| treatment | Phylum                   | Genus                       | Abundance           |
|-----------|--------------------------|-----------------------------|---------------------|
| MS-0M     | Acidobacteriota          | Other                       | 0.00260511879370807 |
| MS-0M     | Actinobacteriota         | Bifidobacterium_388775      | 8.14908328378457    |
| MS-0M     | Actinobacteriota         | Collinsella                 | 1.94637413269902    |
| MS-0M     | Actinobacteriota         | Other                       | 2.00111466860718    |
| MS-0M     | Bacteroidota             | Other                       | 2.08997757177041    |
| MS-0M     | Bacteroidota             | Phocaeicola_A_858004        | 2.06477597535695    |
| MS-0M     | Bdellovibrionota_E       | Other                       | 0                   |
| MS-0M     | Campylobacterota         | Other                       | 0                   |
| MS-0M     | Chloroflexota            | Other                       | 0.00685546623677544 |
| MS-0M     | Cyanobacteria            | Other                       | 0.130399109536728   |
| MS-0M     | Deferribacterota         | Other                       | 0                   |
| MS-0M     | Deinococcota             | Other                       | 0                   |
| MS-0M     | Desulfobacterota_B       | Other                       | 0                   |
| MS-0M     | Desulfobacterota_D       | Other                       | 0                   |
| MS-0M     | Desulfobacterota_I       | Other                       | 0.0189728867011134  |
| MS-0M     | Elusimicrobiota          | Other                       | 0                   |
| MS-0M     | Eremiobacterota          | Other                       | 0                   |
| MS-0M     | Firmicutes_A             | Agathobacter_164117         | 1.09928021897428    |
| MS-0M     | Firmicutes_A             | Anaerobutyricum             | 1.71687305796543    |
| MS-0M     | Firmicutes_A             | Blautia_A_141780            | 2.72152303292743    |
| MS-0M     | Firmicutes A             | Blautia A 141781            | 5.57899459233106    |
| MS-0M     | Firmicutes_A             | Butyrivibrio_A_180067       | 1.25716472297654    |
| MS-0M     | Firmicutes_A             | CAG-177                     | 1.6068242500798     |
| MS-0M     | Firmicutes_A             | Clostridium_T               | 2.3696390618299     |
| MS-0M     | Firmicutes_A             | Dorea_A                     | 1.67706241228182    |
| MS-0M     | Firmicutes_A             | Faecalibacterium            | 2.82634480284451    |
| MS-0M     | Firmicutes_A             | GCA-900066495               | 4.1655012784952     |
| MS-0M     | Firmicutes_A             | Gemmiger_A_73129            | 4.36066737087473    |
| MS-0M     | Firmicutes_A             | Mediterraneibacter_A_155507 | 1.32891550279857    |
| MS-0M     | Firmicutes_A             | Oliverpabstia               | 1.38151076334734    |
| MS-0M     | Firmicutes_A             | Other                       | 14.1078315874386    |
| MS-0M     | Firmicutes_A             | Ruminococcus_E              | 1.03497761066941    |
| MS-0M     | Firmicutes_A             | Vescimonas                  | 1.90004304923541    |
| MS-0M     | Firmicutes_B_370539      | Other                       | 0.032757823101119   |
| MS-0M     | Firmicutes_B_370541      | Other                       | 0                   |
| MS-0M     | Firmicutes_C             | Other                       | 1.31231480437771    |
| MS-0M     | Firmicutes_D             | Catenibacterium             | 3.97032418528566    |
| MS-0M     | Firmicutes_D             | Holdemanella                | 1.03189264944266    |
| MS-0M     | Firmicutes_D             | Lactobacillus               | 3.06115644180072    |
| MS-0M     | Firmicutes_D             | Other                       | 2.4098635129157     |
| MS-0M     | Firmicutes_D             | Streptococcus               | 9.98781203378469    |
| MS-0M     | Firmicutes_F             | Other                       | 0                   |
| MS-0M     | Firmicutes_G             | Other                       | 0.0051662829406559  |
| MS-0M     | Fusobacteriota           | Other                       | 0.00442087292588498 |
| MS-0M     | Gemmatimonadota          | Other                       | 0                   |
| MS-0M     | Halobacteriota           | Other                       | 0                   |
| MS-0M     | Methanobacteriota_A_1229 | Other                       | 0                   |
| MS-0M     | Methylomirabilota        | Other                       | 0                   |

|           |   | O.I.                   | 0.0040400007007007   |
|-----------|---|------------------------|----------------------|
| MS-0M     | Myxococcota_A_473307                    | Other                  | 0.00124696097307856  |
| MS-0M     | Nitrospirota_A_437815                   | Other                  | 4.150738208790434e-4 |
| MS-0M     | Patescibacteria                         | Other                  | 0.0766899675098027   |
| MS-0M     | Proteobacteria                          | Escherichia_710834     | 6.42507605892048     |
| MS-0M     | Proteobacteria                          | Klebsiella_724518      | 1.20948889801341     |
| MS-0M     | Proteobacteria                          | Other                  | 4.62939494200553     |
| MS-0M     | Spirochaetota                           | Other                  | 0                    |
| MS-0M     | Synergistota                            | Other                  | 0                    |
| MS-0M     | Tectomicrobia                           | Other                  | 0                    |
| MS-0M     | Verrucomicrobiota                       | Other                  | 0.0452583901910613   |
| MS-0M     | NA                                      | Other                  | 0.253409573434457    |
| MS-4M     | Acidobacteriota                         | Other                  | 0                    |
| MS-4M     | Actinobacteriota                        | Bifidobacterium_388775 | 3.27214064299668     |
| MS-4M     | Actinobacteriota                        | Collinsella            | 1.90527153758658     |
| MS-4M     | Actinobacteriota                        | Other                  | 1.05630793525775     |
| MS-4M     | Bacteroidota                            | Bacteroides_H          | 3.88868144495551     |
| MS-4M     | Bacteroidota                            | Other                  | 3.20948297828551     |
| MS-4M     | Bacteroidota                            | Prevotella             | 11.9725433612703     |
| MS-4M     | Bdellovibrionota E                      | Other                  | 0                    |
| MS-4M     | Campylobacterota                        | Other                  | 0                    |
| MS-4M     | Chloroflexota                           | Other                  | 0                    |
| MS-4M     | Cyanobacteria                           | Other                  | 0.249861612061762    |
| MS-4M     | Deferribacterota                        | Other                  | 0                    |
| MS-4M     | Deinococcota                            | Other                  | 0                    |
| MS-4M     | Desulfobacterota_B                      | Other                  | 0                    |
| MS-4M     | Desulfobacterota_D                      | Other                  | 0                    |
| MS-4M     | Desulfobacterota I                      | Other                  | 0.271416455237111    |
| MS-4M     | Elusimicrobiota                         | Other                  | 0                    |
| MS-4M     | Eremiobacterota                         | Other                  | 0                    |
| MS-4M     | Firmicutes_A                            | Agathobacter_164117    | 5.17261451988516     |
| MS-4M     | Firmicutes_A                            | Anaerobutyricum        | 1.49218536504505     |
| MS-4M     | Firmicutes_A                            | Blautia A 141780       | 1.82463558094598     |
| MS-4M     | Firmicutes A                            | Blautia A 141781       | 4.94128923782571     |
| MS-4M     | Firmicutes_A                            | CAG-177                | 1.17606991596175     |
| MS-4M     | Firmicutes A                            | Clostridium_T          | 1.20835397910848     |
| MS-4M     | Firmicutes_A                            | Dorea_A                | 1.90905651489066     |
| MS-4M     | Firmicutes_A                            | Faecalibacterium       | 4.45297233277657     |
| MS-4M     | Firmicutes_A                            | Fusicatenibacter       | 2.8117830123928      |
| MS-4M     | Firmicutes_A                            | GCA-900066495          | 2.46602226967862     |
| MS-4M     | Firmicutes A                            | Gemmiger_A_73129       | 3.16107096237743     |
| MS-4M     | Firmicutes A                            | Limivicinus            | 1.08891426858494     |
| MS-4M     | Firmicutes_A                            | Oliverpabstia          | 1.2046080781685      |
| MS-4M     | Firmicutes A                            | Other                  | 16.3731273886227     |
| MS-4M     | Firmicutes_A                            | Roseburia              | 1.70454482227928     |
| MS-4M     | Firmicutes_A Firmicutes_A               | Ruminococcus_E         | 1.34126580964882     |
| MS-4M     | Firmicutes_A Firmicutes_A               | Vescimonas             | 4.39620917977545     |
| MS-4M     | Firmicutes_A Firmicutes_B_370539        | Other                  | 0.00539930294447015  |
| MS-4M     | Firmicutes_B_370539 Firmicutes_B_370541 | Other                  | 0.00559950294447015  |
| MS-4M     | Firmicutes_B_370341 Firmicutes_C        | Dialister              | 1.5625447092378      |
| 1013-4101 | i iiiiiicutes_C                         | Dialistei              | 1.3023447092370      |

| MS-4M | Firmicutes_C             | Other                   | 0.168845386202067     |
|-------|--------------------------|-------------------------|-----------------------|
| MS-4M | Firmicutes_C             | Phascolarctobacterium_A | 2.49377551372505      |
| MS-4M | Firmicutes D             | Catenibacterium         | 1.39413298168406      |
| MS-4M | Firmicutes D             | Other                   | 2.82037407374922      |
| MS-4M | Firmicutes D             | Streptococcus           | 3.05247523160037      |
| MS-4M | Firmicutes_F             | Other                   | 0.03247320100007      |
| MS-4M | Firmicutes G             | Other                   | 0.0119149444927173    |
| MS-4M | Fusobacteriota           | Other                   | 0.00197608931923723   |
| MS-4M | Gemmatimonadota          | Other                   | 0.00137000301320720   |
| MS-4M | Halobacteriota           | Other                   | 0.0049718299312273    |
| MS-4M | Methanobacteriota A 1229 | Other                   | 0.0043710233312273    |
| MS-4M | Methylomirabilota        | Other                   | 0                     |
| MS-4M | Myxococcota_A_473307     | Other                   | 0                     |
| MS-4M | Nitrospirota_A_437815    | Other                   | 0                     |
| MS-4M | Patescibacteria          | Other                   | 0.12289684232516      |
| MS-4M | Proteobacteria           | Escherichia_710834      | 2.96094885147149      |
| MS-4M | Proteobacteria           | Klebsiella_724518       | 1.05774082600784      |
| MS-4M | Proteobacteria           | Other                   | 1.32226616820333      |
| MS-4M | Spirochaetota            | Other                   | 1.32220010020333      |
| MS-4M | Synergistota             | Other                   | 0                     |
| MS-4M | Tectomicrobia            | Other                   | 0                     |
| MS-4M | Verrucomicrobiota        | Other                   | 0.124070479598804     |
| MS-4M | NA                       | Other                   | 0.345237563887978     |
|       |                          | Other                   | 6.088576612559516e-4  |
| HM-0M | Actinobacteriota         |                         |                       |
| HM-0M | Actinobacteriota         | Bifidobacterium_388775  | 1.00544853753521      |
| HM-0M | Actinobacteriota         | Corynebacterium         | 2.1583633666922       |
| HM-0M | Actinobacteriota         | Cutibacterium           | 2.81031198544752      |
| HM-0M | Actinobacteriota         | Other                   | 1.32712708355365      |
| HM-0M | Bacteroidota             | Other                   | 0.574363553160349     |
| HM-0M | Bdellovibrionota_E       | Other                   | 0.04.00007007700000   |
| HM-0M | Campylobacterota         | Other                   | 0.0126387337739962    |
| HM-0M | Chloroflexota            | Other                   | 0.00122531271379903   |
| HM-0M | Cyanobacteria            | Other                   | 0.564206150140916     |
| HM-0M | Deferribacterota         | Other                   | 0                     |
| HM-0M | Deinococcota             | Other                   | 1.9971943413892165e-4 |
| HM-0M | Desulfobacterota_B       | Other                   | 0                     |
| HM-0M | Desulfobacterota_D       | Other                   | 0                     |
| HM-0M | Desulfobacterota_I       | Other                   | 0.00303512588516377   |
| HM-0M | Elusimicrobiota          | Other                   | 0                     |
| HM-0M | Eremiobacterota          | Other                   | 0                     |
| HM-0M | Firmicutes_A             | Other                   | 3.76040312785483      |
| HM-0M | Firmicutes_B_370539      | Other                   | 0                     |
| HM-0M | Firmicutes_B_370541      | Other                   | 0                     |
| HM-0M | Firmicutes_C             | Other                   | 0.287400942990189     |
| HM-0M | Firmicutes_D             | Lactobacillus           | 2.4485806881328       |
| HM-0M | Firmicutes_D             | Other                   | 2.03730327568161      |
| HM-0M | Firmicutes_D             | Staphylococcus          | 10.2924280295833      |
| HM-0M | Firmicutes_D             | Streptococcus           | 24.1502227373898      |
| HM-0M | Firmicutes_F             | Other                   | 6.63851934464537e-4   |
|       |                          |                         |                       |

| HM-0M | Firmicutes_G                         | Other                  | 3.537106010604244e-4 |
|-------|--------------------------------------|------------------------|----------------------|
| HM-0M | Fusobacteriota                       | Other                  | 0.0192786393607106   |
| HM-0M | Gemmatimonadota                      | Other                  | 0.0192700393007100   |
| HM-0M | Halobacteriota                       | Other                  | 0.00629025091384051  |
| HM-0M | Methanobacteriota A 1229             | Other                  | 0.00029023091304031  |
| HM-0M | Methylomirabilota  Methylomirabilota | Other                  | 0                    |
| HM-0M | Myxococcota_A_473307                 | Other                  | 0                    |
| HM-0M | Nitrospirota_A_437815                | Other                  | 0.00205361220261975  |
| HM-0M | Patescibacteria                      | GWA2-37-10             | 31.703658537094      |
| HM-0M | Patescibacteria                      | Other                  | 0.011515350473218    |
|       |                                      |                        |                      |
| HM-0M | Proteobacteria<br>Proteobacteria     | Acinetobacter          | 6.24143764648799     |
| HM-0M | Proteobacteria                       | Other                  | 6.0545032566603      |
| HM-0M | Proteobacteria                       | Sphingomonas_L_486704  | 4.04770356401061     |
| HM-0M | Spirochaetota                        | Other                  | 3.961321655357094e-4 |
| HM-0M | Synergistota                         | Other                  | 0                    |
| HM-0M | Tectomicrobia                        | Other                  | 0                    |
| HM-0M | Verrucomicrobiota                    | Other                  | 0.0108429149295874   |
| HM-0M | NA                                   | Other                  | 0.467435305535382    |
| HM-4M | Acidobacteriota                      | Other                  | 0.00536181616963427  |
| HM-4M | Actinobacteriota                     | Bifidobacterium_388775 | 1.80487423473709     |
| HM-4M | Actinobacteriota                     | Corynebacterium        | 1.32409894169512     |
| HM-4M | Actinobacteriota                     | Cutibacterium          | 4.95738003790117     |
| HM-4M | Actinobacteriota                     | Micrococcus            | 1.12675822525553     |
| HM-4M | Actinobacteriota                     | Other                  | 3.45494623067019     |
| HM-4M | Bacteroidota                         | Other                  | 1.40555939247493     |
| HM-4M | Bdellovibrionota_E                   | Other                  | 0.0125109043958133   |
| HM-4M | Campylobacterota                     | Other                  | 0.0846473735628509   |
| HM-4M | Chloroflexota                        | Other                  | 0.0200359296111166   |
| HM-4M | Cyanobacteria                        | Other                  | 0.444282235654593    |
| HM-4M | Deferribacterota                     | Other                  | 0.00204292874264546  |
| HM-4M | Deinococcota                         | Other                  | 0.00198161065313887  |
| HM-4M | Desulfobacterota_B                   | Other                  | 0                    |
| HM-4M | Desulfobacterota D                   | Other                  | 0                    |
| HM-4M | Desulfobacterota_I                   | Other                  | 0.0146313542330561   |
| HM-4M | Elusimicrobiota                      | Other                  | 0                    |
| HM-4M | Eremiobacterota                      | Other                  | 0                    |
| HM-4M | Firmicutes_A                         | Other                  | 6.32878066146543     |
| HM-4M | Firmicutes B 370539                  | Other                  | 0                    |
| HM-4M | Firmicutes B 370541                  | Other                  | 0                    |
| HM-4M | Firmicutes_C                         | Other                  | 0.885844249229135    |
| HM-4M | Firmicutes_D                         | Lactobacillus          | 6.43769126579266     |
| HM-4M | Firmicutes_D                         | Lactococcus A 346120   | 1.50707170288281     |
| HM-4M | Firmicutes_D                         | Other                  | 0.989870962608763    |
| HM-4M | Firmicutes D                         | Staphylococcus         | 13.1181441240211     |
| HM-4M | Firmicutes_D Firmicutes D            | Streptococcus          | 15.4251886094007     |
| HM-4M | Firmicutes_D Firmicutes_F            | Other                  | 15.4251660094007     |
| HM-4M | <del>_</del>                         | Other                  | 0.00272390499019394  |
|       | Firmicutes_G Fusobacteriota          |                        |                      |
| HM-4M |                                      | Other                  | 0.0694886607873766   |
| HM-4M | Gemmatimonadota                      | Other                  | 9.908053265694355e-4 |

|          |                          | 0.1                     |                      |
|----------|--------------------------|-------------------------|----------------------|
| HM-4M    | Halobacteriota           | Other                   | 0                    |
| HM-4M    | Methanobacteriota_A_1229 | Other                   | 0                    |
| HM-4M    | Methylomirabilota        | Other                   | 0                    |
| HM-4M    | Myxococcota_A_473307     | Other                   | 0.0061582828996096   |
| HM-4M    | Nitrospirota_A_437815    | Other                   | 0.00132107376875925  |
| HM-4M    | Patescibacteria          | GWA2-37-10              | 1.27251791594733     |
| HM-4M    | Patescibacteria          | Other                   | 0.034429346147436    |
| HM-4M    | Proteobacteria           | Acinetobacter           | 15.8807938752121     |
| HM-4M    | Proteobacteria           | Bradyrhizobium          | 3.11713178989505     |
| HM-4M    | Proteobacteria           | Comamonas_F_589250      | 1.0167304225598      |
| HM-4M    | Proteobacteria           | Other                   | 5.15868458593127     |
| HM-4M    | Proteobacteria           | Sphingomonas_L_486704   | 3.88259661426316     |
| HM-4M    | Proteobacteria           | Variovorax              | 9.101099420839       |
| HM-4M    | Spirochaetota            | Other                   | 6.605368843796238e-4 |
| HM-4M    | Synergistota             | Other                   | 0.00629141549146648  |
| HM-4M    | Tectomicrobia            | Other                   | 0                    |
| HM-4M    | Verrucomicrobiota        | Other                   | 0.00819830230374688  |
| HM-4M    | NA                       | Other                   | 1.08848025559526     |
| NS-0M    | Acidobacteriota          | Other                   | 0.00573104240820368  |
| NS-0M    | Actinobacteriota         | Bifidobacterium_388775  | 6.45242302723464     |
| NS-0M    | Actinobacteriota         | Cutibacterium           | 2.01423982785084     |
| NS-0M    | Actinobacteriota         | Microbacterium_A_383184 | 3.60413093805561     |
| NS-0M    | Actinobacteriota         | Other                   | 2.29082604966695     |
| NS-0M    | Bacteroidota             | Other                   | 1.23093086007814     |
| NS-0M    | Bdellovibrionota_E       | Other                   | 0.00655473084567696  |
| NS-0M    | Campylobacterota         | Other                   | 0.0173535723922209   |
| NS-0M    | Chloroflexota            | Other                   | 0.0351947577606601   |
| NS-0M    | Cyanobacteria            | Other                   | 0.198765989001161    |
| NS-0M    | Deferribacterota         | Other                   | 2.024292522415244e-4 |
| NS-0M    | Deinococcota             | Other                   | 0.00361397304647634  |
| NS-0M    | Desulfobacterota_B       | Other                   | 0.00128684486143458  |
| NS-0M    | Desulfobacterota_D       | Other                   | 0                    |
| NS-0M    | Desulfobacterota_I       | Other                   | 0.00668430945290839  |
| NS-0M    | Elusimicrobiota          | Other                   | 0                    |
| NS-0M    | Eremiobacterota          | Other                   | 0                    |
| NS-0M    | Firmicutes_A             | Other                   | 5.5873880752743      |
| NS-0M    | Firmicutes B 370539      | Other                   | 0                    |
| NS-0M    | Firmicutes B 370541      | Other                   | 0                    |
| NS-0M    | Firmicutes_C             | Other                   | 0.170250006637924    |
| NS-0M    | Firmicutes_D             | Enterococcus H 360604   | 6.29619292746882     |
| NS-0M    | Firmicutes D             | Lactobacillus           | 7.94500788946529     |
| NS-0M    | Firmicutes_D             | Other                   | 2.34157036778602     |
| NS-0M    | Firmicutes D             | Staphylococcus          | 11.1519678161645     |
| NS-0M    | Firmicutes_D             | Streptococcus           | 7.99478767460537     |
| NS-0M    | Firmicutes F             | Other                   | 0.00200571916493315  |
| NS-0M    | Firmicutes_G             | Other                   | 0.00200371310433313  |
| NS-0M    | Fusobacteriota           | Other                   | 0.111468037560244    |
| NS-0M    | Gemmatimonadota          | Other                   | 5.795040990256605e-4 |
| NS-0M    | Halobacteriota           | Other                   | 7.950916343108543e-4 |
| INO OIVI | Taiobacteriota           | Other                   | 1.0000100701000406*4 |

| NS-0M                  | Methanobacteriota_A_1229    | Other                       | 0                    |
|------------------------|-----------------------------|-----------------------------|----------------------|
| NS-0M                  | Methylomirabilota           | Other                       | 0                    |
| NS-0M                  | Myxococcota_A_473307        | Other                       | 0.00491385447585495  |
| NS-0M                  | Nitrospirota_A_437815       | Other                       | 3.923853695191121e-4 |
| NS-0M                  | Patescibacteria             | GWA2-37-10                  | 8.07550161314605     |
| NS-0M                  | Patescibacteria             | Other                       | 0.0965085027772112   |
| NS-0M                  | Proteobacteria              | Acinetobacter               | 1.15638660132353     |
| NS-0M                  | Proteobacteria              | Bradyrhizobium              | 3.89005217007624     |
| NS-0M                  | Proteobacteria              | Escherichia_710834          | 3.10278429585466     |
| NS-0M                  | Proteobacteria              | Klebsiella_724518           | 5.79947199528812     |
| NS-0M                  | Proteobacteria              | Other                       | 11.9386966263689     |
| NS-0M                  | Proteobacteria              | Pectobacterium              | 3.15153330375261     |
| NS-0M                  | Proteobacteria              | Sphingomonas_L_486704       | 4.1723837825163      |
| NS-0M                  | Spirochaetota               | Other                       | 0                    |
| NS-0M                  | Synergistota                | Other                       | 0                    |
| NS-0M                  | Tectomicrobia               | Other                       | 0                    |
| NS-0M                  | Verrucomicrobiota           | Other                       | 0.0748217687797618   |
| NS-0M                  | NA                          | Other                       | 1.06484967512569     |
| NS-4M                  | Acidobacteriota             | Other                       | 0                    |
| NS-4M                  | Actinobacteriota            | Bifidobacterium_388775      | 37.6520555402205     |
| NS-4M                  | Actinobacteriota            | Other                       | 1.91983752327171     |
| NS-4M                  | Bacteroidota                | Bacteroides_H               | 4.23831524167114     |
| NS-4M                  | Bacteroidota                | Other                       | 1.03139975581576     |
| NS-4M                  | Bdellovibrionota_E          | Other                       | 0                    |
| NS-4M                  | Campylobacterota            | Other                       | 0.0086400552963539   |
| NS-4M                  | Chloroflexota               | Other                       | 0                    |
| NS-4M                  | Cyanobacteria               | Other                       | 0                    |
| NS-4M                  | Deferribacterota            | Other                       | 0                    |
| NS-4M                  | Deinococcota                | Other                       | 0                    |
| NS-4M                  | Desulfobacterota_B          | Other                       | 0                    |
| NS-4M                  | Desulfobacterota_D          | Other                       | 0                    |
| NS-4M                  | Desulfobacterota_I          | Other                       | 7.200046080294914e-4 |
| NS-4M                  | Elusimicrobiota             | Other                       | 0                    |
| NS-4M                  | Eremiobacterota             | Other                       | 0                    |
| NS-4M                  | Firmicutes A                | Blautia A 141781            | 1.83389486961168     |
| NS-4M                  | Firmicutes_A                | Faecalibacterium            | 4.72650610819519     |
| NS-4M                  | Firmicutes_A                | Mediterraneibacter_A_155507 | 1.2942351539453      |
| NS-4M                  | Firmicutes_A                | Other                       | 7.67469557880901     |
| NS-4M                  | Firmicutes_B_370539         | Other                       | 0                    |
| NS-4M                  | Firmicutes_B_370541         | Other                       | 0                    |
| NS-4M                  | Firmicutes_C                | Other                       | 0.160829009871948    |
| NS-4M                  | Firmicutes_C                | Veillonella_A               | 2.09213530969905     |
| NS-4M                  | Firmicutes_D                | Lacticaseibacillus          | 2.79744814931775     |
| NS-4M                  | Firmicutes_D                | Lactobacillus               | 1.41421822136462     |
|                        | <del>-</del>                | Other                       | 2.16605749735687     |
| NS-4M<br>NS-4M         | Firmicutes_D Firmicutes_D   |                             | 8.53274491695968     |
|                        | <del></del>                 | Streptococcus<br>Other      | _                    |
| NS-4M<br>NS-4M         | Firmicutes_F                | Other                       | 0                    |
| NS-4M                  | Firmicutes_G Fusobacteriota | Other                       | 0.0269062034941547   |
| 1110 <del>-4</del> 111 | i usubacienula              | Oulei                       | 0.0203002034341347   |

Data Availability Statement: Sequencing data reported in this study have been submitted to the National Center for Biotechnology Information BioProject Archive under accession no. PRJNA1086989 and the link is https://www.ncbi.nlm.nih.gov/sra/PRJNA1086989

| NS-4M | Gemmatimonadota          | Other              | 0                    |
|-------|--------------------------|--------------------|----------------------|
| NS-4M | Halobacteriota           | Other              | 5.041567725900046e-4 |
| NS-4M | Methanobacteriota_A_1229 | Other              | 0                    |
| NS-4M | Methylomirabilota        | Other              | 0                    |
| NS-4M | Myxococcota_A_473307     | Other              | 0                    |
| NS-4M | Nitrospirota_A_437815    | Other              | 0                    |
| NS-4M | Patescibacteria          | Other              | 0.155820595240954    |
| NS-4M | Proteobacteria           | Escherichia_710834 | 9.69032727022664     |
| NS-4M | Proteobacteria           | Other              | 11.6254404896353     |
| NS-4M | Spirochaetota            | Other              | 0                    |
| NS-4M | Synergistota             | Other              | 0                    |
| NS-4M | Tectomicrobia            | Other              | 0                    |
| NS-4M | Verrucomicrobiota        | Other              | 0.19704328154744     |
| NS-4M | NA                       | Other              | 0.760225067068322    |