

**Table S5.** List of unique genera in unused or in used straw.

Unused	# OTU	Phylum	Genus
	194	Proteobacteria	Chelativorans
	197	Firmicutes	Thermobacillus
	591	Firmicutes	Rummeliibacillus
	2401	Actinobacteria	Aciditerrimonas
	4625	Proteobacteria	Orientia
	4789	Proteobacteria	Reyranella_unclassified
	4915	Bacteroidetes	Chryseolinea_unclassified
	5535	Bacteroidetes	Rubrivirga
	5666	Proteobacteria	Alsobacter
	5788	Proteobacteria	Noviherbaspirillum
	6432	Actinobacteria	Dactylosporangium
	6522	Actinobacteria	Oryzihumus
	6649	Bacteroidetes	Parasegetibacter
	8012	Proteobacteria	Myxococcaceae_unclassified
	8318	Bacteroidetes	Larkinella
	9421	Proteobacteria	Beijerinckia
	10968	Actinobacteria	Jatrophihabitans
	11344	Bacteroidetes	Sediminibacterium
	12210	Chloroflexi	Herpetosiphon
	13548	Actinobacteria	Kineosporiaceae_unclassified
	14239	Proteobacteria	Rubellimicrobium
	15290	Acidobacteria	Gp1_unclassified
	16489	Acidobacteria	Acidobacteria_Gp3_unclassified
	19300	Chloroflexi	Ktedonobacter
	19735	Planctomycetes	Gemmata
Used	70	Proteobacteria	Escherichia/Shigella
	244	Proteobacteria	Idiomarina
	301	Proteobacteria	Rheinheimera
	382	Verrucomicrobia	Verrucomicrobiales_unclassified
	422	Proteobacteria	Alteromonadales_incertae_sedi_unclassified
	555	Actinobacteria	Cellulomonas
	607	Actinobacteria	Jonesia
	616	Proteobacteria	Variovorax
	634	Proteobacteria	Yersinia
	636	Proteobacteria	Neisseriaceae_unclassified
	637	Firmicutes	Tepidimicrobium
	641	Proteobacteria	Alishewanella
	695	Proteobacteria	Ignatzschineria
	715	Planctomycetes	Rhodopirellula
	722	Proteobacteria	Sphingorhabdus
	727	Planctomycetes	Planctomicrobium
	731	Firmicutes	Clostridium_III
	738	Proteobacteria	Marinobacter
	792	Firmicutes	Chryseomicrobium
	815	Actinobacteria	Piscicoccus
	877	Firmicutes	Ornithinibacillus

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950	Proteobacteria	Bradymonas
966	Bacteroidetes	Cryomorpha
973	Firmicutes	Megasphaera
994	Actinobacteria	Demequina
1004	Proteobacteria	Nannocystaceae_unclassified
1015	Actinobacteria	Gulosibacter
1020	Actinobacteria	Gordonia
1024	Bacteroidetes	Brumimicrobium
1095	Proteobacteria	Bordetella
1127	Proteobacteria	Moraxellaceae_unclassified
1174	Firmicutes	Peptostreptococcus
1208	Verrucomicrobia	Puniceicoccaceae_unclassified
1219	Proteobacteria	Acetobacter
1235	Bacteroidetes	Proteiniphilum
1259	Firmicutes	Sedimentibacter
1281	Actinobacteria	Ornithinococcus
1311	Bacteroidetes	Flavobacteriales_unclassified
1358	Actinobacteria	Georgenia
1390	Firmicutes	Acidaminococcaceae_unclassified
1397	Actinobacteria	Glycomyces
1401	Proteobacteria	Oceanospirillaceae_unclassified
1427	Proteobacteria	Lysobacter
1432	Actinobacteria	Corynebacteriaceae_unclassified
1435	Proteobacteria	Pseudohongiella
1505	Proteobacteria	Aeromonas
1538	Proteobacteria	Maricurvus
1561	Firmicutes	Holdemania
1576	Proteobacteria	Steroidobacter
1615	Fusobacteria	Fusobacterium
1623	Proteobacteria	Vibrio
1637	Proteobacteria	Proteus
1682	Firmicutes	Fastidiosipila
1686	Proteobacteria	Thauera
1688	Proteobacteria	Campylobacter
1729	Proteobacteria	Castellaniella
1754	Proteobacteria	Alteromonadaceae_unclassified
1756	Actinobacteria	Actinomyces
1791	Firmicutes	Trichococcus
1851	Proteobacteria	Alcaligenes
1867	Proteobacteria	Nitrincola
1907	SR1	SR1_unclassified
1924	Bacteroidetes	Bergeyella
2000	Firmicutes	Vagococcus
2010	Firmicutes	Macroccoccus
2039	Synergistetes	Synergistaceae_unclassified
2159	Firmicutes	Ercella
2161	Fibrobacteres	Fibrobacter
2173	Bacteroidetes	Dysgonomonas
2205	Firmicutes	Gallicola

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2207	Bacteroidetes	Gelidibacter
2282	Firmicutes	Tetragenococcus
2305	Planctomycetes	Blastopirellula
2310	Proteobacteria	Constrictibacter
2325	Euryarchaeota	Methanosarcina
2403	Firmicutes	Halolactibacillus
2417	Actinobacteria	Actinomycetaceae_unclassified
2421	Proteobacteria	Lampropedia
2463	Proteobacteria	Kerstersia
2534	Firmicutes	Lactobacillaceae_unclassified
2547	Actinobacteria	Bifidobacteriaceae_unclassified
2557	Firmicutes	Helcococcus
2584	Firmicutes	Peptoniphilaceae_unclassified
2608	Euryarchaeota	Methanocorpusculum
2623	Firmicutes	Dialister
2631	Proteobacteria	Uruburuella
2633	Bacteroidetes	Odoribacter
2706	Firmicutes	Saccharofermentans
2759	Firmicutes	Thermoactinomycetaceae_1_unclassified
2775	Proteobacteria	Oceanospirillales_unclassified
2797	Proteobacteria	Rhodobacter
2802	Actinobacteria	Stackebrandtia
2825	Firmicutes	Acetoanaerobium
2958	Proteobacteria	Desulfovibrio
2983	Actinobacteria	Bogoriellaceae_unclassified
2994	Proteobacteria	Sutterella
2996	Bacteroidetes	Arenibacter
3035	Firmicutes	Guggenheimella
3048	Bacteroidetes	Galbibacter
3081	Proteobacteria	Nitratireductor
3090	Firmicutes	Peptoniphilus
3118	Proteobacteria	Nitrosomonas
3151	Proteobacteria	Aeromonadaceae_unclassified
3241	Proteobacteria	Vitreoscilla
3262	Proteobacteria	Asticcacaulis
3319	Proteobacteria	Sandaracinobacter
3350	Bacteroidetes	Anaerocella
3476	Bacteroidetes	Macellibacteroides
3478	Proteobacteria	Halobacteriovorax
3487	Firmicutes	Butyricicoccus
3497	Bacteroidetes	Mariniflexile
3503	Firmicutes	Eubacteriaceae-Unclassified
3516	Actinobacteria	Arcanobacterium
3528	Firmicutes	Selenomonas
3676	Proteobacteria	Morganella
3905	Firmicutes	Alkalibaculum
3918	Firmicutes	Sharpea
3938	Proteobacteria	Brucellaceae_unclassified
4088	Bacteroidetes	Arcticibacter

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4095	Proteobacteria	Shewanella
4109	Firmicutes	Proteocatella
4131	Bacteroidetes	Prolixibacteraceae_unclassified
4136	Firmicutes	Acetitomaculum
4287	Proteobacteria	Paenochrobactrum
4294	Firmicutes	Eremococcus
4315	Proteobacteria	Herbaspirillum
4322	Actinobacteria	Parvibacter
4375	Actinobacteria	Tetrasphaera
4377	Firmicutes	Nosocomiicoccus
4409	Firmicutes	Fusibacter
4416	Bacteroidetes	Rikenellaceae_unclassified
4474	Proteobacteria	Pseudorhodobacter
4489	Proteobacteria	Desulfomicrobium
4529	Bacteroidetes	Cytophaga
4638	Proteobacteria	Thiopseudomonas
4639	Firmicutes	Ezakiella
4645	Proteobacteria	Pseudochrobactrum
4649	Actinobacteria	Dermatophilaceae_unclassified
4721	Firmicutes	Acidaminococcus
4737	Proteobacteria	Hyphomonas
4786	Proteobacteria	Providencia
4943	Actinobacteria	Atopobium
5049	Actinobacteria	Herbiconiux
5198	Actinobacteria	Alloscardovia
5213	Firmicutes	Acetobacterium
5302	Firmicutes	Syntrophococcus
5408	Firmicutes	Succiniclasticum
5438	Firmicutes	Kandleria
5558	Actinobacteria	Denitrobacterium
5571	Firmicutes	Alkaliphilus
5593	Proteobacteria	Azonexus
5702	Elusimicrobia	Elusimicrobium
5705	Verrucomicrobia	Cerasicoccus
5770	Bacteroidetes	Balneola
6006	Proteobacteria	Desulfobulbus
6110	Proteobacteria	Bacteriovoracaceae_unclassified
6122	Firmicutes	Pseudobutyrvibrio
6240	Actinobacteria	Ilumatobacter
6287	Firmicutes	Howardella
6373	Firmicutes	Succinispira
6469	Proteobacteria	Marinomonas
6474	Actinobacteria	Propionibacteriaceae_unclassified
6480	Actinobacteria	Haloactinobacterium
6524	Chloroflexi	Thermomicrobia_unclassified
6528	Bacteroidetes	Barnesiella
6564	Proteobacteria	Moraxella
6635	Firmicutes	Anaerofustis
6730	Proteobacteria	Vasilyevaea

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6876	Firmicutes	Butyrivibrio
6901	Chloroflexi	Caldilineaceae_unclassified
7086	Euryarchaeota	Methanimicrococcus
7156	Actinobacteria	Geodermatophilaceae_unclassified
7239	Proteobacteria	Pasteurellaceae_unclassified
7397	Proteobacteria	Kingella
7633	Firmicutes	Acetivibrio
7829	Tenericutes	Anaeroplasma
7947	Firmicutes	Eubacterium
8212	Firmicutes	Anaerofilum
8235	Verrucomicrobia	Opitutaceae_unclassified
8281	Euryarchaeota	Methanomassiliicoccus
8422	Firmicutes	Hydrogenoanaerobacterium
8582	Euryarchaeota	Methanosarcinaceae_unclassified
8739	Bacteroidetes	Mucinivorans
8748	Firmicutes	Hespellia
8965	Firmicutes	Peptococcus
9029	Proteobacteria	Aestuariispira
9214	Actinobacteria	Slackia
9235	Actinobacteria	Kribbella
9326	Firmicutes	Alkalibacter
9563	Lentisphaerae	Oligosphaera
9772	Actinobacteria	Tessaracoccus
10137	Proteobacteria	Phyllobacterium
10288	Actinobacteria	Rarobacter
10322	Firmicutes	Anaerotruncus
10716	Planctomycetes	Rubinisphaera
10838	Actinobacteria	Enterorhabdus
10959	Proteobacteria	Halomonadaceae_unclassified
10986	Firmicutes	Clostridiales_Incertae_Sedis_XII_unclassified
10996	Proteobacteria	Neisseria
11078	Parcubacteria	Parcubacteria_unclassified
11511	Proteobacteria	Dechloromonas
11816	Firmicutes	Acetanaerobacterium
11847	Lentisphaerae	Lentisphaerae_unclassified
14894	Actinobacteria	Nitriliruptor
15081	Firmicutes	Marinilactibacillus
16508	Chloroflexi	Nitrolavea
17577	Bacteroidetes	Coproacter
19616	Actinobacteria	Promicromonosporaceae_unclassified
20105	Actinobacteria	Streptomycetaceae_unclassified

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