|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Order** | **Family** | **Genus** | **Counter-current TBR (day)** | | | | | **Concurrent TBR (day)** | | | | | | |
| **1** | **10** | **25** | **35** | **45** | **1** | **10** | **15** | **20** | **25** | **35** | **45** |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Syntrophaceticus | 4 | 2 | 2 | 17 | 3 | 0 | 1 | 0 | 3 | 3 | 5 | 5 |
| o\_\_Rhizobiales | f\_\_Xanthobacteraceae | g\_\_Variibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| - | - | - | 9 | 13 | 1 | 2 | 8 | 5 | 9 | 8 | 16 | 6 | 5 | 13 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 17 | 9 | 2 | 4 | 4 | 7 | 5 | 12 | 31 | 49 | 10 | 6 |
| o\_\_Clostridiales | f\_\_Family XIV | g\_\_uncultured | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 2 | 3 | 0 | 1 | 0 | 41 | 45 | 50 | 40 | 11 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 633 | 529 | 258 | 241 | 97 | 625 | 471 | 394 | 493 | 475 | 306 | 211 |
| o\_\_Clostridiales | f\_\_Clostridiales Incertae Sedis | g\_\_Proteiniborus | 16 | 9 | 12 | 7 | 1 | 24 | 54 | 44 | 60 | 39 | 20 | 6 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 2 | 0 | 1 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 5 | 1 | 3 | 3 | 1 | 0 | 0 | 2 | 7 | 7 | 2 | 5 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 2 | 3 | 0 | 0 | 1 | 6 | 5 | 3 | 0 | 1 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 2 | 3 | 13 | 1 | 1 | 0 | 4 | 17 | 28 | 39 | 12 | 24 |
| - | - | - | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Campylobacterales | f\_\_Campylobacteraceae | g\_\_Arcobacter | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_D8A-2 | f\_\_MRE50b23 | g\_\_B55\_F | 294 | 358 | 263 | 394 | 109 | 90 | 334 | 272 | 421 | 405 | 272 | 389 |
| - | - | - | 6 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 7 | 2 | 1 | 2 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_[Eubacterium] nodatum group | 5 | 4 | 0 | 4 | 0 | 4 | 3 | 2 | 3 | 2 | 2 | 4 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 6 | 2 | 0 | 3 | 3 | 5 | 3 | 0 | 1 | 10 | 3 | 4 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 22 | 38 | 8 | 6 | 3 | 33 | 41 | 64 | 44 | 27 | 19 | 31 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 2 | 7 | 10 | 4 | 8 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 656 | 713 | 875 | 1392 | 1024 | 224 | 417 | 411 | 523 | 508 | 347 | 441 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_T78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 2 | 1 | 0 | 0 | 1 | 11 | 4 | 2 | 5 | 3 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 2 | 11 | 8 | 5 | 1 | 20 | 16 | 5 | 1 | 8 | 3 | 26 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 1 | 7 | 0 | 1 | 1 | 9 | 33 | 11 | 18 | 8 | 4 | 9 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_uncultured | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Papillibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 18 | 3 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 4 | 3 | 9 |
| - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| o\_\_Methanomicrobiales | f\_\_Methanomicrobiaceae | g\_\_Methanoculleus | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-005 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Enteractinococcus | 34 | 27 | 13 | 12 | 24 | 33 | 32 | 18 | 14 | 13 | 6 | 12 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Sporotomaculum | 5 | 4 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-012 | 34 | 16 | 0 | 1 | 5 | 25 | 12 | 14 | 10 | 9 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 8 | 8 | 8 | 11 | 4 | 7 | 7 | 9 | 7 | 15 | 7 | 3 |
| o\_\_Fibrobacterales | f\_\_Fibrobacteraceae | g\_\_Fibrobacter | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 1 |
| o\_\_Sphingobacteriales | f\_\_Saprospiraceae | g\_\_CYCU-0281 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Arthrobacter | 10 | 2 | 3 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 2 | 0 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 0 | 6 | 0 | 1 | 1 | 18 | 4 | 1 | 1 | 0 | 1 | 1 |
| o\_\_Micrococcales | f\_\_Bogoriellaceae | g\_\_Georgenia | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Nesterenkonia | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| o\_\_Selenomonadales | f\_\_uncultured | g\_\_ | 5 | 4 | 1 | 1 | 4 | 5 | 6 | 3 | 7 | 3 | 7 | 3 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Proteiniclasticum | 10 | 6 | 1 | 1 | 9 | 13 | 8 | 7 | 5 | 5 | 4 | 7 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 41 | 41 | 16 | 6 | 3 | 55 | 39 | 34 | 26 | 28 | 10 | 8 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 5 | 7 | 9 | 11 | 41 | 0 | 0 | 0 | 1 | 5 | 6 | 10 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 0 | 0 | 3 | 1 | 0 | 19 | 33 | 30 | 59 | 58 | 8 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Subdoligranulum | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 21 | 35 | 40 | 37 | 31 | 2 | 9 | 9 | 17 | 30 | 35 | 32 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 145 | 110 | 16 | 20 | 24 | 43 | 105 | 102 | 85 | 72 | 52 | 71 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Turicibacter | 127 | 101 | 68 | 88 | 82 | 159 | 115 | 84 | 107 | 70 | 64 | 96 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 62 | 39 | 7 | 9 | 10 | 88 | 64 | 49 | 55 | 40 | 17 | 8 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_[Eubacterium] nodatum group | 2 | 1 | 5 | 1 | 5 | 5 | 2 | 2 | 3 | 6 | 2 | 0 |
| o\_\_Halanaerobiales | f\_\_Halanaerobiaceae | g\_\_Halocella | 17 | 10 | 3 | 2 | 1 | 44 | 8 | 5 | 7 | 8 | 4 | 7 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_Rummeliibacillus | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Bacteroidales UCG-001 | g\_\_ | 22 | 20 | 10 | 5 | 65 | 6 | 7 | 35 | 67 | 117 | 18 | 13 |
| o\_\_Flavobacteriales | f\_\_Flavobacteriaceae | g\_\_NS2b marine group | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 2 | 4 | 1 | 4 | 5 | 17 | 13 | 6 | 12 | 4 | 4 | 5 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Sedimentibacter | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Hydrogenoanaerobacterium | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Turicibacter | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 2 | 8 | 4 | 6 | 4 | 3 | 5 | 11 | 8 | 21 | 6 | 2 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Anaerovorax | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Rhizobiales | f\_\_Nordellaceae | g\_\_MNG7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Peptoclostridium | 8 | 6 | 2 | 2 | 7 | 4 | 3 | 3 | 2 | 2 | 1 | 7 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - | - | - | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 4 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| - | - | - | 0 | 0 | 0 | 2 | 3 | 3 | 1 | 1 | 0 | 1 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 5 | 8 | 1 | 2 | 3 | 12 | 6 | 3 | 6 | 4 | 1 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 7 | 3 | 0 | 1 | 0 | 5 | 4 | 3 | 0 | 1 | 1 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 1 | 3 | 0 | 0 | 3 | 5 | 3 | 3 | 4 | 2 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 2 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| o\_\_Selenomonadales | f\_\_uncultured | g\_\_ | 11 | 3 | 8 | 17 | 8 | 30 | 38 | 27 | 29 | 27 | 18 | 23 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 6 | 5 | 6 | 5 | 7 | 23 | 16 | 9 | 14 | 13 | 4 | 5 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Olsenella | 4 | 3 | 1 | 1 | 1 | 2 | 0 | 0 | 2 | 4 | 1 | 1 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 644 | 624 | 79 | 194 | 308 | 339 | 691 | 454 | 672 | 649 | 376 | 397 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_[Eubacterium] nodatum group | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 1 | 4 | 1 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Garciella | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 4 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 |
| o\_\_OCS116 clade | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| - | - | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 2 | 1 | 10 | 12 | 16 | 0 | 0 | 1 | 2 | 3 | 2 | 0 |
| - | - | - | 0 | 3 | 1 | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Actinomycetales | f\_\_Actinomycetaceae | g\_\_Actinomyces | 4 | 6 | 0 | 3 | 2 | 5 | 4 | 2 | 3 | 2 | 1 | 2 |
| o\_\_Thermoplasmatales | f\_\_Thermoplasmatales Incertae Sedis | g\_\_Methanomassiliicoccus | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae |  | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 0 | 1 | 1 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Sedimentibacter | 9 | 19 | 18 | 27 | 105 | 1 | 5 | 9 | 37 | 45 | 32 | 38 |
| o\_\_vadinHA17 | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 0 | 3 | 0 | 1 | 1 | 4 | 3 | 2 | 5 | 2 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_[Eubacterium] hallii group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| - | - | - | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 1 | 3 | 0 | 2 | 0 | 2 | 2 | 2 | 2 | 1 | 2 | 1 |
| o\_\_Spirochaetales | f\_\_Spirochaetaceae | g\_\_Treponema 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 1 |
| - | - | - | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 2 | 5 | 1 | 3 | 0 | 3 | 3 | 0 | 1 | 1 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 1 | 6 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 3 | 6 | 1 | 1 | 1 | 29 | 8 | 8 | 11 | 6 | 0 | 0 |
| o\_\_Xanthomonadales | f\_\_Xanthomonadaceae | g\_\_Ignatzschineria | 35 | 2 | 3 | 4 | 0 | 13 | 13 | 10 | 12 | 4 | 3 | 15 |
| o\_\_Corynebacteriales | f\_\_Nocardiaceae | g\_\_Rhodococcus | 0 | 0 | 4 | 7 | 18 | 0 | 1 | 4 | 2 | 4 | 3 | 4 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_uncultured | 295 | 320 | 162 | 197 | 242 | 534 | 348 | 222 | 238 | 230 | 165 | 121 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Anaerovorax | 3 | 0 | 3 | 1 | 10 | 2 | 3 | 4 | 11 | 5 | 8 | 8 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 5 | 5 | 1 | 4 | 2 | 5 | 3 | 1 | 0 | 3 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 30 | 28 | 13 | 19 | 16 | 40 | 34 | 26 | 32 | 23 | 19 | 19 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae |  | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 5 |
| o\_\_Selenomonadales | f\_\_uncultured | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 4 | 3 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Marinilabiaceae | g\_\_uncultured | 1 | 2 | 1 | 6 | 10 | 0 | 3 | 6 | 28 | 51 | 35 | 18 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 6 | 6 | 4 | 2 | 0 | 1 | 5 | 9 | 20 | 18 | 13 | 2 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 0 | 0 | 3 | 13 | 16 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_uncultured | 3 | 3 | 0 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 4 | 52 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 14 | 5 | 2 | 2 | 2 | 12 | 1 | 7 | 14 | 2 | 2 | 5 |
| o\_\_Actinomycetales | f\_\_Actinomycetaceae | g\_\_Actinomyces | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 3 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 4 | 2 | 2 | 0 | 4 | 0 | 0 | 1 | 1 | 1 | 1 | 2 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Pelotomaculum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 2 | g\_\_Natronincola | 6 | 6 | 16 | 7 | 1 | 15 | 41 | 19 | 25 | 31 | 13 | 64 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Yaniella | 11 | 8 | 1 | 0 | 2 | 4 | 5 | 5 | 5 | 3 | 1 | 2 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Atopostipes | 4 | 12 | 3 | 6 | 4 | 13 | 10 | 7 | 4 | 1 | 4 | 3 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 12 | 5 | 4 | 7 | 3 | 3 | 9 | 8 | 10 | 8 | 4 | 7 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 13 | 14 | 4 | 3 | 3 | 9 | 11 | 13 | 9 | 9 | 7 | 5 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcus 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIV | g\_\_uncultured | 0 | 3 | 8 | 20 | 79 | 0 | 3 | 1 | 8 | 11 | 3 | 35 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 87 | 98 | 24 | 27 | 58 | 75 | 72 | 43 | 55 | 27 | 36 | 27 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_T78 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnoclostridium | 3 | 3 | 2 | 1 | 7 | 5 | 4 | 6 | 4 | 3 | 1 | 3 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Atopostipes | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 2 | 2 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_uncultured | 8 | 2 | 4 | 1 | 3 | 16 | 19 | 30 | 63 | 50 | 12 | 6 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Sporobacter | 2 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 2 | 3 | 3 | 1 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 1 | 3 | 3 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 3 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_uncultured | 1 | 1 | 5 | 4 | 15 | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| o\_\_Burkholderiales | f\_\_Alcaligenaceae | g\_\_Oligella | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_uncultured | 3 | 6 | 5 | 3 | 2 | 5 | 9 | 6 | 6 | 7 | 4 | 8 |
| o\_\_Bacteroidales | f\_\_PL-11B8 wastewater-sludge group | g\_\_ | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Oceanospirillales | f\_\_SAR86 clade | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Marinilabiaceae | g\_\_uncultured | 1 | 2 | 0 | 0 | 1 | 8 | 9 | 9 | 10 | 8 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 9 | 7 | 9 | 7 | 1 | 10 | 1 | 12 | 4 | 10 | 6 | 0 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Virgibacillus | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 16 | 12 | 8 | 7 | 15 | 22 | 17 | 16 | 14 | 10 | 13 | 5 |
| o\_\_Planctomycetales | f\_\_Planctomycetaceae | g\_\_Pir4 lineage | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 1 | 5 | 0 | 0 | 2 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 34 | 25 | 10 | 13 | 6 | 38 | 33 | 27 | 32 | 28 | 21 | 21 |
| o\_\_Halanaerobiales | f\_\_Halanaerobiaceae | g\_\_Halocella | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Bacillales | f\_\_Staphylococcaceae | g\_\_Jeotgalicoccus | 16 | 14 | 12 | 14 | 7 | 36 | 35 | 10 | 11 | 18 | 15 | 12 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Enteractinococcus | 3 | 3 | 1 | 1 | 0 | 4 | 2 | 3 | 1 | 2 | 1 | 1 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 11 | 23 | 13 | 10 | 13 | 6 | 14 | 22 | 30 | 30 | 20 | 4 |
| o\_\_Clostridiales | f\_\_Gracilibacteraceae | g\_\_Gracilibacter | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XVIII | g\_\_Symbiobacterium | 5 | 3 | 2 | 0 | 0 | 3 | 7 | 3 | 3 | 3 | 4 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 1 | 3 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIV | g\_\_uncultured | 40 | 38 | 32 | 44 | 45 | 1 | 19 | 9 | 36 | 22 | 38 | 26 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 15 | 9 | 4 | 7 | 3 | 19 | 15 | 9 | 8 | 10 | 8 | 7 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 22 | 20 | 7 | 10 | 13 | 18 | 9 | 6 | 13 | 17 | 8 | 12 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobrevibacter | 22 | 27 | 15 | 9 | 8 | 23 | 16 | 19 | 20 | 22 | 7 | 8 |
| o\_\_Lactobacillales | f\_\_Lactobacillaceae | g\_\_Lactobacillus | 4 | 1 | 0 | 1 | 5 | 6 | 3 | 3 | 2 | 3 | 0 | 2 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 56 | 75 | 26 | 62 | 40 | 2 | 17 | 25 | 54 | 53 | 37 | 76 |
| o\_\_Actinomycetales | f\_\_Actinomycetaceae | g\_\_Flaviflexus | 19 | 22 | 7 | 2 | 4 | 28 | 11 | 12 | 17 | 13 | 7 | 4 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 7 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 6 | 9 | 4 | 4 |
| o\_\_Pseudomonadales | f\_\_Moraxellaceae | g\_\_Acinetobacter | 2 | 2 | 0 | 4 | 12 | 0 | 1 | 0 | 2 | 3 | 5 | 4 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 20649 | 17562 | 17257 | 25213 | 20251 | 15893 | 25210 | 19836 | 23001 | 21351 | 11469 | 13270 |
| o\_\_Desulfovibrionales | f\_\_Desulfovibrionaceae | g\_\_Desulfovibrio | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| - | - | - | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 17 | 4 | 13 | 52 | 42 | 4 | 14 | 13 | 22 | 44 | 35 | 40 |
| o\_\_SubsectionI | f\_\_FamilyI | g\_\_Prochlorococcus | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - | - | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Methanomicrobiales | f\_\_Methanospirillaceae | g\_\_Methanospirillum | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI |  | 249 | 301 | 435 | 630 | 305 | 331 | 611 | 429 | 616 | 539 | 406 | 680 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 3 | 3 | 0 | 2 | 1 | 4 | 3 | 6 | 8 | 7 | 5 | 5 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 5 | 12 | 7 | 7 | 5 | 19 | 11 | 7 | 14 | 9 | 5 | 5 |
| o\_\_Clostridiales | f\_\_Gracilibacteraceae | g\_\_Lutispora | 17 | 19 | 13 | 17 | 27 | 3 | 22 | 31 | 72 | 96 | 54 | 77 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Turicibacter | 4 | 0 | 4 | 2 | 1 | 1 | 1 | 3 | 4 | 2 | 1 | 5 |
| o\_\_Corynebacteriales | f\_\_Mycobacteriaceae | g\_\_Mycobacterium | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 4 | 6 | 5 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 185 | 120 | 42 | 38 | 10 | 323 | 403 | 272 | 357 | 370 | 191 | 198 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 0 | 0 | 0 | 5 | 0 | 4 | 6 | 3 | 4 | 4 | 2 | 6 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 1 | 0 | 2 | 1 | 0 | 5 | 4 | 8 | 6 | 1 | 8 | 5 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Thermincola | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Family XII | g\_\_Guggenheimella | 24 | 24 | 14 | 17 | 17 | 39 | 24 | 15 | 29 | 25 | 10 | 22 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 1 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 16 | 19 | 2 | 8 | 7 | 19 | 41 | 29 | 26 | 21 | 25 | 21 |
| o\_\_Bacteroidales | f\_\_PL-11B8 wastewater-sludge group | g\_\_ | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 1 | 5 | 0 | 0 | 0 | 2 | 3 | 3 | 1 | 7 | 4 | 11 |
| o\_\_Clostridiales | f\_\_Clostridiales vadinBB60 group | g\_\_ | 6 | 2 | 0 | 0 | 0 | 3 | 2 | 4 | 3 | 4 | 1 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_uncultured | 6 | 12 | 5 | 3 | 4 | 11 | 9 | 3 | 8 | 6 | 4 | 3 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 |
| o\_\_Bacteroidales | f\_\_M2PB4-65 termite group | g\_\_ | 85 | 95 | 31 | 42 | 69 | 90 | 187 | 215 | 241 | 235 | 69 | 69 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 2 | 2 | 0 | 3 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Acetitomaculum | 2 | 6 | 2 | 4 | 1 | 6 | 4 | 3 | 7 | 4 | 3 | 2 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 26 | 23 | 3 | 1 | 0 | 48 | 33 | 28 | 20 | 12 | 6 | 10 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Candidatus Soleaferrea | 3 | 1 | 2 | 0 | 4 | 4 | 6 | 4 | 10 | 5 | 1 | 5 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 0 | 2 |
| o\_\_Actinomycetales | f\_\_Actinomycetaceae |  | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 4 | 1 | 2 | 2 |
| o\_\_Bacteroidales | f\_\_Bacteroidales UCG-001 | g\_\_ | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 6 | 1 | 0 | 1 | 1 | 6 | 24 | 15 | 69 | 34 | 9 | 20 |
| o\_\_Lactobacillales | f\_\_Lactobacillaceae | g\_\_Lactobacillus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| o\_\_Bacteroidales | f\_\_Bacteroidaceae | g\_\_Bacteroides | 0 | 2 | 0 | 1 | 3 | 0 | 0 | 0 | 2 | 16 | 6 | 1 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 10 | 4 | 7 | 8 | 5 | 6 | 17 | 13 | 17 | 18 | 11 | 22 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 5 | 4 | 13 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 0 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Ureibacillus | 2 | 1 | 1 | 1 | 0 | 48 | 28 | 35 | 130 | 127 | 75 | 457 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 4 | 4 | 0 | 3 | 3 | 4 | 2 | 2 | 11 | 8 | 3 | 1 |
| o\_\_Pseudomonadales | f\_\_Moraxellaceae | g\_\_Moraxella | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 97 | 83 | 50 | 41 | 20 | 151 | 170 | 140 | 186 | 137 | 52 | 67 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_Solibacillus | 9 | 58 | 0 | 6 | 6 | 12 | 21 | 6 | 2 | 9 | 12 | 2 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Subgroup 18 | f\_\_ | g\_\_ | 1 | 3 | 1 | 4 | 13 | 0 | 1 | 0 | 5 | 1 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 6 | 17 | 3 | 0 | 2 | 6 | 0 | 4 | 6 | 4 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Syntrophaceticus | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanothermobacter | 1 | 5 | 8 | 11 | 7 | 0 | 1 | 1 | 2 | 2 | 2 | 5 |
| o\_\_Thermoplasmatales | f\_\_Thermoplasmatales Incertae Sedis | g\_\_Candidatus Methanoplasma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Bacillales | f\_\_Paenibacillaceae | g\_\_Paenibacillus | 1 | 2 | 2 | 3 | 2 | 6 | 3 | 4 | 4 | 1 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 3 | 3 | 1 | 1 | 2 | 4 | 5 | 3 | 2 | 3 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 8 | 5 | 0 | 3 | 2 | 2 | 2 | 0 | 2 | 5 | 2 | 4 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 4 | 8 | 2 | 11 | 2 | 12 | 14 | 10 | 18 | 9 | 11 | 15 |
| o\_\_Order II | f\_\_Rhodothermaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 110 | 117 | 48 | 52 | 50 | 28 | 72 | 75 | 88 | 99 | 58 | 61 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 8 | 11 | 5 | 0 | 3 | 3 | 1 | 0 | 1 | 2 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 3 | 4 | 0 | 1 | 2 | 7 | 3 | 4 | 5 | 2 | 3 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Acetitomaculum | 3 | 4 | 1 | 0 | 3 | 4 | 3 | 5 | 6 | 1 | 1 | 2 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_A6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 25 | 30 | 13 | 4 | 2 | 51 | 15 | 22 | 34 | 47 | 10 | 6 |
| o\_\_Clostridiales | f\_\_Family XI |  | 5 | 1 | 25 | 9 | 4 | 8 | 44 | 22 | 38 | 39 | 16 | 6 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 15 | 14 | 7 | 6 | 2 | 13 | 21 | 15 | 44 | 15 | 11 | 12 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Cryptanaerobacter | 2 | 2 | 1 | 2 | 8 | 0 | 0 | 1 | 1 | 1 | 1 | 2 |
| o\_\_Campylobacterales | f\_\_Campylobacteraceae | g\_\_Arcobacter | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 7 | 0 | 6 | 5 | 12 | 55 | 18 | 41 | 48 | 28 | 14 |
| - | - | - | 3 | 3 | 0 | 0 | 0 | 5 | 5 | 1 | 1 | 2 | 0 | 1 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 10 | 5 | 2 | 10 | 4 | 5 | 16 | 12 | 10 | 5 | 7 | 13 |
| o\_\_Clostridiales | f\_\_Clostridiales vadinBB60 group | g\_\_ | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae |  | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_Anaerobaculum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Garciella | 7 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Denitrobacterium | 2 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 2 | 0 | 1 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 167 | 102 | 66 | 179 | 155 | 474 | 468 | 260 | 283 | 205 | 240 | 173 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 106 | 118 | 50 | 68 | 47 | 110 | 91 | 78 | 85 | 78 | 59 | 58 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Ureibacillus | 8 | 2 | 1 | 0 | 0 | 610 | 57 | 11 | 21 | 3 | 1 | 0 |
| o\_\_Bdellovibrionales | f\_\_Bacteriovoracaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_vadinBC27 wastewater-sludge group | 330 | 207 | 38 | 72 | 182 | 22 | 101 | 168 | 344 | 430 | 180 | 87 |
| o\_\_Fermentibacterales | f\_\_Fermentibacteraceae | g\_\_Candidatus Fermentibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 11 | 7 | 3 | 2 | 0 | 23 | 82 | 30 | 32 | 16 | 10 | 17 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Garciella | 15 | 23 | 20 | 6 | 16 | 1 | 2 | 1 | 2 | 2 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Anaerofustis | 0 | 0 | 2 | 1 | 1 | 4 | 3 | 6 | 4 | 5 | 1 | 2 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 2 | 4 | 1 | 0 | 0 | 3 | 3 | 2 | 1 | 0 | 2 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_uncultured | 11 | 4 | 2 | 3 | 2 | 4 | 12 | 7 | 18 | 11 | 4 | 2 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Rhodocyclales | f\_\_Rhodocyclaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 7 | 16 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 11 | 13 | 4 | 8 | 18 | 10 | 11 | 3 | 8 | 11 | 2 | 8 |
| o\_\_Burkholderiales | f\_\_Alcaligenaceae | g\_\_Alcaligenes | 27 | 28 | 0 | 2 | 1 | 73 | 13 | 21 | 10 | 11 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 5 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Rickettsiales | f\_\_SAR116 clade | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 2 | 0 | 0 | 1 | 2 | 7 | 2 | 0 | 3 | 3 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_[Ruminococcus] gauvreauii group | 5 | 4 | 1 | 5 | 1 | 2 | 2 | 3 | 2 | 5 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Dehalobacter | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 3 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 21 | 14 | 6 | 5 | 3 | 16 | 13 | 5 | 8 | 11 | 8 | 6 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 1 | 0 | 2 | 0 | 1 | 7 | 3 | 1 | 7 | 2 | 4 | 5 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Acetitomaculum | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 2 | 3 | 2 | 1 | 0 | 1 | 3 | 1 | 0 | 4 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Peptococcus | 0 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 1 | 0 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_uncultured | 1 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 1 | 0 | 3 | 27 | 0 | 0 | 0 | 2 | 8 | 3 | 2 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Trichococcus | 6 | 5 | 2 | 3 | 2 | 7 | 7 | 4 | 4 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Intestinibacter | 0 | 2 | 1 | 2 | 0 | 0 | 1 | 3 | 1 | 1 | 3 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Blautia | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_D8A-2 | f\_\_MRE50b23 | g\_\_B55\_F | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 2 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 4 | 7 | 8 | 12 | 73 | 2 | 2 | 5 | 8 | 12 | 9 | 5 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae |  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 27 | 22 | 3 | 10 | 19 | 27 | 22 | 16 | 12 | 17 | 12 | 16 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 3 | 3 | 1 | 1 | 2 | 2 | 0 | 1 | 3 | 1 | 1 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_D8A-2 | f\_\_MRE50b23 | g\_\_B55\_F | 7 | 8 | 10 | 10 | 3 | 5 | 9 | 7 | 4 | 9 | 10 | 5 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 2 | 0 | 0 | 0 | 0 | 5 | 2 | 3 | 3 | 0 | 1 | 0 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 2 | 1 | 1 | 1 | 0 | 3 | 4 | 5 | 12 | 4 | 13 | 22 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 0 | 7 | 2 | 2 | 0 | 4 | 4 | 1 | 3 | 4 | 0 | 0 |
| o\_\_Rhizobiales | f\_\_Brucellaceae | g\_\_Pseudochrobactrum | 10 | 7 | 2 | 1 | 2 | 4 | 6 | 5 | 2 | 1 | 4 | 2 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 24 | 7 | 0 | 1 | 0 | 442 | 44 | 10 | 1 | 3 | 0 | 0 |
| o\_\_Xanthomonadales | f\_\_Xanthomonadaceae | g\_\_Luteimonas | 4 | 2 | 2 | 0 | 5 | 4 | 9 | 9 | 14 | 12 | 3 | 1 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_vadinBC27 wastewater-sludge group | 2 | 3 | 0 | 0 | 4 | 1 | 1 | 0 | 3 | 4 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Paucisalibacillus | 3 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 3 | 1 | 1 | 0 |
| o\_\_Fibrobacterales | f\_\_possible family 01 | g\_\_ | 0 | 0 | 0 | 2 | 25 | 0 | 0 | 0 | 27 | 26 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 21 | 9 | 1 | 6 | 3 | 119 | 94 | 64 | 73 | 49 | 30 | 26 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 1 | 1 | 1 | 1 | 3 | 0 | 1 | 0 | 1 | 1 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 5 | 2 | 4 | 3 | 3 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 1 | 0 | 2 | 2 | 1 | 2 | 10 | 4 | 4 | 6 | 4 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Pseudobutyrivibrio | 0 | 3 | 2 | 2 | 5 | 7 | 1 | 3 | 6 | 7 | 2 | 1 |
| o\_\_Thermoanaerobacterales | f\_\_SRB2 | g\_\_1-2B-06 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 3 | 0 | 2 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 4 | 1 | 4 | 1 | 2 | 5 | 4 | 2 | 2 | 3 | 0 | 1 |
| o\_\_Methanomicrobiales | f\_\_Methanomicrobiaceae | g\_\_Methanoculleus | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 4 | g\_\_Clostridium sensu stricto | 2 | 2 | 1 | 0 | 0 | 5 | 8 | 2 | 3 | 1 | 1 | 3 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 15 | 11 | 8 | 7 | 0 | 73 | 76 | 48 | 54 | 58 | 12 | 5 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_uncultured | 0 | 1 | 1 | 0 | 5 | 0 | 2 | 1 | 1 | 2 | 0 | 2 |
| o\_\_Burkholderiales | f\_\_Alcaligenaceae | g\_\_Pusillimonas | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 1 | 6 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_vadinBC27 wastewater-sludge group | 0 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobrevibacter | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Proteiniclasticum | 16 | 16 | 0 | 11 | 0 | 22 | 10 | 8 | 10 | 8 | 10 | 6 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 5 | 4 | 13 | 11 | 5 | 4 | 6 | 11 | 9 | 3 | 7 | 15 |
| o\_\_Verrucomicrobiales | f\_\_Verrucomicrobiaceae | g\_\_Akkermansia | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 1 | 1 | 1 | 1 | 7 | 2 | 0 | 6 | 10 | 12 | 6 | 6 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 8 | 2 | 6 | 7 | 15 | 7 | 0 | 0 | 0 | 1 | 2 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Parvibacter | 4 | 4 | 1 | 1 | 2 | 9 | 3 | 1 | 2 | 5 | 3 | 2 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 4 | 3 | 0 | 0 | 2 | 3 | 2 | 4 | 0 | 1 | 1 | 1 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_Thermovirga | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 0 | 2 | 1 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 18 | 14 | 10 | 19 | 12 | 23 | 23 | 9 | 13 | 21 | 10 | 9 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Aerococcaceae |  | 1 | 0 | 0 | 1 | 2 | 1 | 4 | 3 | 1 | 0 | 1 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 2 | 4 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 5 | 2 | 0 | 2 | 0 | 6 | 2 | 1 | 3 | 3 | 2 | 3 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 161 | 123 | 28 | 69 | 55 | 79 | 155 | 93 | 158 | 173 | 96 | 106 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 60 | 55 | 33 | 27 | 17 | 84 | 178 | 141 | 120 | 83 | 29 | 27 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 8 | 13 | 13 | 6 | 3 | 14 | 22 | 9 | 28 | 37 | 25 | 22 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 3 | 1 | 5 | 1 | 3 | 3 | 5 | 14 | 6 | 2 | 11 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelotrichaceae UCG-004 | 4 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 5 | 10 | 3 | 5 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 2 | g\_\_Alkaliphilus | 5 | 6 | 13 | 1 | 2 | 7 | 41 | 19 | 4 | 3 | 2 | 1 |
| o\_\_Mollicutes RF9 | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 15 | 4 | 5 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_NB1-n | f\_\_RFN82 | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 5 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 2 | 2 | 2 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 2 | 3 | 0 | 0 | 1 | 0 | 2 | 2 | 2 | 4 | 3 | 0 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_vadinBC27 wastewater-sludge group | 0 | 1 | 2 | 2 | 2 | 3 | 9 | 13 | 21 | 22 | 9 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 3 | 2 | 0 | 0 | 2 | 3 | 2 | 1 | 0 | 2 | 6 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 23 | 16 | 3 | 8 | 7 | 11 | 16 | 15 | 22 | 24 | 9 | 18 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_dgA-11 gut group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 1 | 3 | 1 | 0 | 0 | 9 | 1 | 5 | 6 | 7 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_Hydrogenispora | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_[Ruminococcus] gauvreauii group | 7 | 7 | 0 | 0 | 1 | 7 | 6 | 3 | 2 | 2 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Campylobacterales | f\_\_Campylobacteraceae | g\_\_Arcobacter | 2 | 0 | 0 | 4 | 0 | 2 | 5 | 5 | 15 | 19 | 13 | 6 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-005 | 1 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 1 | 1 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_[Ruminococcus] gauvreauii group | 3 | 2 | 0 | 1 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 2 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| o\_\_Methanosarcinales | f\_\_Methanosarcinaceae | g\_\_Methanosarcina | 0 | 3 | 0 | 6 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 103 | 95 | 44 | 46 | 78 | 139 | 96 | 50 | 65 | 48 | 50 | 28 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Anaerovorax | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Gracilibacteraceae | g\_\_Gracilibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 2 | 0 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 4 | 1 | 0 |
| o\_\_Thermotogales | f\_\_Thermotogaceae | g\_\_Defluviitoga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Peptoclostridium | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Romboutsia | 247 | 214 | 110 | 166 | 268 | 258 | 219 | 146 | 156 | 166 | 149 | 190 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae |  | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Ignavibacteriales | f\_\_IheB3-7 | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae |  | 26 | 47 | 11 | 11 | 8 | 26 | 17 | 11 | 17 | 17 | 26 | 16 |
| o\_\_Micrococcales | f\_\_Microbacteriaceae |  | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 10 | 9 | 6 | 7 | 2 | 9 | 10 | 12 | 16 | 24 | 9 | 21 |
| o\_\_Syntrophobacterales | f\_\_Syntrophaceae | g\_\_Smithella | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 32 | 20 | 8 | 12 | 21 | 62 | 38 | 42 | 62 | 44 | 30 | 27 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 6 | 1 | 0 | 4 | 3 | 10 | 8 | 5 | 3 | 3 | 2 | 4 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 3 | 6 | 0 | 4 | 2 | 3 | 5 | 4 | 2 | 5 | 5 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 |
| o\_\_Sphingobacteriales | f\_\_WCHB1-69 | g\_\_G35\_D8 | 1 | 2 | 1 | 32 | 83 | 0 | 0 | 1 | 1 | 3 | 10 | 23 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 8 | 19 | 6 | 6 | 3 | 13 | 8 | 8 | 4 | 11 | 9 | 8 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 90 | 92 | 31 | 26 | 2 | 188 | 107 | 109 | 187 | 197 | 67 | 10 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 143 | 121 | 69 | 91 | 148 | 127 | 141 | 65 | 78 | 92 | 81 | 82 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Intestinibacter | 7 | 8 | 4 | 5 | 8 | 8 | 3 | 6 | 4 | 9 | 3 | 6 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 3 | 2 | 0 | 3 | 1 | 4 | 6 | 1 | 4 | 1 | 5 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_uncultured | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 29 | 40 | 6 | 4 | 0 | 115 | 36 | 29 | 66 | 81 | 16 | 4 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Coprococcus 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_uncultured | 1 | 3 | 2 | 5 | 2 | 7 | 7 | 3 | 3 | 5 | 3 | 2 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitobacterium | 6 | 1 | 5 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Howardella | 1 | 1 | 1 | 1 | 1 | 6 | 5 | 0 | 4 | 1 | 3 | 2 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Desemzia | 24 | 27 | 7 | 9 | 13 | 40 | 21 | 18 | 21 | 18 | 9 | 11 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 1026 | 692 | 2018 | 734 | 26 | 213 | 2911 | 2266 | 3983 | 3469 | 1439 | 1183 |
| o\_\_Subgroup 18 | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 3 | 1 | 1 | 0 | 3 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 3 | 13 | 3 | 6 | 4 | 3 | 3 | 1 | 4 | 3 | 3 | 4 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 170 | 148 | 99 | 85 | 28 | 199 | 248 | 182 | 240 | 227 | 155 | 144 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 3 | 1 | 5 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Flavobacteriales | f\_\_Flavobacteriaceae | g\_\_Flavobacterium | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Intestinibacter | 118 | 93 | 58 | 67 | 77 | 108 | 92 | 54 | 54 | 77 | 45 | 64 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 |
| o\_\_Burkholderiales | f\_\_Comamonadaceae | g\_\_Acidovorax | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 6 | 1 | 6 | 3 | 6 | 8 | 19 | 9 | 22 | 15 | 8 | 6 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 4 | 4 | 2 | 1 | 1 | 5 | 1 | 0 | 3 | 0 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 14 | 7 | 29 | 57 | 25 | 16 | 23 | 29 | 43 | 65 | 50 | 52 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 264 | 100 | 47 | 9 | 14 | 242 | 1521 | 1542 | 2857 | 1965 | 526 | 1090 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanothermobacter | 20 | 32 | 29 | 34 | 32 | 0 | 0 | 1 | 3 | 1 | 12 | 22 |
| o\_\_Spirochaetales | f\_\_Spirochaetaceae | g\_\_Treponema 2 | 10 | 10 | 1 | 1 | 1 | 3 | 6 | 8 | 7 | 2 | 1 | 2 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 30 | 21 | 9 | 20 | 16 | 32 | 21 | 20 | 15 | 16 | 9 | 15 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_uncultured | 1 | 0 | 1 | 1 | 1 | 6 | 2 | 1 | 3 | 5 | 6 | 0 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_uncultured | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 4 | 3 | 4 |
| o\_\_NB1-n | f\_\_RFN82 | g\_\_ | 26 | 26 | 6 | 14 | 9 | 20 | 47 | 23 | 42 | 37 | 29 | 33 |
| o\_\_Methanomicrobiales | f\_\_Methanomicrobiaceae | g\_\_Methanoculleus | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 1 | 1 | 0 |
| o\_\_Bacteroidia Incertae Sedis | f\_\_Draconibacteriaceae | g\_\_KD1-22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Sinibacillus | 2 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 3 | 6 | 0 | 4 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 9 | 13 | 21 | 91 | 36 | 6 | 239 | 230 | 109 | 100 | 109 | 276 |
| o\_\_Rhizobiales | f\_\_Phyllobacteriaceae | g\_\_Aminobacter | 0 | 1 | 0 | 1 | 3 | 1 | 1 | 1 | 0 | 1 | 0 | 3 |
| o\_\_Planctomycetales | f\_\_Planctomycetaceae | g\_\_p-1088-a5 gut group | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Campylobacterales | f\_\_Campylobacteraceae | g\_\_Sulfurospirillum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Peptoclostridium | 206 | 175 | 105 | 124 | 207 | 205 | 170 | 108 | 118 | 126 | 95 | 163 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 1 |
| o\_\_Spirochaetales | f\_\_Spirochaetaceae | g\_\_Treponema 2 | 0 | 0 | 1 | 0 | 20 | 0 | 0 | 1 | 4 | 13 | 5 | 1 |
| o\_\_Micrococcales | f\_\_Microbacteriaceae | g\_\_Leucobacter | 22 | 17 | 9 | 7 | 11 | 12 | 21 | 14 | 14 | 10 | 9 | 12 |
| o\_\_Methanosarcinales | f\_\_Methanosarcinaceae | g\_\_Methanosarcina | 27 | 12 | 0 | 77 | 490 | 0 | 0 | 0 | 0 | 1 | 5 | 7 |
| o\_\_Bacillales | f\_\_Bacillaceae |  | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Desemzia | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 5 | 6 | 1 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 6 | 4 | 2 | 5 | 5 | 5 | 5 | 4 | 4 | 9 | 2 | 4 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Syntrophomonas | 1 | 4 | 11 | 37 | 16 | 0 | 2 | 0 | 7 | 3 | 13 | 22 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 4 | 3 | 5 | 3 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Thermoplasmatales | f\_\_Thermoplasmatales Incertae Sedis | g\_\_Candidatus Methanoplasma | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_ | f\_\_ | g\_\_ | 8 | 5 | 3 | 0 | 4 | 0 | 13 | 18 | 60 | 49 | 13 | 4 |
| o\_\_Micrococcales | f\_\_Dermabacteraceae | g\_\_Brachybacterium | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae |  | 0 | 0 | 0 | 1 | 0 | 2 | 15 | 9 | 0 | 5 | 4 | 10 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 2 | 7 | 2 | 3 | 1 | 5 | 3 | 2 | 3 | 3 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 8 | 4 | 1 | 1 | 1 | 6 | 3 | 2 | 4 | 0 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Peptococcaceae |  | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Atopostipes | 43 | 41 | 13 | 17 | 12 | 52 | 44 | 23 | 29 | 28 | 13 | 10 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 9 | 2 | 5 | 3 | 2 | 11 | 10 | 5 | 8 | 10 | 3 | 1 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_[Eubacterium] hallii group | 1 | 1 | 1 | 0 | 0 | 8 | 5 | 2 | 0 | 2 | 2 | 0 |
| o\_\_Halanaerobiales | f\_\_Halanaerobiaceae | g\_\_Halocella | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcus 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 2 | 7 | 2 | 3 | 3 | 7 | 8 | 7 | 3 | 7 | 8 | 4 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Syntrophaceticus | 2 | 2 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 6 |
| o\_\_Selenomonadales | f\_\_Acidaminococcaceae | g\_\_Phascolarctobacterium | 4 | 15 | 0 | 1 | 0 | 10 | 11 | 4 | 13 | 16 | 2 | 0 |
| o\_\_NB1-n | f\_\_RFN82 | g\_\_ | 0 | 0 | 1 | 3 | 7 | 0 | 0 | 0 | 2 | 2 | 3 | 1 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 3 | 4 | 4 | 3 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_Blvii28 wastewater-sludge group | 43 | 27 | 15 | 2 | 0 | 1 | 5 | 5 | 14 | 6 | 7 | 3 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 5 | 0 | 1 | 5 | 9 | 2 | 4 | 8 | 17 | 14 | 7 | 17 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Slackia | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 3 | 2 | 0 | 0 | 2 | 7 | 1 | 4 | 3 | 3 | 0 | 1 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Micrococcales | f\_\_Microbacteriaceae | g\_\_Pseudoclavibacter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Atopobium | 1 | 5 | 1 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 3 | 1 | 1 | 0 | 6 | 3 | 2 | 1 | 3 | 5 | 6 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 6 | 0 | 0 | 1 | 0 | 1 | 9 | 32 | 51 | 85 | 9 | 3 |
| o\_\_Burkholderiales | f\_\_Alcaligenaceae | g\_\_Advenella | 0 | 0 | 2 | 16 | 2 | 3 | 2 | 7 | 5 | 2 | 4 | 0 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Xanthomonadales | f\_\_Xanthomonadaceae | g\_\_Stenotrophomonas | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 5 | 11 | 6 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 13 | 1 | 0 | 1 | 1 | 86 | 25 | 8 | 3 | 9 | 1 | 0 |
| o\_\_Desulfovibrionales | f\_\_Desulfovibrionaceae | g\_\_Desulfovibrio | 1 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_vadinHA17 | f\_\_SHA-94 | g\_\_SHA-94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 6 | 2 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 1 | 0 | 10 | 6 | 3 | 0 | 2 | 2 | 2 | 0 | 2 | 1 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 14 | 1 | 0 | 4 | 1 | 6 | 1 | 2 | 3 | 4 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 10 | 11 | 0 | 2 | 18 | 13 | 13 | 13 | 13 | 28 | 7 | 3 |
| o\_\_Lactobacillales | f\_\_Streptococcaceae | g\_\_Streptococcus | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 4 | 2 | 3 | 3 | 0 | 7 | 7 | 6 | 8 | 6 | 2 | 0 |
| o\_\_Halanaerobiales | f\_\_Halanaerobiaceae | g\_\_Halocella | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Mollicutes RF9 | f\_\_ | g\_\_ | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 26 | 4 | 3 | 7 | 22 | 2 | 2 | 1 | 1 | 12 | 14 | 29 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 4 | 9 | 5 | 1 | 3 | 8 | 6 | 9 | 4 | 3 | 1 | 6 |
| o\_\_Bacillales | f\_\_Staphylococcaceae | g\_\_Salinicoccus | 9 | 7 | 8 | 9 | 5 | 11 | 11 | 6 | 5 | 6 | 5 | 4 |
| o\_\_Clostridiales | f\_\_Family XII | g\_\_Guggenheimella | 10 | 14 | 7 | 7 | 2 | 11 | 10 | 13 | 9 | 9 | 1 | 3 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 1 | 1 | 2 | 2 | 0 | 0 | 10 | 4 | 14 | 9 | 1 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Sedimentibacter | 5 | 5 | 3 | 3 | 17 | 2 | 8 | 2 | 5 | 7 | 3 | 5 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Peptococcus | 5 | 2 | 5 | 4 | 4 | 5 | 4 | 2 | 5 | 5 | 4 | 0 |
| - | - | - | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 45 | 25 | 16 | 17 | 71 | 48 | 60 | 33 | 24 | 23 | 11 | 15 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 2 | 1 | 10 | 1 | 3 | 3 | 11 | 20 | 31 | 6 | 20 |
| o\_\_Bacteroidales | f\_\_CAP-aah99b04 | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 34 | 38 | 21 | 21 | 22 | 40 | 35 | 21 | 35 | 35 | 16 | 18 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 4 | 1 | 1 |
| o\_\_Bacillales | f\_\_Paenibacillaceae | g\_\_Desulfuribacillus | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 7 | 11 | 14 | 6 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 12 | 2 | 1 | 1 | 0 | 3 | 2 | 4 | 2 | 6 | 3 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| - | - | - | 75 | 68 | 27 | 52 | 56 | 70 | 112 | 161 | 253 | 265 | 68 | 96 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-011 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 3 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| o\_\_ | f\_\_ | g\_\_ | 7 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 3 | 1 | 0 |
| o\_\_Methanosarcinales | f\_\_Methanosarcinaceae | g\_\_Methanosarcina | 0 | 1 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Chthonomonadales | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Paraeggerthella | 6 | 4 | 7 | 7 | 5 | 6 | 7 | 6 | 5 | 7 | 5 | 4 |
| o\_\_Bacteroidia Incertae Sedis | f\_\_Draconibacteriaceae | g\_\_Mariniphaga | 25 | 15 | 5 | 8 | 18 | 0 | 8 | 12 | 23 | 20 | 18 | 11 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_uncultured | 2 | 0 | 0 | 2 | 1 | 1 | 3 | 9 | 8 | 9 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Syntrophomonas | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 40 | 28 | 20 | 5 | 14 | 39 | 10 | 13 | 10 | 11 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Pelotomaculum | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Pelotomaculum | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 8 | 1 | 1 |
| o\_\_Rhodobacterales | f\_\_Rhodobacteraceae | g\_\_Pseudorhodobacter | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 23 | 24 | 50 | 15 | 0 | 7 | 53 | 50 | 97 | 66 | 36 | 28 |
| o\_\_Unknown Order | f\_\_Unknown Family | g\_\_Candidatus Saccharimonas | 2 | 5 | 4 | 2 | 0 | 5 | 8 | 3 | 9 | 4 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Clostridium sensu stricto 1 | 6 | 6 | 7 | 9 | 6 | 15 | 13 | 5 | 8 | 10 | 11 | 11 |
| o\_\_Mollicutes RF9 | f\_\_ | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 7 | 3 | 3 | 2 | 2 | 1 | 11 | 3 | 8 | 7 | 5 | 4 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 3 | 6 | 4 | 0 | 6 | 1 | 4 | 5 | 3 | 3 | 3 | 2 |
| o\_\_Burkholderiales | f\_\_Alcaligenaceae | g\_\_Advenella | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 25 | 30 | 6 | 20 | 26 | 36 | 37 | 39 | 59 | 66 | 53 | 59 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Clostridium sensu stricto 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_vadinBC27 wastewater-sludge group | 15 | 19 | 5 | 4 | 2 | 11 | 2 | 1 | 5 | 13 | 2 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 64 | 129 | 108 | 142 | 78 | 0 | 6 | 7 | 10 | 8 | 20 | 69 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 3 | 2 | 4 | 24 | 8 | 0 | 0 | 0 | 9 | 15 | 15 | 33 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Desulfitibacter | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 2 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_T78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Aerococcaceae |  | 1 | 6 | 2 | 4 | 1 | 5 | 5 | 2 | 3 | 3 | 3 | 1 |
| o\_\_Bacteroidia Incertae Sedis | f\_\_Draconibacteriaceae | g\_\_Mariniphaga | 14 | 17 | 8 | 18 | 51 | 0 | 1 | 8 | 24 | 31 | 30 | 11 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 3 | 1 | 1 | 3 | 0 | 7 | 5 | 2 | 3 | 1 | 0 | 2 |
| o\_\_Halanaerobiales | f\_\_Halanaerobiaceae | g\_\_Halocella | 0 | 1 | 0 | 0 | 1 | 19 | 1 | 1 | 1 | 0 | 0 | 0 |
| o\_\_Corynebacteriales | f\_\_Dietziaceae | g\_\_Dietzia | 16 | 9 | 6 | 5 | 13 | 13 | 11 | 10 | 3 | 3 | 5 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Garciella | 7 | 10 | 4 | 12 | 33 | 0 | 1 | 2 | 7 | 2 | 3 | 4 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 4 | 7 | 8 | 6 | 6 | 13 | 8 | 11 | 15 | 9 | 7 | 7 |
| o\_\_Bacteroidales | f\_\_Marinilabiaceae | g\_\_uncultured | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Alkalibacter | 4 | 2 | 1 | 2 | 1 | 4 | 4 | 1 | 2 | 2 | 3 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Coprococcus 1 | 6 | 4 | 0 | 0 | 2 | 6 | 4 | 2 | 5 | 2 | 5 | 1 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Syntrophomonas | 18 | 12 | 32 | 33 | 10 | 2 | 41 | 32 | 29 | 10 | 33 | 47 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Proteiniclasticum | 3 | 2 | 0 | 2 | 9 | 11 | 21 | 8 | 10 | 7 | 0 | 2 |
| o\_\_Clostridiales | f\_\_Clostridiales vadinBB60 group | g\_\_ | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 14 | 3 | 1 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_Solibacillus | 1 | 4 | 7 | 1 | 27 | 4 | 22 | 18 | 40 | 19 | 134 | 9 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Syntrophaceticus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Oceanobacillus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 31 | 20 | 22 | 22 | 45 | 13 | 28 | 37 | 22 | 23 | 23 | 31 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 28 | 7 | 2 | 1 | 1 | 51 | 44 | 44 | 48 | 27 | 10 | 20 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 10 | 4 | 17 | 12 | 11 | 14 | 9 | 9 | 6 | 16 | 8 | 14 |
| o\_\_Bacteroidales | f\_\_Bacteroidaceae | g\_\_Bacteroides | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| o\_\_Planctomycetales | f\_\_Planctomycetaceae | g\_\_p-1088-a5 gut group | 0 | 13 | 16 | 40 | 104 | 0 | 1 | 0 | 6 | 13 | 15 | 5 |
| o\_\_Lactobacillales | f\_\_Aerococcaceae | g\_\_Facklamia | 43 | 52 | 27 | 30 | 46 | 99 | 76 | 46 | 46 | 40 | 27 | 10 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 8 | 16 | 3 | 3 | 5 | 15 | 24 | 19 | 16 | 9 | 13 | 6 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Acetivibrio | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_SRB2 | g\_\_1-2B-06 | 6 | 8 | 9 | 4 | 0 | 0 | 0 | 3 | 22 | 11 | 8 | 10 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Garciella | 1 | 4 | 2 | 1 | 2 | 4 | 3 | 2 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-001 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 0 | 1 | 4 | 9 | 23 | 0 | 3 | 0 | 0 | 2 | 4 | 4 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 5 | 1 | 2 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 5 | 7 | 1 | 3 | 2 | 0 | 2 | 3 | 1 | 13 | 4 | 2 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Arthrobacter | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 43 | 49 | 12 | 7 | 7 | 31 | 50 | 40 | 46 | 45 | 20 | 30 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanothermobacter | 1618 | 3049 | 7423 | 9019 | 9344 | 14 | 255 | 315 | 552 | 918 | 1995 | 6532 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 33 | 21 | 14 | 17 | 7 | 58 | 73 | 57 | 70 | 63 | 34 | 24 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 8 | 3 | 1 | 0 | 2 | 4 | 1 | 0 | 2 | 2 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 33 | 19 | 8 | 21 | 26 | 34 | 46 | 31 | 75 | 71 | 41 | 47 |
| o\_\_Clostridiales | f\_\_Eubacteriaceae | g\_\_Acetobacterium | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 3 | 2 | 0 | 2 | 12 | 2 | 0 | 1 | 0 | 1 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Family XI |  | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Micrococcales | f\_\_Microbacteriaceae | g\_\_Leucobacter | 0 | 5 | 3 | 0 | 3 | 6 | 4 | 2 | 4 | 0 | 3 | 3 |
| - | - | - | 3 | 3 | 0 | 7 | 5 | 7 | 1 | 9 | 7 | 9 | 6 | 4 |
| o\_\_Rhizobiales | f\_\_Hyphomicrobiaceae | g\_\_Pelagibacterium | 1 | 2 | 1 | 0 | 2 | 2 | 0 | 1 | 2 | 3 | 0 | 3 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 4 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 0 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 50 | 28 | 23 | 39 | 92 | 18 | 150 | 31 | 34 | 72 | 47 | 76 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_Rikenellaceae RC9 gut group | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Roseburia | 1 | 6 | 3 | 2 | 1 | 5 | 1 | 5 | 2 | 1 | 0 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 2 | 1 | 3 | 3 | 13 | 0 | 1 | 2 | 5 | 8 | 2 | 1 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 2 | 0 | 0 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Lacticigenium | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Terrisporobacter | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 11 | 3 | 2 | 3 | 5 | 1 | 4 | 2 | 6 | 5 | 2 | 5 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Syntrophococcus | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| - | - | - | 32 | 35 | 10 | 11 | 2 | 34 | 31 | 20 | 38 | 33 | 22 | 13 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Sporotomaculum | 11 | 6 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 1 | 1 | 4 | 2 | 6 | 1 | 2 | 4 | 4 | 6 | 4 | 3 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 121 | 89 | 51 | 58 | 48 | 105 | 82 | 70 | 90 | 85 | 53 | 42 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Actinomycetales | f\_\_Actinomycetaceae | g\_\_Trueperella | 8 | 10 | 5 | 8 | 6 | 18 | 20 | 12 | 8 | 10 | 4 | 2 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 23 | 25 | 12 | 25 | 39 | 35 | 33 | 15 | 30 | 22 | 18 | 20 |
| o\_\_Hydrogenisporales | f\_\_Hydrogenisporaceae | g\_\_ | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Geobacillus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_Sporotomaculum | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_C178B | f\_\_ | g\_\_ | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_Blvii28 wastewater-sludge group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Oceanospirillales | f\_\_Oceanospirillaceae | g\_\_Marinospirillum | 23 | 6 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII AD3011 group | 13 | 4 | 1 | 3 | 3 | 12 | 8 | 5 | 7 | 6 | 6 | 4 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 1 | 0 | 1 | 1 | 0 | 8 | 3 | 5 | 7 | 4 | 0 | 0 |
| o\_\_Methanosarcinales | f\_\_Methanosaetaceae | g\_\_Methanosaeta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Nitrospirales | f\_\_Nitrospiraceae | g\_\_Nitrospira | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Papillibacter | 0 | 1 | 1 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 32 | 17 | 4 | 5 | 3 | 4 | 8 | 11 | 11 | 19 | 0 | 5 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Solobacterium | 2 | 1 | 2 | 3 | 0 | 1 | 5 | 2 | 3 | 1 | 2 | 2 |
| o\_\_Methanomicrobiales | f\_\_Methanomicrobiaceae | g\_\_Methanoculleus | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 3 | 4 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Family XI |  | 1 | 1 | 2 | 0 | 0 | 8 | 4 | 0 | 2 | 8 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_uncultured | 1 | 2 | 1 | 0 | 1 | 0 | 3 | 0 | 1 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 2 | 7 | 5 | 4 | 9 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| o\_\_Mollicutes RF9 | f\_\_ | g\_\_ | 4 | 2 | 8 | 9 | 20 | 0 | 1 | 3 | 15 | 13 | 13 | 9 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae UCG-002 | 1 | 4 | 3 | 0 | 2 | 1 | 4 | 6 | 3 | 1 | 2 | 1 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 5 | 0 | 1 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 14 | 9 | 7 | 6 | 10 | 11 | 11 | 11 | 19 | 13 | 8 | 10 |
| o\_\_Burkholderiales | f\_\_Comamonadaceae | g\_\_Pelomonas | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 1 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_uncultured | 4 | 6 | 12 | 2 | 3 | 11 | 6 | 7 | 3 | 4 | 2 | 3 |
| o\_\_Unknown Order | f\_\_Caldatribacteriaceae | g\_\_HAW-R60 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Enterorhabdus | 6 | 2 | 0 | 1 | 2 | 3 | 2 | 5 | 1 | 3 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 247 | 294 | 326 | 481 | 368 | 96 | 185 | 151 | 202 | 197 | 141 | 143 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanobacterium | 512 | 468 | 481 | 632 | 469 | 372 | 597 | 498 | 542 | 514 | 267 | 310 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 2 | 1 | 0 | 2 | 0 | 3 | 11 | 3 | 8 | 7 | 3 | 4 |
| - | - | - | 5 | 3 | 1 | 1 | 0 | 8 | 3 | 3 | 4 | 7 | 5 | 2 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Oceanobacillus | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 10 | 3 | 1 | 0 | 4 | 11 | 8 | 3 | 3 | 6 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Hydrogenoanaerobacterium | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 2 | 2 | 5 | 2 | 1 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 47 | 24 | 42 | 53 | 14 | 26 | 64 | 82 | 143 | 138 | 54 | 61 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 5 | 5 | 4 | 0 | 2 | 2 | 4 | 0 | 0 | 0 | 4 | 1 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Atopostipes | 3 | 2 | 2 | 0 | 3 | 4 | 7 | 0 | 1 | 2 | 1 | 3 |
| - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 12 | 6 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 5 | 2 | 1 | 1 | 2 | 2 | 2 | 5 | 0 | 3 | 2 | 0 | 3 |
| o\_\_Unknown Order | f\_\_Caldatribacteriaceae | g\_\_HAW-R60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Clostridium sensu stricto 1 | 32 | 23 | 26 | 26 | 39 | 27 | 33 | 29 | 16 | 19 | 21 | 33 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 3 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Dethiobacter | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Peptococcaceae |  | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 3 | 3 | 2 | 0 | 2 | 1 | 0 | 1 | 3 | 2 | 1 | 3 |
| o\_\_Clostridiales | f\_\_Clostridiales vadinBB60 group | g\_\_ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 1 | 3 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 1 | 3 | 0 | 0 | 0 | 4 | 0 | 1 | 3 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| o\_\_Sphingobacteriales | f\_\_WCHB1-69 | g\_\_G35\_D8 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Clostridiales Incertae Sedis | g\_\_Proteiniborus | 3 | 8 | 44 | 10 | 2 | 0 | 5 | 11 | 33 | 27 | 23 | 39 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Solobacterium | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Rhodobacterales | f\_\_Rhodobacteraceae | g\_\_Rhodobacter | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Desulfovibrionales | f\_\_Desulfovibrionaceae | g\_\_Desulfovibrio | 8 | 5 | 0 | 0 | 1 | 7 | 0 | 0 | 1 | 3 | 3 | 0 |
| o\_\_Rhodobacterales | f\_\_Rhodobacteraceae | g\_\_Paracocccus | 2 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_uncultured | 0 | 3 | 0 | 1 | 4 | 1 | 2 | 0 | 1 | 2 | 3 | 2 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae |  | 4 | 3 | 9 | 13 | 5 | 1 | 2 | 3 | 9 | 12 | 4 | 3 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Romboutsia | 37 | 38 | 23 | 26 | 62 | 42 | 35 | 32 | 21 | 18 | 21 | 27 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 39 | 22 | 44 | 26 | 72 | 23 | 35 | 39 | 63 | 49 | 45 | 68 |
| o\_\_Lactobacillales | f\_\_Carnobacteriaceae | g\_\_Trichococcus | 0 | 2 | 0 | 2 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Micrococcus | 1 | 0 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 0 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_A55\_D21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - | - | - | 0 | 1 | 0 | 2 | 2 | 0 | 2 | 1 | 1 | 5 | 0 | 2 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_uncultured | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Bacillus | 10 | 10 | 3 | 13 | 6 | 8 | 6 | 9 | 13 | 8 | 4 | 2 |
| o\_\_Clostridiales | f\_\_Clostridiales vadinBB60 group | g\_\_ | 2 | 0 | 1 | 6 | 6 | 0 | 1 | 2 | 1 | 2 | 5 | 2 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_NB1-n | f\_\_RFN82 | g\_\_ | 29 | 39 | 4 | 113 | 83 | 1 | 8 | 12 | 12 | 17 | 38 | 106 |
| o\_\_Thermoanaerobacterales | f\_\_SRB2 | g\_\_1-2B-06 | 10 | 7 | 15 | 28 | 9 | 37 | 53 | 32 | 40 | 25 | 17 | 12 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Peptoclostridium | 7 | 6 | 1 | 2 | 7 | 7 | 2 | 2 | 4 | 2 | 4 | 9 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 6 | 3 | 1 | 2 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae |  | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 17 | 25 | 13 | 17 | 6 | 11 | 17 | 8 | 7 | 14 | 24 | 14 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| - | - | - | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| - | - | - | 11 | 5 | 1 | 1 | 2 | 1 | 13 | 5 | 16 | 15 | 1 | 2 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 11 | 11 | 7 | 13 | 11 | 14 | 13 | 10 | 11 | 8 | 5 | 5 |
| o\_\_Erysipelotrichales | f\_\_Erysipelotrichaceae | g\_\_Erysipelothrix | 45 | 28 | 11 | 15 | 9 | 43 | 26 | 28 | 32 | 30 | 16 | 25 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 4 | g\_\_Caminicella | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 2 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 19 | 12 | 9 | 6 | 10 | 2 | 1 | 4 | 2 | 8 | 9 | 7 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tepidimicrobium | 87 | 76 | 61 | 52 | 14 | 62 | 70 | 59 | 88 | 62 | 55 | 40 |
| o\_\_Clostridiales | f\_\_Family XI |  | 6 | 4 | 15 | 8 | 3 | 15 | 39 | 30 | 65 | 99 | 58 | 33 |
| o\_\_Clostridiales | f\_\_Syntrophomonadaceae | g\_\_Syntrophomonas | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| - | - | - | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Petrimonas | 21 | 19 | 14 | 9 | 11 | 11 | 36 | 24 | 52 | 42 | 19 | 6 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Peptostreptococcaceae | g\_\_Intestinibacter | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 1 | 1 | 2 | 3 | 0 |
| o\_\_C178B | f\_\_ | g\_\_ | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Peptococcaceae | g\_\_uncultured | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| - | - | - | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_H1-814 | 1 | 1 | 0 | 4 | 3 | 0 | 4 | 0 | 2 | 8 | 4 | 10 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 5 | 1 | 2 | 3 | 11 | 3 | 2 | 0 | 0 | 4 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 15 | 77 | 47 | 38 | 127 | 4 | 10 | 17 | 27 | 67 | 48 | 44 |
| o\_\_Corynebacteriales | f\_\_Corynebacteriaceae | g\_\_Corynebacterium 1 | 61 | 60 | 31 | 40 | 67 | 72 | 77 | 41 | 44 | 43 | 44 | 25 |
| o\_\_Bacillales | f\_\_Bacillaceae | g\_\_Sinibacillus | 1 | 0 | 0 | 0 | 0 | 5 | 2 | 2 | 2 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 5 | 6 | 0 | 0 | 0 | 8 | 10 | 6 | 13 | 7 | 5 | 3 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 1 | 1 | 1 | 12 | 0 | 0 | 1 | 3 | 1 | 2 | 3 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 2 |  | 0 | 2 | 0 | 0 | 0 | 5 | 6 | 1 | 1 | 0 | 0 | 0 |
| - | - | - | 7 | 3 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 4 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Gracilibacteraceae | g\_\_Lutispora | 0 | 1 | 2 | 0 | 1 | 0 | 3 | 5 | 12 | 10 | 6 | 1 |
| o\_\_Hydrogenisporales | f\_\_MBA03 | g\_\_ | 11 | 4 | 3 | 7 | 8 | 15 | 14 | 17 | 12 | 33 | 17 | 31 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-014 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnoclostridium 5 | 0 | 4 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_Sporosarcina | 3 | 7 | 2 | 8 | 4 | 13 | 8 | 2 | 6 | 3 | 4 | 1 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 1 | g\_\_Clostridium sensu stricto 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| o\_\_Micrococcales | f\_\_Micrococcaceae | g\_\_Kocuria | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| o\_\_Coriobacteriales | f\_\_Coriobacteriaceae | g\_\_Senegalimassilia | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 0 | 1 | 2 | 0 | 0 | 6 | 1 | 1 | 2 | 0 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_uncultured | 19 | 16 | 8 | 13 | 4 | 27 | 23 | 15 | 21 | 24 | 12 | 9 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcus 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 36 | 31 | 10 | 5 | 6 | 28 | 16 | 10 | 18 | 15 | 6 | 5 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 1 | 3 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 2 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Marinilabiaceae | g\_\_Ruminofilibacter | 26 | 14 | 3 | 9 | 74 | 14 | 5 | 17 | 16 | 21 | 7 | 3 |
| o\_\_Haloplasmatales | f\_\_Haloplasmataceae | g\_\_Haloplasma | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 11 | 4 | 10 | 4 | 1 | 6 | 13 | 6 | 27 | 22 | 4 | 4 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Mobilitalea | 4 | 1 | 0 | 0 | 0 | 4 | 2 | 3 | 4 | 3 | 2 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_[Eubacterium] coprostanoligenes group | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Gracilibacteraceae | g\_\_Lutispora | 2 | 1 | 5 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| o\_\_Methanobacteriales | f\_\_Methanobacteriaceae | g\_\_Methanothermobacter | 24 | 75 | 172 | 201 | 214 | 0 | 6 | 3 | 10 | 20 | 47 | 162 |
| o\_\_Thermoanaerobacterales | f\_\_Thermoanaerobacteraceae | g\_\_Gelria | 3 | 1 | 6 | 3 | 25 | 0 | 0 | 1 | 9 | 10 | 7 | 13 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Mogibacterium | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcus 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Porphyromonadaceae | g\_\_Proteiniphilum | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Bacteroidales | f\_\_Bacteroidaceae | g\_\_Bacteroides | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcus 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Thermoanaerobacterales | f\_\_Family III | g\_\_Tepidanaerobacter | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 |
| o\_\_Bacillales | f\_\_Planococcaceae | g\_\_Sporosarcina | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 0 |
| o\_\_vadinHA17 | f\_\_ | g\_\_ | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Fastidiosipila | 5 | 1 | 1 | 1 | 0 | 4 | 1 | 3 | 3 | 4 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Christensenellaceae | g\_\_Christensenellaceae R-7 group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminiclostridium 1 | 2 | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 4 | 6 | 3 | 0 |
| o\_\_Clostridiales | f\_\_Clostridiaceae 2 | g\_\_Natronincola | 0 | 0 | 0 | 2 | 0 | 1 | 2 | 2 | 8 | 15 | 6 | 13 |
| o\_\_Methanomicrobiales | f\_\_Methanocorpusculaceae | g\_\_Methanocorpusculum | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Synergistales | f\_\_Synergistaceae | g\_\_uncultured | 1 | 2 | 0 | 10 | 3 | 0 | 1 | 0 | 1 | 6 | 0 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae UCG-010 | 4 | 2 | 2 | 0 | 3 | 4 | 3 | 5 | 3 | 4 | 5 | 3 |
| o\_\_Clostridiales | f\_\_Ruminococcaceae | g\_\_Ruminococcaceae NK4A214 group | 1 | 5 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Caldicoprobacteraceae | g\_\_Caldicoprobacter | 12 | 25 | 10 | 57 | 70 | 1 | 0 | 8 | 12 | 54 | 52 | 113 |
| o\_\_Anaerolineales | f\_\_Anaerolineaceae | g\_\_RB349 | 1 | 3 | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| o\_\_Clostridiales | f\_\_Family XIII | g\_\_Family XIII UCG-002 | 1 | 2 | 4 | 6 | 0 | 0 | 5 | 0 | 1 | 5 | 0 | 0 |
| o\_\_Clostridiales | f\_\_Family XI | g\_\_Tissierella | 3 | 4 | 3 | 2 | 5 | 1 | 0 | 0 | 2 | 1 | 0 | 1 |
| o\_\_Clostridiales | f\_\_Lachnospiraceae | g\_\_Lachnospiraceae NK3A20 group | 71 | 63 | 35 | 40 | 49 | 63 | 52 | 43 | 54 | 40 | 30 | 33 |
| o\_\_Planctomycetales | f\_\_Planctomycetaceae | g\_\_Pirellula | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| o\_\_Propionibacteriales | f\_\_Nocardioidaceae | g\_\_Marmoricola | 3 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| o\_\_Pseudomonadales | f\_\_Pseudomonadaceae | g\_\_Pseudomonas | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| o\_\_Bacteroidales | f\_\_Rikenellaceae | g\_\_Rikenellaceae RC9 gut group | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| o\_\_Acholeplasmatales | f\_\_Acholeplasmataceae | g\_\_Acholeplasma | 10 | 5 | 1 | 6 | 2 | 13 | 11 | 7 | 23 | 22 | 14 | 11 |
| o\_\_Oceanospirillales | f\_\_Halomonadaceae | g\_\_Halomonas | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 5 | 0 | 0 |