

Supporting information

Table S1 Physicochemical properties

Sample ID	Concentration/(mg·kg ⁻¹)								TOC/%	TS/%	ASS/%	pH
	Zn	Mn	Pb	Cu	Cd	As	Cr	Sb				
ZN16L1_2	2096.875	1009.691	164.75	83.74	30.71	26.25	67.59	6.79	0.497483	1.00	0.76	7.15
ZN16L2_1	428.637	496.067	55.84	35.29	4.20	11.14	87.66	19.69	0.232448	0.82	0.60	7.29
ZN16L3_1	594.258	634.437	95.17	54.86	5.31	25.36	91.83	8.03	0.980699	0.18	0.12	7.49
ZN16L4_1	529.438	464.3145	64.63	38.24	6.27	11.67	67.72	6.30	0.209371	0.21	0.17	7.55
ZN33L1_1	38539.8	817.69	2254.76	508.97	301.85	588.52	58.81	40.17	0.53035	0.98	0.91	7.31
ZN33L2_1	19548.57	902.6828	800.18	197.40	160.92	200.74	55.85	19.13	0.907972	0.68	0.50	7.34
ZN33L3_1	2618.065	1032.151	130.29	57.96	51.72	23.23	71.94	4.76	0.782098	0.14	0.09	7.40
ZN33L4_3	2655.445	796.703	154.98	121.34	31.51	43.91	89.35	9.83	0.092587	0.25	0.16	7.50

Table S2 Correlation analysis of heavy metals

Element	Zn	Mn	Pb	Cu	Cd	As	Cr	Sb
Zn	1							
Mn	0.256	1						
Pb	0.987***	0.211	1					
Cu	0.976***	0.250	0.991***	1				
Cd	0.995***	0.336	0.979***	0.969***	1			
As	0.986***	0.192	0.999***	0.992***	0.976***	1		
Cr	−0.660	−0.421	−0.600	−0.555	−0.686	−0.579	1	
Sb	0.899**	−0.040	0.913**	0.895**	0.869**	0.917**	−0.400	1

* $p\leq0.05$, ** $p\leq0.01$, *** $p\leq0.001$.

Table S3 Community compositions of L samples at the genus level

Group	L-L1			L-L2			L-L3			L-L4	
Original naming	ZN1612	ZN1613	ZN1621	ZN1622	ZN1623	ZN1631	ZN1632	ZN1633	ZN1641	ZN1642	ZN1643
<i>g__Perlucidibaca</i>	0.00499	0.12234	0.231296	0.138752	0.261895	0.188341	0.238547	0.315389	0.264708	0.303455	0.350486
<i>g__Limnobacter</i>	0.081057	0.152672	0.142146	0.197467	0.16163	0.149996	0.099741	0.191324	0.20813	0.220133	0.190069
<i>g__Delftia</i>	0.049686	0.040785	0.066171	0.065241	0.028273	0.055049	0.029617	0.032109	0.03868	0.033142	0.02481
<i>g__Sulfurifustis</i>	0.000815	0.018667	0.01943	0.017662	0.015961	0.009242	0.017833	0.010555	0.008419	0.006843	0.006962
<i>g__Algoriphagus</i>	0.001813	0.005587	0.023096	0.009499	0.020638	0.01106	0.024297	0.034304	0.016058	0.012698	0.019761
<i>g__Sphingopyxis</i>	0.003377	0.008272	0.010509	0.005902	0.011692	0.01125	0.00885	0.012497	0.009794	0.012183	0.008558
<i>g__Thiobacillus</i>	0.01206	0.008821	0.034154	0.01344	0.025562	0.005467	0.021082	0.019105	0.008253	0.007635	0.007676
<i>g__Curvibacter</i>	0.004092	0.005616	0.025665	0.047105	0.03876	0.014608	0.023469	0.025522	0.021627	0.02872	0.018297
<i>g__Rhodococcus</i>	0.000566	0.000837	0.000725	6.46×10^{-5}	0	0.001149	0	0	0.000878	0.001224	0.000394
<i>g__Hydrogenophaga</i>	0.001447	0.008619	0.033135	0.02968	0.086129	0.021161	0.047766	0.039455	0.037453	0.040458	0.049582
<i>g__unclassified_f__Gemmatimonadaceae</i>	0.008018	0.009283	0.003784	0.002585	0.002055	0.001326	0.006795	0.003758	0.001425	0.000542	0.002702
<i>g__Bacillus</i>	0.000582	0.011925	0.003529	0.006828	0.001063	0.003472	0.009431	0.001098	0.002337	0.001474	0.004279
<i>g__Herminiimonas</i>	0.017881	0.006078	0.012842	0.014539	0.010221	0.008598	0.022491	0.011611	0.012893	0.011335	0.007488
<i>g__Sphaerobacter</i>	0.004242	7.22×10^{-5}	0.00051	0.000732	0	5.05×10^{-5}	0.000265	0.000253	0	0.000445	0.00045
<i>g__Rhodopseudomonas</i>	0.012243	0.009875	0.001627	0.001098	0.000461	0.001603	0.004276	0.000232	0.001077	0.000681	0.001164
<i>g__norank_f__Sulfobacillaceae</i>	0	0	0	0	0	0	0	0	0	0	0
<i>g__unclassified_f__Microbacteriaceae</i>	0.000981	0.003941	0.005431	0.002348	0.00744	0.003346	0.007475	0.010027	0.006297	0.003797	0.003828
<i>g__Cupriavidus</i>	0.00682	0.005775	0.007431	0.009649	0.013942	0.049367	0.008105	0.006608	0.012843	0.009902	0.006568
<i>g__norank_f__TRA3-20</i>	0.004175	0.01243	0.006431	0.008314	0.002746	0.00755	0.00479	0.001583	0.004905	0.003588	0.002946
<i>g__norank_f__norank_o__norank_c__KD4-96</i>	0.005589	0.016401	0.006607	0.020096	0.00395	0.011389	0.011287	0.00152	0.006099	0.007691	0.004898
<i>g__Pseudomonas</i>	0.00163	0.001386	0.004509	0.001185	0.001825	0.00096	0.002569	0.004074	0.000845	0.001419	0.007976
<i>g__Nitrospira</i>	0.011527	0.005457	0.00251	0.008012	0.000974	0.003687	0.003779	0.00114	0.00232	0.002489	0.001745
<i>g__Afipia</i>	0.013923	0.011838	0.010999	0.004695	0.007883	0.004444	0.010475	0.002554	0.008054	0.005327	0.005086
<i>g__norank_f__norank_o__norank_c__JG30-KF-CM66</i>	0.001164	0.006511	0.004941	0.004308	0.001275	0.006174	0.005188	0.000887	0.003546	0.00267	0.002252

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<i>g__Hydrogenispora</i>	0.001996	0.000361	0.000431	0.000754	0	0.000417	0.000431	0.000443	0.000746	0.000473	0.000206
<i>g__Achromobacter</i>	0	1.44×10 ⁻⁵	0.000353	0	1.77×10 ⁻⁵	0.000152	0	0	0	0	0
<i>g__Alcanivorax</i>	0.000183	0.000996	0.001176	0.000129	0.000337	0.000404	0.002818	0.000591	1.66E-05	0.001391	0.000488
<i>g__Georgfuchsia</i>	0.002595	0.000303	0.00051	0.000775	0.00039	0.000581	0.000199	0	0	0.000751	0.000657
<i>g__unclassified_k__ norank_d__Bacteria</i>	0.003676	0.00859	0.002117	0.005665	0.002693	0.015404	0.002851	0.001626	0.006215	0.003964	0.003885
<i>g__norank_f__norank_ o__norank_c__TK10</i>	0.001281	0.004822	0.000314	0.003554	0.001134	0.002702	0.001077	0.001119	0.001873	0.000376	0.001126
<i>g__unclassified_f__ Comamonadaceae</i>	0.006787	0.008965	0.012156	0.013225	0.011408	0.007576	0.012662	0.016065	0.009479	0.015313	0.008726
<i>g__Lysobacter</i>	0.002861	0.003566	0.021136	0.005579	0.0124	0.00375	0.016408	0.017479	0.014948	0.010528	0.011654
<i>g__unclassified_f__ Xanthobacteraceae</i>	0.008334	0.004302	0.001725	0.001012	0.001027	0.001263	0.003961	0.000739	0.005635	0.000904	0.001164
<i>g__norank_f__norank_ o__norank_c__P2-11E</i>	0.000882	0.00436	0.001059	0.001163	0.000726	0.007437	0.001077	0.000274	0.002337	0.00057	0.001145
<i>g__Nocardioides</i>	0.002312	0.004937	0.010587	0.008185	0.01295	0.008194	0.013823	0.016192	0.008402	0.010292	0.01278
<i>g__Thermithiobacillus</i>	3.33×10 ⁻⁵	0.00013	0.000627	0	0	0	0.000365	0	0	0.000306	3.75×10 ⁻⁵
<i>g__norank_f__ Gemmatimonadaceae</i>	0.000349	0.009225	0.002568	0.005126	0.000602	0.006881	0.002668	0.000443	0.002469	0.001711	0.002139
<i>g__unclassified_o__Frankiales</i>	0.009049	0.001834	0.00151	0.000215	0.000585	0.000189	0.000845	0.000633	0.002453	0.000987	0.00045
<i>g__Paenibacillus</i>	0.006354	0.002729	0.000412	0.001012	0	0.000922	0.001458	0.000232	0.000464	0.000779	0.000507
<i>g__Blastococcus</i>	0.001148	0.001718	0.002863	0.000711	0.000833	0.000745	0.001558	0.001309	0.001011	0.000403	0.000638
<i>g__Qipengyuania</i>	0.001431	0.002411	0.006098	0.005406	0.012117	0.003699	0.008469	0.009056	0.005519	0.007316	0.007694
<i>g__Arenimonas</i>	0.005522	0.002252	0.016685	0.009068	0.008964	0.008169	0.012331	0.017479	0.017848	0.012545	0.014188
<i>g__Sulfuriferula</i>	0.062194	0.006439	0.000882	0.000991	0.009903	0.000682	0.007143	0.001815	0.003033	0.000445	0.001088
<i>g__norank_f__norank_ o__Acidobacteriales</i>	0	0.01513	0.000569	0.00336	0	0.003308	0.000945	0.000232	0.000911	0.001099	0.000582
<i>g__Methylobacillus</i>	0.000499	0.000707	0.000529	0.001572	0.005261	0.002336	0.000613	0.00209	0.00058	0.00217	0.002027
<i>g__Ruminiclostridium</i>	0.00025	0.000375	0	0.000625	0.000248	0	0	0	0	0.000223	0.000113
<i>g__Devosia</i>	0.001331	0.004115	0.003882	0.0028	0.002161	0.002992	0.004541	0.005003	0.002652	0.004548	0.003284
<i>g__unclassified_f__ Alcaligenaceae</i>	0.00326	0.001097	0.002196	0.002283	0.002197	0.00154	0.001392	0.002343	0.001475	0.00096	0.000488
<i>g__Sphingobium</i>	0.000416	0.000144	0.000353	0.000431	0.001701	0.000606	1.66×10 ⁻⁵	0.000338	0.000348	9.74×10 ⁻⁵	3.75×10 ⁻⁵

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<i>g__MND1</i>	0.0002	0.005053	0.001823	0.005255	0.000709	0.005518	0.004027	0.000718	0.002933	0.001655	0.002027
<i>g__norank_f__Microscillaceae</i>	0.000366	0.036612	0.000373	0.002735	0.001895	0.000644	0.001127	0.000464	0.000563	0.001071	0.000976
<i>g__Silanimonas</i>	0.003393	0.025395	0.006843	0.003252	0.001399	0.005252	0.005304	0.002765	0.006049	0.003505	0.004729
<i>g__norank_f__norank_o__norank_c__MB-A2-108</i>	0.000732	0.002599	0.000823	0.001012	0.000779	0.001389	0.00068	0.000992	0	0.001919	0.000601
<i>g__Hydrotalea</i>	0.063109	0.00449	0.002627	0.002972	0.004393	0.000896	0.002834	0.002322	0.000862	0.001502	0.001576
<i>g__Dyella</i>	0.069397	0.004981	0.002117	0.001766	0.007812	0.001225	0.003132	0.000866	0.000779	0.001947	0.000901
<i>g__Bradyrhizobium</i>	0.011494	0.000938	0.000529	6.46×10^{-5}	1.77×10^{-5}	0	6.63×10^{-5}	0	0.000149	8.34×10^{-5}	0.000169
<i>g__Noviherbaspirillum</i>	0.024984	0.001834	0.002412	0.00056	0.002409	0.011603	0.002867	0.002428	0.000895	0.001738	0.001539
<i>g__unclassified_o__Bacillales</i>	0	5.77×10^{-5}	0	0	0	0.000189	0	0	0.000166	1.39×10^{-5}	7.51×10^{-5}
<i>g__Legionella</i>	0.011694	0.003898	0.00498	0.003963	0.000709	0.00202	0.005403	0.000802	0.001558	0.000974	0.000976
<i>g__Methylothera</i>	0.000466	0.001357	0.005588	0.003855	0.006802	0.002361	0.003232	0.003821	0.005436	0.003769	0.004973
<i>g__norank_f__norank_o__Actinomarinales</i>	0.000316	0.020833	0.005392	0.006139	0.000833	0.004179	0.015231	0.002554	0.005949	0.002559	0.001651
<i>g__Nitrosospora</i>	0.003976	0.00039	0.000784	0.000711	0	0.000492	0.000878	0	0	6.95×10^{-5}	3.75×10^{-5}
<i>g__Comamonas</i>	0.001963	0.014596	0.004294	0.003597	0.007883	0.00221	0.006049	0.003927	0.004044	0.00356	0.003209
<i>g__Acinetobacter</i>	0.001863	0.000144	0.004255	0.000431	0	0.000442	0	0.00057	0.00063	0.000292	7.51×10^{-5}
<i>g__Agromyces</i>	0.000133	2.89E-05	0.00102	0.000172	0	0.000126	0.000265	0.000823	0	0	1.88×10^{-5}
<i>g__unclassified_c__Clostridia</i>	0	1.44×10^{-5}	0	0	0	0	1.66×10^{-5}	0	0	0	1.88×10^{-5}
<i>g__IS-44</i>	0.000832	0.000476	0.001176	0.012751	0.000213	0.018017	0.001757	0.000844	0.008833	0.003699	0.001802
<i>g__Ignavibacterium</i>	0.029093	0.00602	0.004686	0.004437	0.002108	0.005202	0.003713	0.001351	0.003795	0.001057	0.001839
<i>g__norank_f__Limnochordaceae</i>	0.000166	0	0	0	0	0	0	0	0	0	0
<i>g__norank_f__Anaerolineaceae</i>	0.000832	0.003653	0.002549	0.010576	0.000673	0.00702	0.001541	0.001562	0.00358	0.004701	0.002702
<i>g__Cavicella</i>	0.007835	0.000938	0.004157	0.002585	0.003454	0.007487	0.003348	0.008149	0.005187	0.010028	0.007094
<i>g__norank_f__AKYG1722</i>	6.65×10^{-5}	0.00166	0	0.000754	7.09×10^{-5}	0.000593	0.001458	0	0	0.000292	0.0003
<i>g__Alkanibacter</i>	0.031987	0.008085	0.00051	0	0.00023	0.000568	0.000348	0.000697	0.002685	0.000139	0.000281
<i>g__Pullulanibacillus</i>	0.01334	0.000895	0.001412	0.000388	0	0.000417	0.001077	0.000739	0	0.000195	0.00045
<i>g__Planctomicrobium</i>	0.000283	0.010481	0.001412	0.004114	0.000195	0.00149	0.004989	0.000253	0.000232	0.000612	0.001239
<i>g__Sporocytophaga</i>	0	0.001314	0.000353	0	0.001275	0	0.000199	0	0	0	0.000131

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<i>g__Cellvibrio</i>	0.00148	0.000159	0	0.001034	0.000195	0.000139	0.002287	0.000718	0.000497	0	0.000375
<i>g__norank_f__norank_o__norank_c__bacteriap25</i>	3.33×10 ⁻⁵	0.001675	0.003078	0.004157	0.000691	0.010555	0.003829	0.002597	0.001922	0.001516	0.002946
<i>g__Ferritrophicum</i>	0.03741	0.002093	0.001176	0.000237	0.000549	0.000631	0.000862	0	0	0.000445	0.000713
<i>g__OLB12</i>	0	0.003017	0.00151	0.009886	0	0.011389	0.002586	0.000317	0.001989	0.001085	0.003828
<i>g__Sulfuritalea</i>	0.011394	0.004764	7.84×10 ⁻⁵	0.000258	0	0.001061	0.000696	0.000253	0.000431	0.000584	0.000319
<i>g__Polaromonas</i>	0.020543	0.00602	0.002529	0.000474	0	0.000354	0.00121	0.000127	0.000895	0.000904	0.000338
<i>g__Halothiobacillus</i>	0	1.44×10 ⁻⁵	0.000157	0	0.001523	0	0	0	0	0	5.63×10 ⁻⁵
<i>g__Chitinophaga</i>	0	0	0	0	0	0	0	0	0	0	0.000113
<i>g__Fictibacillus</i>	0	0.000115	0.000176	0	0	0	0	0	0	0.000111	9.38×10 ⁻⁵
<i>g__Cytophaga</i>	0.000116	2.89×10 ⁻⁵	0.000216	0	0.000762	0.000139	0	0.00057	0	0	0.000113
<i>g__Occallatibacter</i>	0.011544	0.00026	0.000333	0.000388	0	6.31×10 ⁻⁵	0.000182	0	0	0.000306	0.000169
<i>g__Thermincola</i>	0	0.000115	0	0	0	0.000139	0	0	0	0	0.000131
<i>g__Thiomonas</i>	0.012126	0.000881	0.000529	0.000603	0.002693	0.000164	0.000431	0	0	0.000264	0.000394
<i>g__norank_f__Moraxellaceae</i>	0	0.000274	0	0	0	0	0.000696	0	0	0	0
<i>g__norank_f__W27</i>	0.01171	0	0	0	0	0	0	0	0	0	0
Others	0.243704	0.261124	0.181888	0.22803	0.157697	0.246787	0.211897	0.137661	0.174886	0.153403	0.147938

Table S4 Community compositions of M samples at the genus level

Group	M-L1			M-L2			M-L3			M-L4
Original naming	ZN3311	ZN3312	ZN3313	ZN3321	ZN3322	ZN3323	ZN3331	ZN3332	ZN3333	ZN3343
<i>g__Perlucidibaca</i>	0.015606	0.006837	0.007774	0.006163	0.072009	0.008161	0.015033	0.017943	0.00751	0.00349
<i>g__Limnobacter</i>	0.115085	0.068709	0.054242	0.034135	0.088283	0.067808	0.056838	0.074639	0.026054	0.024763
<i>g__Delftia</i>	0.024166	0.036123	0.02718	0.017603	0.025526	0.022915	0.021924	0.028012	0.02363	0.056709
<i>g__Sulfurifustis</i>	0.03216	0.039123	0.043399	0.079277	0.087933	0.05135	0.083809	0.032036	0.033995	0.055508
<i>g__Algoriphagus</i>	0.093509	0.079471	0.044278	0.016408	0.040161	0.07096	0.041256	0.023138	0.018172	0.059183
<i>g__Sphingopyxis</i>	0.041625	0.040362	0.05028	0.077057	0.027294	0.049595	0.053042	0.081444	0.00696	0.061861
<i>g__Thiobacillus</i>	0.030236	0.043079	0.050891	0.029572	0.032437	0.098015	0.040997	0.021075	0.030679	0.029748

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<i>g__Curvibacter</i>	0.037338	0.04296	0.035193	0.019124	0.009714	0.0207	0.023662	0.020094	0.00693	0.052831
<i>g__Rhodococcus</i>	4.24×10 ⁻⁵	0	0	0	4.78×10 ⁻⁵	6.81×10 ⁻⁵	1.52×10 ⁻⁵	2.93×10 ⁻⁵	1.49×10 ⁻⁵	0.001551
<i>g__Hydrogenophaga</i>	0.014828	0.014345	0.007074	0.007575	0.01008	0.007479	0.006541	0.017621	0.002186	0.013314
<i>g__unclassified_f__Gemmatimonadaceae</i>	0.005504	0.005702	0.008549	0.006256	0.003312	0.006627	0.005763	0.006527	0.029861	0.003361
<i>g__Bacillus</i>	0.007994	0.008926	0.01117	0.003989	0.009937	0.011023	0.011435	0.005356	0.015808	0.014219
<i>g__Herminiimonas</i>	0.014941	0.010374	0.012093	0.002779	0.014348	0.02622	0.043452	0.022845	0.011555	0.006888
<i>g__Sphaerobacter</i>	0.00017	0.000224	0.000328	4.66×10 ⁻⁵	7.96×10 ⁻⁵	0.000324	0.000747	5.85×10 ⁻⁵	0.001859	0
<i>g__Rhodopseudomonas</i>	0.017304	0.020301	0.022176	0.011363	0.017946	0.022489	0.022427	0.009703	0.051974	0.012815
<i>g__norank_f__Sulfobacillaceae</i>	7.07×10 ⁻⁵	4.48×10 ⁻⁵	5.96×10 ⁻⁵	1.55×10 ⁻⁵	1.59×10 ⁻⁵	0.000102	0.000305	2.93×10 ⁻⁵	0	0
<i>g__unclassified_f__Microbacteriaceae</i>	0.02435	0.024704	0.026183	0.009314	0.011975	0.015845	0.018692	0.016099	0.008581	0.023507
<i>g__Cupriavidus</i>	0.011673	0.014449	0.0126	0.002018	0.001178	0.006713	0.009971	0.001083	0.025846	0.00879
<i>g__norank_f__TRA3-20</i>	0.011871	0.012001	0.01041	0.036495	0.023647	0.014908	0.012258	0.025611	0.004818	0.006832
<i>g__norank_f__norank_o__norank_c__KD4-96</i>	0.008914	0.008016	0.011393	0.010059	0.005255	0.005997	0.004177	0.007537	0.025504	0.018761
<i>g__Pseudomonas</i>	0.005376	0.002702	0.002725	0.002282	0.007468	0.005196	0.008065	0.002722	0.002528	0.004173
<i>g__Nitrospira</i>	0.010781	0.01021	0.011781	0.066175	0.010749	0.00782	0.007272	0.025787	0.007287	0.003416
<i>g__Afipia</i>	0.008362	0.009613	0.00974	0.005961	0.010096	0.007122	0.009636	0.009645	0.021756	0.010027
<i>g__norank_f__norank_o__norank_c__JG30-KF-CM66</i>	0.010937	0.013554	0.01394	0.016687	0.003647	0.008791	0.005245	0.012132	0.044598	0.007793
<i>g__Hydrogenispora</i>	0.004796	0.004896	0.007208	0.001164	0.000541	0.003476	0.001326	0.002532	0.004803	0.000886
<i>g__Achromobacter</i>	0.000637	0.000433	0.000551	0.000326	0.00043	0.000392	0.001113	0.00022	0.000833	1.85E-05
<i>g__Alcanivorax</i>	0.012833	0.012673	0.01181	0.014173	0.035447	0.011142	0.019729	0.013772	0.005829	0.005651
<i>g__Georgfuchsia</i>	0.018846	0.019256	0.015891	0.015803	0.010876	0.015572	0.01363	0.013289	0.003524	0.015567
<i>g__unclassified_k__norank_d__Bacteria</i>	0.006975	0.007687	0.007551	0.004393	0.003057	0.005929	0.00372	0.004039	0.026069	0.011209
<i>g__norank_f__norank_o__norank_c__TK10</i>	0.004627	0.004732	0.005749	0.008802	0.002946	0.003237	0.002653	0.005576	0.007317	0.007054
<i>g__unclassified_f__Comamonadaceae</i>	0.003749	0.003597	0.003247	0.001816	0.006529	0.00414	0.004025	0.003132	0.002781	0.003102
<i>g__Lysobacter</i>	0.00491	0.00621	0.004304	0.0034	0.003933	0.004379	0.00369	0.00483	0.0011	0.003121

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<i>g__unclassified_f__Xanthobacteraceae</i>	0.002235	0.002493	0.002577	0.00236	0.001067	0.001772	0.003263	0.002751	0.005056	0.001514
<i>g__norank_f__norank_o__norank_c_P2-11E</i>	0.004146	0.00297	0.005362	0.005449	0.006847	0.004481	0.002211	0.004478	0.017072	0.011597
<i>g__Nocardioides</i>	0.002773	0.003523	0.004811	0.003011	0.004921	0.005247	0.006419	0.003673	0.002915	0.007202
<i>g__Thermithiobacillus</i>	0.004301	0.005851	0.006181	0.005713	0.010319	0.010716	0.012349	0.003878	0.00922	0.005374
<i>g__norank_f__Gemmatimonadaceae</i>	0.004994	0.00518	0.006106	0.011285	0.003901	0.004089	0.003781	0.006513	0.005785	0.001422
<i>g__unclassified_o__Frankiales</i>	0.000424	0.000463	0.00073	0.000481	0.000669	0.000562	0.000945	0.000381	0.001294	7.39×10^{-5}
<i>g__Paenibacillus</i>	0.003183	0.005269	0.004066	0.002453	0.008153	0.004702	0.006312	0.002737	0.003078	0.001348
<i>g__Blastococcus</i>	0.005575	0.00827	0.011096	0.004533	0.013822	0.015385	0.018052	0.005561	0.007093	0.008697
<i>g__Qipengyuania</i>	0.005504	0.004105	0.0049	0.007125	0.010765	0.008144	0.009178	0.006952	0.003272	0.005207
<i>g__Arenimonas</i>	0.001556	0.001776	0.001147	0.00059	0.002675	0.001755	0.001143	0.001185	0.000848	0.002253
<i>g__Sulfuriferula</i>	0.001627	0.001911	0.002308	0.000202	0.000271	0.001107	0.00125	0.000205	0.020314	0
<i>g__norank_f__norank_o__Acidobacteriales</i>	0.005688	0.006881	0.007342	0.036215	0.011848	0.003629	0.004071	0.016011	0.002602	0.001496
<i>g__Methylobacillus</i>	0.004584	0.004597	0.005868	0.003182	0.008026	0.009882	0.011755	0.002883	0.005815	0.032555
<i>g__Ruminiclostridium</i>	0.005999	0.008329	0.0133	0.000838	0.000733	0.006338	0.002134	0.001478	0.014648	0.001588
<i>g__Devosia</i>	0.005744	0.005956	0.006642	0.004672	0.00535	0.00523	0.007455	0.009864	0.002944	0.014662
<i>g__unclassified_f__Alcaligenaceae</i>	0.007074	0.008911	0.005734	0.004936	0.007357	0.009796	0.012731	0.007713	0.005145	0.004266
<i>g__Sphingobium</i>	0.005575	0.007046	0.006494	0.008662	0.004172	0.014005	0.010886	0.019406	0.006528	0.001071
<i>g__MND1</i>	0.006933	0.007046	0.007536	0.011751	0.00586	0.004481	0.002882	0.008883	0.009384	0.002493
<i>g__norank_f__Microscillaceae</i>	0.005985	0.006642	0.005466	0.008631	0.004889	0.0023	0.002348	0.010567	0.001264	0.000259
<i>g__Silanimonas</i>	0.002221	0.001612	0.002591	0.001382	0.006099	0.003612	0.005184	0.003717	0.002885	0.000979
<i>g__norank_f__norank_o__norank_c_MB-A2-108</i>	0.00665	0.006583	0.009755	0.011208	0.003185	0.004907	0.002912	0.006132	0.017622	0.001311
<i>g__Hydrotalea</i>	0.000226	0.000284	0.000417	9.31×10^{-5}	0	0.000375	0.000168	0	0.001071	0
<i>g__Dyella</i>	9.90×10^{-5}	0.000164	8.94×10^{-5}	1.55×10^{-5}	3.18×10^{-5}	0.000153	0.000305	0	0.000104	0
<i>g__Bradyrhizobium</i>	0.003806	0.002985	0.003604	0.003074	0.006258	0.007479	0.009117	0.002415	0.002439	0.007312
<i>g__Noviherbaspirillum</i>	0.0044	0.004135	0.00277	0.003244	0.003408	0.00615	0.006647	0.001464	0.00119	0.000812

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<i>g__unclassified_o__ Bacillales</i>	0.001146	0.001672	0.001802	0.001459	0.007628	0.005861	0.006464	0.001098	0.003212	0.000314
<i>g__Legionella</i>	0.003311	0.003896	0.004379	0.001645	0.002596	0.003254	0.004299	0.003147	0.006439	0.001108
<i>g__Methylothera</i>	0.004499	0.004523	0.006747	0.001164	0.002198	0.006048	0.00465	0.001185	0.003524	0.010821
<i>g__norank_f__norank_o__ Actinomarinales</i>	0.001599	0.001761	0.001817	0.00118	0.000828	0.001141	0.001143	0.001273	4.46×10 ⁻⁵	0.002881
<i>g__Nitrosospora</i>	0.002434	0.002403	0.002085	0.016718	0.003838	0.007513	0.011419	0.00423	0.001442	0.000536
<i>g__Comamonas</i>	0.000764	0.001358	0.000551	0.000512	0.000637	0.000903	0.000671	0.00079	0.003614	0
<i>g__Acinetobacter</i>	0.003438	0.003284	0.003694	0.003865	0.00844	0.008331	0.013554	0.001303	0.003019	0.006925
<i>g__Agromyces</i>	0.005872	0.007105	0.008742	0.001785	0.002675	0.003697	0.006525	0.005591	0.006796	0.014976
<i>g__unclassified_c__ Clostridia</i>	0.001684	0.00306	0.003753	0.000186	0.000334	0.00184	0.001021	0.000981	0.01209	0.000979
<i>g__IS-44</i>	0.001641	0.001955	0.000864	0.004704	0.001895	0.001039	0.000991	0.002766	0.000491	0.001533
<i>g__Ignavibacterium</i>	0.00017	0.000224	0.000491	0.000357	6.37E-05	0.00029	0.000701	0.00019	0.001264	0.001089
<i>g__norank_f__Limnochordaceae</i>	4.24×10 ⁻⁵	2.99×10 ⁻⁵	1.49×10 ⁻⁵	0	1.59×10 ⁻⁵	1.70×10 ⁻⁵	9.15×10 ⁻⁵	1.46×10 ⁻⁵	0.000104	0
<i>g__norank_f__Anaerolineaceae</i>	0.002009	0.001985	0.001936	0.001211	0.000478	0.001022	0.000412	0.002415	0.00348	0.010913
<i>g__Cavicella</i>	0.000241	0.000224	0.000372	0.00194	0.000287	0.000239	0.000549	0.000527	0	0.000369
<i>g__norank_f__AKYG1722</i>	0.000976	0.000925	0.001281	0.001397	0.00121	0.001159	0.001753	0.001303	0.001829	0.000923
<i>g__Alkanibacter</i>	4.24×10 ⁻⁵	4.48×10 ⁻⁵	1.49×10 ⁻⁵	0	6.37×10 ⁻⁵	1.70×10 ⁻⁵	0.000107	0	0	0
<i>g__Pullulanibacillus</i>	0.000679	0.000612	0.000745	0.000667	0.000987	0.001397	0.002348	0.00041	0.000372	0
<i>g__Planctomicrobium</i>	0.002759	0.002791	0.002874	0.005014	0.001879	0.001159	0.000823	0.004712	0.003063	0
<i>g__Sporocytophaga</i>	0.00423	0.006448	0.003828	0.017029	0.00422	0.001942	0.001784	0.004756	0.000863	0
<i>g__Cellvibrio</i>	0.001698	0.003194	0.001594	0.003555	0.004013	0.002556	0.002836	0.004171	0.001324	0.017635
<i>g__norank_f__norank_o__ norank_c__bacteriap25</i>	0.001995	0.001717	0.001683	0.001832	0.000573	0.000596	0.001067	0.00221	2.97×10 ⁻⁵	0.001403
<i>g__Ferritrophicum</i>	1.41×10 ⁻⁵	0	0	0	3.18×10 ⁻⁵	0	4.57×10 ⁻⁵	0	1.49×10 ⁻⁵	0
<i>g__OLB12</i>	0.000863	0.000612	0.000626	0.000683	0.001545	0.000494	7.62×10 ⁻⁵	0.001024	2.97×10 ⁻⁵	0.000702
<i>g__Sulfuritalea</i>	0.000665	0.000537	0.001906	0.003027	0.002261	0.00259	0.002195	0.000644	0.000818	0.000572
<i>g__Polaromonas</i>	0.000594	0.000567	0.000506	9.31×10 ⁻⁵	4.78×10 ⁻⁵	0.000324	0.000137	7.32×10 ⁻⁵	0.002022	0.00024
<i>g__Halothiobacillus</i>	0.000368	0.001075	0.000462	0.000947	0.001592	0.002436	0.002073	0.000205	0.000729	0.000499
<i>g__Chitinophaga</i>	0.000467	0.000925	0.000551	0.000699	0.000111	0.001073	0.001936	0.022377	5.95×10 ⁻⁵	0.000462

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<i>g__Fictibacillus</i>	0.000212	0.000358	0.000357	0.000171	0.000175	0.00017	4.57×10 ⁻⁵	0.000278	0.002231	0.000554
<i>g__Cytophaga</i>	0.000212	4.48×10 ⁻⁵	0.000134	0.003431	0.000127	0.000221	0.000778	0.015703	0	0
<i>g__Occallatibacter</i>	8.49×10 ⁻⁵	0.000104	7.45×10 ⁻⁵	0	0	0.000136	6.10×10 ⁻⁵	0	0.003346	0
<i>g__Thermincola</i>	0.000156	7.46×10 ⁻⁵	0.000149	3.10×10 ⁻⁵	0.000191	3.41×10 ⁻⁵	3.05×10 ⁻⁵	0.000337	5.95×10 ⁻⁵	0
<i>g__Thiomonas</i>	1.41E-05	0	0	0	0	0	1.52×10 ⁻⁵	0	0	0
<i>g__norank_f__Moraxellaceae</i>	0.000382	0.000313	0.000432	0.010292	0.000303	0.000119	0.000107	0.000776	0	0.000314
<i>g__norank_f__W27</i>	0	0.000194	4.47×10 ⁻⁵	0	0	0	0	0	0	0
Others	0.253219	0.261684	0.288827	0.26307	0.241234	0.221586	0.233343	0.27811	0.327742	0.284614