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 14239 15290 16489		Actinobacteria	Kineosporiaceae_unclassified
		Proteobacteria	Rubellimicrobium
		Acidobacteria	Gp1 unclassified
		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
	1) 2		
	815	Actinobacteria	Piscicoccus

	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	Ornithinicoccus
	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	Macrococcus
	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	Galbibater
3081	Proteobacteria	Nitriatireductor
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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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 Pseudobutyrivibrio 6240 Actinobacteria Bacteriovoracaceae_unclassified 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Propionibacteriaceae_unclassified 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6535 Firmicutes Anaerofustis	4786	Proteobacteria	Providencia
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5302 Firmicutes Syntrophococcus 5408 Firmicutes Succiniclasticum 5438 Firmicutes Kandleria 5558 Actinobacteria Denitrobacterium 5571 Firmicutes Alkaliphilus 5593 Proteobacteria Elusimicrobium 5702 Elusimicrobia Elusimicrobium 5705 Verrucomicrobia Cerasicoccus 5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 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	5198	Actinobacteria	Alloscardovia
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5438FirmicutesKandleria5558ActinobacteriaDenitrobacterium5571FirmicutesAlkaliphilus5593ProteobacteriaAzonexus5702ElusimicrobiaElusimicrobium5705VerrucomicrobiaCerasicoccus5770BacteroidetesBalneola6006ProteobacteriaDesulfobulbus6110ProteobacteriaBacteriovoracaceae_unclassified6122FirmicutesPseudobutyrivibrio6240ActinobacteriaIlumatobacter6287FirmicutesHowardella6373FirmicutesSuccinispira6469ProteobacteriaMarinomonas6474ActinobacteriaPropionibacteriaceae_unclassified6480ActinobacteriaPropionibacteriaceae_unclassified6524ChloroflexiThermomicrobia_unclassified6528BacteroidetesBarnesiella6564ProteobacteriaMoraxella6655FirmicutesAnaerofustis	5302	Firmicutes	Syntrophococcus
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 Pseudobutyrivibrio 6240 Actinobacteria Ilumatobacter 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6535 Firmicutes Anaerofustis	5408	Firmicutes	Succiniclasticum
5571 Firmicutes Alkaliphilus 5593 Proteobacteria Azonexus 5702 Elusimicrobia Elusimicrobium 5705 Verrucomicrobia Cerasicoccus 5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 6240 Actinobacteria Ilumatobacter 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	5438	Firmicutes	Kandleria
5593 Proteobacteria Azonexus 5702 Elusimicrobia Elusimicrobium 5705 Verrucomicrobia Cerasicoccus 5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 6240 Actinobacteria Ilumatobacter 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	5558	Actinobacteria	Denitrobacterium
5702 Elusimicrobia Elusimicrobium 5705 Verrucomicrobia Cerasicoccus 5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 6240 Actinobacteria Ilumatobacter 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Thermomicrobia_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6565 Firmicutes Anaerofustis	5571	Firmicutes	Alkaliphilus
5705 Verrucomicrobia Cerasicoccus 5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 6240 Actinobacteria Ilumatobacter 6287 Firmicutes Howardella 6373 Firmicutes Succinispira 6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Thermomicrobia_unclassified 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	5593	Proteobacteria	Azonexus
5770 Bacteroidetes Balneola 6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 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 65364 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	5702	Elusimicrobia	Elusimicrobium
6006 Proteobacteria Desulfobulbus 6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 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	5705	Verrucomicrobia	Cerasicoccus
6110 Proteobacteria Bacteriovoracaceae_unclassified 6122 Firmicutes Pseudobutyrivibrio 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	5770	Bacteroidetes	Balneola
6122 Firmicutes Pseudobutyrivibrio 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	6006	Proteobacteria	Desulfobulbus
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Firmicutes 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	6122	Firmicutes	Pseudobutyrivibrio
Firmicutes Succinispira Succinispira Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Haloactinobacterium 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6240	Actinobacteria	Ilumatobacter
6469 Proteobacteria Marinomonas 6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Haloactinobacterium 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6287	Firmicutes	Howardella
6474 Actinobacteria Propionibacteriaceae_unclassified 6480 Actinobacteria Haloactinobacterium 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6373	Firmicutes	Succinispira
6480 Actinobacteria Haloactinobacterium 6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6469	Proteobacteria	Marinomonas
6524 Chloroflexi Thermomicrobia_unclassified 6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6474	Actinobacteria	Propionibacteriaceae_unclassified
6528 Bacteroidetes Barnesiella 6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6480	Actinobacteria	Haloactinobacterium
6564 Proteobacteria Moraxella 6635 Firmicutes Anaerofustis	6524	Chloroflexi	Thermomicrobia_unclassified
6635 Firmicutes Anaerofustis	6528	Bacteroidetes	Barnesiella
	6564	Proteobacteria	Moraxella
6730 Proteobacteria Vasilyevaea	6635	Firmicutes	Anaerofustis
	 6730	Proteobacteria	Vasilyevaea

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	Coprobacter
19616	Actinobacteria	Promicromonosporaceae_unclassified
20105	Actinobacteria	Streptomycetaceae_unclassified
