

**Table S1.** Quality control of the sequence reads

<b>Sample Id</b>	<b>Raw Reads</b>	<b>Low Quality Reads%</b>	<b>Host Reads%</b>	<b>High quality</b>
<b>3_1</b>	55,858,356	70.86%	0.33%	16,223,028
<b>3_2</b>	51,757,504	30.48%	0.19%	35,912,596
<b>3_3</b>	53,134,418	66.01%	9.41%	16,358,646
<b>3_4</b>	64,619,834	69.33%	0.24%	18,605,339
<b>3_5</b>	61,227,976	68.59%	0.01%	19,228,180
<b>3_6</b>	54,811,970	66.56%	0.29%	18,276,164
<b>3_7</b>	65,786,596	66.76%	0.26%	21,807,526
<b>3_8</b>	49,714,782	27.90%	0.33%	35,725,452
<b>3_9</b>	54,485,568	64.84%	0.02%	19,150,586
<b>3_10</b>	45,724,010	26.68%	0.02%	33,519,184
<b>3_11</b>	62,900,014	60.78%	23.80%	18,799,058
<b>3_12</b>	58,154,640	57.17%	0.04%	24,900,122
<b>3_13</b>	64,618,362	71.11%	0.03%	18,664,044
<b>3_14</b>	54,091,108	83.04%	18.64%	7,462,566
<b>3_15</b>	72,294,564	56.42%	0.07%	31,486,562
<b>S0</b>	46,189,622	13.38%	3.03%	38,794,848
<b>S1</b>	36,638,842	8.39%	0.01%	33,561,978
<b>S2</b>	36,263,776	13.22%	0.03%	31,460,040
<b>S3</b>	38,792,676	10.45%	0.07%	34,715,240
<b>S4</b>	38,125,376	11.64%	0.01%	33,682,404
<b>S5</b>	36,806,512	7.57%	0.04%	34,007,586
<b>S6</b>	36,862,596	10.25%	0.10%	33,052,238
<b>S7</b>	34,003,480	9.94%	0.02%	30,615,974
<b>S9</b>	33,642,370	13.71%	0.15%	28,985,416
<b>S11</b>	28,328,570	23.36%	0.05%	21,699,634
<b>S12</b>	26,114,462	21.55%	0.01%	20,483,936
<b>S13</b>	36,423,894	17.74%	0.01%	29,957,042

Note: Sample IDs 3\_1 to 3\_15 indicate the sample numbers of native Tibetans. S0 to S13 indicate the sample numbers of Chinese Hans.

**Table S2.** Genera of gut microbiota that are significantly different between the native Tibetans and Chinese Hans

<b>Genus</b>	<b>Relative abundance (%) (Tibet)</b>	<b>sd (Tibet)</b>	<b>Relative abundance (%) (Han)</b>	<b>sd (Han)</b>	<b>p-value</b>	<b>q-value</b>
<i>Filifactor</i>	2.39E-05	2.01E-05	1.35E-06	4.69E-06	0.000104	0.000959
<i>Parvimonas</i>	0.000111	0.000185	7.31E-06	8.50E-06	0.000118	0.001033
<i>Arcicella</i>	2.34E-05	2.28E-05	0	0	0.000127	0.001033
<i>Clostridium_sensu_stricto_7</i>	2.21E-05	2.91E-05	0	0	0.000127	0.001033
<i>Dasania</i>	1.40E-05	1.17E-05	0	0	0.000127	0.001033
<i>Ureibacillus</i>	0.000201	0.000269	0	0	0.000127	0.001033
<i>Butyrivibrio</i>	0.00224	0.002412	0.00015	0.000324	0.000128	0.001033
<i>Marinilabiaceae_uncultured</i>	0.000567	0.000292	0.000177	0.000122	0.000128	0.001033
<i>Algoriphagus</i>	6.39E-05	6.47E-05	1.53E-06	3.59E-06	0.000142	0.001113
<i>Gelria</i>	5.86E-05	2.87E-05	8.81E-06	2.59E-05	0.000143	0.001113
<i>Anaerosporobacter</i>	0.00025	0.000118	5.90E-05	6.31E-05	0.000156	0.001173
<i>Tannerella</i>	0.001481	0.000913	0.000422	0.000501	0.000156	0.001173
<i>vadinBB60_norank</i>	0.001581	0.001604	8.69E-05	0.000165	0.000181	0.001334
<i>Candidatus_Arthromitus</i>	0.000148	6.24E-05	3.37E-05	5.26E-05	0.000185	0.001334
<i>Limnobacter</i>	0.000131	7.37E-05	3.17E-05	2.99E-05	0.000189	0.001334
<i>Syntrophococcus</i>	0.00084	0.000465	0.000207	0.000196	0.000189	0.001334
<i>Nitrospira</i>	3.23E-05	2.19E-05	3.79E-06	6.05E-06	0.000212	0.001474
<i>Atopostipes</i>	4.34E-05	2.40E-05	3.64E-06	5.70E-06	0.000233	0.001591
<i>Arthrobacter</i>	6.20E-05	5.14E-05	1.38E-05	1.33E-05	0.000275	0.001841
<i>Myroides</i>	0.095802	0.011138	0.148277	0.027166	0.000278	0.001841
<i>Desulfovibrionaceae_uncultured</i>	5.11E-05	4.30E-05	6.03E-07	2.09E-06	0.000285	0.001863
<i>Maritimimonas</i>	1.52E-05	1.61E-05	0	0	0.00033	0.002125
<i>Kurthia</i>	3.53E-05	2.86E-05	4.10E-06	6.68E-06	0.000343	0.002178

<i>Sporomusa</i>	0.000108	9.95E-05	1.66E-05	2.13E-05	0.000387	0.00239
<i>Fusibacter</i>	3.92E-05	4.54E-05	1.48E-06	3.47E-06	0.000392	0.00239
<i>Anaerolineaceae_uncultured</i>	0.000209	0.000198	2.37E-05	2.51E-05	0.000404	0.00239
<i>Prevotella</i>	0.273326	0.155876	0.056298	0.161699	0.000404	0.00239
<i>S24-7_norank</i>	0.022241	0.039546	0.001709	0.004081	0.000404	0.00239
<i>Tetrasphaera</i>	0.000314	0.000376	6.59E-06	1.33E-05	0.000415	0.002427
<i>BS11_gut_group_norank</i>	0.000223	0.000267	1.55E-05	3.54E-05	0.000449	0.002586
<i>JTB255_marine_benthic_group_norank</i>	1.92E-05	1.60E-05	3.55E-06	6.06E-06	0.000457	0.002601
<i>RB41_norank</i>	5.56E-05	7.07E-05	1.42E-06	3.37E-06	0.000477	0.002659
<i>Coriobacteriaceae_uncultured</i>	0.000884	0.000732	0.000123	0.000123	0.000485	0.002659
<i>Ruminococcaceae_uncultured</i>	0.072807	0.052484	0.01226	0.009432	0.000485	0.002659
<i>Nocardioides</i>	0.000117	0.000146	5.49E-06	9.35E-06	0.000501	0.002715
<i>Flammeovirgaceae_uncultured</i>	1.41E-05	1.43E-05	8.08E-07	2.80E-06	0.00052	0.002779
<i>Reichenbachiella</i>	0.000148	0.000212	2.03E-06	5.05E-06	0.000578	0.003055
<i>Aeriscardovia</i>	0.000584	0.000985	7.50E-06	1.41E-05	0.000604	0.003153
<i>Alpinimonas</i>	0.000225	0.000143	3.43E-05	3.16E-05	0.000624	0.003189
<i>Erysipelothrix</i>	8.66E-05	6.24E-05	1.06E-05	1.48E-05	0.000625	0.003189
<i>WCHB1-69_norank</i>	2.60E-05	1.79E-05	6.13E-06	7.15E-06	0.000709	0.003576
<i>Coxiella</i>	1.19E-05	1.29E-05	0	0	0.000807	0.003786
<i>Ekhidna</i>	4.41E-05	5.18E-05	0	0	0.000807	0.003786
<i>Marinicella</i>	1.14E-05	1.03E-05	0	0	0.000807	0.003786
<i>Sandaracinaceae_norank</i>	2.23E-05	2.60E-05	0	0	0.000807	0.003786
<i>Sporosarcina</i>	8.10E-06	6.67E-06	0	0	0.000807	0.003786
<i>Tissierella</i>	1.45E-05	1.58E-05	0	0	0.000807	0.003786
<i>Asteroleplasma</i>	0.000104	0.000154	1.42E-06	4.92E-06	0.00081	0.003786

<i>Bacteroides</i>	0.039279	0.071934	0.307337	0.174107	0.00083	0.003841
<i>SM2D12_norank</i>	1.77E-05	1.93E-05	1.55E-06	3.71E-06	0.000843	0.00386
<i>Mogibacterium</i>	0.000317	0.000347	1.65E-05	1.52E-05	0.00089	0.004033
<i>Comamonas</i>	5.82E-05	4.73E-05	9.96E-06	1.79E-05	0.000946	0.004222
<i>Selenomonas</i>	0.000112	0.000174	1.60E-05	1.96E-05	0.000971	0.004222
<i>Gastranaerophilales_norank</i>	0.002395	0.00412	1.88E-06	6.53E-06	0.000982	0.004222
<i>Parasutterella</i>	0.000652	0.001997	0.011904	0.01487	0.000982	0.004222
<i>Hydrogenoanaerobacterium</i>	0.000152	8.99E-05	5.92E-05	4.64E-05	0.000987	0.004222
<i>Family_XIII_uncultured</i>	0.001578	0.000848	0.000467	0.00035	0.000989	0.004222
<i>Subgroup_6_norank</i>	8.50E-05	8.20E-05	8.13E-06	1.18E-05	0.001012	0.004278
<i>TM6_norank</i>	1.43E-05	9.34E-06	2.30E-06	5.47E-06	0.001218	0.005068
<i>Saprospiraceae_uncultured</i>	1.60E-05	1.34E-05	1.44E-06	3.39E-06	0.001221	0.005068
<i>Mycoplasma</i>	0.001085	0.000602	0.000416	0.000314	0.001393	0.005727
<i>S0134_terrestrial_group_norank</i>	8.04E-05	9.24E-05	8.36E-06	1.30E-05	0.001475	0.006008
<i>Anaerotruncus</i>	0.003244	0.002408	0.00073	0.001179	0.001648	0.006652
<i>NB1-n_norank</i>	0.000439	0.000875	6.72E-07	2.33E-06	0.001782	0.006903
<i>Acetitomaculum</i>	4.57E-05	3.20E-05	1.02E-05	1.61E-05	0.001844	0.006903
<i>ABS-19_norank</i>	5.25E-06	4.85E-06	0	0	0.001866	0.006903
<i>Bryobacter</i>	8.15E-06	9.50E-06	0	0	0.001866	0.006903
<i>Cryomorpha</i>	8.18E-06	8.82E-06	0	0	0.001866	0.006903
<i>Desulfobulbus</i>	9.12E-06	9.95E-06	0	0	0.001866	0.006903
<i>Desulfomicrobium</i>	1.92E-05	2.11E-05	0	0	0.001866	0.006903
<i>Desulfurellaceae_uncultured</i>	1.23E-05	1.32E-05	0	0	0.001866	0.006903
<i>Vallitalea</i>	9.37E-06	9.30E-06	0	0	0.001866	0.006903
<i>possible_genus_04</i>	7.62E-06	7.33E-06	0	0	0.001866	0.006903
<i>Leifsonia</i>	0.000468	0.000216	0.000205	0.000135	0.001945	0.007138
<i>NS11-12_marine_group_norank</i>	1.43E-05	1.23E-05	2.12E-06	5.13E-06	0.002074	0.007548

<i>E01-9C-26_marine_group_norank</i>	1.35E-05	1.22E-05	6.03E-07	2.09E-06	0.002143	0.007737
<i>Epulopiscium</i>	3.58E-05	3.66E-05	8.56E-06	1.27E-05	0.002178	0.007798
<i>Flectobacillus</i>	7.33E-05	5.64E-05	2.41E-05	1.88E-05	0.002287	0.00806
<i>Paludibacter</i>	0.000309	0.000604	5.60E-05	0.000123	0.002287	0.00806
<i>Helcococcus</i>	2.52E-05	3.46E-05	9.42E-07	3.26E-06	0.002572	0.00896
<i>Ardenticatena</i>	2.44E-05	2.31E-05	2.83E-06	5.45E-06	0.002583	0.00896
<i>RF9_norank</i>	0.007521	0.012161	0.000317	0.000686	0.002688	0.009251
<i>Propionicicella</i>	4.14E-07	1.60E-06	7.11E-06	7.13E-06	0.002778	0.009489
<i>Nitrosomonadaceae_uncultured</i>	4.17E-05	4.63E-05	0.000343	0.000398	0.002873	0.009736
<i>Prochlorococcus</i>	6.17E-05	4.08E-05	2.03E-06	4.98E-06	1.18E-05	0.000349
<i>Tepidimicrobium</i>	0.000124	7.74E-05	3.07E-06	4.60E-06	1.22E-05	0.000349
<i>Caldicoprobacter</i>	0.00077	0.000382	1.14E-05	1.04E-05	1.22E-05	0.000349
<i>Marinilabiaceae_norank</i>	0.00028	0.000196	1.11E-05	7.89E-06	1.24E-05	0.000349
<i>Bacillus</i>	0.000445	0.000179	8.69E-05	4.41E-05	1.26E-05	0.000349
<i>Bacteroidales_uncultured</i>	0.000975	0.000665	5.77E-05	3.06E-05	1.26E-05	0.000349
<i>Cytophagaceae_uncultured</i>	0.00088	0.00042	0.00025	9.83E-05	1.26E-05	0.000349
<i>OPB54_norank</i>	0.000524	0.00022	3.79E-05	2.95E-05	1.26E-05	0.000349
<i>Porphyromonas</i>	0.002601	0.001442	8.95E-05	4.80E-05	1.26E-05	0.000349
<i>RC9_gut_group</i>	0.011154	0.010858	2.97E-05	1.58E-05	1.26E-05	0.000349
<i>vadinBC27_wastewater-sludge_group</i>	0.001884	0.000857	7.23E-05	4.08E-05	1.26E-05	0.000349
<i>Succinivibrio</i>	0.023328	0.038285	3.74E-06	8.51E-06	1.36E-05	0.000356
<i>Marinifilum</i>	0.000384	0.000194	3.67E-05	2.98E-05	1.57E-05	0.000361
<i>Catenibacterium</i>	0.009005	0.008361	1.88E-05	2.99E-05	1.77E-05	0.000361
<i>Paucimonas</i>	5.11E-05	2.08E-05	6.03E-06	7.51E-06	1.77E-05	0.000361
<i>Olivibacter</i>	0.000143	8.51E-05	9.46E-06	1.05E-05	1.85E-05	0.000361
<i>VC2.1_Bac22_norank</i>	0.000113	5.83E-05	1.06E-05	1.33E-05	1.85E-05	0.000361

<i>0319-6G20_norank</i>	7.63E-05	4.44E-05	5.53E-06	1.00E-05	1.90E-05	0.000361
<i>Oribacterium</i>	0.001196	0.00098	5.74E-05	6.74E-05	1.95E-05	0.000361
<i>Anaerococcus</i>	9.92E-05	5.19E-05	7.34E-07	2.54E-06	2.24E-05	0.000383
<i>Anaerovorax</i>	4.73E-05	3.79E-05	7.34E-07	2.54E-06	2.24E-05	0.000383
<i>SC-I-84_norank</i>	0.000103	9.53E-05	0.000547	0.000366	3.02E-05	0.000487
<i>NS9_marine_group_norank</i>	7.60E-05	7.08E-05	1.41E-06	3.29E-06	3.07E-05	0.000487
<i>Peptococcaceae_uncultured</i>	0.000864	0.000621	5.43E-05	9.31E-05	3.70E-05	0.000552
<i>Fastidiosipila</i>	0.00017	0.000112	1.16E-05	1.00E-05	3.73E-05	0.000552
<i>Ignatzschineria</i>	7.42E-05	3.47E-05	7.99E-06	2.30E-05	4.49E-05	0.000583
<i>AEGEAN-169_marine_grou</i>	4.53E-05	3.81E-05	0	0	4.60E-05	0.000583
<i>P</i>						
<i>Centipeda</i>	0.000118	0.000227	0	0	4.60E-05	0.000583
<i>Cytophaga</i>	2.98E-05	2.17E-05	0	0	4.60E-05	0.000583
<i>possible_order_07_norank</i>	0.000177	0.000231	0	0	4.60E-05	0.000583
<i>Acetivibrio</i>	6.83E-05	4.51E-05	0	0	4.85E-06	0.000349
<i>Papillibacter</i>	0.002233	0.001367	0.000136	0.000122	5.68E-05	0.000682
<i>Petrimonas</i>	0.00022	0.000132	3.83E-05	2.93E-05	5.68E-05	0.000682
<i>Chryseolinea</i>	0.000159	0.000109	8.08E-07	2.80E-06	6.14E-06	0.000349
<i>Halobacillus</i>	7.88E-05	5.76E-05	5.99E-07	2.08E-06	6.14E-06	0.000349
<i>SubsectionIII_FamilyI_uncu</i>	5.27E-05	2.96E-05	4.35E-06	5.79E-06	6.23E-05	0.000728
<i>ltured</i>						
<i>Streptomyces</i>	0.000105	0.000123	8.49E-06	8.59E-06	6.64E-05	0.000755
<i>BD2-2_norank</i>	0.000118	7.97E-05	2.50E-05	1.79E-05	6.99E-05	0.000775
<i>Erysipelotrichaceae_norank</i>	0.002308	0.00111	0.000331	0.000568	8.54E-05	0.000906
<i>Prevotellaceae_uncultured</i>	0.016452	0.012108	0.001686	0.002703	8.57E-05	0.000906
<i>Spirochaeta</i>	0.000111	6.52E-05	3.08E-06	5.78E-06	8.61E-06	0.000349
<i>SB-1_norank</i>	3.92E-05	3.59E-05	2.13E-06	5.38E-06	9.03E-05	0.000907
<i>Saccharofermentans</i>	4.26E-05	3.58E-05	2.18E-06	5.45E-06	9.03E-05	0.000907
<i>Lentzea</i>	1.44E-05	8.53E-06	6.70E-07	2.32E-06	9.33E-05	0.000907

<i>Intestinimonas</i>	5.21E-05	4.68E-05	3.67E-06	7.12E-06	9.40E-05	0.000907
<i>Slackia</i>	0.000411	0.000309	7.11E-06	1.42E-05	9.68E-06	0.000349
<i>Rhodospirillum</i>	0.000319	0.000213	2.22E-05	2.82E-05	9.98E-05	0.000943

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**Table S3.** Bacterial genera distribution in native Tibetans and Han Chinese

<b>Tibetan &amp; Hans</b>	<b>Tibetians only</b>	<b>Hans only</b>
<i>AEGEAN-169_marine_group</i>	<i>I2up</i>	<i>Acanthopleuribacter</i>
<i>Acetanaerobacterium</i>	<i>AKYG587</i>	<i>Acaryochloris</i>
<i>Acetatifactor</i>	<i>Abiotrophia</i>	<i>Acetobacter</i>
<i>Acetitomaculum</i>	<i>Actinoplanes</i>	<i>Acetohalobium</i>
<i>Acetivibrio</i>	<i>Actinospica</i>	<i>Acidiferrobacter</i>
<i>Acetobacterium</i>	<i>Actinotalea</i>	<i>Acidiphilium</i>
<i>Acholeplasma</i>	<i>Aeribacillus</i>	<i>Actimicrobium</i>
<i>Achromobacter</i>	<i>Aestuariimicrobium</i>	<i>Actinoalloteichus</i>
<i>Acidaminobacter</i>	<i>Alishewanella</i>	<i>Actinocorallia</i>
<i>Acidaminococcus</i>	<i>Alloiococcus</i>	<i>Advenella</i>
<i>Acidithiobacillus</i>	<i>Alloscardovia</i>	<i>Agaricicola</i>
<i>Acidobacterium</i>	<i>Altererythrobacter</i>	<i>Algibacter</i>
<i>Acidothermus</i>	<i>Aminivibrio</i>	<i>Algicola</i>
<i>Acidovorax</i>	<i>Aminomonas</i>	<i>Aliidiomarina</i>
<i>Acinetobacter</i>	<i>Anaerobacillus</i>	<i>Alkanibacter</i>
<i>Actinobacillus</i>	<i>Anaeroglobus</i>	<i>Alkanindiges</i>
<i>Actinobaculum</i>	<i>Anaerovirgula</i>	<i>Alterococcus</i>
<i>Actinokineospora</i>	<i>Aquabacter</i>	<i>Alysiella</i>
<i>Actinomadura</i>	<i>Aquamicrobium</i>	<i>Anabaena</i>
<i>Actinomyces</i>	<i>Aureispira</i>	<i>Anaeromyxobacter</i>
<i>Adhaeribacter</i>	<i>Azovibrio</i>	<i>Ancylobacter</i>
<i>Adlercreutzia</i>	<i>Bulleidia</i>	<i>Anderseniella</i>
<i>Aequorivita</i>	<i>Buttiauxella</i>	<i>Arcanobacterium</i>
<i>Aeriscardovia</i>	<i>C1-B045</i>	<i>Arhodomonas</i>
<i>Aerococcus</i>	<i>Caldanaerobius</i>	<i>Azohydromonas</i>
<i>Aeromicrobium</i>	<i>Caldibacillus</i>	<i>Azospirillum</i>
<i>Aeromonas</i>	<i>Caldicellulosiruptor</i>	<i>BAL58_marine_group</i>
<i>Afipia</i>	<i>Caldinitratiruptor</i>	<i>Bacteriovorax</i>
<i>Aggregatibacter</i>	<i>Calothrix</i>	<i>Bartonella</i>
<i>Agromyces</i>	<i>Candidatus_Amoebophilus</i>	<i>Bibersteinia</i>
<i>Akkermansia</i>	<i>Candidatus_Blochmannia</i>	<i>Borrelia</i>
<i>Albidiferax</i>	<i>Candidatus_Carsonella</i>	<i>Bowmanella</i>
<i>Alcaligenes</i>	<i>Candidatus_Hepatoplasma</i>	<i>Brachybacterium</i>
<i>Algoriphagus</i>	<i>Candidatus_Planktoluna</i>	<i>Brenneria</i>
<i>Alicyclobacillus</i>	<i>Candidatus_Tammella</i>	<i>Buchnera</i>
<i>Aliivibrio</i>	<i>Cellulosimicrobium</i>	<i>Bythopirellula</i>
<i>Alistipes</i>	<i>Cerasicoccus</i>	<i>Caedibacter</i>
	<i>Clostridium_sensu_stricto_1</i>	
<i>Alkalibacillus</i>	8	<i>Caenispirillum</i>
<i>Alkalibacter</i>	<i>Conexibacter</i>	<i>Caldisericum</i>
<i>Alkaliflexus</i>	<i>Coprothermobacter</i>	<i>Calidifontibacter</i>
<i>Alkaliphilus</i>	<i>Coraliomargarita</i>	<i>Caminibacter</i>

<i>Allisonella</i>	<i>Craurococcus</i>	<i>Caminicella</i>
<i>Allobaculum</i>	<i>Crenothrix</i>	<i>Candidatus_Allobeggiatoa</i>
<i>Alloprevotella</i>	<i>Curvibacter</i>	<i>Candidatus_Bacilloplasma</i>
<i>Alpinimonas</i>	<i>Dehalobacterium</i>	<i>Candidatus_Branchiomonas</i>
<i>Alteromonas</i>	<i>Demequina</i>	<i>Candidatus_Chlorothrix</i>
<i>Amycolatopsis</i>	<i>Desulfarculus</i>	<i>Candidatus_Flaviluna</i>
<i>Anaerobiospirillum</i>	<i>Desulfatibacillum</i>	<i>Candidatus_Glomeribacter</i>
<i>Anaerobranca</i>	<i>Dethiosulfovibrio</i>	<i>Candidatus_Gortzia</i>
<i>Anaerococcus</i>	<i>Dictyoglomus</i>	<i>Candidatus_Hepatincola</i>
<i>Anaerofilum</i>	<i>Dietzia</i>	<i>Candidatus_Kinetoplastibacterium</i>
<i>Anaerofustis</i>	<i>Diplosphaera</i>	<i>Candidatus_Lariskella</i>
<i>Anaerophaga</i>	<i>Dongia</i>	<i>Candidatus_Liberibacter</i>
<i>Anaeroplasma</i>	<i>Eggerthia</i>	<i>Candidatus_Maribeggiatoa</i>
<i>Anaerosinus</i>	<i>Elusimicrobium</i>	<i>Candidatus_Marithioploca</i>
<i>Anaerosphaera</i>	<i>Enterovibrio</i>	<i>Candidatus_Methylacidiphilum</i>
<i>Anaerospora</i>	<i>Fabibacter</i>	<i>Candidatus_Moranella</i>
<i>Anaerosporobacter</i>	<i>Frigoribacterium</i>	<i>Candidatus_Riesia</i>
<i>Anaerostipes</i>	<i>Geodermatophilus</i>	<i>Candidatus_Scalindua</i>
<i>Anaerotruncus</i>	<i>Geopsychrobacter</i>	<i>Candidatus_Tremblaya</i>
<i>Anaerovibrio</i>	<i>Gleocapsa</i>	<i>Candidatus_Uzinura</i>
<i>Anaerovorax</i>	<i>Haematobacter</i>	<i>Candidatus_Xiphinematobacter</i>
<i>Aneurinibacillus</i>	<i>Heliobacillus</i>	<i>Candidatus_Zinderia</i>
<i>Anoxybacillus</i>	<i>Hoeflea</i>	<i>Carboxydocella</i>
<i>Anoxynatronum</i>	<i>Isoptericola</i>	<i>Carboxydotherrmus</i>
<i>Aquabacterium</i>	<i>Jannaschia</i>	<i>Castellaniella</i>
<i>Aquicella</i>	<i>Kaistia</i>	<i>Catenovulum</i>
<i>Aquimarina</i>	<i>Kingella</i>	<i>Catenulispora</i>
<i>Arcicella</i>	<i>Kitasatospora</i>	<i>Caulobacter</i>
<i>Arcobacter</i>	<i>Klugiella</i>	<i>Cedecea</i>
<i>Ardenticatena</i>	<i>Kroppenstedtia</i>	<i>Cellulomonas</i>
<i>Arenibacter</i>	<i>Labrenzia</i>	<i>Chelatococcus</i>
<i>Arenicella</i>	<i>Lacticigenium</i>	<i>Chlorobium</i>
<i>Arenimonas</i>	<i>Lampropedia</i>	<i>Chroococcus</i>
<i>Arthrobacter</i>	<i>Lentimonas</i>	<i>Chrysiogenes</i>
<i>Asteroleplasma</i>	<i>Leptobacterium</i>	<i>Chthonomonas</i>
<i>Atopobium</i>	<i>Magnetococcus</i>	<i>Clavibacter</i>
<i>Atopococcus</i>	<i>Marixanthomonas</i>	<i>Clostridiisalibacter</i>
<i>Atopostipes</i>	<i>Mesoplasma</i>	<i>Clostridium_sensu_stricto_16</i>
<i>Avibacterium</i>	<i>Microaerobacter</i>	<i>Clostridium_sensu_stricto_9</i>
<i>Azoarcus</i>	<i>Microvirgula</i>	<i>Collimonas</i>
<i>Azonexus</i>	<i>Mobiluncus</i>	<i>Costertonia</i>
<i>Azospira</i>	<i>Moorella</i>	<i>Croceibacter</i>
<i>BCf9-17_termite_group</i>	<i>NS2b_marine_group</i>	<i>Crossiella</i>
<i>Bacillus</i>	<i>NS3a_marine_group</i>	<i>Cyclobacterium</i>

<i>Bacteroides</i>	<i>Neptuniibacter</i>	<i>Dehalobium</i>
<i>Balneatrix</i>	<i>Neptunomonas</i>	<i>Delftia</i>
<i>Balneola</i>	<i>Nesterenkonia</i>	<i>Derxia</i>
<i>Barnesiella</i>	<i>OM60(NOR5)_clade</i>	<i>Desulfobacter</i>
<i>Bauldia</i>	<i>Oceanisphaera</i>	<i>Desulfobotulus</i>
<i>Bdellovibrio</i>	<i>Oleibacter</i>	<i>Desulfocella</i>
<i>Bergeyella</i>	<i>Oligella</i>	<i>Desulfococcus</i>
<i>Bhargavaea</i>	<i>Olsenella</i>	<i>Desulfomonile</i>
<i>Bifidobacterium</i>	<i>Ornithobacterium</i>	<i>Desulfonispota</i>
<i>Bilophila</i>	<i>Oscillatoria</i>	<i>Desulforegula</i>
<i>Bisgaardia</i>	<i>Ottowia</i>	<i>Desulforhopalus</i>
<i>Blastocatella</i>	<i>Pelagibius</i>	<i>Desulfotignum</i>
<i>Blastococcus</i>	<i>Phenylobacterium</i>	<i>Desulfurivibrio</i>
<i>Blastopirellula</i>	<i>Photobacterium</i>	<i>Dichotomicrobium</i>
<i>Blautia</i>	<i>Pilimelia</i>	<i>Dyadobacter</i>
<i>Blvii28_wastewater-sludge_group</i>	<i>Pir4_lineage</i>	<i>Emticicia</i>
<i>Bordetella</i>	<i>Plasticicumulans</i>	<i>Enhydrobacter</i>
<i>Brachymonas</i>	<i>Propionicyclava</i>	<i>Ensifer</i>
<i>Brachyspira</i>	<i>Propioniferax</i>	<i>Epilithonimonas</i>
<i>Bradyrhizobium</i>	<i>Pseudaminobacter</i>	<i>Exilispira</i>
<i>Brevibacillus</i>	<i>Pseudoramibacter</i>	<i>Facklamia</i>
<i>Brevibacterium</i>	<i>Puniceicoccus</i>	<i>Ferrovibrio</i>
<i>Brevundimonas</i>	<i>Rhodothalassium</i>	<i>Filimonas</i>
<i>Bryobacter</i>	<i>Roseobacter</i>	<i>Formosa</i>
	<i>Roseobacter_clade_NAC11-7</i>	
<i>Burkholderia</i>	<i>_lineage</i>	<i>Francisella</i>
	<i>Roseobacter_clade_OCT_lineage</i>	
<i>Butyricicoccus</i>	<i>Rs-M59_termite_group</i>	<i>GAL15</i>
<i>Butyricimonas</i>	<i>Rugamonas</i>	<i>GKS98_freshwater_group</i>
<i>Butyrivibrio</i>	<i>SAR92_clade</i>	<i>Gaiella</i>
<i>CL500-29_marine_group</i>	<i>Saccharibacter</i>	<i>Gallionella</i>
<i>Caenimonas</i>	<i>Salinirepens</i>	<i>Gangjinia</i>
<i>Caldanaerobacter</i>	<i>Sandaracinus</i>	<i>Geomicrobium</i>
<i>Caldicoprobacter</i>	<i>Schlesneria</i>	<i>Georgenia</i>
<i>Caldithrix</i>	<i>Sharpea</i>	<i>Georgfuchsia</i>
<i>Caloramator</i>	<i>Shimazuella</i>	<i>Gilvibacter</i>
<i>Campylobacter</i>	<i>Silanimonas</i>	<i>Gracilibacillus</i>
<i>Candidatus_Accumulibacter</i>	<i>Sinomonas</i>	<i>Halarsenatibacter</i>
<i>Candidatus_Actinomarina</i>	<i>Skermanella</i>	<i>Haliscomenobacter</i>
<i>Candidatus_Alysiosphaera</i>	<i>Sneathia</i>	<i>Halobacteroides</i>
<i>Candidatus_Aquiluna</i>	<i>Soehngenia</i>	<i>Haloferula</i>
<i>Candidatus_Armantifilum</i>	<i>Sphaerotilus</i>	<i>Haloplasma</i>
<i>Candidatus_Arthromitus</i>	<i>Spirilliplanes</i>	<i>Halorhodospira</i>
<i>Candidatus_Cloacamonas</i>		<i>Hansschlegelia</i>

<i>Candidatus_Cometibacter</i>	<i>Sporotomaculum</i>	<i>Helicobacter</i>
<i>Candidatus_Desulforudis</i>	<i>Streptobacillus</i>	<i>Herbiconiux</i>
<i>Candidatus_Entotheonella</i>	<i>Thalassobacillus</i>	<i>Hirschia</i>
<i>Candidatus_Koribacter</i>	<i>Thalassomonas</i>	<i>Holophaga</i>
<i>Candidatus_Phytoplasma</i>	<i>Thermanaeromonas</i>	<i>Hydrogenophilus</i>
<i>Candidatus_Planktomarina_(DC5-80-3_lineage)</i>	<i>Thermicanus</i>	<i>Hyphomonas</i>
<i>Candidatus_Planktophila</i>	<i>Thermoanaerobacterium</i>	<i>Ideonella</i>
<i>Candidatus_Saccharimonas</i>	<i>Thermodesulfatator</i>	<i>Ignavigranum</i>
<i>Candidatus_Solibacter</i>	<i>Thermonema</i>	<i>Inhella</i>
<i>Candidatus_Sulcia</i>	<i>Thermosinus</i>	<i>Kerstesia</i>
<i>Candidatus_Symbiothrix</i>	<i>Thermotoga</i>	<i>Kineococcus</i>
<i>Candidatus_Thiophysa</i>	<i>Thioalkalivibrio</i>	<i>Kineosporia</i>
<i>Capnocytophaga</i>	<i>Uliginosibacterium</i>	<i>Kordia</i>
<i>Carnobacterium</i>	<i>Viridibacillus</i>	<i>Kribbella</i>
<i>Catenibacterium</i>	<i>Winogradskyella</i>	<i>Ktedonobacter</i>
<i>Catonella</i>	<i>ZD0417_marine_group</i>	<i>Labrys</i>
<i>Cellulosilyticum</i>	<i>marine_group</i>	<i>Lactovum</i>
	<i>norank_c_Arctic97B-4_marine_group</i>	
<i>Cellvibrio</i>		<i>Larkinella</i>
<i>Centipeda</i>	<i>norank_c_BD7-11</i>	<i>Leeia</i>
<i>Cesiribacter</i>	<i>norank_c_Bacilli</i>	<i>Leminorella</i>
<i>Cetobacterium</i>	<i>norank_c_DEV055</i>	<i>Lentibacter</i>
<i>Chamaesiphon</i>	<i>norank_c_Fibrobacteria</i>	<i>Leptolinea</i>
<i>Chitinophaga</i>	<i>norank_c_ML635J-35</i>	<i>Limibacter</i>
<i>Christensenella</i>	<i>norank_c_SHA-26</i>	<i>Litorilinea</i>
<i>Chromobacterium</i>	<i>norank_c_SS1-B-03-39</i>	<i>Lonepinella</i>
<i>Chroococcidiopsis</i>	<i>norank_c_Spirochaetes</i>	<i>Longilinea</i>
<i>Chryseobacterium</i>	<i>norank_f_01D2Z36</i>	<i>M2PB4-61_termite_group</i>
<i>Chryseolinea</i>	<i>norank_f_A0839</i>	<i>M2PT2-76_termite_group</i>
<i>Chryseomicrobium</i>	<i>norank_f_BVA18</i>	<i>Magnetospirillum</i>
<i>Chthoniobacter</i>	<i>norank_f_Bacillaceae</i>	<i>Magnetovibrio</i>
<i>Citricoccus</i>	<i>norank_f_Elev-16S-1166</i>	<i>Marine_Methylotrophic_Group_3</i>
<i>Citrobacter</i>	<i>norank_f_Elev-16S-1332</i>	<i>Marinococcus</i>
<i>Cloacibacillus</i>	<i>norank_f_F0723</i>	<i>Marinospirillum</i>
<i>Cloacibacterium</i>	<i>norank_f_FCPS473</i>	<i>Meganema</i>
<i>Clostridium_sensu_stricto</i>	<i>norank_f_FFCH16767</i>	<i>Meiothermus</i>
<i>Clostridium_sensu_stricto_1</i>	<i>norank_f_Family_III</i>	<i>Mesoflavibacter</i>
<i>Clostridium_sensu_stricto_10</i>	<i>norank_f_Family_XIII</i>	<i>Methylobacillus</i>
	<i>norank_f_Flavobacteriaceae</i>	
<i>Clostridium_sensu_stricto_11</i>	<i>e</i>	<i>Methylobacterium</i>
<i>Clostridium_sensu_stricto_12</i>	<i>norank_f_HSB_OF53-F07</i>	<i>Methylocaldum</i>
<i>Clostridium_sensu_stricto_13</i>	<i>norank_f_KCM-B-112</i>	<i>Methylococcus</i>
<i>Clostridium_sensu_stricto_14</i>	<i>norank_f_KD1-131</i>	<i>Methylohalomonas</i>

<i>Clostridium_sensu_stricto_15</i>	<i>norank_f_KD3-93</i>	<i>Methylophaga</i>
<i>Clostridium_sensu_stricto_17</i>	<i>norank_f_Kineosporiaceae</i>	<i>Methylorosula</i>
<i>Clostridium_sensu_stricto_3</i>	<i>norank_f_Leptotrichiaceae</i>	<i>Methyloversatilis</i>
<i>Clostridium_sensu_stricto_5</i>	<i>norank_f_L1142-3M24</i>	<i>Methylovorus</i>
<i>Clostridium_sensu_stricto_7</i>	<i>norank_f_MSB-1E8</i>	<i>Mitsuaria</i>
	<i>norank_f_Marine_Methylotrophic_Group_2</i>	<i>Mongoliicoccus</i>
<i>Clostridium_sensu_stricto_8</i>	<i>norank_f_Nitrosomonadaceae</i>	<i>Moritella</i>
<i>Coleofasciculus</i>	<i>norank_f_OM1_clade</i>	<i>Mucispirillum</i>
<i>Collinsella</i>	<i>norank_f_P_palm_C_85</i>	<i>Mycetocola</i>
<i>Colwellia</i>	<i>norank_f_PeH08</i>	<i>NS10_marine_group</i>
<i>Comamonas</i>	<i>norank_f_Plot4-2H12</i>	<i>Natronovirga</i>
<i>Conchiformibius</i>	<i>norank_f_SBYZ-1017</i>	<i>Nevskia</i>
<i>Coprobacillus</i>	<i>norank_f_SS1-B-06-26</i>	<i>Nitrolancea</i>
<i>Coprobacter</i>	<i>norank_f_TK85</i>	<i>Nitrosomonas</i>
<i>Coprococcus</i>	<i>norank_f_TTA-B15</i>	<i>Nitrosospira</i>
<i>Coriobacterium</i>	<i>norank_f_TX4CB-01</i>	<i>Nitrospina</i>
<i>Corynebacterium</i>	<i>norank_f_Xanthomonadaceae</i>	<i>Nocardiopsis</i>
<i>Coxiella</i>	<i>norank_f_alphaI_cluster</i>	<i>Nonomuraea</i>
<i>Crocinitomix</i>	<i>norank_f_mle1-27</i>	<i>Nostoc</i>
<i>Cronobacter</i>	<i>norank_f_possible_family_01</i>	<i>Novosphingobium</i>
<i>Cryomorpha</i>	<i>norank_o_43F-1404R</i>	<i>Oceanobacillus</i>
<i>Cryptanaerobacter</i>	<i>norank_o_DSM_5130</i>	<i>Ohtaekwangia</i>
<i>Cupriavidus</i>	<i>norank_o_Dehalococcoidales</i>	<i>Oleiphilus</i>
<i>Curtobacterium</i>	<i>norank_o_E6aD10</i>	<i>Orbus</i>
<i>Cyanobacterium</i>	<i>norank_o_Ignavibacteriales</i>	<i>Pacificibacter</i>
<i>Cytophaga</i>	<i>norank_o_JFR0501-aaa03c07</i>	<i>Paenalcaligenes</i>
<i>Dasania</i>	<i>norank_o_JG30-KF-AS9</i>	<i>Paracoccus</i>
<i>Dechloromonas</i>	<i>norank_o_JG30-KF-CM45</i>	<i>Paraeggerthella</i>
<i>Deferrisoma</i>	<i>norank_o_KM16</i>	<i>Paramoritella</i>
<i>Defluviicoccus</i>	<i>norank_o_Lineage_I_(Endomicrobia)</i>	<i>Parasegetibacter</i>
<i>Defluviimonas</i>	<i>norank_o_MB11C04_marine_group</i>	<i>Parasporobacterium</i>
<i>Defluviitalea</i>	<i>norank_o_R103-B63</i>	<i>Parvibaculum</i>
<i>Deinococcus</i>	<i>norank_o_RS-B22</i>	<i>Parvularcula</i>
<i>Dendrosporobacter</i>	<i>norank_o_Sh765B-AG-111</i>	<i>Patulibacter</i>
<i>Denitratisoma</i>	<i>norank_o_Subgroup_11</i>	<i>Pedomicrobium</i>
<i>Desemzia</i>	<i>norank_o_Subgroup_17</i>	<i>Persicirhabdus</i>
<i>Desulfatitalea</i>		

<i>Desulfitibacter</i>	<i>norank_o__Subgroup_5</i>	<i>Persicitalea</i>
<i>Desulfitobacterium</i>	<i>norank_p__BHI80-139</i>	<i>Phaeospirillum</i>
<i>Desulfobacca</i>	<i>norank_p__CKC4</i>	<i>Phaselicystis</i>
<i>Desulfobulbus</i>	<i>norank_p__GOUTA4</i>	<i>Phormidium</i>
<i>Desulfocapsa</i>	<i>norank_p__RsaHF231</i>	<i>Phycisphaera</i>
<i>Desulfomicrobium</i>	<i>uncultured_f__Aerococceae</i>	<i>Pigmentiphaga</i>
<i>Desulfonatronum</i>	<i>uncultured_f__Anaplasmataceae</i>	<i>Pirellula</i>
<i>Desulfonema</i>	<i>uncultured_f__Clostridiaceae_3</i>	<i>Piscinibacter</i>
<i>Desulfopila</i>	<i>uncultured_f__Geodermatophilaceae</i>	<i>Planifilum</i>
<i>Desulfosporosinus</i>	<i>uncultured_f__Microbacteriaceae</i>	<i>Plantibacter</i>
<i>Desulfotomaculum</i>	<i>uncultured_f__Pseudomonadaceae</i>	<i>Pleurocapsa</i>
<i>Desulfovermiculus</i>	<i>uncultured_f__Puniceicoccaeae</i>	<i>Portibacter</i>
<i>Desulfovibrio</i>	<i>uncultured_f__Vibrionaceae</i>	<i>Pricia</i>
<i>Desulfurispirillum</i>		<i>Procabacter</i>
<i>Desulfurispora</i>		<i>Propionicimonas</i>
<i>Desulfuromonas</i>		<i>Propionimicrobium</i>
<i>Desulfuromusa</i>		<i>Propionispira</i>
<i>Dethiobacter</i>		<i>Propionivibrio</i>
<i>Dethiosulfatibacter</i>		<i>Prosthecobacter</i>
<i>Devosia</i>		<i>Prosthecochloris</i>
<i>Dialister</i>		<i>Pseudochrobactrum</i>
<i>Diaphorobacter</i>		<i>Pseudoduganella</i>
<i>Dickeya</i>		<i>Pseudorhodofera</i>
<i>Dokdonella</i>		<i>Psychrilyobacter</i>
<i>Dokdonia</i>		<i>Psychroflexus</i>
<i>Dolosigranulum</i>		<i>Psychroserpens</i>
<i>Dorea</i>		<i>Pyramidobacter</i>
<i>Dysgonomonas</i>		<i>Rapidithrix</i>
<i>Edwardsiella</i>		<i>Rhizobacter</i>
<i>Eggerthella</i>		<i>Rhizomicrobium</i>
<i>Ekkidna</i>		<i>Rhodofera</i>
<i>Endozoicomonas</i>		<i>Rhodoplanes</i>
<i>Enteractinococcus</i>		<i>Rhodothermus</i>
<i>Enterobacter</i>		<i>Rhodovibrio</i>
<i>Enterococcus</i>		<i>Riemerella</i>
<i>Enterorhabdus</i>		<i>Roseiflexus</i>
<i>Epulopiscium</i>		<i>Roseobacter_clade_CHAB-I-5_lin</i>

*Erwinia*  
*Erysipelothrix*  
*Erythrobacter*  
*Escherichia-Shigella*  
*Ethanoligenens*  
*Eubacterium*  
*Euhalothece*  
*Euzebya*  
*Ewingella*  
*Exiguobacterium*  
*Faecalibacterium*  
*Fastidiosipila*  
*Ferrithrix*  
*Ferritrophicum*  
*Ferruginibacter*  
*Fibrella*  
*Fibrobacter*  
*Fictibacillus*  
*Filifactor*  
*Filomicrobium*  
*Finegoldia*  
*Flavisolibacter*  
*Flavobacterium*  
*Flavonifractor*  
*Flectobacillus*  
*Flexibacter*  
*Fluviicola*  
*Fonticella*  
*Fusibacter*  
*Fusobacterium*  
*Gaetbulibacter*  
*Gallibacterium*  
*Garciella*  
*Gardnerella*  
*Gelria*  
*Gemella*  
*Gemmata*  
*Gemmatimonas*  
*Gemmobacter*  
*Geobacillus*  
*Geobacter*  
*Gilliamella*  
*Gillisia*

*eage*  
*Roseomonas*  
*Roseovarius*  
*Rubritalea*  
*Rudanella*  
*Salinicoccus*  
*Salinimicrobium*  
*Salinisphaera*  
*Saprospira*  
*Schlegelella*  
*Scytonema*  
*Sebaldella*  
*Sediminibacterium*  
*Shinella*  
*Simiduia*  
*Sinobaca*  
*Sinomicrobium*  
*Snodgrassella*  
*Snowella*  
*Sphingopyxis*  
*Sphingorhabdus*  
*Spirulina*  
*Sporolactobacillus*  
*Sterolibacterium*  
*Sulfurihydrogenibium*  
*Swaminathania*  
*Symploca*  
*Syntrophobotulus*  
*Tabrizicola*  
*Telmatobacter*  
*Telmatospirillum*  
*Tepidimonas*  
*Tepidiphilus*  
*Termite\_Treponema\_cluster*  
*Tetragenococcus*  
*Thalassobius*  
*Thermoanaerobaculum*  
*Thermobacillus*  
*Thermodesulforhabdus*  
*Thermolithobacter*  
*Thermosporothrix*  
*Thioalkalispira*  
*Thiomonas*  
*Tistlia*

*Glaciecola*  
*Globicatella*  
*Gloeocalita*  
*Gordonibacter*  
*Gracilibacter*  
*Gramella*  
*Granulicatella*  
*Granulicella*  
*Granulosicoccus*  
*Guggenheimella*  
*Haemophilus*  
*Hafnia*  
*Halanaerobium*  
*Haliangium*  
*Haliea*  
*Halobacillus*  
*Halochromatium*  
*Halolactibacillus*  
*Halomonas*  
*Halothiobacillus*  
*Helcococcus*  
*Heliobacterium*  
*Herbaspirillum*

*Herminiimonas*  
*Hespellia*  
*Holdemania*  
*Howardella*  
*Hydrogenoanaerobacterium*  
*Hydrogenophaga*  
*Hymenobacter*  
*Hyphomicrobium*  
*Iamia*  
*Idiomarina*  
*Ignatzschineria*  
*Ignavibacterium*  
*Ilumatobacter*  
*Incertae\_Sedis*  
*Inquilinus*  
*Intestinimonas*  
*Isosphaera*  
*Janthinobacterium*  
*Jeotgalibacillus*  
*Jeotgalicoccus*

*Tropicimonas*  
*Vitreoscilla*  
*Vogesella*  
*Wautersiella*  
*Weeksella*  
*Xanthobacter*  
*Xenophilus*  
*Zeaxanthinibacter*  
*Zobellia*  
*Zoogloea*  
*norank\_c\_\_ARKDMS-49*  
*norank\_c\_\_Gammaproteobacteria*  
*norank\_c\_\_JG30-KF-CM66*  
*norank\_c\_\_JG37-AG-4*  
*norank\_c\_\_KZNMV-5-B42*  
*norank\_c\_\_LD1-PB3*  
*norank\_c\_\_ML602M-17*  
*norank\_c\_\_MSB-5B2*  
*norank\_c\_\_Opitutae*  
*norank\_c\_\_Phycisphaerae*  
*norank\_c\_\_SGST604*  
*norank\_c\_\_WCHB1-32*  
*norank\_c\_\_WCHB1-41*  
*norank\_f\_\_08D2Z94\_hypersaline\_*  
*microbial\_mat\_group*  
*norank\_f\_\_09D2Z46*  
*norank\_f\_\_09D2Z48*  
*norank\_f\_\_1174-901-12*  
*norank\_f\_\_1921-2*  
*norank\_f\_\_288-2*  
*norank\_f\_\_AKIW1012*  
*norank\_f\_\_AKYH767*  
*norank\_f\_\_AT-s3-44*  
*norank\_f\_\_B01R012*  
*norank\_f\_\_B2706-C7*  
*norank\_f\_\_BPS-CK174*  
*norank\_f\_\_BSV40*  
*norank\_f\_\_BacC-u-018*  
*norank\_f\_\_CM1G08*  
*norank\_f\_\_CWT\_CU03-E12*  
*norank\_f\_\_Christensenellaceae*  
*norank\_f\_\_Cryptosporangiaceae*  
*norank\_f\_\_Cystobacteraceae*  
*norank\_f\_\_DA101\_soil\_group*



<i>Johnsonella</i>	<i>norank_f_DUNssu371</i>
<i>Klebsiella</i>	<i>norank_f_Deep_1</i>
<i>Khuyvera</i>	<i>norank_f_EF100-94H03</i>
<i>Kocuria</i>	<i>norank_f_FamilyI</i>
<i>Krasilnikovia</i>	<i>norank_f_GOUTB8</i>
	<i>norank_f_GoM-GC232-4463-Bac</i>
	<i>1</i>
<i>Kurthia</i>	<i>norank_f_JTB215</i>
<i>Lachnoanaerobaculum</i>	<i>norank_f_KF-JG30-B3</i>
<i>Lachnospira</i>	<i>norank_f_LD12_freshwater_grou</i>
	<i>p</i>
<i>Lacibacter</i>	<i>norank_f_ME2</i>
<i>Lactobacillus</i>	<i>norank_f_MWH-CFBk5</i>
<i>Lactococcus</i>	<i>norank_f_Milano-WF1B-03</i>
<i>Lautropia</i>	<i>norank_f_NS7_marine_group</i>
<i>Lawsonia</i>	<i>norank_f_Nannocystaceae</i>
<i>Leadbetterella</i>	<i>norank_f_Oligosphaeraceae</i>
<i>Legionella</i>	<i>norank_f_PAUC26f</i>
<i>Leifsonia</i>	<i>norank_f_Paenibacillaceae</i>
<i>Lentibacillus</i>	<i>norank_f_PeH15</i>
<i>Lentisphaera</i>	<i>norank_f_Peptostreptococcaceae</i>
<i>Lentzea</i>	<i>norank_f_Porphyromonadaceae</i>
<i>Leptolyngbya</i>	<i>norank_f_Promicromonosporace</i>
	<i>ae</i>
<i>Leptospira</i>	<i>norank_f_R103-B20</i>
<i>Leptothrix</i>	<i>norank_f_S15A-MN91</i>
<i>Leptotrichia</i>	<i>norank_f_S25-593</i>
<i>Leucobacter</i>	<i>norank_f_SHWN-night2</i>
<i>Leuconostoc</i>	<i>norank_f_SR-FBR-L83</i>
<i>Lewinella</i>	<i>norank_f_Sva1033</i>
<i>Limnobacter</i>	<i>norank_f_Z4MB62</i>
<i>Limnohabitans</i>	<i>norank_f_cvE6</i>
<i>Listeria</i>	<i>norank_f_gir-aah93h0</i>
<i>Loktanella</i>	<i>norank_f_s74e-6049</i>
<i>Luteibacter</i>	<i>norank_f_type_III</i>
<i>Luteimonas</i>	<i>norank_o_Armatimonadales</i>
<i>Lutibacter</i>	<i>norank_o_B1-7BS</i>
<i>Lutimonas</i>	<i>norank_o_BC-COM435</i>
<i>Lutispora</i>	<i>norank_o_Bacteroidales</i>
<i>Lysinibacillus</i>	<i>norank_o_C-2</i>
<i>Lysinimonas</i>	<i>norank_o_Cytophagales</i>
<i>Lysobacter</i>	<i>norank_o_DTBI20</i>
<i>MWH-UniP1_aquatic_group</i>	<i>norank_o_FW113</i>
<i>Macelibacteroides</i>	<i>norank_o_GIF9</i>
<i>Macrococcus</i>	

<i>Mahella</i>	<i>norank_o_GZKB75</i>
<i>Mangroviflexus</i>	<i>norank_o_Halanaerobiales</i>
<i>Mannheimia</i>	<i>norank_o_KD3-62</i>
<i>Maribacter</i>	<i>norank_o_Lineage_IIc</i>
<i>Marinicella</i>	<i>norank_o_ML-A-10</i>
<i>Marinifilum</i>	<i>norank_o_MSBL5</i>
<i>Mariniradius</i>	<i>norank_o_NRB23</i>
<i>Marinobacter</i>	<i>norank_o_SAR11_clade</i>
<i>Marinobacterium</i>	<i>norank_o_SSI-B-09-64</i>
<i>Marinoscillum</i>	<i>norank_o_Solirubrobacterales</i>
<i>Mariprofundus</i>	<i>norank_o_Subgroup_9</i>
<i>Maritimibacter</i>	<i>norank_o_TPD-58</i>
<i>Maritimimonas</i>	<i>norank_o_WD2101_soil_group</i>
<i>Marmoricola</i>	<i>norank_o_d142</i>
<i>Marvinbryantia</i>	<i>norank_p_Candidate_division_O</i>
<i>Massilia</i>	<i>P9</i>
<i>Megamonas</i>	<i>norank_p_GAL08</i>
<i>Megasphaera</i>	<i>norank_p_Hyd24-12</i>
<i>Melioribacter</i>	<i>norank_p_aquifer1</i>
<i>Meniscus</i>	<i>possible_genus_05</i>
<i>Mesorhizobium</i>	<i>pt46</i>
<i>Methylibium</i>	<i>uncultured_f_Acetobacteraceae</i>
<i>Methylophilus</i>	<i>uncultured_f_Chlamydiaceae</i>
<i>Methylotenera</i>	<i>uncultured_f_Deferribacteraceae</i>
	<i>uncultured_f_Gracilibacteraceae</i>
	<i>uncultured_f_Halobacteroidacea</i>
	<i>e</i>
<i>Microbacterium</i>	<i>uncultured_f_Legionellaceae</i>
<i>Micrococcus</i>	<i>uncultured_f_Micrococcaceae</i>
<i>Microcystis</i>	<i>uncultured_f_Moraxellaceae</i>
<i>Microlunatus</i>	<i>uncultured_f_Rickettsiaceae</i>
<i>Micromonospora</i>	<i>uncultured_f_Simkaniaceae</i>
<i>Microvirga</i>	<i>uncultured_f_Sphingomonadacea</i>
	<i>e</i>
<i>Mitsuokella</i>	<i>uncultured_f_Sporichthyaceae</i>
<i>Modestobacter</i>	<i>uncultured_f_Thermoactinomycet</i>
	<i>aceae</i>
<i>Mogibacterium</i>	<i>uncultured_o_Bacillales</i>
<i>Moraxella</i>	<i>uncultured_o_Chloroflexales</i>
<i>Morganella</i>	<i>uncultured_o_Rhizobiales</i>
<i>Moryella</i>	<i>uncultured_o_Rickettsiales</i>
<i>Mucilagibacter</i>	<i>uncultured_o_Sphingomonadales</i>
<i>Murdochiella</i>	
<i>Muricauda</i>	
<i>Mycobacterium</i>	

*Mycoplasma*  
*Myroides*  
*NS4\_marine\_group*  
*NS5\_marine\_group*  
*Nafulsella*  
*Nannocystis*  
*Negativicoccus*  
*Neisseria*  
*Niabella*  
*Nitratifractor*  
*Nitratireductor*  
*Nitriliruptor*  
*Nitritalea*  
*Nitrobacter*  
*Nitrosococcus*  
*Nitrospira*  
*Nocardia*  
*Nocardioides*  
*Nonlabens*  
*Nordella*  
*Nosocomiicoccus*  
*Noviherbaspirillum*  
*OM27\_clade*  
*OM43\_clade*  
*Oceanicaulis*  
*Ochrobactrum*  
*Odoribacter*  
*Oligosphaera*  
*Olivibacter*  
*Opitutus*  
*Oribacterium*  
*Ornatilinea*  
*Oryzihumus*  
*Oscillibacter*  
*Oscillospira*  
*Otariodibacter*  
*Owenweeksia*  
*Oxalobacter*  
*Oxobacter*  
*PRD01a011B*  
*Paenibacillus*  
*Paludibacter*  
*Pantoea*  
*Papillibacter*

*Parabacteroides*  
*Parapedobacter*  
*Paraprevotella*  
*Parasutterella*  
*Parvibacter*  
*Parvimonas*  
*Pasteurella*  
*Paucimonas*  
*Paucisalibacillus*  
*Pectinatus*  
*Pectobacterium*  
*Pediococcus*  
*Pedobacter*  
*Pelobacter*  
*Pelomonas*  
*Pelosinus*  
*Pelospira*  
*Pelotomaculum*  
*Peptococcus*  
*Peptoniphilus*  
*Peptostreptococcus*  
*Peredibacter*  
*Petrimonas*  
*Phascolarctobacterium*  
*Phocaeicola*  
*Phocoenobacter*  
*Phycoccus*  
*Phyllobacterium*  
*Planctomyces*  
*Planococcus*  
*Planomicrobium*  
*Plesiomonas*  
*Polaribacter*  
*Polaromonas*  
*Polynucleobacter*  
*Pontibacillus*  
*Pontibacter*  
*Porphyromonas*  
*Prevotella*  
*Prochlorococcus*  
*Prochlorothrix*  
*Prolixibacter*  
*Promicromonospora*  
*Propionibacterium*

*Propionicicella*  
*Propionispora*  
*Proteiniborus*  
*Proteiniclasticum*  
*Proteiniphilum*  
*Proteocatella*  
*Proteus*  
*Providencia*  
*Pseudoalteromonas*  
*Pseudobutyrvibrio*  
*Pseudoclavibacter*  
*Pseudoflavonifractor*  
*Pseudofulvimonas*  
*Pseudolabrys*  
*Pseudomonas*  
*Pseudonocardia*  
*Pseudospirillum*  
*Pseudoxanthomonas*  
*Psychrobacter*  
*Psychromonas*  
*Pusillimonas*  
*Quadrisphaera*  
*Quinella*  
*RC9\_gut\_group*  
*Rahnella*  
*Ralstonia*  
*Ramlibacter*  
*Raoultella*  
*Reichenbachiella*  
*Reyranella*  
*Rheinheimera*  
*Rhizobium*  
*Rhodanobacter*  
*Rhodobacter*  
*Rhodobium*  
*Rhodococcus*  
*Rhodocytophaga*  
*Rhodoglobus*  
*Rhodopirellula*  
*Rhodopseudomonas*  
*Rhodospirillum*  
*Rhodovulum*  
*Rickettsia*  
*Rikenella*

*Robinsoniella*  
*Roseateles*  
*Roseburia*  
*Roseibacillus*  
*Rothia*  
*Rubellimicrobium*  
*Rubrobacter*  
*Ruegeria*  
*Ruminobacter*  
*Ruminococcus*  
*SEEP-SRB1*  
*SEEP-SRB4*  
*SM1A02*  
*SP3-e08*  
*Saccharofermentans*  
*Saccharopolyspora*  
*Salegentibacter*  
*Salinibacter*  
*Salmonella*  
*Sarcina*  
*Scardovia*  
*Schleiferia*  
*Sedimentibacter*  
*Sediminibacter*  
*Sediminimonas*  
*Segetibacter*  
*Selenomonas*  
*Serratia*  
*Shewanella*  
*Shimwellia*  
*Shuttleworthia*  
*Sideroxydans*  
*Simplicispira*  
*Singulisphaera*  
*Siphonobacter*  
*Slackia*  
*Smithella*  
*Sodalis*  
*Solibacillus*  
*Solirubrobacter*  
*Solitalea*  
*Solobacterium*  
*Sorangium*  
*Sphingobacterium*

*Sphingobium*  
*Sphingomonas*  
*Sphingosinicella*  
*Spirochaeta*  
*Spiroplasma*  
*Spirosoma*  
*Sporobacter*  
*Sporomusa*  
*Sporosarcina*  
*Staphylococcus*  
*Stenotrophomonas*  
*Steroidobacter*  
*Stomatobaculum*  
*Streptococcus*  
*Streptomyces*  
*Subdoligranulum*  
*Succinatimonas*  
*Succiniclasticum*  
*Succinimonas*  
*Succinispira*  
*Succinivibrio*  
*Sufflavibacter*  
*Sulfitobacter*  
*Sulfobacillus*  
*Sulfuricella*  
*Sulfuricurvum*  
*Sulfurimonas*  
*Sulfuritalea*  
*Sulfurospirillum*  
*Sulfurovum*  
*Sunxiuqinia*  
*Sutterella*  
*Sva0081\_sediment\_group*  
*Symbiobacterium*  
*Synechococcus*  
*Synechocystis*  
*Syntrophococcus*  
*Syntrophomonas*  
*Syntrophorhabdus*  
*Syntrophus*  
*Tannerella*  
*Tatumella*  
*Tenacibaculum*  
*Tepidimicrobium*

*Terrimonas*  
*Tessaracoccus*  
*Tetrasphaera*  
*Thalassospira*  
*Thauera*  
*Thermacetogenium*  
*Thermanaerovibrio*  
*Thermincola*  
*Thermobifida*  
*Thermomonas*  
*Thermovirga*  
*Thiobacillus*  
*Thiohalocapsa*  
*Thiohalorhabdus*  
*Thiomicrospira*  
*Thiothrix*  
*Tissierella*  
*Tolumonas*  
*Treponema*  
*Trichococcus*  
*Tropicibacter*  
*Truepera*  
*Tumebacillus*  
*Tunicatimonas*  
*Turicibacter*  
*Turneriella*  
*U29-B03*  
*Ulvibacter*  
*Undibacterium*  
*Ureaplasma*  
*Ureibacillus*  
*Vagococcus*  
*Vallitalea*  
*Varibaculum*  
*Variovorax*  
*Veillonella*  
*Verrucomicrobium*  
*Vibrio*  
*Victivallis*  
*Virgibacillus*  
*Weissella*  
*Xanthomonas*  
*Xenorhabdus*  
*Yersinia*



*Zymomonas*  
*dgA-11\_gut\_group*  
*endosymbionts*  
*hgcl\_clade*  
*hoa5-07d05\_gut\_group*  
*norank\_c\_\_055B07-P-DI-P58*  
*norank\_c\_\_AEGEAN-245*  
*norank\_c\_\_Acidobacteria*  
*norank\_c\_\_Actinobacteria*  
*norank\_c\_\_BD2-2*  
*norank\_c\_\_BSV13*  
*norank\_c\_\_Cyanobacteria*  
*norank\_c\_\_Gitt-GS-136*  
*norank\_c\_\_OM190*  
*norank\_c\_\_OPB35\_soil\_group*  
*norank\_c\_\_OPB54*  
*norank\_c\_\_Oligosphaeria*  
*norank\_c\_\_Pla3\_lineage*  
*norank\_c\_\_Pla4\_lineage*  
*norank\_c\_\_R76-B128*  
*norank\_c\_\_RFP12\_gut\_group*  
*norank\_c\_\_S085*  
*norank\_c\_\_SAR202\_clade*  
*norank\_c\_\_SB-1*  
*norank\_c\_\_SB-5*  
*norank\_c\_\_SC3-20*  
*norank\_c\_\_SMIA07*  
*norank\_c\_\_TA18*  
*norank\_c\_\_TK10*  
*norank\_c\_\_VC2.1\_Bac22*  
*norank\_c\_\_vadinHA17*  
*norank\_c\_\_vadinHA49*  
*norank\_f\_\_0319-6G20*  
*norank\_f\_\_0319-6M6*  
*norank\_f\_\_21f08*  
*norank\_f\_\_480-2*  
*norank\_f\_\_64K2*  
*norank\_f\_\_9M32*  
*norank\_f\_\_ABS-19*  
*norank\_f\_\_Actinomycetaceae*  
*norank\_f\_\_Alcanivoracaceae*  
*norank\_f\_\_BS11\_gut\_group*  
*norank\_f\_\_BSV26*  
*norank\_f\_\_CA002*

*norank\_f\_\_CAP-aah99b04*  
*norank\_f\_\_CFT112H7*  
*norank\_f\_\_CMW-169*  
*norank\_f\_\_CR-115*  
*norank\_f\_\_Chlorobiaceae*  
*norank\_f\_\_Comamonadaceae*  
*norank\_f\_\_Coriobacteriaceae*  
*norank\_f\_\_DA111*  
*norank\_f\_\_DEV007*  
*norank\_f\_\_DUNssu044*  
*norank\_f\_\_Defluviitaleaceae*  
*norank\_f\_\_E6aC02*  
*norank\_f\_\_Enterobacteriaceae*  
*norank\_f\_\_Erysipelotrichaceae*  
*norank\_f\_\_FTLpost3*  
*norank\_f\_\_GR-WP33-58*  
*norank\_f\_\_Hados.Sed.Eubac.3*  
*norank\_f\_\_Hyphomonadaceae*  
*norank\_f\_\_I-10*  
*norank\_f\_\_IheB3-7*  
*norank\_f\_\_JTB255\_marine\_benthi*  
*c\_group*  
*norank\_f\_\_LCP-89*  
*norank\_f\_\_LD29*  
*norank\_f\_\_LH041*  
*norank\_f\_\_LWSR-14*  
*norank\_f\_\_Lachnospiraceae*  
*norank\_f\_\_LI142-1A4*  
*norank\_f\_\_M2PB4-65\_termite\_gro*  
*up*  
*norank\_f\_\_MA-28-I98C*  
*norank\_f\_\_MAT-CR-H4-C10*  
*norank\_f\_\_MAT-CR-H6-H10*  
*norank\_f\_\_MAT-CR-P4-C12*  
*norank\_f\_\_MBAE14*  
*norank\_f\_\_ML635J-40\_aquatic\_gr*  
*oup*  
*norank\_f\_\_Marinilabiaceae*  
*norank\_f\_\_Methylophilaceae*  
*norank\_f\_\_MgMjR-022*  
*norank\_f\_\_NS11-12\_marine\_grou*  
*p*  
*norank\_f\_\_NS9\_marine\_group*  
*norank\_f\_\_OM182\_clade*

*norank\_f\_\_OPB56*  
*norank\_f\_\_Oxalobacteraceae*  
*norank\_f\_\_P.\_palm\_C-A\_51*  
*norank\_f\_\_P5D1-392*  
*norank\_f\_\_PAUC43f\_marine\_bent*  
*hic\_group*  
*norank\_f\_\_PHOS-HE36*  
*norank\_f\_\_PHOS-HE51*  
*norank\_f\_\_PL-11B10*  
*norank\_f\_\_PL-11B8\_wastewater-sl*  
*udge\_group*  
*norank\_f\_\_Pasteurellaceae*  
*norank\_f\_\_Prevotellaceae*  
*norank\_f\_\_RB41*  
*norank\_f\_\_RF16*  
*norank\_f\_\_RH-aaj90h05*  
*norank\_f\_\_Rhodocyclaceae*  
*norank\_f\_\_Rs-E47\_termite\_group*  
*norank\_f\_\_Ruminococcaceae*  
*norank\_f\_\_S0134\_terrestrial\_grou*  
*p*  
*norank\_f\_\_S24-7*  
*norank\_f\_\_SAR116\_clade*  
*norank\_f\_\_SAR406\_clade(Marine\_*  
*group\_A)*  
*norank\_f\_\_SAR86\_clade*  
*norank\_f\_\_SBYC*  
*norank\_f\_\_SJA-149*  
*norank\_f\_\_SM2D12*  
*norank\_f\_\_SRB2*  
*norank\_f\_\_ST-12K33*  
*norank\_f\_\_Sandaracinaceae*  
*norank\_f\_\_Sphingobacteriaceae*  
*norank\_f\_\_Sporichthyaceae*  
*norank\_f\_\_Surface\_1*  
*norank\_f\_\_Surface\_2*  
*norank\_f\_\_Surface\_4*  
*norank\_f\_\_Sva0725*  
*norank\_f\_\_Sva0996\_marine\_group*  
*norank\_f\_\_TSAC18*  
*norank\_f\_\_Veillonellaceae*  
*norank\_f\_\_WCHB1-69*  
*norank\_f\_\_ZD0405*  
*norank\_f\_\_boneC3G7*

*norank\_f\_\_env.OPS\_17*  
*norank\_f\_\_livecontrolB21*  
*norank\_f\_\_mitochondria*  
*norank\_f\_\_p-2534-18B5\_gut\_grou*  
*p*  
*norank\_f\_\_possible\_family\_02*  
*norank\_f\_\_ratAN060301C*  
*norank\_f\_\_vadinBB60*  
*norank\_o\_\_34P16*  
*norank\_o\_\_AK4AB2-03B*  
*norank\_o\_\_AKIW781*  
*norank\_o\_\_AT425-EubC11\_terrest*  
*rial\_group*  
*norank\_o\_\_Adriatic90*  
*norank\_o\_\_Ardenticatenales*  
*norank\_o\_\_B38*  
*norank\_o\_\_BD2-11\_terrestrial\_gr*  
*oup*  
*norank\_o\_\_BD7-8\_marine\_group*  
*norank\_o\_\_BD72BR169*  
*norank\_o\_\_C0119*  
*norank\_o\_\_CCM11a*  
*norank\_o\_\_Caenarcaniphilales*  
*norank\_o\_\_Chthonomonadales*  
*norank\_o\_\_D8A-2*  
*norank\_o\_\_DB1-14*  
*norank\_o\_\_E01-9C-26\_marine\_gr*  
*oup*  
*norank\_o\_\_EC3*  
*norank\_o\_\_FGL12-B44*  
*norank\_o\_\_GR-WP33-30*  
*norank\_o\_\_Gastranaerophilales*  
*norank\_o\_\_HOC36*  
*norank\_o\_\_KI89A\_clade*  
*norank\_o\_\_Kazan-3B-09*  
*norank\_o\_\_Lineage\_Ia*  
*norank\_o\_\_Lineage\_Iib*  
*norank\_o\_\_Lineage\_IV*  
*norank\_o\_\_NBI-n*  
*norank\_o\_\_NKB5*  
*norank\_o\_\_OCS116\_clade*  
*norank\_o\_\_Obscuribacterales*  
*norank\_o\_\_Oligosphaerales*  
*norank\_o\_\_P131-4*

*norank\_o\_PeM15*  
*norank\_o\_Pla1\_lineage*  
*norank\_o\_RF9*  
*norank\_o\_RS-F29*  
*norank\_o\_Run-SP154*  
*norank\_o\_SAR324\_clade(Marine*  
*\_group\_B)*  
*norank\_o\_SB1-18*  
*norank\_o\_SC-I-84*  
*norank\_o\_Sh765B-TzT-29*  
*norank\_o\_Subgroup\_18*  
*norank\_o\_Subgroup\_2*  
*norank\_o\_Subgroup\_21*  
*norank\_o\_Subgroup\_23*  
*norank\_o\_Subgroup\_25*  
*norank\_o\_Subgroup\_4*  
*norank\_o\_Subgroup\_6*  
*norank\_o\_Subgroup\_7*  
*norank\_o\_Sva0071*  
*norank\_o\_Sva0485*  
*norank\_o\_TRA3-20*  
*norank\_o\_UCT\_N117*  
*norank\_o\_Vampirovibrionales*  
*norank\_o\_aaa34a10*  
*norank\_o\_possible\_order\_07*  
*norank\_o\_vadinBA26*  
*norank\_o\_vadinHA64*  
*norank\_p\_Armatimonadetes*  
*norank\_p\_BD1-5*  
*norank\_p\_Candidate\_division\_B*  
*RC1*  
*norank\_p\_Candidate\_division\_JS*  
*I*  
*norank\_p\_Candidate\_division\_K*  
*B1*  
*norank\_p\_Candidate\_division\_O*  
*D1*  
*norank\_p\_Candidate\_division\_O*  
*P11*  
*norank\_p\_Candidate\_division\_O*  
*P3*  
*norank\_p\_Candidate\_division\_O*  
*P8*  
*norank\_p\_Candidate\_division\_SR*

1

*norank\_p\_\_Candidate\_division\_T  
M7*

*norank\_p\_\_Candidate\_division\_W  
S3*

*norank\_p\_\_Candidate\_division\_W  
S6*

*norank\_p\_\_JL-ETNP-Z39*

*norank\_p\_\_NPL-UPA2*

*norank\_p\_\_S2R-29*

*norank\_p\_\_SBYG-2791*

*norank\_p\_\_SHA-109*

*norank\_p\_\_SM2F11*

*norank\_p\_\_TA06*

*norank\_p\_\_TM6*

*norank\_p\_\_WCHB1-60*

*possible\_genus\_03*

*possible\_genus\_04*

*possible\_genus\_Sk003-Sk004*

*probable\_genus\_10*

*uncultured\_c\_\_Ardenticatenia*

*uncultured\_c\_\_Cyanobacteria*

*uncultured\_f\_\_Acidaminococcaceae*

*e*

*uncultured\_f\_\_Acidimicrobiaceae*

*uncultured\_f\_\_Acidobacteriaceae\_(Subgroup\_1)*

*uncultured\_f\_\_Alcaligenaceae*

*uncultured\_f\_\_Alteromonadaceae*

*uncultured\_f\_\_Anaerolineaceae*

*uncultured\_f\_\_Bacillaceae*

*uncultured\_f\_\_Bacteriovoracaceae*

*uncultured\_f\_\_Beijerinckiaceae*

*uncultured\_f\_\_Bradyrhizobiaceae*

*uncultured\_f\_\_Caldilineaceae*

*uncultured\_f\_\_Cardiobacteriaceae*

*uncultured\_f\_\_Carnobacteriaceae*

*uncultured\_f\_\_Caulobacteraceae*

*uncultured\_f\_\_Chitinophagaceae*

*uncultured\_f\_\_Christensenellaceae*

*uncultured\_f\_\_Chromatiaceae*

*uncultured\_f\_\_Clostridiaceae\_1*

*uncultured\_f\_\_Clostridiaceae\_4*

*uncultured\_f\_\_Comamonadaceae*

*uncultured\_f\_\_Coriobacteriaceae*

*uncultured\_f\_Corynebacteriaceae*  
*uncultured\_f\_Coxiellaceae*  
*uncultured\_f\_Cryomorphaceae*  
*uncultured\_f\_Cyclobacteriaceae*  
*uncultured\_f\_Cytophagaceae*  
*uncultured\_f\_Defluviitaleaceae*  
*uncultured\_f\_Dermatophilaceae*  
*uncultured\_f\_Desulfarculaceae*  
*uncultured\_f\_Desulfobacteraceae*  
*uncultured\_f\_Desulfobulbaceae*  
*uncultured\_f\_Desulfohalobiaceae*  
*uncultured\_f\_Desulfovibrionacea*  
*e*  
*uncultured\_f\_Desulfurellaceae*  
*uncultured\_f\_Enterobacteriaceae*  
*uncultured\_f\_Erysipelotrichaceae*  
*uncultured\_f>Erythrobacteraceae*  
*uncultured\_f\_Eubacteriaceae*  
*uncultured\_f\_FamilyI*  
*uncultured\_f\_Family\_XI*  
*uncultured\_f\_Family\_XII*  
*uncultured\_f\_Family\_XIII*  
*uncultured\_f\_Family\_XVII*  
*uncultured\_f\_Family\_XVIII*  
*uncultured\_f\_Fibrobacteraceae*  
*uncultured\_f\_Flammeovirgaceae*  
*uncultured\_f\_Flavobacteriaceae*  
*uncultured\_f\_Gallionellaceae*  
*uncultured\_f\_Gemmatimonadace*  
*ae*  
*uncultured\_f\_Halothiobacillaceae*  
*uncultured\_f\_Helicobacteraceae*  
*uncultured\_f\_Heliobacteriaceae*  
*uncultured\_f\_Holosporaceae*  
*uncultured\_f\_Hydrogenophilacea*  
*e*  
*uncultured\_f\_Hyphomicrobiaceae*  
*uncultured\_f\_Hyphomonadaceae*  
*uncultured\_f\_Ktedonobacteracea*  
*e*  
*uncultured\_f\_Lachnospiraceae*  
*uncultured\_f\_Leptospiraceae*  
*uncultured\_f\_Leptotrichiaceae*  
*uncultured\_f\_Marinilabiaceae*

*uncultured\_f\_\_Methylophilaceae*  
*uncultured\_f\_\_Mycoplasmataceae*  
*uncultured\_f\_\_Neisseriaceae*  
*uncultured\_f\_\_Nitrosomonadaceae*  
*uncultured\_f\_\_Nitrospinaceae*  
*uncultured\_f\_\_Oxalobacteraceae*  
*uncultured\_f\_\_Paenibacillaceae*  
*uncultured\_f\_\_Pasteurellaceae*  
*uncultured\_f\_\_Peptococcaceae*  
*uncultured\_f\_\_Peptostreptococcaeae*  
*uncultured\_f\_\_Phyllobacteriaceae*  
*uncultured\_f\_\_Piscirickettsiaceae*  
*uncultured\_f\_\_Planctomycetaceae*  
*uncultured\_f\_\_Planococcaceae*  
*uncultured\_f\_\_Porphyromonadaceae*  
*uncultured\_f\_\_Prevotellaceae*  
*uncultured\_f\_\_Rhodobacteraceae*  
*uncultured\_f\_\_Rhodocyclaceae*  
*uncultured\_f\_\_Rhodospirillaceae*  
*uncultured\_f\_\_Rhodothermaceae*  
*uncultured\_f\_\_Rikenellaceae*  
*uncultured\_f\_\_Ruminococcaceae*  
*uncultured\_f\_\_Saprospiraceae*  
*uncultured\_f\_\_Solimonadaceae*  
*uncultured\_f\_\_Sphingobacteriaceae*  
*e*  
*uncultured\_f\_\_Spirochaetaceae*  
*uncultured\_f\_\_Succinivibrionaceae*  
*uncultured\_f\_\_Synergistaceae*  
*uncultured\_f\_\_Syntrophaceae*  
*uncultured\_f\_\_Syntrophobacteraceae*  
*ae*  
*uncultured\_f\_\_Syntrophomonadaceae*  
*uncultured\_f\_\_Thermoanaerobacteraceae*  
*uncultured\_f\_\_Thiotrichaceae*  
*uncultured\_f\_\_Veillonellaceae*  
*uncultured\_f\_\_Verrucomicrobiaceae*  
*ae*  
*uncultured\_f\_\_Xanthobacteraceae*  
*uncultured\_f\_\_Xanthomonadaceae*



*uncultured\_f\_Xanthomonadales\_Incertae\_Sedis*  
*uncultured\_o\_Acidimicrobiales*  
*uncultured\_o\_Bacteroidales*  
*uncultured\_o\_Clostridiales*  
*uncultured\_o\_Corynebacteriales*  
*uncultured\_o\_Frankiales*  
*uncultured\_o\_Gaiellales*  
*uncultured\_o\_Myxococcales*  
*uncultured\_o\_Order\_III*  
*uncultured\_o\_Selenomonadales*  
*uncultured\_o\_SubsectionII*  
*uncultured\_o\_Xanthomonadales*  
*uncultured\_p\_Chloroflexi*  
*vadinBC27\_wastewater-sludge\_gr*  
*oup*

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**Table S4A.** Antibiotic resistant genes identified in gut microbiota from the Han samples

Sample ID \ Gene type	0	1	2	3	4	5	6	7	9	11	12	13
<b>aac6ib</b>	1470	0	0	0	0	0	0	0	0	0	0	0
<b>aac6ie</b>	0	2	14	22	142	0	0	2	0	0	112	4
<b>acra</b>	7322	0	22	2	2	12	4	0	36	30	0	2
<b>acrb</b>	45758	6	72	2	16	86	2	6	118	130	4	6
<b>ant3ia</b>	0	0	0	114	0	2	4	0	0	0	0	122
<b>ant6ia</b>	0	66	70	28	72	42	10	96	68	30	48	154
<b>aph33ib</b>	12	0	152	8	450	4	4	0	2	0	88	62
<b>aph3ia</b>	0	0	76	0	0	0	0	0	0	0	2	0
<b>aph3iia</b>	6	12	16	10	16	90	80	4	0	4	4	38
<b>aph6id</b>	24	0	230	4	554	6	8	0	0	0	106	90
<b>arna</b>	14630	0	26	0	4	18	0	0	28	34	0	0
<b>aca</b>	7640	7046	772	692	7376	657	578	719	8312	6758	4458	815
<b>bcr</b>			8	4		4	2	2				2
<b>bcr</b>	8806	0	10	2	0	6	0	0	14	6	0	4
<b>bl1_ec</b>	10204	0	16	0	2	2	0	0	24	32	0	2
<b>bl2d_oxa1</b>	5898	0	0	0	0	0	0	0	2	0	0	0
<b>bl2e_cbla</b>	0	12	188	74	118	80	4	138	34	18	144	22
<b>bl2e_cepa</b>	0	46	152	12	158	268	42	36	176	88	152	90
<b>bl2e_cfxa</b>	0	1152	704	6	2854	396	706	143	0	0	284	104
<b>bl3_ccra</b>								8				6
<b>bl3_ccra</b>	78	0	0	0	0	122	138	0	0	0	34	0
<b>emrd</b>	5400	4	8	0	4	6	0	0	12	10	0	2
<b>ermf</b>	1596	0	0	0	2	0	0	0	8	14	0	0
<b>ermb</b>	8	1168	716	248	476	732	374	116	172	182	832	966
<b>ermf</b>	4	162	127	305	2076	144	948	281	1154	956	1718	136

			6	4		4		2				0
<b>ermg</b>	0	5016	2	2	0	2	0	0	0	0	14	0
<b>ermx</b>	2	22	142	92	36	52	42	52	58	16	22	112
<b>ksga</b>	7204	4	26	0	4	16	0	0	26	34	0	0
<b>macb</b>	14492	0	16	0	6	32	0	0	20	46	0	8
<b>mdfa</b>	7624	2	2	0	0	6	4	0	18	28	0	0
<b>mdte</b>	9140	0	16	0	4	18	0	4	14	32	4	0
<b>mdtf</b>	24656	4	42	0	16	44	2	0	68	50	0	0
<b>mdtg</b>	8162	0	8	0	2	8	4	0	20	26	0	2
<b>mdth</b>	7612	0	14	0	4	20	0	2	18	18	0	0
<b>mdtk</b>	8702	0	16	0	2	4	2	2	8	28	0	0
<b>mdtl</b>	8246	2	10	2	0	12	6	2	12	8	0	0
<b>mdtm</b>	12672	0	22	0	0	16	0	2	16	16	0	2
<b>mdtn</b>	7526	0	6	0	6	18	0	0	4	16	0	0
<b>mdto</b>	13838	0	28	0	4	22	6	0	28	54	0	0
<b>mdtp</b>	13010	6	24	2	6	6	0	0	26	34	0	4
<b>mefa</b>	0	4	0	0	238	4	0	0	0	2	8	0
<b>rosa</b>	1486	0	6	0	0	0	0	0	2	4	0	0
<b>rosb</b>	6896	0	20	0	2	10	0	0	10	16	2	0
<b>sul1</b>	11848	0	2	180	0	12	0	0	6	4	0	138
<b>sul2</b>	18	0	424	0	176	2	0	294	0	0	144	124
<b>tet32</b>	2	196	418	8	362	250	114	18	464	388	336	542
<b>tet37</b>	0	6914	4	0	2	0	2	2	0	0	0	0
<b>tet40</b>	64	454	147	360	1666	570	135	187	1154	1194	906	538
			2				2	2				0
<b>teta</b>	68	2	16	2	618	12	0	2	12	38	122	2
<b>tetb</b>	62	0	0	4	0	0	0	0	0	0	0	0
<b>tetc</b>	5432	0	0	300	0	2	4	0	0	0	0	178
<b>tetm</b>	4	2	10	0	0	212	50	0	0	0	18	2



**Table S4B.** Antibiotic resistant genes identified in gut microbiota from the Tibetan samples

Sample ID \ Gene type	3_1	3_2	3_3	3_4	3_5	3_6	3_7	3_8	3_9	3_1	3_1	3_1	3_1	3_1	3_1
										0	1	2	3	4	5
<b>aac6ie</b>	50	136	372	500	142	378	144	828	582	246	330	28	397	8	336
							2				2		8		
<b>acrb</b>	46	0	4	82	4	12	0	492	12	0	378	2	58	244	230
								6						8	
<b>ant6ia</b>	294	200	510	484	208	324	458	182	40	300	546	320	118	6	254
													0		
<b>aph33ib</b>	10	0	52	16	12	34	36	2	0	0	74	8	2	822	16
<b>aph33iia</b>	0	0	0	0	4	2	0	14	0	0	4	0	42	0	0
<b>aca</b>	326	271	350	457	383	330	204	272	213	364	435	260	464	200	395
	8	6	6	4	2	6	2	0	4	0	0	0	6	8	8
<b>bcr</b>	0	0	0	12	0	2	0	756	0	0	40	0	4	98	26
<b>bl2be_ctxm</b>	0	0	0	0	0	0	0	0	0	0	2	0	0	0	46
<b>bl2e_cepa</b>	4	2	0	4	26	6	0	0	0	16	66	0	8	0	2
<b>bl2e_cfxa</b>	487	105	131	110	555	949	246	901	259	636	412	915	460	562	155
	4	78	50		2	8	28	2	38	2	0	4	2		82
<b>bl3_ccra</b>	0	0	0	2	0	0	0	0	0	0	6	4	12	0	16
<b>cata11</b>	2	0	0	0	0	18	0	4	0	0	14	0	0	0	16
<b>dfra17</b>	10	0	0	0	0	0	0	0	0	0	44	0	0	0	6
<b>emrd</b>	18	0	2	12	0	0	0	330	0	0	52	0	22	670	62
<b>emre</b>	2	0	0	10	0	0	0	0	0	0	24	0	6	4	6
<b>erma</b>	0	0	0	0	0	0	0	0	0	0	26	0	2	0	0
<b>ermg</b>	0	0	36	0	0	2	0	0	0	156	0	4	18	0	16
										8					
<b>macb</b>	16	0	0	14	2	8	0	123	2	0	60	0	26	606	56
								4							
<b>mdfa</b>	6	0	0	10	0	10	0	714	0	0	62	2	28	168	46

<b>mdtf</b>	18	0	0	32	4	6	0	260	8	0	134	0	22	104	118
								0						8	
<b>mdtg</b>	10	0	0	12	2	2	0	872	0	0	68	0	18	480	48
<b>mdth</b>	8	0	0	2	0	4	0	694	0	2	60	0	12	334	50
<b>mdtk</b>	4	0	0	4	0	4	2	764	0	0	34	0	6	244	42
<b>mdtl</b>	6	0	0	6	0	2	0	0	0	0	18	0	8	224	6
<b>mdtm</b>	14	2	0	12	2	10	2	134	0	0	70	0	24	230	46
								0							
<b>mdto</b>	8	0	0	6	2	6	0	157	0	2	78	0	18	528	46
								6							
<b>mefa</b>	0	0	0	26	0	0	0	0	0	38	0	6	0	0	0
<b>mexy</b>	0	0	2	12	0	0	0	0	0	14	0	2	0	0	0
<b>rosb</b>	16	0	0	12	0	2	0	108	4	0	70	0	16	718	46
								2							
<b>sul2</b>	14	2	68	40	8	78	124	226	2	0	178	12	20	26	34
<b>tet</b>	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
<b>tet32</b>	490	380	418	107	762	596	454	108	278	384	410	810	116	40	106
				8									4	4	
<b>tet37</b>	238	150	310	188	544	300	135	94	351	426	0	362	120	228	562
							4		6					6	
<b>tet40</b>	259	127	196	243	249	133	104	508	830	106	840	952	232	192	294
	4	4	4	0	6	6	4			8			4	6	4
<b>tetb</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
<b>tetc</b>	26	0	0	2	0	0	0	0	0	0	84	6	0	0	2
<b>tetm</b>	424	92	262	138	518	130	146	108	34	142	924	212	610	0	308
<b>teto</b>	179	770	154	862	107	114	538	484	626	142	119	612	208	38	295
	4		4		6	2				6	4		4		2
<b>tetpa</b>	2	14	2	8	0	28	8	6	16	0	0	4	2	0	12
<b>tetpb</b>	18	10	14	4	0	128	6	8	56	2	4	8	10	0	14

<b>tetq</b>	639	745	675	648	866	656	166	601	504	201	929	130	641	606	111
	6	8	4	4	4	4	26	4	30	4	2	00	8		94
<b>tetw</b>	296	187	309	537	268	162	175	236	942	174	301	237	502	115	347
	4	4	4	6	2	8	0			2	0	8	2	6	8
<b>vang</b>	12	4	16	492	0	10	6	0	10	28	0	134	10	0	20
<b>vanra</b>	0	0	12	16	6	0	0	0	0	0	0	0	0	0	0
<b>vanrd</b>	22	0	8	8	6	0	26	0	0	6	8	0	12	2	2
<b>vanrg</b>	28	18	44	252	22	14	70	134	46	112	16	42	20	4	48
<b>vantg</b>	2	18	44	88	8	14	6	0	18	46	0	182	26	0	40
				6											
<b>vanug</b>	62	16	104	23	78	56	48	30	2	15	13	52	26	6	112
				8						6	0				
<b>vanxyg</b>	2	0	2	13	2	0	0	0	2	2	0	14	2	0	8
				8											
<b>vatb</b>	4	0	0	18	0	0	0	0	0	0	0	14	0	0	0

---

**Figure S1**

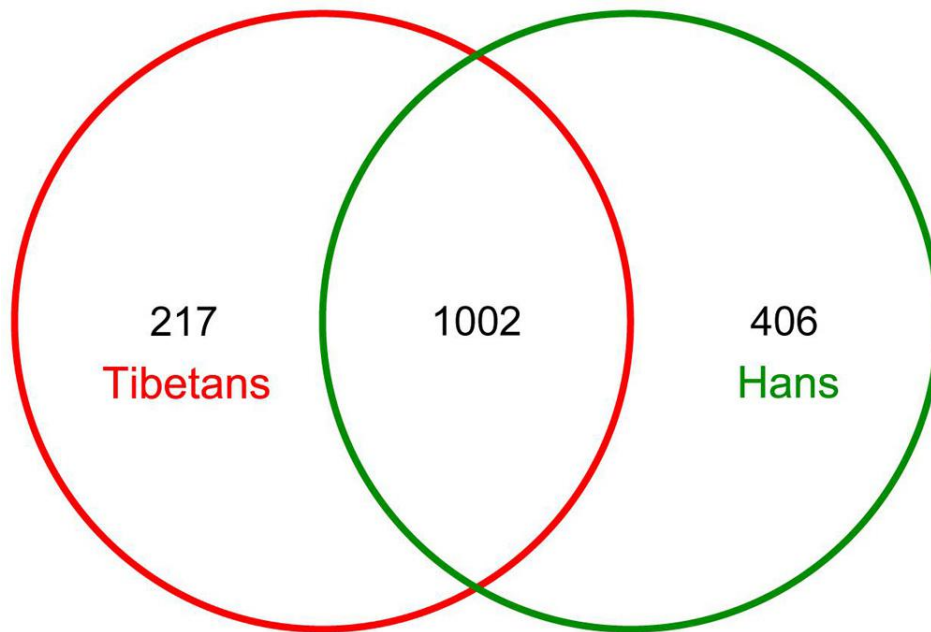
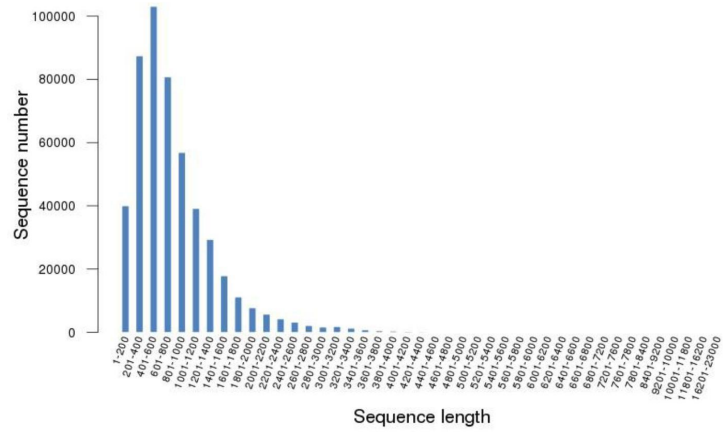




Figure S2

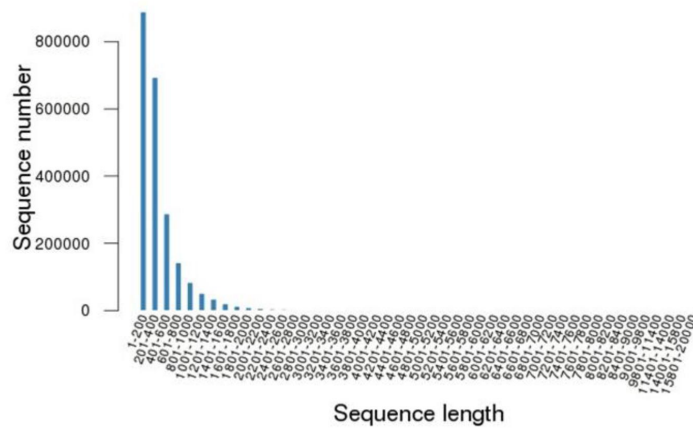
**A**

Sequence length distribution



**B**

Sequence length distribution



**Figure S3**

