCH70	
1290	58.64 Actinobacteria	Arthrobacter chlorophenicus	
1291	59.16 Actinobacteria	Mycobacterium gilvum	
1292	61.3 Symbiobacterium	Symbiobacterium thermophilum	
1293	60.2 Proteobacteria	Burkholderia cepacia	
1294	56.47 Bacteroidetes/Chlorobacteria	Croceibacter atlanticus	
1295	60.7 No hit	none	
1296	59.13 Symbiobacterium	Symbiobacterium thermophilum	Pseudomonas stutzeri
1297	60.36 Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
1298	64.16 Symbiobacterium	Symbiobacterium thermophilum	Solibacter usitatus
1299	62.06 Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
1300	58.02 Symbiobacterium	Symbiobacterium thermophilum	Methanosarcina acetivorans
1301	61.38 Clostridia	Moorella thermoacetica	
1302	69.09 Proteobacteria	Anaeromyxobacter sp. K	
1303	68.53 Cyanobacteria	Cyanothece sp. PCC 7425	
1304	68.79 Proteobacteria	Shewanella pealeana	
1305	66.11 Proteobacteria	Klebsiella pneumoniae NTUH-K204	
1306	66.75 Proteobacteria	Shewanella pealeana	
1307	64.92 Others	Chlamydia trachomatis B/Jali20/OT	
1308	61.14 Fibrobacteres/Acidobacteria	Solibacter usitatus	
1309	67.58 Proteobacteria	Desulfobacterium autotrophicum	
1310	60.23 Proteobacteria	Phenylobacterium zucineum	
1311	65.82 Thermobaculum	Thermobaculum terrenum	
1312	66.27 Thermobaculum	Thermobaculum terrenum	
1313	62.77 Thermobaculum	Thermobaculum terrenum	
1314	67.2 Clostridia	Thermoanaerobacter tengcongensis	

1315	67.67 Clostridia	Thermoanaerobacter tengcongensis	
1316	64.93 Bacilli	Bacillus tusciae	
1317	68.96 Bacilli	Bacillus cereus ATCC 10987	
1318	70.88 Symbiobacterium	Symbiobacterium thermophilum	Moorella thermoacetica
1319	67.5 Bacilli	Geobacillus kaustophilus	
1320	64.51 No hit	none	
1321	74.78 Symbiobacterium	Symbiobacterium thermophilum	Desulfotomaculum acetoxidans
1322	73.43 Bacilli	Geobacillus sp. WCH70	
1323	66.35 Bacilli	Brevibacillus brevis	
1324	68.45 No hit	none	
1325	73.56 Proteobacteria	Rhodospirillum rubrum	
1326	74.28 Proteobacteria	Nitrosococcus oceanus	
1327	71.07 Chloroflexi	Roseiflexus sp. RS-1	
1328	74.45 No hit	none	
1329	71.72 Clostridia	Clostridium beijerinckii	
1330	70.56 Proteobacteria	Thioalkalivibrio sp. HL-EbGR7	
1331	71.26 No hit	none	
1332	70.89 Clostridia	Desulfotomaculum reducens	
1333	71.85 Clostridia	Thermincola sp. JR	
1334	70.34 Bacilli	Geobacillus sp. Y412MC10	
1335	71.84 Clostridia	Pelotomaculum thermopropionicum	
1336	76.04 No hit	none	
1337	69.39 Clostridia	Heliobacterium modesticaldum	
1338	67.36 Bacilli	Bacillus tusciae	
1339	66.5 Clostridia	Pelotomaculum thermopropionicum	
1340	61.9 Clostridia	Thermincola sp. JR	
1341	71.48 Clostridia	Clostridium thermocellum	
1342	71.29 Clostridia	Thermoanaerobacter italicus	
1343	68.65 Clostridia	Veillonella parvula	
1344	72.37 Clostridia	Acidaminococcus fermentans	
1345	67.11 Clostridia	Natranaerobius thermophilus	
1346	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1347	66.66 No hit	none	

1348	68.96 No hit	none	
1349	71.37 Clostridia	Thermincola sp. JR	
1350	71.21 Proteobacteria	Sorangium cellulosum	
1351	69.08 Clostridia	Thermincola sp. JR	
1352	71.81 Clostridia	Alkaliphilus metalliredigen	
1353	70.52 Clostridia	Anaerocellum thermophilum	
1354	69.51 Clostridia	Heliobacterium modesticaldum	
1355	69.98 Clostridia	Desulfotomaculum reducens	
1356	68.48 Symbiobacterium	Symbiobacterium thermophilum	Carboxydotherrmus hydrogenoformans
1357	67.85 No hit	none	
1358	67.85 Clostridia	Halothermothrix orenii	
1359	65.62 Clostridia	Desulfotomaculum acetoxidans	
1360	63.88 Clostridia	Desulfitobacterium hafniense DCB-2	
1361	69.12 Clostridia	Natranaerobius thermophilus	
1362	69.41 Clostridia	Desulfitobacterium hafniense DCB-2	
1363	71.4 Symbiobacterium	Symbiobacterium thermophilum	Bacillus tusciae
1364	69.99 Symbiobacterium	Symbiobacterium thermophilum	Halothermothrix orenii
1365	67.77 Bacilli	Bacillus licheniformis DSM15	
1366	70.35 Bacilli	Bacillus tusciae	
1367	70.32 Bacilli	Bacillus tusciae	
1368	71.13 Bacilli	Bacillus tusciae	
1369	65.68 Clostridia	Desulfitobacterium hafniense Y51	
1370	72 Clostridia	Desulfitobacterium hafniense DCB-2	
1371	73.01 Chloroflexi	Roseiflexus sp. RS-1	
1372	77.77 Chloroflexi	Chloroflexus aggregans	
1373	73.69 Clostridia	Alkaliphilus metalliredigen	
1374	68.61 No hit	none	
1375	74.07 Clostridia	Syntrophomonas wolfe	
1376	72.6 Bacilli	Geobacillus sp. Y412MC10	
1377	64.19 No hit	none	
1378	66.2 Clostridia	Pelotomaculum thermopropionicum	
1379	75.6 Bacilli	Bacillus pumilus	
1380	71.78 Bacilli	Exiguobacterium sp. AT1b	

1381	68.78 Bacilli	Exiguobacterium sibiricum
1382	66.66 Symbiobacterium	Symbiobacterium thermophilum
1383	64.89 Bacilli	Geobacillus thermodenitrificans
1384	71.31 Clostridia	Thermincola sp. JR
1385	73.5 No hit	none
1386	68.91 Clostridia	Clostridium thermocellum
1387	65.98 Clostridia	Clostridium cellulolyticum
1388	71.41 Proteobacteria	Campylobacter jejuni subsp. doylei
1389	67.41 Bacilli	Bacillus tusciae
1390	66.32 Cyanobacteria	Cyanothece sp. PCC 7424
1391	64.85 Proteobacteria	Geobacter metallireducens
1392	73.6 Archaea/Eukaryota	Uncultured methanogenic archaeon RC
1393	60.36 Clostridia	Anaerocellum thermophilum
1394	59.92 Bacilli	Bacillus megaterium DSM319
1395	65.78 No hit	none
1396	67.02 No hit	none
1397	75.8 No hit	none
1398	69.82 Others	Thermodesulfovibrio yellowstoni
1399	73.66 Clostridia	Ammonifex degensi
1400	74.3 Clostridia	Pelotomaculum thermopropionicum
1401	68.13 Symbiobacterium	Symbiobacterium thermophilum
1402	69.76 Archaea/Eukaryota	Coccidioides immitis
1403	70.92 Clostridia	Clostridium perfringens SM101
1404	74.43 Bacilli	Streptococcus pneumoniae Taiwan19F
1405	69.84 Symbiobacterium	Symbiobacterium thermophilum
1406	69.7 Bacilli	Bacillus licheniformis DSM13
1407	71.73 Clostridia	Thermincola sp. JR
1408	70.79 Chloroflexi	Roseiflexus castenholzii DSM13941
1409	71.53 Clostridia	Desulfotomaculum acetoxidans
1410	73.4 Bacilli	Brevibacillus brevis
1411	66.76 Clostridia	Thermoanaerobacter tengcongensis
1412	74.53 Proteobacteria	Geobacter sulfurreducens
1413	72.79 Clostridia	Moorella thermoacetica

1414	70.73 Aquificae	Aquifex aeolicus	
1415	71.54 Clostridia	Carboxydotherrnus hydrogenoforman	
1416	66.03 No hit	none	
1417	71.46 Clostridia	Thermincola sp. JR	
1418	76.78 Proteobacteria	Geobacter uraniumreducens	
1419	72.14 Bacilli	Geobacillus sp. Y412MC10	
1420	70.97 No hit	none	
1421	70.52 Proteobacteria	Shewanella sp. W3-18-1	
1422	67.11 Deinococcus-Thermus	Truepera radiovictrix	
1423	68.73 Deinococcus-Thermus	Truepera radiovictrix	
1424	71.24 Bacilli	Lysinibacillus sphaericus	
1425	69.88 Bacteroidetes/Chlorobi	Bacteroides fragilis YCH46	
1426	71.35 Bacilli	Geobacillus sp. Y412MC10	
1427	72.75 Bacilli	Geobacillus sp. Y412MC10	
1428	69.65 No hit	none	
1429	66.33 No hit	none	
1430	63.92 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
1431	65.41 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
1432	64.68 Symbiobacterium	Symbiobacterium thermophilum	Moorella thermoacetica
1433	68.62 Clostridia	Pelotomaculum thermopropionicum	
1434	66.66 Archaea/Eukaryota	Haloterrigena turkmenica	
1435	67.62 Bacilli	Bacillus halodurans	
1436	71.31 No hit	none	
1437	72.12 Bacilli	Brevibacillus brevis	
1438	67.01 Clostridia	Thermoanaerobacter pseudethanolicus	
1439	64.82 Bacilli	Geobacillus sp. C56-T3	
1440	70.51 Clostridia	Clostridium cellulolyticum	
1441	71 Bacilli	Geobacillus sp. C56-T3	
1442	65.88 Others	Thermodesulfovibrio yellowstoni	
1443	67.17 Proteobacteria	Geobacter sp. FRC-32	
1444	70.55 Clostridia	Carboxydotherrnus hydrogenoforman	
1445	73.08 No hit	none	
1446	66.14 Clostridia	Thermoanaerobacter pseudethanolicus	

1447	70.22 Clostridia	Desulfitobacterium hafniense Y51
1448	70.99 Clostridia	Moorella thermoacetica
1449	68.9 Bacilli	Geobacillus sp. Y412MC10
1450	72.06 Clostridia	Thermoanaerobacter tengcongensis
1451	68.27 Bacilli	Geobacillus sp. WCH70
1452	57.53 Clostridia	Carboxydothermus hydrogenoformans
1453	73.16 Clostridia	Candidatus Desulforudis audaxviator
1454	60.91 Clostridia	Heliobacterium modesticaldun
1455	72.69 Bacilli	Geobacillus sp. Y412MC10
1456	68.58 No hit	none
1457	70.09 Clostridia	Desulfitobacterium hafniense DCB-2
1458	66.92 Clostridia	Clostridium botulinum A Hal
1459	70.63 Actinobacteria	Salinispora arenicola
1460	71.61 Thermotogae	Petrotoga mobilis
1461	73.46 No hit	none
1462	74.38 Bacilli	Bacillus cereus ATCC 10987
1463	67.93 Clostridia	Pelotomaculum thermopropionicum
1464	72.22 Clostridia	Natranaerobius thermophilus
1465	67.1 Clostridia	Desulfitobacterium hafniense Y51
1466	63.29 Clostridia	Desulfitobacterium hafniense DCB-2
1467	67.94 Clostridia	Heliobacterium modesticaldun
1468	67.15 Clostridia	Thermincola sp. JR
1469	69.14 Clostridia	Clostridium phytofermentans
1470	72.04 Bacilli	Geobacillus sp. WCH70
1471	69.94 Bacilli	Geobacillus sp. C56-T3
1472	67.71 Clostridia	Acidaminococcus fermentans
1473	71.77 Bacilli	Bacillus pseudofirmus
1474	68.84 Clostridia	Thermincola sp. JR
1475	72.82 Clostridia	Caldicellulosiruptor saccharolyticus
1476	76.25 Clostridia	Clostridium thermocellum
1477	71.88 No hit	none
1478	67.8 Aquificae	Sulfurihydrogenibium sp. YO3AOP1
1479	71.16 Chloroflexi	Chloroflexus aggregans

1480	72.43 Clostridia	Moorella thermoacetica
1481	68.16 Clostridia	Heliobacterium modesticaldun
1482	70.38 Bacilli	Bacillus tusciae
1483	69.65 Clostridia	Syntrophomonas wolfe
1484	65.08 Clostridia	Heliobacterium modesticaldun
1485	62.66 Clostridia	Caldicellulosiruptor saccharolyticus
1486	67.23 Clostridia	Thermincola sp. JR
1487	71.76 Clostridia	Syntrophothermus lipocalidus
1488	73.89 No hit	none
1489	75.94 No hit	none
1490	72.05 No hit	none
1491	63.01 Bacilli	Alicyclobacillus acidocaldarius
1492	68.3 Clostridia	Clostridium botulinum E ϵ
1493	65.16 Bacilli	Geobacillus sp. WCH70
1494	62.9 Clostridia	Carboxydotherrnus hydrogenoforman
1495	73.09 No hit	none
1496	68.74 Clostridia	Moorella thermoacetica
1497	69.94 Clostridia	Thermincola sp. JR
1498	67.31 Clostridia	Thermincola sp. JR
1499	71.04 Clostridia	Thermincola sp. JR
1500	67.43 Clostridia	Desulfotomaculum reducens
1501	67.92 Proteobacteria	Geobacter metallireducens
1502	66.53 Bacilli	Brevibacillus brevis
1503	70.44 No hit	none
1504	71.49 Bacilli	Geobacillus sp. Y412MC10
1505	72.81 Chloroflexi	Thermomicrobium roseum
1506	70.75 Bacilli	Geobacillus sp. WCH70
1507	73.05 Bacilli	Geobacillus sp. WCH70
1508	72.03 Chloroflexi	Herpetosiphon aurantiacus
1509	70.3 Bacilli	Paenibacillus sp. JDR-2
1510	64.75 Clostridia	Natranaerobius thermophilus
1511	66.11 Clostridia	Syntrophothermus lipocalidus
1512	68.17 Clostridia	Thermincola sp. JR

1513	73.59 Others	Planctomyces limnophilus	
1514	73.09 Clostridia	Clostridium tetani E88	
1515	70.74 No hit	none	
1516	74.64 Clostridia	Thermincola sp. JR	
1517	64.86 No hit	none	
1518	63.14 Clostridia	Thermincola sp. JR	
1519	66.48 Clostridia	Thermincola sp. JR	
1520	66.66 Clostridia	Heliobacterium modesticaldun	
1521	74.67 Clostridia	Desulfotomaculum acetoxidans	
1522	70.97 Clostridia	Moorella thermoacetica	
1523	65.6 Bacilli	Anoxybacillus flavithermus	
1524	70.56 Clostridia	Pelotomaculum thermopropionicum	
1525	72.55 Clostridia	Thermincola sp. JR	
1526	72.4 Clostridia	Heliobacterium modesticaldun	
1527	73.8 Bacilli	Listeria monocytogenes 08-592	
1528	60.21 Bacilli	Bacillus halodurans	
1529	71.17 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC10
1530	72.72 No hit	none	
1531	68.15 Clostridia	Heliobacterium modesticaldun	
1532	68.85 Clostridia	Pelotomaculum thermopropionicum	
1533	71.86 Clostridia	Carboxydotherrmus hydrogenoformans	
1534	67.17 No hit	none	
1535	67.53 Clostridia	Desulfotomaculum reducens	
1536	67.29 Clostridia	Pelotomaculum thermopropionicum	
1537	68.4 Clostridia	Thermincola sp. JR	
1538	65.99 Clostridia	Pelotomaculum thermopropionicum	
1539	68.47 Thermotogae	Fervidobacterium nodosum	
1540	60.83 Clostridia	Thermincola sp. JR	
1541	71.34 Clostridia	Thermincola sp. JR	
1542	61.28 Clostridia	Heliobacterium modesticaldun	
1543	63.65 Clostridia	Thermincola sp. JR	
1544	72.54 Clostridia	Ammonifex degensi	
1545	72.46 Clostridia	Desulfotomaculum reducens	

1546	66.33 Clostridia	Ammonifex degensi	
1547	67.75 Proteobacteria	Desulfovibrio vulgaris Miyazaki F	
1548	71.33 Clostridia	Thermincola sp. JR	
1549	71.76 Clostridia	Desulfotomaculum reducens	
1550	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1551	64.49 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1552	72.75 Bacilli	Bacillus cereus 03BB102	
1553	71.18 No hit	none	
1554	63.84 Proteobacteria	Anaeromyxobacter sp. Fw109-5	
1555	71.85 Bacilli	Bacillus cereus G9842	
1556	65.11 Clostridia	Thermincola sp. JR	
1557	67.57 No hit	none	
1558	68.96 Clostridia	Pelotomaculum thermopropionicum	
1559	73.41 Bacilli	Bacillus halodurans	
1560	62.93 Clostridia	Thermincola sp. JR	
1561	70.99 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
1562	65.39 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. WCH70
1563	68.32 No hit	none	
1564	65.63 Clostridia	Heliobacterium modesticaldum	
1565	66.77 Proteobacteria	Pelobacter propionicus	
1566	66.44 Clostridia	Thermoanaerobacter sp. X514	
1567	66.91 Bacilli	Lysinibacillus sphaericus	
1568	67.55 Clostridia	Moorella thermoacetica	
1569	70.9 Bacilli	Brevibacillus brevis	
1570	71.98 No hit	none	
1571	68.58 Bacilli	Bacillus tusciae	
1572	65.21 Bacilli	Geobacillus thermodenitrificans	
1573	71.54 No hit	none	
1574	69.07 Bacilli	Bacillus tusciae	
1575	68.2 Others	Gemmatimonas aurantiaca	
1576	75.95 Clostridia	Clostridium phytofermentans	
1577	73.92 Bacilli	Geobacillus sp. WCH70	
1578	74.63 No hit	none	

1579	69.81 Bacilli	Geobacillus sp. C56-T3	
1580	72.02 Clostridia	Halothermothrix orenii	
1581	72.95 Bacilli	Bacillus megaterium QM B1551	
1582	65.6 Bacilli	Geobacillus sp. Y412MC61	
1583	67.96 Others	Deferribacter desulfuricans SSM1	
1584	71.33 Bacilli	Alicyclobacillus acidocaldarius	
1585	71.55 Clostridia	Thermincola sp. JR	
1586	61.29 Proteobacteria	Geobacter sp. M21	
1587	66.66 Fibrobacteres/Acidobacteria	Acidobacterium capsulatum	
1588	67.66 Others	Leptospira borgpetersenii JB197	
1589	65.1 Chloroflexi	Chloroflexus aggregans	
1590	72.96 Actinobacteria	Frankia sp. EAN1pec	
1591	66.97 Actinobacteria	Thermomonospora curvata	
1592	71.8 Actinobacteria	Conexibacter woesei	
1593	65.34 Bacilli	Brevibacillus brevis	
1594	66.05 Chloroflexi	Roseiflexus sp. RS-1	
1595	65.28 Bacteroidetes/Chlorobacteria	Chloroherpeton thalassium	
1596	67.31 Actinobacteria	Conexibacter woesei	
1597	69.05 Bacteroidetes/Chlorobacteria	Chitinophaga pinensis	
1598	70.18 Proteobacteria	Chromohalobacter salexigenans	
1599	61.08 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. WCH70
1600	71.52 Bacilli	Brevibacillus brevis	
1601	63.46 Bacilli	Bacillus halodurans	
1602	63.85 Bacilli	Bacillus pseudofirmus	
1603	65.25 Bacilli	Brevibacillus brevis	
1604	64.95 Bacilli	Geobacillus sp. Y412MC10	
1605	71.56 Clostridia	Candidatus Desulforudis audaxviator	
1606	71.06 No hit	none	
1607	73.77 Others	Gemmatimonas aurantiaca	
1608	71.48 No hit	none	
1609	70.84 Bacilli	Brevibacillus brevis	
1610	70.1 Proteobacteria	Rhizobium leguminosarum bv. trifolii WSM1325	

1611	72.22 No hit	none	
1612	70.19 Bacilli	Bacillus amyloliquefaciens	
1613	66.54 Clostridia	Thermincola sp. JR	
1614	67.42 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
1615	67.78 Clostridia	Pelotomaculum thermopropionicum	
1616	69.16 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
1617	69.39 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
1618	69.16 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
1619	72.84 Archaea/Eukaryota	Methanococcoides burtoni	
1620	70.07 No hit	none	
1621	69.36 Bacilli	Bacillus amyloliquefaciens	
1622	73.28 Clostridia	Halothermothrix orenii	
1623	67.76 Clostridia	Halothermothrix orenii	
1624	71.83 Bacilli	Paenibacillus sp. JDR-2	
1625	73.88 Clostridia	Moorella thermoacetica	
1626	65.78 Clostridia	Moorella thermoacetica	
1627	69.82 Clostridia	Thermincola sp. JR	
1628	75.86 Bacilli	Streptococcus gordonii	
1629	72.24 Symbiobacterium	Symbiobacterium thermophilum	Thermobaculum terrenum
1630	78.39 No hit	none	
1631	70.4 Proteobacteria	Shewanella denitrificans	
1632	71.72 Actinobacteria	Streptosporangium roseum	
1633	69.95 Clostridia	Pelotomaculum thermopropionicum	
1634	66.88 Bacilli	Paenibacillus sp. JDR-2	
1635	69.2 Clostridia	Thermoanaerobacter sp. X514	
1636	67.57 Bacilli	Exiguobacterium sp. AT1b	
1637	72.46 Clostridia	Syntrophomonas wolfe	
1638	71.25 Clostridia	Thermoanaerobacter tengcongensis	
1639	76.92 No hit	none	
1640	66.75 Clostridia	Pelotomaculum thermopropionicum	
1641	71.5 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1642	70.18 Bacilli	Paenibacillus sp. JDR-2	
1643	73.38 Clostridia	Anaerocellum thermophilum	

1644	71.2 Bacilli	Bacillus halodurans	
1645	64.39 Clostridia	Carboxydotherrnus hydrogenoforman	
1646	66.4 Clostridia	Clostridium novy:	
1647	67.55 Clostridia	Heliobacterium modesticaldun	
1648	70.06 Bacilli	Geobacillus sp. Y412MC10	
1649	73.51 No hit	none	
1650	72.15 Proteobacteria	Xanthobacter autotrophicus	
1651	69.5 Proteobacteria	Methylobacterium nodulan:	
1652	67.57 Proteobacteria	Bradyrhizobium sp. BTAi1	
1653	66.66 Clostridia	Thermincola sp. JR	
1654	72.72 Bacilli	Bacillus tusciae	
1655	67.85 Bacilli	Geobacillus sp. WCH70	
1656	69.09 Deinococcus-Thermus	Deinococcus radiodurans	
1657	64.58 Bacilli	Geobacillus sp. Y412MC10	
1658	63.7 Bacilli	Bacillus halodurans	
1659	66.25 Chloroflexi	Chloroflexus aggregans	
1660	65.81 Bacilli	Bacillus halodurans	
1661	68.37 Bacilli	Oceanobacillus iheyensis:	
1662	72.6 No hit	none	
1663	75.4 No hit	none	
1664	77.31 Dictyoglomi	Dictyoglomus thermophilun	
1665	67.14 Clostridia	Thermincola sp. JR	
1666	76.59 Chloroflexi	Roseiflexus sp. RS-1	
1667	71.42 No hit	none	
1668	69.45 Clostridia	Desulfitobacterium hafniense DCB-2	
1669	67.44 Clostridia	Alkaliphilus metalliredigen	
1670	66.74 Clostridia	Moorella thermoacetica:	
1671	64.57 Symbiobacterium	Symbiobacterium thermophilun	Geobacillus sp. Y412MC61
1672	71.89 Clostridia	Desulfotomaculum reducens:	
1673	67.06 Clostridia	Desulfotomaculum acetoxidans:	
1674	73.9 Bacilli	Brevibacillus brevis	
1675	69.31 Bacilli	Geobacillus sp. Y412MC10	
1676	75.96 No hit	none	

1677	71.91 Symbiobacterium	Symbiobacterium thermophilum	Moorella thermoacetica
1678	72.79 Clostridia	Syntrophomonas wolfe	
1679	67.79 Clostridia	Thermincola sp. JR	
1680	70 Clostridia	Carboxydothermus hydrogenoformans	
1681	73.08 Clostridia	Alkaliphilus oremlandii	
1682	76.58 Bacilli	Bacillus thuringiensis BMB171	
1683	73.25 No hit	none	
1684	66.12 Clostridia	Thermincola sp. JR	
1685	70.48 Clostridia	Heliobacterium modesticaldum	
1686	68.16 Clostridia	Pelotomaculum thermopropionicum	
1687	65.39 Symbiobacterium	Symbiobacterium thermophilum	Chitinophaga pinensis
1688	69.53 Others	Denitrovibrio acetiphilus	
1689	69.35 Clostridia	Alkaliphilus oremlandii	
1690	72.93 Others	Denitrovibrio acetiphilus	
1691	72.25 Thermobaculum	Thermobaculum terrenum	
1692	70.38 Chloroflexi	Herpetosiphon aurantiacus	
1693	66.17 No hit	none	
1694	66.44 Bacilli	Bacillus tusciae	
1695	71.22 Clostridia	Pelotomaculum thermopropionicum	
1696	67.29 Clostridia	Carboxydothermus hydrogenoformans	
1697	70.45 Clostridia	Syntrophothermus lipocalidus	
1698	72.22 Bacilli	Geobacillus sp. Y412MC10	
1699	69.99 Symbiobacterium	Symbiobacterium thermophilum	Conexibacter woesei
1700	68.66 Others	Treponema denticola	
1701	69.64 Proteobacteria	Xanthomonas campestris pv. vesicatoria	
1702	67.56 Others	Fusobacterium nucleatum	
1703	69.64 Clostridia	Ammonifex degensi	
1704	71.44 Archaea/Eukaryota	Pyrococcus abyssi	
1705	74.83 No hit	none	
1706	68.91 No hit	none	
1707	70.24 Bacilli	Bacillus tusciae	
1708	70.74 Proteobacteria	Desulfovibrio magneticus	
1709	73 Chloroflexi	Roseiflexus castenholzii DSM13941	

1710	63.12 Clostridia	Caldicellulosiruptor saccharolyticus	
1711	69.8 Clostridia	Thermoanaerobacter tengcongensis	
1712	74.94 No hit	none	
1713	71.39 Chloroflexi	Roseiflexus sp. RS-1	
1714	69.26 Clostridia	Thermincola sp. JR	
1715	70.06 Chloroflexi	Herpetosiphon aurantiacus	
1716	68.98 Clostridia	Thermincola sp. JR	
1717	75.06 No hit	none	
1718	75.68 Clostridia	Syntrophothermus lipocalidus	
1719	72.49 Cyanobacteria	Microcystis aeruginosa	
1720	66.66 Clostridia	Desulfotobacterium hafniense DCB-2	
1721	70.65 Clostridia	Thermincola sp. JR	
1722	73.58 Cyanobacteria	Cyanothece sp. PCC 7425	
1723	66.19 Bacilli	Bacillus megaterium DSM319	
1724	63.65 Chloroflexi	Sphaerobacter thermophilus	
1725	64.06 Symbiobacterium	Symbiobacterium thermophilum	Uncultured methanogenic archaeon RC
1726	67.52 No hit	none	
1727	70.58 Bacilli	Brevibacillus brevis	
1728	71.05 Clostridia	Alkaliphilus metalliredigen	
1729	69.7 Actinobacteria	Conexibacter woesei	
1730	67.42 Symbiobacterium	Symbiobacterium thermophilum	Paenibacillus sp. JDR-2
1731	66.66 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. WCH70
1732	67.23 Bacilli	Geobacillus sp. C56-T3	
1733	67.13 Chloroflexi	Roseiflexus castenholzii DSM13941	
1734	73.52 No hit	none	
1735	70.23 Bacilli	Brevibacillus brevis	
1736	66.34 Bacilli	Geobacillus sp. WCH70	
1737	70.55 Clostridia	Heliobacterium modesticaldum	
1738	71.45 Clostridia	Desulfotomaculum acetoxidans	
1739	71.14 Bacilli	Bacillus pumilus	
1740	73.83 No hit	none	
1741	67.79 Bacilli	Bacillus clausii	
1742	69.89 Clostridia	Clostridium beijerincki	

1743	68.73 Clostridia	<i>Clostridium botulinum</i> A2	
1744	67.09 Bacilli	<i>Bacillus megaterium</i> DSM319	
1745	72.15 Clostridia	<i>Moorella thermoacetica</i>	
1746	63.73 Clostridia	<i>Thermincola</i> sp. JR	
1747	69.37 Bacilli	<i>Geobacillus</i> sp. Y412MC10	
1748	72.74 Clostridia	<i>Clostridium thermocellum</i>	
1749	60.25 No hit	none	
1750	72.4 Others	<i>Acholeplasma laidlawi</i>	
1751	71.04 Archaea/Eukaryota	<i>Methanosarcina mazei</i>	
1752	69.75 Clostridia	<i>Ammonifex degensi</i>	
1753	72.28 No hit	none	
1754	62.55 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Geobacillus</i> sp. Y412MC61
1755	64.81 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Geobacillus</i> sp. Y412MC61
1756	71.73 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Pelotomaculum thermopropionicum</i>
1757	69.9 Clostridia	<i>Thermincola</i> sp. JR	
1758	71.46 Clostridia	<i>Clostridium cellulolyticum</i>	
1759	67.51 Bacilli	<i>Anoxybacillus flavithermus</i>	
1760	67.07 No hit	none	
1761	66.04 Bacilli	<i>Geobacillus</i> sp. WCH70	
1762	73.28 Bacilli	<i>Bacillus megaterium</i> QM B1551	
1763	65.55 Bacilli	<i>Paenibacillus</i> sp. JDR-2	
1764	68.65 No hit	none	
1765	67.36 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Pelotomaculum thermopropionicum</i>
1766	63.24 No hit	none	
1767	68.58 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Myxococcus xanthus</i>
1768	74.09 Chloroflexi	<i>Sphaerobacter thermophilus</i>	
1769	74.4 Chloroflexi	<i>Thermomicrobium roseum</i>	
1770	71.66 Chloroflexi	<i>Sphaerobacter thermophilus</i>	
1771	64.19 No hit	none	
1772	73.19 No hit	none	
1773	72.26 Bacilli	<i>Brevibacillus brevis</i>	
1774	70.59 Chloroflexi	<i>Roseiflexus castenholzii</i> DSM13941	
1775	70.1 Clostridia	<i>Desulfotomaculum acetoxidans</i>	

1776	67.05 Clostridia	Desulfotomaculum acetoxidans	
1777	66.28 Proteobacteria	Geobacter sulfurreducens	
1778	64.72 Clostridia	Thermincola sp. JR	
1779	67.11 Clostridia	Thermincola sp. JR	
1780	72.15 Archaea/Eukaryota	Cyanidioschyzon merolae	
1781	65.22 No hit	none	
1782	67.76 Clostridia	Thermoanaerobacter tengcongensis	
1783	70.84 Clostridia	Desulfotomaculum reducens	
1784	73.42 Clostridia	Natranaerobius thermophilus	
1785	68.18 Clostridia	Heliobacterium modesticaldum	
1786	67.6 Clostridia	Syntrophothermus lipocalidus	
1787	70.05 Clostridia	Candidatus Desulforudis audaxviator	
1788	67.69 Clostridia	Caldicellulosiruptor saccharolyticus	
1789	71.12 Bacilli	Bacillus tusciae	
1790	70.45 Clostridia	Thermincola sp. JR	
1791	68.66 Archaea/Eukaryota	Dictyostelium discoideum (cellular slime mold)	
1792	69.52 Bacilli	Alicyclobacillus acidocaldarius	
1793	65.09 Chloroflexi	Sphaerobacter thermophilus	
1794	64.72 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
1795	71.21 Clostridia	Syntrophomonas wolfe	
1796	75.32 No hit	none	
1797	74.86 Clostridia	Candidatus Desulforudis audaxviator	
1798	73.86 Clostridia	Thermincola sp. JR	
1799	71.62 Clostridia	Moorella thermoacetica	
1800	69.66 No hit	none	
1801	71.38 Bacilli	Bacillus tusciae	
1802	71.06 Clostridia	Moorella thermoacetica	
1803	70.51 Clostridia	Thermincola sp. JR	
1804	68.4 Clostridia	Desulfotomaculum acetoxidans	
1805	73.4 Clostridia	Thermincola sp. JR	
1806	69.47 Bacilli	Brevibacillus brevis	
1807	73.22 Bacilli	Paenibacillus sp. JDR-2	

1808	67.24 Symbiobacterium	Symbiobacterium thermophilum	Desulfitobacterium hafniense DCB-2
1809	72.01 Symbiobacterium	Symbiobacterium thermophilum	Acidobacteria bacterium
1810	71.17 Bacilli	Paenibacillus sp. JDR-2	
1811	72.49 Bacilli	Brevibacillus brevis	
1812	71.35 Bacilli	Geobacillus sp. Y412MC10	
1813	69.44 Clostridia	Moorella thermoacetica	
1814	69.89 Clostridia	Desulfotomaculum acetoxidans	
1815	68.23 Clostridia	Desulfitobacterium hafniense DCB-2	
1816	70.95 Symbiobacterium	Symbiobacterium thermophilum	Desulfotomaculum acetoxidans
1817	73.37 No hit	none	
1818	70.37 No hit	none	
1819	68.88 No hit	none	
1820	69.54 Clostridia	Anaerocellum thermophilum	
1821	64.06 Clostridia	Thermincola sp. JR	
1822	68.36 Bacilli	Geobacillus sp. WCH70	
1823	72.42 Bacilli	Bacillus tusciae	
1824	74.11 Clostridia	Thermincola sp. JR	
1825	68.97 Clostridia	Alkaliphilus orelandi	
1826	74.86 Clostridia	Alkaliphilus metalliredigen	
1827	66.29 Clostridia	Thermoanaerobacter tengcongensis	
1828	72.71 Clostridia	Clostridium acetobutylicum	
1829	71.77 Clostridia	Alkaliphilus metalliredigen	
1830	71.41 Clostridia	Natranaerobius thermophilus	
1831	69.67 Bacilli	Brevibacillus brevis	
1832	70.64 Clostridia	Heliobacterium modesticaldum	
1833	69 Bacilli	Paenibacillus sp. JDR-2	
1834	64.28 No hit	none	
1835	72.36 Bacilli	Brevibacillus brevis	
1836	69.09 Clostridia	Pelotomaculum thermopropionicum	
1837	72.41 Clostridia	Desulfotomaculum acetoxidans	
1838	79.41 No hit	none	
1839	59.06 No hit	none	
1840	67.8 No hit	none	

1841	72.35 Clostridia	Thermoanaerobacter tengcongensis	
1842	70.57 Clostridia	Desulfotomaculum reducens	
1843	65.18 Clostridia	Desulfitobacterium hafniense DCB-2	
1844	72.59 Proteobacteria	Pelobacter carbinolicus	
1845	69.33 Bacilli	Bacillus tusciae	
1846	72.11 Clostridia	Desulfotomaculum reducens	
1847	69.33 Clostridia	Moorella thermoacetica	
1848	73.52 Clostridia	Moorella thermoacetica	
1849	67.96 Clostridia	Desulfotomaculum acetoxidans	
1850	59.55 Clostridia	Clostridium thermocellum	
1851	65.2 Clostridia	Moorella thermoacetica	
1852	65.38 Clostridia	Thermincola sp. JR	
1853	75.52 Proteobacteria	Wolbachia wMel	
1854	75.97 No hit	none	
1855	73.63 Clostridia	Desulfotomaculum acetoxidans	
1856	70.93 Bacilli	Bacillus megaterium QM B1551	
1857	73.57 Clostridia	Thermoanaerobacter tengcongensis	
1858	69.36 Clostridia	Thermincola sp. JR	
1859	64.59 Clostridia	Heliobacterium modesticaldum	
1860	63.28 Clostridia	Pelotomaculum thermopropionicum	
1861	75.28 Clostridia	Desulfotomaculum reducens	
1862	75.31 Clostridia	Thermincola sp. JR	
1863	65.27 Clostridia	Thermincola sp. JR	
1864	62.36 Clostridia	Ammonifex degensi	
1865	67.13 Clostridia	Desulfotomaculum reducens	
1866	67.53 Proteobacteria	Geobacter uraniumreducens	
1867	61.08 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. WCH70
1868	71.51 Clostridia	Clostridium botulinum E2	
1869	73.55 Clostridia	Clostridium thermocellum	
1870	67.66 Clostridia	Clostridium thermocellum	
1871	66.53 Proteobacteria	Maricaulis maris	
1872	68.02 Clostridia	Thermoanaerobacter pseudethanolicus	
1873	67.8 Clostridia	Thermoanaerobacter pseudethanolicus	

1874	74.48 Clostridia	Thermincola sp. JR	
1875	72.83 Others	Actinosynnema mirum	
1876	69.67 Archaea/Eukaryota	Haloferax volcanii	
1877	65.23 Bacilli	Bacillus megaterium DSM319	
1878	68.22 Clostridia	Halothermothrix orenii	
1879	71.78 Clostridia	Alkaliphilus metalliredigen	
1880	69.98 Bacilli	Geobacillus sp. WCH70	
1881	70.82 Clostridia	Syntrophothermus lipocalidus	
1882	63.98 Clostridia	Thermoanaerobacter sp. X514	
1883	69.74 Clostridia	Acidaminococcus fermentans	
1884	64.57 Proteobacteria	Myxococcus xanthus	
1885	71.05 Clostridia	Thermincola sp. JR	
1886	70.57 Symbiobacterium	Symbiobacterium thermophilum	Nematostella vectensis (sea anemone)
1887	69.87 Clostridia	Syntrophothermus lipocalidus	
1888	76.11 Clostridia	Thermincola sp. JR	
1889	69.78 Symbiobacterium	Symbiobacterium thermophilum	Moorella thermoacetica
1890	70.33 Proteobacteria	Pseudomonas putida GB-1	
1891	74.59 Bacilli	Geobacillus thermodenitrificans	
1892	66.82 Clostridia	Moorella thermoacetica	
1893	71.92 Clostridia	Thermoanaerobacter tengcongensis	
1894	60.64 Clostridia	Carboxydotherrmus hydrogenoformans	
1895	75.12 No hit	none	
1896	76.51 No hit	none	
1897	70.79 Proteobacteria	Delftia acidovorans	
1898	72.08 Clostridia	Clostridium botulinum B1 Okra	
1899	71.51 Clostridia	Moorella thermoacetica	
1900	73.91 Bacilli	Bacillus tusciae	
1901	66.66 Clostridia	Halothermothrix orenii	
1902	72.75 Thermobaculum	Thermobaculum terrenum	
1903	72.41 Chloroflexi	Chloroflexus sp. Y-400-fl	
1904	69.79 Bacilli	Bacillus thuringiensis Al Hakam	
1905	72.75 No hit	none	
1906	69.57 Symbiobacterium	Symbiobacterium thermophilum	

1907	69.51 No hit	none	
1908	68.38 Proteobacteria	Burkholderia vietnamiensis	
1909	57.27 Proteobacteria	Desulfovibrio salexigenans	
1910	66.1 Proteobacteria	Burkholderia vietnamiensis	
1911	72.16 Clostridia	Coprothermobacter proteolyticus	
1912	72.44 Bacilli	Bacillus pseudofirmus	
1913	74.69 Clostridia	Halothermothrix orenii	
1914	74.78 Actinobacteria	Salinispora tropica	
1915	72.95 Bacilli	Brevibacillus brevis	
1916	71.16 No hit	none	
1917	68.03 Bacilli	Bacillus tusciae	
1918	70.9 Bacilli	Bacillus tusciae	
1919	69.4 Bacilli	Geobacillus sp. C56-T3	
1920	70.15 Clostridia	Desulfitobacterium hafniense Y51	
1921	61.49 Bacilli	Bacillus tusciae	
1922	68.52 Bacilli	Geobacillus sp. WCH70	
1923	73.15 Proteobacteria	Myxococcus xanthus	
1924	75 Clostridia	Desulfotomaculum reducens	
1925	73.03 Clostridia	Desulfotomaculum reducens	
1926	75.27 Clostridia	Thermincola sp. JR	
1927	75.39 Clostridia	Desulfotomaculum reducens	
1928	73.36 Clostridia	Syntrophothermus lipocalidus	
1929	69.22 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
1930	73.36 Clostridia	Moorella thermoacetica	
1931	70.92 Clostridia	Carboxydotherrnus hydrogeniformans	
1932	71.84 Clostridia	Ammonifex degensi	
1933	74.06 Proteobacteria	Syntrophus aciditrophicus	
1934	72.57 Clostridia	Syntrophothermus lipocalidus	
1935	71.57 Symbiobacterium	Symbiobacterium thermophilum	Syntrophothermus lipocalidus
1936	68.81 Actinobacteria	Saccharopolyspora erythraea	
1937	73.88 Clostridia	Clostridium novyi	
1938	75.71 Clostridia	Coprothermobacter proteolyticus	
1939	65.63 Clostridia	Coprothermobacter proteolyticus	

1940	71.67 Clostridia	Coprothermobacter proteolyticus	
1941	65.73 Clostridia	Coprothermobacter proteolyticus	
1942	65.99 Clostridia	Coprothermobacter proteolyticus	
1943	64.93 Clostridia	Clostridium cellulolyticum	
1944	69.68 Bacilli	Lysinibacillus sphaericus	
1945	77.7 No hit	none	
1946	70.2 Chloroflexi	Herpetosiphon aurantiacus	
1947	71.73 Bacilli	Brevibacillus brevis	
1948	71.58 Clostridia	Ammonifex degensi	
1949	73.33 Proteobacteria	Burkholderia xenovorans	
1950	74.06 Clostridia	Candidatus Desulforudis audaxviator	
1951	70.54 Clostridia	Ammonifex degensi	
1952	73.22 Bacilli	Brevibacillus brevis	
1953	69.8 Clostridia	Natranaerobius thermophilus	
1954	74.27 No hit	none	
1955	71.84 Clostridia	Alkaliphilus orelandi	
1956	71.54 Clostridia	Alkaliphilus orelandi	
1957	67.56 Bacilli	Geobacillus sp. Y412MC10	
1958	62.44 Clostridia	Desulfotomaculum acetoxidans	
1959	73.42 Bacilli	Bacillus licheniformis DSM13	
1960	74.72 Bacilli	Bacillus licheniformis DSM13	
1961	66.33 Bacilli	Bacillus licheniformis DSM13	
1962	72.26 No hit	none	
1963	66.43 Proteobacteria	Rhizobium etli CIAT 652	
1964	62.62 No hit	none	
1965	68.61 Bacilli	Exiguobacterium sp. AT1b	
1966	66.82 Bacilli	Bacillus anthracis A0248	
1967	67.28 Archaea/Eukaryota	Pan troglodytes (chimpanzee)	
1968	69.79 Bacilli	Geobacillus sp. C56-T3	
1969	66.29 Clostridia	Thermoanaerobacter tengcongensis	
1970	69.62 Proteobacteria	Bordetella bronchiseptica	
1971	68 Bacilli	Bacillus tusciae	
1972	72.12 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR

1973	70.94 Bacilli	<i>Alicyclobacillus acidocaldarius</i>
1974	72.57 Chloroflexi	<i>Roseiflexus</i> sp. RS-1
1975	73.65 Bacilli	<i>Geobacillus</i> sp. Y412MC10
1976	67.54 Bacilli	<i>Bacillus halodurans</i>
1977	67.5 Clostridia	<i>Clostridium thermocellum</i>
1978	70.52 Bacilli	<i>Bacillus megaterium</i> DSM319
1979	72.57 Fibrobacteres/Acidobacteria	<i>Solibacter usitatus</i>
1980	64.74 Bacilli	<i>Geobacillus</i> sp. Y412MC61
1981	68.5 Clostridia	<i>Clostridium tetani</i> E88
1982	69.92 Bacilli	<i>Geobacillus</i> sp. C56-T3
1983	73.33 Bacilli	<i>Geobacillus</i> sp. Y412MC10
1984	70.43 Chloroflexi	<i>Roseiflexus castenholzii</i> DSM13941
1985	78.25 Chloroflexi	<i>Chloroflexus aggregans</i>
1986	76.06 Clostridia	<i>Desulfotomaculum reducens</i>
1987	69.72 Bacilli	<i>Brevibacillus brevis</i>
1988	71.09 Clostridia	<i>Desulfotomaculum reducens</i>
1989	62.34 No hit	none
1990	72.48 Chloroflexi	<i>Sphaerobacter thermophilus</i>
1991	74.65 Clostridia	<i>Thermoanaerobacter pseudethanolicus</i>
1992	69.69 Bacilli	<i>Brevibacillus brevis</i>
1993	60 Clostridia	<i>Candidatus Desulforudis audaxviator</i>
1994	71.26 Bacilli	<i>Brevibacillus brevis</i>
1995	69.98 Chloroflexi	<i>Roseiflexus castenholzii</i> DSM13941
1996	73.19 Bacilli	<i>Bacillus tusciae</i>
1997	70.79 No hit	none
1998	61.68 Clostridia	<i>Thermincola</i> sp. JR
1999	69.79 Clostridia	<i>Thermoanaerobacter</i> sp. X514
2000	69.98 Clostridia	<i>Thermincola</i> sp. JR
2001	65.65 No hit	none
2002	73.13 Clostridia	<i>Desulfitobacterium hafniense</i> DCB-2
2003	71.33 Clostridia	<i>Desulfitobacterium hafniense</i> Y51
2004	70.94 Deinococcus-Thermus	<i>Deinococcus radiodurans</i>
2005	71.73 Clostridia	<i>Thermoanaerobacter mathranii</i>

2006	75.8 Clostridia	<i>Thermoanaerobacter italicus</i>	
2007	70.14 Clostridia	<i>Alkaliphilus metalliredigen</i>	
2008	73.86 Thermotogae	<i>Kosmotoga olearia</i>	
2009	71.83 Deinococcus-Thermus	<i>Meiothermus silvanus</i>	
2010	69.39 Clostridia	<i>Clostridium botulinum</i> Ba4	
2011	64.71 Bacilli	<i>Bacillus tusciae</i>	
2012	70.64 Bacilli	<i>Brevibacillus brevis</i>	
2013	73.39 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Coprothermobacter proteolyticus</i>
2014	64.57 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Geobacillus</i> sp. Y412MC61
2015	68.59 Clostridia	<i>Desulfotomaculum acetoxidans</i>	
2016	68.28 Clostridia	<i>Desulfotomaculum acetoxidans</i>	
2017	68.38 Clostridia	<i>Pelotomaculum thermopropionicum</i>	
2018	69.85 Bacteroidetes/Chlorob	<i>Chlorobaculum parvum</i> NCIB 8327	
2019	67.96 No hit	none	
2020	71.66 No hit	none	
2021	71.87 Proteobacteria	<i>Sorangium cellulosum</i>	
2022	61.01 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Geobacillus</i> sp. WCH70
2023	68.05 Bacilli	<i>Paenibacillus</i> sp. JDR-2	
2024	72.79 Proteobacteria	<i>Geobacter sulfurreducens</i>	
2025	75 Dictyoglomi	<i>Dictyoglomus thermophilum</i>	
2026	71.15 Proteobacteria	<i>Desulfomicrobium baculatum</i>	
2027	71.92 Bacilli	<i>Bacillus pseudofirmus</i>	
2028	75.52 No hit	none	
2029	72.32 Clostridia	<i>Thermoanaerobacter tengcongensis</i>	
2030	72.27 Bacteroidetes/Chlorob	<i>Croceibacter atlanticus</i>	
2031	70.14 Bacilli	<i>Brevibacillus brevis</i>	
2032	73.95 No hit	none	
2033	70.23 Bacilli	<i>Brevibacillus brevis</i>	
2034	65.13 Bacilli	<i>Bacillus cereus</i> Q1	
2035	70.06 Chloroflexi	<i>Thermomicrobium roseum</i>	
2036	66.83 Bacilli	<i>Alicyclobacillus acidocaldarius</i>	
2037	63.06 Bacilli	<i>Bacillus tusciae</i>	
2038	64.31 Bacilli	<i>Bacillus tusciae</i>	

2039	68.3 Bacilli	Bacillus tusciae	
2040	63.17 Deinococcus-Thermus	Meiothermus silvanus	
2041	67.08 Bacilli	Geobacillus sp. Y412MC10	
2042	67.87 Proteobacteria	Sulfurimonas denitrificans	
2043	68.48 Bacilli	Alicyclobacillus acidocaldarius	
2044	71.66 No hit	none	
2045	67.97 Proteobacteria	Rhodopseudomonas palustris CGA009	
2046	72.68 Proteobacteria	Sorangium cellulosum	
2047	66.98 Aquificae	Thermocrinis albus	
2048	71.49 Proteobacteria	Desulfatibacillum alkenivorans	
2049	69.53 Proteobacteria	Desulfatibacillum alkenivorans	
2050	70.02 Clostridia	Veillonella parvula	
2051	71.56 Archaea/Eukaryota	Methanoculleus marisnigr	
2052	75 Archaea/Eukaryota	Pyrococcus abyssi	
2053	73.22 No hit	none	
2054	74.63 Clostridia	Desulfitobacterium hafniense DCB-2	
2055	69.73 Proteobacteria	Shewanella violacea	
2056	68.61 Clostridia	Moorella thermoacetica	
2057	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2058	65.77 Chloroflexi	Roseiflexus sp. RS-1	
2059	73.95 Thermotogae	Thermotoga lettingae	
2060	73.05 Archaea/Eukaryota	Picrophilus torridus	
2061	69.32 Clostridia	Thermincola sp. JR	
2062	73.88 Clostridia	Clostridium tetani E88	
2063	66.35 Others	Thermanaerovibrio acidaminovorans	
2064	60.07 Clostridia	Clostridium botulinum A ATCC 19397	
2065	65.63 Archaea/Eukaryota	Branchiostoma floridae (Florida)	
2066	70.28 Chloroflexi	Sphaerobacter thermophilus	
2067	64.44 No hit	none	
2068	68.05 Clostridia	Clostridium cellulolyticum	
2069	74.5 No hit	none	
2070	71.82 Proteobacteria	Bdellovibrio bacteriovorus	
2071	72.9 No hit	none	

2072	68.01 Bacilli	<i>Bacillus subtilis</i>	
2073	75 No hit	none	
2074	69.91 Bacilli	<i>Geobacillus</i> sp. Y412MC10	
2075	71.18 Bacilli	<i>Geobacillus</i> sp. Y412MC10	
2076	69.64 Bacilli	<i>Geobacillus</i> sp. Y412MC10	
2077	65.59 Clostridia	<i>Syntrophothermus lipocalidus</i>	
2078	67.19 Chloroflexi	<i>Chloroflexus</i> sp. Y-400-fl	
2079	71.42 Bacilli	<i>Oceanobacillus iheyensis</i>	
2080	71.07 Bacilli	<i>Lysinibacillus sphaericus</i>	
2081	67.76 Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
2082	69.01 Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
2083	69.13 Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
2084	59.11 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Methylobacterium nodulans</i>
2085	64.44 Bacilli	<i>Geobacillus</i> sp. Y412MC10	
2086	59.6 Proteobacteria	<i>Marinobacter aquaeolei</i>	
2087	68.81 Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
2088	72.34 Clostridia	<i>Desulfitobacterium hafniense</i> Y51	
2089	73.4 Clostridia	<i>Carboxydothermus hydrogenoformans</i>	
2090	70.51 Deinococcus-Thermus	<i>Truepera radiovictrix</i>	
2091	70.17 No hit	none	
2092	67.59 Chloroflexi	<i>Sphaerobacter thermophilus</i>	
2093	68.67 Proteobacteria	<i>Rhodospirillum centenum</i>	
2094	70.8 Proteobacteria	<i>Anaeromyxobacter</i> sp. Fw109-5	
2095	72.4 Chloroflexi	<i>Roseiflexus castenholzii</i> DSM13941	
2096	68.31 Chloroflexi	<i>Roseiflexus</i> sp. RS-1	
2097	66.4 Deinococcus-Thermus	<i>Truepera radiovictrix</i>	
2098	65.24 Chloroflexi	<i>Roseiflexus</i> sp. RS-1	
2099	65.82 Chloroflexi	<i>Sphaerobacter thermophilus</i>	
2100	67.22 Others	<i>Gemmatimonas aurantiaca</i>	
2101	64.49 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Beutenbergia cavernae</i>
2102	68.57 Actinobacteria	<i>Beutenbergia cavernae</i>	
2103	69.95 Proteobacteria	<i>Aeromonas hydrophila</i>	
2104	68.57 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Desulfotomaculum acetoxidans</i>

2105	66.76 Clostridia	Moorella thermoacetica
2106	68.41 Bacilli	Brevibacillus brevis
2107	71.25 Clostridia	Syntrophomonas wolfe
2108	69.58 Clostridia	Syntrophomonas wolfe
2109	72.6 Clostridia	Syntrophomonas wolfe
2110	71.42 Bacilli	Geobacillus kaustophilus
2111	64.5 Clostridia	Thermoanaerobacter pseudethanolicus
2112	69.09 Chloroflexi	Sphaerobacter thermophilus
2113	70.29 Bacilli	Bacillus tusciae
2114	71.88 Clostridia	Desulfotomaculum acetoxidans
2115	67.53 Bacilli	Brevibacillus brevis
2116	70.74 Thermobaculum	Thermobaculum terrenum
2117	71.89 Bacilli	Geobacillus sp. Y412MC10
2118	68.86 No hit	none
2119	70.33 Bacilli	Geobacillus sp. WCH70
2120	66.66 Bacilli	Bacillus halodurans
2121	70.09 Proteobacteria	Geobacter sp. FRC-32
2122	76.9 No hit	none
2123	71.25 Clostridia	Candidatus Desulforudis audaxviator
2124	72.22 Clostridia	Coprothermobacter proteolyticus
2125	71.24 Proteobacteria	Ralstonia eutropha JMP134
2126	73.06 Bacilli	Bacillus tusciae
2127	73.23 Clostridia	Moorella thermoacetica
2128	73.12 No hit	none
2129	68.51 No hit	none
2130	67.91 No hit	none
2131	69.91 Clostridia	Pelotomaculum thermopropionicum
2132	70.56 Clostridia	Halothermothrix orenii
2133	70.83 Clostridia	Natranaerobius thermophilus
2134	74.11 No hit	none
2135	70.05 Proteobacteria	Geobacter bemidjiensis
2136	67.47 No hit	none
2137	67.97 Clostridia	Halothermothrix orenii

2138	66.66 Clostridia	Heliobacterium modesticaldun	
2139	71.25 Clostridia	Desulfitobacterium hafniense DCB-2	
2140	70.03 Proteobacteria	Desulfobacterium autotrophicum	
2141	67.33 Bacilli	Brevibacillus brevis	
2142	69.08 No hit	none	
2143	67.61 Bacilli	Bacillus selenitireducens	
2144	69.12 Symbiobacterium	Symbiobacterium thermophilum	Syntrophomonas wolfe
2145	65.67 Clostridia	Ammonifex degensi	
2146	72 Proteobacteria	Mesorhizobium sp. BNC1	
2147	70.28 Proteobacteria	Burkholderia phytofirmans	
2148	74.63 No hit	none	
2149	70.51 Bacilli	Bacillus cereus 03BB102	
2150	72.52 Bacilli	Geobacillus sp. WCH70	
2151	76.16 Symbiobacterium	Symbiobacterium thermophilum	
2152	73.53 Bacilli	Brevibacillus brevis	
2153	70.09 Bacilli	Alicyclobacillus acidocaldarius	
2154	75.41 Bacilli	Bacillus weihenstephanensis	
2155	72.66 Clostridia	Coprothermobacter proteolyticus	
2156	65.68 Clostridia	Coprothermobacter proteolyticus	
2157	71.6 Clostridia	Coprothermobacter proteolyticus	
2158	70.52 Clostridia	Coprothermobacter proteolyticus	
2159	70.54 Clostridia	Coprothermobacter proteolyticus	
2160	72.82 Bacilli	Brevibacillus brevis	
2161	68.59 Bacilli	Brevibacillus brevis	
2162	70.82 Bacilli	Geobacillus sp. C56-T3	
2163	71.53 Bacilli	Brevibacillus brevis	
2164	69.74 Bacilli	Bacillus pseudofirmus	
2165	69.89 Symbiobacterium	Symbiobacterium thermophilum	
2166	72.27 Proteobacteria	Aeromonas salmonicida	
2167	70.41 No hit	none	
2168	73.73 Clostridia	Pelotomaculum thermopropionicum	
2169	75.23 Clostridia	Desulfotomaculum reducens	
2170	47.59 Cyanobacteria	Cyanothece sp. PCC 8802	

2171	47.9 Cyanobacteria	Cyanothece sp. PCC 8802
2172	70.47 Chloroflexi	Sphaerobacter thermophilus
2173	73.59 Clostridia	Moorella thermoacetica
2174	72.58 Clostridia	Desulfotomaculum reducens
2175	74.68 Bacilli	Bacillus megaterium DSM319
2176	73.05 Bacilli	Geobacillus sp. WCH70
2177	75.51 No hit	none
2178	66.35 No hit	none
2179	67.62 Bacilli	Paenibacillus sp. JDR-2
2180	67.75 Clostridia	Clostridium acetobutylicum
2181	65.91 Bacilli	Geobacillus sp. WCH70
2182	70.9 Bacilli	Brevibacillus brevis
2183	63.64 Symbiobacterium	Symbiobacterium thermophilum
2184	68.58 Cyanobacteria	Gloeobacter violaceus
2185	68.98 Clostridia	Desulfitobacterium hafniense Y51
2186	70.64 No hit	none
2187	72.59 Clostridia	Caldicellulosiruptor saccharolyticus
2188	68.3 No hit	none
2189	72.34 Proteobacteria	Myxococcus xanthus
2190	70.16 Bacilli	Brevibacillus brevis
2191	72.27 Bacilli	Bacillus cereus 03BB102
2192	67.66 Chloroflexi	Herpetosiphon aurantiacus
2193	69.5 Chloroflexi	Chloroflexus sp. Y-400-fl
2194	71.63 Bacilli	Bacillus pseudofirmus
2195	70.15 Bacilli	Bacillus pseudofirmus
2196	71.56 Chloroflexi	Chloroflexus sp. Y-400-fl
2197	68.89 Proteobacteria	Cellvibrio japonicus
2198	75.19 Proteobacteria	Laribacter hongkongensis
2199	68.42 Actinobacteria	Rhodococcus sp. RHA1
2200	68.43 No hit	none
2201	69.75 No hit	none
2202	73.67 Others	Thermodesulfovibrio yellowstoni
2203	77.14 No hit	none

2204	69.49 Archaea/Eukaryota	<i>Aspergillus niger</i>	
2205	73.94 Clostridia	<i>Moorella thermoacetica</i>	
2206	75.81 Clostridia	<i>Moorella thermoacetica</i>	
2207	73.45 Clostridia	<i>Moorella thermoacetica</i>	
2208	69.06 Clostridia	<i>Clostridium beijerincki</i>	
2209	68.02 Bacteroidetes/Chlorob	<i>Bacteroides thetaiotaomicron</i>	
2210	70.78 Clostridia	<i>Thermoanaerobacter tengcongensis</i>	
2211	71 Clostridia	<i>Thermoanaerobacter tengcongensis</i>	
2212	73.59 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Sphaerobacter thermophilus</i>
2213	68.75 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	
2214	62.12 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Clostridium thermocellum</i>
2215	65.45 Proteobacteria	<i>Desulfococcus oleovorans</i>	
2216	61.78 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Mycobacterium marinum</i> M
2217	69.77 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	
2218	59.69 No hit	none	
2219	57.8 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Coprothermobacter proteolyticus</i>
2220	66.09 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	
2221	71.27 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Rhodospseudomonas palustris</i> HaA2
2222	68.24 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Aminobacterium colombiense</i>
2223	73.92 Bacilli	<i>Geobacillus</i> sp. C56-T3	
2224	72.7 Clostridia	<i>Thermoanaerobacter italicus</i>	
2225	71.33 Clostridia	<i>Thermoanaerobacter italicus</i>	
2226	70.64 Clostridia	<i>Thermoanaerobacter pseudethanolicus</i>	
2227	70.43 Symbiobacterium	<i>Symbiobacterium thermophilum</i>	<i>Herpetosiphon aurantiacus</i>
2228	66.66 Thermotogae	<i>Thermotoga lettingae</i>	
2229	65.73 Actinobacteria	<i>Geodermatophilus obscurus</i>	
2230	68.21 No hit	none	
2231	70.13 Clostridia	<i>Thermoanaerobacter italicus</i>	
2232	68.32 Clostridia	<i>Thermoanaerobacter</i> sp. X514	
2233	72.85 Clostridia	<i>Pelotomaculum thermopropionicum</i>	
2234	76.25 Clostridia	<i>Pelotomaculum thermopropionicum</i>	
2235	68.62 Clostridia	<i>Thermoanaerobacter pseudethanolicus</i>	
2236	70.94 Proteobacteria	<i>Klebsiella pneumoniae</i> 342	

2237	63.73	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2238	64.67	Symbiobacterium	Symbiobacterium thermophilum	
2239	70.51	Symbiobacterium	Symbiobacterium thermophilum	
2240	59.67	No hit	none	
2241	61.72	No hit	none	
2242	61.08	Symbiobacterium	Symbiobacterium thermophilum	Clostridium botulinum B1 Okra
2243	57.89	Symbiobacterium	Symbiobacterium thermophilum	Coprothermobacter proteolyticus
2244	62.19	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2245	61.08	Symbiobacterium	Symbiobacterium thermophilum	Alicyclobacillus acidocaldarius
2246	58.16	Symbiobacterium	Symbiobacterium thermophilum	
2247	71.08	Symbiobacterium	Symbiobacterium thermophilum	
2248	63.15	Symbiobacterium	Symbiobacterium thermophilum	Coprothermobacter proteolyticus
2249	62.09	Chloroflexi	Dehalococcoides ethenogene	
2250	72.72	Chloroflexi	Roseiflexus castenholzii DSM13941	
2251	68.38	Symbiobacterium	Symbiobacterium thermophilum	
2252	69.08	Symbiobacterium	Symbiobacterium thermophilum	
2253	63	Symbiobacterium	Symbiobacterium thermophilum	Coprothermobacter proteolyticus
2254	71.85	Clostridia	Thermincola sp. JR	
2255	69.29	Chloroflexi	Roseiflexus castenholzii DSM13941	
2256	66.14	Symbiobacterium	Symbiobacterium thermophilum	Syntrophomonas wolfe
2257	57.31	Clostridia	Clostridium difficile R20291	
2258	59.21	Bacilli	Alicyclobacillus acidocaldarius	
2259	64.42	Bacilli	Alicyclobacillus acidocaldarius	
2260	65.01	Bacilli	Alicyclobacillus acidocaldarius	
2261	67.76	Bacilli	Alicyclobacillus acidocaldarius	
2262	61.82	Symbiobacterium	Symbiobacterium thermophilum	Mycobacterium marinum M
2263	61.72	Symbiobacterium	Symbiobacterium thermophilum	Bacillus tusciae
2264	65.61	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2265	65.6	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2266	64.27	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2267	61.08	Symbiobacterium	Symbiobacterium thermophilum	Clostridium botulinum B1 Okra
2268	55.87	Symbiobacterium	Symbiobacterium thermophilum	
2269	61.47	No hit	none	

2270	60.06	Proteobacteria	Delftia acidovorans	
2271	59.16	Bacilli	Bacillus clausii	
2272	58.82	No hit	none	
2273	53.34	No hit	none	
2274	55.29	No hit	none	
2275	57.37	Symbiobacterium	Symbiobacterium thermophilum	Thauera sp. MZ1T
2276	60.8	No hit	none	
2277	61.8	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2278	64.39	Symbiobacterium	Symbiobacterium thermophilum	Syntrophomonas wolfe
2279	65.81	Symbiobacterium	Symbiobacterium thermophilum	Mycobacterium gilvum
2280	64.25	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2281	66.99	Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter pseudethanolicus
2282	69.6	Clostridia	Carboxydotherrmus hydrogenoformans	
2283	62.18	No hit	none	
2284	68.52	Symbiobacterium	Symbiobacterium thermophilum	
2285	61.3	Symbiobacterium	Symbiobacterium thermophilum	Coprothermobacter proteolyticus
2286	61.22	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2287	59.68	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2288	60.39	Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
2289	61.29	Symbiobacterium	Symbiobacterium thermophilum	Alicyclobacillus acidocaldarius
2290	65.43	No hit	none	
2291	72.8	Archaea/Eukaryota	Pyrococcus horikoshii	
2292	71.2	Archaea/Eukaryota	Pyrococcus horikoshii	
2293	66.96	Clostridia	Desulfotomaculum acetoxidans	
2294	68.37	Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter pseudethanolicus
2295	61.42	Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
2296	68.72	Symbiobacterium	Symbiobacterium thermophilum	Geobacter sulfurreducens
2297	67.36	Symbiobacterium	Symbiobacterium thermophilum	Aminobacterium colombiense
2298	69.39	Symbiobacterium	Symbiobacterium thermophilum	Heliobacterium modesticaldum
2299	76.15	Clostridia	Heliobacterium modesticaldum	
2300	69.84	Clostridia	Clostridium novyi	
2301	68.62	Clostridia	Heliobacterium modesticaldum	
2302	72.25	Symbiobacterium	Symbiobacterium thermophilum	Herpetosiphon aurantiacus

2303	70.98 Bacilli	Geobacillus sp. Y412MC10	
2304	69.93 Bacilli	Oceanobacillus iheyensis	
2305	66.84 Proteobacteria	Vibrio vulnificus CMCP6	
2306	75.4 Clostridia	Moorella thermoacetica	
2307	73.88 Clostridia	Moorella thermoacetica	
2308	67.32 Dictyoglomi	Dictyoglomus thermophilus	
2309	66.3 Clostridia	Coprothermobacter proteolyticus	
2310	74.76 Clostridia	Desulfotomaculum reducens	
2311	73.6 Clostridia	Pelotomaculum thermopropionicum	
2312	73.96 Clostridia	Thermoanaerobacter mathranii	
2313	73.35 Clostridia	Carboxydothermus hydrogenoformans	
2314	68.13 Bacilli	Brevibacillus brevis	
2315	66.78 Dictyoglomi	Dictyoglomus thermophilus	
2316	71.72 Clostridia	Natranaerobius thermophilus	
2317	69.23 No hit	none	
2318	73.25 Clostridia	Desulfotomaculum reducens	
2319	72.42 Bacilli	Paenibacillus sp. JDR-2	
2320	67.7 Bacilli	Brevibacillus brevis	
2321	70.24 Bacteroidetes/Chlorobi	Chloroherpeton thalassium	
2322	67.25 Chloroflexi	Thermomicrobium roseum	
2323	62.5 Chloroflexi	Chloroflexus sp. Y-400-fl	
2324	66.27 Symbiobacterium	Symbiobacterium thermophilum	Brevibacillus brevis
2325	74.96 Bacilli	Brevibacillus brevis	
2326	71.05 Proteobacteria	Anaeromyxobacter sp. Fw109-5	
2327	71.87 Proteobacteria	Desulfatibacillum alkenivorans	
2328	71.13 Proteobacteria	Pelobacter carbinolicus	
2329	65.65 Clostridia	Clostridium thermocellum	
2330	69.37 Clostridia	Desulfitobacterium hafniense Y51	
2331	67.16 Clostridia	Moorella thermoacetica	
2332	67.46 Clostridia	Moorella thermoacetica	
2333	70.47 Clostridia	Moorella thermoacetica	
2334	73.41 Clostridia	Halothermothrix orenii	
2335	66.58 Clostridia	Moorella thermoacetica	

2336	70.47 Thermobaculum	Thermobaculum terrenum
2337	66.66 Clostridia	Thermoanaerobacter mathranii
2338	65.88 Bacilli	Lactococcus lactis subsp. cremoris MG1363
2339	65.25 Actinobacteria	Sebaldella termitidis
2340	65.16 Actinobacteria	Sebaldella termitidis
2341	65.03 Actinobacteria	Sebaldella termitidis
2342	65.83 Actinobacteria	Sebaldella termitidis
2343	64.19 Actinobacteria	Sebaldella termitidis
2344	68.42 Bacilli	Brevibacillus brevis
2345	73.85 Bacilli	Brevibacillus brevis
2346	71.31 Archaea/Eukaryota	Thermococcus sibiricus
2347	67.31 Chloroflexi	Sphaerobacter thermophilus
2348	74.07 Thermobaculum	Thermobaculum terrenum
2349	73.23 Clostridia	Carboxydotherrnus hydrogenoforman
2350	68.66 Clostridia	Caldicellulosiruptor saccharolyticus
2351	76.17 Archaea/Eukaryota	Trichoplax adhaerens
2352	72.08 Fibrobacteres/Acidobacteria	Solibacter usitatus
2353	75.1 Actinobacteria	Catenulispora acidiphila
2354	72.57 Clostridia	Pelotomaculum thermopropionicum
2355	69.87 Clostridia	Pelotomaculum thermopropionicum
2356	73.12 Chloroflexi	Sphaerobacter thermophilus
2357	73.88 Bacilli	Geobacillus sp. Y412MC10
2358	71.64 Proteobacteria	Burkholderia multivorans ATCC 17616 (JGI)
2359	73.73 Proteobacteria	Burkholderia sp. CCGE1002
2360	71.82 Proteobacteria	Azospirillum sp. B510
2361	69.86 Proteobacteria	Bradyrhizobium japonicum
2362	70.17 Proteobacteria	Geobacter sulfurreducens
2363	71.38 Proteobacteria	Myxococcus xanthus
2364	72.92 Proteobacteria	Rhodospirillum centenum
2365	72.78 Clostridia	Clostridium thermocellum
2366	67.94 Cyanobacteria	Anabaena variabilis

2367	68.97 Bacilli	Lysinibacillus sphaericus	
2368	73.63 Proteobacteria	Klebsiella pneumoniae NTUH-K204	
2369	69.41 Bacilli	Geobacillus kaustophilus	
2370	64.46 Clostridia	Natranaerobius thermophilus	
2371	65.6 Bacteroidetes/Chlorobi	Chlorobium chlorochromati	
2372	63.49 No hit	none	
2373	73.04 No hit	none	
2374	71.28 No hit	none	
2375	69.64 Bacilli	Bacillus tusciae	
2376	69.78 Clostridia	Clostridium acetobutylicur	
2377	72.83 No hit	none	
2378	62.02 Symbiobacterium	Symbiobacterium thermophilun	
2379	61.9 No hit	none	
2380	59.42 No hit	none	
2381	57.14 Actinobacteria	Corynebacterium aurimucosur	
2382	62.52 No hit	none	
2383	62.43 No hit	none	
2384	64.01 No hit	none	
2385	71.55 Clostridia	Pelotomaculum thermopropionicun	
2386	67.69 No hit	none	
2387	67.14 Clostridia	Thermincola sp. JR	
2388	70.18 Clostridia	Moorella thermoaceticæ	
2389	68.11 Clostridia	Clostridium thermocellun	
2390	70.3 Clostridia	Desulfitobacterium hafniense DCB-2	
2391	68.02 Clostridia	Alkaliphilus orelandi	
2392	71.42 Clostridia	Ammonifex degensi	
2393	69.06 No hit	none	
2394	71.91 Symbiobacterium	Symbiobacterium thermophilun	Heliobacterium modesticaldun
2395	71.15 Bacilli	Brevibacillus brevis	
2396	75.51 Bacilli	Bacillus tusciae	
2397	71.56 No hit	none	
2398	68.69 Cyanobacteria	Anabaena variabilis	
2399	65.32 Chloroflexi	Chloroflexus aurantiacus	

2400	68.02 No hit	none	
2401	72.43 Clostridia	Moorella thermoacetica	
2402	71.95 Clostridia	Heliobacterium modesticaldun	
2403	72.23 Clostridia	Thermoanaerobacter tengcongensis	
2404	64.6 Clostridia	Thermincola sp. JR	
2405	68.11 No hit	none	
2406	70.65 Cyanobacteria	Anabaena variabilis	
2407	69.68 Chloroflexi	Sphaerobacter thermophilus	
2408	71.37 Bacilli	Brevibacillus brevis	
2409	61.76 No hit	none	
2410	68 Symbiobacterium	Symbiobacterium thermophilum	Nakamurella multipartita
2411	72.56 Symbiobacterium	Symbiobacterium thermophilum	Rhodopseudomonas palustris BisA5
2412	67.59 No hit	none	
2413	68.69 Symbiobacterium	Symbiobacterium thermophilum	Meiothermus silvanus
2414	69.43 Bacilli	Paenibacillus sp. JDR-2	
2415	73.91 Symbiobacterium	Symbiobacterium thermophilum	Salinispora tropica
2416	67.76 Archaea/Eukaryota	Candidatus Methanoregula boone	
2417	70.99 Bacilli	Bacillus megaterium DSM319	
2418	60.25 No hit	none	
2419	68.07 Symbiobacterium	Symbiobacterium thermophilum	Sphaerobacter thermophilus
2420	65.66 Symbiobacterium	Symbiobacterium thermophilum	Sphaerobacter thermophilus
2421	68.68 Clostridia	Desulfotomaculum reducens	
2422	69.66 Clostridia	Pelotomaculum thermopropionicum	
2423	68.96 Bacilli	Bacillus halodurans	
2424	72.65 Chloroflexi	Herpetosiphon aurantiacus	
2425	71.97 Clostridia	Desulfotomaculum reducens	
2426	73.38 No hit	none	
2427	68.04 Clostridia	Pelotomaculum thermopropionicum	
2428	71.01 Clostridia	Desulfotomaculum acetoxidans	
2429	68.57 No hit	none	
2430	70.61 Clostridia	Desulfitobacterium hafniense DCB-2	
2431	63.04 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus thermodenitrificans
2432	71.52 Clostridia	Heliobacterium modesticaldun	

2433	70.79 Clostridia	Desulfotomaculum reducens	
2434	61.72 No hit	none	
2435	67.72 Symbiobacterium	Symbiobacterium thermophilum	Brevibacillus brevis
2436	63.68 Bacilli	Bacillus clausii	
2437	65.44 Clostridia	Pelotomaculum thermopropionicum	
2438	63.15 Bacilli	Bacillus tusciae	
2439	74 Clostridia	Alkaliphilus metalliredigen	
2440	77.04 Clostridia	Syntrophothermus lipocalidus	
2441	76 Clostridia	Syntrophothermus lipocalidus	
2442	67.63 Clostridia	Desulfotomaculum acetoxidans	
2443	67.38 Clostridia	Thermincola sp. JR	
2444	66.25 Others	Uncultured Termite group 1 bacterium phylotype Rs-D17	
2445	74.69 Clostridia	Thermincola sp. JR	
2446	68.78 Clostridia	Natranaerobius thermophilus	
2447	72.34 Clostridia	Natranaerobius thermophilus	
2448	73.69 Proteobacteria	Pseudomonas fluorescens Pf-5	
2449	74.84 Bacilli	Brevibacillus brevis	
2450	71.38 Bacilli	Geobacillus sp. Y412MC61	
2451	70.86 No hit	none	
2452	68.95 Bacilli	Bacillus tusciae	
2453	69.3 Clostridia	Clostridium cellulolyticum	
2454	70.05 Clostridia	Clostridium thermocellum	
2455	68.48 No hit	none	
2456	67.86 Clostridia	Desulfitobacterium hafniense DCB-2	
2457	61.2 Proteobacteria	Arcobacter nitrofigilis	
2458	69.05 Clostridia	Clostridium botulinum Ba4	
2459	68.44 Bacilli	Bacillus amyloliquefaciens	
2460	65.03 Bacilli	Geobacillus sp. Y412MC10	
2461	67.15 No hit	none	
2462	65.92 No hit	none	
2463	66.75 Bacilli	Anoxybacillus flavithermus	
2464	74.42 Clostridia	Alkaliphilus metalliredigen	

2465	70.09 Clostridia	Pelotomaculum thermopropionicum	
2466	67.6 Clostridia	Thermoanaerobacter pseudethanolicus	
2467	76.78 No hit	none	
2468	68.88 No hit	none	
2469	65.71 No hit	none	
2470	75.48 Symbiobacterium	Symbiobacterium thermophilum	Cyanobacteria Yellowstone A-Prim
2471	69.63 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus thermodenitrificans
2472	70.71 Chloroflexi	Chloroflexus aggregans	
2473	71.23 Cyanobacteria	Anabaena sp. PCC7120	
2474	68.6 Bacilli	Bacillus cereus ZK	
2475	65.87 No hit	none	
2476	71.3 Proteobacteria	Desulfomicrobium baculatum	
2477	71.72 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC10
2478	68.34 Symbiobacterium	Symbiobacterium thermophilum	Alkaliphilus metalliredigen
2479	64.62 No hit	none	
2480	58.53 No hit	none	
2481	70.98 No hit	none	
2482	74.29 Chloroflexi	Sphaerobacter thermophilus	
2483	73 Bacilli	Brevibacillus brevis	
2484	73.82 Bacilli	Bacillus tusciae	
2485	71.22 Bacilli	Alicyclobacillus acidocaldarius	
2486	70.07 Bacilli	Geobacillus sp. Y412MC61	
2487	73.36 Bacilli	Bacillus tusciae	
2488	63.29 No hit	none	
2489	65.85 Proteobacteria	Pseudomonas aeruginosa PA7	
2490	72.86 Bacilli	Geobacillus sp. WCH70	
2491	70.52 Clostridia	Thermoanaerobacter italicus	
2492	70.72 Bacilli	Bacillus subtilis	
2493	69.95 Bacilli	Brevibacillus brevis	
2494	73.64 Clostridia	Acidaminococcus fermentans	
2495	69.43 Clostridia	Moorella thermoacetica	
2496	70.93 Bacilli	Geobacillus kaustophilus	
2497	73.38 No hit	none	

2498	74.66	Thermobaculum	Thermobaculum terrenum	
2499	75.96	Clostridia	Moorella thermoacetica	
2500	72.94	Clostridia	Syntrophothermus lipocalidus	
2501	76.26	Clostridia	Veillonella parvula	
2502	71.35	Clostridia	Thermoanaerobacter sp. X514	
2503	72.71	Clostridia	Alkaliphilus oremlandi	
2504	73.27	Archaea/Eukaryota	Methanobrevibacter smithii ATCC	
2505	69.35	Bacilli	Paenibacillus sp. JDR-2	
2506	66.52	Clostridia	Clostridium botulinum B Eklund 17E	
2507	72.08	Bacilli	Bacillus selenitireducens	
2508	67.59	Bacilli	Bacillus tusciae	
2509	70.45	Symbiobacterium	Symbiobacterium thermophilum	
2510	76.12	No hit	none	
2511	73.55	No hit	none	
2512	71.01	No hit	none	
2513	72.39	Bacilli	Geobacillus thermodenitrificans	
2514	69.83	Bacilli	Bacillus clausii	
2515	65.87	Clostridia	Moorella thermoacetica	
2516	68.24	Clostridia	Desulfitobacterium hafniense DCB-2	
2517	69.83	Clostridia	Desulfotomaculum acetoxidans	
2518	64.88	Clostridia	Desulfotomaculum acetoxidans	
2519	63.66	Symbiobacterium	Symbiobacterium thermophilum	Staphylococcus epidermidis RP62A
2520	58.52	Deinococcus-Thermus	Deinococcus radiodurans	
2521	67.79	Clostridia	Halothermothrix orenii	
2522	72.13	Archaea/Eukaryota	Thermococcus gammatolerans	
2523	62.99	Bacilli	Bacillus megaterium QM B1551	
2524	73.38	No hit	none	
2525	65.46	Archaea/Eukaryota	Methanocella paludicola	
2526	67.87	Bacilli	Geobacillus kaustophilus	
2527	74.8	No hit	none	
2528	65.76	Clostridia	Caldicellulosiruptor saccharolyticus	
2529	73.14	Clostridia	Pelotomaculum thermopropionicum	
2530	69.71	No hit	none	

2531	57.87 No hit	none	
2532	66.89 Clostridia	Natranaerobius thermophilus	
2533	67.2 Clostridia	Pelotomaculum thermopropionicum	
2534	72.48 Bacilli	Bacillus subtilis	
2535	70.7 Symbiobacterium	Symbiobacterium thermophilum	Sulfurihydrogenibium sp. YO3AOP1
2536	67.97 Clostridia	Carboxydotherrmus hydrogenoformans	
2537	66.66 Proteobacteria	Cellvibrio japonicus	
2538	74.68 Bacilli	Bacillus tusciae	
2539	74.8 Bacilli	Alicyclobacillus acidocaldarius	
2540	70.34 Clostridia	Thermoanaerobacter tengcongensis	
2541	74.28 Clostridia	Thermincola sp. JR	
2542	66.36 Proteobacteria	Geobacter sp. FRC-32	
2543	67.61 Bacilli	Brevibacillus brevis	
2544	66.42 Clostridia	Heliobacterium modesticaldum	
2545	77.66 Archaea/Eukaryota	Nematostella vectensis (sea anemone)	
2546	72.86 Clostridia	Desulfitobacterium hafniense Y51	
2547	68.91 Clostridia	Clostridium perfringens SM101	
2548	67.9 Symbiobacterium	Symbiobacterium thermophilum	
2549	72.54 No hit	none	
2550	69.36 Bacilli	Bacillus clausii	
2551	67.64 Bacilli	Bacillus halodurans	
2552	70.44 Bacilli	Bacillus weihenstephanensis	
2553	69.16 Chloroflexi	Herpetosiphon aurantiacus	
2554	73.49 Chloroflexi	Roseiflexus sp. RS-1	
2555	73.77 Clostridia	Alkaliphilus orelandi	
2556	73.94 Clostridia	Thermincola sp. JR	
2557	73.08 Clostridia	Moorella thermoacetica	
2558	67.22 Clostridia	Heliobacterium modesticaldum	
2559	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2560	74.95 Others	Methylophilum inferorum	
2561	66.22 Chloroflexi	Thermomicrobium roseum	
2562	68.98 Clostridia	Moorella thermoacetica	
2563	66.23 Clostridia	Thermincola sp. JR	

2564	67.12 Thermobaculum	Thermobaculum terrenum	
2565	66.42 Symbiobacterium	Symbiobacterium thermophilum	Roseiflexus sp. RS-1
2566	74.56 No hit	none	
2567	56.94 No hit	none	
2568	63.96 No hit	none	
2569	68.62 Aquificae	Sulfurihydrogenibium azorense	
2570	61.64 Bacilli	Paenibacillus sp. JDR-2	
2571	71.54 Chloroflexi	Sphaerobacter thermophilus	
2572	71.64 Chloroflexi	Roseiflexus castenholzii DSM13941	
2573	67.47 Symbiobacterium	Symbiobacterium thermophilum	
2574	69.73 Thermobaculum	Thermobaculum terrenum	
2575	67.6 Clostridia	Desulfotomaculum reducens	
2576	72.8 No hit	none	
2577	73.18 Symbiobacterium	Symbiobacterium thermophilum	Truepera radiovictrix
2578	67.13 Symbiobacterium	Symbiobacterium thermophilum	Shewanella amazonensis
2579	63.39 No hit	none	
2580	65.05 Clostridia	Clostridium thermocellum	
2581	77.19 No hit	none	
2582	69.1 Bacteroidetes/Chlorobacteria	Capnocytophaga ochracea	
2583	64.72 Clostridia	Halothermothrix orenii	
2584	67.11 Bacilli	Geobacillus sp. Y412MC10	
2585	67.08 Bacilli	Geobacillus sp. Y412MC10	
2586	60.45 Symbiobacterium	Symbiobacterium thermophilum	Yersinia enterocolitica
2587	67.55 Proteobacteria	Azoarcus sp. BH72	
2588	73.53 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
2589	70.48 Clostridia	Thermincola sp. JR	
2590	70.37 Bacilli	Paenibacillus sp. JDR-2	
2591	73.94 Clostridia	Ammonifex degensi	
2592	74.25 Proteobacteria	Shewanella frigidimarina	
2593	71.09 Bacilli	Paenibacillus sp. JDR-2	
2594	66.66 Bacilli	Geobacillus sp. Y412MC61	
2595	72.08 Clostridia	Clostridium kluyveri NBRC 12016	
2596	70.14 Clostridia	Thermoanaerobacter tengcongensis	

2597	69.21 Symbiobacterium	Symbiobacterium thermophilum	Bacillus selenitireducens
2598	74.72 Clostridia	Heliobacterium modesticaldum	
2599	66.38 Fibrobacteres/Acidobacteria	Solibacter usitatus	
2600	69.31 Chloroflexi	Dehalococcoides sp. GI	
2601	67.2 Clostridia	Pelotomaculum thermopropionicum	
2602	65.89 Clostridia	Ammonifex degensi	
2603	70.73 Proteobacteria	Shewanella pealeana	
2604	73.63 Chloroflexi	Chloroflexus aggregans	
2605	68.99 Clostridia	Alkaliphilus oremlandi	
2606	73.49 Clostridia	Thermoanaerobacter mathranii	
2607	75.73 Clostridia	Clostridium kluyveri DSM 555	
2608	68.54 Bacteroidetes/Chlorobacteria	Salinibacter ruber	
2609	68.99 Bacilli	Geobacillus sp. C56-T3	
2610	70.53 Chloroflexi	Herpetosiphon aurantiacus	
2611	73.43 Clostridia	Clostridium perfringens SM101	
2612	73.16 Chloroflexi	Herpetosiphon aurantiacus	
2613	71.74 Clostridia	Thermoanaerobacter sp. X514	
2614	71.89 Clostridia	Desulfotomaculum acetoxidans	
2615	69.47 No hit	none	
2616	70.35 Clostridia	Thermoanaerobacter italicus	
2617	68.22 Proteobacteria	Legionella longbeachae	
2618	72.2 Bacilli	Brevibacillus brevis	
2619	68.08 No hit	none	
2620	71.56 No hit	none	
2621	68.87 Bacilli	Bacillus selenitireducens	
2622	65.67 Clostridia	Thermincola sp. JR	
2623	66.55 Bacilli	Streptococcus thermophilus CNRZ1066	
2624	67.94 No hit	none	
2625	65.68 Chloroflexi	Dehalococcoides sp. BAV1	
2626	67.46 Proteobacteria	Geobacter uraniumreducens	
2627	65.13 Clostridia	Moorella thermoacetica	
2628	68.2 Clostridia	Desulfitobacterium hafniense DCB-2	
2629	71.05 Bacilli	Lactobacillus sakei	

2630	70.02 Clostridia	Moorella thermoacetica	
2631	71.8 Clostridia	Thermoanaerobacter mathranii	
2632	72.09 Clostridia	Clostridium perfringens 13	
2633	70.65 Bacilli	Listeria welshimeri SLCC5334	
2634	72.68 Chloroflexi	Sphaerobacter thermophilus	
2635	72.14 Proteobacteria	Pseudomonas aeruginosa LESB58	
2636	65.18 Clostridia	Carboxydotherrnus hydrogenoformans	
2637	62.88 Bacteroidetes/Chlorob	Salinibacter ruber	
2638	65.21 Archaea/Eukaryota	Natronomonas pharaonis	
2639	68.81 Archaea/Eukaryota	Methanohalobium evestigatum	
2640	64.34 Proteobacteria	Francisella tularensis subsp. mediasiatica FSC147	
2641	70.22 Symbiobacterium	Symbiobacterium thermophilum	Carboxydotherrnus hydrogenoformans
2642	68.92 Symbiobacterium	Symbiobacterium thermophilum	Desulfovibrio magneticus
2643	71.48 Clostridia	Desulfotomaculum reducens	
2644	68.3 Bacilli	Bacillus anthracis CDC 684	
2645	69.83 Clostridia	Thermincola sp. JR	
2646	71.87 Cyanobacteria	Prochlorococcus marinus MIT 9303	
2647	71.8 Clostridia	Thermincola sp. JR	
2648	70.64 Clostridia	Thermincola sp. JR	
2649	72.28 Clostridia	Ammonifex degensi	
2650	73.87 Actinobacteria	Sanguibacter keddiei	
2651	71.52 Proteobacteria	Desulfatibacillum alkenivorans	
2652	68.6 Bacilli	Bacillus cereus ZK	
2653	69.9 Bacilli	Bacillus thuringiensis 97-27	
2654	71.22 Dictyoglomi	Dictyoglomus turgidum	
2655	67.34 Bacilli	Paenibacillus sp. JDR-2	
2656	69.04 No hit	none	
2657	73.49 No hit	none	
2658	70.87 Proteobacteria	Desulfovibrio salexigenans	
2659	63.74 Clostridia	Desulfotomaculum reducens	
2660	72.18 Archaea/Eukaryota	Uncultured methanogenic archaeon RC	
2661	68.27 No hit	none	

2662	72.4 Proteobacteria	Polaromonas naphthalenivorans	
2663	66.66 Others	Mycoplasma conjunctivae	
2664	68.88 Clostridia	Clostridium cellulolyticum	
2665	72.07 Chloroflexi	Dehalococcoides sp. BAV1	
2666	74.36 Clostridia	Moorella thermoacetica	
2667	67.48 Chloroflexi	Dehalococcoides sp. VS	
2668	75.82 Bacilli	Paenibacillus sp. JDR-2	
2669	65.82 No hit	none	
2670	70.6 Others	Pirellula staleyi	
2671	62.03 No hit	none	
2672	71.67 Bacilli	Oceanobacillus iheyensis	
2673	75.33 Actinobacteria	Rubrobacter xylanophilus	
2674	70.95 No hit	none	
2675	66.57 Bacilli	Bacillus anthracis A0248	
2676	64.99 Others	Opitutus terrae	
2677	65.49 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2678	69.44 No hit	none	
2679	68.54 Clostridia	Alkaliphilus oremlandi	
2680	65.94 Bacilli	Geobacillus sp. Y412MC10	
2681	70.48 Chloroflexi	Thermomicrobium roseum	
2682	74.29 Deinococcus-Thermus	Meiothermus ruber	
2683	65.73 Clostridia	Natranaerobius thermophilus	
2684	70.92 Clostridia	Carboxydotherrmus hydrogenoformans	
2685	70.67 Bacilli	Bacillus tusciae	
2686	68.03 Clostridia	Ammonifex degensi	
2687	69.84 Clostridia	Caldicellulosiruptor saccharolyticus	
2688	68.71 Clostridia	Desulfotomaculum reducens	
2689	68.16 Clostridia	Anaerocellum thermophilum	
2690	69.35 Chloroflexi	Roseiflexus sp. RS-1	
2691	65.85 Clostridia	Desulfotomaculum reducens	
2692	66.43 Deinococcus-Thermus	Thermus thermophilus HB8	
2693	64.87 Symbiobacterium	Symbiobacterium thermophilum	Myxococcus xanthus
2694	73.91 Clostridia	Syntrophomonas wolfe	

2695	69.69	Bacilli	Geobacillus sp. Y412MC10	
2696	75.38	Bacilli	Geobacillus sp. WCH70	
2697	70.71	Bacilli	Bacillus clausii	
2698	59.3	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2699	61.79	Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2700	58.79	Clostridia	Alkaliphilus metalliredigen	
2701	62.14	Symbiobacterium	Symbiobacterium thermophilum	Pseudomonas stutzeri
2702	61.11	Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
2703	58.43	Clostridia	Carboxydotherrnus hydrogenoforman	
2704	51.38	Proteobacteria	Pelobacter carbinolicus	
2705	65.78	Symbiobacterium	Symbiobacterium thermophilum	Mycobacterium gilvum
2706	59.97	Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
2707	52.12	Clostridia	Thermoanaerobacter tengcongensis	
2708	51.02	No hit	none	
2709	52.52	Clostridia	Clostridium novyi	
2710	53.39	Actinobacteria	Frankia sp. EAN1pec	
2711	54.3	Clostridia	Halothermothrix orenii	
2712	52.94	Deinococcus-Thermus	Thermus thermophilus HB8	
2713	58.41	Clostridia	Carboxydotherrnus hydrogenoforman	
2714	60.39	Symbiobacterium	Symbiobacterium thermophilum	Haliangium ochraceum
2715	53.41	Clostridia	Pelotomaculum thermopropionicum	
2716	55.55	Clostridia	Anaerocellum thermophilum	
2717	59.34	No hit	none	
2718	63.26	No hit	none	
2719	64.27	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2720	65.73	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2721	65.52	Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2722	63.84	No hit	none	
2723	69	Chloroflexi	Sphaerobacter thermophilus	
2724	70.58	Chloroflexi	Sphaerobacter thermophilus	
2725	66.27	Clostridia	Alkaliphilus metalliredigen	
2726	64.44	Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2727	64.74	Symbiobacterium	Symbiobacterium thermophilum	Staphylococcus epidermidis RP62A

2728	66.5 Chloroflexi	Chloroflexus sp. Y-400-fl	
2729	73.62 Bacilli	Bacillus tusciae	
2730	68.57 Bacilli	Bacillus selenitireducens	
2731	72.09 Clostridia	Ammonifex degensi	
2732	64.34 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2733	69.03 No hit	none	
2734	72.11 Clostridia	Halothermothrix orenii	
2735	66.05 No hit	none	
2736	69.3 Bacilli	Geobacillus sp. Y412MC10	
2737	70.09 Actinobacteria	Rubrobacter xylanophilus	
2738	73.18 Bacilli	Geobacillus thermodenitrificans	
2739	68.42 Clostridia	Heliobacterium modesticaldum	
2740	70.82 Clostridia	Clostridium phytofermentans	
2741	67.69 Bacilli	Geobacillus sp. C56-T3	
2742	66.58 Chloroflexi	Sphaerobacter thermophilus	
2743	68.88 Clostridia	Natranaerobius thermophilus	
2744	70.8 Clostridia	Natranaerobius thermophilus	
2745	71.31 Clostridia	Clostridium beijerinckii	
2746	68.48 Symbiobacterium	Symbiobacterium thermophilum	Theileria parva
2747	66.36 Bacilli	Brevibacillus brevis	
2748	63.75 Bacilli	Brevibacillus brevis	
2749	76.08 Bacilli	Lysinibacillus sphaericus	
2750	72.85 Bacilli	Brevibacillus brevis	
2751	65.61 Bacilli	Brevibacillus brevis	
2752	68.46 Bacilli	Brevibacillus brevis	
2753	71.76 Bacilli	Brevibacillus brevis	
2754	71.97 Chloroflexi	Sphaerobacter thermophilus	
2755	69.23 Proteobacteria	Ralstonia metallidurans	
2756	68.22 Bacilli	Brevibacillus brevis	
2757	68.91 No hit	none	
2758	68.91 No hit	none	
2759	69.64 No hit	none	
2760	67.65 Chloroflexi	Chloroflexus sp. Y-400-fl	

2761	64.45 Clostridia	Syntrophothermus lipocalidus
2762	69.7 Archaea/Eukaryota	Caldivirga maquilingsis
2763	68.54 No hit	none
2764	72.03 No hit	none
2765	71.99 Proteobacteria	Desulfovibrio vulgaris Miyazaki F
2766	70.98 Chloroflexi	Chloroflexus sp. Y-400-fl
2767	66.92 Proteobacteria	Geobacter uraniumreducens
2768	64.76 Cyanobacteria	Acaryochloris marina
2769	65.54 Cyanobacteria	Acaryochloris marina
2770	62.96 Actinobacteria	Streptomyces scabiei
2771	64.78 Bacilli	Geobacillus sp. WCH70
2772	66.66 Chloroflexi	Herpetosiphon aurantiacus
2773	64.81 Bacilli	Paenibacillus sp. JDR-2
2774	65.36 Clostridia	Desulfotomaculum acetoxidans
2775	65.39 Thermobaculum	Thermobaculum terrenum
2776	56.38 Bacilli	Anoxybacillus flavithermus
2777	62.29 Proteobacteria	Psychrobacter cryohalolentis
2778	68.49 Clostridia	Candidatus Desulforudis audaxviator
2779	65.09 Archaea/Eukaryota	Nematostella vectensis (sea anemone)
2780	59.56 No hit	none
2781	66.66 Bacilli	Bacillus subtilis
2782	68.69 Bacilli	Alicyclobacillus acidocaldarius
2783	68 Clostridia	Halothermothrix orenii
2784	70.68 Bacteroidetes/Chlorobi	Pelodictyon phaeoclathratiforme
2785	65.27 Proteobacteria	Allochromatium vinosum
2786	71.64 Bacilli	Bacillus cytotoxis NVH 391-98
2787	68.07 Bacilli	Bacillus tusciae
2788	75.26 Cyanobacteria	Nostoc punctiforme
2789	75 No hit	none
2790	71.04 Bacilli	Bacillus halodurans
2791	71.55 Clostridia	Pelotomaculum thermopropionicum
2792	70.28 Clostridia	Candidatus Desulforudis audaxviator
2793	72.82 Clostridia	Syntrophothermus lipocalidus

2794	74.21 No hit	none
2795	70.89 Proteobacteria	Anaeromyxobacter dehalogenans 2CP-1
2796	65.34 Proteobacteria	Accumulibacter phosphatis
2797	70.33 Actinobacteria	Mycobacterium vanbaalenii
2798	64.59 Thermotogae	Kosmotoga olearia
2799	72.16 Bacilli	Exiguobacterium sp. AT1b
2800	65.04 Bacilli	Brevibacillus brevis
2801	63.96 Bacilli	Bacillus halodurans
2802	70.65 No hit	none
2803	73.94 Bacilli	Bacillus licheniformis DSM13
2804	67.59 Bacilli	Geobacillus kaustophilus
2805	69.85 Clostridia	Thermoanaerobacter sp. X514
2806	62.78 No hit	none
2807	67.47 Bacilli	Paenibacillus sp. JDR-2
2808	73.02 Clostridia	Candidatus Desulforudis audaxviator
2809	71.27 No hit	none
2810	70.38 Clostridia	Desulfitobacterium hafniense Y51
2811	71.64 Proteobacteria	Myxococcus xanthus
2812	64.91 Proteobacteria	Geobacter lovleyi
2813	72.94 Proteobacteria	Haliangium ochraceum
2814	68.3 No hit	none
2815	63.06 Clostridia	Thermoanaerobacter pseudethanolicus
2816	70.44 Archaea/Eukaryota	Sulfolobus tokodaii
2817	68.81 Bacilli	Bacillus selenitireducens
2818	72.1 Bacilli	Geobacillus sp. C56-T3
2819	71.91 Bacteroidetes/Chlorobacteria	Pelodictyon luteolum
2820	66.12 Clostridia	Carboxydotherrmus hydrogenoformans
2821	70.07 Clostridia	Thermincola sp. JR
2822	66.32 Clostridia	Thermoanaerobacter pseudethanolicus
2823	66.96 Clostridia	Desulfotomaculum reducens
2824	62.64 Bacilli	Brevibacillus brevis
2825	69.48 Bacilli	Geobacillus kaustophilus
2826	70.98 Clostridia	Clostridium cellulolyticum

2827	74.02 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter italicus
2828	67.75 No hit	none	
2829	71.42 Proteobacteria	Mesorhizobium loti	
2830	70.64 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
2831	72.09 Clostridia	Moorella thermoacetica	
2832	69.82 Clostridia	Clostridium thermocellum	
2833	72.15 Others	Deferribacter desulfuricans SSM1	
2834	74.88 Clostridia	Desulfitobacterium hafniense Y51	
2835	73.23 Clostridia	Desulfotomaculum acetoxidans	
2836	69.21 Clostridia	Clostridium thermocellum	
2837	72.72 Cyanobacteria	Synechococcus elongatus PCC7942	
2838	70.42 Clostridia	Desulfotomaculum reducens	
2839	73.58 Clostridia	Heliobacterium modesticaldum	
2840	67.43 Clostridia	Desulfotomaculum reducens	
2841	71.21 Bacilli	Geobacillus sp. WCH70	
2842	65.77 Proteobacteria	Pasteurella multocida	
2843	72.11 No hit	none	
2844	57.95 Clostridia	Desulfotomaculum acetoxidans	
2845	69.62 No hit	none	
2846	67.2 Clostridia	Clostridium kluyveri DSM 555	
2847	70.84 Deinococcus-Thermus	Deinococcus geothermali	
2848	69.51 Symbiobacterium	Symbiobacterium thermophilum	Conexibacter woesei
2849	70.76 Clostridia	Candidatus Desulforudis audaxviator	
2850	70.11 Bacilli	Geobacillus thermodenitrificans	
2851	69.74 Bacilli	Exiguobacterium sibiricum	
2852	73.36 Proteobacteria	Geobacter bemidjiensis	
2853	73.06 Clostridia	Desulfotomaculum acetoxidans	
2854	71.23 Bacilli	Bacillus tusciae	
2855	71.88 Clostridia	Thermoanaerobacter tengcongensis	
2856	68.64 Clostridia	Moorella thermoacetica	
2857	71.77 Others	Leptospira borgpetersenii L55C	
2858	71.29 Aquificae	Aquifex aeolicus	
2859	67.85 No hit	none	

2860	68.03 Bacilli	Bacillus tusciae	
2861	66.44 Clostridia	Thermoanaerobacter italicus	
2862	69.01 Bacilli	Bacillus pseudofirmus	
2863	70.35 Clostridia	Moorella thermoacetica	
2864	68.21 Deinococcus-Thermus	Meiothermus silvanus	
2865	73.77 Clostridia	Thermoanaerobacter tengcongensis	
2866	NA	ND	
2867	69.45 Clostridia	Carboxydothermus hydrogenoformans	
2868	NA	ND	
2869	66.45 Clostridia	Natranaerobius thermophilus	
2870	68.5 Clostridia	Carboxydothermus hydrogenoformans	
2871	67.28 Clostridia	Natranaerobius thermophilus	
2872	69.34 Clostridia	Natranaerobius thermophilus	
2873	69.82 No hit	none	
2874	65.58 Bacilli	Bacillus tusciae	
2875	73.66 Chloroflexi	Sphaerobacter thermophilus	
2876	69.21 Bacilli	Streptococcus thermophilus LMG18311	
2877	73.68 Chloroflexi	Sphaerobacter thermophilus	
2878	68.8 Fibrobacteres/Acidobacteria	Solibacter usitatus	
2879	67.7 Thermobaculum	Thermobaculum terrenum	
2880	69.02 Clostridia	Clostridium phytofermentans	
2881	71.89 Clostridia	Moorella thermoacetica	
2882	69.38 Clostridia	Syntrophothermus lipocalidus	
2883	71.57 No hit	none	
2884	68.39 Actinobacteria	Clavibacter michiganensis subsp. michiganensis	
2885	70.92 Bacilli	Geobacillus sp. C56-T3	
2886	68.1 Symbiobacterium	Symbiobacterium thermophilum	Bacillus selenitireducens
2887	71.32 Symbiobacterium	Symbiobacterium thermophilum	Methanohalophilus mahii
2888	74.79 Archaea/Eukaryota	Haloarcula marismortui	
2889	66.36 Clostridia	Alkaliphilus orelandi	
2890	73.03 Clostridia	Pelotomaculum thermopropionicum	
2891	67.04 Clostridia	Pelotomaculum thermopropionicum	

2892	69.81 Clostridia	Thermincola sp. JR	
2893	75.57 No hit	none	
2894	72.94 No hit	none	
2895	72.56 No hit	none	
2896	75 Deinococcus-Thermus	Meiothermus silvanus	
2897	66.42 Clostridia	Carboxydothermus hydrogenoformans	
2898	62.58 Clostridia	Coprothermobacter proteolyticus	
2899	74.1 Clostridia	Pelotomaculum thermopropionicum	
2900	70.05 Fibrobacteres/Acidobacteria	Solibacter usitatus	
2901	73.64 No hit	none	
2902	69.48 Symbiobacterium	Symbiobacterium thermophilum	Herpetosiphon aurantiacus
2903	70.59 Clostridia	Moorella thermoacetica	
2904	67.97 Clostridia	Desulfotomaculum reducens	
2905	70.92 Clostridia	Candidatus Desulforudis audaxviator	
2906	72.01 Clostridia	Pelotomaculum thermopropionicum	
2907	70.47 Clostridia	Moorella thermoacetica	
2908	62.14 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus thermodenitrificans
2909	63.76 Symbiobacterium	Symbiobacterium thermophilum	Staphylococcus epidermidis RP62A
2910	65.4 Bacilli	Bacillus subtilis	
2911	68.67 Bacilli	Bacillus amyloliquefaciens	
2912	66.09 Bacilli	Brevibacillus brevis	
2913	72.3 Bacilli	Geobacillus sp. Y412MC61	
2914	71.76 Symbiobacterium	Symbiobacterium thermophilum	Anaerocellum thermophilum
2915	69.96 Bacilli	Bacillus tusciae	
2916	67.62 Bacilli	Bacillus tusciae	
2917	68.59 Clostridia	Pelotomaculum thermopropionicum	
2918	70.87 Bacilli	Paenibacillus sp. JDR-2	
2919	68.12 Clostridia	Thermoanaerobacter pseudethanolicus	
2920	67.46 Clostridia	Pelotomaculum thermopropionicum	
2921	71.92 Clostridia	Pelotomaculum thermopropionicum	
2922	68.24 Clostridia	Thermincola sp. JR	
2923	69.83 Clostridia	Clostridium thermocellum	
2924	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61

2925	74.78 Clostridia	Clostridium cellulolyticum	
2926	68.77 Clostridia	Desulfotomaculum reducens	
2927	68.32 Clostridia	Ammonifex degensi	
2928	69.45 Clostridia	Halothermothrix orenii	
2929	70.83 No hit	none	
2930	67.18 Chloroflexi	Herpetosiphon aurantiacus	
2931	65.12 Clostridia	Alkaliphilus orelandi	
2932	63.01 Symbiobacterium	Symbiobacterium thermophilum	Candidatus Desulforudis audaxviator
2933	70.93 Clostridia	Desulfotomaculum reducens	
2934	62.25 Clostridia	Thermoanaerobacter tengcongensis	
2935	64.38 Clostridia	Moorella thermoacetica	
2936	72.66 Clostridia	Moorella thermoacetica	
2937	73.76 Clostridia	Moorella thermoacetica	
2938	72.75 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
2939	73.62 No hit	none	
2940	75.86 No hit	none	
2941	70.72 No hit	none	
2942	73.89 Chloroflexi	Sphaerobacter thermophilus	
2943	66.1 Bacilli	Paenibacillus sp. JDR-2	
2944	68.42 Thermotogae	Thermotoga naphthophilæ	
2945	70 Chloroflexi	Sphaerobacter thermophilus	
2946	71.19 Aquificae	Hydrogenobacter thermophilus	
2947	69.19 Clostridia	Thermincola sp. JR	
2948	68.02 Bacilli	Geobacillus sp. WCH70	
2949	72.85 No hit	none	
2950	64.03 Proteobacteria	Anaeromyxobacter sp. K	
2951	70.06 Proteobacteria	Anaeromyxobacter sp. Fw109-5	
2952	72.94 No hit	none	
2953	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
2954	76.26 Clostridia	Moorella thermoacetica	
2955	69.42 No hit	none	
2956	67.46 No hit	none	
2957	69.94 Clostridia	Clostridium acetobutylicum	

2958	71.14 Clostridia	Halothermothrix orenii	
2959	70.83 Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
2960	74.64 No hit	none	
2961	69.23 Symbiobacterium	Symbiobacterium thermophilum	
2962	69.6 Symbiobacterium	Symbiobacterium thermophilum	Natranaerobius thermophilus
2963	67.85 Bacilli	Paenibacillus sp. JDR-2	
2964	72.45 Bacilli	Brevibacillus brevis	
2965	66.51 Bacilli	Brevibacillus brevis	
2966	71.49 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
2967	73.4 Clostridia	Desulfotomaculum acetoxidans	
2968	72.56 Clostridia	Desulfotomaculum acetoxidans	
2969	76.47 Clostridia	Desulfotomaculum acetoxidans	
2970	70.06 No hit	none	
2971	64.87 Cyanobacteria	Gloeobacter violaceus	
2972	71.76 Proteobacteria	Herminiimonas arsenicoxydans	
2973	66.54 Clostridia	Syntrophomonas wolfe	
2974	60.99 Clostridia	Caldicellulosiruptor saccharolyticus	
2975	66.37 No hit	none	
2976	64.32 Clostridia	Thermincola sp. JR	
2977	61.49 Clostridia	Ammonifex degensi	
2978	64.61 Proteobacteria	Pseudoalteromonas haloplanktis	
2979	62.92 Actinobacteria	Conexibacter woesei	
2980	64.16 Clostridia	Desulfitobacterium hafniense DCB-2	
2981	63.5 No hit	none	
2982	72 Clostridia	Ammonifex degensi	
2983	73.79 No hit	none	
2984	71.12 Clostridia	Thermincola sp. JR	
2985	71.49 Clostridia	Thermincola sp. JR	
2986	72.3 Others	Pirellula staleyi	
2987	69.59 Clostridia	Heliobacterium modesticaldum	
2988	70.34 Clostridia	Syntrophomonas wolfe	
2989	68.46 Clostridia	Natranaerobius thermophilus	
2990	65.55 Bacilli	Bacillus licheniformis DSM13	

2991	66.66 Clostridia	Pelotomaculum thermopropionicum	
2992	72.91 Proteobacteria	Burkholderia sp. 383	
2993	69.81 Clostridia	Heliobacterium modesticaldun	
2994	70.53 Aquificae	Sulfurihydrogenibium azorens	
2995	65.63 Clostridia	Thermoanaerobacter italicus	
2996	66.42 Clostridia	Clostridium thermocellum	
2997	79.23 Proteobacteria	Stenotrophomonas maltophilia R551-3	
2998	72.74 Bacilli	Anoxybacillus flavithermus	
2999	73.5 No hit	none	
3000	72.69 Clostridia	Thermincola sp. JR	
3001	75.83 Others	Chlamydomphila pneumoniae TW18	
3002	66.17 Clostridia	Heliobacterium modesticaldun	
3003	70.24 Clostridia	Halothermothrix orenii	
3004	62.33 Clostridia	Thermincola sp. JR	
3005	69.36 Bacilli	Geobacillus thermodenitrificans	
3006	67.77 Clostridia	Desulfotomaculum acetoxidans	
3007	70.11 Clostridia	Thermincola sp. JR	
3008	65.7 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
3009	63.86 Clostridia	Heliobacterium modesticaldun	
3010	66.77 Bacilli	Bacillus halodurans	
3011	68.87 Chloroflexi	Roseiflexus sp. RS-1	
3012	67.25 Bacilli	Geobacillus sp. WCH70	
3013	69.45 Bacilli	Bacillus cytotoxis NVH 391-98	
3014	68.12 Bacilli	Geobacillus sp. Y412MC10	
3015	64.94 Clostridia	Carboxydotherrmus hydrogeniformans	
3016	68.22 Bacilli	Bacillus pseudofirmus	
3017	65.22 Proteobacteria	Desulfococcus oleovorans	
3018	64.19 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus kaustophilus
3019	68.91 Clostridia	Desulfotomaculum reducens	
3020	71.98 No hit	none	
3021	71.93 No hit	none	
3022	69.06 Clostridia	Halothermothrix orenii	
3023	70.89 Bacilli	Geobacillus kaustophilus	

3024	67.65 Others	Deferribacter desulfuricans SSM1	
3025	69.33 No hit	none	
3026	70.43 Symbiobacterium	Symbiobacterium thermophilum	Cyanothece sp. PCC 7425
3027	70.96 Symbiobacterium	Symbiobacterium thermophilum	Cyanothece sp. PCC 7425
3028	66.66 Others	Gemmatimonas aurantiaca	
3029	68.27 No hit	none	
3030	67.46 Clostridia	Desulfitobacterium hafniense DCB-2	
3031	70.99 Clostridia	Desulfitobacterium hafniense Y51	
3032	74.45 Clostridia	Desulfitobacterium hafniense DCB-2	
3033	73.51 No hit	none	
3034	65.86 Clostridia	Alkaliphilus metalliredigen	
3035	70.37 Proteobacteria	Nitrosospira multiformis	
3036	72.51 Clostridia	Clostridium cellulolyticum	
3037	70.74 Archaea/Eukaryota	Thermoplasma acidophilum	
3038	64.79 Clostridia	Natranaerobius thermophilus	
3039	71.37 Clostridia	Thermincola sp. JR	
3040	67.18 Clostridia	Thermoanaerobacter tengcongensis	
3041	60.18 Clostridia	Veillonella parvula	
3042	72.76 Proteobacteria	Geobacter sp. M21	
3043	69.88 Clostridia	Clostridium botulinum A3 Loch Maree	
3044	70.47 Clostridia	Thermoanaerobacter italicus	
3045	71.75 Clostridia	Clostridium botulinum E2	
3046	65.49 Clostridia	Veillonella parvula	
3047	62.34 Clostridia	Desulfotomaculum reducens	
3048	67.14 Bacilli	Alicyclobacillus acidocaldarius	
3049	67.94 Bacilli	Geobacillus sp. C56-T3	
3050	65.06 Deinococcus-Thermus	Truepera radiovictrix	
3051	55.26 Clostridia	Thermoanaerobacter pseudethanolicus	
3052	57.99 Bacilli	Geobacillus sp. C56-T3	
3053	63.56 Clostridia	Halothermothrix orenii	
3054	66.82 Clostridia	Acidaminococcus fermentans	
3055	62.09 Clostridia	Thermincola sp. JR	
3056	68.58 Clostridia	Thermoanaerobacter pseudethanolicus	

3057	65.57	Thermotogae	<i>Petrotoga mobilis</i>
3058	69.66	Clostridia	<i>Pelotomaculum thermopropionicum</i>
3059	66.66	Clostridia	<i>Carboxydothermus hydrogenoformans</i>
3060	65.17	Bacilli	<i>Bacillus tusciae</i>
3061	61.15	Clostridia	<i>Pelotomaculum thermopropionicum</i>
3062	62.9	Clostridia	<i>Ammonifex degensi</i>
3063	62.43	Clostridia	<i>Thermoanaerobacter mathranii</i>
3064	59.12	Bacilli	<i>Paenibacillus</i> sp. JDR-2
3065	64.22	Clostridia	<i>Clostridium cellulolyticum</i>
3066	61.75	Clostridia	<i>Caldicellulosiruptor saccharolyticus</i>
3067	58.68	Bacilli	<i>Anoxybacillus flavithermus</i>
3068	66.23	Clostridia	<i>Heliobacterium modesticaldum</i>
3069	69.77	Clostridia	<i>Clostridium thermocellum</i>
3070	62.57	Clostridia	<i>Veillonella parvula</i>
3071	59.57	Chloroflexi	<i>Thermomicrobium roseum</i>
3072	67.5	Clostridia	<i>Carboxydothermus hydrogenoformans</i>
3073	61.75	Clostridia	<i>Acidaminococcus fermentans</i>
3074	65.38	Clostridia	<i>Carboxydothermus hydrogenoformans</i>
3075	65.89	Clostridia	<i>Carboxydothermus hydrogenoformans</i>
3076	62.45	Clostridia	<i>Desulfitobacterium hafniense</i> DCB-2
3077	65.9	Bacilli	<i>Alicyclobacillus acidocaldarius</i>
3078	65.37	Clostridia	<i>Moorella thermoacetica</i>
3079	65.39	Clostridia	<i>Thermincola</i> sp. JR
3080	65.1	Clostridia	<i>Acidaminococcus fermentans</i>
3081	64.28	Clostridia	<i>Moorella thermoacetica</i>
3082	67.79	Bacilli	<i>Brevibacillus brevis</i>
3083	66.66	No hit	none
3084	66.77	Clostridia	<i>Thermincola</i> sp. JR
3085	67.09	Bacilli	<i>Bacillus tusciae</i>
3086	66.92	Clostridia	<i>Carboxydothermus hydrogenoformans</i>
3087	68.88	Clostridia	<i>Heliobacterium modesticaldum</i>
3088	63.7	No hit	none
3089	67.51	Clostridia	<i>Ammonifex degensi</i>

3090	65.01 Clostridia	Clostridium tetani E88	
3091	61.77 Clostridia	Desulfitobacterium hafniense DCB-2	
3092	62.36 Actinobacteria	Arthrobacter chlorophenicus	
3093	56.36 Dictyoglomi	Dictyoglomus turgidus	
3094	73.74 Symbiobacterium	Symbiobacterium thermophilum	Bacillus selenitireducens
3095	75.07 Symbiobacterium	Symbiobacterium thermophilum	Methanocaldococcus fervens
3096	68.55 Chloroflexi	Thermomicrobium roseum	
3097	75.15 Chloroflexi	Thermomicrobium roseum	
3098	72.85 Symbiobacterium	Symbiobacterium thermophilum	Bacillus selenitireducens
3099	67.77 Chloroflexi	Sphaerobacter thermophilus	
3100	68.03 Proteobacteria	Desulfurivibrio alkaliphilus	
3101	67.63 Clostridia	Carboxydotherrmus hydrogenoformans	
3102	74.24 Clostridia	Desulfotomaculum reducens	
3103	76.7 Aquificae	Hydrogenobacter thermophilus	
3104	61.9 No hit	none	
3105	77.31 No hit	none	
3106	69.93 Chloroflexi	Roseiflexus sp. RS-1	
3107	67.61 Proteobacteria	Pelobacter propionicus	
3108	71.12 Proteobacteria	Desulfovibrio salexigenans	
3109	69.73 Clostridia	Desulfitobacterium hafniense DCB-2	
3110	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
3111	67.31 Bacilli	Brevibacillus brevis	
3112	68.43 No hit	none	
3113	57.95 Clostridia	Thermincola sp. JR	
3114	71.39 Clostridia	Clostridium thermocellum	
3115	72.19 Clostridia	Clostridium thermocellum	
3116	70.28 Bacilli	Geobacillus sp. WCH70	
3117	66.43 Bacilli	Bacillus halodurans	
3118	71.5 Clostridia	Clostridium cellulolyticum	
3119	66.66 Clostridia	Clostridium tetani E88	
3120	64.95 Bacilli	Anoxybacillus flavithermus	
3121	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
3122	71.72 Bacilli	Alicyclobacillus acidocaldarius	

3123	71.72 Clostridia	Thermincola sp. JR	
3124	63.78 Clostridia	Alkaliphilus orelandi	
3125	66.66 Clostridia	Thermincola sp. JR	
3126	61.65 Clostridia	Thermoanaerobacter tengcongensis	
3127	70.45 Clostridia	Thermincola sp. JR	
3128	70.97 Bacilli	Bacillus subtilis	
3129	72.45 Chloroflexi	Chloroflexus sp. Y-400-fl	
3130	70.41 Proteobacteria	Syntrophus aciditrophicus	
3131	73.24 Proteobacteria	Syntrophus aciditrophicus	
3132	70.92 Others	Thermanaerovibrio acidaminovorans	
3133	67.46 Clostridia	Thermincola sp. JR	
3134	68.73 Clostridia	Heliobacterium modesticaldun	
3135	69.61 Bacilli	Bacillus tusciae	
3136	66.22 Clostridia	Heliobacterium modesticaldun	
3137	68.2 Clostridia	Desulfotomaculum reducens	
3138	73.97 No hit	none	
3139	76.64 No hit	none	
3140	66.85 Clostridia	Moorella thermoacetica	
3141	71.38 Clostridia	Clostridium perfringens ATCC 13124	
3142	67.11 Proteobacteria	Desulfovibrio magneticus	
3143	74.19 No hit	none	
3144	66.98 Bacilli	Bacillus selenitireducens	
3145	62.42 No hit	none	
3146	68.71 Fibrobacteres/Acidobacteria	Solibacter usitatus	
3147	65.09 Proteobacteria	Desulfococcus oleovorans	
3148	64.22 Proteobacteria	Desulfococcus oleovorans	
3149	67.4 Fibrobacteres/Acidobacteria	Solibacter usitatus	
3150	64.81 No hit	none	
3151	60.75 No hit	none	
3152	67.8 Proteobacteria	Methylovorus sp. SIP3-4	
3153	62.39 Fibrobacteres/Acidobacteria	Solibacter usitatus	
3154	72.9 No hit	none	
3155	61.51 Symbiobacterium	Symbiobacterium thermophilum	Methylobacterium nodulans

3156	74.26 No hit	none	
3157	63.5 Clostridia	Thermincola sp. JR	
3158	69.74 Clostridia	Clostridium difficile R20291	
3159	71.53 Bacilli	Anoxybacillus flavithermus	
3160	68.14 Clostridia	Heliobacterium modesticaldun	
3161	69 Deinococcus-Thermus	Deinococcus geothermalis	
3162	68.01 Chloroflexi	Chloroflexus aggregans	
3163	71.54 Chloroflexi	Chloroflexus sp. Y-400-fl	
3164	68.08 Bacilli	Alicyclobacillus acidocaldarius	
3165	73.45 Proteobacteria	Dinoroseobacter shibae	
3166	71.89 Bacilli	Bacillus tusciae	
3167	67.73 Fibrobacteres/Acidobacteria	Acidobacteria bacterium	
3168	69.93 Bacilli	Paenibacillus sp. JDR-2	
3169	69.11 Chloroflexi	Chloroflexus aggregans	
3170	71.22 Fibrobacteres/Acidobacteria	Solibacter usitatus	
3171	67.36 Symbiobacterium	Symbiobacterium thermophilum	Pelotomaculum thermopropionicum
3172	66.57 Clostridia	Thermoanaerobacter sp. X514	
3173	66.3 No hit	none	
3174	66 Bacilli	Brevibacillus brevis	
3175	65.6 Bacilli	Bacillus licheniformis DSM13	
3176	61.32 Bacilli	Brevibacillus brevis	
3177	69.73 No hit	none	
3178	69.18 Proteobacteria	Anaeromyxobacter dehalogenans 2CP-C	
3179	67.72 Chloroflexi	Herpetosiphon aurantiacus	
3180	70.56 Bacilli	Brevibacillus brevis	
3181	60.03 Symbiobacterium	Symbiobacterium thermophilum	Yersinia enterocolitica
3182	71.39 No hit	none	
3183	69.51 Deinococcus-Thermus	Meiothermus silvanus	
3184	67.42 Clostridia	Pelotomaculum thermopropionicum	
3185	72.45 Bacilli	Bacillus tusciae	
3186	73.1 Bacilli	Geobacillus sp. Y412MC10	
3187	68.3 Clostridia	Pelotomaculum thermopropionicum	
3188	70.81 Clostridia	Carboxydotherrmus hydrogenoformans	

3189	68.76 Clostridia	Carboxydotherrnus hydrogenoforman	
3190	71.91 Clostridia	Carboxydotherrnus hydrogenoforman	
3191	72.14 Clostridia	Alkaliphilus metalliredigen	
3192	70.67 Clostridia	Clostridium tetani E88	
3193	69.68 Bacilli	Bacillus cereus AH820	
3194	71.12 Clostridia	Thermoanaerobacter tengcongensis	
3195	68.22 Clostridia	Caldicellulosiruptor saccharolyticus	
3196	68.53 Bacilli	Geobacillus kaustophilus	
3197	70.93 Fibrobacteres/Acidobacteria	Acidobacterium capsulatum	
3198	66.71 Clostridia	Carboxydotherrnus hydrogenoforman	
3199	74.18 Clostridia	Thermincola sp. JR	
3200	73.63 Clostridia	Moorella thermoacetica	
3201	73.55 Clostridia	Thermincola sp. JR	
3202	66.66 Proteobacteria	Syntrophobacter fumaroxidans	
3203	65.18 Chloroflexi	Roseiflexus castenholzii DSM13941	
3204	68.05 Actinobacteria	Stackebrandtia nassauensis	
3205	64.28 Symbiobacterium	Symbiobacterium thermophilum	Thermincola sp. JR
3206	65.96 Proteobacteria	Mesorhizobium loti	
3207	66.84 Clostridia	Thermincola sp. JR	
3208	68.98 Clostridia	Alkaliphilus orelandi	
3209	68.78 Clostridia	Moorella thermoacetica	
3210	72.94 Chloroflexi	Herpetosiphon aurantiacus	
3211	67.59 Thermobaculum	Thermobaculum terrenum	
3212	66.28 Bacilli	Geobacillus sp. WCH70	
3213	69.44 Clostridia	Clostridium botulinum A ATCC 3502	
3214	67.93 Clostridia	Clostridium acetobutylicum	
3215	71.07 Clostridia	Desulfitobacterium hafniense Y51	
3216	65.46 Bacilli	Bacillus megaterium QM B1551	
3217	67.33 Others	Streptobacillus moniliformis	
3218	63.13 Clostridia	Clostridium tetani E88	
3219	65.18 Clostridia	Clostridium tetani E88	
3220	63.72 Clostridia	Desulfitobacterium hafniense DCB-2	
3221	71.26 Chloroflexi	Chloroflexus sp. Y-400-fl	

3222	66.96 Chloroflexi	Chloroflexus aggregans	
3223	67.03 Bacilli	Macrococcus caseolyticus	
3224	69.44 Deinococcus-Thermus	Truepera radiovictrix	
3225	61.86 No hit	none	
3226	68.88 No hit	none	
3227	71.21 Bacilli	Paenibacillus sp. JDR-2	
3228	67 Clostridia	Clostridium thermocellum	
3229	67.68 Clostridia	Desulfotomaculum reducens	
3230	62.59 Clostridia	Thermincola sp. JR	
3231	70.3 Clostridia	Desulfotomaculum reducens	
3232	70.57 Symbiobacterium	Symbiobacterium thermophilum	Halothermothrix orenii
3233	72.78 Symbiobacterium	Symbiobacterium thermophilum	Halothermothrix orenii
3234	61.31 Clostridia	Desulfotomaculum acetoxidans	
3235	70.12 Clostridia	Thermincola sp. JR	
3236	72.11 Clostridia	Heliobacterium modesticaldum	
3237	69.86 Bacteroidetes/Chlorobi	Parabacteroides distasonis	
3238	70 Clostridia	Clostridium acetobutylicum	
3239	66.66 Clostridia	Thermincola sp. JR	
3240	67.79 Bacilli	Bacillus pseudofirmus	
3241	66.11 Clostridia	Clostridium difficile R20291	
3242	73.59 No hit	none	
3243	67.39 Clostridia	Carboxydotherrnus hydrogenoformans	
3244	70.47 Clostridia	Alkaliphilus metalliredigen	
3245	66.13 Clostridia	Pelotomaculum thermopropionicum	
3246	73.14 Clostridia	Desulfotomaculum reducens	
3247	60.93 Clostridia	Syntrophomonas wolfe	
3248	65.83 Clostridia	Moorella thermoacetica	
3249	68.41 Bacilli	Paenibacillus sp. JDR-2	
3250	70.62 Clostridia	Thermoanaerobacter pseudethanolicus	
3251	67.31 Bacilli	Paenibacillus sp. JDR-2	
3252	65.95 Clostridia	Thermincola sp. JR	
3253	55.92 Clostridia	Thermincola sp. JR	
3254	69.57 Clostridia	Thermincola sp. JR	

3255	70.25 Clostridia	Thermoanaerobacter tengcongensis	
3256	70.97 Proteobacteria	Geobacter uraniumreducens	
3257	63.63 Bacilli	Bacillus clausii	
3258	69.3 Clostridia	Alkaliphilus oremlandii	
3259	74.25 Clostridia	Desulfotomaculum reducens	
3260	68.22 Clostridia	Heliobacterium modesticaldun	
3261	65.69 Clostridia	Thermoanaerobacter mathranii	
3262	67.06 Bacilli	Geobacillus thermodenitrificans	
3263	NA	ND	
3264	67.73 Bacilli	Bacillus selenitireducens	
3265	67.73 Clostridia	Thermoanaerobacter italicus	
3266	69.01 Symbiobacterium	Symbiobacterium thermophilum	Clostridium thermocellum
3267	75.89 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter tengcongensis
3268	62.25 No hit	none	
3269	67.34 Bacilli	Bacillus subtilis	
3270	67.07 Clostridia	Desulfitobacterium hafniense DCB-2	
3271	72.22 Clostridia	Clostridium beijerinckii	
3272	75.95 Cyanobacteria	Anabaena sp. PCC7120	
3273	67.45 Clostridia	Clostridium acetobutylicum	
3274	72.15 Symbiobacterium	Symbiobacterium thermophilum	Brevibacillus brevis
3275	72.87 Clostridia	Thermincola sp. JR	
3276	68.64 Clostridia	Moorella thermoacetica	
3277	68.7 Clostridia	Thermoanaerobacter tengcongensis	
3278	67.31 Clostridia	Thermoanaerobacter tengcongensis	
3279	72.88 Deinococcus-Thermus	Deinococcus geothermali	
3280	65.54 Thermotogae	Thermotoga sp. RQ2	
3281	71.19 Bacilli	Geobacillus thermodenitrificans	
3282	70.03 Symbiobacterium	Symbiobacterium thermophilum	Thermus thermophilus HB8
3283	67.87 Symbiobacterium	Symbiobacterium thermophilum	Chloroflexus aggregans
3284	69.72 Bacilli	Geobacillus sp. C56-T3	
3285	66.86 Bacilli	Alicyclobacillus acidocaldarius	
3286	73.7 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter italicus
3287	69.79 Proteobacteria	Halorhodospira halophila	

3288	69.73 Bacilli	Bacillus megaterium DSM319	
3289	73.86 Clostridia	Desulfotomaculum reducens	
3290	72.38 Clostridia	Ammonifex degensi	
3291	74.05 Bacilli	Brevibacillus brevis	
3292	71.33 Symbiobacterium	Symbiobacterium thermophilum	Clostridium beijerinckii
3293	67.03 Clostridia	Clostridium kluyveri DSM 555	
3294	67.52 Symbiobacterium	Symbiobacterium thermophilum	Desulfotalea psychrophila
3295	67.66 Proteobacteria	Desulfotalea psychrophila	
3296	63.95 Proteobacteria	Desulfovibrio desulfuricans G2C	
3297	64.81 Proteobacteria	Rhodospirillum rubrum	
3298	75.34 Archaea/Eukaryota	Thermosphaera aggregans	
3299	67.44 Proteobacteria	Desulfovibrio salexigenans	
3300	68.56 Proteobacteria	Desulfovibrio salexigenans	
3301	65.52 Thermotogae	Kosmotoga olearia	
3302	66.82 Proteobacteria	Bradyrhizobium sp. ORS278	
3303	67.48 Clostridia	Thermincola sp. JR	
3304	70.43 Clostridia	Thermoanaerobacter tengcongensis	
3305	69.24 Clostridia	Natranaerobius thermophilus	
3306	72.14 Clostridia	Natranaerobius thermophilus	
3307	68.23 Clostridia	Alkaliphilus orelandi	
3308	64.82 Clostridia	Alkaliphilus orelandi	
3309	69.93 Clostridia	Moorella thermoacetica	
3310	65.67 Clostridia	Thermincola sp. JR	
3311	67.27 Clostridia	Natranaerobius thermophilus	
3312	68.45 Symbiobacterium	Symbiobacterium thermophilum	Thermoanaerobacter tengcongensis
3313	64.57 Symbiobacterium	Symbiobacterium thermophilum	Geobacillus sp. Y412MC61
3314	68.74 Clostridia	Carboxydotherrmus hydrogenoformans	
3315	66.66 Bacilli	Anoxybacillus flavithermus	
3316	68.73 Clostridia	Thermincola sp. JR	
3317	68.7 Actinobacteria	Geodermatophilus obscurus	
3318	67.99 Clostridia	Desulfotomaculum acetoxidans	
3319	63.58 Clostridia	Carboxydotherrmus hydrogenoformans	
3320	66.66 Clostridia	Pelotomaculum thermopropionicum	

3321	62.84	Clostridia	Heliobacterium modesticaldun	
3322	65.33	Clostridia	Heliobacterium modesticaldun	
3323	70.92	No hit	none	
3324	67.21	Cyanobacteria	Prochlorococcus marinus NATL2A	
3325	70.83	Clostridia	Alkaliphilus metalliredigen	
3326	67.87	Clostridia	Natranaerobius thermophilus	
3327	68	Clostridia	Thermoanaerobacter tengcongensis	
3328	61.7	Clostridia	Heliobacterium modesticaldun	
3329	64.27	No hit	none	
3330	59.6	Symbiobacterium	Symbiobacterium thermophilum	Marinobacter aquaeolei
3331	65.62	No hit	none	
3332	68.33	Bacilli	Brevibacillus brevis	
3333	63.7	Clostridia	Clostridium thermocellum	
3334	71.12	Clostridia	Alkaliphilus metalliredigen	
3335	69.62	Clostridia	Thermincola sp. JR	
3336	72.67	Clostridia	Thermincola sp. JR	
3337	68.12	Clostridia	Thermoanaerobacter pseudethanolicus	
3338	58.53	Clostridia	Halothermothrix orenii	
3339	64.78	Clostridia	Clostridium phytofermentans	
3340	65.8	Bacilli	Bacillus megaterium DSM319	
3341	66.66	Proteobacteria	Geobacter sp. M21	

Yellow indicates the 18 lower GC content regions containing five or more consecutive genes. Pink indicates the 52 clusters containing five or more consecutive genes belonging to the category "Clostridia".