

Supplementary Table S6. The hosts of predicted ARGs at different taxonomic

Host	Number of	Ratio
p__Proteobacteria	25448	0.382028
p__Firmicutes	17112	0.256887
p__Actinobacteria	13097	0.196613
p__Bacteroidetes	6604	0.09914
p__Cyanobacteria	1562	0.023449
p__Euryarchaeota	370	0.005554
p__Tenericutes	342	0.005134
p__Fusobacteria	309	0.004639
p__Spirochaetes	258	0.003873
p__Verrucomicrobia	246	0.003693
p__Acidobacteria	202	0.003032
p__Deinococcus-Thermus	176	0.002642
p__Planctomycetes	169	0.002537
p__Gemmatimonadetes	136	0.002042
p__Chloroflexi	92	0.001381
p__Thermotogae	88	0.001321
p__Lentisphaerae	87	0.001306
p__Nitrospirae	55	0.000826
p__Chlorobi	52	0.000781
p__Synergistetes	35	0.000525
p__Aquificae	32	0.00048
p__Chlamydiae	23	0.000345
p__Deferribacteres	18	0.00027
p__Dictyoglomi	17	0.000255
p__Crenarchaeota	14	0.00021
p__Armatimonadetes	13	0.000195
p__Ignavibacteriae	11	0.000165
p__Thermodesulfobacteria	10	0.00015
p__Elusimicrobia	10	0.00015
p__Kiritimatiellaeota	7	0.000105
p__Calditrichaeota	6	9.01E-05
p__Fibrobacteres	5	7.51E-05
p__Thaumarchaeota	4	6E-05
p__Chrysiogenetes	3	4.5E-05
c__Clostridia	10539	0.175437
c__Actinobacteria	9924	0.165199
c__Alphaproteobacteria	9857	0.164084
c__Gammaproteobacteria	8179	0.136151
c__Bacilli	4809	0.080053
c__Bacteroidia	4027	0.067035
c__Betaproteobacteria	3586	0.059694
c__Flavobacteriia	1949	0.032444
c__Deltaproteobacteria	1298	0.021607
c__Coriobacteriia	698	0.011619
c__Negativicutes	697	0.011603
c__Epsilonproteobacteria	575	0.009572
c__Mollicutes	333	0.005543
c__Erysipelotrichia	324	0.005393
c__Fusobacteriia	309	0.005144
c__Thermoleophilia	285	0.004744
c__Spirochaetia	258	0.004295
c__Cytophagia	252	0.004195
c__Planctomycetia	142	0.002364
c__Verrucomicrobiae	139	0.002314

c__Gemmatimonadetes	136	0.002264
c__Halobacteria	129	0.002147
c__Rubrobacteria	118	0.001964
c__Acidobacteriia	113	0.001881
c__Sphingobacteriia	105	0.001748
c__Tissierellia	99	0.001648
c__Lentisphaeria	87	0.001448
c__Opitutae	84	0.001398
c__Thermotogae	75	0.001248
c__Methanomicrobia	72	0.001199
c__Methanobacteria	68	0.001132
c__Chitinophagia	66	0.001099
c__Chlorobia	52	0.000866
c__Methanococci	51	0.000849
c__Deinococci	47	0.000782
c__Acidithiobacillia	36	0.000599
c__Synergistia	35	0.000583
c__Thermomicrobia	32	0.000533
c__Nitriliruptoria	32	0.000533
c__Aquificae	32	0.000533
c__Oligoflexia	27	0.000449
c__Phycisphaerae	26	0.000433
c__Thermoplasmata	25	0.000416
c__Chloroflexia	19	0.000316
c__Dictyoglomia	17	0.000283
c__Thermococci	16	0.000266
c__Dehalococcoidia	16	0.000266
c__Anaerolineae	16	0.000266
c__Nitrospira	15	0.00025
c__Thermoprotei	14	0.000233
c__Gloeobacteria	14	0.000233
c__Zetaproteobacteria	12	0.0002
c__Deferribacteres	12	0.0002
c__Chlamydiia	12	0.0002
c__Ignavibacteria	11	0.000183
c__Thermodesulfobacteria	10	0.000166
c__Limnochordia	10	0.000166
c__Hydrogenophilalia	10	0.000166
c__Saprospira	8	0.000133
c__Chthonomonadetes	8	0.000133
c__Caldilineae	8	0.000133
c__Acidimicrobiia	8	0.000133
c__Calditrichae	6	9.99E-05
c__Fimbriimonadia	5	8.32E-05
c__Elusimicrobia	5	8.32E-05
c__Blastocatellia	4	6.66E-05
c__Chrysiogenetes	3	4.99E-05
c__Archaeoglobi	3	4.99E-05
c__Nitrososphaeria	1	1.66E-05
c__Methylacidiphilae	1	1.66E-05
c__Endomicrobia	1	1.66E-05
c__Acidobacteria subdivision 6	81	0.001348
o__Clostridiales	10266	0.172913
o__Bacteroidales	3996	0.067306
o__Pelagibacterales	3043	0.051254
o__Rhizobiales	2987	0.050311

o__Burkholderiales	2809	0.047313
o__Lactobacillales	2506	0.042209
o__Streptomycetales	2291	0.038588
o__Bacillales	2176	0.036651
o__Enterobacterales	2137	0.035994
o__Flavobacteriales	1949	0.032827
o__Micrococcales	1728	0.029105
o__Corynebacteriales	1619	0.027269
o__Pseudomonadales	1519	0.025585
o__Synechococcales	1185	0.019959
o__Sphingomonadales	1115	0.01878
o__Rhodobacterales	1000	0.016843
o__Alteromonadales	990	0.016675
o__Propionibacteriales	885	0.014906
o__Micromonosporales	855	0.014401
o__Pseudonocardiales	775	0.013054
o__Rhodospirillales	683	0.011504
o__Xanthomonadales	585	0.009853
o__Campylobacterales	559	0.009415
o__Desulfovibrionales	522	0.008792
o__Oceanospirillales	508	0.008556
o__Myxococcales	466	0.007849
o__Bifidobacteriales	442	0.007445
o__Veillonellales	406	0.006838
o__Coriobacteriales	369	0.006215
o__Pasteurellales	364	0.006131
o__Erysipelotrichales	324	0.005457
o__Neisseriales	318	0.005356
o__Eggerthellales	316	0.005322
o__Fusobacteriales	309	0.005205
o__Streptosporangiales	308	0.005188
o__Solirubrobacterales	285	0.0048
o__Actinomycetales	282	0.00475
o__Vibrionales	275	0.004632
o__Chromatiales	266	0.00448
o__Geodermatophilales	255	0.004295
o__Cytophagales	252	0.004244
o__Selenomonadales	211	0.003554
o__Caulobacterales	194	0.003268
o__Frankiales	192	0.003234
o__Nostocales	176	0.002964
o__Mycoplasmatales	175	0.002948
o__Rhodocyclales	164	0.002762
o__Desulphuromonadales	162	0.002729
o__Thermoanaerobacterales	153	0.002577
o__Thiotrichales	151	0.002543
o__Spirochaetales	144	0.002425
o__Cellvibrionales	143	0.002409
o__Planctomycetales	142	0.002392
o__Verrucomicrobiales	139	0.002341
o__Entomoplasmatales	137	0.002308
o__Gemmatimonadales	136	0.002291
o__Nitrosomonadales	135	0.002274
o__Jiangellales	134	0.002257
o__Legionellales	127	0.002139
o__Acidobacteriales	113	0.001903

o__Rickettsiales	110	0.001853
o__Sphingobacteriales	105	0.001769
o__Aeromonadales	102	0.001718
o__Tissierellales	92	0.00155
o__Brachyspirales	88	0.001482
o__Victivallales	87	0.001465
o__Oscillatoriales	81	0.001364
o__Acidaminococcales	75	0.001263
o__Opitutales	72	0.001213
o__Halanaerobiales	69	0.001162
o__Methylococcales	68	0.001145
o__Methanobacteriales	68	0.001145
o__Chitinophagales	66	0.001112
o__Desulfobacteriales	65	0.001095
o__Chlorobiales	52	0.000876
o__Methanococcales	51	0.000859
o__Chroococcales	47	0.000792
o__Acidiferrobacteriales	47	0.000792
o__Thermotogales	46	0.000775
o__Natrialbales	45	0.000758
o__Methanosarcinales	43	0.000724
o__Halobacteriales	42	0.000707
o__Catenulesporales	42	0.000707
o__Haloferacales	38	0.00064
o__Thermales	36	0.000606
o__Nakamurellales	36	0.000606
o__Acidithiobacillales	36	0.000606
o__Synergistales	35	0.00059
o__Nevskiales	34	0.000573
o__Euzebyales	32	0.000539
o__Aquificales	31	0.000522
o__Sphaerobacteriales	26	0.000438
o__Marinilabiales	26	0.000438
o__Methanomicrobiales	22	0.000371
o__Kineosporiales	21	0.000354
o__Syntrophobacteriales	20	0.000337
o__Petrotogales	20	0.000337
o__Chloroflexales	19	0.00032
o__Orbales	18	0.000303
o__Glycomycetales	18	0.000303
o__Acholeplasmatales	18	0.000303
o__Thermoplasmatales	17	0.000286
o__Dictyoglomales	17	0.000286
o__Thermococcales	16	0.000269
o__Salinisphaerales	16	0.000269
o__Desulfarculales	16	0.000269
o__Bdellovibrionales	16	0.000269
o__Nitrospirales	15	0.000253
o__Actinopolysporales	15	0.000253
o__Immundisolibacteriales	13	0.000219
o__Puniceococcales	12	0.000202
o__Mariprofundales	12	0.000202
o__Deferribacteriales	12	0.000202
o__Bradymonadales	12	0.000202
o__Parachlamydiales	11	0.000185
o__Ignavibacteriales	11	0.000185

o__Deinococcales	11	0.000185
o__Bacteriovoracales	11	0.000185
o__Anaerolineales	11	0.000185
o__Thermodesulfobacteriales	10	0.000168
o__Limnochordales	10	0.000168
o__Hydrogenophilales	10	0.000168
o__Dehalococcoidales	10	0.000168
o__Kosmotogales	9	0.000152
o__Gloeomargaritales	9	0.000152
o__Desulfurellales	9	0.000152
o__Saprospirales	8	0.000135
o__Chthonomonadales	8	0.000135
o__Acidimicrobiales	8	0.000135
o__Sulfolobales	7	0.000118
o__Pleurocapsales	7	0.000118
o__Nautiliales	7	0.000118
o__Magnetococcales	7	0.000118
o__Methanocellales	6	0.000101
o__Calditrichales	6	0.000101
o__Thermomicrobiales	5	8.42E-05
o__Natranaerobiales	5	8.42E-05
o__Fimbriimonadales	5	8.42E-05
o__Elusimicrobiales	5	8.42E-05
o__Acidothermales	5	8.42E-05
o__Thermoproteales	4	6.74E-05
o__Caudovirales	4	6.74E-05
o__Picornavirales	3	5.05E-05
o__Parvularculales	3	5.05E-05
o__Chrysiogenales	3	5.05E-05
o__Archaeoglobales	3	5.05E-05
o__Acidilobales	3	5.05E-05
o__Methanomassiliicoccales	2	3.37E-05
o__Herpesvirales	2	3.37E-05
o__Chroococcidiopsidales	2	3.37E-05
o__Tymovirales	1	1.68E-05
o__Nitrososphaerales	1	1.68E-05
o__Nitrosopumilales	1	1.68E-05
o__Methylacidiphilales	1	1.68E-05
o__Holosporales	1	1.68E-05
o__Endomicrobiales	1	1.68E-05
o__Desulfurobacteriales	1	1.68E-05
o__Cardiobacteriales	1	1.68E-05
o__Bunyavirales	1	1.68E-05
o__Bacteroidetes Order II. Incertae sedis	31	0.000522
f__Lachnospiraceae	4405	0.083231
f__Pelagibacteraceae	3032	0.057289
f__Streptomycetaceae	2291	0.043288
f__Bacteroidaceae	1938	0.036618
f__Clostridiaceae	1880	0.035522
f__Flavobacteriaceae	1868	0.035295
f__Ruminococcaceae	1784	0.033708
f__Streptococcaceae	1371	0.025905
f__Enterobacteriaceae	1223	0.023108
f__Pseudomonadaceae	1210	0.022863
f__Bradyrhizobiaceae	961	0.018158
f__Bacillaceae	877	0.016571

f__Prochloraceae	874	0.016514
f__Rhodobacteraceae	855	0.016155
f__Sphingomonadaceae	754	0.014247
f__Microbacteriaceae	754	0.014247
f__Prevotellaceae	724	0.01368
f__Burkholderiaceae	674	0.012735
f__Pseudonocardiaceae	625	0.011809
f__Mycobacteriaceae	614	0.011601
f__Nocardiodiaceae	603	0.011393
f__Lactobacillaceae	574	0.010846
f__Oscillospiraceae	535	0.010109
f__Staphylococcaceae	478	0.009032
f__Xanthomonadaceae	474	0.008956
f__Comamonadaceae	469	0.008862
f__Rhodospirillaceae	452	0.00854
f__Bifidobacteriaceae	442	0.008351
f__Rikenellaceae	438	0.008276
f__Rhizobiaceae	432	0.008162
f__Alteromonadaceae	425	0.00803
f__Micromonosporaceae	417	0.007879
f__Nocardiaceae	406	0.007671
f__Paenibacillaceae	387	0.007312
f__Methylobacteriaceae	360	0.006802
f__Pasteurellaceae	350	0.006613
f__Micrococcaceae	335	0.00633
f__Erysipelotrichaceae	324	0.006122
f__Corynebacteriaceae	317	0.00599
f__Oxalobacteraceae	313	0.005914
f__Erythrobacteraceae	309	0.005838
f__Tannerellaceae	305	0.005763
f__Moraxellaceae	303	0.005725
f__Conexibacteraceae	285	0.005385
f__Desulfovibrionaceae	282	0.005328
f__Alcaligenaceae	282	0.005328
f__Actinomycetaceae	282	0.005328
f__Synechococcaceae	272	0.005139
f__Veillonellaceae	267	0.005045
f__Propionibacteriaceae	262	0.00495
f__Peptostreptococcaceae	262	0.00495
f__Enterococcaceae	262	0.00495
f__Halomonadaceae	258	0.004875
f__Pseudoalteromonadaceae	256	0.004837
f__Eggerthellaceae	256	0.004837
f__Geodermatophilaceae	255	0.004818
f__Phyllobacteriaceae	242	0.004573
f__Campylobacteraceae	237	0.004478
f__Atopobiaceae	224	0.004232
f__Acetobacteraceae	210	0.003968
f__Fusobacteriaceae	202	0.003817
f__Sutterellaceae	200	0.003779
f__Selenomonadaceae	189	0.003571
f__Erwiniaceae	186	0.003514
f__Intrasporangiaceae	168	0.003174
f__Odoribacteraceae	162	0.003061
f__Yersiniaceae	147	0.002778
f__Muribaculaceae	146	0.002759

f__Ectothiorhodospiraceae	146	0.002759
f__Hyphomicrobiaceae	142	0.002683
f__Streptosporangiaceae	140	0.002645
f__Gemmatimonadaceae	136	0.00257
f__Coriobacteriaceae	135	0.002551
f__Peptococcaceae	128	0.002419
f__Shewanellaceae	123	0.002324
f__Leuconostocaceae	121	0.002286
f__Akkermansiaceae	121	0.002286
f__Zoogloeaceae	119	0.002248
f__Bartonellaceae	119	0.002248
f__Hungateiclostridiaceae	115	0.002173
f__Caulobacteraceae	113	0.002135
f__Acidobacteriaceae	113	0.002135
f__Polyangiaceae	111	0.002097
f__Barnesiellaceae	110	0.002078
f__Geobacteraceae	109	0.00206
f__Planococcaceae	106	0.002003
f__Pectobacteriaceae	106	0.002003
f__Sphingobacteriaceae	105	0.001984
f__Morganellaceae	105	0.001984
f__Myxococcaceae	104	0.001965
f__Leptotrichiaceae	103	0.001946
f__Chromobacteriaceae	102	0.001927
f__Aeromonadaceae	102	0.001927
f__Gordoniaceae	100	0.001889
f__Alcanivoracaceae	100	0.001889
f__Spiroplasmataceae	96	0.001814
f__Promicromonosporaceae	95	0.001795
f__Oceanospirillaceae	94	0.001776
f__Rhodanobacteraceae	92	0.001738
f__Spirochaetaceae	90	0.001701
f__Aurantimonadaceae	90	0.001701
f__Thermomonosporaceae	88	0.001663
f__Hymenobacteraceae	87	0.001644
f__Francisellaceae	85	0.001606
f__Xanthobacteraceae	84	0.001587
f__Anaeromyxobacteraceae	84	0.001587
f__Peptoniphilaceae	83	0.001568
f__Vicinamibacteraceae	81	0.00153
f__Nocardiopsaceae	76	0.001436
f__Cellulomonadaceae	76	0.001436
f__Helicobacteraceae	75	0.001417
f__Acidaminococcaceae	75	0.001417
f__Colwelliaceae	73	0.001379
f__Chromatiaceae	73	0.001379
f__Opitutaceae	72	0.00136
f__Anaplasmataceae	72	0.00136
f__Archangiaceae	69	0.001304
f__Methylococcaceae	68	0.001285
f__Methanobacteriaceae	65	0.001228
f__Hyphomonadaceae	65	0.001228
f__Idiomarinaceae	64	0.001209
f__Listeriaceae	63	0.00119
f__Dermabacteraceae	63	0.00119
f__Porphyromonadaceae	62	0.001171

f__Planctomycetaceae	61	0.001153
f__Vibrionaceae	59	0.001115
f__Piscirickettsiaceae	58	0.001096
f__Chlorobiaceae	52	0.000983
f__Rhodobiaceae	50	0.000945
f__Chitinophagaceae	50	0.000945
f__Carnobacteriaceae	50	0.000945
f__Alicyclobacillaceae	50	0.000945
f__Sandaracinaceae	49	0.000926
f__Cytophagaceae	49	0.000926
f__Blattabacteriaceae	49	0.000926
f__Desulfuromonadaceae	47	0.000888
f__Nitrosomonadaceae	46	0.000869
f__Neisseriaceae	46	0.000869
f__Hafniaceae	46	0.000869
f__Cyclobacteriaceae	45	0.00085
f__Natrialbaceae	44	0.000831
f__Isosphaeraceae	44	0.000831
f__Dietziaceae	43	0.000812
f__Borreliaceae	42	0.000794
f__Acidiferrobacteraceae	42	0.000794
f__Methanococcaceae	41	0.000775
f__Fervidobacteriaceae	41	0.000775
f__Dermacoccaceae	41	0.000775
f__Closteroviridae	41	0.000775
f__Rivulariaceae	39	0.000737
f__Gallionellaceae	38	0.000718
f__Methylocystaceae	37	0.000699
f__Thermaceae	36	0.00068
f__Acidithiobacillaceae	36	0.00068
f__Thermoanaerobacteraceae	35	0.000661
f__Synergistaceae	35	0.000661
f__Halobacteroidaceae	35	0.000661
f__Sinobacteraceae	34	0.000642
f__Halanaerobiaceae	34	0.000642
f__Beutenbergiaceae	33	0.000624
f__Rhodothermaceae	31	0.000586
f__Christensenellaceae	31	0.000586
f__Brucellaceae	31	0.000586
f__Haloarculaceae	30	0.000567
f__Desulfobacteraceae	30	0.000567
f__Aerococcaceae	30	0.000567
f__Chroococcaceae	29	0.000548
f__Cellvibrionaceae	29	0.000548
f__Gemmataceae	28	0.000529
f__Chelatococcaceae	28	0.000529
f__Desulfobulbaceae	26	0.000491
f__Leptospiraceae	25	0.000472
f__Entomoplasmataceae	25	0.000472
f__Saccharospirillaceae	24	0.000453
f__Microcoleaceae	24	0.000453
f__Kofleriaceae	24	0.000453
f__Eubacteriaceae	24	0.000453
f__Cyanothecaceae	24	0.000453
f__Cohaesibacteraceae	24	0.000453
f__Tsukamurellaceae	23	0.000435

f__Haliaceae	23	0.000435
f__Beijerinckiaceae	23	0.000435
f__Sporomusaceae	22	0.000416
f__Hydrogenothermaceae	22	0.000416
f__Sanguibacteraceae	21	0.000397
f__Methylophilaceae	21	0.000397
f__Kineosporiaceae	21	0.000397
f__Bernardetiaceae	21	0.000397
f__Legionellaceae	20	0.000378
f__Sterolibacteriaceae	19	0.000359
f__Haloferacaceae	19	0.000359
f__Flammeovirgaceae	19	0.000359
f__Vulгатibacteraceae	18	0.00034
f__Verrucomicrobiaceae	18	0.00034
f__Spongiibacteraceae	18	0.00034
f__Rhodocyclaceae	18	0.00034
f__Orbaceae	18	0.00034
f__Glycomycetaceae	18	0.00034
f__Desulfomicrobiaceae	18	0.00034
f__Halorubraceae	17	0.000321
f__Dictyoglomaceae	17	0.000321
f__Azonexaceae	17	0.000321
f__Thermococcaceae	16	0.000302
f__Microbulbiferaceae	16	0.000302
f__Kangiellaceae	16	0.000302
f__Desulfarculaceae	16	0.000302
f__Syntrophaceae	15	0.000283
f__Roseiflexaceae	15	0.000283
f__Nitrospiraceae	15	0.000283
f__Halothiobacillaceae	15	0.000283
f__Coxiellaceae	15	0.000283
f__Methanosarcinaceae	14	0.000265
f__Symbiobacteriaceae	13	0.000246
f__Nostocaceae	13	0.000246
f__Moritellaceae	13	0.000246
f__Leptolyngbyaceae	13	0.000246
f__Cryomorphaceae	13	0.000246
f__Puniceicoccaceae	12	0.000227
f__Methanomicrobiaceae	12	0.000227
f__Mariprofundaceae	12	0.000227
f__Halobacteriaceae	12	0.000227
f__Dermatophilaceae	12	0.000227
f__Deferribacteraceae	12	0.000227
f__Bradymonadaceae	12	0.000227
f__Aphanizomenonaceae	12	0.000227
f__Trueperaceae	11	0.000208
f__Scytonemataceae	11	0.000208
f__Poxviridae	11	0.000208
f__Phycodnaviridae	11	0.000208
f__Marinifilaceae	11	0.000208
f__Frankiaceae	11	0.000208
f__Anaerolineaceae	11	0.000208
f__Thermodesulfobacteriaceae	10	0.000189
f__Psychromonadaceae	10	0.000189
f__Methanocaldococcaceae	10	0.000189
f__Hydrogenophilaceae	10	0.000189

f__Dehalococcoidaceae	10	0.000189
f__Wenzhouxiangellaceae	9	0.00017
f__Persicobacteraceae	9	0.00017
f__Oscillatoriaceae	9	0.00017
f__Methanoregulaceae	9	0.00017
f__Halobacteriovoraceae	9	0.00017
f__Gottschalkiaceae	9	0.00017
f__Gloeomargaritaceae	9	0.00017
f__Aquificaceae	9	0.00017
f__Thermoactinomycetaceae	8	0.000151
f__Mycoplasmataceae	8	0.000151
f__Marinilabiliaceae	8	0.000151
f__Ignavibacteriaceae	8	0.000151
f__Hapalosiphonaceae	8	0.000151
f__Dysgonamonadaceae	8	0.000151
f__Crocinitomicaceae	8	0.000151
f__Chthonomonadaceae	8	0.000151
f__Acidimicrobiaceae	8	0.000151
f__Thiotrichaceae	7	0.000132
f__Thiobacillaceae	7	0.000132
f__Sulfolobaceae	7	0.000132
f__Microcystaceae	7	0.000132
f__Magnetococcaceae	7	0.000132
f__Granulosicoccaceae	7	0.000132
f__Desulfurellaceae	7	0.000132
f__Cyanobacteriaceae	7	0.000132
f__Acaryochloridaceae	7	0.000132
f__Woeseiaceae	6	0.000113
f__Thermodesulfobiaceae	6	0.000113
f__Segniliparaceae	6	0.000113
f__Picrophilaceae	6	0.000113
f__Kosmotogaceae	6	0.000113
f__Heliobacteriaceae	6	0.000113
f__Ferrimonadaceae	6	0.000113
f__Chamaesiphonaceae	6	0.000113
f__Calditrichaceae	6	0.000113
f__Thermomicrobiaceae	5	9.45E-05
f__Rickettsiaceae	5	9.45E-05
f__Paludibacteraceae	5	9.45E-05
f__Oleiphilaceae	5	9.45E-05
f__Natranaerobiaceae	5	9.45E-05
f__Haliscomenobacteraceae	5	9.45E-05
f__Fimbriimonadaceae	5	9.45E-05
f__Elusimicrobiaceae	5	9.45E-05
f__Dermocarpellaceae	5	9.45E-05
f__Cuniculiplasmataceae	5	9.45E-05
f__Coleofasciculaceae	5	9.45E-05
f__Budviciaceae	5	9.45E-05
f__Acidothermaceae	5	9.45E-05
f__Thermotogaceae	4	7.56E-05
f__Salinivirgaceae	4	7.56E-05
f__Myoviridae	4	7.56E-05
f__Ichthyobacteriaceae	4	7.56E-05
f__Hahellaceae	4	7.56E-05
f__Desulfohalobiaceae	4	7.56E-05
f__Chloroflexaceae	4	7.56E-05

f__Aphanothecaceae	4	7.56E-05
f__Waddliaceae	3	5.67E-05
f__Syntrophomonadaceae	3	5.67E-05
f__Secoviridae	3	5.67E-05
f__Pseudanabaenaceae	3	5.67E-05
f__Prolixibacteraceae	3	5.67E-05
f__Mimiviridae	3	5.67E-05
f__Methanothermaceae	3	5.67E-05
f__Methanosaetaceae	3	5.67E-05
f__Merismopediaceae	3	5.67E-05
f__Melioribacteraceae	3	5.67E-05
f__Endozoicomonadaceae	3	5.67E-05
f__Chrysiogenaceae	3	5.67E-05
f__Archaeoglobaceae	3	5.67E-05
f__Thermoproteaceae	2	3.78E-05
f__Thermofilaceae	2	3.78E-05
f__Simkaniaceae	2	3.78E-05
f__Prochlorotrichaceae	2	3.78E-05
f__Methanomassiliicoccaceae	2	3.78E-05
f__Jonesiaceae	2	3.78E-05
f__Iridoviridae	2	3.78E-05
f__Gomontiellaceae	2	3.78E-05
f__Chroococcidiopsidaceae	2	3.78E-05
f__Caldisphaeraceae	2	3.78E-05
f__Baculoviridae	2	3.78E-05
f__Bacteriovoracaceae	2	3.78E-05
f__Amoebophilaceae	2	3.78E-05
f__Acholeplasmataceae	2	3.78E-05
f__Polyomaviridae	1	1.89E-05
f__Pithoviridae	1	1.89E-05
f__Peribunyaviridae	1	1.89E-05
f__Nodaviridae	1	1.89E-05
f__Nitrosopumilaceae	1	1.89E-05
f__Microviridae	1	1.89E-05
f__Methylacidiphilaceae	1	1.89E-05
f__Methanocorpusculaceae	1	1.89E-05
f__Holosporaceae	1	1.89E-05
f__Herpesviridae	1	1.89E-05
f__Endomicrobiaceae	1	1.89E-05
f__Desulfurobacteriaceae	1	1.89E-05
f__Cardiobacteriaceae	1	1.89E-05
f__Alphaflexiviridae	1	1.89E-05
f__Acidilobaceae	1	1.89E-05
f__Thermoanaerobacterales Family IV. Incertae Sedis	9	0.00017
f__Thermoanaerobacterales Family III. Incertae Sedis	87	0.001644
f__Clostridiales Family XVII. Incertae Sedis	21	0.000397
f__Clostridiales Family XIII. Incertae Sedis	31	0.000586
g__Candidatus Pelagibacter	2408	0.053673
g__Streptomyces	2146	0.047833
g__Bacteroides	1938	0.043197
g__Clostridium	1735	0.038672
g__Streptococcus	1250	0.027862
g__Pseudomonas	1158	0.025811
g__Faecalibacterium	927	0.020662
g__Prochlorococcus	874	0.019481
g__Lachnoclostridium	747	0.01665

g__Bacillus	608	0.013552
g__Bradyrhizobium	570	0.012705
g__Lactobacillus	542	0.012081
g__Oscillibacter	535	0.011925
g__Blautia	527	0.011747
g__Ruminococcus	503	0.011212
g__Staphylococcus	446	0.009941
g__Roseburia	443	0.009874
g__Alistipes	429	0.009562
g__Bifidobacterium	421	0.009384
g__Escherichia	404	0.009005
g__Klebsiella	361	0.008047
g__Paenibacillus	324	0.007222
g__Corynebacterium	317	0.007066
g__Parabacteroides	263	0.005862
g__Mycobacterium	262	0.00584
g__Microbacterium	258	0.005751
g__Pseudoalteromonas	256	0.005706
g__Anaerostipes	256	0.005706
g__Actinomyces	254	0.005662
g__Synechococcus	252	0.005617
g__Lawsonia	250	0.005572
g__Mycolicibacterium	246	0.005483
g__Flavonifractor	241	0.005372
g__Sphingomonas	238	0.005305
g__Haemophilus	238	0.005305
g__Rhodococcus	233	0.005193
g__Polaribacter	224	0.004993
g__Enterococcus	217	0.004837
g__Actinoplanes	216	0.004815
g__Acinetobacter	215	0.004792
g__Intestinimonas	211	0.004703
g__Methylobacterium	209	0.004659
g__Amycolatopsis	208	0.004636
g__Nocardioides	206	0.004592
g__Rhizobium	197	0.004391
g__Fusobacterium	196	0.004369
g__Alteromonas	193	0.004302
g__Halomonas	187	0.004168
g__Flavobacterium	179	0.00399
g__Butyrivibrio	168	0.003745
g__Azospirillum	168	0.003745
g__Sphingobium	164	0.003655
g__Marinobacter	163	0.003633
g__Cupriavidus	162	0.003611
g__Olsenella	157	0.003499
g__Mesorhizobium	155	0.003455
g__Selenomonas	151	0.003366
g__Clostridioides	149	0.003321
g__Capnocytophaga	147	0.003277
g__Muribaculum	146	0.003254
g__Citrobacter	140	0.003121
g__Bordetella	135	0.003009
g__Megasphaera	134	0.002987
g__Rhodopseudomonas	133	0.002965
g__Gordonibacter	133	0.002965

g__Paraburkholderia	128	0.002853
g__Dialister	126	0.002808
g__Stenotrophomonas	123	0.002742
g__Collinsella	123	0.002742
g__Sphingopyxis	119	0.002652
g__Lactococcus	118	0.00263
g__Geodermatophilus	117	0.002608
g__Variovorax	116	0.002586
g__Massilia	113	0.002519
g__Arthrobacter	111	0.002474
g__Lysobacter	109	0.00243
g__Gemmatirosa	105	0.00234
g__Xanthomonas	101	0.002251
g__Paracoccus	101	0.002251
g__Turicibacter	97	0.002162
g__Rothia	91	0.002028
g__Pandoraea	91	0.002028
g__Agromyces	90	0.002006
g__Sinorhizobium	89	0.001984
g__Faecalitalea	89	0.001984
g__Myxococcus	87	0.001939
g__Mordavella	87	0.001939
g__Martelella	87	0.001939
g__Buchnera	87	0.001939
g__Sorangium	86	0.001917
g__Tenacibaculum	85	0.001895
g__Cutibacterium	85	0.001895
g__Microvirga	84	0.001872
g__Alcanivorax	84	0.001872
g__Sulfitobacter	83	0.00185
g__Plantactinospira	82	0.001828
g__Gemella	82	0.001828
g__Luteitalea	81	0.001805
g__Chryseobacterium	81	0.001805
g__Streptosporangium	79	0.001761
g__Serratia	79	0.001761
g__Ralstonia	79	0.001761
g__Modestobacter	79	0.001761
g__Magnetospirillum	79	0.001761
g__Aeromicrobium	76	0.001694
g__Lachnoanaerobaculum	75	0.001672
g__Kitasatospora	75	0.001672
g__Friedmanniella	75	0.001672
g__Acidaminococcus	75	0.001672
g__Altererythrobacter	73	0.001627
g__Acidovorax	73	0.001627
g__Achromobacter	73	0.001627
g__Treponema	72	0.001605
g__Comamonas	71	0.001583
g__Bosea	71	0.001583
g__Citromicrobium	70	0.00156
g__Aeromonas	70	0.00156
g__Paeniclostridium	66	0.001471
g__Nocardiosis	66	0.001471
g__Libanicoccus	65	0.001449
g__Cellulomonas	65	0.001449

g__Winogradskyella	64	0.001427
g__Monoglobus	64	0.001427
g__Kribbella	63	0.001404
g__Actinoalloteichus	63	0.001404
g__Malacobacter	61	0.00136
g__Thioalkalivibrio	60	0.001337
g__Leifsonia	60	0.001337
g__Herbaspirillum	59	0.001315
g__Nonomuraea	58	0.001293
g__Brevundimonas	58	0.001293
g__Azoarcus	58	0.001293
g__Marmoricola	57	0.001271
g__Saccharomonospora	56	0.001248
g__Agrobacterium	56	0.001248
g__Weissella	55	0.001226
g__Brachybacterium	55	0.001226
g__Thauera	54	0.001204
g__Psychrobacter	54	0.001204
g__Planococcus	53	0.001181
g__Gramella	53	0.001181
g__Pimelobacter	52	0.001159
g__Pantoea	52	0.001159
g__Maribacter	52	0.001159
g__Blastococcus	52	0.001159
g__Lysinibacillus	51	0.001137
g__Curtobacterium	51	0.001137
g__Salipiger	50	0.001114
g__Novosphingobium	50	0.001114
g__Dickeya	50	0.001114
g__Cellulophaga	50	0.001114
g__Virgibacillus	49	0.001092
g__Tistrella	49	0.001092
g__Sandaracinus	49	0.001092
g__Phaeobacter	49	0.001092
g__Formosa	49	0.001092
g__Cellulosimicrobium	49	0.001092
g__Blattabacterium	49	0.001092
g__Wolbachia	48	0.00107
g__Janthinobacterium	47	0.001048
g__Hyphomonas	47	0.001048
g__Clavibacter	47	0.001048
g__Polynucleobacter	46	0.001025
g__Ramlibacter	45	0.001003
g__Microlunatus	45	0.001003
g__Geobacillus	45	0.001003
g__Lacinutrix	44	0.000981
g__Tessaracoccus	42	0.000936
g__Methanobrevibacter	42	0.000936
g__Kocuria	42	0.000936
g__Ethanolgenens	42	0.000936
g__Chromobacterium	42	0.000936
g__Celeribacter	42	0.000936
g__Aquimarina	42	0.000936
g__Actinomadura	42	0.000936
g__Thermoanaerobacterium	41	0.000914
g__Lutibacter	41	0.000914

g__Closterovirus	41	0.000914
g__Aggregatibacter	41	0.000914
g__Actinopolymorpha	41	0.000914
g__Thalassospira	40	0.000892
g__Phenylobacterium	40	0.000892
g__Luteimonas	40	0.000892
g__Hungateiclostridium	40	0.000892
g__Adlercreutzia	40	0.000892
g__Xenorhabdus	39	0.000869
g__Collimonas	39	0.000869
g__Nonlabens	38	0.000847
g__Megamonas	38	0.000847
g__Fron Dihabitans	38	0.000847
g__Dyella	38	0.000847
g__Devosia	38	0.000847
g__Caldicellulosiruptor	38	0.000847
g__Labrenzia	37	0.000825
g__Calothrix	37	0.000825
g__Rhodoplanes	36	0.000802
g__Porphyrobacter	36	0.000802
g__Komagataeibacter	36	0.000802
g__Allokutzneria	36	0.000802
g__Aliiarcobacter	36	0.000802
g__Acidithiobacillus	36	0.000802
g__Thiomonas	35	0.00078
g__Rhodovulum	35	0.00078
g__Rhodospirillum	35	0.00078
g__Porphyromonas	35	0.00078
g__Opitutus	35	0.00078
g__Janibacter	35	0.00078
g__Muricauda	34	0.000758
g__Hyphomicrobium	34	0.000758
g__Burkholderia	34	0.000758
g__Azotobacter	34	0.000758
g__Anaerococcus	34	0.000758
g__Zunongwangia	33	0.000736
g__Salinispora	33	0.000736
g__Phycococcus	33	0.000736
g__Methylobacterium	33	0.000736
g__Kutzneria	33	0.000736
g__Intrasporangium	33	0.000736
g__Denitrobacterium	33	0.000736
g__Anaerotignum	33	0.000736
g__Terriglobus	32	0.000713
g__Salmonella	32	0.000713
g__Providencia	32	0.000713
g__Planctomyces	32	0.000713
g__Nitrosomonas	32	0.000713
g__Mucilaginibacter	32	0.000713
g__Methanococcus	32	0.000713
g__Ensifer	32	0.000713
g__Pediococcus	31	0.000691
g__Mogibacterium	31	0.000691
g__Methyloceanibacter	31	0.000691
g__Halobacteroides	31	0.000691
g__Halanaerobium	31	0.000691

g__Carnobacterium	31	0.000691
g__Olleya	30	0.000669
g__Granulicella	30	0.000669
g__Brevibacillus	30	0.000669
g__Thalassolituus	29	0.000646
g__Saccharothrix	29	0.000646
g__Pedobacter	29	0.000646
g__Elizabethkingia	29	0.000646
g__Desulfosporosinus	29	0.000646
g__Dehalobacter	29	0.000646
g__Auraticoccus	29	0.000646
g__Acidiphilium	29	0.000646
g__Serinicoccus	28	0.000624
g__Roseomonas	28	0.000624
g__Pseudoxanthomonas	28	0.000624
g__Pseudodesulfovibrio	28	0.000624
g__Pseudarthrobacter	28	0.000624
g__Marinomonas	28	0.000624
g__Lentzea	28	0.000624
g__Isoptericola	28	0.000624
g__Chelatococcus	28	0.000624
g__Aminobacter	28	0.000624
g__Aerococcus	28	0.000624
g__Actinosynnema	28	0.000624
g__Pseudolabrys	27	0.000602
g__Methylophaga	27	0.000602
g__Gemmatimonas	27	0.000602
g__Croceicoccus	27	0.000602
g__Croceibacter	27	0.000602
g__Agrococcus	27	0.000602
g__Nitrobacter	26	0.00058
g__Methylomonas	26	0.00058
g__Kibdelosporangium	26	0.00058
g__Dokdonia	26	0.00058
g__Acidobacterium	26	0.00058
g__Yangia	25	0.000557
g__Thermosipho	25	0.000557
g__Sulfurimonas	25	0.000557
g__Pectobacterium	25	0.000557
g__Pannonibacter	25	0.000557
g__Microterricola	25	0.000557
g__Herbinix	25	0.000557
g__Desulfuromonas	25	0.000557
g__Cloacibacillus	25	0.000557
g__Chromohalobacter	25	0.000557
g__Alloactinosynnema	25	0.000557
g__Acidihalobacter	25	0.000557
g__Tumebacillus	24	0.000535
g__Sphingobacterium	24	0.000535
g__Parvibaculum	24	0.000535
g__Mycobacteroides	24	0.000535
g__Mesoplasma	24	0.000535
g__Haliangium	24	0.000535
g__Cyanothece	24	0.000535
g__Salinicola	23	0.000513
g__Oceanobacillus	23	0.000513

g__Methylocystis	23	0.000513
g__Lelliottia	23	0.000513
g__Acetobacterium	23	0.000513
g__Starkeya	22	0.00049
g__Salegentibacter	22	0.00049
g__Pseudoarcobacter	22	0.00049
g__Pelosinus	22	0.00049
g__Pelobacter	22	0.00049
g__Octadecabacter	22	0.00049
g__Lawsonella	22	0.00049
g__Geminocystis	22	0.00049
g__Faecalibaculum	22	0.00049
g__Desulfitobacterium	22	0.00049
g__Chondromyces	22	0.00049
g__Algibacter	22	0.00049
g__Afipia	22	0.00049
g__Wigglesworthia	21	0.000468
g__Thermobispora	21	0.000468
g__Thermaerobacter	21	0.000468
g__Sulfurifustis	21	0.000468
g__Stappia	21	0.000468
g__Spiribacter	21	0.000468
g__Rhizobacter	21	0.000468
g__Raoultella	21	0.000468
g__Polaromonas	21	0.000468
g__Petrimonas	21	0.000468
g__Ochrobactrum	21	0.000468
g__Nitratreduktor	21	0.000468
g__Macrococcus	21	0.000468
g__Kineococcus	21	0.000468
g__Epibacterium	21	0.000468
g__Acidipropionibacterium	21	0.000468
g__Vagococcus	20	0.000446
g__Sulfuricaulis	20	0.000446
g__Sporosarcina	20	0.000446
g__Slackia	20	0.000446
g__Singulisphaera	20	0.000446
g__Phreatobacter	20	0.000446
g__Photobacterium	20	0.000446
g__Parvimonas	20	0.000446
g__Paludisphaera	20	0.000446
g__Finegoldia	20	0.000446
g__Cystobacter	20	0.000446
g__Arsenicicoccus	20	0.000446
g__Archangium	20	0.000446
g__Actinobacillus	20	0.000446
g__Sulfurospirillum	19	0.000424
g__Salinimonas	19	0.000424
g__Roseovarius	19	0.000424
g__Rhodoferax	19	0.000424
g__Pseudoclostridium	19	0.000424
g__Neorhizobium	19	0.000424
g__Micavibrio	19	0.000424
g__Granulibacter	19	0.000424
g__Exiguobacterium	19	0.000424
g__Erysipelothrix	19	0.000424

g__Ehrlichia	19	0.000424
g__Verrucomicrobium	18	0.000401
g__Thioclava	18	0.000401
g__Streptacidiphilus	18	0.000401
g__Steroidobacter	18	0.000401
g__Stackebrandtia	18	0.000401
g__Seonamhaeicola	18	0.000401
g__Saccharopolyspora	18	0.000401
g__Rhodothermus	18	0.000401
g__Rathayibacter	18	0.000401
g__Oceanithermus	18	0.000401
g__Myroides	18	0.000401
g__Kosakonia	18	0.000401
g__Hydrogenophaga	18	0.000401
g__Desulfomicrobium	18	0.000401
g__Delftia	18	0.000401
g__Cryobacterium	18	0.000401
g__Cellulosilyticum	18	0.000401
g__Anoxybacillus	18	0.000401
g__Streptobacillus	17	0.000379
g__Sinomonas	17	0.000379
g__Ruegeria	17	0.000379
g__Pontibacter	17	0.000379
g__Mageeibacillus	17	0.000379
g__Halioglobus	17	0.000379
g__Dokdonella	17	0.000379
g__Dictyoglomus	17	0.000379
g__Dechloromonas	17	0.000379
g__Borrelia	17	0.000379
g__Blastomonas	17	0.000379
g__Alkalilimnicola	17	0.000379
g__Acetoanaerobium	17	0.000379
g__Sulfurihydrogenibium	16	0.000357
g__Solimonas	16	0.000357
g__Rhizorhabdus	16	0.000357
g__Prauserella	16	0.000357
g__Photorhabdus	16	0.000357
g__Oleispira	16	0.000357
g__Methylobacterium	16	0.000357
g__Melaminivora	16	0.000357
g__Mariniflexile	16	0.000357
g__Luteipulveratus	16	0.000357
g__Lacunisphaera	16	0.000357
g__Kytococcus	16	0.000357
g__Ketobacter	16	0.000357
g__Haloarobacter	16	0.000357
g__Gluconobacter	16	0.000357
g__Fervidobacterium	16	0.000357
g__Fastidiosipila	16	0.000357
g__Edwardsiella	16	0.000357
g__Desulfotomaculum	16	0.000357
g__Desulfarculus	16	0.000357
g__Crenobacter	16	0.000357
g__Chlorobium	16	0.000357
g__Chlorobaculum	16	0.000357
g__Cedecea	16	0.000357

g__Aliivibrio	16	0.000357
g__Alicyclobacillus	16	0.000357
g__Xylanimonas	15	0.000334
g__Thalassococcus	15	0.000334
g__Roseiflexus	15	0.000334
g__Polymorphum	15	0.000334
g__Ornithinimicrobium	15	0.000334
g__Methylibium	15	0.000334
g__Marichromatium	15	0.000334
g__Halothiobacillus	15	0.000334
g__Gilliamella	15	0.000334
g__Castellaniella	15	0.000334
g__Breoghanina	15	0.000334
g__Alkaliphilus	15	0.000334
g__Salinibacterium	14	0.000312
g__Rhodomicrobium	14	0.000312
g__Proteus	14	0.000312
g__Propionibacterium	14	0.000312
g__Pararhodospirillum	14	0.000312
g__Oligotropha	14	0.000312
g__Nitrospirillum	14	0.000312
g__Nitrospira	14	0.000312
g__Methylosinus	14	0.000312
g__Marinitoga	14	0.000312
g__Haloferax	14	0.000312
g__Cronobacter	14	0.000312
g__Actinotignum	14	0.000312
g__Acidisphaera	14	0.000312
g__Wenyingzhuangia	13	0.00029
g__Verrucosipora	13	0.00029
g__Tetragenococcus	13	0.00029
g__Symbiobacterium	13	0.00029
g__Sulfuritalea	13	0.00029
g__Sphingorhabdus	13	0.00029
g__Solibacillus	13	0.00029
g__Sideroxydans	13	0.00029
g__Siansivirga	13	0.00029
g__Rahnella	13	0.00029
g__Owenweeksia	13	0.00029
g__Methylococcus	13	0.00029
g__Methanosphaera	13	0.00029
g__Melittangium	13	0.00029
g__Mannheimia	13	0.00029
g__Magnetospira	13	0.00029
g__Limnobaculum	13	0.00029
g__Jeotgalibaca	13	0.00029
g__Jannaschia	13	0.00029
g__Cycloclasticus	13	0.00029
g__Cyclobacterium	13	0.00029
g__Brenneria	13	0.00029
g__Xylella	12	0.000267
g__Variibacter	12	0.000267
g__Thiocystis	12	0.000267
g__Thermobacillus	12	0.000267
g__Sodalis	12	0.000267
g__Rufibacter	12	0.000267

g_Reinekea	12	0.000267
g_Pseudohongiella	12	0.000267
g_Prosthecochloris	12	0.000267
g_Phyllobacterium	12	0.000267
g_Nitrosococcus	12	0.000267
g_Mitsuaria	12	0.000267
g_Micrococcus	12	0.000267
g_Methylocella	12	0.000267
g_Mariprofundus	12	0.000267
g_Marinobacterium	12	0.000267
g_Marinobacter	12	0.000267
g_Maricaulis	12	0.000267
g_Liberibacter	12	0.000267
g_Hartmannibacter	12	0.000267
g_Gardnerella	12	0.000267
g_Desulfobacula	12	0.000267
g_Desulfallas	12	0.000267
g_Cyanobium	12	0.000267
g_Coralimargarita	12	0.000267
g_Chelativorans	12	0.000267
g_Brochothrix	12	0.000267
g_Bradymonas	12	0.000267
g_Algoriphagus	12	0.000267
g_Aequorivita	12	0.000267
g_Vogesella	11	0.000245
g_Thermodesulfovibrio	11	0.000245
g_Spirosoma	11	0.000245
g_Sealdella	11	0.000245
g_Sagittula	11	0.000245
g_Rubrivivax	11	0.000245
g_Pseudogulbenkiania	11	0.000245
g_Pluralibacter	11	0.000245
g_Paraphotobacterium	11	0.000245
g_Paraoerskovia	11	0.000245
g_Oceanimonas	11	0.000245
g_Miniimonas	11	0.000245
g_Micropruina	11	0.000245
g_Leptothrix	11	0.000245
g_Jatrophihabitans	11	0.000245
g_Hoeflea	11	0.000245
g_Halorhodospira	11	0.000245
g_Fibrella	11	0.000245
g_Aromatoleum	11	0.000245
g_Aquabacterium	11	0.000245
g_Allochromatium	11	0.000245
g_Zobellia	10	0.000223
g_Thiohalobacter	10	0.000223
g_Thioflavicoccus	10	0.000223
g_Thermoclostridium	10	0.000223
g_Sphaerochaeta	10	0.000223
g_Ruminiclostridium	10	0.000223
g_Roseibacterium	10	0.000223
g_Psychromonas	10	0.000223
g_Plantibacter	10	0.000223
g_Oenococcus	10	0.000223
g_Niveispirillum	10	0.000223

g__Methylothermobacter	10	0.000223
g__Methanobacterium	10	0.000223
g__Marinithermus	10	0.000223
g__Kyrpidia	10	0.000223
g__Ketogulonicigenium	10	0.000223
g__Hydrogenophilus	10	0.000223
g__Haloterrigena	10	0.000223
g__Gluconacetobacter	10	0.000223
g__Glaesserella	10	0.000223
g__Glaciecola	10	0.000223
g__Gillisia	10	0.000223
g__Filifactor	10	0.000223
g__Fictibacillus	10	0.000223
g__Desulfococcus	10	0.000223
g__Desulfobulbus	10	0.000223
g__Dehalococcoides	10	0.000223
g__Dehalobacterium	10	0.000223
g__Corallococcus	10	0.000223
g__Azorhizobium	10	0.000223
g__Arachidicoccus	10	0.000223
g__Andersenella	10	0.000223
g__Advenella	10	0.000223
g__Zymomonas	9	0.000201
g__Thermobaculum	9	0.000201
g__Thalassotalea	9	0.000201
g__Stigmatella	9	0.000201
g__Simiduia	9	0.000201
g__Salinicoccus	9	0.000201
g__Pseudorhodoplanes	9	0.000201
g__Pseudopropionibacterium	9	0.000201
g__Peptoclostridium	9	0.000201
g__Orrella	9	0.000201
g__Ornithobacterium	9	0.000201
g__Oblitimonas	9	0.000201
g__Niastella	9	0.000201
g__Moorea	9	0.000201
g__Methylocaldum	9	0.000201
g__Methanocaldococcus	9	0.000201
g__Mahella	9	0.000201
g__Luteibacter	9	0.000201
g__Lacimicrobium	9	0.000201
g__Kushneria	9	0.000201
g__Halobacteriovorax	9	0.000201
g__Geosporobacter	9	0.000201
g__Flavivirga	9	0.000201
g__Flavisolibacter	9	0.000201
g__Dermacoccus	9	0.000201
g__Confluentimicrobium	9	0.000201
g__Blastochloris	9	0.000201
g__Austwickia	9	0.000201
g__Aureitalea	9	0.000201
g__Arenibacter	9	0.000201
g__Arcanobacterium	9	0.000201
g__Aneurinibacillus	9	0.000201
g__Alicyclophilus	9	0.000201
g__Agarivorans	9	0.000201

g__Yoonia	8	0.000178
g__Ureaplasma	8	0.000178
g__Thermosediminibacter	8	0.000178
g__Thermogutta	8	0.000178
g__Thermococcus	8	0.000178
g__Thermobifida	8	0.000178
g__Tateyamaria	8	0.000178
g__Syntrophus	8	0.000178
g__Sedimenticola	8	0.000178
g__Riemerella	8	0.000178
g__Psychroflexus	8	0.000178
g__Pseudoflavitalea	8	0.000178
g__Proteiniphilum	8	0.000178
g__Pelagibaca	8	0.000178
g__Paraglaciecola	8	0.000178
g__Ottowia	8	0.000178
g__Mucinivorans	8	0.000178
g__Microvirgula	8	0.000178
g__Methanothermococcus	8	0.000178
g__Marivirga	8	0.000178
g__Kordia	8	0.000178
g__Jeongeupia	8	0.000178
g__Ignavibacterium	8	0.000178
g__Halorubrum	8	0.000178
g__Geoalkalibacter	8	0.000178
g__Fluviicola	8	0.000178
g__Fischerella	8	0.000178
g__Ferriphaselus	8	0.000178
g__Echinicola	8	0.000178
g__Dyadobacter	8	0.000178
g__Defluviimonas	8	0.000178
g__Chthonomonas	8	0.000178
g__Caldanaerobacter	8	0.000178
g__Arthrospira	8	0.000178
g__Arcticibacterium	8	0.000178
g__Aquiflexum	8	0.000178
g__Ammonifex	8	0.000178
g__Alkalitalea	8	0.000178
g__Alcaligenes	8	0.000178
g__Aeribacillus	8	0.000178
g__Acidimicrobium	8	0.000178
g__Thiobacillus	7	0.000156
g__Thermodesulfobacterium	7	0.000156
g__Thermacetogenium	7	0.000156
g__Terribacillus	7	0.000156
g__Teredinibacter	7	0.000156
g__Tatumella	7	0.000156
g__Sulfuricella	7	0.000156
g__Solitalea	7	0.000156
g__Shinella	7	0.000156
g__Roseobacter	7	0.000156
g__Pseudopedobacter	7	0.000156
g__Propionimicrobium	7	0.000156
g__Planktothrix	7	0.000156
g__Pelagibacterium	7	0.000156
g__Oceanicoccus	7	0.000156

g__Negativicoccus	7	0.000156
g__Natronococcus	7	0.000156
g__Microcystis	7	0.000156
g__Microcella	7	0.000156
g__Methylovorus	7	0.000156
g__Methanoculleus	7	0.000156
g__Magnetococcus	7	0.000156
g__Leisingera	7	0.000156
g__Hippea	7	0.000156
g__Haematospirillum	7	0.000156
g__Gyнуella	7	0.000156
g__Granulosicoccus	7	0.000156
g__Filimonas	7	0.000156
g__Ezakiella	7	0.000156
g__Ereboglobus	7	0.000156
g__Desulfurivibrio	7	0.000156
g__Desulfofarcimen	7	0.000156
g__Cyanobacterium	7	0.000156
g__Chryseolinea	7	0.000156
g__Catenovulum	7	0.000156
g__Candidatus Blochmannia	7	0.000156
g__Brevirhabdus	7	0.000156
g__Bibersteinia	7	0.000156
g__Bacterioplanes	7	0.000156
g__Aquitalea	7	0.000156
g__Anabaena	7	0.000156
g__Agarilytica	7	0.000156
g__Acaryochloris	7	0.000156
g__Zobellella	6	0.000134
g__Zhihengliuella	6	0.000134
g__Vitreoscilla	6	0.000134
g__Tolumonas	6	0.000134
g__Thioploca	6	0.000134
g__Thermodesulfobium	6	0.000134
g__Thermincola	6	0.000134
g__Syntrophobotulus	6	0.000134
g__Segniliparus	6	0.000134
g__Salinispira	6	0.000134
g__Saccharophagus	6	0.000134
g__Roseateles	6	0.000134
g__Robiginitalea	6	0.000134
g__Pirellula	6	0.000134
g__Picrophilus	6	0.000134
g__Persephonella	6	0.000134
g__Peptoniphilus	6	0.000134
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g__Parasaccharibacter	6	0.000134
g__Paraliobacillus	6	0.000134
g__Paenisporosarcina	6	0.000134
g__Oceanisphaera	6	0.000134
g__Natronomonas	6	0.000134
g__Mycetocola	6	0.000134
g__Methyloversatilis	6	0.000134
g__Mesotoga	6	0.000134
g__Melissococcus	6	0.000134
g__Meiothermus	6	0.000134

g__Marinovum	6	0.000134
g__Marinilactibacillus	6	0.000134
g__Lentibacillus	6	0.000134
g__Laribacter	6	0.000134
g__Jeotgalibacillus	6	0.000134
g__Ilyobacter	6	0.000134
g__Hoyosella	6	0.000134
g__Hirschia	6	0.000134
g__Heliobacterium	6	0.000134
g__Halotalea	6	0.000134
g__Halorhabdus	6	0.000134
g__Gibbsiella	6	0.000134
g__Fluoribacter	6	0.000134
g__Ferrimonas	6	0.000134
g__Fermentimonas	6	0.000134
g__Dehalogenimonas	6	0.000134
g__Chondrocystis	6	0.000134
g__Chania	6	0.000134
g__Caldithrix	6	0.000134
g__Azospira	6	0.000134
g__Verminephrobacter	5	0.000111
g__Thiomicrospira	5	0.000111
g__Thiolapillus	5	0.000111
g__Thermomicrobium	5	0.000111
g__Tatlockia	5	0.000111
g__Tamlana	5	0.000111
g__Sulfurovum	5	0.000111
g__Sulfuriferula	5	0.000111
g__Stanieria	5	0.000111
g__Saccharospirillum	5	0.000111
g__Rummeliibacillus	5	0.000111
g__Rhodobaca	5	0.000111
g__Pyrococcus	5	0.000111
g__Parascardovia	5	0.000111
g__Orientia	5	0.000111
g__Oleiphilus	5	0.000111
g__Novibacillus	5	0.000111
g__Niabella	5	0.000111
g__Natronolimnobius	5	0.000111
g__Natrinema	5	0.000111
g__Natranaerobius	5	0.000111
g__Moorella	5	0.000111
g__Microcoleus	5	0.000111
g__Methanosalsum	5	0.000111
g__Methanolinea	5	0.000111
g__Methanofollis	5	0.000111
g__Lonsdalea	5	0.000111
g__Histophilus	5	0.000111
g__Hermiimonas	5	0.000111
g__Halorientalis	5	0.000111
g__Halobacterium	5	0.000111
g__Halobacillus	5	0.000111
g__Grimontia	5	0.000111
g__Geitlerinema	5	0.000111
g__Fuerstia	5	0.000111
g__Flagellimonas	5	0.000111

g__Fimbriimonas	5	0.000111
g__Elusimicrobium	5	0.000111
g__Eikenella	5	0.000111
g__Dinoroseobacter	5	0.000111
g__Desulfocapsa	5	0.000111
g__Coriobacterium	5	0.000111
g__Betaentomopoxvirus	5	0.000111
g__Basilea	5	0.000111
g__Basfia	5	0.000111
g__Aurantimicrobium	5	0.000111
g__Ahniella	5	0.000111
g__Acidothermus	5	0.000111
g__Trichodesmium	4	8.92E-05
g__Thermosynechococcus	4	8.92E-05
g__Sulfuricurvum	4	8.92E-05
g__Snodgrassella	4	8.92E-05
g__Simonsiella	4	8.92E-05
g__Shimwellia	4	8.92E-05
g__Sediminicola	4	8.92E-05
g__Salinigranum	4	8.92E-05
g__Runella	4	8.92E-05
g__Rhodoluna	4	8.92E-05
g__Raphidiopsis	4	8.92E-05
g__Pusillimonas	4	8.92E-05
g__Psychromicrobium	4	8.92E-05
g__Pseudoothermotoga	4	8.92E-05
g__Pseudarcicella	4	8.92E-05
g__Planctopirus	4	8.92E-05
g__Parageobacillus	4	8.92E-05
g__Ndongobacter	4	8.92E-05
g__Mobiluncus	4	8.92E-05
g__Methylovulum	4	8.92E-05
g__Methanococcoides	4	8.92E-05
g__Maritalea	4	8.92E-05
g__Leptospirillum	4	8.92E-05
g__Leclercia	4	8.92E-05
g__Ichthyobacterium	4	8.92E-05
g__Hydrogenovibrio	4	8.92E-05
g__Halotheca	4	8.92E-05
g__Halocynthiibacter	4	8.92E-05
g__Halobiforma	4	8.92E-05
g__Halalkalicoccus	4	8.92E-05
g__Gallibacterium	4	8.92E-05
g__Flexistipes	4	8.92E-05
g__Devriesea	4	8.92E-05
g__Desulfotalea	4	8.92E-05
g__Desulfomonile	4	8.92E-05
g__Desulfohalobium	4	8.92E-05
g__Desulfobacterium	4	8.92E-05
g__Denitrovibrio	4	8.92E-05
g__Defluviitoga	4	8.92E-05
g__Congregibacter	4	8.92E-05
g__Cnuibacter	4	8.92E-05
g__Chloroflexus	4	8.92E-05
g__Chloracidobacterium	4	8.92E-05
g__Calditerrivibrio	4	8.92E-05

g__Belliella	4	8.92E-05
g__Asticcacaulis	4	8.92E-05
g__Anabaenopsis	4	8.92E-05
g__Acetohalobium	4	8.92E-05
g__Wolinella	3	6.69E-05
g__Weeksella	3	6.69E-05
g__Turneriella	3	6.69E-05
g__Tropheryma	3	6.69E-05
g__Thermocrinis	3	6.69E-05
g__Synechocystis	3	6.69E-05
g__Scardovia	3	6.69E-05
g__Pseudovibrio	3	6.69E-05
g__Prasinovirus	3	6.69E-05
g__Pragia	3	6.69E-05
g__Pelodictyon	3	6.69E-05
g__Paucimonas	3	6.69E-05
g__Paenalcaligenes	3	6.69E-05
g__Neorickettsia	3	6.69E-05
g__Neoasaia	3	6.69E-05
g__Murdochiella	3	6.69E-05
g__Methanothermus	3	6.69E-05
g__Methanohalobium	3	6.69E-05
g__Marivivens	3	6.69E-05
g__Laceyella	3	6.69E-05
g__Kozakia	3	6.69E-05
g__Hydrogenobaculum	3	6.69E-05
g__Halothermothrix	3	6.69E-05
g__Halostagnicola	3	6.69E-05
g__Halopenitus	3	6.69E-05
g__Halomicrobium	3	6.69E-05
g__Gilvibacter	3	6.69E-05
g__Gemmobacter	3	6.69E-05
g__Gallaecimonas	3	6.69E-05
g__Frischella	3	6.69E-05
g__Frateuria	3	6.69E-05
g__Endozoicomonas	3	6.69E-05
g__Draconibacterium	3	6.69E-05
g__Desulfurispirillum	3	6.69E-05
g__Desulfobacca	3	6.69E-05
g__Desulfatibacillum	3	6.69E-05
g__Dermatophilus	3	6.69E-05
g__Dactylococcopsis	3	6.69E-05
g__Cylindrospermum	3	6.69E-05
g__Curvibacter	3	6.69E-05
g__Chloroherpeton	3	6.69E-05
g__Carboxydotherrmus	3	6.69E-05
g__Brucella	3	6.69E-05
g__Aureimonas	3	6.69E-05
g__Asaia	3	6.69E-05
g__Antarctobacter	3	6.69E-05
g__Allofrancisella	3	6.69E-05
g__Aciduliprofundum	3	6.69E-05
g__Acidianus	3	6.69E-05
g__Zhongshania	2	4.46E-05
g__Thermovirga	2	4.46E-05
g__Thermofilum	2	4.46E-05

g_Thermodesulfator	2	4.46E-05
g_Thermanaerovibrio	2	4.46E-05
g_Thermanaeromonas	2	4.46E-05
g_Taylorella	2	4.46E-05
g_Syntrophothermus	2	4.46E-05
g_Sphaerospermopsis	2	4.46E-05
g_Sneathia	2	4.46E-05
g_Sediminispirochaeta	2	4.46E-05
g_Salinarchaeum	2	4.46E-05
g_Salimicrobium	2	4.46E-05
g_Rubinisphaera	2	4.46E-05
g_Rhodopirellula	2	4.46E-05
g_Renibacterium	2	4.46E-05
g_Pandoravirus	2	4.46E-05
g_Obesumbacterium	2	4.46E-05
g_Nitratiruptor	2	4.46E-05
g_Natronobacterium	2	4.46E-05
g_Methylophilus	2	4.46E-05
g_Metallosphaera	2	4.46E-05
g_Limnohabitans	2	4.46E-05
g_Leminorella	2	4.46E-05
g_Leadbetterella	2	4.46E-05
g_Kurthia	2	4.46E-05
g_Kluyvera	2	4.46E-05
g_Kingella	2	4.46E-05
g_Jonquetella	2	4.46E-05
g_Hydrogenobacter	2	4.46E-05
g_Humibacter	2	4.46E-05
g_Halopiger	2	4.46E-05
g_Halomicronema	2	4.46E-05
g_Halohasta	2	4.46E-05
g_Halanaeroarchaeum	2	4.46E-05
g_Glutamicibacter	2	4.46E-05
g_Dolichospermum	2	4.46E-05
g_Cryptobacterium	2	4.46E-05
g_Crinalium	2	4.46E-05
g_Chroococciopsis	2	4.46E-05
g_Chlorovirus	2	4.46E-05
g_Candidatus Phytoplasma	2	4.46E-05
g_Candidatus Cardinium	2	4.46E-05
g_Brevefilum	2	4.46E-05
g_Betabaculovirus	2	4.46E-05
g_Bacteriovorax	2	4.46E-05
g_Auritidibacter	2	4.46E-05
g_Auricoccus	2	4.46E-05
g_Atopobium	2	4.46E-05
g_Archaeoglobus	2	4.46E-05
g_Aquaspirillum	2	4.46E-05
g_Amphibacillus	2	4.46E-05
g_Aminomonas	2	4.46E-05
g_Zymobacter	1	2.23E-05
g_Vulcanisaeta	1	2.23E-05
g_Trueperella	1	2.23E-05
g_Trichormus	1	2.23E-05
g_Tepidanaerobacter	1	2.23E-05
g_Syntrophomonas	1	2.23E-05

g__Sulfurisphaera	1	2.23E-05
g__Sulfolobus	1	2.23E-05
g__Simplicispira	1	2.23E-05
g__Shigella	1	2.23E-05
g__Potexvirus	1	2.23E-05
g__Plesiomonas	1	2.23E-05
g__Phytobacter	1	2.23E-05
g__Phoenicibacter	1	2.23E-05
g__Palaeococcus	1	2.23E-05
g__Pajaroellobacter	1	2.23E-05
g__Oligella	1	2.23E-05
g__Nitratifractor	1	2.23E-05
g__Neomicrococcus	1	2.23E-05
g__Methylobacillus	1	2.23E-05
g__Methylacidiphilum	1	2.23E-05
g__Methanotorris	1	2.23E-05
g__Methanothrix	1	2.23E-05
g__Methanomethylovorans	1	2.23E-05
g__Methanohalophilus	1	2.23E-05
g__Methanocorpusculum	1	2.23E-05
g__Lymphocystivirus	1	2.23E-05
g__Kayvirus	1	2.23E-05
g__Iridovirus	1	2.23E-05
g__Haloquadratum	1	2.23E-05
g__Haloplanus	1	2.23E-05
g__Halogeometricum	1	2.23E-05
g__Halodesulfurarchaeum	1	2.23E-05
g__Gloeocapsa	1	2.23E-05
g__Ferroglobus	1	2.23E-05
g__Endomicrobium	1	2.23E-05
g__Dichelobacter	1	2.23E-05
g__Desulfurobacterium	1	2.23E-05
g__Cytomegalovirus	1	2.23E-05
g__Caldivirga	1	2.23E-05
g__Caldimicrobium	1	2.23E-05
g__Betanodavirus	1	2.23E-05
g__Beggiatoa	1	2.23E-05
g__B4virus	1	2.23E-05
g__Aquifex	1	2.23E-05
g__Aminobacterium	1	2.23E-05
g__Aminobacter	1	2.23E-05
g__Alphapolyomavirus	1	2.23E-05
g__Alphaentomopoxvirus	1	2.23E-05
g__Acidilobus	1	2.23E-05