

Table S3. Counts of sequencing reads for each bacterial genus using metagenomic DNA-Seq analysis.

| Days (post treatment)             | Original storage tank (Influent) |            |            |            |           |           |            | Wastewater treatment tank 1 (ozone) |            |            |            |           |            |            | Wastewater treatment tank 2 (UV-LED) |            |            |            |           |           |            |
|-----------------------------------|----------------------------------|------------|------------|------------|-----------|-----------|------------|-------------------------------------|------------|------------|------------|-----------|------------|------------|--------------------------------------|------------|------------|------------|-----------|-----------|------------|
|                                   | 0                                | 1          | 6          | 8          | 15        | 29        |            | 0                                   | 1          | 4          | 6          | 8         | 15         | 29         | 0                                    | 1          | 4          | 6          | 15        | 29        |            |
| Date (yyyy/mm/dd)                 | 2022/11/24                       | 2022/11/25 | 2022/11/28 | 2022/11/30 | 2022/12/2 | 2022/12/6 | 2022/12/23 | 2022/11/24                          | 2022/11/25 | 2022/11/28 | 2022/11/30 | 2022/12/6 | 2022/12/23 | 2022/12/29 | 2022/11/24                           | 2022/11/25 | 2022/11/28 | 2022/11/30 | 2022/12/2 | 2022/12/6 | 2022/12/23 |
| DNA conc. (ng/μL)                 | 0.5                              | 1.1        | 0.7        | 1.2        | 0.6       | 0.7       | 0.8        | 0.5                                 | 0.2        | 0.4        | 0.9        | 0.4       | 0.5        | 0.5        | 1.8                                  | 0.3        | 0.5        | 0.8        | 0.6       | 0.7       | 0.7        |
| Metagenomic DNA-Seq (total reads) | 11,582,404                       | 9,522,760  | 10,939,972 | 14,612,202 | 6,286,906 | 7,894,732 | 9,189,754  | 13,422,972                          | 4,136,692  | 3,915,644  | 8,300,318  | 4,652,896 | 3,947,254  | 5,882,996  | 16,972,690                           | 1,278,874  | 3,510,990  | 8,790,408  | 6,925,536 | 7,833,522 | 6,123,684  |
| Bacteria Genus                    |                                  |            |            |            |           |           |            |                                     |            |            |            |           |            |            |                                      |            |            |            |           |           |            |
| Bacteroides                       | 418,069                          | 288,267    | 460,428    | 533,431    | 424,760   | 428,818   | 556,962    | 37,376                              | 11,135     | 76,931     | 204,954    | 229,242   | 83,556     | 95,982     | 490,243                              | 22,164     | 35,607     | 81,454     | 269,156   | 63,505    | 53,488     |
| Acinetobacter                     | 402,303                          | 127,771    | 555,663    | 323,383    | 350,085   | 431,963   | 517,207    | 136,284                             | 918,836    | 2,235,225  | 862,723    | 13,20,249 | 284,569    | 65,121     | 2,930,279                            | 1,884,410  | 2,608,535  | 2,900,941  |           |           |            |
| Aeromonas                         | 347,328                          | 417,697    | 270,701    | 427,742    | 175,489   | 396,019   | 484,162    | 551,245                             | 195,919    | 85,577     | 167,960    | 117,160   | 149,254    | 160,125    | 631,366                              | 61,380     | 60,847     | 276,029    | 148,292   | 241,283   | 234,509    |
| Citrobacter                       | 334,623                          | 303,349    | 325,132    | 399,641    | 90,547    | 104,981   | 88,235     | 383,410                             | 88,235     | 80,391     | 155,423    | 51,222    | 39,300     | 36,992     | 475,240                              | 29,667     | 51,909     | 193,362    | 69,878    | 85,782    | 51,738     |
| Alcalibacter                      | 224,257                          | 381,832    | 260,762    | 476,473    | 89,814    | 224,000   | 245,364    | 638,387                             | 82,642     | 32,995     | 92,778     | 41,658    | 71,348     | 52,024     | 678,383                              | 31,847     | 50,765     | 76,003     | 57,264    | 140,808   | 127,525    |
| Not assigned                      | 209,613                          | 160,529    | 227,941    | 225,510    | 156,855   | 164,455   | 217,889    | 166,875                             | 45,331     | 46,204     | 104,061    | 76,653    | 36,383     | 44,444     | 188,045                              | 10,281     | 23,838     | 69,025     | 104,583   | 51,318    | 36,304     |
| Phocaeicola                       | 205,684                          | 156,533    | 224,541    | 257,354    | 234,766   | 215,901   | 297,155    | 156,620                             | 99,065     | 17,178     | 106,105    | 132,387   | 42,829     | 53,135     | 213,998                              | 10,260     | 16,205     | 42,243     | 158,988   | 32,467    | 29,648     |
| Prevotella                        | 164,661                          | 161,568    | 244,076    | 308,865    | 154,961   | 152,791   | 250,654    | 148,811                             | 48,703     | 36,843     | 126,635    | 83,719    | 30,544     | 54,167     | 186,182                              | 11,858     | 16,717     | 49,323     | 110,875   | 20,717    | 22,627     |
| Cloacibacterium                   | 136,937                          | 78,892     | 98,847     | 94,062     | 25,041    | 72,138    | 33,497     | 220,494                             | 11,856     | 49,060     | 23,068     | 17,819    | 12,704     | 16,248     | 354,304                              | 3,445      | 16,466     | 81,486     | 12,283    | 102,887   | 14,574     |
| Klebsiella                        | 126,141                          | 101,946    | 104,988    | 127,220    | 68,074    | 142,110   | 113,856    | 155,917                             | 45,414     | 46,530     | 74,542     | 53,162    | 48,395     | 68,069     | 175,540                              | 14,015     | 21,177     | 86,851     | 65,834    | 60,292    | 52,922     |
| Bifidobacterium                   | 112,164                          | 64,348     | 90,466     | 107,397    | 81,753    | 85,530    | 99,887     | 100,314                             | 20,327     | 18,024     | 81,453     | 45,181    | 12,862     | 21,970     | 85,852                               | 4,584      | 6,208      | 26,779     | 69,845    | 8,271     | 10,327     |
| Parabacteroides                   | 109,612                          | 64,618     | 95,039     | 125,679    | 105,407   | 92,030    | 160,502    | 91,052                              | 29,419     | 16,250     | 55,757     | 58,856    | 21,358     | 30,702     | 113,908                              | 5,837      | 6,887      | 22,389     | 73,586    | 19,946    | 13,469     |
| Clostridium                       | 101,932                          | 21,835     | 37,089     | 38,823     | 30,326    | 49,536    | 33,185     | 26,702                              | 4,865      | 31,474     | 25,960     | 17,425    | 5,807      | 13,084     | 32,770                               | 1,450      | 4,516      | 13,565     | 15,592    | 39,130    | 6,579      |
| unclassified Oscillospiraceae     | 97,633                           | 77,992     | 87,458     | 112,226    | 109,794   | 99,571    | 110,453    | 92,550                              | 10,855     | 9,981      | 48,648     | 31,633    | 7,845      | 12,610     | 77,318                               | 1,987      | 3,053      | 13,755     | 44,034    | 4,957     | 5,403      |
| Escherichia                       | 94,341                           | 96,834     | 98,060     | 111,521    | 45,421    | 64,190    | 52,200     | 126,999                             | 41,510     | 27,036     | 51,869     | 38,484    | 16,793     | 18,822     | 197,999                              | 11,878     | 13,185     | 41,254     | 84,988    | 25,043    | 18,803     |
| Faecalibacterium                  | 84,213                           | 81,784     | 97,148     | 125,624    | 118,409   | 99,389    | 140,000    | 90,421                              | 11,159     | 8,025      | 42,325     | 32,734    | 7,703      | 13,741     | 47,259                               | 1,870      | 2,774      | 12,036     | 43,947    | 4,855     | 4,260      |
| Desulfovibrio                     | 93,443                           | 24,627     | 39,719     | 33,677     | 8,456     | 19,850    | 21,280     | 44,075                              | 14,241     | 18,835     | 16,200     | 9,809     | 3,548      | 8,436      | 55,290                               | 2,967      | 9,031      | 10,580     | 11,799    | 11,470    | 8,393      |
| Blautia                           | 82,382                           | 60,020     | 67,863     | 86,935     | 98,914    | 83,170    | 117,591    | 63,607                              | 18,047     | 11,762     | 49,233     | 41,370    | 12,747     | 19,906     | 61,839                               | 3,767      | 5,015      | 19,004     | 58,957    | 7,878     | 8,871      |
| Tolomonas                         | 81,036                           | 79,488     | 65,638     | 79,883     | 13,224    | 12,779    | 13,287     | 150,172                             | 21,537     | 5,923      | 22,512     | 2,735     | 3,805      | 2,253      | 140,097                              | 7,604      | 6,385      | 10,716     | 4,765     | 2,869     | 2,244      |
| Ruminococcus                      | 80,899                           | 47,282     | 62,223     | 82,092     | 74,378    | 65,985    | 76,666     | 74,294                              | 8,509      | 9,029      | 39,839     | 28,069    | 6,998      | 11,762     | 70,878                               | 1,935      | 2,281      | 11,669     | 39,377    | 4,192     | 4,816      |
| Comamonas                         | 69,210                           | 99,964     | 45,058     | 95,641     | 60,260    | 94,453    | 95,114     | 104,352                             | 89,639     | 54,602     | 60,944     | 44,429    | 40,593     | 26,943     | 174,254                              | 13,071     | 83,196     | 93,424     | 59,211    | 134,645   | 45,343     |
| Raoultella                        | 65,091                           | 35,912     | 31,481     | 30,607     | 33,372    | 33,430    | 30,575     | 54,873                              | 25,088     | 33,835     | 42,955     | 32,608    | 12,618     | 13,984     | 70,991                               | 6,461      | 10,379     | 45,987     | 24,387    | 22,376    | 12,398     |
| Eubacterium                       | 60,240                           | 44,841     | 53,286     | 68,382     | 63,599    | 58,711    | 56,061     | 47,287                              | 7,312      | 5,822      | 29,368     | 19,661    | 5,032      | 7,297      | 38,379                               | 1,393      | 2,080      | 8,561      | 23,004    | 3,051     | 2,809      |
| Megamonas                         | 55,886                           | 47,362     | 33,006     | 51,511     | 89,855    | 49,962    | 85,516     | 33,952                              | 14,716     | 6,440      | 49,759     | 62,136    | 14,474     | 22,895     | 37,778                               | 2,880      | 1,993      | 16,156     | 73,043    | 8,512     | 7,808      |
| Sulfosporobium                    | 55,289                           | 24,853     | 61,963     | 65,422     | 4,854     | 10,616    | 16,165     | 158,272                             | 11,082     | 9,086      | 17,425     | 3,948     | 4,077      | 4,198      | 150,482                              | 3,154      | 12,571     | 8,547      | 2,031     | 3,921     | 3,035      |
| Bacterium                         | 54,441                           | 50,800     | 46,912     | 74,738     | 37,347    | 35,225    | 44,438     | 77,720                              | 14,243     | 10,088     | 25,407     | 19,880    | 9,317      | 10,725     | 76,662                               | 4,235      | 6,903      | 24,234     | 26,909    | 17,484    | 9,241      |
| Acrobacter                        | 45,799                           | 85,530     | 61,066     | 98,204     | 9,078     | 35,106    | 68,339     | 148,831                             | 18,631     | 8,255      | 20,337     | 9,810     | 27,742     | 30,036     | 139,249                              | 7,388      | 12,683     | 15,542     | 13,570    | 52,942    | 129,816    |
| Acidovorax                        | 43,108                           | 67,950     | 47,074     | 79,483     | 39,539    | 62,635    | 52,729     | 59,849                              | 36,372     | 21,964     | 45,764     | 30,191    | 28,064     | 18,077     | 97,825                               | 12,936     | 26,430     | 121,453    | 30,540    | 64,619    | 36,714     |
| Pseudomonas                       | 41,825                           | 54,756     | 61,755     | 87,910     | 30,551    | 42,967    | 45,137     | 82,412                              | 219,088    | 140,519    | 326,928    | 222,954   | 121,018    | 71,858     | 126,217                              | 57,541     | 197,177    | 316,106    | 375,557   | 134,149   | 104,462    |
| Streptococcus                     | 38,790                           | 24,866     | 37,891     | 31,945     | 29,395    | 22,213    | 50,100     | 49,038                              | 6,860      | 10,019     | 48,705     | 21,880    | 6,485      | 19,728     | 29,075                               | 1,529      | 3,481      | 12,419     | 29,584    | 3,174     | 7,626      |
| Alkermansia                       | 34,278                           | 16,058     | 45,103     | 40,743     | 26,192    | 39,294    | 28,886     | 20,610                              | 11,528     | 19,093     | 39,159     | 40,879    | 7,043      | 15,668     | 29,618                               | 2,604      | 7,304      | 17,450     | 48,883    | 5,717     | 11,079     |
| Flavonifractor                    | 34,251                           | 22,143     | 24,594     | 29,560     | 24,658    | 26,111    | 32,378     | 16,328                              | 1,712      | 1,237      | 4,417      | 5,439     | 1,350      | 2,066      | 17,040                               | 261        | 433        | 1,524      | 6,540     | 975       | 623        |
| unclassified Lachnospiraceae      | 30,721                           | 23,970     | 33,476     | 35,890     | 35,866    | 27,773    | 35,002     | 23,811                              | 4,441      | 4,052      | 15,509     | 13,499    | 3,005      | 4,959      | 20,393                               | 866        | 1,436      | 4,552      | 16,197    | 1,857     | 1,911      |
| Laribacter                        | 29,989                           | 8,925      | 10,962     | 19,828     | 7,983     | 19,484    | 10,032     | 23,559                              | 4,281      | 10,567     | 9,431      | 5,689     | 4,294      | 5,124      | 33,301                               | 1,435      | 5,706      | 44,898     | 4,875     | 17,208    | 6,080      |
| Atkistipes                        | 29,987                           | 19,203     | 36,198     | 54,295     | 30,774    | 28,143    | 37,714     | 33,435                              | 7,962      | 6,807      | 21,669     | 17,295    | 6,138      | 7,132      | 41,944                               | 1,753      | 3,015      | 7,434      | 18,548    | 4,773     | 4,051      |
| Enterococcus                      | 29,893                           | 18,400     | 19,590     | 23,165     | 27,654    | 21,475    | 27,625     | 25,426                              | 3,099      | 2,433      | 11,370     | 9,424     | 2,582      | 3,721      | 21,655                               | 561        | 781        | 3,401      | 13,821    | 1,684     | 1,440      |
| Phascolarctobacterium             | 29,012                           | 24,267     | 35,754     | 35,701     | 33,459    | 27,931    | 27,295     | 15,575                              | 6,215      | 5,933      | 24,830     | 17,562    | 4,378      | 6,915      | 18,533                               | 1,113      | 1,475      | 8,053      | 21,715    | 2,887     | 3,298      |
| Enterobacter                      | 28,210                           | 21,531     | 26,656     | 26,071     | 13,665    | 21,526    | 27,965     | 31,691                              | 9,380      | 34,915     | 27,633     | 22,546    | 24,133     | 34,402     | 36,713                               | 2,724      | 14,981     | 41,102     | 32,338    | 57,420    | 37,658     |
| Paracoccus                        | 22,505                           | 25,062     | 19,237     | 30,026     | 11,725    | 21,792    | 22,806     | 17,759                              | 10,831     | 11,774     | 20,159     | 9,034     | 5,937      | 7,972      | 27,195                               | 2,655      | 4,443      | 9,205      | 11,175    | 5,135     | 4,575      |
| Enterococcus                      | 22,316                           | 11,948     | 23,169     | 17,970     | 16,930    | 22,798    | 16,912     | 18,122                              | 3,074      | 3,279      | 7,029      | 7,456     | 3,150      | 2,296      | 20,636                               | 724        | 1,417      | 3,097      | 11,199    | 2,588     | 1,273      |
| Megaphthora                       | 21,051                           | 13,003     | 18,557     | 13,315     | 21,312    | 9,542     | 18,511     | 13,069                              | 3,278      | 2,550      | 9,541      | 14,775    | 1,902      | 3,838      | 14,691                               | 573        | 783        | 2,880      | 20,591    | 1,088     | 1,668      |
| Ruthenibacterium                  | 19,004                           | 7,757      | 10,689     | 10,416     | 7,398     | 10,333    | 8,131      | 6,962                               | 928        | 902        | 9,315      | 1,963     | 632        | 956        | 8,646                                | 184        | 299        | 975        | 2,501     | 424       | 409        |
| Collinsella                       | 18,501                           | 13,652     | 16,135     | 21,759     | 17,174    | 13,052    | 17,474     | 17,543                              | 2,358      | 2,612      | 12,604     | 6,998     | 1,498      | 2,932      | 16,396                               | 490        | 816        | 3,481      | 10,365    | 864       | 1,264      |
| Anaerostipes                      | 18,586                           | 15,993     | 20,254     | 15,881     | 20,848    | 19,928    | 26,582     | 11,453                              | 4,089      | 2,795      | 7,895      | 6,133     | 2,853      | 4,754      | 12,206                               | 731        | 907        | 2,823      | 10,484    | 1,644     | 3,333      |
| unclassified Clostridiaceae       | 16,306                           | 11,442     | 12,251     | 14,547     | 14,600    | 12,857    | 13,849     | 11,108                              | 1,935      | 1,569      | 4,116      | 3,877     | 1,094      | 1,588      | 10,209                               | 419        | 693        | 5,482      | 5,310     | 1,377     | 727        |
| Serratia                          | 13,756                           | 16,595     | 8,233      | 18,661     | 2,724     | 5,570     | 5,568      | 28,545                              | 3,951      | 3,023      | 4,349      | 1,750     | 1,983      | 1,768      | 25,594                               | 1,290      |            |            |           |           |            |

|   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mycolcibacterium                        | 1,930 | 1,330 | 1,578 | 1,148 | 716   | 1,201 | 1,050 | 1,530 | 2,540 | 1,608 | 1,715 | 1,247 | 1,021 | 1,024 | 2,075 | 928   | 1,258 | 1,268 | 1,465 | 1,138 | 894   |
| environmental samples <bacteria>superf  | 1,840 | 1,074 | 1,606 | 1,671 | 579   | 1,074 | 1,170 | 1,985 | 356   | 457   | 746   | 355   | 316   | 349   | 2,233 | 120   | 338   | 1,105 | 561   | 1,516 | 628   |
| Enactinapora                            | 1,772 | 551   | 1,232 | 775   | 432   | 1,051 | 834   | 877   | 134   | 367   | 321   | 213   | 113   | 223   | 971   | 35    | 126   | 189   | 175   | 492   | 164   |
| Flitabacter                             | 1,748 | 1,382 | 2,111 | 2,205 | 1,508 | 1,845 | 2,817 | 1,046 | 154   | 159   | 589   | 389   | 171   | 54    | 1,068 | 15    | 54    | 157   | 537   | 78    | 59    |
| Melanimonosa                            | 1,708 | 2,355 | 1,850 | 2,428 | 1,130 | 1,877 | 1,662 | 2,117 | 1,261 | 966   | 1,366 | 991   | 828   | 572   | 3,217 | 466   | 745   | 2,182 | 1,257 | 1,405 | 738   |
| Brevudinonasa                           | 1,692 | 1,837 | 1,816 | 2,166 | 1,008 | 1,397 | 1,629 | 2,202 | 1,662 | 1,824 | 1,330 | 853   | 550   | 629   | 3,487 | 326   | 568   | 692   | 849   | 748   | 446   |
| Candida <clade Candida>Lodderomyce      | 1,657 | 829   | 491   | 689   | 405   | 246   | 320   | 1,158 | 4,200 | 485   | 635   | 925   | 228   | 260   | 1,409 | 2,220 | 231   | 358   | 1,126 | 190   | 164   |
| Lachnodositidium                        | 1,638 | 686   | 2,028 | 2,950 | 1,537 | 856   | 1,238 | 1,481 | 134   | 226   | 1,498 | 585   | 100   | 174   | 1,323 | 13    | 72    | 501   | 726   | 64    | 50    |
| Subdoligranulum                         | 1,612 | 1,160 | 1,750 | 1,903 | 1,333 | 1,241 | 1,538 | 1,684 | 185   | 208   | 862   | 458   | 128   | 197   | 1,606 | 44    | 131   | 252   | 730   | 95    | 102   |
| Intestinimonas                          | 1,612 | 825   | 1,678 | 1,658 | 1,058 | 1,126 | 1,159 | 983   | 109   | 133   | 335   | 260   | 107   | 134   | 975   | 26    | 41    | 102   | 343   | 115   | 51    |
| Haemophilus                             | 1,605 | 746   | 1,078 | 1,239 | 721   | 1,075 | 1,772 | 1,277 | 415   | 288   | 513   | 539   | 414   | 420   | 1,830 | 102   | 98    | 208   | 669   | 287   | 144   |
| Providencia                             | 1,595 | 1,331 | 860   | 2,357 | 417   | 1,490 | 673   | 2,584 | 429   | 187   | 1,194 | 227   | 379   | 172   | 2,764 | 151   | 150   | 662   | 378   | 397   | 197   |
| Anniplia                                | 1,562 | 479   | 1,033 | 894   | 177   | 406   | 400   | 956   | 64    | 175   | 203   | 61    | 39    | 81    | 1,226 | 21    | 83    | 131   | 76    | 183   | 52    |
| Ochrobactrum                            | 1,528 | 1,673 | 1,369 | 1,490 | 967   | 1,293 | 1,145 | 1,491 | 607   | 978   | 1,645 | 1,322 | 855   | 723   | 1,995 | 143   | 310   | 783   | 1,306 | 845   | 623   |
| Lederia                                 | 1,526 | 1,950 | 2,463 | 3,288 | 425   | 586   | 634   | 2,207 | 551   | 576   | 933   | 310   | 219   | 246   | 2,529 | 173   | 405   | 679   | 438   | 469   | 943   |
| Campylobacter                           | 1,515 | 954   | 1,373 | 1,538 | 899   | 868   | 1,428 | 1,435 | 241   | 247   | 729   | 460   | 117   | 268   | 1,446 | 68    | 154   | 236   | 751   | 163   | 181   |
| Limosilactobacillus                     | 1,494 | 1,133 | 1,436 | 1,224 | 1,639 | 1,268 | 1,735 | 1,349 | 351   | 270   | 764   | 834   | 279   | 454   | 1,115 | 47    | 104   | 251   | 765   | 201   | 328   |
| Chlamydia                               | 1,479 | 1,389 | 825   | 1,383 | 333   | 413   | 381   | 2,724 | 364   | 272   | 441   | 154   | 113   | 113   | 2,689 | 130   | 160   | 365   | 181   | 307   | 221   |
| unclassified Erysipelotrichaceae        | 1,429 | 665   | 947   | 1,192 | 1,459 | 1,056 | 1,198 | 1,200 | 118   | 102   | 740   | 590   | 113   | 174   | 1,078 | 27    | 36    | 206   | 776   | 69    | 61    |
| Microbacterium                          | 1,426 | 1,038 | 1,432 | 1,387 | 746   | 1,010 | 1,131 | 1,305 | 1,049 | 1,170 | 1,181 | 838   | 398   | 641   | 1,474 | 393   | 490   | 857   | 1,092 | 2,520 | 518   |
| Microptina                              | 1,425 | 1,166 | 1,660 | 1,187 | 862   | 1,085 | 966   | 1,193 | 1,488 | 1,635 | 1,421 | 1,015 | 777   | 700   | 1,500 | 520   | 1,148 | 979   | 1,148 | 821   | 449   |
| Microrvirgula                           | 1,421 | 1,136 | 1,557 | 3,722 | 820   | 1,258 | 1,042 | 2,466 | 273   | 175   | 793   | 290   | 212   | 163   | 3,145 | 77    | 157   | 610   | 390   | 236   | 242   |
| Desulfobulbus                           | 1,346 | 161   | 187   | 310   | 181   | 475   | 367   | 532   | 245   | 183   | 185   | 140   | 74    | 128   | 461   | 85    | 192   | 303   | 192   | 1,238 | 166   |
| Elizabothkingia                         | 1,333 | 1,417 | 1,735 | 1,826 | 1,172 | 1,342 | 1,140 | 2,205 | 1,214 | 1,245 | 993   | 408   | 333   | 333   | 99    | 199   | 961   | 1,192 | 340   | 1,024 | 193   |
| Christensenella                         | 1,323 | 824   | 1,164 | 1,431 | 1,228 | 938   | 1,268 | 991   | 153   | 130   | 583   | 381   | 96    | 189   | 986   | 41    | 32    | 161   | 511   | 95    | 73    |
| Puallimonas (ex Kikahara et al. 2021)   | 1,322 | 1,049 | 1,794 | 2,371 | 1,326 | 1,397 | 1,830 | 914   | 139   | 115   | 426   | 410   | 118   | 26    | 146   | 24    | 26    | 146   | 421   | 64    | 50    |
| Burkholderia                            | 1,313 | 1,161 | 1,156 | 1,639 | 594   | 1,119 | 973   | 1,959 | 720   | 1,720 | 1,227 | 711   | 606   | 641   | 2,739 | 244   | 856   | 3,556 | 1,044 | 2,753 | 810   |
| Sphingobium                             | 1,304 | 1,504 | 1,371 | 1,669 | 1,461 | 1,144 | 1,121 | 1,725 | 2,593 | 1,410 | 1,560 | 1,670 | 869   | 1,578 | 2,146 | 326   | 2,727 | 1,802 | 1,723 | 816   | 389   |
| unclassified Comamonadaceae             | 1,243 | 1,544 | 1,236 | 1,829 | 927   | 1,497 | 1,254 | 1,549 | 905   | 673   | 970   | 692   | 579   | 497   | 2,050 | 288   | 544   | 2,370 | 942   | 1,393 | 645   |
| Candida                                 | 1,241 | 985   | 470   | 714   | 630   | 620   | 270   | 1,458 | 860   | 343   | 1,014 | 1,562 | 949   | 318   | 1,902 | 260   | 139   | 538   | 1,530 | 772   | 265   |
| Sphingomonas                            | 1,236 | 1,404 | 1,353 | 1,476 | 661   | 943   | 1,069 | 1,582 | 2,002 | 1,364 | 1,425 | 720   | 687   | 646   | 2,140 | 381   | 584   | 635   | 961   | 584   | 404   |
| environmental samples <firmicutes>clasi | 1,217 | 592   | 1,277 | 1,764 | 915   | 733   | 701   | 819   | 128   | 150   | 534   | 320   | 100   | 84    | 1,163 | 29    | 36    | 188   | 360   | 52    | 57    |
| Listeria                                | 1,195 | 409   | 857   | 711   | 183   | 421   | 356   | 799   | 49    | 269   | 148   | 112   | 46    | 111   | 1,143 | 22    | 62    | 120   | 73    | 344   | 44    |
| Butyrvibrio                             | 1,173 | 666   | 1,240 | 975   | 503   | 676   | 1,046 | 1,264 | 296   | 320   | 1,149 | 458   | 222   | 472   | 936   | 69    | 129   | 326   | 676   | 472   | 282   |
| Rhodoflexax                             | 1,060 | 1,255 | 950   | 1,451 | 749   | 1,303 | 975   | 1,168 | 730   | 574   | 931   | 658   | 532   | 439   | 1,890 | 220   | 555   | 2,352 | 809   | 1,486 | 551   |
| Kaistella                               | 1,055 | 936   | 1,160 | 824   | 442   | 894   | 567   | 1,251 | 289   | 518   | 305   | 293   | 201   | 302   | 2,156 | 103   | 151   | 301   | 278   | 373   | 126   |
| Myroides                                | 1,050 | 613   | 852   | 681   | 296   | 550   | 540   | 1,287 | 205   | 355   | 253   | 170   | 118   | 132   | 1,810 | 58    | 150   | 362   | 171   | 491   | 129   |
| Moraxella                               | 1,049 | 597   | 987   | 1,042 | 1,056 | 959   | 1,311 | 898   | 82    | 139   | 471   | 383   | 111   | 178   | 890   | 35    | 31    | 138   | 407   | 45    | 73    |
| Quatrionococcus                         | 1,030 | 927   | 874   | 1,728 | 559   | 1,040 | 782   | 1,401 | 558   | 524   | 1,077 | 698   | 733   | 727   | 2,534 | 244   | 1,054 | 7,344 | 1,185 | 5,009 | 1,313 |
| Gardnerella                             | 1,027 | 980   | 743   | 301   | 974   | 632   | 490   | 581   | 199   | 154   | 127   | 392   | 77    | 106   | 640   | 19    | 53    | 62    | 337   | 31    | 77    |
| Solidusvibrio                           | 1,008 | 293   | 567   | 366   | 175   | 358   | 325   | 486   | 166   | 193   | 418   | 176   | 123   | 209   | 760   | 57    | 122   | 237   | 280   | 525   | 167   |
| Chromobacterium                         | 997   | 1,402 | 1,184 | 2,307 | 624   | 879   | 776   | 1,630 | 432   | 261   | 650   | 284   | 299   | 311   | 2,014 | 131   | 377   | 962   | 387   | 890   | 1,207 |
| Xanthomonas                             | 984   | 902   | 1,009 | 1,214 | 461   | 725   | 678   | 1,338 | 647   | 691   | 712   | 490   | 328   | 353   | 1,956 | 203   | 444   | 1,138 | 671   | 1,023 | 373   |
| Schizella                               | 979   | 743   | 767   | 871   | 593   | 676   | 1,046 | 1,264 | 296   | 320   | 1,149 | 458   | 222   | 472   | 936   | 69    | 129   | 326   | 676   | 472   | 282   |
| Glaeserella                             | 976   | 1,140 | 1,068 | 1,773 | 310   | 446   | 630   | 1,572 | 301   | 255   | 582   | 173   | 177   | 164   | 1,883 | 101   | 152   | 491   | 239   | 350   | 141   |
| unclassified Bacteroidetes              | 969   | 441   | 802   | 731   | 158   | 331   | 395   | 907   | 102   | 148   | 202   | 69    | 56    | 101   | 1,237 | 37    | 77    | 192   | 85    | 188   | 54    |
| Rothia                                  | 966   | 590   | 686   | 678   | 749   | 715   | 964   | 1,251 | 466   | 313   | 1,124 | 754   | 345   | 675   | 873   | 104   | 105   | 465   | 1,108 | 211   | 305   |
| Pulveribacter                           | 957   | 1,431 | 1,100 | 1,493 | 685   | 1,144 | 1,097 | 1,217 | 787   | 534   | 878   | 576   | 450   | 358   | 1,959 | 248   | 451   | 1,260 | 781   | 856   | 379   |
| unclassified Candidatus Melainabacteri  | 897   | 542   | 1,395 | 1,276 | 324   | 455   | 515   | 872   | 299   | 344   | 632   | 233   | 192   | 187   | 1,357 | 102   | 216   | 297   | 361   | 167   | 144   |
| Mesorhizobium                           | 896   | 555   | 701   | 635   | 392   | 557   | 504   | 747   | 480   | 647   | 671   | 428   | 269   | 313   | 990   | 161   | 275   | 358   | 521   | 323   | 187   |
| Actinomyces                             | 892   | 676   | 684   | 726   | 439   | 639   | 825   | 869   | 332   | 302   | 644   | 470   | 199   | 362   | 876   | 87    | 93    | 374   | 541   | 1,156 | 257   |
| Nakamurella                             | 874   | 727   | 871   | 688   | 419   | 497   | 742   | 639   | 1,295 | 1,095 | 1,037 | 548   | 435   | 561   | 1,005 | 401   | 556   | 490   | 798   | 370   | 279   |
| Turicibacter                            | 870   | 448   | 905   | 820   | 561   | 586   | 584   | 621   | 703   | 1,316 | 964   | 511   | 536   | 613   | 196   | 559   | 919   | 978   | 472   | 422   |       |
| Thermomonas                             | 870   | 652   | 907   | 837   | 485   | 622   | 971   | 895   | 494   | 537   | 498   | 395   | 214   | 209   | 1,094 | 277   | 277   | 423   | 575   | 256   | 195   |
| Proteobacter                            | 869   | 93    | 150   | 294   | 28    | 40    | 57    | 251   | 226   | 156   | 220   | 90    | 28    | 65    | 295   | 60    | 155   | 115   | 196   | 51    | 67    |
| Cronobacter                             | 860   | 703   | 914   | 1,161 | 185   | 197   | 1,674 | 1,091 | 194   | 204   | 346   | 141   | 98    | 655   | 1,334 | 81    | 136   | 440   | 151   | 261   | 414   |
| Fluvibacter                             | 851   | 779   | 608   | 991   | 194   | 349   | 337   | 1,591 | 217   | 147   | 206   | 122   | 121   | 83    | 3,817 | 64    | 127   | 544   | 192   | 484   | 133   |
| Dehalococcoides                         | 849   | 198   | 400   | 351   | 82    | 167   | 176   | 412   | 31    | 38    | 96    | 29    | 7     | 28    | 541   | 10    | 30    | 55    | 16    | 15    | 16    |
| Rugosibacter                            | 832   | 333   | 471   | 677   | 284   | 576   | 385   | 832   | 219   | 230   | 314   | 177   | 164   | 212   | 1,123 | 114   | 224   | 1,388 | 219   | 1,823 | 376   |
| Propioniciacia                          | 830   | 1,085 | 1,246 | 842   | 720   | 904   | 844   | 796   | 1,079 | 791   | 754   | 652   | 310   | 401   | 938   | 340   | 366   | 732   | 1,115 | 1,117 | 343   |
| Mycobacterium                           | 814   | 498   | 600   | 494   | 231   | 475   | 357   | 630   | 963   | 607   | 884   | 501   | 409   | 405   | 756   | 411   | 471   | 571   | 629   | 396   | 296   |
| Sodaliaphila                            | 811   | 723   | 1,285 | 717   | 618   | 448   | 659   | 612   | 278   | 204   | 343   | 322   | 63    | 123   | 796   | 46    | 84    | 145   | 374   | 59    | 70    |
| Moraxella                               | 797   | 1,475 | 1,314 | 2,251 | 424   | 834   | 1,216 | 1,447 | 258   | 347   | 258   | 335   | 477   | 2,680 | 172   | 181   | 796   | 641   | 814   | 1,241 |       |
| Bordetella                              | 796   | 680   | 610   | 841   | 359   | 716   | 504   | 969   | 458   | 408   | 576   | 369   | 340   | 311   | 1,315 | 117   | 413   | 1,390 | 536   | 1,069 | 410   |
| Acetobacterium</                        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

|                                  |     |     |     |       |     |     |       |       |     |       |       |       |       |       |       |     |       |        |       |       |       |     |
|----------------------------------|-----|-----|-----|-------|-----|-----|-------|-------|-----|-------|-------|-------|-------|-------|-------|-----|-------|--------|-------|-------|-------|-----|
| Dioscorea                        | 367 | 446 | 352 | 564   | 184 | 337 | 671   | 1,228 | 431 | 1,019 | 895   | 454   | 807   | 896   | 2,113 | 132 | 1,224 | 3,919  | 1,381 | 2,480 | 1,644 |     |
| Gordoniabacter                   | 364 | 286 | 385 | 568   | 330 | 382 | 462   | 478   | 73  | 118   | 742   | 259   | 85    | 138   | 441   | 22  | 58    | 181    | 405   | 49    | 71    |     |
| Massilia                         | 362 | 285 | 307 | 510   | 160 | 303 | 232   | 470   | 196 | 384   | 532   | 373   | 258   | 273   | 783   | 70  | 403   | 1,438  | 463   | 1,055 | 484   |     |
| Plesiomonas                      | 360 | 361 | 226 | 410   | 87  | 108 | 151   | 664   | 118 | 77    | 154   | 48    | 54    | 31    | 618   | 26  | 36    | 95     | 60    | 46    | 188   |     |
| Malacobacter                     | 359 | 480 | 452 | 600   | 77  | 231 | 321   | 1,016 | 114 | 68    | 204   | 52    | 138   | 150   | 919   | 50  | 76    | 82     | 78    | 218   | 569   |     |
| Methanobrevibacter               | 356 | 275 | 454 | 415   | 523 | 284 | 678   | 342   | 60  | 58    | 154   | 102   | 41    | 56    | 385   | 17  | 23    | 66     | 96    | 38    | 55    |     |
| Zoogloea                         | 349 | 449 | 489 | 1,122 | 417 | 431 | 411   | 581   | 307 | 764   | 1,834 | 1,039 | 1,244 | 1,250 | 1,936 | 151 | 3,080 | 10,641 | 2,823 | 8,460 | 2,082 |     |
| Photobacterium                   | 342 | 342 | 170 | 352   | 48  | 59  | 87    | 602   | 100 | 21    | 102   | 17    | 35    | 16    | 596   | 45  | 28    | 47     | 22    | 21    | 27    |     |
| Oryzomicrobium                   | 340 | 440 | 302 | 640   | 182 | 358 | 301   | 463   | 235 | 292   | 637   | 320   | 355   | 321   | 791   | 71  | 604   | 2,551  | 612   | 1,912 | 626   |     |
| Weissella                        | 339 | 333 | 623 | 208   | 304 | 463 | 259   | 489   | 92  | 84    | 445   | 301   | 184   | 83    | 237   | 30  | 30    | 116    | 327   | 87    | 13    |     |
| Hyphomicrobium                   | 339 | 128 | 151 | 156   | 76  | 95  | 96    | 182   | 210 | 196   | 185   | 135   | 42    | 84    | 220   | 100 | 82    | 120    | 180   | 58    | 70    |     |
| unclassified Enterobacteriaceae  | 337 | 330 | 278 | 432   | 127 | 205 | 246   | 437   | 142 | 386   | 426   | 166   | 185   | 185   | 335   | 533 | 33    | 73     | 209   | 212   | 231   | 323 |
| Corynebacterium                  | 336 | 255 | 299 | 512   | 203 | 305 | 351   | 377   | 142 | 131   | 219   | 218   | 123   | 195   | 842   | 59  | 75    | 238    | 220   | 1,677 | 275   |     |
| Barnesiella                      | 334 | 189 | 432 | 505   | 313 | 321 | 376   | 352   | 92  | 76    | 177   | 210   | 49    | 68    | 493   | 17  | 32    | 71     | 233   | 172   | 47    |     |
| Noctuidioides                    | 325 | 285 | 308 | 260   | 144 | 239 | 204   | 296   | 220 | 226   | 198   | 160   | 91    | 130   | 383   | 75  | 98    | 178    | 211   | 266   | 74    |     |
| Schlegella                       | 324 | 287 | 334 | 357   | 189 | 270 | 209   | 320   | 272 | 226   | 292   | 199   | 179   | 148   | 579   | 73  | 205   | 805    | 301   | 545   | 174   |     |
| Erysipelothrix                   | 321 | 55  | 107 | 125   | 45  | 100 | 111   | 87    | 12  | 11    | 22    | 15    | 8     | 17    | 133   | 0   | 20    | 149    | 23    | 114   | 21    |     |
| Alteromonas                      | 319 | 245 | 124 | 253   | 47  | 73  | 82    | 512   | 97  | 35    | 95    | 17    | 21    | 28    | 466   | 27  | 23    | 70     | 33    | 41    | 39    |     |
| Culex                            | 318 | 491 | 314 | 628   | 292 | 442 | 403   | 461   | 278 | 176   | 372   | 217   | 214   | 132   | 720   | 94  | 148   | 862    | 280   | 460   | 254   |     |
| unclassified Rhodobacteraceae    | 318 | 273 | 255 | 345   | 136 | 205 | 303   | 256   | 125 | 165   | 241   | 148   | 94    | 109   | 320   | 40  | 53    | 104    | 164   | 105   | 99    |     |
| Dickeya                          | 318 | 334 | 187 | 350   | 65  | 136 | 130   | 601   | 119 | 56    | 150   | 40    | 42    | 55    | 586   | 41  | 60    | 155    | 59    | 124   | 70    |     |
| unclassified Burkholderiales     | 315 | 166 | 301 | 310   | 302 | 270 | 173   | 199   | 112 | 132   | 231   | 214   | 65    | 92    | 285   | 29  | 92    | 282    | 375   | 221   | 68    |     |
| Jeongeupia                       | 308 | 207 | 201 | 351   | 100 | 193 | 196   | 485   | 96  | 101   | 147   | 56    | 93    | 75    | 574   | 27  | 86    | 408    | 59    | 314   | 85    |     |
| Streptomyces                     | 303 | 223 | 260 | 223   | 123 | 125 | 115   | 195   | 151 | 138   | 166   | 89    | 115   | 291   | 158   | 93  | 192   | 159    | 385   | 106   |       |     |
| Pyramidiobacter                  | 301 | 127 | 236 | 186   | 165 | 85  | 1,696 | 186   | 32  | 36    | 103   | 80    | 7     | 300   | 205   | 16  | 18    | 28     | 85    | 13    | 163   |     |
| Roseomonas                       | 295 | 357 | 273 | 327   | 176 | 239 | 282   | 361   | 221 | 230   | 279   | 219   | 101   | 155   | 443   | 80  | 121   | 156    | 247   | 145   | 107   |     |
| Prevotellamassilia               | 294 | 321 | 355 | 710   | 387 | 302 | 382   | 268   | 104 | 62    | 294   | 179   | 50    | 79    | 324   | 28  | 19    | 149    | 217   | 27    | 27    |     |
| Magnetspirillum                  | 293 | 496 | 401 | 705   | 219 | 390 | 543   | 621   | 166 | 192   | 313   | 162   | 170   | 140   | 613   | 26  | 196   | 224    | 142   | 156   | 90    |     |
| Saccharomycos                    | 287 | 96  | 114 | 62    | 145 | 192 | 159   | 295   | 150 | 92    | 156   | 164   | 290   | 104   | 259   | 56  | 76    | 219    | 167   | 75    |       |     |
| Ideonella                        | 285 | 272 | 226 | 429   | 129 | 239 | 205   | 344   | 181 | 184   | 238   | 117   | 118   | 84    | 581   | 67  | 166   | 669    | 196   | 408   | 155   |     |
| Gemmobacter                      | 284 | 215 | 208 | 250   | 113 | 189 | 191   | 205   | 114 | 118   | 188   | 88    | 89    | 95    | 270   | 19  | 55    | 73     | 125   | 164   | 93    |     |
| Gordonia                         | 281 | 151 | 268 | 198   | 121 | 195 | 164   | 205   | 261 | 183   | 191   | 152   | 97    | 121   | 296   | 102 | 125   | 167    | 174   | 179   | 172   |     |
| Peptostreptococcus               | 280 | 57  | 129 | 81    | 33  | 82  | 58    | 71    | 7   | 38    | 50    | 10    | 8     | 19    | 84    | 4   | 11    | 70     | 17    | 69    | 7     |     |
| Aquabacterium                    | 276 | 217 | 224 | 411   | 149 | 209 | 172   | 383   | 434 | 319   | 365   | 180   | 145   | 126   | 1,032 | 105 | 206   | 1,411  | 262   | 454   | 163   |     |
| unclassified Bacteroidia         | 274 | 119 | 245 | 185   | 20  | 128 | 167   | 336   | 19  | 69    | 56    | 16    | 24    | 24    | 361   | 8   | 36    | 68     | 27    | 38    | 28    |     |
| Duncanella                       | 273 | 136 | 296 | 276   | 192 | 179 | 267   | 194   | 49  | 64    | 103   | 100   | 41    | 38    | 261   | 5   | 28    | 37     | 159   | 26    | 26    |     |
| Minimonas                        | 272 | 357 | 400 | 374   | 234 | 223 | 334   | 415   | 249 | 252   | 241   | 217   | 93    | 138   | 514   | 89  | 91    | 203    | 355   | 405   | 104   |     |
| Rheinheimera                     | 272 | 313 | 143 | 319   | 62  | 69  | 86    | 644   | 105 | 40    | 109   | 26    | 43    | 68    | 1,275 | 31  | 40    | 117    | 55    | 150   | 258   |     |
| Simplicispira                    | 271 | 378 | 239 | 498   | 248 | 354 | 263   | 345   | 179 | 110   | 244   | 128   | 145   | 100   | 562   | 59  | 123   | 639    | 229   | 325   | 167   |     |
| Methylobacterium                 | 270 | 212 | 169 | 218   | 122 | 163 | 160   | 279   | 250 | 218   | 245   | 239   | 125   | 172   | 355   | 111 | 307   | 293    | 298   | 295   | 193   |     |
| Verminephrobacter                | 270 | 292 | 259 | 430   | 210 | 253 | 200   | 339   | 172 | 105   | 193   | 127   | 111   | 73    | 457   | 58  | 104   | 469    | 172   | 287   | 131   |     |
| Azotobacter                      | 265 | 269 | 672 | 374   | 189 | 197 | 167   | 421   | 177 | 250   | 422   | 232   | 185   | 182   | 532   | 71  | 276   | 586    | 328   | 366   | 374   |     |
| Aminobacter                      | 265 | 231 | 240 | 308   | 141 | 168 | 223   | 291   | 140 | 276   | 304   | 138   | 78    | 82    | 492   | 53  | 79    | 114    | 165   | 88    | 63    |     |
| Luteimonas                       | 262 | 144 | 254 | 193   | 103 | 125 | 115   | 165   | 168 | 270   | 518   | 212   | 138   | 55    | 101   | 270 | 58    | 113    | 186   | 152   | 57    |     |
| Marinobryantia                   | 261 | 136 | 468 | 243   | 263 | 291 | 365   | 250   | 24  | 61    | 104   | 105   | 33    | 35    | 220   | 5   | 6     | 39     | 100   | 26    | 17    |     |
| Herbaspirillum                   | 260 | 230 | 204 | 345   | 143 | 214 | 213   | 359   | 133 | 211   | 215   | 140   | 110   | 102   | 568   | 45  | 190   | 692    | 228   | 520   | 216   |     |
| unclassified Burkholderiaceae    | 260 | 257 | 218 | 343   | 161 | 262 | 200   | 306   | 122 | 121   | 157   | 121   | 91    | 96    | 398   | 34  | 96    | 589    | 135   | 409   | 134   |     |
| Riemerella                       | 260 | 155 | 281 | 184   | 69  | 182 | 110   | 304   | 34  | 111   | 54    | 52    | 20    | 25    | 454   | 7   | 21    | 99     | 40    | 109   | 36    |     |
| Aquicola                         | 258 | 233 | 339 | 350   | 166 | 276 | 288   | 309   | 262 | 261   | 282   | 183   | 140   | 156   | 393   | 98  | 178   | 517    | 273   | 349   | 149   |     |
| Niveibacterium                   | 257 | 221 | 247 | 347   | 91  | 110 | 158   | 361   | 110 | 170   | 215   | 136   | 108   | 128   | 563   | 51  | 209   | 804    | 204   | 591   | 178   |     |
| Sulfurimonas                     | 255 | 430 | 318 | 544   | 113 | 236 | 241   | 730   | 85  | 27    | 106   | 26    | 75    | 101   | 729   | 36  | 73    | 84     | 57    | 109   | 118   |     |
| Nitricoccus                      | 253 | 55  | 124 | 111   | 26  | 111 | 46    | 226   | 78  | 52    | 37    | 35    | 63    | 61    | 316   | 21  | 60    | 44     | 29    | 173   | 49    |     |
| Nitrogenibacter                  | 248 | 250 | 313 | 545   | 229 | 240 | 258   | 366   | 177 | 467   | 959   | 540   | 545   | 501   | 841   | 92  | 1,073 | 4,635  | 1,123 | 3,123 | 996   |     |
| unclassified Saccharibacteria    | 247 | 170 | 228 | 221   | 152 | 299 | 276   | 57    | 92  | 96    | 114   | 36    | 55    | 114   | 36    | 27  | 297   | 21     | 25    | 79    | 128   |     |
| Paraburkholderia                 | 245 | 171 | 156 | 442   | 77  | 145 | 126   | 297   | 103 | 99    | 205   | 67    | 66    | 85    | 393   | 34  | 84    | 482    | 170   | 383   | 115   |     |
| Rahnella                         | 245 | 229 | 149 | 228   | 63  | 60  | 68    | 389   | 101 | 63    | 111   | 38    | 44    | 33    | 378   | 36  | 38    | 81     | 67    | 56    | 27    |     |
| Ethanologenes                    | 245 | 120 | 236 | 269   | 51  | 113 | 114   | 209   | 16  | 16    | 61    | 11    | 17    | 14    | 248   | 5   | 6     | 15     | 31    | 5     | 11    |     |
| Niabella                         | 243 | 121 | 187 | 120   | 48  | 93  | 73    | 305   | 101 | 119   | 76    | 79    | 55    | 48    | 416   | 12  | 38    | 55     | 51    | 151   | 50    |     |
| unclassified Sterilobacteriaceae | 242 | 197 | 202 | 347   | 143 | 189 | 151   | 321   | 135 | 99    | 202   | 101   | 95    | 94    | 405   | 35  | 129   | 742    | 152   | 529   | 143   |     |
| Candidatus Desulfobacillus       | 237 | 166 | 190 | 250   | 122 | 172 | 126   | 268   | 87  | 132   | 212   | 98    | 90    | 113   | 429   | 35  | 206   | 1,296  | 213   | 960   | 215   |     |
| Solibaculum                      | 237 | 165 | 258 | 336   | 224 | 175 | 309   | 206   | 32  | 26    | 113   | 71    | 30    | 29    | 191   | 8   | 13    | 30     | 76    | 14    | 12    |     |
| Homo                             | 236 | 148 | 216 | 465   | 312 | 251 | 629   | 318   | 183 | 81    | 287   | 278   | 116   | 199   | 607   | 57  | 65    | 154    | 541   | 88    | 48    |     |
| Korarchaeum                      | 235 | 244 | 131 | 159   | 112 | 175 | 142   | 389   | 77  | 96    | 99    | 142   | 38    | 50    | 54    | 59  | 33    | 127    | 113   | 58    |       |     |
| Acidiprotonibacterium            | 232 | 203 | 182 | 313   | 115 | 277 | 223   | 204   | 175 | 190   | 165   | 164   | 101   | 66    | 295   | 53  | 66    | 256    | 176   | 1,366 | 170   |     |
| Erythrobacter                    | 229 | 145 | 187 | 155   | 160 | 116 | 71    | 140   | 146 | 155   | 153   | 196   | 85    | 98    | 261   | 37  | 56    | 57     | 174   | 38    | 57    |     |
| Pseudomonas                      | 229 | 224 | 111 | 259   | 49  | 93  | 153   | 442   | 89  | 62    | 110   | 13    | 29    | 25    | 424   | 19  | 16    | 43     | 27    | 34    | 23    |     |
| Faecalibacillus                  | 228 | 198 | 176 | 253   | 228 | 240 | 324   | 208   | 41  | 28    | 306   | 119   | 21    | 83    | 191   | 3   | 9     | 76     | 187   | 12    | 25    |     |
| Granulicatella                   | 225 | 215 | 177 | 227   | 104 | 147 | 214   | 240   | 47  | 53    | 141   | 74    | 39    | 55    | 175   | 14  | 16    | 38     | 105   | 46    | 24    |     |
| Cereibacter                      | 223 | 239 | 176 | 261   | 132 | 195 | 230   | 185   | 146 | 156   | 204   | 102   | 68    | 97    | 273   | 48  | 46    | 99     | 159   | 101   | 89    |     |
| Rhizorhabdus                     | 222 | 321 | 263 | 300   | 140 | 182 | 269   | 389   | 249 | 386   | 268   | 155   | 85    | 98    | 471   | 44  | 54    | 116    | 205   | 97    |       |     |

|   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| unclassified Ignavibacteria               | 133 | 57  | 71  | 66  | 22  | 89  | 39  | 203 | 18  | 32  | 22  | 7   | 16  | 16  | 285 | 6   | 13  | 64  | 21  | 68  | 19  |
| Emergencia                                | 133 | 111 | 250 | 198 | 286 | 213 | 214 | 126 | 15  | 22  | 49  | 84  | 16  | 10  | 94  | 6   | 3   | 26  | 79  | 16  | 6   |
| Proteobacter                              | 133 | 82  | 109 | 98  | 53  | 50  | 69  | 108 | 45  | 71  | 78  | 47  | 9   | 25  | 135 | 15  | 45  | 25  | 61  | 24  | 21  |
| Desulfosporobactria                       | 133 | 27  | 31  | 54  | 14  | 79  | 42  | 56  | 44  | 56  | 21  | 24  | 1   | 23  | 65  | 8   | 14  | 57  | 29  | 102 | 21  |
| Rhodospirillum rubrum                     | 130 | 52  | 110 | 109 | 47  | 60  | 63  | 126 | 65  | 89  | 93  | 63  | 47  | 57  | 162 | 17  | 44  | 91  | 78  | 91  | 67  |
| Enigmodictyon                             | 130 | 104 | 102 | 130 | 55  | 71  | 88  | 117 | 67  | 71  | 77  | 46  | 36  | 43  | 150 | 13  | 24  | 46  | 52  | 42  | 32  |
| Actinobacillus                            | 130 | 93  | 77  | 89  | 23  | 30  | 23  | 133 | 14  | 11  | 31  | 11  | 11  | 16  | 165 | 3   | 6   | 50  | 15  | 30  | 6   |
| Cellulomonas                              | 127 | 99  | 117 | 122 | 71  | 96  | 66  | 146 | 110 | 92  | 81  | 88  | 40  | 159 | 137 | 35  | 41  | 77  | 108 | 236 | 48  |
| Paroselenia                               | 126 | 239 | 232 | 246 | 347 | 101 | 224 | 147 | 56  | 39  | 118 | 124 | 11  | 33  | 119 | 6   | 20  | 28  | 182 | 11  | 12  |
| [Eubacterium] sulci                       | 125 | 143 | 94  | 163 | 43  | 89  | 101 | 166 | 22  | 74  | 160 | 27  | 27  | 38  | 147 | 10  | 18  | 41  | 33  | 13  | 4   |
| unclassified Dygonomonadaceae             | 123 | 30  | 61  | 77  | 22  | 48  | 37  | 83  | 9   | 24  | 23  | 7   | 13  | 11  | 82  | 4   | 14  | 46  | 14  | 94  | 12  |
| Geosporobacter                            | 123 | 10  | 49  | 26  | 9   | 46  | 10  | 36  | 7   | 26  | 15  | 4   | 2   | 17  | 36  | 0   | 2   | 65  | 10  | 88  | 6   |
| Leptothrix                                | 122 | 136 | 134 | 188 | 70  | 139 | 119 | 135 | 114 | 102 | 162 | 90  | 84  | 72  | 252 | 50  | 138 | 419 | 134 | 326 | 97  |
| Agropyrum                                 | 122 | 93  | 138 | 114 | 65  | 81  | 103 | 116 | 73  | 97  | 102 | 58  | 37  | 31  | 166 | 32  | 102 | 49  | 48  | 67  | 114 |
| Scandium                                  | 121 | 88  | 98  | 155 | 32  | 54  | 42  | 134 | 34  | 73  | 81  | 48  | 36  | 25  | 143 | 12  | 23  | 48  | 68  | 52  | 27  |
| unclassified Gammaproteobacteria          | 121 | 58  | 94  | 88  | 47  | 78  | 70  | 121 | 60  | 58  | 52  | 31  | 30  | 39  | 171 | 19  | 47  | 182 | 55  | 107 | 47  |
| Azorhizobium                              | 121 | 65  | 148 | 76  | 66  | 235 | 318 | 128 | 35  | 19  | 54  | 46  | 25  | 74  | 138 | 3   | 11  | 15  | 64  | 21  | 27  |
| Peptaclobacter                            | 121 | 28  | 33  | 100 | 83  | 44  | 312 | 49  | 18  | 13  | 40  | 55  | 6   | 65  | 32  | 0   | 10  | 17  | 40  | 11  | 23  |
| Gulosibacter                              | 119 | 165 | 200 | 135 | 124 | 130 | 102 | 124 | 60  | 61  | 85  | 113 | 38  | 30  | 148 | 23  | 14  | 60  | 148 | 107 | 30  |
| Fannyhessea                               | 117 | 116 | 90  | 38  | 152 | 72  | 58  | 84  | 24  | 14  | 19  | 38  | 12  | 16  | 110 | 0   | 11  | 6   | 38  | 4   | 11  |
| Alkaliphilus                              | 117 | 63  | 122 | 118 | 13  | 41  | 37  | 130 | 14  | 18  | 28  | 12  | 6   | 11  | 101 | 0   | 15  | 23  | 9   | 31  | 11  |
| Methylococcus                             | 116 | 102 | 106 | 150 | 64  | 116 | 84  | 136 | 48  | 70  | 99  | 76  | 54  | 51  | 217 | 22  | 73  | 321 | 62  | 283 | 105 |
| Casimirobacterium                         | 116 | 75  | 80  | 86  | 25  | 62  | 65  | 97  | 13  | 26  | 18  | 14  | 9   | 7   | 137 | 5   | 11  | 26  | 13  | 52  | 12  |
| Rhodospirillum rubrum                     | 115 | 77  | 102 | 102 | 68  | 78  | 76  | 109 | 63  | 84  | 78  | 52  | 46  | 31  | 138 | 26  | 70  | 46  | 111 | 67  | 63  |
| Lellistia                                 | 115 | 127 | 114 | 131 | 41  | 59  | 28  | 199 | 38  | 70  | 57  | 33  | 19  | 23  | 185 | 7   | 23  | 38  | 28  | 30  | 33  |
| Thiobacillus                              | 113 | 65  | 79  | 121 | 45  | 82  | 69  | 149 | 61  | 47  | 90  | 48  | 36  | 26  | 187 | 27  | 56  | 275 | 72  | 228 | 64  |
| Chitinolyticobacter                       | 113 | 65  | 99  | 150 | 42  | 62  | 73  | 235 | 39  | 29  | 56  | 29  | 30  | 24  | 207 | 10  | 29  | 101 | 42  | 97  | 65  |
| unclassified Zoogloeaceae                 | 112 | 129 | 75  | 152 | 60  | 117 | 89  | 132 | 44  | 50  | 90  | 68  | 50  | 56  | 209 | 28  | 76  | 293 | 86  | 249 | 102 |
| Ananas                                    | 112 | 30  | 50  | 67  | 25  | 11  | 34  | 522 | 142 | 214 | 233 | 27  | 16  | 15  | 892 | 24  | 164 | 423 | 126 | 81  | 49  |
| Defluviococcus                            | 109 | 52  | 74  | 71  | 57  | 35  | 51  | 77  | 214 | 113 | 98  | 102 | 82  | 86  | 101 | 89  | 52  | 74  | 106 | 54  | 67  |
| Sedimentibacterium                        | 108 | 132 | 129 | 174 | 60  | 85  | 159 | 144 | 130 | 37  | 59  | 66  | 30  | 22  | 270 | 6   | 5   | 25  | 46  | 20  | 20  |
| Starkeya                                  | 108 | 64  | 82  | 80  | 35  | 83  | 60  | 99  | 35  | 40  | 52  | 37  | 14  | 23  | 133 | 12  | 18  | 31  | 42  | 47  | 21  |
| unclassified Bifidobacteriaceae (miscell) | 108 | 61  | 89  | 95  | 79  | 106 | 90  | 93  | 35  | 24  | 120 | 52  | 13  | 30  | 129 | 6   | 9   | 28  | 68  | 18  | 10  |
| Mycobacter                                | 107 | 98  | 76  | 77  | 53  | 94  | 44  | 93  | 215 | 93  | 172 | 88  | 91  | 92  | 106 | 97  | 75  | 113 | 144 | 102 | 89  |
| Anoxylobacter                             | 106 | 100 | 136 | 69  | 62  | 106 | 96  | 122 | 47  | 40  | 58  | 45  | 35  | 26  | 161 | 7   | 25  | 35  | 68  | 38  | 34  |
| Parvimonas                                | 105 | 38  | 72  | 73  | 45  | 60  | 84  | 131 | 19  | 26  | 89  | 32  | 11  | 18  | 67  | 6   | 9   | 19  | 38  | 7   | 8   |
| Hylemonella                               | 104 | 134 | 98  | 132 | 57  | 133 | 100 | 125 | 55  | 62  | 89  | 61  | 52  | 41  | 178 | 24  | 35  | 235 | 69  | 132 | 52  |
| Duodenibacillus                           | 104 | 62  | 79  | 97  | 85  | 332 | 50  | 140 | 23  | 15  | 47  | 45  | 39  | 14  | 156 | 7   | 7   | 26  | 58  | 38  | 3   |
| Trichoderma                               | 103 | 13  | 18  | 23  | 18  | 17  | 7   | 43  | 74  | 17  | 26  | 38  | 10  | 21  | 51  | 90  | 8   | 47  | 16  | 7   | 22  |
| Methyloversatilis                         | 102 | 108 | 127 | 194 | 43  | 107 | 81  | 152 | 121 | 124 | 188 | 92  | 104 | 96  | 326 | 24  | 163 | 383 | 163 | 283 | 129 |
| Jeotgalibaca                              | 102 | 62  | 75  | 55  | 43  | 64  | 80  | 78  | 13  | 26  | 34  | 17  | 14  | 25  | 71  | 2   | 12  | 77  | 27  | 36  | 18  |
| Pleomorphomonas                           | 101 | 67  | 69  | 61  | 34  | 62  | 62  | 63  | 23  | 59  | 55  | 55  | 42  | 55  | 89  | 8   | 32  | 86  | 75  | 143 | 57  |
| Casimirobacterium                         | 101 | 81  | 81  | 116 | 54  | 104 | 65  | 109 | 72  | 37  | 54  | 72  | 49  | 41  | 35  | 210 | 16  | 49  | 171 | 66  | 183 |
| Tabrificola                               | 101 | 90  | 60  | 116 | 61  | 99  | 66  | 109 | 63  | 67  | 97  | 40  | 32  | 25  | 148 | 12  | 23  | 37  | 56  | 48  | 33  |
| Nitrospira                                | 98  | 161 | 178 | 114 | 203 | 98  | 109 | 106 | 149 | 147 | 186 | 165 | 69  | 95  | 132 | 58  | 97  | 140 | 212 | 108 | 48  |
| Pseudosporobacter                         | 98  | 105 | 46  | 91  | 26  | 36  | 46  | 166 | 31  | 21  | 34  | 12  | 27  | 20  | 167 | 10  | 12  | 63  | 7   | 38  | 14  |
| Schleiferibacter                          | 98  | 4   | 8   | 8   | 7   | 1   | 0   | 187 | 2   | 4   | 8   | 2   | 1   | 2   | 284 | 4   | 0   | 0   | 0   | 0   | 0   |
| Cloning vector pMT423                     | 97  | 85  | 101 | 144 | 104 | 79  | 100 | 92  | 25  | 20  | 47  | 32  | 19  | 27  | 118 | 2   | 10  | 29  | 56  | 7   | 6   |
| unclassified Bacilli                      | 97  | 82  | 148 | 130 | 87  | 209 | 92  | 59  | 14  | 20  | 38  | 35  | 17  | 20  | 110 | 6   | 10  | 18  | 43  | 18  | 7   |
| Cloning vector pVRL2                      | 95  | 428 | 63  | 262 | 55  | 20  | 67  | 250 | 64  | 15  | 89  | 23  | 5   | 18  | 488 | 40  | 7   | 34  | 20  | 6   | 15  |
| Celivibrio                                | 94  | 295 | 419 | 539 | 270 | 244 | 373 | 47  | 206 | 110 | 248 | 200 | 243 | 100 | 224 | 55  | 70  | 134 | 218 | 89  | 98  |
| Sulfuribacter                             | 94  | 63  | 79  | 121 | 43  | 70  | 57  | 99  | 46  | 75  | 83  | 66  | 32  | 41  | 166 | 11  | 80  | 341 | 77  | 249 | 79  |
| Caldesia                                  | 94  | 124 | 62  | 91  | 32  | 23  | 36  | 142 | 18  | 14  | 39  | 15  | 15  | 17  | 181 | 12  | 11  | 26  | 15  | 17  | 8   |
| Rasoulbacter                              | 94  | 54  | 80  | 77  | 60  | 93  | 60  | 69  | 20  | 15  | 98  | 28  | 13  | 15  | 72  | 4   | 4   | 16  | 27  | 4   | 5   |
| Poecilobacter                             | 93  | 191 | 122 | 233 | 15  | 68  | 158 | 324 | 32  | 15  | 46  | 24  | 55  | 80  | 276 | 16  | 22  | 30  | 24  | 129 | 349 |
| Trueperella                               | 92  | 69  | 98  | 120 | 84  | 83  | 90  | 88  | 31  | 31  | 63  | 39  | 16  | 24  | 90  | 9   | 9   | 48  | 41  | 570 | 82  |
| unclassified Autographiviridae            | 92  | 19  | 21  | 17  | 2   | 12  | 3   | 45  | 6   | 8   | 8   | 1   | 3   | 5   | 29  | 2   | 11  | 19  | 8   | 16  | 8   |
| Desulfomicrobium                          | 91  | 29  | 40  | 63  | 16  | 17  | 28  | 53  | 25  | 36  | 38  | 19  | 6   | 10  | 78  | 34  | 34  | 27  | 29  | 31  | 12  |
| Geothallobacter                           | 91  | 13  | 24  | 17  | 10  | 29  | 24  | 26  | 14  | 19  | 6   | 8   | 4   | 9   | 44  | 4   | 18  | 22  | 8   | 30  | 9   |
| Glutamicobacter                           | 90  | 160 | 158 | 107 | 122 | 124 | 74  | 93  | 53  | 46  | 49  | 101 | 40  | 16  | 76  | 11  | 19  | 69  | 124 | 205 | 30  |
| Pseudonocardia                            | 90  | 60  | 87  | 35  | 39  | 35  | 42  | 77  | 83  | 72  | 57  | 56  | 30  | 29  | 123 | 29  | 26  | 33  | 80  | 25  | 23  |
| Finexigella                               | 90  | 36  | 53  | 56  | 27  | 51  | 36  | 78  | 17  | 22  | 19  | 20  | 15  | 20  | 88  | 2   | 8   | 8   | 36  | 6   | 13  |
| Erythrobacter                             | 90  | 69  | 80  | 64  | 49  | 47  | 47  | 56  | 73  | 46  | 52  | 40  | 15  | 12  | 50  | 42  | 14  | 34  | 61  | 16  | 10  |
| Pseudocorynebacterium                     | 87  | 71  | 68  | 117 | 50  | 75  | 56  | 95  | 83  | 84  | 116 | 86  | 51  | 78  | 188 | 20  | 119 | 342 | 135 | 253 | 108 |
| Methyloana                                | 87  | 30  | 74  | 37  | 20  | 14  | 30  | 57  | 6   | 11  | 13  | 11  | 1   | 3   | 86  | 1   | 4   | 4   | 4   | 4   | 6   |
| Cloning vector pKL13                      | 86  | 21  | 44  | 52  | 60  | 52  | 67  | 90  | 18  | 10  | 27  | 28  | 14  | 24  | 100 | 5   | 1   | 13  | 66  | 2   | 4   |
| Weeksella                                 | 86  | 54  | 61  | 50  | 16  | 22  | 22  | 122 | 7   | 24  | 10  | 11  | 3   | 0   | 191 | 3   | 10  | 11  | 3   | 11  | 1   |
| Cultibacterium                            | 85  | 78  | 76  | 63  | 47  | 75  | 78  | 71  | 18  | 17  | 33  | 22  | 59  | 50  | 819 | 9   | 171 | 81  | 33  | 282 | 45  |
| Exophiala                                 | 85  | 114 | 102 | 52  | 52  | 77  | 50  | 70  | 160 | 44  | 62  | 77  | 34  | 17  | 117 | 72  | 29  | 39  | 63  | 45  | 30  |
| Aggregatibacter                           | 85  | 47  | 46  | 49  | 41  | 48  | 58  | 74  | 30  | 18  | 19  | 28  | 4   | 16  | 86  | 5   | 11  | 14  | 33  | 7   | 8   |
| Oceanimonas                               | 84  | 87  | 50  | 104 | 18  | 55  | 123 | 151 | 42  | 47  | 40  | 11  | 31  | 19  | 156 | 21  | 6   | 21  | 11  | 28  | 24  |
| Rhodococcus                               | 84  | 77  | 74  | 75  | 30  | 58  | 38  | 65  | 55  | 62  | 40  | 41  | 18  | 31  | 92  | 23  | 33  | 65  | 44  | 137 | 31  |
| unclassified Planctomycetes               | 83  | 55  | 83  | 74  | 35  | 42  | 34  | 55  | 59  | 60  | 69  | 34  | 31  | 36  | 99  | 25  | 69  | 34  | 47  | 115 | 21  |
| Pseudoeubacterium                         | 83  | 26  | 43  | 37  | 15  | 54  | 30  | 45  | 23  | 26  | 30  | 26  | 11  | 8   | 52  | 7   | 16  | 26  | 26  | 56  | 14  |
| Fuscatibacter                             | 83  | 57  | 56  | 58  | 49  | 47  | 55  | 64  | 7   | 8   | 48  | 33  | 10  | 9   | 48  | 0   | 4   | 13  | 29  | 4   | 3   |
| Candidatus Nitrolog                       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|  |    |     |     |     |    |     |     |     |     |     |     |    |    |    |     |     |     |     |     |     |    |   |
|--|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|----|---|
| Sulfitobacter                          | 60 | 71  | 61  | 83  | 26 | 76  | 91  | 82  | 34  | 28  | 58  | 33 | 37 | 46 | 117 | 8   | 13  | 23  | 64  | 60  | 56 |   |
| Nitrobacter                            | 59 | 18  | 34  | 22  | 20 | 15  | 15  | 36  | 47  | 50  | 39  | 30 | 25 | 36 | 44  | 14  | 23  | 26  | 23  | 11  | 20 |   |
| Leuconostoc                            | 59 | 50  | 49  | 59  | 64 | 114 | 115 | 83  | 14  | 7   | 128 | 39 | 20 | 12 | 48  | 2   | 4   | 28  | 69  | 9   | 6  |   |
| Dakdonella                             | 59 | 37  | 56  | 32  | 21 | 28  | 18  | 44  | 37  | 54  | 32  | 28 | 18 | 11 | 52  | 8   | 52  | 47  | 21  | 32  | 10 |   |
| Changpingibacter                       | 59 | 67  | 69  | 40  | 55 | 46  | 40  | 35  | 36  | 38  | 30  | 42 | 15 | 22 | 73  | 4   | 11  | 42  | 46  | 815 | 55 |   |
| Skermania                              | 59 | 42  | 52  | 46  | 29 | 57  | 52  | 50  | 39  | 28  | 50  | 26 | 15 | 18 | 55  | 9   | 22  | 89  | 41  | 871 | 94 |   |
| Pseudobutyryltribio                    | 59 | 47  | 86  | 87  | 42 | 37  | 63  | 62  | 11  | 5   | 27  | 8  | 5  | 8  | 70  | 0   | 6   | 5   | 20  | 5   | 6  |   |
| Skermanella                            | 58 | 25  | 44  | 43  | 23 | 29  | 36  | 53  | 42  | 43  | 47  | 18 | 18 | 25 | 77  | 7   | 34  | 60  | 37  | 70  | 30 |   |
| Kayfunavirus                           | 58 | 280 | 99  | 66  | 0  | 5   | 11  | 62  | 586 | 8   | 27  | 0  | 10 | 1  | 50  | 347 | 21  | 9   | 11  | 3   | 2  |   |
| Leptotrichia                           | 58 | 60  | 49  | 41  | 24 | 89  | 89  | 36  | 37  | 6   | 51  | 20 | 8  | 12 | 47  | 4   | 4   | 9   | 28  | 8   | 6  |   |
| Ruminiclostridium                      | 58 | 36  | 86  | 48  | 20 | 20  | 17  | 34  | 11  | 12  | 26  | 4  | 8  | 5  | 69  | 2   | 8   | 20  | 8   | 9   | 7  |   |
| Anaerotruncum                          | 58 | 43  | 65  | 80  | 63 | 36  | 80  | 42  | 4   | 6   | 12  | 7  | 0  | 18 | 50  | 0   | 0   | 10  | 16  | 3   | 7  |   |
| Alcanivorax                            | 57 | 42  | 50  | 74  | 33 | 92  | 88  | 74  | 38  | 29  | 63  | 37 | 47 | 33 | 126 | 13  | 33  | 101 | 56  | 103 | 49 |   |
| Blastochloris                          | 57 | 21  | 29  | 44  | 15 | 17  | 26  | 17  | 27  | 18  | 15  | 18 | 13 | 14 | 40  | 9   | 23  | 53  | 19  | 48  | 23 |   |
| Moeilerella                            | 57 | 82  | 37  | 69  | 5  | 9   | 16  | 113 | 22  | 7   | 22  | 4  | 11 | 2  | 134 | 4   | 10  | 26  | 4   | 11  | 7  |   |
| Pseudoclostridium                      | 57 | 16  | 33  | 14  | 5  | 13  | 7   | 15  | 2   | 6   | 10  | 7  | 7  | 8  | 35  | 0   | 6   | 7   | 7   | 30  | 1  |   |
| Dehalogenimonas                        | 57 | 7   | 16  | 10  | 7  | 46  | 45  | 8   | 31  | 11  | 16  | 8  | 0  | 6  | 13  | 3   | 13  | 17  | 7   | 25  | 26 |   |
| Darwinula                              | 56 | 107 | 102 | 120 | 61 | 60  | 71  | 83  | 36  | 25  | 42  | 21 | 23 | 23 | 116 | 14  | 19  | 20  | 24  | 15  | 8  |   |
| Sporomusa                              | 56 | 21  | 67  | 33  | 24 | 19  | 20  | 59  | 3   | 5   | 10  | 11 | 7  | 5  | 58  | 1   | 4   | 5   | 8   | 0   | 5  |   |
| Mameliaella                            | 55 | 79  | 62  | 85  | 28 | 70  | 64  | 58  | 28  | 25  | 60  | 17 | 21 | 24 | 71  | 7   | 15  | 29  | 30  | 18  | 15 |   |
| Blastomusa                             | 54 | 41  | 32  | 43  | 19 | 39  | 42  | 43  | 55  | 18  | 31  | 26 | 23 | 13 | 64  | 15  | 7   | 15  | 43  | 16  | 22 |   |
| Polynucleobacter                       | 54 | 32  | 40  | 53  | 36 | 35  | 7   | 58  | 13  | 7   | 22  | 34 | 15 | 5  | 7   | 76  | 5   | 6   | 15  | 40  | 8  | 4 |
| Sulfurivivum                           | 54 | 53  | 60  | 87  | 4  | 11  | 86  | 143 | 12  | 10  | 9   | 1  | 5  | 8  | 296 | 3   | 20  | 14  | 2   | 1   | 21 |   |
| Tapidimonas                            | 53 | 33  | 38  | 61  | 33 | 60  | 32  | 39  | 18  | 27  | 30  | 24 | 18 | 13 | 62  | 7   | 23  | 81  | 24  | 68  | 32 |   |
| Aureimonas                             | 53 | 66  | 46  | 49  | 17 | 40  | 52  | 56  | 34  | 42  | 59  | 21 | 17 | 22 | 55  | 10  | 18  | 31  | 38  | 30  | 25 |   |
| unclassified Candidatus Competibacteri | 53 | 22  | 11  | 24  | 18 | 21  | 18  | 47  | 37  | 18  | 47  | 36 | 10 | 31 | 38  | 23  | 8   | 23  | 22  | 9   | 29 |   |
| Photothabdus                           | 53 | 52  | 13  | 42  | 12 | 6   | 11  | 85  | 10  | 11  | 12  | 1  | 6  | 3  | 74  | 5   | 4   | 5   | 3   | 2   | 4  |   |
| Ferimonas                              | 52 | 35  | 20  | 53  | 18 | 35  | 71  | 78  | 16  | 20  | 17  | 12 | 19 | 17 | 93  | 7   | 6   | 12  | 5   | 9   | 19 |   |
| Croceicoccus                           | 51 | 47  | 59  | 53  | 27 | 24  | 24  | 28  | 52  | 31  | 38  | 42 | 16 | 17 | 67  | 8   | 24  | 20  | 25  | 14  | 16 |   |
| Metamycoplasma                         | 51 | 31  | 74  | 72  | 31 | 45  | 44  | 63  | 2   | 8   | 24  | 7  | 5  | 6  | 73  | 5   | 6   | 9   | 31  | 3   | 5  |   |
| Grimontia                              | 51 | 63  | 22  | 72  | 9  | 10  | 19  | 114 | 11  | 7   | 17  | 3  | 3  | 5  | 98  | 6   | 9   | 10  | 4   | 4   | 2  |   |
| Inhella                                | 50 | 57  | 45  | 91  | 42 | 81  | 57  | 46  | 37  | 42  | 55  | 28 | 33 | 14 | 112 | 12  | 24  | 142 | 39  | 78  | 33 |   |
| Thalassosilicium                       | 50 | 56  | 48  | 75  | 27 | 41  | 30  | 91  | 20  | 13  | 25  | 17 | 9  | 16 | 98  | 10  | 10  | 72  | 11  | 33  | 48 |   |
| Gutierrezella                          | 50 | 2   | 14  | 12  | 10 | 15  | 11  | 9   | 4   | 16  | 5   | 3  | 0  | 3  | 23  | 0   | 0   | 6   | 2   | 19  | 0  |   |
| Pannonibacter                          | 49 | 55  | 70  | 45  | 19 | 50  | 35  | 55  | 55  | 33  | 59  | 37 | 20 | 24 | 81  | 8   | 24  | 34  | 33  | 35  | 14 |   |
| Aquibium                               | 49 | 27  | 36  | 22  | 15 | 14  | 28  | 40  | 34  | 26  | 34  | 21 | 13 | 15 | 57  | 10  | 9   | 28  | 31  | 17  | 20 |   |
| Cardiobacterium                        | 49 | 36  | 29  | 24  | 23 | 40  | 25  | 20  | 14  | 5   | 31  | 11 | 4  | 11 | 38  | 0   | 0   | 13  | 14  | 10  | 8  |   |
| unclassified Peptostreptococcaceae     | 49 | 42  | 31  | 19  | 23 | 34  | 23  | 9   | 1   | 3   | 4   | 9  | 1  | 7  | 19  | 0   | 0   | 2   | 7   | 0   | 4  |   |
| Micromonospora                         | 48 | 28  | 37  | 38  | 28 | 32  | 27  | 28  | 32  | 43  | 29  | 30 | 17 | 16 | 44  | 13  | 20  | 31  | 36  | 39  | 15 |   |
| Taukamuraella                          | 48 | 35  | 51  | 24  | 14 | 13  | 16  | 21  | 40  | 49  | 14  | 17 | 12 | 21 | 49  | 15  | 16  | 22  | 26  | 25  | 11 |   |
| Nocardia                               | 48 | 26  | 45  | 32  | 28 | 37  | 39  | 41  | 43  | 36  | 47  | 34 | 9  | 22 | 45  | 9   | 16  | 32  | 44  | 68  | 25 |   |
| Pediococcus                            | 48 | 58  | 35  | 104 | 35 | 36  | 41  | 28  | 12  | 4   | 25  | 12 | 7  | 9  | 32  | 2   | 6   | 26  | 43  | 2   | 6  |   |
| Kagunavirus                            | 48 | 44  | 18  | 16  | 31 | 137 | 20  | 66  | 21  | 4   | 5   | 10 | 6  | 3  | 32  | 3   | 0   | 0   | 11  | 6   | 3  |   |
| Desulfotomaculum                       | 48 | 12  | 11  | 19  | 9  | 28  | 26  | 19  | 7   | 21  | 10  | 5  | 0  | 7  | 21  | 7   | 13  | 14  | 7   | 37  | 16 |   |
| unclassified Oxalobacteraceae          | 47 | 30  | 43  | 77  | 35 | 47  | 33  | 48  | 26  | 103 | 151 | 74 | 33 | 59 | 97  | 10  | 126 | 286 | 101 | 138 | 87 |   |
| Thiodiava                              | 47 | 53  | 61  | 61  | 37 | 50  | 77  | 49  | 25  | 24  | 42  | 20 | 21 | 14 | 66  | 6   | 12  | 25  | 36  | 20  | 15 |   |
| Sideroxydans                           | 47 | 43  | 49  | 66  | 19 | 37  | 30  | 73  | 25  | 31  | 55  | 32 | 17 | 21 | 86  | 8   | 43  | 187 | 33  | 152 | 44 |   |
| Pseudocitrobacter                      | 47 | 51  | 57  | 60  | 6  | 15  | 11  | 74  | 12  | 12  | 36  | 7  | 7  | 2  | 72  | 11  | 10  | 20  | 8   | 4   | 4  |   |
| Phreatobacter                          | 46 | 37  | 54  | 54  | 28 | 54  | 29  | 71  | 47  | 57  | 53  | 37 | 18 | 19 | 94  | 14  | 35  | 42  | 38  | 32  | 16 |   |
| Kingella                               | 46 | 38  | 26  | 28  | 14 | 55  | 31  | 37  | 14  | 13  | 38  | 13 | 14 | 14 | 43  | 2   | 2   | 52  | 13  | 53  | 14 |   |
| Mitsukella                             | 46 | 33  | 67  | 52  | 83 | 15  | 89  | 24  | 11  | 5   | 21  | 28 | 10 | 13 | 19  | 2   | 7   | 5   | 44  | 1   | 1  |   |
| Paradevovia                            | 46 | 34  | 31  | 29  | 15 | 18  | 20  | 19  | 27  | 14  | 29  | 21 | 9  | 17 | 42  | 7   | 11  | 19  | 27  | 11  | 9  |   |
| Lefsonia                               | 46 | 23  | 23  | 38  | 21 | 21  | 26  | 20  | 20  | 25  | 34  | 12 | 6  | 17 | 23  | 7   | 11  | 17  | 25  | 48  | 5  |   |
| unclassified Troviseidae               | 46 | 21  | 43  | 28  | 31 | 25  | 24  | 41  | 2   | 4   | 20  | 11 | 6  | 2  | 42  | 0   | 0   | 3   | 19  | 0   | 0  |   |
| Mucilaginibacter                       | 46 | 69  | 73  | 46  | 27 | 40  | 38  | 60  | 21  | 33  | 35  | 11 | 5  | 9  | 94  | 5   | 6   | 12  | 18  | 18  | 2  |   |
| Methanospaera                          | 45 | 50  | 82  | 16  | 61 | 32  | 40  | 35  | 21  | 9   | 10  | 25 | 16 | 7  | 59  | 4   | 4   | 13  | 32  | 4   | 9  |   |
| Polymorphum                            | 45 | 29  | 42  | 70  | 24 | 38  | 53  | 37  | 35  | 23  | 39  | 29 | 12 | 9  | 56  | 6   | 16  | 14  | 35  | 22  | 14 |   |
| Luteibacter                            | 45 | 41  | 30  | 51  | 11 | 24  | 23  | 56  | 10  | 27  | 34  | 17 | 12 | 9  | 65  | 4   | 14  | 40  | 25  | 37  | 12 |   |
| Pseudarthrobacter                      | 44 | 34  | 41  | 35  | 39 | 47  | 38  | 14  | 25  | 18  | 14  | 34 | 18 | 10 | 30  | 7   | 7   | 27  | 23  | 95  | 17 |   |
| Paraclostridium                        | 44 | 14  | 32  | 21  | 16 | 12  | 26  | 9   | 18  | 25  | 24  | 38 | 10 | 23 | 26  | 10  | 23  | 17  | 31  | 23  | 24 |   |
| Altererythrobacter                     | 44 | 29  | 33  | 29  | 18 | 24  | 18  | 18  | 43  | 18  | 35  | 31 | 8  | 10 | 37  | 8   | 13  | 7   | 11  | 13  | 9  |   |
| Herbinix                               | 44 | 32  | 160 | 173 | 14 | 17  | 38  | 28  | 5   | 20  | 48  | 4  | 4  | 2  | 37  | 7   | 23  | 25  | 9   | 16  | 3  |   |
| Aerophilobacter                        | 43 | 38  | 43  | 38  | 54 | 24  | 46  | 16  | 41  | 13  | 22  | 14 | 11 | 37 | 8   | 5   | 54  | 30  | 5   | 5   | 30 |   |
| Methylocodium                          | 43 | 25  | 28  | 34  | 26 | 38  | 20  | 32  | 16  | 21  | 20  | 12 | 9  | 10 | 14  | 10  | 52  | 27  | 52  | 14  | 14 |   |
| unclassified Proteobacteria            | 43 | 27  | 16  | 14  | 8  | 28  | 44  | 34  | 9   | 11  | 18  | 14 | 8  | 12 | 47  | 3   | 8   | 25  | 8   | 30  | 16 |   |
| Amycolatopsis                          | 43 | 37  | 24  | 38  | 18 | 25  | 24  | 34  | 31  | 27  | 28  | 21 | 7  | 24 | 44  | 12  | 15  | 20  | 25  | 23  | 12 |   |
| Teniporobacter                         | 42 | 29  | 63  | 37  | 68 | 57  | 36  | 29  | 28  | 62  | 25  | 70 | 43 | 25 | 32  | 8   | 38  | 27  | 64  | 20  | 17 |   |
| Pseudosulfobacter                      | 42 | 49  | 36  | 82  | 19 | 62  | 54  | 32  | 20  | 24  | 51  | 27 | 17 | 24 | 73  | 9   | 11  | 19  | 21  | 14  | 20 |   |
| Aquabacter                             | 42 | 16  | 35  | 22  | 19 | 26  | 20  | 40  | 14  | 22  | 18  | 10 | 5  | 4  | 82  | 4   | 3   | 9   | 17  | 9   | 8  |   |
| Paludisphaera                          | 41 | 19  | 16  | 7   | 10 | 7   | 4   | 21  | 32  | 24  | 21  | 18 | 5  | 16 | 13  | 10  | 12  | 26  | 26  | 14  | 5  |   |
| Fenollaria                             | 41 | 22  | 21  | 15  | 8  | 16  | 25  | 13  | 2   | 3   | 8   | 7  | 3  | 2  | 16  | 1   | 1   | 4   | 5   | 2   | 0  |   |
| Pragia                                 | 41 | 34  | 17  | 37  | 8  | 14  | 11  | 78  | 15  | 2   | 15  | 1  | 1  | 0  | 70  | 1   | 3   | 8   | 2   | 0   | 2  |   |
| Sphingosinicella                       | 40 | 30  | 30  | 46  | 16 | 28  | 34  | 39  | 46  | 53  | 40  | 18 | 14 | 28 | 54  | 11  | 26  | 45  | 17  | 8   | 5  |   |
| Ponticoccus                            | 40 | 78  | 42  | 90  | 38 | 46  | 56  | 51  | 33  | 22  | 61  | 23 | 17 | 13 | 75  | 4   | 16  | 19  | 21  | 16  | 12 |   |
| Oceanisphaera                          | 40 | 40  | 29  | 48  | 12 | 22  | 57  | 17  | 23  | 29  | 21  | 3  | 17 | 11 | 99  | 4   | 25  | 124 | 48  | 24  | 5  |   |
| Thiothrix                              | 40 | 22  | 24  | 25  | 4  | 14  | 8   | 51  | 7   | 10  | 9   | 10 | 8  | 11 | 54  | 3   | 9   | 20  | 21  | 22  | 23 |   |
| Actinotignum                           | 40 | 8   | 13  | 33  | 64 | 58  | 8   | 14  | 8   | 6   | 25  | 47 | 4  | 4  | 12  | 0   | 1   | 13  | 103 | 58  | 11 |   |
| unclassified Desulfobulbaceae          | 40 | 2   | 1   | 6   | 4  | 17  | 10  | 7   | 11  | 4   | 6   | 2  | 3  | 6  | 18  | 4   | 3   | 5   | 7   | 32  | 6  |   |
| Ghunavirus                             | 40 | 0   | 74  | 0   | 0  | 0   | 0   | 53  | 1   | 11  | 6   | 0  | 0  |    |     |     |     |     |     |     |    |   |

|                                     |    |    |     |     |    |       |    |    |    |     |     |    |     |     |    |    |    |     |     |     |     |
|-------------------------------------|----|----|-----|-----|----|-------|----|----|----|-----|-----|----|-----|-----|----|----|----|-----|-----|-----|-----|
| Idiomarina                          | 31 | 36 | 18  | 34  | 10 | 6     | 18 | 58 | 10 | 8   | 13  | 2  | 6   | 1   | 70 | 5  | 17 | 12  | 5   | 9   | 4   |
| Desulfococcus                       | 31 | 6  | 14  | 20  | 3  | 6     | 4  | 12 | 5  | 12  | 7   | 0  | 5   | 6   | 15 | 1  | 1  | 12  | 4   | 14  | 1   |
| unclassified Ecobthiorhodospiraceae | 31 | 13 | 12  | 16  | 6  | 33    | 16 | 25 | 6  | 5   | 10  | 5  | 2   | 7   | 36 | 2  | 8  | 23  | 11  | 17  | 8   |
| Agarivorans                         | 31 | 41 | 13  | 36  | 7  | 3     | 5  | 55 | 7  | 1   | 11  | 0  | 0   | 0   | 44 | 4  | 3  | 1   | 3   | 1   | 0   |
| Aquella                             | 30 | 43 | 32  | 26  | 6  | 49    | 17 | 32 | 32 | 85  | 36  | 64 | 95  | 82  | 48 | 4  | 36 | 17  | 56  | 61  | 36  |
| Methyloburum                        | 30 | 19 | 16  | 17  | 8  | 21    | 15 | 55 | 24 | 22  | 25  | 19 | 23  | 29  | 44 | 2  | 42 | 48  | 41  | 41  | 38  |
| Qingyuania                          | 30 | 37 | 31  | 27  | 13 | 34    | 12 | 27 | 59 | 28  | 30  | 14 | 18  | 16  | 27 | 7  | 12 | 20  | 10  | 13  | 6   |
| Noviherbaspirillum                  | 30 | 36 | 33  | 39  | 15 | 37    | 19 | 36 | 23 | 12  | 43  | 29 | 18  | 20  | 61 | 2  | 33 | 111 | 23  | 98  | 28  |
| Serinicoccus                        | 30 | 31 | 25  | 37  | 22 | 26    | 35 | 24 | 31 | 36  | 23  | 24 | 15  | 6   | 46 | 14 | 11 | 20  | 54  | 25  | 17  |
| Microvira                           | 30 | 17 | 22  | 18  | 10 | 20    | 15 | 29 | 30 | 13  | 26  | 12 | 14  | 14  | 42 | 4  | 9  | 25  | 27  | 23  | 17  |
| Trichiorbacter                      | 30 | 28 | 60  | 95  | 10 | 10    | 27 | 25 | 22 | 16  | 55  | 10 | 7   | 16  | 34 | 8  | 7  | 30  | 16  | 18  | 16  |
| Deesgea                             | 30 | 18 | 21  | 45  | 14 | 35    | 19 | 65 | 10 | 3   | 17  | 7  | 6   | 9   | 90 | 1  | 7  | 15  | 5   | 15  | 11  |
| unclassified Vernucomicrobiaceae    | 30 | 4  | 4   | 5   | 0  | 2     | 3  | 22 | 4  | 0   | 1   | 5  | 4   | 3   | 20 | 0  | 3  | 6   | 1   | 26  | 5   |
| Macrocoocus                         | 30 | 0  | 4   | 12  | 3  | 11    | 5  | 10 | 0  | 4   | 4   | 3  | 4   | 2   | 5  | 0  | 0  | 2   | 3   | 7   | 1   |
| Marinobacterium                     | 30 | 17 | 12  | 19  | 5  | 8     | 11 | 36 | 5  | 6   | 12  | 4  | 3   | 11  | 30 | 3  | 9  | 15  | 12  | 13  | 5   |
| Prototheca                          | 29 | 15 | 32  | 20  | 19 | 24    | 8  | 45 | 43 | 29  | 48  | 40 | 41  | 39  | 38 | 14 | 43 | 35  | 23  | 60  | 15  |
| Duganella                           | 29 | 51 | 26  | 81  | 48 | 25    | 45 | 49 | 22 | 66  | 118 | 69 | 35  | 135 | 78 | 7  | 63 | 119 | 117 | 109 | 175 |
| Sulfurivermis                       | 29 | 21 | 27  | 41  | 9  | 24    | 21 | 38 | 24 | 25  | 37  | 21 | 22  | 12  | 72 | 4  | 24 | 124 | 31  | 92  | 25  |
| Dermacoccus                         | 29 | 20 | 28  | 30  | 14 | 16    | 22 | 24 | 27 | 17  | 14  | 12 | 14  | 6   | 38 | 7  | 11 | 14  | 15  | 38  | 18  |
| Paeniclistridium                    | 29 | 12 | 23  | 19  | 19 | 18    | 15 | 18 | 11 | 17  | 30  | 17 | 11  | 11  | 21 | 3  | 24 | 11  | 20  | 11  | 8   |
| Usaltibacter                        | 29 | 19 | 22  | 23  | 13 | 22    | 15 | 43 | 11 | 16  | 29  | 10 | 8   | 11  | 51 | 3  | 15 | 95  | 19  | 84  | 9   |
| Tahibacter                          | 29 | 16 | 13  | 33  | 9  | 21    | 14 | 13 | 8  | 6   | 22  | 12 | 7   | 9   | 12 | 0  | 2  | 4   | 15  | 7   | 1   |
| Rosevivax                           | 29 | 20 | 13  | 24  | 8  | 27    | 13 | 14 | 13 | 10  | 17  | 11 | 6   | 11  | 26 | 3  | 2  | 7   | 18  | 11  | 5   |
| unclassified Sphingobacteriales     | 15 | 29 | 28  | 27  | 7  | 23    | 15 | 30 | 10 | 16  | 11  | 12 | 5   | 30  | 16 | 1  | 3  | 9   | 4   | 26  | 5   |
| Sneathia                            | 29 | 49 | 36  | 25  | 47 | 16    | 50 | 22 | 12 | 0   | 2   | 22 | 5   | 8   | 22 | 4  | 6  | 2   | 18  | 0   | 3   |
| Roseiclitrum                        | 29 | 25 | 17  | 26  | 6  | 26    | 32 | 22 | 15 | 5   | 19  | 5  | 5   | 14  | 30 | 2  | 3  | 9   | 14  | 17  | 5   |
| Lawsonella                          | 29 | 7  | 11  | 26  | 19 | 12    | 14 | 16 | 6  | 3   | 6   | 12 | 2   | 6   | 24 | 4  | 2  | 0   | 18  | 7   | 5   |
| Vequintavirus                       | 28 | 94 | 100 | 116 | 35 | 1,484 | 17 | 31 | 62 | 69  | 41  | 47 | 364 | 4   | 21 | 24 | 27 | 28  | 63  | 301 | 2   |
| Stella                              | 28 | 28 | 34  | 25  | 22 | 26    | 16 | 44 | 32 | 34  | 32  | 25 | 20  | 31  | 52 | 8  | 17 | 69  | 31  | 35  | 15  |
| Nitratoreductor                     | 28 | 22 | 30  | 38  | 19 | 26    | 14 | 39 | 13 | 29  | 35  | 20 | 17  | 19  | 34 | 4  | 12 | 15  | 29  | 11  | 7   |
| Metakosakonia                       | 28 | 60 | 31  | 49  | 15 | 26    | 52 | 36 | 41 | 130 | 108 | 21 | 13  | 13  | 36 | 2  | 10 | 35  | 18  | 25  | 46  |
| Actinomadura                        | 28 | 14 | 10  | 14  | 5  | 16    | 11 | 14 | 13 | 11  | 11  | 11 | 10  | 7   | 7  | 22 | 3  | 8   | 15  | 19  | 11  |
| Oesumbacterium                      | 28 | 42 | 17  | 39  | 5  | 3     | 6  | 56 | 12 | 1   | 11  | 3  | 4   | 0   | 70 | 2  | 1  | 6   | 1   | 1   | 2   |
| Thaumassivibrio                     | 28 | 12 | 8   | 25  | 2  | 3     | 6  | 33 | 4  | 1   | 4   | 2  | 2   | 6   | 29 | 3  | 7  | 7   | 0   | 1   | 3   |
| Tetrasenococcus                     | 28 | 18 | 22  | 20  | 0  | 11    | 15 | 16 | 1  | 2   | 11  | 6  | 2   | 4   | 43 | 0  | 0  | 6   | 11  | 4   | 0   |
| Amphritea                           | 28 | 23 | 10  | 35  | 2  | 4     | 8  | 45 | 7  | 6   | 11  | 0  | 1   | 0   | 52 | 1  | 3  | 5   | 0   | 3   | 0   |
| Mahella                             | 28 | 1  | 9   | 4   | 9  | 6     | 4  | 6  | 2  | 15  | 13  | 5  | 1   | 3   | 3  | 0  | 1  | 6   | 3   | 10  | 0   |
| Candidatus Formimonas               | 28 | 9  | 21  | 19  | 4  | 4     | 6  | 8  | 5  | 5   | 5   | 1  | 0   | 3   | 13 | 3  | 1  | 2   | 2   | 2   | 0   |
| environmental samples <mycoplasmas> | 28 | 17 | 31  | 63  | 30 | 22    | 33 | 28 | 1  | 2   | 9   | 5  | 0   | 3   | 40 | 0  | 0  | 2   | 3   | 2   | 3   |
| Stappia                             | 27 | 9  | 18  | 19  | 15 | 14    | 24 | 22 | 15 | 17  | 22  | 23 | 9   | 9   | 25 | 3  | 8  | 21  | 10  | 22  | 15  |
| Marinovum                           | 27 | 16 | 18  | 22  | 9  | 29    | 19 | 18 | 12 | 11  | 17  | 3  | 9   | 7   | 34 | 0  | 5  | 10  | 14  | 11  | 2   |
| Phnomibacter                        | 27 | 10 | 38  | 32  | 9  | 16    | 15 | 32 | 8  | 31  | 29  | 8  | 8   | 12  | 30 | 7  | 8  | 18  | 13  | 13  | 4   |
| Ketogulonigenium                    | 27 | 23 | 24  | 40  | 20 | 33    | 50 | 51 | 19 | 11  | 40  | 17 | 7   | 14  | 45 | 1  | 5  | 5   | 28  | 23  | 6   |
| Cellulosimicrobium                  | 27 | 15 | 25  | 13  | 13 | 14    | 12 | 6  | 17 | 19  | 13  | 7  | 10  | 34  | 9  | 7  | 10 | 17  | 51  | 11  | 14  |
| Rhodovulum                          | 27 | 13 | 14  | 19  | 10 | 23    | 11 | 20 | 9  | 15  | 27  | 11 | 6   | 16  | 35 | 1  | 12 | 40  | 10  | 26  | 8   |
| Nissabacter                         | 27 | 16 | 10  | 14  | 4  | 12    | 29 | 38 | 8  | 13  | 9   | 2  | 6   | 5   | 44 | 1  | 5  | 5   | 5   | 4   | 9   |
| Bilophia                            | 27 | 22 | 21  | 30  | 20 | 30    | 25 | 28 | 9  | 18  | 15  | 41 | 5   | 22  | 29 | 8  | 2  | 16  | 32  | 10  | 13  |
| Tatumella                           | 27 | 18 | 17  | 29  | 7  | 9     | 9  | 54 | 8  | 3   | 13  | 5  | 3   | 2   | 49 | 5  | 1  | 3   | 5   | 4   | 2   |
| Brachyspira                         | 27 | 10 | 30  | 95  | 9  | 23    | 10 | 11 | 8  | 2   | 25  | 4  | 2   | 0   | 23 | 1  | 0  | 24  | 3   | 0   | 1   |
| Curlobacterium                      | 27 | 15 | 20  | 14  | 13 | 12    | 12 | 17 | 19 | 20  | 24  | 13 | 1   | 5   | 24 | 9  | 6  | 14  | 13  | 27  | 10  |
| Kerstesia                           | 26 | 15 | 29  | 51  | 10 | 30    | 48 | 30 | 15 | 12  | 15  | 15 | 12  | 5   | 45 | 3  | 9  | 30  | 8   | 33  | 20  |
| unclassified Flavobacteriales       | 26 | 17 | 79  | 35  | 15 | 8     | 21 | 20 | 32 | 26  | 29  | 13 | 7   | 8   | 23 | 11 | 12 | 11  | 22  | 9   | 5   |
| Geomonas                            | 26 | 7  | 5   | 13  | 2  | 7     | 15 | 13 | 7  | 5   | 10  | 9  | 6   | 4   | 23 | 6  | 4  | 22  | 8   | 26  | 8   |
| Sanguibacter                        | 26 | 21 | 26  | 14  | 8  | 6     | 19 | 15 | 12 | 18  | 3   | 12 | 6   | 5   | 19 | 3  | 6  | 8   | 14  | 50  | 6   |
| Brenneria                           | 26 | 33 | 15  | 29  | 6  | 17    | 19 | 43 | 12 | 10  | 13  | 2  | 5   | 8   | 61 | 4  | 2  | 11  | 3   | 4   | 6   |
| Jannaschia                          | 26 | 10 | 15  | 17  | 7  | 27    | 15 | 19 | 20 | 14  | 18  | 17 | 3   | 4   | 23 | 5  | 3  | 8   | 11  | 8   | 7   |
| Pseudolabrys                        | 26 | 10 | 15  | 18  | 16 | 6     | 12 | 19 | 15 | 17  | 18  | 10 | 2   | 14  | 21 | 12 | 5  | 18  | 11  | 13  | 7   |
| Lysinibacillus                      | 26 | 18 | 23  | 24  | 3  | 10    | 16 | 20 | 3  | 5   | 8   | 5  | 2   | 10  | 33 | 0  | 3  | 12  | 2   | 15  | 1   |
| Thermanaerovibrio                   | 26 | 2  | 12  | 8   | 1  | 4     | 3  | 14 | 1  | 5   | 3   | 4  | 0   | 1   | 16 | 1  | 2  | 3   | 2   | 0   | 0   |
| Actinoplanes                        | 25 | 16 | 19  | 19  | 13 | 11    | 16 | 24 | 17 | 16  | 15  | 14 | 8   | 14  | 22 | 3  | 15 | 18  | 18  | 19  | 1   |
| Sarcina                             | 25 | 19 | 29  | 21  | 15 | 10    | 19 | 26 | 12 | 23  | 24  | 18 | 7   | 33  | 29 | 9  | 28 | 17  | 23  | 9   | 19  |
| Steroidobacter                      | 25 | 19 | 18  | 27  | 11 | 38    | 27 | 50 | 6  | 19  | 14  | 14 | 5   | 10  | 40 | 6  | 11 | 22  | 14  | 22  | 15  |
| Aquihabibans                        | 25 | 16 | 15  | 21  | 9  | 12    | 24 | 27 | 31 | 32  | 12  | 5  | 13  | 36  | 11 | 5  | 20 | 27  | 17  | 10  | 1   |
| Cellulosifecum                      | 25 | 20 | 33  | 24  | 17 | 16    | 14 | 17 | 12 | 8   | 2   | 10 | 3   | 5   | 21 | 6  | 7  | 0   | 1   | 6   | 1   |
| Syntrophobolulus                    | 25 | 12 | 20  | 24  | 8  | 5     | 5  | 16 | 2  | 2   | 1   | 1  | 2   | 1   | 23 | 0  | 4  | 0   | 3   | 9   | 2   |
| unclassified Rhizobiaceae           | 24 | 22 | 40  | 43  | 18 | 26    | 31 | 54 | 24 | 22  | 31  | 18 | 24  | 3   | 45 | 6  | 4  | 21  | 22  | 16  | 9   |
| Lacipirella                         | 24 | 8  | 17  | 20  | 14 | 11    | 15 | 24 | 26 | 32  | 34  | 25 | 17  | 14  | 21 | 10 | 29 | 11  | 45  | 9   | 12  |
| Halothiobacillus                    | 24 | 31 | 30  | 25  | 12 | 32    | 40 | 40 | 10 | 10  | 37  | 10 | 14  | 9   | 75 | 4  | 2  | 30  | 18  | 29  | 14  |
| Methylocystis                       | 24 | 11 | 8   | 19  | 10 | 12    | 10 | 33 | 16 | 19  | 20  | 16 | 10  | 7   | 31 | 6  | 5  | 21  | 18  | 6   | 8   |
| Cyprideis                           | 24 | 16 | 19  | 10  | 5  | 17    | 11 | 20 | 5  | 2   | 8   | 4  | 4   | 2   | 38 | 0  | 3  | 8   | 3   | 11  | 8   |
| Prosthecochloris                    | 24 | 5  | 13  | 9   | 4  | 7     | 4  | 8  | 7  | 14  | 4   | 0  | 3   | 1   | 20 | 2  | 6  | 12  | 6   | 22  | 3   |
| Alkalitales                         | 24 | 5  | 9   | 12  | 2  | 4     | 1  | 11 | 2  | 4   | 5   | 4  | 1   | 6   | 17 | 0  | 1  | 7   | 0   | 8   | 3   |
| Lentilactobacillus                  | 24 | 14 | 5   | 5   | 6  | 3     | 6  | 33 | 2  | 3   | 2   | 2  | 0   | 6   | 29 | 0  | 0  | 4   | 1   | 0   | 0   |
| Flumilobacter                       | 23 | 34 | 31  | 62  | 43 | 60    | 8  | 27 | 21 | 16  | 23  | 43 | 29  | 6   | 53 | 8  | 11 | 164 | 66  | 114 | 25  |
| Rhodospirillum                      | 23 | 20 | 19  | 35  | 18 | 32    | 21 | 39 | 20 | 10  | 19  | 25 | 28  | 12  | 39 | 7  | 12 | 34  | 11  | 27  | 12  |
| unclassified Rhodospirillaceae      | 23 | 14 | 14  | 19  | 9  | 11    | 9  | 26 | 17 | 11  | 20  | 11 | 13  | 9   | 23 | 12 | 11 | 7   | 15  | 18  | 8   |
| Pseudorhodoflex                     | 23 | 30 | 19  | 19  | 13 | 29    | 23 | 25 | 25 | 19  | 21  | 21 | 13  | 8   | 53 | 8  | 35 | 45  | 30  | 68  | 19  |
| Gibbsiella                          | 23 | 39 | 13  | 28  | 5  | 5     | 11 | 35 | 4  | 4   | 13  | 5  | 9   | 6   | 43 | 1  | 10 | 12  | 5   | 7   | 14  |
| Iodobacter                          | 23 | 28 | 22  | 35  | 14 | 18    | 16 | 49 | 7  | 2   | 10  | 9  | 6   | 3   | 61 | 1  | 4  | 12  | 4   | 7   | 9   |
| unclassified Attopobacterae         | 23 | 14 | 33  | 35  | 20 | 38    | 55 | 21 | 1  | 7   | 12  | 6  | 5   | 7   | 33 | 0  | 2  | 4   | 15  | 7   | 2   |
| Mannheimia                          | 23 | 2  |     |     |    |       |    |    |    |     |     |    |     |     |    |    |    |     |     |     |     |

|                                      |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------------------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Filifactor                           | 18 | 4  | 11 | 17 | 9  | 17 | 13 | 17 | 0   | 1   | 9   | 0   | 3   | 1   | 15  | 0   | 2   | 2   | 2   | 2   | 0   |
| Lawsonia                             | 18 | 7  | 12 | 26 | 11 | 12 | 5  | 9  | 1   | 7   | 4   | 8   | 2   | 8   | 8   | 0   | 0   | 6   | 8   | 9   | 1   |
| Cloning vector pMT494                | 18 | 9  | 17 | 28 | 14 | 20 | 20 | 18 | 3   | 2   | 8   | 9   | 1   | 5   | 26  | 0   | 3   | 1   | 9   | 1   | 1   |
| Catobacterium                        | 18 | 7  | 18 | 45 | 11 | 12 | 3  | 23 | 4   | 6   | 6   | 15  | 0   | 6   | 21  | 0   | 0   | 1   | 3   | 9   | 1   |
| unclassified Thiotrichales           | 18 | 3  | 2  | 3  | 0  | 1  | 3  | 3  | 0   | 1   | 2   | 0   | 0   | 0   | 25  | 0   | 0   | 0   | 1   | 0   | 0   |
| Sedimentibacter                      | 18 | 4  | 18 | 5  | 2  | 7  | 6  | 7  | 2   | 4   | 1   | 4   | 0   | 7   | 16  | 0   | 0   | 5   | 6   | 17  | 4   |
| Vectrevirus                          | 18 | 2  | 25 | 16 | 6  | 0  | 0  | 20 | 2   | 6   | 8   | 4   | 0   | 0   | 9   | 5   | 13  | 2   | 6   | 0   | 0   |
| Expression vector pUC57-Kan-blaiMP-1 | 17 | 32 | 41 | 49 | 25 | 32 | 34 | 42 | 28  | 28  | 53  | 35  | 11  | 21  | 44  | 10  | 43  | 66  | 98  | 38  | 57  |
| Tauneonella                          | 17 | 20 | 19 | 9  | 6  | 13 | 7  | 10 | 17  | 8   | 13  | 2   | 8   | 6   | 26  | 3   | 2   | 3   | 15  | 4   | 2   |
| Asticcacaulis                        | 17 | 35 | 35 | 31 | 10 | 20 | 15 | 94 | 157 | 39  | 19  | 5   | 5   | 3   | 175 | 5   | 4   | 5   | 13  | 2   | 5   |
| Xylanimonas                          | 17 | 19 | 15 | 16 | 7  | 11 | 10 | 20 | 15  | 10  | 14  | 8   | 4   | 6   | 18  | 4   | 8   | 20  | 14  | 51  | 5   |
| Thermobifida                         | 17 | 9  | 8  | 10 | 17 | 14 | 12 | 11 | 21  | 10  | 11  | 7   | 4   | 3   | 15  | 9   | 13  | 8   | 24  | 13  | 4   |
| Candidatus Minimicrobia              | 17 | 9  | 21 | 15 | 8  | 17 | 18 | 13 | 8   | 4   | 7   | 0   | 3   | 3   | 21  | 4   | 4   | 0   | 8   | 3   | 0   |
| Shimivella                           | 17 | 17 | 5  | 13 | 3  | 7  | 5  | 23 | 3   | 2   | 5   | 1   | 3   | 0   | 30  | 2   | 1   | 1   | 3   | 5   | 2   |
| Cloning vector pRGP Duo2             | 17 | 17 | 15 | 24 | 7  | 16 | 17 | 26 | 4   | 4   | 6   | 11  | 3   | 7   | 32  | 4   | 6   | 9   | 7   | 5   | 7   |
| Fluvicola                            | 17 | 12 | 35 | 17 | 7  | 22 | 20 | 17 | 5   | 10  | 12  | 1   | 2   | 6   | 21  | 0   | 2   | 2   | 4   | 14  | 4   |
| Methanotherix                        | 17 | 2  | 7  | 6  | 3  | 9  | 3  | 14 | 2   | 1   | 13  | 2   | 2   | 3   | 13  | 1   | 0   | 4   | 5   | 0   | 7   |
| Rhodobaca                            | 17 | 7  | 2  | 13 | 3  | 5  | 10 | 0  | 3   | 1   | 5   | 3   | 1   | 5   | 10  | 2   | 2   | 3   | 2   | 1   | 4   |
| Dolosigranulum                       | 17 | 1  | 7  | 4  | 4  | 8  | 6  | 0  | 3   | 2   | 1   | 0   | 1   | 1   | 3   | 143 | 0   | 6   | 31  | 3   | 24  |
| Elkqvistvirus                        | 17 | 9  | 10 | 2  | 4  | 28 | 15 | 9  | 0   | 2   | 2   | 2   | 1   | 1   | 1   | 6   | 0   | 1   | 0   | 2   | 0   |
| Nelumbo                              | 16 | 11 | 26 | 38 | 11 | 17 | 41 | 99 | 0   | 40  | 2   | 398 | 311 | 371 | 190 | 2   | 271 | 393 | 320 | 262 | 378 |
| Priestia                             | 16 | 16 | 20 | 49 | 10 | 12 | 12 | 29 | 54  | 78  | 318 | 159 | 102 | 90  | 41  | 7   | 80  | 173 | 233 | 117 | 166 |
| Saccharopolyspora                    | 16 | 13 | 9  | 12 | 6  | 13 | 7  | 7  | 10  | 9   | 13  | 11  | 10  | 6   | 11  | 7   | 8   | 8   | 13  | 14  | 2   |
| Komagataeibacter                     | 16 | 16 | 13 | 21 | 11 | 6  | 19 | 19 | 3   | 10  | 21  | 7   | 9   | 11  | 24  | 3   | 5   | 7   | 24  | 10  | 12  |
| Aerosolco                            | 16 | 19 | 18 | 20 | 14 | 18 | 7  | 22 | 22  | 14  | 27  | 16  | 9   | 9   | 45  | 8   | 9   | 17  | 18  | 24  | 9   |
| Parvibaculum                         | 16 | 15 | 22 | 24 | 15 | 21 | 16 | 18 | 9   | 17  | 7   | 5   | 7   | 4   | 25  | 0   | 8   | 59  | 15  | 40  | 61  |
| Sphingosinithalassobacter            | 16 | 20 | 15 | 14 | 5  | 4  | 17 | 6  | 18  | 9   | 16  | 6   | 7   | 10  | 18  | 5   | 5   | 6   | 19  | 9   | 3   |
| Thiodictyon                          | 16 | 9  | 5  | 6  | 2  | 7  | 9  | 19 | 5   | 5   | 15  | 9   | 6   | 7   | 18  | 3   | 9   | 46  | 11  | 39  | 11  |
| Salinibacterium                      | 16 | 6  | 5  | 7  | 2  | 6  | 11 | 13 | 8   | 7   | 7   | 6   | 6   | 2   | 12  | 0   | 0   | 7   | 7   | 13  | 0   |
| Desulfurispirillum                   | 16 | 12 | 8  | 13 | 2  | 11 | 3  | 5  | 7   | 10  | 2   | 10  | 5   | 4   | 15  | 2   | 5   | 43  | 6   | 12  | 3   |
| Hymenobacter                         | 16 | 16 | 19 | 24 | 6  | 8  | 9  | 14 | 8   | 5   | 8   | 3   | 5   | 5   | 18  | 0   | 3   | 9   | 8   | 10  | 13  |
| Aquiphara                            | 16 | 13 | 11 | 22 | 9  | 2  | 9  | 23 | 32  | 16  | 20  | 18  | 5   | 12  | 24  | 10  | 7   | 17  | 24  | 24  | 9   |
| Candidatus Mycosynbacter             | 16 | 14 | 20 | 10 | 5  | 14 | 15 | 12 | 5   | 4   | 7   | 11  | 4   | 4   | 6   | 0   | 0   | 2   | 2   | 12  | 0   |
| Myxococcus                           | 16 | 28 | 19 | 22 | 9  | 19 | 7  | 17 | 8   | 2   | 16  | 4   | 4   | 4   | 21  | 4   | 4   | 6   | 8   | 10  | 3   |
| Thiovum                              | 16 | 34 | 20 | 41 | 5  | 22 | 15 | 54 | 15  | 1   | 11  | 4   | 2   | 3   | 67  | 1   | 3   | 8   | 1   | 8   | 7   |
| Flaviflexus                          | 16 | 27 | 20 | 14 | 17 | 11 | 23 | 15 | 8   | 20  | 25  | 16  | 2   | 9   | 25  | 7   | 6   | 28  | 33  | 271 | 23  |
| Acidiphilium                         | 16 | 10 | 9  | 5  | 1  | 4  | 4  | 16 | 5   | 5   | 7   | 1   | 6   | 8   | 4   | 4   | 12  | 10  | 9   | 9   | 9   |
| Emidicia                             | 16 | 14 | 18 | 12 | 7  | 5  | 19 | 14 | 1   | 1   | 2   | 0   | 0   | 1   | 18  | 2   | 1   | 0   | 0   | 0   | 0   |
| Slackia                              | 16 | 7  | 27 | 17 | 14 | 14 | 17 | 20 | 9   | 0   | 9   | 9   | 0   | 6   | 21  | 1   | 3   | 10  | 10  | 0   | 1   |
| Pseudoflavonifractor                 | 16 | 9  | 18 | 12 | 8  | 17 | 10 | 12 | 0   | 0   | 2   | 7   | 0   | 3   | 6   | 0   | 0   | 2   | 1   | 1   | 0   |
| Tetrahymena                          | 15 | 12 | 29 | 20 | 3  | 26 | 13 | 4  | 66  | 344 | 338 | 290 | 705 | 458 | 61  | 26  | 88  | 97  | 122 | 231 | 129 |
| Thioalkalivibrio                     | 15 | 13 | 15 | 18 | 10 | 16 | 14 | 25 | 10  | 13  | 26  | 6   | 12  | 12  | 45  | 4   | 19  | 109 | 19  | 64  | 21  |
| Taeyamania                           | 15 | 21 | 14 | 24 | 6  | 6  | 11 | 12 | 5   | 4   | 12  | 4   | 7   | 3   | 19  | 1   | 1   | 4   | 8   | 0   | 2   |
| Sorangium                            | 15 | 4  | 20 | 15 | 5  | 5  | 8  | 11 | 5   | 15  | 5   | 5   | 7   | 3   | 16  | 6   | 6   | 13  | 7   | 10  | 1   |
| Phycococcus                          | 15 | 9  | 13 | 11 | 7  | 14 | 18 | 27 | 15  | 17  | 18  | 16  | 6   | 3   | 28  | 3   | 9   | 19  | 27  | 31  | 11  |
| unclassified Acidobacteria           | 15 | 1  | 19 | 12 | 8  | 4  | 8  | 6  | 13  | 11  | 7   | 1   | 5   | 9   | 18  | 1   | 3   | 5   | 21  | 5   | 2   |
| Sagittula                            | 15 | 19 | 9  | 20 | 8  | 27 | 22 | 23 | 11  | 11  | 19  | 9   | 5   | 14  | 36  | 4   | 5   | 8   | 10  | 11  | 11  |
| Candidatus Symbiobacter              | 15 | 15 | 13 | 25 | 8  | 17 | 15 | 17 | 13  | 3   | 7   | 15  | 4   | 10  | 20  | 0   | 7   | 36  | 14  | 23  | 34  |
| Parascardovia                        | 15 | 6  | 9  | 11 | 2  | 7  | 7  | 18 | 4   | 5   | 5   | 8   | 4   | 0   | 3   | 1   | 2   | 1   | 4   | 0   | 0   |
| Candidatus Azobacteroides            | 15 | 4  | 9  | 7  | 2  | 5  | 4  | 11 | 1   | 2   | 5   | 0   | 3   | 1   | 20  | 0   | 0   | 1   | 1   | 7   | 1   |
| Jiangella                            | 15 | 11 | 7  | 7  | 7  | 16 | 4  | 8  | 10  | 11  | 7   | 3   | 3   | 6   | 13  | 1   | 10  | 11  | 5   | 10  | 1   |
| Ruania                               | 15 | 15 | 13 | 11 | 10 | 4  | 4  | 16 | 6   | 9   | 6   | 8   | 3   | 4   | 10  | 4   | 7   | 7   | 14  | 33  | 3   |
| Hexanilla                            | 15 | 0  | 13 | 10 | 4  | 21 | 15 | 2  | 2   | 3   | 12  | 6   | 3   | 12  | 0   | 1   | 2   | 5   | 1   | 4   | 1   |
| Leptomyxys                           | 15 | 10 | 19 | 7  | 9  | 6  | 4  | 7  | 17  | 7   | 9   | 8   | 2   | 3   | 13  | 3   | 9   | 7   | 6   | 1   | 3   |
| unclassified Trabysvirinae           | 15 | 7  | 3  | 2  | 4  | 1  | 16 | 15 | 0   | 1   | 9   | 2   | 2   | 7   | 14  | 0   | 0   | 2   | 2   | 2   | 0   |
| Parasuterella                        | 15 | 9  | 17 | 15 | 9  | 19 | 14 | 5  | 3   | 1   | 9   | 15  | 1   | 1   | 7   | 0   | 3   | 0   | 20  | 5   | 3   |
| unclassified Desulfotribionales      | 15 | 4  | 1  | 7  | 0  | 2  | 7  | 18 | 1   | 3   | 9   | 1   | 1   | 3   | 10  | 0   | 5   | 3   | 6   | 0   | 0   |
| Jinshanibacter                       | 15 | 13 | 7  | 20 | 1  | 5  | 3  | 27 | 3   | 0   | 3   | 1   | 1   | 5   | 26  | 1   | 0   | 1   | 0   | 0   | 0   |
| Rouxella                             | 15 | 22 | 9  | 20 | 2  | 2  | 7  | 55 | 6   | 4   | 6   | 1   | 0   | 0   | 26  | 0   | 1   | 5   | 2   | 0   | 0   |
| Salinivibrio                         | 15 | 9  | 6  | 9  | 1  | 0  | 7  | 14 | 2   | 2   | 4   | 0   | 0   | 1   | 16  | 0   | 3   | 2   | 0   | 4   | 0   |
| Synergistes                          | 15 | 2  | 3  | 1  | 0  | 2  | 2  | 6  | 0   | 1   | 1   | 1   | 0   | 2   | 4   | 0   | 0   | 0   | 0   | 0   | 0   |
| Faecalibaculum                       | 15 | 27 | 6  | 37 | 38 | 22 | 13 | 11 | 2   | 2   | 9   | 6   | 0   | 4   | 18  | 0   | 1   | 10  | 7   | 0   | 1   |
| Fonsecaea                            | 14 | 16 | 14 | 11 | 12 | 16 | 3  | 25 | 21  | 11  | 17  | 15  | 9   | 16  | 17  | 10  | 15  | 24  | 8   | 3   | 3   |
| Malessezia                           | 14 | 14 | 4  | 9  | 14 | 15 | 87 | 10 | 12  | 14  | 9   | 8   | 7   | 42  | 2   | 14  | 4   | 2   | 3   | 4   | 0   |
| Dinoroseobacter                      | 14 | 12 | 9  | 20 | 5  | 13 | 15 | 5  | 10  | 4   | 19  | 10  | 6   | 3   | 10  | 2   | 2   | 2   | 5   | 8   | 5   |
| unclassified Vicinamibacteria        | 14 | 4  | 9  | 7  | 9  | 5  | 3  | 10 | 6   | 10  | 8   | 7   | 5   | 8   | 14  | 1   | 6   | 25  | 7   | 13  | 4   |
| Fibrobacter                          | 14 | 8  | 40 | 44 | 10 | 11 | 24 | 26 | 4   | 7   | 13  | 4   | 5   | 8   | 53  | 3   | 6   | 6   | 0   | 5   | 6   |
| Pelagibacterium                      | 14 | 10 | 6  | 6  | 5  | 11 | 4  | 7  | 2   | 4   | 7   | 2   | 5   | 6   | 8   | 2   | 6   | 1   | 2   | 3   | 2   |
| Ciceribacter                         | 14 | 7  | 14 | 9  | 5  | 6  | 12 | 17 | 7   | 6   | 4   | 4   | 5   | 1   | 15  | 2   | 3   | 7   | 9   | 11  | 6   |
| Gemmata                              | 14 | 10 | 12 | 5  | 5  | 11 | 7  | 19 | 27  | 12  | 11  | 9   | 5   | 7   | 14  | 6   | 0   | 16  | 16  | 6   | 3   |
| Iamia                                | 14 | 8  | 6  | 0  | 3  | 6  | 17 | 15 | 3   | 17  | 12  | 9   | 5   | 3   | 14  | 6   | 2   | 7   | 8   | 0   | 5   |
| Pontivivens                          | 14 | 9  | 13 | 9  | 6  | 7  | 9  | 13 | 20  | 11  | 13  | 12  | 4   | 2   | 10  | 1   | 0   | 3   | 7   | 1   | 2   |
| Sphingorhabdus                       | 14 | 14 | 18 | 20 | 16 | 6  | 9  | 15 | 10  | 8   | 15  | 10  | 9   | 6   | 23  | 4   | 2   | 15  | 14  | 1   | 5   |
| Methylothera                         | 14 | 11 | 6  | 10 | 1  | 4  | 3  | 18 | 4   | 0   | 4   | 0   | 4   | 0   | 18  | 1   | 1   | 2   | 4   | 0   | 0   |
| Nematocida                           | 14 | 10 | 13 | 3  | 5  | 2  | 0  | 0  | 11  | 8   | 49  | 10  | 4   | 13  | 3   | 7   | 3   | 8   | 10  | 3   | 1   |
| Rhodoblastus                         | 14 | 7  | 10 | 21 | 9  | 8  | 4  | 9  | 7   | 7   | 6   | 10  | 3   | 5   | 21  | 0   | 6   | 15  | 4   | 9   | 3   |
| Rodentibacter                        | 14 | 5  | 9  | 9  | 1  | 0  | 1  | 22 | 1   | 4   | 3   | 1   | 3   | 1   | 30  | 0   | 5   | 4   | 3   | 3   | 0   |
| Paenarthrobacter                     | 14 | 21 | 17 | 19 | 6  | 13 | 12 | 11 | 10  | 11  | 8   | 2   | 3   | 5   | 30  | 3   | 3   | 11  | 4   | 8   | 7   |
| Oscelius                             | 14 | 7  | 34 | 7  | 4  | 5  | 4  | 1  | 46  | 14  | 18  | 14  | 3   | 37  | 8   | 3   | 7   | 2   | 13  | 15  | 17  |
| Methylophaga                         | 14 | 7  | 4  | 18 | 3  | 7  | 0  | 15 | 8   | 2   | 4   | 0   | 2   | 1   | 19  | 0   | 3   | 5   | 8   | 8   | 1   |
| Kiritimatiella                       | 14 | 3  | 7  | 2  | 6  | 15 | 6  | 11 | 2   | 2   | 5   | 1   | 2   | 2   | 1   | 0   | 2   | 2   | 1   | 7   | 3   |
| Limnobaculum                         | 14 | 17 | 5  | 30 | 3  | 2  | 2  | 20 | 8   | 1   | 6   | 0   | 1   | 0   | 36  | 1   | 0   | 2   | 3   | 0   | 2   |
| Spirosoma                            | 14 | 6  | 14 | 9  | 5  | 17 | 8  | 5  | 9   | 1   | 0   | 13  | 8   | 5   | 11  | 1   |     |     |     |     |     |

|   |    |    |    |    |    |     |    |    |    |    |    |    |     |    |     |    |    |    |    |     |    |
|---|----|----|----|----|----|-----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|-----|----|
| Candidatus Methanomethylphilus          | 12 | 9  | 12 | 2  | 1  | 12  | 9  | 30 | 4  | 1  | 3  | 0  | 0   | 0  | 33  | 0  | 0  | 0  | 1  | 0   | 0  |
| Parabacteroides phage YZ-2015b          | 12 | 3  | 4  | 10 | 4  | 5   | 3  | 2  | 1  | 2  | 0  | 0  | 0   | 0  | 2   | 1  | 0  | 2  | 12 | 0   | 0  |
| Triticum                                | 11 | 10 | 22 | 22 | 4  | 20  | 16 | 21 | 92 | 52 | 29 | 15 | 33  | 14 | 239 | 5  | 48 | 93 | 50 | 87  | 17 |
| Microbailleur                           | 11 | 8  | 6  | 9  | 3  | 9   | 15 | 19 | 4  | 4  | 19 | 12 | 22  | 9  | 31  | 0  | 16 | 34 | 18 | 15  | 21 |
| unclassified Beijerinckiaceae           | 11 | 5  | 11 | 9  | 2  | 4   | 7  | 5  | 9  | 10 | 14 | 8  | 7   | 5  | 15  | 3  | 2  | 4  | 9  | 9   | 1  |
| Roseibacterium                          | 11 | 20 | 14 | 12 | 7  | 12  | 11 | 9  | 8  | 10 | 10 | 4  | 6   | 8  | 18  | 1  | 0  | 8  | 7  | 4   | 5  |
| unclassified Desulfotribionaceae        | 11 | 2  | 22 | 21 | 6  | 11  | 9  | 7  | 5  | 11 | 6  | 4  | 6   | 10 | 8   | 0  | 1  | 3  | 14 | 10  | 5  |
| Solimonas                               | 11 | 8  | 19 | 24 | 8  | 10  | 19 | 19 | 11 | 18 | 17 | 8  | 6   | 4  | 23  | 1  | 18 | 53 | 17 | 42  | 15 |
| Muricauda                               | 11 | 10 | 10 | 17 | 9  | 8   | 10 | 14 | 2  | 7  | 4  | 2  | 5   | 0  | 18  | 2  | 0  | 2  | 3  | 7   | 2  |
| Oceanicola                              | 11 | 8  | 9  | 13 | 5  | 9   | 9  | 11 | 5  | 6  | 5  | 8  | 5   | 5  | 10  | 0  | 1  | 4  | 6  | 5   | 1  |
| Propionivibrio                          | 11 | 5  | 6  | 6  | 2  | 6   | 4  | 8  | 4  | 1  | 4  | 3  | 5   | 3  | 13  | 0  | 2  | 35 | 5  | 31  | 2  |
| Pikeienella                             | 11 | 10 | 9  | 8  | 11 | 3   | 9  | 20 | 9  | 4  | 15 | 6  | 4   | 4  | 12  | 3  | 4  | 2  | 19 | 8   | 2  |
| Nitrospirillum                          | 11 | 11 | 19 | 20 | 4  | 8   | 12 | 14 | 10 | 3  | 11 | 9  | 4   | 4  | 19  | 1  | 5  | 11 | 11 | 9   | 9  |
| Acanthobacterium                        | 11 | 6  | 7  | 4  | 5  | 9   | 13 | 1  | 2  | 2  | 3  | 7  | 4   | 10 | 6   | 0  | 2  | 14 | 5  | 182 | 13 |
| Edaphobacter                            | 11 | 5  | 1  | 7  | 7  | 9   | 3  | 4  | 5  | 3  | 16 | 6  | 3   | 8  | 3   | 7  | 4  | 2  | 12 | 4   | 0  |
| Acidiferobacter                         | 11 | 3  | 8  | 8  | 5  | 11  | 2  | 9  | 1  | 2  | 2  | 0  | 3   | 6  | 34  | 3  | 3  | 9  | 2  | 17  | 3  |
| Cobelia                                 | 11 | 3  | 7  | 15 | 1  | 6   | 6  | 4  | 5  | 4  | 7  | 7  | 3   | 2  | 9   | 0  | 1  | 18 | 3  | 13  | 5  |
| Cryobacterium                           | 11 | 4  | 7  | 5  | 2  | 4   | 7  | 6  | 4  | 7  | 10 | 6  | 3   | 5  | 6   | 3  | 7  | 4  | 10 | 17  | 4  |
| unclassified Holophagales               | 11 | 6  | 10 | 3  | 2  | 3   | 16 | 7  | 2  | 3  | 1  | 2  | 4   | 13 | 0   | 3  | 6  | 3  | 14 | 5   |    |
| Puallimonas (ex Stolz et al. 2005)      | 11 | 7  | 24 | 18 | 4  | 14  | 12 | 15 | 7  | 4  | 8  | 4  | 2   | 7  | 26  | 4  | 6  | 24 | 5  | 22  | 4  |
| Thiohalobacter                          | 11 | 13 | 8  | 10 | 4  | 7   | 6  | 13 | 1  | 9  | 10 | 4  | 2   | 5  | 10  | 0  | 3  | 25 | 11 | 32  | 5  |
| Mus                                     | 11 | 4  | 4  | 13 | 2  | 0   | 0  | 5  | 6  | 5  | 6  | 0  | 2   | 6  | 12  | 1  | 0  | 1  | 0  | 2   | 11 |
| Frankia                                 | 11 | 5  | 12 | 6  | 5  | 3   | 3  | 8  | 5  | 6  | 7  | 4  | 1   | 3  | 4   | 1  | 0  | 2  | 2  | 4   | 1  |
| Conesbacter                             | 11 | 3  | 3  | 2  | 4  | 0   | 3  | 7  | 4  | 5  | 6  | 2  | 1   | 0  | 10  | 0  | 3  | 0  | 4  | 1   | 1  |
| Heyndrickia                             | 11 | 5  | 8  | 8  | 0  | 6   | 1  | 3  | 1  | 10 | 8  | 6  | 1   | 2  | 3   | 0  | 0  | 2  | 5  | 4   | 1  |
| Desulfosporosinus                       | 11 | 2  | 5  | 7  | 3  | 5   | 6  | 6  | 0  | 2  | 1  | 3  | 1   | 0  | 9   | 0  | 0  | 2  | 1  | 1   | 0  |
| Hydrocarbonitastica                     | 11 | 4  | 1  | 6  | 0  | 7   | 7  | 14 | 3  | 1  | 1  | 1  | 0   | 3  | 17  | 1  | 1  | 3  | 5  | 4   | 2  |
| Thiomicrohabdus                         | 11 | 7  | 4  | 8  | 1  | 0   | 0  | 17 | 3  | 1  | 1  | 1  | 0   | 0  | 23  | 2  | 0  | 1  | 0  | 1   | 0  |
| Dactyloporangium                        | 11 | 5  | 11 | 6  | 2  | 3   | 4  | 6  | 11 | 8  | 11 | 2  | 0   | 6  | 11  | 1  | 4  | 5  | 2  | 5   | 7  |
| Microcystis                             | 11 | 8  | 2  | 7  | 5  | 7   | 4  | 1  | 2  | 0  | 0  | 4  | 0   | 0  | 1   | 0  | 2  | 2  | 0  | 0   | 0  |
| Paucilactobacillus                      | 11 | 4  | 1  | 2  | 1  | 2   | 2  | 4  | 3  | 1  | 0  | 0  | 0   | 0  | 4   | 0  | 0  | 2  | 1  | 1   | 1  |
| Syntrophomonas                          | 11 | 3  | 4  | 9  | 3  | 4   | 4  | 9  | 3  | 0  | 0  | 0  | 0   | 0  | 10  | 0  | 0  | 0  | 0  | 4   | 0  |
| Tepidanaerobacter                       | 11 | 5  | 3  | 3  | 0  | 7   | 3  | 7  | 0  | 0  | 1  | 0  | 0   | 0  | 0   | 0  | 0  | 3  | 2  | 1   | 0  |
| Achlopiasma                             | 11 | 6  | 18 | 18 | 1  | 7   | 8  | 10 | 1  | 2  | 1  | 1  | 0   | 4  | 18  | 0  | 0  | 10 | 2  | 3   | 2  |
| Candidatus Nitrosotenuis                | 11 | 5  | 4  | 5  | 9  | 0   | 0  | 3  | 3  | 1  | 7  | 12 | 0   | 0  | 4   | 0  | 4  | 1  | 0  | 0   | 0  |
| Pamexvirus                              | 10 | 16 | 20 | 51 | 10 | 20  | 37 | 39 | 4  | 3  | 12 | 29 | 21  | 4  | 28  | 5  | 4  | 16 | 82 | 304 | 84 |
| Ooceraea                                | 10 | 4  | 14 | 4  | 4  | 6   | 6  | 10 | 8  | 13 | 12 | 4  | 11  | 9  | 6   | 12 | 4  | 6  | 5  | 7   | 8  |
| Pseudocylindrobacter                    | 10 | 4  | 21 | 16 | 8  | 5   | 2  | 15 | 6  | 8  | 4  | 6  | 9   | 3  | 8   | 0  | 6  | 5  | 9  | 15  | 0  |
| Demequina                               | 10 | 10 | 12 | 9  | 7  | 10  | 8  | 12 | 4  | 11 | 7  | 17 | 6   | 12 | 6   | 1  | 3  | 5  | 3  | 53  | 10 |
| Pseudoschierchia                        | 10 | 10 | 15 | 13 | 4  | 3   | 5  | 24 | 4  | 6  | 11 | 3  | 3   | 4  | 16  | 1  | 4  | 1  | 4  | 6   | 1  |
| Lonsdalea                               | 10 | 13 | 2  | 4  | 3  | 1   | 4  | 9  | 3  | 1  | 4  | 2  | 3   | 1  | 13  | 1  | 3  | 3  | 1  | 2   | 1  |
| Chryseoglobus                           | 10 | 5  | 7  | 10 | 7  | 5   | 5  | 6  | 6  | 5  | 6  | 1  | 3   | 1  | 10  | 0  | 4  | 2  | 9  | 4   | 5  |
| Jellybacter                             | 10 | 7  | 11 | 8  | 2  | 11  | 10 | 13 | 0  | 4  | 6  | 0  | 2   | 1  | 22  | 1  | 1  | 0  | 1  | 1   | 0  |
| Hydrogenophilus                         | 10 | 6  | 1  | 6  | 3  | 7   | 2  | 5  | 0  | 1  | 3  | 1  | 2   | 3  | 3   | 0  | 5  | 13 | 8  | 10  | 0  |
| Kybetococcus                            | 10 | 11 | 7  | 15 | 14 | 10  | 5  | 14 | 10 | 14 | 7  | 14 | 2   | 5  | 63  | 6  | 8  | 11 | 10 | 25  | 6  |
| unclassified Archaea                    | 10 | 11 | 10 | 14 | 8  | 5   | 9  | 7  | 2  | 3  | 3  | 4  | 2   | 5  | 15  | 1  | 3  | 5  | 6  | 4   | 9  |
| Tenacibaculum                           | 10 | 11 | 16 | 14 | 3  | 9   | 12 | 9  | 0  | 8  | 3  | 5  | 1   | 3  | 21  | 1  | 2  | 0  | 1  | 5   | 1  |
| Pelagibaca                              | 10 | 6  | 5  | 13 | 6  | 7   | 7  | 2  | 5  | 2  | 7  | 7  | 1   | 1  | 11  | 0  | 0  | 4  | 5  | 1   | 5  |
| Agarthyica                              | 10 | 10 | 3  | 13 | 0  | 6   | 7  | 5  | 1  | 1  | 2  | 2  | 1   | 4  | 12  | 3  | 1  | 4  | 4  | 2   | 4  |
| Serpentinicella                         | 10 | 3  | 2  | 2  | 1  | 1   | 2  | 2  | 0  | 7  | 0  | 2  | 1   | 0  | 7   | 0  | 0  | 3  | 2  | 11  | 0  |
| Antarcticobacterium                     | 10 | 1  | 4  | 2  | 0  | 7   | 2  | 3  | 0  | 0  | 0  | 0  | 0   | 0  | 3   | 0  | 0  | 0  | 0  | 7   | 2  |
| Pengzhongella                           | 10 | 3  | 2  | 5  | 1  | 2   | 2  | 5  | 7  | 5  | 2  | 2  | 0   | 2  | 4   | 1  | 1  | 2  | 5  | 5   | 3  |
| Pyropanimicrobium                       | 10 | 4  | 3  | 9  | 5  | 8   | 5  | 1  | 0  | 0  | 3  | 1  | 0   | 2  | 9   | 0  | 1  | 0  | 2  | 0   | 0  |
| Hathewayia                              | 10 | 7  | 7  | 6  | 2  | 4   | 6  | 11 | 3  | 4  | 2  | 2  | 0   | 14 | 0   | 0  | 1  | 2  | 2  | 0   | 1  |
| Fastidiosipila                          | 10 | 3  | 10 | 7  | 4  | 4   | 3  | 4  | 0  | 1  | 2  | 2  | 0   | 0  | 2   | 0  | 2  | 1  | 5  | 0   | 0  |
| Saccharofermentans                      | 10 | 6  | 3  | 1  | 0  | 0   | 3  | 9  | 0  | 0  | 0  | 0  | 0   | 1  | 5   | 0  | 0  | 0  | 0  | 0   | 0  |
| Thermoanaerobacterium                   | 10 | 10 | 14 | 24 | 2  | 7   | 8  | 17 | 7  | 4  | 9  | 1  | 0   | 2  | 16  | 0  | 2  | 1  | 6  | 2   | 4  |
| Slopevirus                              | 9  | 0  | 8  | 4  | 4  | 139 | 24 | 12 | 7  | 1  | 6  | 20 | 218 | 19 | 12  | 0  | 0  | 13 | 7  | 159 | 8  |
| Kribbella                               | 9  | 15 | 12 | 6  | 7  | 12  | 13 | 15 | 20 | 22 | 13 | 7  | 8   | 9  | 20  | 12 | 13 | 13 | 14 | 20  | 3  |
| Botrimarina                             | 9  | 4  | 4  | 10 | 5  | 3   | 4  | 7  | 5  | 7  | 9  | 14 | 6   | 5  | 4   | 4  | 2  | 4  | 11 | 2   | 0  |
| Vulpes                                  | 9  | 9  | 16 | 40 | 21 | 19  | 15 | 13 | 3  | 2  | 13 | 22 | 6   | 2  | 13  | 1  | 0  | 4  | 21 | 5   | 4  |
| Rhodoplanes                             | 9  | 1  | 9  | 11 | 4  | 3   | 11 | 7  | 3  | 8  | 9  | 1  | 5   | 0  | 15  | 0  | 8  | 6  | 6  | 5   | 5  |
| Hanleyngella                            | 9  | 20 | 21 | 9  | 18 | 8   | 22 | 8  | 21 | 14 | 33 | 13 | 5   | 6  | 15  | 6  | 2  | 13 | 9  | 5   | 4  |
| Messelbacter                            | 9  | 3  | 6  | 13 | 2  | 8   | 3  | 5  | 2  | 0  | 9  | 2  | 4   | 5  | 9   | 2  | 1  | 3  | 3  | 2   | 0  |
| unclassified Candidatus Nanoringivallia | 9  | 6  | 10 | 10 | 6  | 8   | 15 | 6  | 2  | 1  | 9  | 4  | 3   | 3  | 6   | 3  | 0  | 5  | 3  | 1   | 3  |
| Methylomagnus                           | 9  | 1  | 2  | 3  | 2  | 1   | 5  | 3  | 3  | 3  | 13 | 2  | 3   | 3  | 5   | 0  | 9  | 9  | 4  | 9   | 6  |
| Francisella                             | 9  | 7  | 8  | 6  | 3  | 2   | 5  | 9  | 1  | 1  | 1  | 2  | 3   | 2  | 9   | 0  | 1  | 4  | 0  | 5   | 9  |
| Beutenbergia                            | 9  | 4  | 1  | 0  | 3  | 3   | 1  | 4  | 5  | 7  | 3  | 2  | 3   | 3  | 4   | 2  | 2  | 2  | 1  | 6   | 0  |
| Alfia                                   | 9  | 3  | 15 | 7  | 6  | 5   | 2  | 9  | 7  | 11 | 11 | 4  | 2   | 10 | 9   | 0  | 6  | 3  | 12 | 5   | 10 |
| Pseudorhodoplanes                       | 9  | 8  | 3  | 4  | 4  | 7   | 6  | 8  | 6  | 8  | 6  | 12 | 2   | 1  | 19  | 1  | 5  | 3  | 7  | 3   | 1  |
| Methylosinus                            | 9  | 9  | 4  | 10 | 0  | 5   | 2  | 6  | 8  | 6  | 5  | 14 | 2   | 3  | 11  | 1  | 2  | 5  | 8  | 4   | 3  |
| Maritimibacter                          | 9  | 13 | 15 | 15 | 6  | 9   | 16 | 7  | 7  | 7  | 9  | 7  | 2   | 5  | 19  | 6  | 3  | 13 | 7  | 4   | 5  |
| Estuvinohalospira                       | 9  | 4  | 4  | 16 | 6  | 10  | 2  | 11 | 3  | 3  | 9  | 5  | 2   | 3  | 22  | 1  | 4  | 20 | 2  | 9   | 4  |
| Actinobaculum                           | 9  | 10 | 16 | 3  | 3  | 9   | 7  | 6  | 7  | 5  | 10 | 9  | 2   | 6  | 8   | 0  | 2  | 25 | 12 | 190 | 10 |
| Microtericola                           | 9  | 11 | 7  | 8  | 6  | 5   | 7  | 6  | 7  | 4  | 8  | 7  | 2   | 1  | 9   | 1  | 3  | 1  | 4  | 9   | 4  |
| bacterium A2                            | 9  | 1  | 2  | 4  | 2  | 3   | 2  | 4  | 5  | 3  | 2  | 0  | 2   | 0  | 8   | 1  | 1  | 22 | 0  | 23  | 5  |
| Microviridae sp. cTOX110                | 9  | 9  | 4  | 9  | 32 | 8   | 23 | 3  | 6  | 0  | 2  | 19 | 2   | 8  | 5   | 2  | 0  | 0  | 15 | 1   | 2  |
| Expression vector pUC57-Kan-mcr-9       | 9  | 8  | 11 | 2  | 1  | 2   | 4  | 20 | 2  | 2  | 4  | 0  | 2   | 4  | 7   | 2  | 2  | 11 | 4  | 4   | 2  |
| Paludibaculum                           | 9  | 4  | 14 | 7  | 0  | 5   | 5  | 11 | 5  | 4  | 1  | 4  | 1   | 67 | 12  | 5  | 1  | 3  | 3  | 8   | 2  |
| Cytophaga                               | 9  | 11 | 10 | 13 | 7  | 7   | 13 | 11 | 5  | 8  | 0  | 6  | 1   | 3  | 15  | 1  | 1  | 0  | 3  | 0   | 0  |
| Aquimarina                              | 9  | 8  | 13 | 8  | 1  | 13  | 12 | 7  | 2  | 4  | 3  | 3  | 1   | 1  | 16  | 0  | 1  | 2  | 0  | 2   | 3  |
| Youshuetia                              | 9  | 3  | 6  | 2  | 2  | 3   | 2  | 9  | 5  | 2  | 2  | 1  | 1   | 3  | 8   | 1  | 0  | 7  | 1  | 2   | 6  |
| Thermochromatium                        | 9  | 7  | 6  | 6  | 4  | 14  | 10 | 11 | 5  | 2  | 12 | 5  | 1   | 1  | 18  | 0  | 4  | 12 | 8  | 20  | 4  |
| Musicola                                | 9  | 4  | 3  | 8  | 2  | 4   | 7  | 11 | 2  | 1  | 3  | 0  | 1   | 1  | 14  | 0  | 1  | 3  | 5  | 2   | 2  |
| Thermomonospora                         | 9  | 5  | 9  | 3  | 5  | 7   | 5  | 2  | 7  | 3  | 8  | 1  | 1   | 2  | 10  | 5  |    |    |    |     |    |



|                                |   |    |    |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |    |
|--------------------------------|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|-----|----|----|----|----|----|----|
| Georhizobium                   | 7 | 15 | 8  | 13 | 3  | 8  | 7  | 7  | 7   | 6  | 4  | 5  | 5  | 6  | 26  | 1  | 2  | 8  | 10 | 5  | 3  |
| Silicimonas                    | 7 | 8  | 14 | 9  | 5  | 6  | 6  | 12 | 6   | 6  | 6  | 7  | 5  | 1  | 10  | 1  | 2  | 7  | 9  | 6  | 0  |
| Roseibalea                     | 7 | 2  | 5  | 7  | 3  | 2  | 1  | 5  | 4   | 7  | 3  | 1  | 4  | 3  | 5   | 2  | 3  | 3  | 1  | 6  | 1  |
| Paedobacteria                  | 7 | 11 | 9  | 17 | 6  | 7  | 7  | 14 | 3   | 9  | 6  | 5  | 4  | 3  | 14  | 1  | 4  | 2  | 3  | 6  | 3  |
| Dysodibacter                   | 7 | 19 | 9  | 10 | 3  | 5  | 3  | 41 | 153 | 50 | 54 | 10 | 3  | 15 | 32  | 3  | 2  | 8  | 1  | 2  | 2  |
| Psychrobacter                  | 7 | 12 | 19 | 14 | 10 | 4  | 8  | 13 | 5   | 11 | 12 | 2  | 3  | 8  | 31  | 1  | 4  | 20 | 20 | 29 | 32 |
| Acetococcus                    | 7 | 1  | 6  | 5  | 3  | 8  | 3  | 7  | 3   | 4  | 2  | 6  | 2  | 3  | 2   | 1  | 5  | 5  | 3  | 5  | 5  |
| Pseudorhodobacter              | 7 | 2  | 4  | 6  | 2  | 11 | 3  | 5  | 5   | 1  | 5  | 3  | 2  | 4  | 4   | 0  | 0  | 4  | 3  | 2  | 3  |
| Rivicola                       | 7 | 4  | 15 | 12 | 11 | 14 | 8  | 7  | 0   | 2  | 3  | 2  | 2  | 0  | 6   | 0  | 2  | 4  | 2  | 11 | 51 |
| Lentzea                        | 7 | 0  | 4  | 4  | 2  | 8  | 1  | 3  | 3   | 1  | 1  | 4  | 2  | 2  | 6   | 3  | 1  | 1  | 1  | 6  | 2  |
| Luteibalea                     | 7 | 3  | 3  | 4  | 0  | 1  | 1  | 4  | 6   | 5  | 2  | 4  | 1  | 4  | 10  | 0  | 6  | 1  | 1  | 1  | 4  |
| Pontibacter                    | 7 | 13 | 8  | 12 | 2  | 4  | 10 | 15 | 4   | 3  | 1  | 1  | 1  | 4  | 19  | 0  | 3  | 4  | 4  | 6  | 0  |
| Aegiceraivivinus               | 7 | 2  | 4  | 8  | 1  | 1  | 2  | 7  | 0   | 3  | 1  | 0  | 1  | 2  | 10  | 0  | 0  | 0  | 0  | 1  | 0  |
| Marinococcus                   | 7 | 2  | 3  | 1  | 6  | 5  | 4  | 1  | 1   | 1  | 8  | 4  | 1  | 3  | 6   | 0  | 1  | 3  | 2  | 0  | 3  |
| Yonghaparkia                   | 7 | 5  | 14 | 6  | 7  | 4  | 2  | 4  | 5   | 5  | 2  | 2  | 1  | 3  | 6   | 2  | 3  | 4  | 2  | 12 | 3  |
| Alloprevotella                 | 7 | 11 | 7  | 9  | 8  | 3  | 9  | 2  | 0   | 2  | 3  | 1  | 0  | 0  | 2   | 0  | 0  | 2  | 5  | 1  | 0  |
| unclassified Flammeovirgaceae  | 7 | 11 | 10 | 6  | 6  | 6  | 11 | 6  | 3   | 3  | 0  | 2  | 0  | 3  | 13  | 1  | 2  | 0  | 0  | 3  | 1  |
| Mycoavidus                     | 7 | 1  | 8  | 8  | 1  | 3  | 4  | 6  | 1   | 3  | 3  | 3  | 0  | 2  | 10  | 1  | 2  | 5  | 0  | 1  | 3  |
| Sulfuriculis                   | 7 | 2  | 4  | 8  | 1  | 5  | 0  | 11 | 3   | 4  | 5  | 2  | 0  | 0  | 17  | 1  | 2  | 13 | 0  | 9  | 5  |
| Endozoicomonas                 | 7 | 6  | 6  | 8  | 3  | 1  | 4  | 13 | 1   | 4  | 1  | 0  | 0  | 0  | 11  | 0  | 2  | 4  | 0  | 1  | 0  |
| Halaelia                       | 7 | 4  | 0  | 3  | 0  | 0  | 0  | 9  | 0   | 1  | 0  | 0  | 0  | 0  | 9   | 0  | 0  | 2  | 0  | 3  | 2  |
| Anatolimnocola                 | 7 | 0  | 6  | 4  | 2  | 1  | 1  | 3  | 2   | 5  | 6  | 2  | 0  | 0  | 5   | 2  | 5  | 4  | 10 | 3  | 0  |
| Scardovia                      | 7 | 1  | 3  | 2  | 1  | 10 | 2  | 1  | 0   | 1  | 3  | 5  | 0  | 0  | 7   | 0  | 3  | 1  | 0  | 0  | 0  |
| Kulzinella                     | 7 | 6  | 4  | 4  | 1  | 6  | 9  | 5  | 4   | 6  | 6  | 7  | 3  | 0  | 3   | 4  | 1  | 9  | 8  | 12 | 1  |
| Amphibaculus                   | 7 | 0  | 0  | 4  | 2  | 0  | 2  | 2  | 0   | 1  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 1  | 0  |
| Alkalibacter                   | 7 | 1  | 1  | 3  | 0  | 2  | 1  | 2  | 0   | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 0  | 0  |
| Tepidibacter                   | 7 | 0  | 2  | 6  | 4  | 2  | 1  | 2  | 0   | 0  | 2  | 1  | 0  | 2  | 1   | 0  | 2  | 0  | 1  | 1  | 1  |
| Alkalicella                    | 7 | 8  | 4  | 7  | 0  | 3  | 7  | 4  | 0   | 5  | 2  | 1  | 0  | 1  | 11  | 1  | 0  | 5  | 1  | 5  | 0  |
| Spiroplasma                    | 7 | 7  | 3  | 8  | 2  | 0  | 5  | 3  | 0   | 2  | 4  | 0  | 0  | 1  | 3   | 0  | 1  | 3  | 3  | 10 | 3  |
| Septimatevirus                 | 7 | 1  | 7  | 2  | 0  | 0  | 1  | 3  | 5   | 2  | 5  | 2  | 0  | 0  | 0   | 2  | 2  | 0  | 0  | 0  | 1  |
| Dexiosoma                      | 6 | 6  | 8  | 2  | 0  | 5  | 6  | 0  | 11  | 24 | 10 | 20 | 53 | 49 | 10  | 4  | 12 | 2  | 6  | 40 | 13 |
| Thalassobius                   | 6 | 11 | 11 | 10 | 4  | 15 | 13 | 12 | 3   | 6  | 12 | 8  | 11 | 7  | 24  | 3  | 7  | 6  | 6  | 8  | 1  |
| Paramecium                     | 6 | 1  | 2  | 0  | 0  | 0  | 5  | 12 | 0   | 2  | 0  | 1  | 9  | 0  | 966 | 2  | 0  | 4  | 1  | 2  | 1  |
| unclassified Pseudomonadaceae  | 6 | 15 | 26 | 13 | 11 | 11 | 10 | 20 | 10  | 12 | 26 | 12 | 8  | 5  | 23  | 4  | 7  | 13 | 20 | 5  | 18 |
| synthetic construct            | 6 | 7  | 6  | 9  | 27 | 12 | 30 | 6  | 26  | 3  | 19 | 22 | 8  | 9  | 51  | 11 | 4  | 5  | 19 | 4  | 1  |
| unclassified Chromatiaceae     | 6 | 9  | 11 | 10 | 3  | 5  | 5  | 6  | 4   | 2  | 6  | 5  | 7  | 2  | 17  | 2  | 2  | 22 | 5  | 18 | 4  |
| Falsairhodobacter              | 6 | 23 | 25 | 16 | 6  | 18 | 18 | 20 | 15  | 9  | 23 | 12 | 6  | 10 | 25  | 4  | 2  | 7  | 8  | 13 | 14 |
| Marinomonas                    | 6 | 8  | 8  | 9  | 4  | 3  | 5  | 13 | 10  | 11 | 17 | 9  | 6  | 5  | 25  | 3  | 7  | 17 | 15 | 7  | 4  |
| unclassified Sphingomonadaceae | 6 | 7  | 16 | 10 | 2  | 7  | 11 | 9  | 7   | 4  | 14 | 11 | 5  | 5  | 16  | 1  | 2  | 5  | 6  | 1  | 0  |
| Dietzia                        | 6 | 12 | 12 | 5  | 1  | 8  | 9  | 2  | 7   | 5  | 4  | 8  | 5  | 4  | 23  | 1  | 1  | 5  | 6  | 15 | 4  |
| Parachlamydia                  | 6 | 0  | 2  | 0  | 3  | 0  | 1  | 0  | 0   | 1  | 26 | 7  | 4  | 12 | 1   | 0  | 0  | 2  | 10 | 2  | 4  |
| Klasatospira                   | 6 | 6  | 6  | 7  | 6  | 6  | 3  | 7  | 10  | 9  | 11 | 4  | 4  | 3  | 12  | 2  | 0  | 14 | 7  | 12 | 3  |
| Streptacidiphilus              | 6 | 6  | 4  | 1  | 3  | 1  | 5  | 5  | 5   | 3  | 2  | 4  | 4  | 0  | 5   | 1  | 1  | 2  | 4  | 8  | 1  |
| Gallionella                    | 6 | 6  | 6  | 3  | 3  | 3  | 9  | 14 | 3   | 2  | 2  | 1  | 3  | 3  | 14  | 0  | 2  | 7  | 4  | 5  | 2  |
| Lutimicrobium                  | 6 | 3  | 3  | 1  | 0  | 2  | 3  | 3  | 2   | 4  | 1  | 0  | 3  | 3  | 2   | 0  | 1  | 4  | 4  | 7  | 1  |
| Verrucosipora                  | 6 | 3  | 0  | 1  | 3  | 0  | 1  | 0  | 1   | 2  | 5  | 3  | 3  | 1  | 2   | 0  | 1  | 1  | 1  | 2  | 0  |
| Mediteraneibacter              | 6 | 7  | 12 | 2  | 13 | 7  | 11 | 10 | 1   | 0  | 3  | 7  | 3  | 1  | 4   | 0  | 0  | 0  | 6  | 0  | 0  |
| Aquifia                        | 6 | 11 | 11 | 2  | 10 | 5  | 18 | 1  | 4   | 5  | 1  | 4  | 2  | 5  | 9   | 1  | 0  | 2  | 1  | 0  | 0  |
| Blattabacterium                | 6 | 3  | 6  | 7  | 1  | 3  | 7  | 7  | 0   | 2  | 1  | 0  | 2  | 1  | 10  | 1  | 2  | 2  | 0  | 1  | 0  |
| Roseibium                      | 6 | 4  | 5  | 6  | 2  | 6  | 3  | 3  | 0   | 0  | 3  | 4  | 2  | 0  | 9   | 1  | 4  | 2  | 1  | 3  | 4  |
| Aliroseovarius                 | 6 | 5  | 11 | 14 | 2  | 6  | 2  | 3  | 3   | 6  | 4  | 1  | 2  | 5  | 6   | 0  | 0  | 4  | 2  | 4  | 2  |
| Paraglaeicola                  | 6 | 8  | 4  | 13 | 3  | 5  | 3  | 16 | 2   | 7  | 3  | 2  | 2  | 1  | 13  | 1  | 1  | 5  | 3  | 2  | 0  |
| Marichromatium                 | 6 | 9  | 7  | 9  | 6  | 4  | 3  | 13 | 4   | 4  | 12 | 8  | 2  | 2  | 5   | 1  | 7  | 15 | 5  | 16 | 9  |
| Catenulipora                   | 6 | 2  | 2  | 1  | 2  | 0  | 1  | 0  | 1   | 1  | 3  | 3  | 0  | 1  | 3   | 0  | 0  | 3  | 2  | 2  | 1  |
| Pseudactinotalea               | 6 | 9  | 5  | 4  | 2  | 2  | 2  | 9  | 2   | 8  | 6  | 8  | 2  | 2  | 13  | 1  | 1  | 6  | 5  | 34 | 4  |
| Plantactinospira               | 6 | 1  | 3  | 3  | 1  | 1  | 5  | 1  | 4   | 4  | 3  | 2  | 2  | 1  | 1   | 1  | 6  | 0  | 4  | 2  | 2  |
| Microviridae sp. cTCVC7        | 6 | 0  | 6  | 10 | 8  | 3  | 8  | 4  | 2   | 0  | 4  | 2  | 2  | 0  | 4   | 0  | 0  | 4  | 4  | 2  | 2  |
| Candidatus Nomurabacteria      | 6 | 11 | 8  | 12 | 4  | 11 | 4  | 4  | 0   | 2  | 6  | 2  | 1  | 0  | 5   | 0  | 3  | 3  | 2  | 5  | 2  |
| Flaviumbacter                  | 6 | 8  | 15 | 10 | 0  | 3  | 6  | 9  | 10  | 8  | 9  | 5  | 1  | 1  | 9   | 2  | 9  | 3  | 5  | 3  | 2  |
| Panacibacter                   | 6 | 7  | 17 | 15 | 5  | 13 | 6  | 8  | 24  | 9  | 18 | 2  | 1  | 2  | 5   | 0  | 11 | 3  | 13 | 4  | 1  |
| Gramella                       | 6 | 4  | 10 | 12 | 2  | 3  | 9  | 8  | 1   | 2  | 3  | 1  | 1  | 0  | 15  | 0  | 0  | 1  | 2  | 0  | 0  |
| Ilyobacter                     | 6 | 2  | 4  | 11 | 3  | 2  | 6  | 5  | 1   | 2  | 3  | 1  | 1  | 1  | 12  | 0  | 2  | 2  | 0  | 0  | 0  |
| Sulfurifluvis                  | 6 | 3  | 4  | 4  | 2  | 6  | 4  | 1  | 0   | 4  | 3  | 0  | 1  | 0  | 11  | 2  | 1  | 12 | 4  | 0  | 0  |
| Thioferricoccus                | 6 | 3  | 0  | 8  | 0  | 3  | 0  | 4  | 3   | 0  | 6  | 0  | 0  | 1  | 5   | 11 | 1  | 5  | 8  | 1  | 8  |
| Halorhodospira                 | 6 | 2  | 0  | 2  | 1  | 2  | 1  | 4  | 4   | 0  | 4  | 2  | 1  | 0  | 3   | 0  | 0  | 3  | 2  | 8  | 2  |
| Oerskovia                      | 6 | 3  | 2  | 2  | 0  | 1  | 1  | 5  | 3   | 4  | 3  | 5  | 1  | 1  | 6   | 2  | 3  | 1  | 2  | 23 | 4  |
| Tetrasphaera                   | 6 | 3  | 4  | 2  | 4  | 0  | 1  | 0  | 5   | 2  | 5  | 5  | 1  | 4  | 4   | 0  | 3  | 2  | 6  | 7  | 2  |
| Actinokineospira               | 6 | 2  | 3  | 2  | 2  | 4  | 2  | 3  | 4   | 0  | 0  | 0  | 1  | 0  | 1   | 1  | 2  | 1  | 4  | 5  | 1  |
| unclassified Acidobacteriaceae | 6 | 0  | 0  | 1  | 0  | 0  | 2  | 4  | 0   | 2  | 1  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 0  | 0  |
| Fulvirigia                     | 6 | 0  | 6  | 5  | 0  | 1  | 4  | 2  | 1   | 3  | 2  | 0  | 0  | 0  | 0   | 2  | 0  | 0  | 1  | 0  | 1  |
| Nonlabens                      | 6 | 4  | 4  | 8  | 1  | 5  | 4  | 5  | 3   | 5  | 1  | 0  | 0  | 1  | 6   | 0  | 0  | 1  | 0  | 3  | 2  |
| Tamiana                        | 6 | 0  | 2  | 12 | 1  | 1  | 2  | 8  | 2   | 1  | 2  | 0  | 0  | 0  | 6   | 0  | 1  | 0  | 0  | 0  | 0  |
| Fascicibacter                  | 6 | 5  | 12 | 7  | 2  | 6  | 5  | 7  | 2   | 2  | 2  | 6  | 0  | 0  | 11  | 0  | 0  | 3  | 0  | 0  | 0  |
| Desulfotomile                  | 6 | 6  | 5  | 3  | 3  | 0  | 3  | 2  | 4   | 6  | 4  | 5  | 0  | 7  | 3   | 1  | 0  | 0  | 3  | 2  | 0  |
| Celerinatantimonas             | 6 | 1  | 2  | 2  | 0  | 0  | 3  | 8  | 0   | 0  | 0  | 0  | 0  | 1  | 7   | 0  | 1  | 2  | 1  | 0  | 0  |
| Ahniella                       | 6 | 2  | 3  | 0  | 4  | 2  | 0  | 2  | 0   | 0  | 0  | 0  | 0  | 0  | 3   | 1  | 1  | 1  | 1  | 2  | 0  |
| Mobiluncus                     | 6 | 2  | 3  | 2  | 2  | 5  | 1  | 4  | 1   | 2  | 5  | 3  | 0  | 0  | 8   | 0  | 0  | 0  | 2  | 10 | 2  |
| Varibaculum                    | 6 | 4  | 5  | 7  | 1  | 18 | 3  | 2  | 3   | 0  | 8  | 4  | 0  | 1  | 5   | 3  | 0  | 0  | 0  | 1  | 0  |
| Aurantimicrobium               | 6 | 5  | 9  | 14 | 11 | 4  | 3  | 0  | 4   | 2  | 0  | 6  | 0  | 4  | 14  | 0  | 0  | 2  | 5  | 8  | 0  |
| Mycetocola                     | 6 | 3  | 3  | 1  | 0  | 4  | 2  | 2  | 0   | 0  | 2  | 0  | 0  | 2  | 1   | 0  | 2  | 0  | 1  | 13 | 0  |
| Companilactobacillus           | 6 | 5  | 4  | 3  | 5  | 1  | 8  | 3  | 1   | 0  | 2  | 0  | 0  | 0  | 8   | 0  | 0  | 1  | 4  | 0  | 1  |
| Thermaerobacter                | 6 | 0  | 6  | 3  | 3  | 5  | 6  | 4  | 1   | 1  | 2  | 0  | 0  | 0  | 4   | 0  | 1  | 3  | 4  | 2  | 2  |
| Fascicimonas                   | 6 | 7  | 4  | 6  | 5  | 4  | 5  | 14 | 4   | 0  | 5  | 2  | 1  | 0  | 3   | 1  | 1  | 0  | 6  | 0  | 0  |
| Thermicola                     | 6 | 0  | 3  | 2  | 4  | 0  | 2  | 0  | 1   | 0  | 0  | 0  | 0  | 0  | 1   | 3  | 0  | 1  | 0  | 0  | 0  |
| unclassified Selenomonadales   | 6 | 4  | 2  | 8  | 2  | 3  | 5  | 7  | 0   | 0  | 0  | 0  | 0  | 0  | 6   | 0  | 2  | 0  | 0  | 0  | 0  |
| Scodosporium                   | 6 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 4  | 0  | 1  | 1  | 0  | 0   | 11 | 1  | 0  | 2  | 0  | 0  |
| Meleagris                      | 6 | 0  | 0  | 2  | 0  | 0  | 0  | 2  | 0   | 0  |    |    |    |    |     |    |    |    |    |    |    |

|  |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| classified Peptococcaceae              | 5 | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 2  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Holdemania                             | 5 | 0  | 2  | 0  | 2  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  |
| Solobacterium                          | 5 | 4  | 12 | 4  | 3  | 4  | 6  | 3  | 0  | 0  | 0  | 0  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 0  |
| Anaeromusa                             | 5 | 2  | 2  | 1  | 0  | 0  | 2  | 3  | 1  | 1  | 2  | 0  | 0  | 0  | 4  | 0  | 0  | 0  | 0  | 0  |
| Gottschalkia                           | 5 | 2  | 14 | 1  | 1  | 2  | 6  | 7  | 0  | 2  | 3  | 0  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 1  |
| Salmo                                  | 5 | 1  | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 1  | 2  | 0  | 0  | 0  | 1  | 0  | 1  | 2  | 1  | 1  |
| Spirastrum                             | 5 | 1  | 2  | 2  | 0  | 0  | 1  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  |
| Caulophthirus                          | 5 | 0  | 0  | 0  | 0  | 0  | 0  | 19 | 0  | 0  | 0  | 0  | 0  | 0  | 8  | 0  | 0  | 0  | 0  | 0  |
| environmental samples -viruses_order C | 5 | 4  | 7  | 9  | 8  | 0  | 5  | 13 | 1  | 3  | 5  | 8  | 0  | 0  | 11 | 0  | 1  | 40 | 12 | 17 |
| Lederbergvirus                         | 5 | 8  | 13 | 3  | 1  | 0  | 2  | 4  | 4  | 3  | 3  | 3  | 0  | 1  | 5  | 2  | 0  | 5  | 1  | 0  |
| Inducible shuttle vector pPW578        | 5 | 3  | 6  | 12 | 8  | 6  | 7  | 23 | 0  | 1  | 3  | 1  | 0  | 3  | 29 | 0  | 0  | 4  | 4  | 13 |
| Shuttle vector pYL001                  | 5 | 3  | 0  | 0  | 2  | 9  | 6  | 2  | 2  | 0  | 3  | 0  | 0  | 0  | 8  | 0  | 0  | 0  | 2  | 2  |
| Haematosporidium                       | 4 | 6  | 8  | 9  | 1  | 7  | 2  | 16 | 2  | 7  | 4  | 12 | 18 | 6  | 22 | 0  | 3  | 18 | 6  | 13 |
| Necator                                | 4 | 8  | 7  | 7  | 0  | 4  | 2  | 14 | 1  | 12 | 25 | 7  | 12 | 3  | 65 | 0  | 38 | 11 | 25 | 27 |
| Cyberindinera                          | 4 | 2  | 0  | 6  | 0  | 2  | 7  | 3  | 16 | 9  | 8  | 1  | 10 | 21 | 9  | 4  | 11 | 4  | 2  | 5  |
| Nitrocola                              | 4 | 6  | 4  | 3  | 0  | 0  | 4  | 8  | 4  | 7  | 10 | 11 | 6  | 6  | 4  | 4  | 0  | 3  | 9  | 7  |
| unclassified Chitinophagaceae          | 4 | 14 | 20 | 15 | 8  | 4  | 7  | 8  | 10 | 13 | 4  | 8  | 6  | 5  | 4  | 0  | 1  | 8  | 3  | 0  |
| Turricella                             | 4 | 6  | 5  | 12 | 4  | 5  | 4  | 13 | 3  | 6  | 17 | 6  | 5  | 5  | 15 | 1  | 11 | 15 | 12 | 26 |
| Pseudonurella                          | 4 | 3  | 2  | 1  | 3  | 1  | 1  | 0  | 1  | 5  | 1  | 2  | 4  | 0  | 1  | 0  | 0  | 0  | 0  | 0  |
| Antarcticobacter                       | 4 | 0  | 3  | 6  | 1  | 2  | 6  | 4  | 4  | 5  | 6  | 2  | 4  | 2  | 7  | 0  | 1  | 3  | 1  | 0  |
| Aquihabbus                             | 4 | 7  | 0  | 3  | 0  | 0  | 0  | 3  | 2  | 3  | 5  | 3  | 4  | 0  | 0  | 0  | 0  | 3  | 0  | 3  |
| Occludea                               | 4 | 10 | 5  | 6  | 3  | 12 | 2  | 4  | 6  | 7  | 7  | 2  | 4  | 4  | 10 | 2  | 2  | 6  | 7  | 21 |
| unclassified Geminicoccaceae           | 4 | 3  | 2  | 0  | 1  | 2  | 2  | 3  | 4  | 4  | 2  | 1  | 3  | 2  | 8  | 1  | 2  | 4  | 1  | 4  |
| Zymomonas                              | 4 | 12 | 3  | 8  | 4  | 7  | 6  | 7  | 7  | 7  | 15 | 5  | 3  | 5  | 19 | 0  | 4  | 5  | 5  | 2  |
| Thiooxytella                           | 4 | 3  | 8  | 9  | 1  | 4  | 0  | 7  | 3  | 1  | 2  | 4  | 3  | 7  | 11 | 0  | 0  | 17 | 0  | 11 |
| Fretibacterium                         | 4 | 5  | 3  | 7  | 1  | 2  | 4  | 2  | 0  | 2  | 1  | 1  | 3  | 0  | 3  | 1  | 0  | 0  | 0  | 0  |
| Alphabacter                            | 4 | 6  | 5  | 9  | 2  | 5  | 3  | 15 | 6  | 0  | 2  | 1  | 2  | 1  | 13 | 0  | 2  | 4  | 1  | 2  |
| Cystobacter                            | 4 | 2  | 4  | 3  | 0  | 1  | 1  | 8  | 0  | 0  | 1  | 0  | 2  | 0  | 4  | 0  | 2  | 0  | 3  | 1  |
| Salinimonas                            | 4 | 6  | 7  | 13 | 2  | 4  | 2  | 17 | 3  | 3  | 3  | 1  | 2  | 0  | 15 | 0  | 3  | 2  | 0  | 1  |
| Marmoricola                            | 4 | 4  | 9  | 1  | 5  | 2  | 5  | 3  | 2  | 12 | 5  | 5  | 2  | 2  | 7  | 3  | 5  | 9  | 8  | 7  |
| Geobacillus                            | 4 | 2  | 0  | 1  | 3  | 3  | 0  | 1  | 2  | 2  | 0  | 5  | 2  | 2  | 3  | 0  | 2  | 2  | 3  | 0  |
| Allisonella                            | 4 | 0  | 0  | 5  | 2  | 0  | 2  | 0  | 2  | 0  | 1  | 1  | 2  | 0  | 0  | 0  | 0  | 1  | 2  | 0  |
| Methanonegula                          | 4 | 6  | 8  | 11 | 3  | 8  | 7  | 12 | 2  | 1  | 3  | 2  | 2  | 3  | 16 | 2  | 0  | 4  | 2  | 1  |
| Bot                                    | 4 | 4  | 2  | 5  | 15 | 0  | 3  | 2  | 4  | 0  | 16 | 2  | 0  | 0  | 2  | 2  | 2  | 6  | 0  | 0  |
| Adineta                                | 4 | 12 | 49 | 11 | 9  | 21 | 22 | 12 | 20 | 36 | 5  | 16 | 2  | 40 | 18 | 2  | 17 | 7  | 37 | 23 |
| Microvirus                             | 4 | 3  | 0  | 10 | 5  | 0  | 5  | 4  | 1  | 2  | 5  | 1  | 2  | 2  | 3  | 2  | 4  | 1  | 3  | 2  |
| Broad host range reporter vector pMJ44 | 4 | 5  | 14 | 4  | 1  | 2  | 0  | 10 | 2  | 5  | 4  | 2  | 2  | 2  | 48 | 0  | 1  | 12 | 5  | 7  |
| Ruffobacter                            | 4 | 1  | 3  | 2  | 0  | 3  | 0  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 3  | 1  | 0  | 0  | 0  | 2  |
| unclassified Cytophagales              | 4 | 2  | 3  | 4  | 1  | 0  | 3  | 2  | 0  | 1  | 1  | 0  | 1  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| Cellulophaga                           | 4 | 6  | 4  | 10 | 2  | 6  | 7  | 5  | 0  | 0  | 1  | 1  | 1  | 1  | 10 | 0  | 0  | 0  | 2  | 1  |
| Kordia                                 | 4 | 2  | 3  | 5  | 1  | 3  | 4  | 2  | 3  | 1  | 0  | 0  | 1  | 3  | 3  | 0  | 3  | 2  | 2  | 4  |
| Minibacter                             | 4 | 3  | 7  | 3  | 0  | 4  | 2  | 5  | 2  | 3  | 1  | 0  | 1  | 0  | 11 | 1  | 1  | 2  | 0  | 3  |
| Merrinitella                           | 4 | 4  | 5  | 5  | 0  | 5  | 6  | 4  | 0  | 3  | 4  | 4  | 1  | 5  | 9  | 0  | 0  | 1  | 2  | 1  |
| Leptospirillum                         | 4 | 7  | 5  | 6  | 7  | 6  | 1  | 11 | 6  | 0  | 3  | 3  | 1  | 4  | 12 | 1  | 4  | 14 | 6  | 5  |
| Oricola                                | 4 | 5  | 4  | 8  | 2  | 3  | 5  | 1  | 3  | 4  | 6  | 6  | 1  | 2  | 5  | 2  | 2  | 4  | 3  | 3  |
| Parathizobium                          | 4 | 0  | 4  | 3  | 1  | 0  | 3  | 5  | 0  | 2  | 4  | 1  | 1  | 2  | 2  | 0  | 0  | 3  | 0  | 1  |
| Labilithrix                            | 4 | 2  | 1  | 0  | 4  | 0  | 0  | 3  | 5  | 0  | 4  | 6  | 6  | 1  | 0  | 2  | 3  | 2  | 1  | 0  |
| Polyangium                             | 4 | 4  | 1  | 1  | 1  | 2  | 1  | 4  | 0  | 1  | 0  | 0  | 1  | 0  | 2  | 1  | 1  | 0  | 1  | 0  |
| Helicobacter                           | 4 | 7  | 7  | 12 | 14 | 3  | 9  | 15 | 2  | 0  | 3  | 12 | 1  | 1  | 18 | 1  | 0  | 0  | 6  | 1  |
| Glimvairinus                           | 4 | 2  | 1  | 4  | 0  | 0  | 1  | 2  | 1  | 0  | 1  | 0  | 1  | 0  | 3  | 0  | 0  | 0  | 1  | 0  |
| Spirinbacter                           | 4 | 5  | 13 | 2  | 4  | 1  | 4  | 4  | 1  | 2  | 4  | 4  | 1  | 1  | 7  | 0  | 7  | 12 | 3  | 13 |
| Kangella                               | 4 | 3  | 3  | 1  | 1  | 0  | 2  | 4  | 4  | 0  | 0  | 0  | 0  | 0  | 7  | 0  | 1  | 0  | 0  | 0  |
| Allobranchiobius                       | 4 | 1  | 3  | 4  | 2  | 3  | 6  | 2  | 1  | 5  | 2  | 3  | 1  | 0  | 2  | 2  | 1  | 2  | 2  | 0  |
| Plantibacter                           | 4 | 3  | 7  | 7  | 4  | 2  | 8  | 3  | 2  | 3  | 2  | 1  | 1  | 5  | 7  | 0  | 0  | 3  | 9  | 18 |
| Ciadophialophora                       | 4 | 8  | 6  | 6  | 9  | 6  | 7  | 3  | 5  | 3  | 5  | 2  | 1  | 3  | 8  | 5  | 4  | 3  | 6  | 4  |
| Binary vector pSUNG                    | 4 | 3  | 1  | 4  | 0  | 0  | 0  | 3  | 1  | 1  | 0  | 0  | 1  | 2  | 5  | 0  | 0  | 0  | 0  | 0  |
| TMT phylum sp. oral taxon 952          | 4 | 4  | 1  | 2  | 2  | 1  | 3  | 0  | 0  | 2  | 4  | 0  | 0  | 0  | 2  | 0  | 0  | 1  | 0  | 0  |
| Flexistipes                            | 4 | 1  | 2  | 1  | 0  | 0  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 0  | 0  | 0  | 0  |
| Rhodocaloribacter                      | 4 | 2  | 3  | 1  | 2  | 2  | 2  | 1  | 0  | 0  | 2  | 0  | 0  | 0  | 1  | 0  | 0  | 3  | 0  | 0  |
| Aquifexum                              | 4 | 2  | 5  | 0  | 0  | 3  | 0  | 7  | 0  | 0  | 0  | 0  | 0  | 1  | 8  | 0  | 1  | 0  | 1  |    |
| unclassified Cryomorphaceae            | 4 | 1  | 2  | 1  | 1  | 0  | 2  | 2  | 0  | 1  | 1  | 0  | 3  | 0  | 1  | 1  | 0  | 0  | 0  | 0  |
| Aequorivita                            | 4 | 0  | 0  | 1  | 1  | 1  | 2  | 1  | 2  | 0  | 0  | 1  | 0  | 0  | 2  | 1  | 0  | 0  | 1  | 2  |
| Aureibaculum                           | 4 | 0  | 1  | 4  | 2  | 4  | 4  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 5  | 0  | 0  | 0  | 0  | 0  |
| Streptobacillus                        | 4 | 2  | 9  | 6  | 4  | 6  | 6  | 0  | 1  | 1  | 3  | 4  | 0  | 0  | 4  | 3  | 1  | 0  | 2  | 0  |
| Candidatus Paracaeidbacter             | 4 | 0  | 2  | 2  | 2  | 3  | 2  | 0  | 0  | 0  | 4  | 0  | 0  | 0  | 1  | 3  | 2  | 2  | 0  | 1  |
| Terrhabitans                           | 4 | 2  | 4  | 0  | 0  | 2  | 0  | 4  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 3  | 0  | 3  | 0  | 0  |
| Peteryoungia                           | 4 | 8  | 6  | 7  | 1  | 2  | 13 | 6  | 2  | 1  | 0  | 3  | 0  | 2  | 4  | 1  | 0  | 0  | 9  | 0  |
| Magnebococcus                          | 4 | 0  | 1  | 2  | 0  | 0  | 2  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3  | 0  |
| Glucobacter                            | 4 | 1  | 13 | 7  | 1  | 3  | 4  | 9  | 3  | 1  | 4  | 2  | 0  | 3  | 6  | 0  | 1  | 2  | 5  | 6  |
| Kozakia                                | 4 | 1  | 0  | 2  | 0  | 2  | 0  | 4  | 0  | 1  | 2  | 3  | 0  | 1  | 1  | 0  | 0  | 0  | 2  | 1  |
| Ephemerostipicola                      | 4 | 2  | 3  | 4  | 2  | 1  | 2  | 3  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 7  | 0  | 0  | 2  | 1  |
| Lacimicrobium                          | 4 | 2  | 1  | 4  | 0  | 0  | 6  | 7  | 4  | 0  | 0  | 0  | 0  | 1  | 6  | 0  | 0  | 1  | 2  | 0  |
| Teredinibacter                         | 4 | 0  | 3  | 2  | 0  | 0  | 0  | 1  | 0  | 0  | 1  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  |
| Sulfurifexum                           | 4 | 3  | 0  | 2  | 1  | 0  | 0  | 8  | 2  | 0  | 2  | 0  | 0  | 1  | 8  | 0  | 1  | 1  | 0  | 1  |
| Guyarkeria                             | 4 | 3  | 3  | 5  | 3  | 2  | 5  | 6  | 2  | 2  | 3  | 0  | 0  | 0  | 2  | 12 | 1  | 2  | 4  | 1  |
| Salinicola                             | 4 | 2  | 9  | 5  | 3  | 1  | 4  | 5  | 3  | 1  | 5  | 1  | 0  | 0  | 4  | 11 | 0  | 0  | 13 | 1  |
| Neptunomonas                           | 4 | 5  | 4  | 3  | 0  | 0  | 0  | 7  | 0  | 0  | 1  | 0  | 0  | 0  | 5  | 1  | 0  | 0  | 0  | 1  |
| Zophobibacillans                       | 4 | 5  | 1  | 3  | 1  | 1  | 2  | 7  | 0  | 2  | 6  | 0  | 0  | 0  | 1  | 7  | 0  | 1  | 2  | 2  |
| Ecteisla                               | 4 | 0  | 0  | 1  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Geodermatophilus                       | 4 | 4  | 6  | 5  | 0  | 1  | 2  | 4  | 6  | 2  | 5  | 3  | 0  | 0  | 2  | 3  | 1  | 2  | 3  | 5  |
| Intrasporangium                        | 4 | 1  | 11 | 6  | 6  | 2  | 5  | 6  | 4  | 11 | 3  | 3  | 0  | 3  | 8  | 1  | 2  | 3  | 0  | 8  |
| Diaminobutylicimonas                   | 4 | 2  | 2  | 3  | 5  | 3  | 1  | 2  | 1  | 0  | 4  | 4  | 0  | 3  | 8  | 0  | 2  | 4  | 2  | 9  |
| Frigoribacterium                       | 4 | 3  | 5  | 1  | 1  | 0  | 2  | 0  | 1  | 2  | 3  | 6  | 0  | 1  | 4  | 2  | 0  | 1  | 1  | 8  |
| Actinoalloteichus                      | 4 | 2  | 1  | 2  | 0  | 1  | 3  | 0  | 2  | 2  | 0  | 0  | 0  | 0  | 2  | 4  | 0  | 3  | 4  | 1  |
| Baekula                                | 4 | 4  | 0  | 3  | 1  | 1  | 1  | 2  | 1  | 0  | 2  | 0  | 0  | 0  | 3  | 0  | 0  | 2  | 2  | 1  |
| Cyanomol                               | 4 | 7  | 3  | 3  | 1  | 3  | 5  | 9  | 7  | 4  | 6  | 0  | 0  | 0  | 5  | 10 | 1  | 16 | 22 | 2  |
| Allycobacillus                         | 4 | 3  | 0  | 6  | 1  | 1  | 6  | 4  | 2  | 1  | 0  | 1  | 0  | 0  | 1  | 8  | 0  | 0  | 0  | 0  |
| Anaerobaculum                          | 4 | 0  | 2  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 4  | 0  | 0  | 2  | 0  |
| Cyrobacillus                           | 4 | 1  | 10 | 2  | 0  | 0  | 2  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 3  | 1  | 1  |
| unclassified Carnobacteriaceae         | 4 | 1  | 4  | 4  | 1  | 2  | 2  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 1  | 0  | 0  | 1  | 0  | 0  |
| Logotolobacillus                       | 4 | 0  | 3  | 5  | 2  | 0  | 1  | 1  | 2  | 1  | 0  | 0  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 0  |
| Peptostreptococcus                     | 4 | 0  | 0  | 0  | 1  | 9  | 2  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 1  | 0  |    |

|  |   |   |    |   |   |   |   |    |   |   |   |   |   |   |    |   |   |   |   |    |   |
|--|---|---|----|---|---|---|---|----|---|---|---|---|---|---|----|---|---|---|---|----|---|
| Candidatus Reidella                    | 3 | 1 | 2  | 2 | 0 | 0 | 0 | 0  | 0 | 1 | 1 | 0 | 1 | 2 | 1  | 0 | 0 | 3 | 0 | 2  | 1 |
| Halotalea                              | 3 | 1 | 5  | 5 | 1 | 4 | 4 | 6  | 0 | 5 | 9 | 4 | 1 | 2 | 6  | 2 | 4 | 5 | 3 | 2  | 0 |
| Saccharosporium                        | 3 | 3 | 3  | 7 | 0 | 2 | 6 | 6  | 0 | 0 | 1 | 0 | 1 | 0 | 5  | 0 | 2 | 2 | 3 | 1  | 1 |
| Albidocyclotella                       | 3 | 1 | 2  | 0 | 0 | 0 | 0 | 4  | 0 | 0 | 0 | 2 | 1 | 0 | 2  | 0 | 0 | 0 | 0 | 0  | 0 |
| Lipirivella                            | 3 | 0 | 0  | 0 | 0 | 3 | 0 | 0  | 0 | 0 | 0 | 0 | 1 | 0 | 2  | 0 | 1 | 0 | 0 | 0  | 0 |
| Ymella                                 | 3 | 1 | 7  | 2 | 0 | 2 | 0 | 3  | 5 | 3 | 4 | 3 | 1 | 0 | 1  | 4 | 3 | 5 | 2 | 8  | 1 |
| Castellatospora                        | 3 | 2 | 2  | 5 | 3 | 1 | 1 | 4  | 6 | 3 | 4 | 0 | 1 | 0 | 4  | 1 | 1 | 4 | 6 | 3  | 0 |
| bacterium 14                           | 3 | 0 | 0  | 1 | 1 | 1 | 0 | 0  | 0 | 0 | 0 | 0 | 1 | 3 | 1  | 0 | 1 | 1 | 0 | 1  | 2 |
| unclassified Ackermannviridae          | 3 | 1 | 2  | 3 | 0 | 3 | 2 | 2  | 0 | 0 | 6 | 0 | 1 | 0 | 2  | 1 | 0 | 0 | 1 | 1  | 0 |
| Acidobacteria subdivision 22           | 3 | 0 | 1  | 0 | 1 | 2 | 0 | 0  | 1 | 2 | 1 | 1 | 0 | 2 | 2  | 0 | 2 | 4 | 1 | 6  | 1 |
| Acidobacterium                         | 3 | 0 | 0  | 2 | 0 | 3 | 3 | 3  | 3 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 3 | 0 | 1  | 0 |
| unclassified Candidatus Gracilbacteria | 3 | 0 | 5  | 7 | 4 | 5 | 6 | 3  | 2 | 0 | 1 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 2 | 0  | 3 |
| Caldiserium                            | 3 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 2 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Endonitrosovibrio                      | 3 | 1 | 0  | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 4  | 0 | 0 | 0 | 0 | 0  | 0 |
| unclassified Elusimicrobia             | 3 | 2 | 4  | 3 | 0 | 2 | 5 | 3  | 4 | 0 | 0 | 1 | 0 | 0 | 0  | 2 | 2 | 1 | 0 | 0  | 2 |
| Cyclobacterium                         | 3 | 1 | 0  | 5 | 0 | 1 | 0 | 1  | 1 | 0 | 1 | 0 | 0 | 1 | 5  | 0 | 1 | 0 | 0 | 1  | 1 |
| unclassified Cytophagaceae             | 3 | 0 | 1  | 3 | 0 | 1 | 0 | 1  | 0 | 2 | 2 | 1 | 0 | 1 | 0  | 0 | 0 | 1 | 0 | 0  | 0 |
| Adhaeribacter                          | 3 | 0 | 0  | 3 | 0 | 1 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 1 | 1  | 0 | 0 | 0 | 0 | 1  | 0 |
| Constantimarinum                       | 3 | 1 | 6  | 2 | 0 | 2 | 1 | 2  | 0 | 0 | 0 | 0 | 0 | 0 | 6  | 0 | 0 | 2 | 0 | 1  | 0 |
| Urechidicola                           | 3 | 0 | 2  | 2 | 0 | 0 | 1 | 0  | 2 | 0 | 1 | 0 | 0 | 0 | 4  | 0 | 0 | 0 | 0 | 2  | 1 |
| Zhouia                                 | 3 | 1 | 0  | 0 | 0 | 0 | 1 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 1  | 0 |
| Owenweeksia                            | 3 | 4 | 6  | 4 | 1 | 1 | 1 | 2  | 1 | 0 | 1 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0  | 0 |
| Ignaviibacterium                       | 3 | 1 | 1  | 0 | 1 | 1 | 0 | 2  | 1 | 0 | 0 | 0 | 0 | 1 | 2  | 0 | 0 | 0 | 0 | 1  | 0 |
| Halterella                             | 3 | 2 | 0  | 0 | 0 | 1 | 3 | 1  | 0 | 1 | 0 | 0 | 1 | 1 | 0  | 0 | 2 | 2 | 1 | 0  | 1 |
| unclassified Fusobacteria              | 3 | 2 | 8  | 8 | 1 | 3 | 4 | 5  | 1 | 1 | 0 | 1 | 0 | 2 | 4  | 0 | 0 | 0 | 1 | 0  | 3 |
| Varilibacter                           | 3 | 1 | 1  | 1 | 1 | 0 | 4 | 4  | 0 | 6 | 3 | 2 | 0 | 0 | 3  | 0 | 2 | 1 | 1 | 1  | 1 |
| Kaustia                                | 3 | 3 | 2  | 5 | 1 | 4 | 2 | 2  | 5 | 4 | 1 | 5 | 0 | 3 | 7  | 1 | 1 | 2 | 1 | 3  | 2 |
| Aquasalinus                            | 3 | 0 | 0  | 1 | 0 | 1 | 1 | 3  | 0 | 1 | 0 | 2 | 0 | 1 | 0  | 0 | 1 | 0 | 1 | 0  | 1 |
| Maribus                                | 3 | 7 | 1  | 3 | 0 | 2 | 4 | 3  | 1 | 4 | 5 | 1 | 0 | 2 | 6  | 0 | 0 | 1 | 3 | 1  | 0 |
| Roseobacter                            | 3 | 1 | 3  | 5 | 1 | 3 | 3 | 2  | 0 | 1 | 0 | 0 | 0 | 1 | 5  | 0 | 2 | 1 | 1 | 1  | 2 |
| Acidibrevibacterium                    | 3 | 4 | 0  | 0 | 0 | 2 | 0 | 3  | 5 | 5 | 1 | 5 | 0 | 0 | 3  | 1 | 1 | 1 | 0 | 2  | 0 |
| Novosphingopyxis                       | 3 | 1 | 0  | 2 | 3 | 2 | 1 | 4  | 1 | 2 | 3 | 3 | 0 | 3 | 2  | 1 | 0 | 5 | 4 | 2  | 0 |
| Advenella                              | 3 | 3 | 4  | 3 | 4 | 1 | 4 | 5  | 1 | 2 | 3 | 2 | 0 | 1 | 9  | 0 | 0 | 8 | 2 | 5  | 1 |
| Desulfobacter                          | 3 | 3 | 0  | 0 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0  | 0 |
| Desulfobacterium                       | 3 | 1 | 0  | 0 | 0 | 1 | 0 | 0  | 0 | 0 | 2 | 1 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0  | 0 |
| Desulfurivibrio                        | 3 | 1 | 1  | 1 | 0 | 1 | 0 | 1  | 0 | 1 | 1 | 0 | 0 | 1 | 3  | 1 | 0 | 2 | 0 | 4  | 0 |
| Desulfosodiminicola                    | 3 | 0 | 1  | 6 | 1 | 5 | 1 | 0  | 1 | 2 | 0 | 0 | 0 | 0 | 5  | 1 | 0 | 2 | 2 | 3  | 0 |
| Paradesulfotribrio                     | 3 | 0 | 1  | 0 | 0 | 0 | 1 | 0  | 0 | 1 | 1 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0  | 0 |
| Oryzomonas                             | 3 | 0 | 0  | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Minicystis                             | 3 | 1 | 0  | 1 | 0 | 0 | 1 | 5  | 2 | 2 | 1 | 2 | 0 | 3 | 3  | 0 | 0 | 1 | 1 | 2  | 1 |
| unclassified Myxococcales              | 3 | 0 | 2  | 0 | 0 | 0 | 1 | 1  | 0 | 0 | 0 | 3 | 0 | 0 | 1  | 0 | 0 | 0 | 2 | 4  | 0 |
| unclassified Deltaproteobacteria       | 3 | 0 | 2  | 1 | 0 | 2 | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 4  | 0 | 1 | 1 | 0 | 0  | 0 |
| Saccharophagus                         | 3 | 6 | 5  | 3 | 2 | 1 | 0 | 4  | 1 | 0 | 2 | 0 | 0 | 0 | 5  | 1 | 2 | 2 | 0 | 0  | 1 |
| Halioglobus                            | 3 | 3 | 8  | 2 | 1 | 0 | 4 | 6  | 0 | 2 | 2 | 0 | 0 | 0 | 2  | 0 | 2 | 2 | 1 | 1  | 2 |
| Wenzhouxiangella                       | 3 | 1 | 1  | 5 | 1 | 1 | 1 | 3  | 0 | 1 | 2 | 0 | 0 | 2 | 2  | 0 | 0 | 3 | 1 | 5  | 0 |
| Candidatus Endonifla                   | 3 | 0 | 3  | 3 | 2 | 1 | 5 | 5  | 1 | 5 | 1 | 3 | 0 | 1 | 7  | 1 | 0 | 1 | 1 | 3  | 1 |
| Ketobacter                             | 3 | 2 | 0  | 1 | 0 | 0 | 3 | 2  | 2 | 0 | 1 | 0 | 0 | 0 | 2  | 0 | 3 | 2 | 0 | 0  | 0 |
| Avibacterium                           | 3 | 8 | 1  | 8 | 0 | 2 | 0 | 5  | 0 | 0 | 2 | 0 | 0 | 0 | 5  | 1 | 1 | 2 | 1 | 3  | 0 |
| Histophilus                            | 3 | 3 | 2  | 2 | 0 | 0 | 5 | 3  | 1 | 1 | 1 | 0 | 0 | 3 | 5  | 0 | 1 | 1 | 0 | 1  | 1 |
| Criblamydia                            | 3 | 0 | 0  | 3 | 0 | 1 | 2 | 2  | 1 | 0 | 0 | 0 | 0 | 1 | 0  | 0 | 0 | 0 | 0 | 2  | 0 |
| unclassified Lentisphaerae             | 3 | 0 | 1  | 2 | 0 | 0 | 2 | 2  | 1 | 1 | 0 | 0 | 0 | 1 | 2  | 1 | 0 | 1 | 1 | 1  | 0 |
| unclassified Physicphaerales           | 3 | 0 | 3  | 1 | 1 | 0 | 1 | 2  | 3 | 6 | 2 | 2 | 0 | 0 | 14 | 1 | 0 | 1 | 5 | 4  | 1 |
| unclassified Planctomycetates          | 3 | 0 | 1  | 1 | 0 | 1 | 1 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 1 | 1  | 0 |
| Prosthecoibacter                       | 3 | 0 | 1  | 2 | 0 | 0 | 0 | 0  | 0 | 1 | 2 | 3 | 2 | 0 | 1  | 0 | 5 | 0 | 1 | 0  | 2 |
| Leptospira                             | 3 | 2 | 2  | 2 | 0 | 2 | 3 | 8  | 4 | 1 | 0 | 1 | 0 | 2 | 6  | 1 | 0 | 0 | 5 | 2  | 0 |
| Spirochaeta                            | 3 | 0 | 0  | 0 | 2 | 1 | 0 | 0  | 0 | 0 | 0 | 1 | 0 | 0 | 3  | 0 | 0 | 0 | 1 | 1  | 0 |
| Nanchangia                             | 3 | 1 | 1  | 3 | 0 | 2 | 1 | 1  | 2 | 0 | 0 | 2 | 0 | 2 | 0  | 0 | 0 | 5 | 3 | 29 | 5 |
| Epidemidibacterium                     | 3 | 2 | 2  | 4 | 1 | 1 | 2 | 1  | 0 | 3 | 2 | 2 | 0 | 1 | 4  | 3 | 1 | 1 | 0 | 7  | 1 |
| Denitrobacterium                       | 3 | 5 | 4  | 6 | 7 | 7 | 6 | 9  | 1 | 1 | 2 | 3 | 0 | 4 | 5  | 0 | 0 | 0 | 3 | 1  | 0 |
| unclassified Amalimonadetes            | 3 | 2 | 6  | 1 | 0 | 0 | 1 | 1  | 0 | 0 | 3 | 1 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 2  | 0 |
| Herpetosiphon                          | 3 | 2 | 3  | 0 | 0 | 1 | 0 | 0  | 2 | 0 | 4 | 0 | 0 | 0 | 3  | 0 | 0 | 0 | 0 | 0  | 0 |
| Oceanithermus                          | 3 | 1 | 0  | 1 | 2 | 1 | 0 | 0  | 0 | 0 | 1 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0  | 0 |
| Thermus                                | 3 | 0 | 0  | 2 | 1 | 0 | 3 | 4  | 0 | 0 | 2 | 0 | 0 | 0 | 6  | 0 | 0 | 0 | 0 | 1  | 0 |
| Tumebacillus                           | 3 | 0 | 0  | 2 | 0 | 2 | 1 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0  | 0 |
| Pradosia                               | 3 | 0 | 0  | 0 | 0 | 0 | 2 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Virgibacillus                          | 3 | 2 | 4  | 2 | 2 | 6 | 8 | 3  | 0 | 2 | 0 | 1 | 0 | 0 | 2  | 0 | 0 | 1 | 1 | 4  | 1 |
| Thermobacillus                         | 3 | 0 | 1  | 0 | 0 | 1 | 1 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0  | 0 |
| Kurtzia                                | 3 | 1 | 8  | 4 | 0 | 1 | 3 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 4 | 0 | 0  | 0 |
| Solibacillus                           | 3 | 1 | 1  | 2 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 1 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0  | 0 |
| Staphylospora                          | 3 | 1 | 0  | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 1 |
| Trichococcus                           | 3 | 6 | 6  | 2 | 1 | 3 | 4 | 10 | 0 | 5 | 3 | 2 | 0 | 5 | 5  | 0 | 0 | 0 | 2 | 1  | 5 |
| Liquorilactobacillus                   | 3 | 2 | 2  | 3 | 3 | 0 | 0 | 0  | 0 | 0 | 3 | 0 | 0 | 0 | 0  | 1 | 0 | 1 | 2 | 0  | 0 |
| Leyella                                | 3 | 5 | 10 | 4 | 3 | 5 | 1 | 5  | 2 | 0 | 0 | 0 | 0 | 8 | 0  | 5 | 2 | 2 | 4 | 0  | 0 |
| Moorella                               | 3 | 0 | 3  | 4 | 2 | 0 | 1 | 6  | 0 | 1 | 0 | 1 | 0 | 1 | 10 | 0 | 0 | 1 | 0 | 2  | 2 |
| Thermoanaerobacter                     | 3 | 2 | 0  | 0 | 0 | 0 | 2 | 1  | 0 | 1 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Negativibacillus                       | 3 | 1 | 0  | 3 | 0 | 3 | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0  | 0 |
| Tissierella                            | 3 | 1 | 0  | 2 | 0 | 2 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 1 | 2  | 0 | 0 | 0 | 0 | 0  | 0 |
| Mesoplasma                             | 3 | 1 | 2  | 5 | 0 | 3 | 1 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 3  | 0 | 0 | 0 | 0 | 0  | 0 |
| Oceanotoga                             | 3 | 0 | 0  | 1 | 0 | 0 | 2 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Talaromyces                            | 3 | 0 | 0  | 0 | 0 | 0 | 2 | 4  | 2 | 0 | 0 | 0 | 0 | 0 | 4  | 2 | 0 | 0 | 0 | 0  | 1 |
| Apiotrichum                            | 3 | 0 | 3  | 1 | 0 | 0 | 2 | 0  | 1 | 0 | 1 | 1 | 0 | 1 | 3  | 0 | 2 | 1 | 2 | 0  | 0 |
| Sporosium                              | 3 | 1 | 0  | 0 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 4  | 0 | 0 | 0 | 0 | 0  | 0 |
| Acidipenser                            | 3 | 0 | 1  | 0 | 0 | 0 | 0 | 1  | 0 | 1 | 1 | 0 | 0 | 0 | 3  | 0 | 0 | 0 | 0 | 0  | 0 |
| Megachile                              | 3 | 1 | 1  | 0 | 1 | 0 | 1 | 0  | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Cyamopsis                              | 3 | 0 | 0  | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0 |
| Rahariannevirus                        | 3 | 2 | 6  | 8 | 4 | 8 | 2 | 2  | 0 | 1 | 0 | 0 | 0 | 0 | 9  | 0 | 0 | 0 | 0 | 0  | 2 |
| Johnsonvirus                           | 3 | 0 | 2  | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 2 | 1 | 0 | 0 | 0  | 0 |
| Microviridae sp. cb-4Q28               | 3 | 1 | 0  | 4 | 2 | 0 | 2 | 4  | 0 | 0 | 1 | 0 | 0 | 0 | 6  | 0 | 0 | 0 |   |    |   |

|                                       |   |   |    |    |    |    |   |    |   |   |   |   |   |   |    |   |   |    |   |    |   |
|---------------------------------------|---|---|----|----|----|----|---|----|---|---|---|---|---|---|----|---|---|----|---|----|---|
| Trichosporon                          | 2 | 0 | 2  | 0  | 2  | 2  | 2 | 2  | 3 | 0 | 0 | 0 | 1 | 0 | 6  | 0 | 1 | 1  | 2 | 0  | 2 |
| Gallus                                | 2 | 0 | 5  | 4  | 0  | 6  | 1 | 2  | 2 | 2 | 6 | 3 | 1 | 0 | 7  | 0 | 0 | 2  | 5 | 0  | 6 |
| Orthophagus                           | 2 | 2 | 2  | 5  | 1  | 1  | 3 | 1  | 0 | 4 | 5 | 2 | 1 | 2 | 3  | 1 | 1 | 9  | 8 | 8  | 6 |
| Gosypium                              | 2 | 1 | 2  | 5  | 2  | 1  | 0 | 0  | 1 | 0 | 0 | 3 | 1 | 0 | 1  | 0 | 0 | 3  | 0 | 1  | 0 |
| Puravirus                             | 2 | 6 | 3  | 24 | 1  | 1  | 4 | 5  | 3 | 0 | 3 | 0 | 1 | 0 | 5  | 2 | 1 | 3  | 1 | 1  | 0 |
| Candidatus Koribacter                 | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0 | 0 | 0 | 1 | 0 | 1 | 1  | 1 | 0 | 0  | 1 | 5  | 0 |
| Geothrix                              | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Holophaga                             | 2 | 0 | 1  | 1  | 0  | 0  | 0 | 0  | 2 | 1 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0  | 0 | 0  | 0 |
| Candidatus Saccharibacteria genomsp.  | 2 | 9 | 4  | 0  | 17 | 2  | 4 | 0  | 0 | 0 | 2 | 6 | 0 | 0 | 2  | 0 | 0 | 0  | 3 | 0  | 2 |
| TM7 phylum sp. oral taxon 349         | 2 | 6 | 4  | 9  | 4  | 6  | 9 | 2  | 4 | 1 | 0 | 0 | 0 | 0 | 4  | 0 | 0 | 0  | 4 | 0  | 0 |
| Rhodothermus                          | 2 | 0 | 0  | 0  | 0  | 5  | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 1 | 4  | 0 | 1 | 1  | 1 | 2  | 1 |
| Microbacter                           | 2 | 0 | 1  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0  | 0 |
| environmental samples <CFB group bac  | 2 | 0 | 0  | 0  | 1  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 1  | 0 |
| Termonas                              | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 1 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Rhodocyclophaga                       | 2 | 1 | 0  | 1  | 0  | 0  | 1 | 0  | 1 | 2 | 0 | 0 | 0 | 0 | 3  | 0 | 0 | 0  | 0 | 0  | 0 |
| Telluribacillus                       | 2 | 1 | 1  | 1  | 0  | 0  | 1 | 1  | 0 | 0 | 2 | 1 | 0 | 0 | 2  | 0 | 0 | 0  | 1 | 1  | 1 |
| Mangroviirga                          | 2 | 1 | 2  | 1  | 0  | 0  | 2 | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Crocinilomix                          | 2 | 0 | 0  | 0  | 0  | 1  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Arenibacter                           | 2 | 2 | 4  | 2  | 2  | 2  | 2 | 7  | 0 | 0 | 4 | 1 | 0 | 0 | 12 | 0 | 2 | 0  | 1 | 2  | 2 |
| Bizonia                               | 2 | 0 | 0  | 0  | 0  | 3  | 0 | 1  | 0 | 0 | 0 | 1 | 0 | 0 | 1  | 0 | 0 | 2  | 0 | 2  | 0 |
| Sediminicola                          | 2 | 0 | 2  | 1  | 0  | 0  | 2 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0  | 0 | 0  | 0 |
| Wenyngzhuangia                        | 2 | 0 | 2  | 3  | 0  | 1  | 1 | 1  | 0 | 1 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 1  | 0 | 1  | 0 |
| Figoriflavimonas                      | 2 | 1 | 2  | 0  | 0  | 1  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Rosellthermus                         | 2 | 4 | 7  | 1  | 0  | 1  | 1 | 2  | 1 | 0 | 0 | 2 | 0 | 2 | 9  | 2 | 1 | 9  | 2 | 1  | 0 |
| Candidatus Nitrohelix                 | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 1  | 0 |
| unclassified Nitrospiraceae           | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Methyloceanibacter                    | 2 | 0 | 3  | 1  | 0  | 0  | 3 | 2  | 0 | 0 | 3 | 0 | 3 | 1 | 2  | 1 | 3 | 5  | 3 | 0  | 0 |
| Hoeflea                               | 2 | 0 | 5  | 3  | 0  | 6  | 3 | 2  | 1 | 1 | 8 | 0 | 0 | 2 | 0  | 0 | 1 | 1  | 1 | 1  | 1 |
| Amaricoccus                           | 2 | 0 | 2  | 0  | 1  | 0  | 0 | 0  | 0 | 1 | 0 | 0 | 0 | 1 | 2  | 2 | 0 | 0  | 1 | 0  | 0 |
| Cognatishimia                         | 2 | 3 | 3  | 4  | 0  | 1  | 1 | 6  | 0 | 0 | 1 | 1 | 0 | 0 | 1  | 1 | 0 | 2  | 0 | 2  | 0 |
| Thalassococcus                        | 2 | 1 | 0  | 0  | 2  | 1  | 3 | 2  | 0 | 0 | 1 | 0 | 0 | 1 | 2  | 2 | 0 | 1  | 0 | 2  | 0 |
| Sandaracinobacter                     | 2 | 0 | 1  | 1  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| unclassified Sphingosiniciellaceae    | 2 | 0 | 2  | 5  | 4  | 0  | 3 | 3  | 3 | 4 | 1 | 2 | 0 | 0 | 1  | 0 | 2 | 2  | 0 | 1  | 1 |
| Brachymonas                           | 2 | 1 | 2  | 1  | 3  | 4  | 4 | 3  | 2 | 1 | 1 | 2 | 1 | 0 | 1  | 4 | 0 | 9  | 0 | 4  | 2 |
| Cateriaculibacter                     | 2 | 1 | 2  | 3  | 0  | 1  | 2 | 6  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0  | 0 |
| Disulfurimicrobium                    | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0  | 0 |
| unclassified Desulfobacterales        | 2 | 2 | 0  | 1  | 1  | 2  | 1 | 2  | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Desulfotolabium                       | 2 | 0 | 0  | 0  | 0  | 1  | 0 | 2  | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Melittangium                          | 2 | 0 | 4  | 1  | 0  | 1  | 3 | 3  | 4 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 2 | 0  | 0 | 0  | 0 |
| Vulgatibacter                         | 2 | 0 | 0  | 4  | 0  | 1  | 3 | 3  | 2 | 2 | 0 | 0 | 0 | 0 | 0  | 0 | 2 | 0  | 1 | 1  | 1 |
| Hydrogenimonas                        | 2 | 0 | 0  | 2  | 1  | 0  | 1 | 4  | 0 | 0 | 4 | 0 | 0 | 0 | 3  | 0 | 0 | 0  | 0 | 0  | 0 |
| Paraneutunicella                      | 2 | 5 | 4  | 4  | 0  | 3  | 3 | 7  | 1 | 0 | 1 | 1 | 0 | 0 | 11 | 1 | 0 | 2  | 0 | 0  | 1 |
| Litorilites                           | 2 | 2 | 0  | 4  | 0  | 0  | 0 | 0  | 1 | 1 | 0 | 0 | 0 | 0 | 4  | 1 | 0 | 0  | 2 | 0  | 0 |
| Candidatus Nitrospiroglobus           | 2 | 0 | 2  | 8  | 2  | 3  | 2 | 1  | 1 | 1 | 0 | 1 | 0 | 1 | 6  | 0 | 0 | 5  | 2 | 0  | 0 |
| Alkalimicrobia                        | 2 | 1 | 1  | 1  | 0  | 0  | 1 | 0  | 1 | 4 | 0 | 0 | 0 | 1 | 4  | 1 | 2 | 10 | 4 | 2  | 2 |
| Edothiorhodospira                     | 2 | 0 | 1  | 0  | 0  | 0  | 0 | 2  | 0 | 0 | 1 | 1 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0  | 0 |
| Granulosicoccus                       | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0  | 0 | 0  | 0 |
| environmental samples <enterobacteria | 2 | 0 | 3  | 2  | 2  | 0  | 0 | 2  | 0 | 0 | 1 | 0 | 0 | 0 | 4  | 0 | 0 | 1  | 0 | 0  | 0 |
| Venatorbacter                         | 2 | 8 | 2  | 6  | 2  | 3  | 1 | 10 | 1 | 2 | 0 | 0 | 0 | 1 | 7  | 2 | 0 | 0  | 0 | 0  | 0 |
| unclassified Vibrionales              | 2 | 1 | 0  | 2  | 0  | 0  | 1 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0  | 0 |
| Candidatus Protoclamydia              | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 1 | 0 | 1 | 0 | 0 | 0 | 0  | 1 | 0 | 2  | 2 | 1  | 0 |
| Mucisphaera                           | 2 | 0 | 0  | 1  | 0  | 0  | 1 | 0  | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 1 | 0  | 0 |
| Tuwongella                            | 2 | 2 | 2  | 3  | 0  | 0  | 0 | 2  | 6 | 2 | 2 | 0 | 0 | 2 | 2  | 0 | 2 | 1  | 4 | 0  | 0 |
| Singulaphaera                         | 2 | 1 | 1  | 4  | 0  | 2  | 0 | 3  | 9 | 2 | 2 | 0 | 0 | 1 | 4  | 1 | 1 | 3  | 3 | 4  | 0 |
| Methyloacidimicrobium                 | 2 | 0 | 3  | 4  | 0  | 3  | 5 | 0  | 1 | 0 | 2 | 1 | 0 | 1 | 4  | 0 | 0 | 1  | 2 | 2  | 1 |
| Alloscardovia                         | 2 | 0 | 0  | 2  | 0  | 1  | 4 | 3  | 0 | 0 | 2 | 1 | 0 | 0 | 4  | 0 | 0 | 0  | 0 | 0  | 0 |
| unclassified Geodermatophilaceae      | 2 | 0 | 2  | 2  | 1  | 1  | 0 | 0  | 2 | 0 | 0 | 1 | 0 | 1 | 5  | 1 | 1 | 4  | 2 | 1  | 0 |
| Kineococcus                           | 2 | 0 | 0  | 4  | 3  | 1  | 5 | 5  | 0 | 6 | 6 | 4 | 0 | 1 | 4  | 1 | 0 | 4  | 2 | 9  | 0 |
| unclassified Brevibacteriaceae        | 2 | 1 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 2 | 1  | 0 | 0 | 0  | 0 | 1  | 0 |
| Devriesia                             | 2 | 1 | 7  | 0  | 1  | 0  | 0 | 1  | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 2  | 1 | 16 | 1 |
| Jonesia                               | 2 | 2 | 1  | 0  | 1  | 0  | 1 | 0  | 1 | 2 | 1 | 1 | 0 | 1 | 2  | 0 | 0 | 1  | 0 | 3  | 0 |
| Cribbacter                            | 2 | 0 | 1  | 0  | 0  | 3  | 1 | 5  | 0 | 0 | 3 | 3 | 0 | 0 | 3  | 0 | 0 | 2  | 2 | 6  | 0 |
| Citricoccus                           | 2 | 3 | 5  | 5  | 6  | 1  | 1 | 2  | 1 | 5 | 5 | 2 | 0 | 1 | 6  | 2 | 1 | 1  | 5 | 16 | 6 |
| Polymorphospora                       | 2 | 0 | 2  | 3  | 0  | 2  | 0 | 4  | 3 | 0 | 0 | 1 | 0 | 3 | 2  | 0 | 4 | 1  | 2 | 1  | 1 |
| Acidinosynema                         | 2 | 2 | 2  | 4  | 4  | 1  | 2 | 3  | 2 | 2 | 2 | 2 | 0 | 1 | 1  | 2 | 0 | 4  | 4 | 2  | 0 |
| Kibdelosporangium                     | 2 | 0 | 3  | 1  | 0  | 2  | 0 | 3  | 3 | 2 | 2 | 2 | 0 | 3 | 1  | 0 | 2 | 1  | 2 | 3  | 0 |
| Streptomonospora                      | 2 | 1 | 0  | 1  | 0  | 0  | 2 | 0  | 2 | 0 | 1 | 2 | 0 | 0 | 4  | 0 | 0 | 0  | 1 | 3  | 3 |
| Coriobacterium                        | 2 | 2 | 10 | 5  | 2  | 1  | 3 | 2  | 0 | 0 | 2 | 1 | 0 | 0 | 1  | 1 | 0 | 0  | 2 | 0  | 0 |
| Capsulimonas                          | 2 | 0 | 0  | 1  | 0  | 0  | 1 | 3  | 1 | 0 | 0 | 0 | 0 | 0 | 3  | 0 | 0 | 0  | 0 | 0  | 0 |
| unclassified Fimbrimonadales          | 2 | 0 | 0  | 1  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| unclassified Chloroflexi              | 2 | 0 | 0  | 1  | 0  | 0  | 1 | 0  | 0 | 0 | 0 | 2 | 0 | 0 | 0  | 2 | 0 | 0  | 0 | 2  | 0 |
| Mesothermus                           | 2 | 4 | 4  | 9  | 5  | 2  | 3 | 12 | 0 | 0 | 2 | 0 | 0 | 0 | 11 | 0 | 6 | 0  | 8 | 0  | 0 |
| Alkalitoleribacillus                  | 2 | 0 | 2  | 2  | 0  | 0  | 2 | 0  | 1 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 1 | 0  | 0 | 0  | 0 |
| Caldivibacillus                       | 2 | 1 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 2 | 0  | 0 |
| Mesobacillus                          | 2 | 4 | 1  | 0  | 0  | 1  | 0 | 0  | 0 | 2 | 0 | 1 | 0 | 0 | 2  | 0 | 0 | 0  | 0 | 0  | 0 |
| Metabacillus                          | 2 | 4 | 1  | 1  | 1  | 1  | 2 | 0  | 1 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Neobacillus                           | 2 | 0 | 4  | 5  | 0  | 0  | 3 | 3  | 0 | 0 | 4 | 0 | 0 | 0 | 4  | 0 | 0 | 4  | 0 | 0  | 0 |
| Brochothrix                           | 2 | 1 | 1  | 0  | 1  | 0  | 2 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 6  | 0 | 0 | 0  | 0 | 0  | 0 |
| Jeotgallibacillus                     | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 1 |
| Ureibacillus                          | 2 | 2 | 5  | 4  | 0  | 4  | 1 | 2  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 7  | 3 | 0  | 0 |
| Sporolactobacillus                    | 2 | 0 | 0  | 0  | 0  | 0  | 2 | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Abyssosolibacter                      | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Walteria                              | 2 | 3 | 13 | 7  | 14 | 19 | 5 | 7  | 1 | 0 | 2 | 1 | 0 | 0 | 6  | 0 | 1 | 1  | 6 | 0  | 2 |
| Neglectibacter                        | 2 | 0 | 1  | 0  | 1  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Calditritiruptor                      | 2 | 0 | 3  | 2  | 2  | 1  | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 1 | 2  | 0 | 0 | 0  | 0 | 0  | 1 |
| Halocella                             | 2 | 1 | 0  | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0  | 0 |
| Succinilipira                         | 2 | 4 | 6  | 6  | 0  | 3  | 0 | 3  | 0 | 0 | 2 | 0 | 0 | 0 | 5  | 1 | 1 | 1  | 0 | 0  | 0 |
| Anaeroglobus                          | 2 | 0 | 1  | 2  | 0  | 2  | 2 | 0  | 0 | 0 | 2 |   |   |   |    |   |   |    |   |    |   |

|   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|
| Cloning vector pSC101-Bio-phaC-pct-G    | 2 | 0 | 0  | 2  | 0  | 2  | 0  | 3  | 0 | 2  | 2  | 2  | 0  | 1  | 8  | 0  | 0  | 2  | 0  | 0  | 0  |
| Cloning vector pWW3868                  | 2 | 1 | 2  | 1  | 0  | 0  | 4  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| Cloning vector pWW3872                  | 2 | 0 | 0  | 2  | 0  | 2  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 1  | 2  | 0  | 0  | 2  | 0  | 0  |
| Expression vector pUC57-Amp-araA        | 2 | 0 | 0  | 0  | 0  | 2  | 0  | 5  | 0 | 0  | 2  | 0  | 0  | 0  | 4  | 0  | 0  | 2  | 0  | 0  | 0  |
| Shuttle vector pLE5003                  | 2 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| Colplidium                              | 1 | 0 | 4  | 4  | 2  | 8  | 4  | 0  | 3 | 17 | 18 | 22 | 46 | 37 | 17 | 3  | 4  | 8  | 1  | 23 | 6  |
| unclassified Peduvirinae                | 1 | 3 | 2  | 10 | 3  | 5  | 28 | 4  | 7 | 0  | 12 | 0  | 12 | 7  | 5  | 2  | 2  | 4  | 2  | 7  | 8  |
| Indioeanicola                           | 1 | 5 | 4  | 7  | 3  | 3  | 1  | 11 | 4 | 5  | 1  | 4  | 7  | 1  | 7  | 3  | 0  | 9  | 2  | 7  | 6  |
| Paucimonas                              | 1 | 4 | 12 | 7  | 1  | 5  | 4  | 5  | 3 | 12 | 34 | 14 | 7  | 13 | 4  | 0  | 10 | 21 | 25 | 6  | 24 |
| Jedunavirus                             | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 12 | 0  | 0  | 7  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
| Nisaea                                  | 1 | 3 | 2  | 4  | 3  | 1  | 6  | 5  | 4 | 0  | 1  | 5  | 6  | 2  | 3  | 0  | 1  | 4  | 2  | 7  | 1  |
| Sinomonas                               | 1 | 8 | 5  | 3  | 5  | 4  | 2  | 2  | 7 | 3  | 4  | 2  | 6  | 3  | 9  | 3  | 2  | 3  | 5  | 18 | 2  |
| Filomicrobium                           | 1 | 3 | 2  | 3  | 3  | 0  | 2  | 5  | 0 | 2  | 4  | 2  | 4  | 2  | 1  | 0  | 0  | 0  | 4  | 1  | 0  |
| Pezodovirus                             | 1 | 0 | 0  | 0  | 0  | 1  | 0  | 2  | 0 | 1  | 0  | 0  | 4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  |
| Machinavirus                            | 1 | 0 | 4  | 6  | 26 | 60 | 32 | 4  | 0 | 0  | 4  | 0  | 4  | 0  | 4  | 12 | 4  | 0  | 0  | 0  | 4  |
| Granulibacter                           | 1 | 4 | 1  | 0  | 2  | 3  | 1  | 2  | 3 | 2  | 5  | 0  | 3  | 2  | 5  | 0  | 1  | 2  | 2  | 0  | 2  |
| Parashingopyxis                         | 1 | 1 | 2  | 8  | 1  | 2  | 3  | 4  | 0 | 1  | 3  | 3  | 3  | 0  | 2  | 0  | 3  | 1  | 4  | 1  | 0  |
| Thiopseudomonas                         | 1 | 4 | 1  | 2  | 0  | 1  | 0  | 5  | 3 | 0  | 1  | 0  | 3  | 1  | 16 | 0  | 1  | 1  | 2  | 3  | 6  |
| Neosasia                                | 1 | 1 | 2  | 0  | 0  | 0  | 1  | 0  | 0 | 0  | 0  | 1  | 2  | 1  | 0  | 1  | 0  | 1  | 1  | 2  | 0  |
| Paracaligenes                           | 1 | 2 | 2  | 2  | 0  | 3  | 3  | 0  | 1 | 2  | 1  | 0  | 2  | 1  | 1  | 0  | 0  | 1  | 1  | 1  | 0  |
| Pseudacidovorax                         | 1 | 1 | 1  | 5  | 1  | 4  | 2  | 5  | 2 | 3  | 5  | 2  | 2  | 0  | 4  | 0  | 1  | 4  | 5  | 9  | 8  |
| Methyloflavus                           | 1 | 2 | 0  | 1  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 1  | 2  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  |
| Caedibacter                             | 1 | 1 | 0  | 0  | 0  | 0  | 0  | 3  | 1 | 0  | 4  | 2  | 2  | 2  | 5  | 0  | 0  | 0  | 0  | 0  | 3  |
| Couchioplaines                          | 1 | 0 | 3  | 5  | 1  | 3  | 1  | 2  | 3 | 1  | 2  | 2  | 0  | 1  | 0  | 0  | 0  | 2  | 0  | 3  | 0  |
| Vanvira                                 | 1 | 1 | 3  | 2  | 3  | 0  | 0  | 2  | 1 | 0  | 1  | 1  | 2  | 4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Pan                                     | 1 | 1 | 0  | 0  | 3  | 2  | 1  | 1  | 3 | 0  | 0  | 1  | 2  | 4  | 14 | 3  | 0  | 5  | 3  | 0  | 1  |
| unclassified Vequivirinae               | 1 | 1 | 0  | 0  | 0  | 0  | 0  | 2  | 0 | 0  | 0  | 1  | 2  | 0  | 2  | 0  | 0  | 0  | 1  | 0  | 0  |
| Shuttle expression vector pEC-XX99-Gc   | 1 | 3 | 2  | 4  | 5  | 4  | 5  | 3  | 1 | 1  | 2  | 0  | 2  | 3  | 8  | 0  | 0  | 3  | 1  | 1  | 2  |
| Granulicella                            | 1 | 1 | 2  | 4  | 3  | 0  | 8  | 5  | 0 | 0  | 3  | 3  | 1  | 0  | 4  | 1  | 0  | 0  | 7  | 0  | 1  |
| Salinivirga                             | 1 | 7 | 5  | 2  | 0  | 0  | 4  | 7  | 3 | 0  | 3  | 1  | 1  | 0  | 6  | 0  | 0  | 2  | 0  | 2  | 0  |
| Ferruginibacter                         | 1 | 7 | 7  | 5  | 4  | 3  | 6  | 2  | 9 | 3  | 9  | 3  | 1  | 0  | 6  | 7  | 3  | 4  | 7  | 3  | 2  |
| Filimonas                               | 1 | 1 | 3  | 1  | 1  | 0  | 1  | 4  | 2 | 2  | 2  | 4  | 1  | 0  | 4  | 0  | 1  | 0  | 1  | 2  | 1  |
| Mongolitalea                            | 1 | 1 | 1  | 0  | 0  | 2  | 2  | 0  | 0 | 1  | 2  | 0  | 1  | 0  | 10 | 0  | 0  | 1  | 0  | 0  | 0  |
| Fibrella                                | 1 | 1 | 3  | 1  | 0  | 0  | 1  | 0  | 0 | 0  | 0  | 1  | 0  | 0  | 3  | 0  | 0  | 0  | 0  | 1  | 0  |
| Flavivirga                              | 1 | 0 | 1  | 1  | 2  | 2  | 1  | 0  | 0 | 1  | 0  | 0  | 1  | 0  | 3  | 0  | 0  | 1  | 0  | 0  | 1  |
| Zunongwangia                            | 1 | 0 | 0  | 0  | 1  | 1  | 0  | 0  | 0 | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 1  |
| Croceimicrobium                         | 1 | 4 | 6  | 2  | 0  | 0  | 3  | 5  | 0 | 0  | 2  | 0  | 1  | 0  | 4  | 0  | 1  | 2  | 0  | 0  | 0  |
| Anseongella                             | 1 | 0 | 0  | 2  | 1  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 0  |
| Boseoncola                              | 1 | 1 | 1  | 2  | 1  | 0  | 0  | 3  | 0 | 0  | 1  | 1  | 1  | 0  | 1  | 0  | 2  | 0  | 0  | 1  | 0  |
| Parashingorhabdus                       | 1 | 0 | 0  | 1  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Candidatus Kinetoplastibacterium        | 1 | 2 | 1  | 3  | 2  | 0  | 1  | 2  | 2 | 1  | 3  | 1  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 2  | 2  |
| unclassified Neisseriaceae              | 1 | 2 | 0  | 1  | 0  | 0  | 1  | 1  | 0 | 0  | 0  | 0  | 0  | 1  | 0  | 6  | 0  | 0  | 0  | 0  | 0  |
| Anchangium                              | 1 | 1 | 3  | 11 | 1  | 3  | 3  | 8  | 3 | 8  | 6  | 3  | 1  | 1  | 9  | 1  | 3  | 3  | 6  | 8  | 1  |
| Stigmatella                             | 1 | 0 | 2  | 0  | 1  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 1  | 1  | 0  | 0  | 1  | 3  | 1  | 1  | 1  |
| Sanderacarius                           | 1 | 4 | 2  | 1  | 1  | 2  | 8  | 4  | 1 | 1  | 0  | 2  | 1  | 2  | 3  | 1  | 1  | 1  | 2  | 0  | 1  |
| Colwellia                               | 1 | 2 | 0  | 3  | 0  | 1  | 1  | 6  | 1 | 2  | 1  | 0  | 1  | 2  | 3  | 0  | 0  | 2  | 0  | 6  | 0  |
| Fluocubibacter                          | 1 | 1 | 1  | 7  | 0  | 0  | 0  | 5  | 1 | 1  | 2  | 0  | 1  | 0  | 5  | 0  | 0  | 0  | 1  | 1  | 0  |
| Suttonella                              | 1 | 0 | 0  | 1  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| unclassified Porticocaceae              | 1 | 0 | 1  | 0  | 0  | 0  | 0  | 1  | 0 | 2  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  |
| Spongibacter                            | 1 | 1 | 0  | 1  | 0  | 1  | 0  | 0  | 1 | 1  | 2  | 0  | 1  | 0  | 1  | 1  | 3  | 3  | 0  | 0  | 0  |
| Ignatzschineria                         | 1 | 1 | 1  | 1  | 0  | 5  | 6  | 2  | 4 | 2  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 3  | 0  | 0  | 2  |
| Aquicella                               | 1 | 0 | 0  | 0  | 2  | 1  | 0  | 0  | 1 | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
| Methylobacterium                        | 1 | 0 | 0  | 2  | 0  | 1  | 0  | 2  | 0 | 0  | 0  | 0  | 1  | 0  | 3  | 0  | 2  | 1  | 1  | 0  | 0  |
| Flagellatimonas                         | 1 | 1 | 5  | 3  | 3  | 4  | 5  | 3  | 1 | 1  | 1  | 1  | 2  | 9  | 1  | 3  | 0  | 15 | 1  | 6  | 1  |
| Paraphotobacterium                      | 1 | 2 | 0  | 1  | 1  | 1  | 1  | 2  | 1 | 0  | 0  | 0  | 1  | 0  | 5  | 0  | 0  | 1  | 0  | 0  | 0  |
| Phycisphaera                            | 1 | 0 | 2  | 3  | 0  | 0  | 1  | 4  | 0 | 0  | 0  | 0  | 1  | 1  | 0  | 4  | 0  | 0  | 3  | 0  | 2  |
| Humisphaera                             | 1 | 2 | 0  | 0  | 2  | 0  | 1  | 2  | 0 | 0  | 4  | 0  | 1  | 0  | 2  | 0  | 0  | 3  | 0  | 0  | 0  |
| Luteipulveratus                         | 1 | 1 | 3  | 0  | 1  | 1  | 1  | 0  | 2 | 2  | 2  | 3  | 1  | 0  | 3  | 1  | 2  | 1  | 3  | 1  | 1  |
| Alloactinosynnema                       | 1 | 4 | 0  | 3  | 0  | 1  | 5  | 2  | 2 | 3  | 0  | 2  | 1  | 0  | 3  | 0  | 0  | 2  | 3  | 6  | 0  |
| Sphaerisporangium                       | 1 | 0 | 0  | 1  | 0  | 0  | 1  | 0  | 0 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Niallia                                 | 1 | 1 | 3  | 3  | 2  | 2  | 2  | 0  | 1 | 0  | 0  | 2  | 1  | 0  | 2  | 0  | 0  | 0  | 0  | 1  | 0  |
| Anaeorhancina                           | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Strongyloides                           | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 2 | 1  | 0  | 1  | 1  | 6  | 1  | 0  | 0  | 3  | 2  | 4  | 0  |
| Meloidiopsis                            | 1 | 8 | 0  | 5  | 0  | 5  | 1  | 9  | 4 | 4  | 0  | 0  | 1  | 2  | 8  | 0  | 0  | 2  | 7  | 3  | 3  |
| Polliopsis                              | 1 | 0 | 0  | 1  | 0  | 0  | 0  | 0  | 1 | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 1  | 0  |
| Gibbula                                 | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 2  | 0 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  |
| Solanum                                 | 1 | 4 | 3  | 0  | 0  | 1  | 0  | 1  | 5 | 5  | 6  | 6  | 1  | 3  | 6  | 5  | 0  | 2  | 4  | 5  | 3  |
| Oryza                                   | 1 | 3 | 2  | 4  | 1  | 0  | 2  | 5  | 0 | 1  | 2  | 0  | 1  | 4  | 7  | 0  | 0  | 0  | 2  | 3  | 0  |
| Acanthamoeba castellanii medusavirus    | 1 | 0 | 3  | 6  | 3  | 2  | 2  | 0  | 1 | 0  | 6  | 5  | 1  | 4  | 19 | 0  | 16 | 94 | 9  | 83 | 12 |
| Corticoviridae                          | 1 | 1 | 2  | 3  | 0  | 0  | 1  | 0  | 0 | 0  | 2  | 3  | 1  | 0  | 0  | 0  | 2  | 0  | 0  | 1  | 1  |
| Acidisarcina                            | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  |
| Sulfidibacter                           | 1 | 0 | 0  | 1  | 0  | 0  | 1  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 6  | 2  | 1  | 0  |
| Hydrogenothermus                        | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Persephonella                           | 1 | 0 | 2  | 0  | 0  | 0  | 1  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 0  |
| candidate division WOR-3                | 1 | 0 | 0  | 0  | 0  | 0  | 1  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| unclassified Candidatus Bipolaricaulota | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  |
| Candidatus Sumeriaea                    | 1 | 0 | 0  | 0  | 1  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 1  | 1  | 1  | 0  |
| environmental samples <CFB group bac    | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Tidjaniibacter                          | 1 | 0 | 2  | 0  | 0  | 0  | 0  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| unclassified Rikenellaceae              | 1 | 0 | 0  | 1  | 0  | 0  | 1  | 1  | 0 | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  |
| Ancylomarina                            | 1 | 0 | 1  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  |
| Prolixibacter                           | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Bernardella                             | 1 | 0 | 2  | 2  | 1  | 0  | 0  | 3  | 0 | 1  | 0  | 0  | 0  | 3  | 3  | 0  | 0  | 1  | 0  | 0  | 0  |
| Flammovirga                             | 1 | 3 | 7  | 7  | 2  | 5  | 5  | 3  | 1 | 0  | 0  | 0  | 0  | 3  | 7  | 0  | 0  | 0  | 1  | 1  | 0  |
| Marivirga                               | 1 | 0 | 1  | 0  | 0  | 1  | 0  | 2  | 0 | 1  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| Persicobacter                           | 1 | 1 | 3  | 2  | 1  | 2  | 4  | 9  | 1 | 1  | 0  | 0  | 0  | 1  | 5  | 0  | 2  | 3  | 0  | 3  | 0  |
| Reichenbachella                         | 1 | 1 | 1  | 2  | 0  | 0  | 0  | 2  | 0 | 0  | 2  | 0  | 0  | 2  | 1  | 0  | 0  | 1  | 0  | 2  | 0  |
| Arcidibacterium                         | 1 | 2 | 3  | 2  | 0  | 1  | 1  | 0  |   |    |    |    |    |    |    |    |    |    |    |    |    |



|   |   |   |    |   |   |   |     |   |   |    |    |   |   |    |    |   |   |   |   |    |    |
|---|---|---|----|---|---|---|-----|---|---|----|----|---|---|----|----|---|---|---|---|----|----|
| Sporidobolus                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Thecaphora                                | 1 | 0 | 0  | 2 | 0 | 0 | 0   | 2 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 1 | 1 | 1 | 0  | 0  |
| Moesziomyces                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Gamsiella                                 | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Pleuronectes                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Acanthopagrus                             | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  |
| Salarias                                  | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Mugil                                     | 1 | 1 | 0  | 0 | 0 | 0 | 0   | 1 | 1 | 0  | 0  | 0 | 0 | 0  | 0  | 1 | 1 | 0 | 0 | 0  | 0  |
| Danio                                     | 1 | 1 | 1  | 1 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 1  |
| Acornys                                   | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Oryz                                      | 1 | 2 | 10 | 1 | 4 | 3 | 3   | 2 | 0 | 4  | 1  | 7 | 0 | 5  | 6  | 1 | 5 | 2 | 4 | 6  | 14 |
| Sus                                       | 1 | 0 | 3  | 0 | 1 | 4 | 2   | 2 | 0 | 0  | 9  | 2 | 0 | 0  | 2  | 0 | 0 | 4 | 2 | 0  | 0  |
| Bursaphelenchus                           | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 1  | 0  | 0 | 0 | 0 | 0 | 1  | 0  |
| Cylicocyclus                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| unclassified Strongylida                  | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| environmental samples <metatodes.phr      | 1 | 0 | 0  | 0 | 1 | 2 | 0   | 0 | 0 | 0  | 2  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Macrobrachium                             | 1 | 0 | 0  | 1 | 0 | 0 | 0   | 1 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 | 0  | 0  |
| Amphibalanus                              | 1 | 0 | 0  | 1 | 1 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Sesia                                     | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 | 0  | 0  |
| Pammene                                   | 1 | 0 | 0  | 0 | 1 | 0 | 1   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 2 | 1 | 0 | 0  | 0  |
| Brachyomia                                | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Chilo                                     | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Yponomeuta                                | 1 | 0 | 1  | 2 | 2 | 1 | 0   | 0 | 0 | 0  | 2  | 0 | 0 | 0  | 1  | 0 | 2 | 2 | 0 | 1  | 0  |
| Phaedon                                   | 1 | 0 | 0  | 0 | 1 | 0 | 1   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 1 | 1 | 0  | 1  |
| Meloidontia                               | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 1 | 0 | 0 | 0 | 0  | 0  |
| Eriochrus                                 | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Ocytus                                    | 1 | 0 | 1  | 0 | 0 | 0 | 0   | 3 | 1 | 1  | 0  | 1 | 0 | 1  | 0  | 0 | 0 | 2 | 0 | 0  | 0  |
| Nephrocerus                               | 1 | 2 | 2  | 1 | 0 | 0 | 1   | 1 | 0 | 0  | 1  | 0 | 0 | 1  | 0  | 0 | 0 | 0 | 2 | 0  | 0  |
| Drosophila                                | 1 | 1 | 2  | 0 | 0 | 0 | 2   | 2 | 0 | 0  | 5  | 0 | 0 | 0  | 0  | 0 | 4 | 2 | 0 | 4  | 0  |
| Bibio                                     | 1 | 0 | 0  | 0 | 0 | 0 | 1   | 0 | 0 | 0  | 0  | 0 | 0 | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Lasioglossum                              | 1 | 0 | 0  | 0 | 1 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 1  | 0  |
| Sphecodes                                 | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 2 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 1 | 0  | 0  |
| Stelis <bees>                             | 1 | 2 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  |
| Pamphredon                                | 0 | 0 | 2  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  |
| Nephrolepis                               | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Hyalesthes                                | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Macrocycylus                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Nemoura                                   | 1 | 2 | 1  | 0 | 0 | 0 | 1   | 0 | 1 | 0  | 1  | 0 | 0 | 0  | 4  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cryptosula                                | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 1 | 0 | 0  | 1  | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  |
| Membranipora                              | 1 | 1 | 1  | 0 | 1 | 0 | 0   | 1 | 0 | 0  | 0  | 0 | 0 | 0  | 5  | 0 | 0 | 0 | 0 | 0  | 0  |
| Pulvinaster                               | 1 | 0 | 0  | 3 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Trinympha                                 | 1 | 1 | 1  | 3 | 0 | 1 | 0   | 1 | 3 | 2  | 0  | 0 | 0 | 1  | 1  | 0 | 3 | 0 | 2 | 0  | 0  |
| Sentio                                    | 0 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Triceratium                               | 1 | 1 | 1  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Heterosigma                               | 1 | 0 | 0  | 1 | 0 | 0 | 0   | 1 | 0 | 0  | 1  | 2 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 1  | 0  |
| Gonyostomum                               | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Lacunastrum                               | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Follicularia                              | 1 | 1 | 2  | 2 | 0 | 1 | 2   | 3 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Pseudochlorella                           | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Micromonas                                | 1 | 1 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 1  | 1  | 1 | 0 | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  |
| Neodangenammia                            | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Psarodendria                              | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Salvia                                    | 1 | 0 | 1  | 1 | 0 | 0 | 0   | 1 | 0 | 1  | 1  | 0 | 0 | 1  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Luffa                                     | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Psium                                     | 1 | 1 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Sarcodum                                  | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 1  | 1  | 0 | 0 | 0  | 1  | 0 | 0 | 1 | 0 | 1  | 0  |
| Vigna                                     | 1 | 1 | 0  | 0 | 0 | 0 | 0   | 1 | 0 | 0  | 2  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Pedimelum                                 | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Populus                                   | 1 | 1 | 1  | 1 | 1 | 0 | 5   | 0 | 1 | 5  | 1  | 0 | 0 | 4  | 2  | 3 | 3 | 4 | 1 | 0  | 0  |
| Brassica                                  | 1 | 7 | 0  | 4 | 0 | 2 | 274 | 0 | 0 | 16 | 14 | 3 | 0 | 0  | 14 | 0 | 2 | 3 | 0 | 0  | 0  |
| Allium                                    | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 1  | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| unclassified Kylovirinae                  | 1 | 0 | 0  | 2 | 0 | 0 | 3   | 1 | 1 | 0  | 0  | 2 | 0 | 2  | 0  | 0 | 0 | 0 | 4 | 9  | 1  |
| Pradovirus                                | 1 | 0 | 4  | 2 | 0 | 2 | 2   | 1 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Marfavirus                                | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 2 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Ryovirus                                  | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 1  |
| Inbrivirus                                | 1 | 0 | 0  | 3 | 0 | 3 | 1   | 2 | 0 | 0  | 0  | 0 | 0 | 12 | 0  | 0 | 0 | 0 | 0 | 10 | 5  |
| Mementomovirus                            | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Skunavirus                                | 1 | 0 | 1  | 3 | 0 | 2 | 2   | 0 | 2 | 0  | 1  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 2 | 0  | 0  |
| Sarkisivirus                              | 1 | 0 | 4  | 5 | 0 | 4 | 15  | 4 | 0 | 0  | 0  | 0 | 0 | 0  | 7  | 0 | 0 | 0 | 0 | 0  | 0  |
| Yuevirus                                  | 1 | 2 | 0  | 4 | 1 | 4 | 4   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 2  | 0 | 4 | 5 | 2 | 0  | 0  |
| Microviridae sp. cC1P1                    | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 3 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Microviridae sp. ctem10                   | 1 | 0 | 0  | 0 | 0 | 0 | 1   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Microviridae sp. cX0F7                    | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 1  | 0 | 0 | 0  | 2  | 0 | 0 | 0 | 0 | 0  | 0  |
| Sanya tombus-like virus 1                 | 1 | 1 | 1  | 0 | 0 | 0 | 0   | 1 | 1 | 2  | 0  | 0 | 0 | 0  | 2  | 0 | 0 | 3 | 0 | 0  | 0  |
| Partitiviridae                            | 1 | 0 | 0  | 0 | 0 | 2 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| BAC cloning vector pHL931                 | 1 | 0 | 0  | 0 | 0 | 1 | 1   | 2 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 1 | 0 | 0 | 0 | 0  | 0  |
| Bacteroides fragilis shuttle vector pFD11 | 1 | 0 | 1  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Binary vector pKT pKT-NS-H2BaGFP          | 1 | 0 | 0  | 0 | 0 | 1 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector p251 LB1A-B                | 1 | 0 | 0  | 1 | 0 | 2 | 1   | 0 | 0 | 0  | 0  | 1 | 0 | 3  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pAL-F                      | 1 | 0 | 1  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pBla_sg                    | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pCG403                     | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pFastBac 1-Gag1-M1-GF      | 1 | 0 | 0  | 1 | 0 | 0 | 1   | 1 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pJC05                      | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pLM53                      | 1 | 0 | 0  | 1 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pMB16424                   | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pRF5100                    | 1 | 1 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pRSF1030tp                 | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  |
| Cloning vector pSI-AGL10-DI               | 1 | 0 | 0  | 0 | 0 | 0 | 0   | 0 | 0 | 0  | 0  | 0 |   |    |    |   |   |   |   |    |    |

|                                       |   |   |   |   |    |    |   |   |   |   |   |   |   |   |   |   |   |     |   |   |    |
|---------------------------------------|---|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|----|
| Protopsis                             | 0 | 0 | 0 | 0 | 0  | 6  | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 1 | 1 | 0 | 1   | 1 | 0 | 0  |
| Kanagawavirus                         | 0 | 0 | 0 | 0 | 0  | 2  | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 0 | 0 | 0 | 0   | 0 | 9 | 0  |
| unclassified Gemmatimonadetes         | 0 | 0 | 1 | 2 | 0  | 1  | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0   | 1 | 2 | 0  |
| Kordimonas                            | 0 | 0 | 0 | 0 | 0  | 1  | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Aestuariispirillum                    | 0 | 1 | 2 | 2 | 0  | 2  | 2 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 2 | 1   | 5 | 2 | 0  |
| Protonoborus                          | 0 | 1 | 3 | 5 | 0  | 5  | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 4 | 4 | 0 | 2 | 8   | 1 | 4 | 5  |
| unclassified Campylobacteraceae       | 0 | 0 | 0 | 0 | 0  | 0  | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0   | 1 | 4 | 18 |
| Pseudomonicurinus                     | 0 | 1 | 0 | 0 | 0  | 1  | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0   | 1 | 0 | 0  |
| Arsenophonus                          | 0 | 4 | 3 | 1 | 1  | 0  | 0 | 9 | 0 | 3 | 0 | 1 | 2 | 2 | 2 | 0 | 0 | 0   | 3 | 2 | 0  |
| Pistricoccus                          | 0 | 0 | 1 | 1 | 0  | 3  | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 3 | 0 | 2 | 5   | 3 | 4 | 0  |
| Litoricola                            | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Basfia                                | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0   | 0 | 1 | 0  |
| Gallibacterium                        | 0 | 1 | 0 | 2 | 0  | 0  | 2 | 3 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 3   | 0 | 1 | 0  |
| Adinomaniicola                        | 0 | 4 | 0 | 2 | 0  | 2  | 2 | 1 | 1 | 2 | 3 | 1 | 2 | 2 | 2 | 0 | 1 | 0   | 2 | 1 | 0  |
| Adinopolyomorpha                      | 0 | 3 | 0 | 0 | 0  | 4  | 0 | 1 | 5 | 1 | 0 | 2 | 2 | 3 | 0 | 0 | 2 | 4   | 0 | 2 | 0  |
| Cryptobacterium                       | 0 | 4 | 0 | 5 | 2  | 2  | 9 | 6 | 0 | 4 | 6 | 4 | 2 | 2 | 6 | 0 | 0 | 2   | 2 | 2 | 0  |
| Chroococcidiopsis                     | 0 | 0 | 1 | 1 | 10 | 0  | 2 | 0 | 0 | 1 | 4 | 8 | 2 | 2 | 0 | 0 | 0 | 2   | 4 | 3 | 0  |
| Anabaena                              | 0 | 2 | 0 | 2 | 0  | 2  | 4 | 2 | 2 | 1 | 0 | 3 | 2 | 0 | 3 | 4 | 0 | 2   | 0 | 0 | 4  |
| Vermamoeba                            | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 1 | 4 | 2 | 2 | 2 | 0 | 0 | 0 | 0   | 0 | 0 | 3  |
| Monosiga                              | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 3   | 0 | 1 | 2  |
| Bipolaris                             | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Acremonium                            | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 0   | 0 | 0 | 0  |
| Kluyveromyces                         | 0 | 2 | 0 | 0 | 1  | 0  | 0 | 0 | 2 | 3 | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 2   | 6 | 0 | 1  |
| Telmatheria                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Thurmus                               | 0 | 0 | 3 | 0 | 0  | 0  | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0   | 0 | 0 | 0  |
| Oncorhynchus                          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0   | 0 | 0 | 0  |
| Cervus                                | 0 | 2 | 0 | 2 | 1  | 1  | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0   | 0 | 0 | 0  |
| Lipotes                               | 0 | 3 | 1 | 2 | 2  | 0  | 0 | 0 | 3 | 3 | 2 | 2 | 6 | 3 | 2 | 1 | 0 | 1   | 4 | 8 | 0  |
| Saccoglossus                          | 0 | 0 | 0 | 0 | 0  | 0  | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Mitochondria                          | 0 | 0 | 1 | 1 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0   | 0 | 1 | 0  |
| Acrobasis                             | 0 | 0 | 1 | 1 | 0  | 0  | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 4   | 1 | 3 | 2  |
| Chrysolina                            | 0 | 0 | 1 | 0 | 1  | 2  | 0 | 2 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 0 | 1 | 0   | 1 | 4 | 2  |
| Nemurella                             | 0 | 1 | 0 | 2 | 0  | 1  | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 0 | 1 | 2   | 0 | 0 | 1  |
| Habrotricha                           | 0 | 0 | 0 | 0 | 2  | 1  | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2   | 0 | 0 | 0  |
| Corbula                               | 0 | 0 | 0 | 0 | 2  | 0  | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 3 | 0 | 0  |
| Heterometopus                         | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Glaucomides                           | 0 | 0 | 1 | 0 | 0  | 0  | 2 | 0 | 2 | 4 | 1 | 1 | 2 | 5 | 5 | 0 | 3 | 1   | 0 | 0 | 1  |
| unclassified Hymenostomatida          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 0   | 0 | 1 | 0  |
| Opercularia <gillates>                | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0   | 0 | 1 | 0  |
| Telotrichidium                        | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Juglans                               | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0   | 0 | 0 | 0  |
| Arisaema                              | 0 | 0 | 0 | 1 | 0  | 0  | 0 | 2 | 0 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 1   | 0 | 3 | 1  |
| Phyllostachys                         | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Suspirius                             | 0 | 8 | 2 | 1 | 6  | 14 | 0 | 0 | 0 | 2 | 6 | 4 | 2 | 0 | 2 | 1 | 1 | 0   | 5 | 7 | 0  |
| Salmundivius                          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0   | 0 | 0 | 2  |
| Winklevirus                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Cloning vector pET28A-bleGEG-9        | 0 | 0 | 1 | 6 | 1  | 0  | 1 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 1 | 0   | 0 | 0 | 0  |
| Expression vector pUC57-Kan-mc-10     | 0 | 1 | 4 | 0 | 4  | 0  | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0   | 2 | 7 | 4  |
| Expression vector pUC57-Kan-mc-3      | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Propionigenium                        | 0 | 1 | 4 | 1 | 0  | 0  | 2 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0   | 4 | 2 | 0  |
| Parencobacter                         | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1   | 0 | 1 | 0  |
| Bejerinckia                           | 0 | 1 | 1 | 3 | 0  | 0  | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 4 | 0  |
| Candidatus Tokpelaia                  | 0 | 0 | 0 | 1 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Lichenhabitans                        | 0 | 3 | 1 | 4 | 1  | 0  | 2 | 2 | 3 | 0 | 1 | 2 | 1 | 1 | 3 | 0 | 0 | 2   | 2 | 2 | 1  |
| Insoflapillum                         | 0 | 0 | 0 | 1 | 0  | 0  | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 5 | 0   | 0 | 2 | 0  |
| Glacimonas                            | 0 | 1 | 1 | 0 | 0  | 2  | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0   | 1 | 0 | 0  |
| Snodgrassella                         | 0 | 0 | 0 | 0 | 0  | 2  | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0   | 0 | 2 | 0  |
| Candidatus Methylophilus              | 0 | 0 | 0 | 2 | 1  | 0  | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0   | 2 | 3 | 0  |
| Azovibrio                             | 0 | 0 | 1 | 0 | 1  | 2  | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1   | 0 | 0 | 0  |
| Chondromyces                          | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1   | 0 | 0 | 0  |
| Arenicella                            | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Arhodomonas                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0   | 1 | 0 | 0  |
| Sedimenticola                         | 0 | 0 | 0 | 2 | 2  | 2  | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0   | 0 | 3 | 1  |
| Kushneria                             | 0 | 2 | 2 | 2 | 0  | 2  | 3 | 5 | 0 | 2 | 0 | 1 | 1 | 1 | 4 | 0 | 0 | 3   | 1 | 0 | 0  |
| Bacterioplanoides                     | 0 | 1 | 0 | 0 | 0  | 0  | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0   | 0 | 0 | 0  |
| environmental samples <g>proteobacter | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1   | 0 | 0 | 0  |
| unclassified Physcisphaerae           | 0 | 2 | 0 | 0 | 1  | 0  | 0 | 2 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 2 | 0 | 0  |
| Rubripirella                          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| unclassified Planctomycetia           | 0 | 0 | 1 | 2 | 1  | 0  | 0 | 1 | 2 | 1 | 3 | 0 | 1 | 0 | 1 | 0 | 1 | 1   | 3 | 3 | 0  |
| Turneriella                           | 0 | 0 | 0 | 0 | 0  | 0  | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1   | 0 | 0 | 0  |
| Ilumatobacter                         | 0 | 0 | 0 | 1 | 0  | 0  | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0   | 2 | 0 | 0  |
| unclassified Corynebacteriales        | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Stakeobanditia                        | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0   | 0 | 0 | 0  |
| Dermatophilus                         | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Microbispora                          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0   | 0 | 0 | 0  |
| unclassified Thermoleophilina         | 0 | 1 | 2 | 1 | 1  | 1  | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0   | 1 | 1 | 0  |
| unclassified Anaerolineales           | 0 | 1 | 0 | 1 | 0  | 0  | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0   | 0 | 0 | 0  |
| Vampirovibrio                         | 0 | 0 | 1 | 1 | 0  | 0  | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0   | 0 | 0 | 0  |
| Gloeobacter                           | 0 | 0 | 0 | 3 | 0  | 1  | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 1 | 0   | 0 | 3 | 0  |
| Ureaplasma                            | 0 | 1 | 1 | 3 | 1  | 2  | 0 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 3 | 0 | 0 | 0   | 0 | 2 | 0  |
| unclassified Teneriutes               | 0 | 6 | 4 | 2 | 1  | 1  | 5 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3   | 3 | 3 | 0  |
| Amazonian soil bacterium P17          | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Haliobellus                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Halonitrum                            | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Rhynchobodo                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 0  |
| Trypanoplasma                         | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0   | 2 | 0 | 0  |
| Novymonas                             | 0 | 0 | 1 | 1 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0   | 0 | 0 | 0  |
| Malawimonas                           | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0</ |   |   |    |



|  |   |   |    |    |    |   |     |   |   |   |   |   |   |    |   |   |   |   |   |
|--|---|---|----|----|----|---|-----|---|---|---|---|---|---|----|---|---|---|---|---|
| Thermoanaerobaculum                    | 0 | 0 | 0  | 0  | 0  | 1 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Hydrogenobaculum                       | 0 | 0 | 0  | 0  | 1  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Sulfurhydrogenibium                    | 0 | 0 | 0  | 0  | 0  | 1 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Desulfurobacterium                     | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| unclassified Aminocenantes             | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Candidatus Coatesbacteria              | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 2 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Babela                      | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 4 | 0 | 0 | 0 | 0 | 0  | 2 | 0 | 0 | 2 | 0 |
| unclassified Candidatus Dependitiae    | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Vermiphilus                            | 0 | 4 | 0  | 10 | 0  | 0 | 2   | 2 | 0 | 0 | 5 | 2 | 0 | 0  | 2 | 0 | 2 | 1 | 2 |
| Candidatus Eisenbacteria               | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Candidatus Peribacteria   | 0 | 1 | 0  | 0  | 1  | 2 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 |
| environmental samples <bacteria.phylum | 0 | 1 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Campbellibacteria           | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Geyronnibacteria            | 0 | 0 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Moranibacteria              | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Candidatus Uthbacteria                 | 0 | 0 | 1  | 1  | 1  | 2 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Candidatus Wolfebacteria               | 0 | 0 | 0  | 0  | 0  | 1 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Gram-positive bacteria    | 0 | 0 | 0  | 0  | 0  | 0 | 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Denitrovibrio                          | 0 | 0 | 1  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 2 | 0 | 0 | 0  | 0 | 0 | 1 | 1 | 0 |
| Geovibrio                              | 0 | 0 | 0  | 0  | 0  | 0 | 1   | 0 | 0 | 2 | 0 | 0 | 0 | 1  | 3 | 0 | 0 | 0 | 0 |
| Mucispirillum                          | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 1 | 0 | 0 |
| unclassified Deferrubacteraceae        | 0 | 0 | 1  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Dicytoglossus                          | 0 | 1 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Salinibacter                           | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Rhodothermaceae           | 0 | 0 | 0  | 0  | 0  | 0 | 2   | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| environmental samples <CFB group bar   | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 3 | 1 | 0 | 0 | 0 | 0 | 0  | 4 | 0 | 0 | 0 | 0 |
| unclassified Bacteroidaceae            | 0 | 0 | 0  | 1  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 2 | 0 | 0 | 0 | 0 |
| environmental samples <CFB group bar   | 0 | 0 | 0  | 0  | 2  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| environmental samples <CFB group bar   | 0 | 0 | 1  | 1  | 0  | 0 | 0   | 1 | 1 | 0 | 0 | 0 | 0 | 1  | 1 | 0 | 0 | 0 | 0 |
| Hallella                               | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 2 | 0 |
| Massilibrevotella                      | 0 | 0 | 0  | 0  | 0  | 2 | 0   | 0 | 0 | 2 | 1 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Gallatistipes                          | 0 | 0 | 0  | 2  | 1  | 0 | 0   | 1 | 0 | 0 | 0 | 2 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Rikenella                              | 0 | 0 | 0  | 0  | 0  | 0 | 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| unclassified Mariniliballiaceae        | 0 | 1 | 0  | 0  | 0  | 0 | 0   | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Nivelales                              | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 2 | 0 | 0 |
| Talbairia                              | 0 | 0 | 0  | 0  | 1  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Thermoflavillum                        | 0 | 2 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Amoebophilus                | 0 | 0 | 0  | 0  | 0  | 0 | 1   | 1 | 0 | 0 | 2 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 2 |
| Echinicola                             | 0 | 1 | 6  | 6  | 1  | 1 | 5   | 1 | 0 | 1 | 3 | 0 | 0 | 6  | 0 | 2 | 2 | 0 | 2 |
| Siphonobacter                          | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0 |
| Sporocytophaga                         | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 2 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Flexibacter                            | 0 | 0 | 0  | 2  | 2  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Nitrobacter                            | 0 | 0 | 1  | 0  | 0  | 0 | 0   | 2 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0 |
| Roseivirga                             | 0 | 0 | 1  | 1  | 1  | 0 | 1   | 3 | 0 | 0 | 1 | 0 | 0 | 1  | 0 | 0 | 1 | 0 | 1 |
| Flectobacillus                         | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 2 | 0 |
| Larkinella                             | 0 | 2 | 0  | 1  | 0  | 1 | 0   | 0 | 0 | 0 | 2 | 1 | 0 | 0  | 5 | 1 | 0 | 1 | 2 |
| environmental samples <CFB group bar   | 0 | 0 | 0  | 0  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 1 | 0 | 0 | 0 | 1 |
| Brumimicrobium                         | 0 | 0 | 0  | 0  | 0  | 4 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Wandonia                               | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 |
| Changchengzhania                       | 0 | 0 | 1  | 1  | 0  | 0 | 1   | 0 | 0 | 0 | 2 | 0 | 0 | 0  | 3 | 0 | 0 | 0 | 0 |
| Costertonia                            | 0 | 1 | 1  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Croceibacter                           | 0 | 1 | 1  | 2  | 0  | 1 | 0   | 7 | 0 | 1 | 0 | 0 | 0 | 0  | 6 | 0 | 0 | 0 | 0 |
| environmental samples <CFB group bar   | 0 | 0 | 1  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 2 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| Euzeyliella                            | 0 | 1 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 0 | 0 | 1  | 1 | 0 | 0 | 0 | 0 |
| Formosa                                | 0 | 3 | 10 | 6  | 1  | 2 | 3   | 4 | 2 | 4 | 2 | 0 | 0 | 2  | 9 | 0 | 0 | 1 | 2 |
| Gillisia                               | 0 | 0 | 0  | 0  | 0  | 0 | 1   | 0 | 1 | 1 | 0 | 0 | 0 | 0  | 3 | 0 | 0 | 0 | 0 |
| Glivibacter                            | 0 | 0 | 0  | 2  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Marixanthomonas                        | 0 | 0 | 2  | 4  | 0  | 2 | 2   | 0 | 1 | 0 | 0 | 2 | 0 | 0  | 0 | 1 | 0 | 2 | 1 |
| Muricola                               | 0 | 0 | 0  | 0  | 0  | 1 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0 |
| Robiginitalea                          | 0 | 0 | 0  | 1  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| Salinimicrobium                        | 0 | 0 | 2  | 0  | 0  | 0 | 2   | 2 | 0 | 0 | 0 | 1 | 0 | 0  | 1 | 0 | 0 | 1 | 0 |
| Siansivirga                            | 0 | 2 | 0  | 2  | 0  | 1 | 1   | 0 | 1 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 |
| Subsalsibacter                         | 0 | 0 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Zabella                                | 0 | 0 | 1  | 0  | 0  | 0 | 0   | 0 | 2 | 0 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 |
| Candidatus Sulcia                      | 0 | 2 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 0 | 0 | 0 | 0 |
| Algoriella                             | 0 | 0 | 2  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Wautersiella                           | 0 | 0 | 0  | 2  | 2  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Flavobacteria             | 0 | 1 | 0  | 1  | 1  | 0 | 0   | 0 | 0 | 3 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 |
| Portibacter                            | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 0 | 0 | 0 |
| Saprosira                              | 0 | 0 | 3  | 1  | 0  | 1 | 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 1 |
| unclassified Balneolaceae              | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| Pelodictyon                            | 0 | 0 | 1  | 0  | 1  | 0 | 0   | 0 | 0 | 0 | 0 | 1 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Clocosmonas                 | 0 | 0 | 5  | 2  | 1  | 2 | 1   | 5 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Marinimicrobia              | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Oceanivirga                            | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Candidatus Tectomicrobia  | 0 | 0 | 7  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 2 | 0 | 0 | 1 | 0 |
| Candidatus Nitronauta                  | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| unclassified Nitrospirae               | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| Candidatus Enterousia                  | 0 | 0 | 0  | 0  | 26 | 2 | 310 | 1 | 0 | 0 | 1 | 4 | 0 | 49 | 1 | 0 | 0 | 0 | 2 |
| unclassified Caulobacteraceae          | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 1 |
| Luteithrombacter                       | 0 | 0 | 3  | 0  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0 |
| Candidatus Nucleiulitrix               | 0 | 2 | 2  | 0  | 0  | 0 | 0   | 1 | 2 | 1 | 1 | 0 | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Candidatus Capivus                     | 0 | 0 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Candidatus Odysseia                    | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 |
| unclassified Holosporaceae             | 0 | 0 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 2 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Fulvimarina                            | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 1 | 0 | 0  | 0 | 0 | 1 | 0 | 0 |
| Cohaesibacter                          | 0 | 2 | 0  | 1  | 0  | 0 | 0   | 2 | 0 | 0 | 1 | 1 | 0 | 0  | 2 | 0 | 0 | 1 | 2 |
| unclassified Devosiaceae               | 0 | 0 | 0  | 1  | 0  | 0 | 1   | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0 |
| Pedomicrobium                          | 0 | 0 | 0  | 1  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 1 | 0 |
| unclassified Hyphomicrobiaceae         | 0 | 0 | 0  | 0  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Reichenowia                            | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0 | 0 | 2 | 0 | 0 |
| Methylophila                           | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 1 | 0 | 0 | 0 |
| Andersenella                           | 0 | 0 | 0  | 0  | 0  | 0 | 0   | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 1 | 0 | 0 |
| unclassified Parvibaculaceae           | 0 | 0 | 0  | 0  | 0  | 1 | 0   | 3 | 0 | 0 | 0 | 1 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Aquamicrobium                          | 0 | 1 | 0  | 0  | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Salaquimonas                           | 0 | 1 | 2  | 0  | 0  | 0 | 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0 | 0 | 3 | 2 | 0 |
| unclassified Phyllobacteriaceae        | 0 | 0 | 0  |    |    |   |     |   |   |   |   |   |   |    |   |   |   |   |   |

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Magnetovibrio                          | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Wolbachia                              | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |   |   |
| Orientia                               | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Rickettsia                             | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |   |   |
| unclassified Rickettsiales             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Parasurhabdibacter                     | 0 | 0 | 2 | 1 | 1 | 4 | 0 | 2 | 1 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |   |   |
| unclassified Erythrobacteraceae        | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Stakelama                              | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Candidatus Proffelia                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |   |   |
| Intechium                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Basilea                                | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |   |
| Derxia                                 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Paenacaligenes                         | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 |   |   |
| Candidatus Valfolia                    | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |   |   |
| Myctohabitans                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |   |   |
| Eletheria                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |   |
| Rivibacter                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Tepidocella                            | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |   |
| Caldimonas                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |   |   |
| Extensimonas                           | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Malikia                                | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Oryzitolbacter                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Pelomonas                              | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 3 | 2 | 0 | 1 | 3 | 2 | 0 | 1 | 0 |   |   |
| Xenophilus                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |   |   |
| Candidatus Zinderia                    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Turicimonas                            | 0 | 1 | 0 | 5 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |   |
| Andreprevotia                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Chitinilycum                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |   |   |
| Gulbenkiana                            | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |   |   |
| Leeia                                  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |   |   |
| Simonsiella                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |   |   |
| unclassified Neisseriales              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |   |   |
| Novimethylophilus                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Pseudomethylobacillus                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| unclassified Methylophilaceae          | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |   |   |
| unclassified Nitrosomonadaceae         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| Spirillum                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |
| unclassified Nitrosomonadales          | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |   |   |
| Candidatus Dactylophibacterium         | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |   |   |
| unclassified Rhodocyclales             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |   |
| Cognatazoarcus                         | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 3 | 1 | 4 | 5 |   |
| Persicimonas                           | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |   |
| Desulfobacillum                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |
| Desulfonema                            | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Desulfofregula                         | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| unclassified Desulfobacteraceae        | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Desulfomarina                          | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |   |
| Desulfocapsa                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |   |
| Desulfosudis                           | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 |   |
| Cupidesulfobivrio                      | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 |   |
| Villosanguium                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |   |
| Koferia                                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Desulfobacca                           | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |   |
| Smithella                              | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| unclassified Syntrophaceae             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |   |
| unclassified Helicobacteraceae         | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| unclassified Campylobacteriales        | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |   |
| Nautilia                               | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Anaerobiospirillum                     | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Succinatimonas                         | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| unclassified Succinivibrionaceae       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Alishevavella                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |   |
| Alkalinimicrobium                      | 0 | 1 | 2 | 6 | 1 | 4 | 2 | 4 | 0 | 0 | 4 | 3 | 3 | 0 | 3 | 6 | 0 | 0 | 0 | 0 |   |
| Catenovulum                            | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 3 | 0 | 2 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |   |
| Saccharobesius                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |
| unclassified Alteromonadaceae          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |   |
| Thalassotalea                          | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |   |
| Paraferrimonas                         | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Psychrophasma                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Marinagarivorans                       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Simiduia                               | 0 | 3 | 1 | 1 | 0 | 0 | 1 | 4 | 1 | 0 | 5 | 2 | 0 | 0 | 9 | 0 | 3 | 1 | 1 | 0 | 1 |
| Porticoccus                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Thiosymbion                 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |   |
| Aquasulmonas                           | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 6 | 0 | 0 | 5 | 5 | 0 | 2 | 2 | 1 | 0 | 2 |
| unclassified Chromatiales              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Woeseia                                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
| Aranicola                              | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| Candidatus Ishikawaeia                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Moranelia                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Rohrkolberia                | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| secondary endosymbiont of Heteropsylli | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Koryella                    | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Francoibacter                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Mangrovibacter                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |
| Trabulsiella                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
| Izhakiella                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |   |
| Cosenzaea                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| unclassified Enterobacteriales         | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Competibacter               | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Candidatus Steffania                   | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Pseudohongiella                        | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |   |
| SAR86 cluster                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |   |
| Bathymodiolus thermophilus thioautotro | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |   |
| Candidatus Ruthia                      | 0 | 0 | 0 | 0 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

[illegible]

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bacteroides                             | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Psychrobacillus                         | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rosellomorea                            | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Salimicrobium                           | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Salipaludibacillus                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Aneurinibacillus                        | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| undclassified Paenibacterales           | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pasteuria                               | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paenisporosarcina                       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Rummenellibacillus                      | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Vridtibacillus                          | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nosocomiococcus                         | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Kroppensstedtia                         | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Laceyella                               | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Polydadamomyces                         | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thermoacidomomyces                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Facklamia                               | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sulcooccus                              | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Melissococcus                           | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| undclassified Enterococcaceae           | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Apillobacillus                          | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Frucobacillus                           | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Furfurillactobacillus                   | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Lapidilactobacillus                     | 0 | 0 | 1 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Carnococcus                             | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Floricoccus                             | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Okladella                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| undclassified Streptococcaceae          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| undclassified Lactobacillales           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Lactonifactor                           | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oxobacter                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Proteinidasticum                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Intestinibacillus                       | 0 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Pseudoramibacter                        | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| Candidatus Solitalella                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colidextribacter                        | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Estepia                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Helioestis                              | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Agathobacter                            | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anaerobium                              | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Catenibacillus                          | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cuneatibacter                           | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| environmental samples -fimicutes,famili | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Frispingococcus                         | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Glucoseibacter                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kineothrix                              | 0 | 3 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Merdimonas                              | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Murimonas                               | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Porcincola                              | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Shuttleworthia                          | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Syntrophococcus                         | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Velocimicrobium                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aeromonasbacterium                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| environmental samples -fimicutes,famili | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Harryflintia                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Hydrogenoanaerobacterium                | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oscillospira                            | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Papillibacter                           | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rudribacterium                          | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Candidatus Desulfosporus                | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Candidatus Dichloromethanomonas         | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Petromonasium                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peptococcus                             | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cribbacterium                           | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Candidatus Contubemalis                 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Candidatus Syntrophocurvum              | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Syntrophothermus                        | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Halothermothrix                         | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Iccasia                                 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| Anoxybacter                             | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acetohalobium                           | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Halobacteroides                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Sporohalobacter                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Natronaerobius                          | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ammonifex                               | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ziaonella                               | 0 | 0 | 3 | 1 | 0 | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Absiella                                | 0 | 0 | 2 | 0 | 6 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Amedibacillus                           | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Anaerohalobus                           | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Faecalibacter                           | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Tracella                                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Limnochorda                             | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 1 | 0 |
| Succinacidastium                        | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Schwartzia                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Acetonema                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anaerococcus                            | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Propionispira                           | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Gallicola                               | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sporanaerobacter                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Candidatus Phytolasma                   | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mycoplasmaspis                          | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| Mesotoga                                | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Marinitoga                              | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Fervidobacterium                        | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Antarctic bacterium 3C8                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| bacterium 164                           | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| bacterium S1                            | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| bacterium 8                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| bacterium A28                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| bacterium A4                            | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| bacterium AK-MB47                       | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| bacterium F1                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |   |   |

|  |   |   |   |   |   |   |   |    |    |    |   |   |   |   |    |    |   |   |   |   |
|--|---|---|---|---|---|---|---|----|----|----|---|---|---|---|----|----|---|---|---|---|
| Sulfotobococcus                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Sulfurisphaera                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Pyrobaculum                            | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 3  | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 |
| Vexillifera                            | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Paravannella                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 2 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Platymoeba                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 2 |
| Ripella                                | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 2 | 0  | 0  | 0 | 0 | 0 | 0 |
| Vannella                               | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 2  | 0  | 0  | 2 | 0 | 0 | 2 | 0  | 0  | 0 | 0 | 5 | 2 |
| Cochliopodium                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 2 | 0 | 0 | 0 |
| Thecamoeba                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Vermistella                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 |
| Rostrostelium                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 1 | 0  | 0  | 0 | 0 | 0 | 0 |
| Dicystostelium                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Polyphondylium                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 1 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Diachea                                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Slemonitopsis                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 1 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Phalansterium                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Phryganea                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Saccamoeba                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 |
| Rhizamoeba                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Thecamonas                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 1 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Cryptomonas                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 1 | 0 | 2 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Leucocryptos                           | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Guillardia                             | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Rhodomonas                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Storeatula                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Petalomonas                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 3  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 2 | 0 |
| Scytomonas                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 2 | 0 |
| Euglena                                | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Euglenaria                             | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Monomorphina                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 |
| Entosiphon                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 2 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| environmental samples <kinetoplastids> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Nesobodo                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 2 | 0 | 0 |
| Rhynchomonas                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Parabodo                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 16 | 20 | 5 | 0 | 0 | 0 | 10 | 16 | 8 | 0 | 6 | 0 |
| Procyptobia                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 1  | 2 | 0 | 0 | 0 | 0  | 0  | 1 | 1 | 1 | 0 |
| Herpetomonas                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Crithidia                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 1 | 2 | 2 | 1 |
| Leishmania                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 3 | 0 | 0 | 0 | 0  | 1  | 0 | 1 | 0 | 0 |
| Leptomonas                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 2 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Angomonas                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 1 | 0 | 0 | 0 |
| Stigmonas                              | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Willeria                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 4 | 0 | 0 | 2  | 0  | 0 | 0 | 0 | 0 |
| Jakoba                                 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Ancoriscysta                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Palpitomonas                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Cyanophora                             | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 1 | 0 | 0 | 0 |
| Emiliania                              | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Gephyrocapsa                           | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Imasa                                  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 |
| Enteromonas                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 2  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Hypotrichomonas                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Trichomus                              | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0  | 0  | 4  | 2 | 0 | 0 | 0 | 0  | 2  | 0 | 0 | 0 | 0 |
| Trichomonas                            | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0  | 0  | 2  | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 |
| Tritrichomonas                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Paratrimastix                          | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0  | 2  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 2 | 0 |
| Trimastix                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 1  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Paramonosiga                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Salpingoeca                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 1  | 0 | 0 | 0 | 0 | 1  | 0  | 0 | 0 | 0 | 0 |
| Ministeria                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Opegrapha                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Diplodia                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 3  | 0 | 0 | 0 | 0 | 2  | 0  | 0 | 0 | 0 | 0 |
| Neofusisococcum                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Conioosporium                          | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Aureobasidium                          | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 1 | 0 | 0 | 0 |
| Lecanosticta                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Corynespora                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Paraphaeosphaeria                      | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1  | 1  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 3 | 1 |
| Trematosphaeria                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Cucurbitaria                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Stagonosporopsis                       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 2 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Alternaria                             | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Curvularia                             | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Stemphylium                            | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 1 | 0  | 0  | 0 | 0 | 0 | 0 |
| Cyphellophora                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 1  | 0  | 2 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Arthrocladium                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 2  | 0 | 1 | 0 | 1 |
| unclassified Chaetothyriales           | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 1  | 0 | 0 | 0 | 0 |
| Monascus                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Penicillopsis                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 1  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Blastomyces                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Histioplasma                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 1 |
| Artroderna                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Epidermophyton                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 1  | 0  | 0 | 0 | 0 | 0 |
| Paraphyton                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Trichophyton                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 1 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Coccidioides                           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 1 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Mycocalcium                            | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Bacidia                                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 1 | 0  | 0  | 0 | 0 | 0 | 0 |
| Pertusaria                             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 0 | 1 | 0 |
| Calimeyella                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0 | 1 | 0 | 0 |
| Botrydina                              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0 | 0 | 2 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
| Botrys                                 | 0 | 0 | 1 | 0 | 0 | 0 |   |    |    |    |   |   |   |   |    |    |   |   |   |   |









[illegible]

|                             |   |   |   |    |    |   |       |    |   |   |   |    |   |   |    |   |   |    |    |   |    |   |   |
|-----------------------------|---|---|---|----|----|---|-------|----|---|---|---|----|---|---|----|---|---|----|----|---|----|---|---|
| Wanweikevirus               | 0 | 1 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Wanweikevirus               | 0 | 0 | 0 | 0  | 0  | 0 | 4     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Sepunavirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 1 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Acyoneusevirus              | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 2  | 0 | 0 | 0 | 1  | 0 | 0 | 2  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Asterivirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Barbavirus                  | 0 | 0 | 0 | 1  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Baeopvirus                  | 0 | 0 | 0 | 0  | 0  | 0 | 1     | 0  | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Bacznavirus                 | 0 | 0 | 1 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Derbiusvirus                | 0 | 2 | 0 | 0  | 0  | 2 | 0     | 10 | 2 | 0 | 0 | 0  | 0 | 0 | 2  | 0 | 0 | 3  | 0  | 0 | 2  | 0 | 0 |
| Cecoduovirus                | 0 | 0 | 1 | 0  | 0  | 1 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Ishiguravirus               | 0 | 0 | 0 | 2  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Jilinvirus                  | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 2 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Muvirus                     | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 2  | 0 | 0 | 0 | 0  | 2 | 0 | 3  | 2 | 0 | 0  | 0  | 1 | 0  | 0 | 0 |
| Obolenskivrus               | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 2 | 2  | 0 | 0 |
| Mooglevirus                 | 0 | 2 | 1 | 0  | 0  | 0 | 0     | 2  | 2 | 0 | 1 | 0  | 0 | 0 | 0  | 0 | 1 | 0  | 8  | 0 | 0  | 0 | 0 |
| undclassified Ounavirinae   | 0 | 0 | 0 | 1  | 0  | 0 | 0     | 0  | 1 | 1 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Ponnavirus                  | 0 | 0 | 0 | 0  | 0  | 2 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Eganvirus                   | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 1 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Feldduovirus                | 0 | 0 | 0 | 0  | 0  | 0 | 1     | 0  | 0 | 1 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Pedovirus                   | 0 | 0 | 2 | 0  | 3  | 1 | 0     | 0  | 2 | 1 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 1 | 0  | 0 | 0 |
| Simpocentumvirus            | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Tigvirus                    | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 2  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0 |
| Petsuvirus                  | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 1 | 0  | 0 | 0 |
| Phaecodavirus               | 0 | 0 | 2 | 10 | 1  | 0 | 0     | 0  | 0 | 0 | 1 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 2  | 0 | 0  | 0 | 0 |
| Ripiduvirus                 | 0 | 0 | 0 | 3  | 0  | 0 | 7     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 10 | 5  | 5 | 0  | 0 |   |
| Sadlayvirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Sasquatchvirus              | 0 | 6 | 9 | 15 | 1  | 3 | 2     | 8  | 2 | 0 | 5 | 0  | 0 | 0 | 7  | 3 | 1 | 1  | 0  | 0 | 0  | 0 | 0 |
| Seoulvirus                  | 0 | 1 | 0 | 0  | 1  | 2 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 1  | 0  | 2 | 0  | 0 |   |
| Sherbrookevirus             | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 1 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Tegunavirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 1 |   |
| Krischvirus                 | 0 | 0 | 1 | 4  | 0  | 0 | 0     | 0  | 0 | 0 | 2 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Mosigvirus                  | 0 | 0 | 0 | 0  | 0  | 0 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 1 | 0  | 0 |   |
| Tequatrovirus               | 0 | 0 | 0 | 0  | 0  | 0 | 24    | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 5  | 2 | 0 | 0  | 0  | 0 | 2  | 0 |   |
| Lasalleivirus               | 0 | 0 | 0 | 2  | 0  | 0 | 1,084 | 0  | 4 | 2 | 2 | 0  | 0 | 0 | 12 | 4 | 2 | 0  | 0  | 0 | 10 | 0 |   |
| Lazavovirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 1     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Mydovirus                   | 0 | 0 | 5 | 0  | 2  | 0 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 2  | 0 | 0  | 0 |   |
| Wilfevirus                  | 0 | 2 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 4 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Yongloolinvirus             | 0 | 0 | 0 | 2  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Asthrivirus                 | 0 | 0 | 0 | 2  | 3  | 7 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Bruynoghevirus              | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 1 | 2 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Tinytimothyvirus            | 0 | 0 | 0 | 0  | 0  | 2 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Fringavirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 1  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 1  | 0  | 1 | 0  | 0 |   |
| Hollowayvirus               | 0 | 2 | 0 | 0  | 2  | 0 | 0     | 2  | 0 | 0 | 0 | 5  | 0 | 2 | 2  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Kochikakassovirus           | 0 | 0 | 2 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Koylovirus                  | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 7 | 7 | 2 | 0  | 0 | 0 | 0  | 4 | 1 | 0  | 0  | 0 | 0  | 0 |   |
| Kuravirus                   | 0 | 0 | 0 | 0  | 0  | 1 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Lastavirus                  | 0 | 0 | 0 | 1  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Perisivirus                 | 0 | 0 | 0 | 1  | 0  | 3 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 3  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Oelovirus                   | 0 | 0 | 0 | 0  | 0  | 0 | 1     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Sortsevavirus               | 0 | 0 | 0 | 0  | 0  | 2 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 2 | 0  | 0 | 0 | 1  | 0  | 0 | 0  | 0 |   |
| Utakavirus                  | 0 | 4 | 2 | 3  | 2  | 4 | 4     | 2  | 0 | 0 | 0 | 5  | 0 | 0 | 1  | 0 | 1 | 2  | 8  | 0 | 0  | 0 |   |
| Clunavirus                  | 0 | 0 | 0 | 0  | 1  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Pokkenvirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Jwalphavirus                | 0 | 0 | 0 | 0  | 1  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 1  | 2  | 0 | 0  | 0 |   |
| Pourcelvirus                | 0 | 3 | 0 | 0  | 0  | 2 | 0     | 0  | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| undclassified Schiloviridae | 0 | 0 | 0 | 2  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Audreyjarvinivirus          | 0 | 0 | 0 | 0  | 0  | 0 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 1 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Casadabanvirus              | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 2 | 0 | 0  | 0 | 0 | 0  | 0 | 1 | 0  | 0  | 0 | 0  | 0 |   |
| Ceduvovirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 2  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Tanisivirus                 | 0 | 0 | 3 | 0  | 0  | 0 | 2     | 0  | 2 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Dhiltovirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Ensalivirus                 | 0 | 4 | 2 | 0  | 0  | 1 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 1 | 0  | 0  | 0 | 0  | 0 |   |
| Fromanvirus                 | 0 | 0 | 0 | 0  | 1  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Cornelivirus                | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Lambdavirus                 | 0 | 1 | 0 | 1  | 13 | 1 | 1     | 3  | 0 | 0 | 0 | 21 | 0 | 1 | 2  | 0 | 0 | 0  | 27 | 0 | 0  | 0 |   |
| Muminivirus                 | 0 | 0 | 0 | 0  | 0  | 1 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Nelerthenavirus             | 0 | 0 | 0 | 0  | 0  | 0 | 2     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Pelexavirus                 | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 64 | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| undclassified Queovirinae   | 0 | 0 | 0 | 2  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 2  | 0 |   |
| Ravivirus                   | 0 | 1 | 0 | 0  | 0  | 0 | 0     | 3  | 0 | 0 | 0 | 0  | 0 | 0 | 3  | 1 | 0 | 0  | 6  | 0 | 0  | 0 |   |
| Rouffvirus                  | 0 | 0 | 1 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Sapheaxvirus                | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 2 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Sextacovirus                | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 4  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Sukhumvitvirus              | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Tinduvovirus                | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 2  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Vieuvirus                   | 0 | 0 | 0 | 0  | 3  | 0 | 0     | 0  | 0 | 7 | 6 | 0  | 2 | 0 | 2  | 2 | 3 | 28 | 46 | 3 | 0  | 0 |   |
| Paundecimvirus              | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Flyfo microvirus Tbaa2_105  | 0 | 0 | 0 | 1  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. cB5c43      | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 1 | 2 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. cB2b1       | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 2 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. c2a44       | 0 | 0 | 1 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 1  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. c3ha7       | 0 | 0 | 0 | 0  | 0  | 0 | 0     | 1  | 0 | 0 | 0 | 1  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. c79c5       | 0 | 0 | 1 | 0  | 0  | 0 | 0     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. cByf5       | 0 | 2 | 2 | 1  | 1  | 0 | 3     | 0  | 0 | 0 | 0 | 0  | 0 | 0 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 |   |
| Microvirdae sp. cTCuG14     |   |   |   |    |    |   |       |    |   |   |   |    |   |   |    |   |   |    |    |   |    |   |   |

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