

Table S6. List of unique genera in unused or in used RMS.

Unused	# OTU	Phylum	Genus
	36	Proteobacteria	Citrobacter
	144	Proteobacteria	Duganella
	973	Firmicutes	Megasphaera
	1477	Actinobacteria	Thermomonospora
	1609	Actinobacteria	Thermasporomyces
	1791	Firmicutes	Trichococcus
	1972	Proteobacteria	Sorangium
	2624	Firmicutes	Leuconostoc
	2994	Proteobacteria	Sutterella
	3476	Bacteroidetes	Macellibacteroides
	3597	Proteobacteria	Desulfovibrionaceae_unclassified
	3778	Proteobacteria	Marinicella_unclassified
	3918	Firmicutes	Sharpea
	4142	Firmicutes	Faecalibacterium
	4277	Bacteroidetes	Geofilum
	4721	Firmicutes	Acidaminococcus
	4943	Actinobacteria	Atopobium
	5061	Firmicutes	Caldanaerovirga
	5558	Actinobacteria	Denitrobacterium
	5583	Firmicutes	Allisonella
	6352	Spirochaetes	Spirochaetaceae_unclassified
	6836	Actinobacteria	Asaccharobacter
	6876	Firmicutes	Butyrivibrio
	6889	Firmicutes	Schwartzia
	7938	Firmicutes	Anaerosphaera
	7947	Firmicutes	Eubacterium
	8212	Firmicutes	Anaerofilum
	8748	Firmicutes	Hespellia
	8858	Firmicutes	Clostridiales_Incertae_Sedis_III_unclassified
	8965	Firmicutes	Peptococcus
	12152	Spirochaetes	Sphaerochaeta
	13187	Firmicutes	Desulfonispota
	29926	Proteobacteria	Pseudomonadales_unclassified
	36110	Firmicutes	Tepidibacillus
Used	65	Proteobacteria	Polaromonas
	80	Proteobacteria	Salmonella
	236	Cloacimonetes	Candidatus_Cloacamonas_unclassified
	454	Bacteroidetes	Spirosoma
	641	Proteobacteria	Alishewanella
	792	Firmicutes	Chryseomicrobium
	1081	Actinobacteria	Patulibacter
	1219	Proteobacteria	Acetobacter
	1221	Firmicutes	Planomicrobium
	1474	Proteobacteria	Pseudoalteromonas
	1500	Actinobacteria	Nakamurella
	1590	Proteobacteria	Methylobacterium

1774	Actinobacteria	Marmoricola
2010	Firmicutes	Maccrococcus
2235	Firmicutes	Anaerostipes
2246	Proteobacteria	Caulobacter
2260	Thaumarchaeota	Nitrososphaera_unclassified
2417	Actinobacteria	Actinomycetaceae_unclassified
2419	Acidobacteria	Acidobacteria_unclassified
2459	Bacteroidetes	Terrimonas
2584	Firmicutes	Peptoniphilaceae_unclassified
2701	Proteobacteria	Bradyrhizobium
2797	Proteobacteria	Rhodobacter
3053	Proteobacteria	Thiopfundum
3081	Proteobacteria	Nitratreductor
3241	Proteobacteria	Vitreoscilla
3516	Actinobacteria	Arcanobacterium
3557	Proteobacteria	Kaistia
3584	Proteobacteria	Thioalkalispiraceae_unclassified
3594	Proteobacteria	Methylophilaceae_unclassified
4345	Firmicutes	Pelotomaculum
4409	Firmicutes	Fusibacter
4489	Proteobacteria	Desulfomicrobium
4789	Proteobacteria	Reyranella_unclassified
4965	Bacteroidetes	Chitinophaga
5194	Actinobacteria	Myceligenans
5213	Firmicutes	Acetobacterium
5248	Bacteroidetes	Ferruginibacter
5461	Actinobacteria	Agrococcus
5770	Bacteroidetes	Balneola
5871	Actinobacteria	Jiangella
5890	candidate_division_WPS-1	Candidate_division_WPS-1_unclassified
6006	Proteobacteria	Desulfobulbus
6047	Actinobacteria	Actinomadura
6373	Firmicutes	Succinispira
6730	Proteobacteria	Vasilyevaea
6771	Bacteroidetes	Echinicola
6986	Firmicutes	Tumebacillus
7144	Chlamydiae	Parachlamydiaceae_unclassified
7158	Chloroflexi	Ornatilinea
7392	Proteobacteria	Methylobacter
7395	Proteobacteria	Dokdonella
7849	Proteobacteria	Aquicella
7959	Proteobacteria	Rhodoplanes
8235	Verrucomicrobia	Opitutaceae_unclassified
8324	Acidobacteria	Gp3_unclassified
8375	Proteobacteria	Solimonas
8835	Proteobacteria	Bauldia
8854	Proteobacteria	Methylococcaceae_unclassified
8975	Proteobacteria	Nitrosospira

9302	Bacteroidetes	Bizionia
9326	Firmicutes	Alkalibacter
9887	Proteobacteria	Pseudolabrys
10340	Planctomycetes	Singulisphaera
10716	Planctomycetes	Rubinisphaera
11078	Parcubacteria	Parcubacteria_unclassified
12615	Planctomycetes	Phycisphaera
12715	Planctomycetes	Planctomycetes_unclassified
13398	Proteobacteria	Azospirillum
13682	Proteobacteria	Haliea
14256	Proteobacteria	Fontimonas
14680	Proteobacteria	Simplicispira
16508	Chloroflexi	Nitrolancea
16517	Actinobacteria	Verrucosispora
18053	Firmicutes	Anaerosporobacter
18428	Actinobacteria	Demequinaceae_unclassified
19616	Actinobacteria	Promicromonosporaceae_unclassified
21631	Proteobacteria	Croceicoccus
23969	Actinobacteria	Dermabacteraceae_unclassified
30575	Chlamydiae	Chlamydiales_unclassified
34586	Bacteroidetes	Salinirepens
