**Appendix.** The list of genomes in the simulated data set, *Simu*.

|  |  |  |  |
| --- | --- | --- | --- |
| Genome  Accession # | Organism Name | Genome  Length (bases) | No. Reads Simulated |
| NC\_011312 | *Aliivibrio salmonicida LFI1238* | 3325165 | 33103 |
| NC\_009922 | *Alkaliphilus oremlandii OhILAs* | 3123558 | 31500 |
| NC\_007716 | *Aster yellows witches'-broom phytoplasma AYWB* | 706569 | 6973 |
| NC\_014829 | *Bacillus cellulosilyticus DSM 2522* | 4681672 | 46702 |
| NC\_014019 | *Bacillus megaterium QM B1551* | 5097129 | 51138 |
| NC\_013791 | *Bacillus pseudofirmus OF4* | 3858997 | 38354 |
| NC\_010581 | *Beijerinckia indica subsp. indica ATCC 9039* | 4170153 | 41466 |
| NC\_014616 | *Bifidobacterium bifidum S17* | 2186882 | 21732 |
| NC\_011229 | *Borrelia duttonii Ly* | 931674 | 9266 |
| NC\_008513 | *Buchnera aphidicola str. Cc (Cinara cedri)* | 416380 | 4196 |
| NC\_010280 | *Chlamydia trachomatis L2b/UCH-1/proctitis* | 1038863 | 10508 |
| NC\_002491 | *Chlamydophila pneumoniae J138* | 1226565 | 12212 |
| NC\_010723 | *Clostridium botulinum E3 str. Alaska E43* | 3659644 | 36555 |
| NC\_015856 | *Collimonas fungivorans Ter331* | 5186898 | 52002 |
| NC\_015185 | *Desulfurobacterium thermolithotrophum DSM 11699* | 1541968 | 15552 |
| NC\_013037 | *Dyadobacter fermentans DSM 18053* | 6967790 | 69332 |
| NC\_014121 | *Enterobacter cloacae subsp. cloacae ATCC 13047* | 5314581 | 53292 |
| NC\_015601 | *Erysipelothrix rhusiopathiae str. Fujisawa* | 1787941 | 17670 |
| NC\_015672 | *Flexistipes sinusarabici DSM 4947* | 2526590 | 25147 |
| NC\_014394 | *Gallionella capsiferriformans ES-2* | 3162471 | 31424 |
| NC\_014366 | *Gamma proteobacterium HdN1* | 4587455 | 45962 |
| NC\_005125 | *Gloeobacter violaceus PCC 7421* | 4659019 | 46677 |
| NC\_010125 | *Gluconacetobacter diazotrophicus PAl 5* | 3944163 | 39491 |
| NC\_011283 | *Klebsiella pneumoniae 342* | 5641239 | 56361 |
| NC\_004343 | *Leptospira interrogansserovar Lai str. 56601* | 359372 | 3634 |
| NC\_015516 | *Melissococcus plutonius ATCC 35311* | 1891014 | 18857 |
| NC\_007355 | *Methanosarcina barkeri str. Fusaro* | 4837408 | 48186 |
| NC\_010172 | *Methylobacterium extorquens PA1* | 5471154 | 54893 |
| NC\_002977 | *Methylococcuscapsulatus str. Bath* | 3304561 | 32742 |
| NC\_008596 | *Mycobacterium smegmatis str. MC2 155* | 6988209 | 70227 |
| NC\_004757 | *Nitrosomonas europaea ATCC 19718* | 2812094 | 28214 |
| NC\_012440 | *Persephonella marina EX-H1* | 1930284 | 19434 |
| NC\_011147 | *Salmonella enterica subsp. Enterica serovar Paratyphi A str. AKU\_12601* | 4581797 | 45792 |
| NC\_014168 | *Segniliparus rotundus DSM 44985* | 3157527 | 31654 |
| NC\_015713 | *Simkania negevensis Z* | 2496337 | 24929 |
| NC\_014006 | *Sphingobium japonicum UT26S* | 3514822 | 35217 |
| NC\_007795 | *Staphylococcus aureus subsp. aureus NCTC 8325* | 2821361 | 28048 |
| NC\_012471 | *Streptococcus equi subsp. equi 4047* | 2253793 | 22738 |
| NC\_013929 | *Streptomyces scabiei 87.22* | 10148695 | 101748 |
| NC\_015953 | *Streptomyces sp. SirexAA-E* | 7414440 | 74626 |
| NC\_012622 | *Sulfolobus is landicus Y.G.57.14* | 2702058 | 26987 |
| NC\_014506 | *Sulfurimonas autotrophica DSM 16294* | 2153198 | 21471 |
| NC\_006461 | *Thermus thermophilus HB8* | 1849742 | 18229 |