**Supplementary Table 3. Bacteria listed by 454-Pyrosequencing.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Taxonomy** | **Phylum** | **Species** | **Y**¶**#1** | **Y #2** | **Y #3** | **O**§**#1** | **O #2** | **O #3** | **SUM (Ratio)** |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter malorum* | *Proteobacteria* | *Acetobacter malorum* | 0.08 | 0.04 | 3.12 | 44.71 | 66.01 | 52.80 | 166.75 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter persici* | *Proteobacteria* | *Acetobacter persici* | 81.38 | 17.47 | 28.02 | 12.44 | 4.54 | 0.78 | 144.64 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillus;Lactobacillus plantarum* group | *Firmicutes* | *Lactobacillus plantarum* group | 16.58 | 0.77 | 4.61 | 30.33 | 22.26 | 20.81 | 95.36 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillus;Lactobacillus brevis* | *Firmicutes* | *Lactobacillus brevis* | 0.00 | 45.79 | 56.96 | 0.03 | 3.71 | 0.25 | 106.74 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Leuconostocaceae;;Leuconostoc;Leuconostoc pseudomesenteroides* | *Firmicutes* | *Leuconostoc pseudomesenteroides* | 0.00 | 0.00 | 0.00 | 8.01 | 1.48 | 24.50 | 33.99 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter medellinensis* | *Proteobacteria* | *Komagataeibacter medellinensis* | 0.67 | 34.20 | 6.30 | 0.61 | 0.03 | 0.00 | 41.82 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillus;Lactobacillus xiangfangensis* | *Firmicutes* | *Lactobacillus xiangfangensis* | 0.37 | 0.05 | 0.14 | 0.82 | 0.36 | 0.28 | 2.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter*\_uc | *Proteobacteria* | *Acetobacter*\_uc | 0.04 | 0.04 | 0.12 | 1.01 | 0.51 | 0.10 | 1.81 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter orleanensis* | *Proteobacteria* | *Acetobacter orleanensis* | 0.04 | 0.00 | 0.00 | 0.93 | 0.26 | 0.02 | 1.26 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillaceae*\_uc*;Lactobacillaceae\_*uc\_s | *Firmicutes* | *Lactobacillaceae*\_  uc\_s | 0.08 | 0.07 | 0.10 | 0.27 | 0.15 | 0.17 | 0.84 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter estunensis* | *Proteobacteria* | *Acetobacter estunensis* | 0.10 | 0.75 | 0.16 | 0.00 | 0.00 | 0.00 | 1.00 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillales\_*uc*;;Lactobacillales\_*uc\_g*;Lactobacillales\_*uc\_s | *Firmicutes* | *Lactobacillales*\_uc\_s | 0.06 | 0.04 | 0.02 | 0.05 | 0.32 | 0.06 | 0.55 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter aceti* | *Proteobacteria* | *Acetobacter aceti* | 0.27 | 0.22 | 0.12 | 0.03 | 0.00 | 0.00 | 0.64 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillus;Lactobacillus*\_  uc | *Firmicutes* | *Lactobacillus*\_uc | 0.02 | 0.07 | 0.04 | 0.25 | 0.08 | 0.00 | 0.46 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacteraceae*\_uc*;Acetobacteraceae*\_uc\_s | *Proteobacteria* | *Acetobacteraceae*\_  uc\_s | 0.06 | 0.05 | 0.02 | 0.12 | 0.11 | 0.04 | 0.40 |
| *Bacteria;;;Firmicutes;;Bacilli;;Bacilli\_*uc*;;Bacilli*\_uc\_f;*;Bacilli\_uc\_g;Bacilli*\_uc\_s | *Firmicutes* | *Bacilli*\_uc\_s | 0.02 | 0.00 | 0.06 | 0.05 | 0.02 | 0.00 | 0.15 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Leuconostocaceae;;Leuconostoc;Leuconostoc*\_uc | *Firmicutes* | *Leuconostoc*\_uc | 0.00 | 0.00 | 0.00 | 0.04 | 0.02 | 0.05 | 0.11 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Rhodospirillales*\_uc*;;Rhodospirillales*\_uc\_g*;Rhodospirillales*\_uc\_s | *Proteobacteria* | *Rhodospirillales*\_  uc\_s | 0.02 | 0.04 | 0.00 | 0.04 | 0.01 | 0.01 | 0.12 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter kombuchae* | *Proteobacteria* | *Komagataeibacter kombuchae* | 0.00 | 0.04 | 0.00 | 0.06 | 0.00 | 0.00 | 0.10 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Leuconostocaceae;;Leuconostocaceae*\_uc*;Leuconostocaceae*\_uc\_s | *Firmicutes* | *Leuconostocaceae*\_  uc\_s | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter europaeus* group | *Proteobacteria* | *Komagataeibacter europaeus* group | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 |
| *Bacteria;;;Bacteria*\_uc*;;Bacteria*\_uc\_c*;;Bacteria\_*uc\_o*;;Bacteria\_uc\_f;;Bacteria\_uc\_g;Bacteria*\_uc\_s | *Bacteria*\_uc | *Bacteria*\_uc\_s | 0.02 | 0.00 | 0.00 | 0.04 | 0.00 | 0.01 | 0.07 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter cibinongensis* | *Proteobacteria* | *Acetobacter cibinongensis* | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.05 |
| *Bacteria;;;Cyanobacteria;;*JF737898\_c;;JF417809\_o*;;*JF417809\_f*;;*AJ583204\_g*;*AJ583204\_s | *Cyanobacteria* | AJ583204\_s | 0.00 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.07 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter kakiaceti* | *Proteobacteria* | *Komagataeibacter kakiaceti* | 0.00 | 0.04 | 0.02 | 0.01 | 0.00 | 0.00 | 0.07 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Alphaproteobacteria\_uc;;Alphaproteobacteria\_uc\_f;;Alphaproteobacteria\_uc\_g;Alphaproteobacteria*\_uc\_s | *Proteobacteria* | *Alphaproteobacteria*\_  uc\_s | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Proteobacteria;;Betaproteobacteria;;Burkholderiales;;Ralstonia\_f;;Ralstonia;*AM713401\_s | *Proteobacteria* | AM713401\_s | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter indonesiensis* | *Proteobacteria* | *Acetobacter indonesiensis* | 0.00 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.05 |
| *Bacteria;;;Proteobacteria;;Proteobacteria\_uc;;Proteobacteria\_uc\_o;;Proteobacteria\_uc\_f;;Proteobacteria\_uc\_g;Proteobacteria*\_uc\_s | *Proteobacteria* | *Proteobacteria*\_uc\_s | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.05 |
| *Bacteria;;;Firmicutes;;Bacilli;;Bacillales;;Sporolactobacillaceae;;Tuberibacillus;Tuberibacillus*\_uc | *Firmicutes* | *Tuberibacillus\_*uc | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 |
| *Bacteria;;;Proteobacteria;;Betaproteobacteria;;Burkholderiales;;Oxalobacteraceae;;Massilia;Massilia varians* | *Proteobacteria* | *Massilia varians* | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Firmicutes;;Bacilli;;Bacillales;;Bacillaceae;;Geobacillus;Geobacillus stearothermophilus* | *Firmicutes* | *Geobacillus stearothermophilus* | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Firmicutes;;Firmicutes\_uc;;Firmicutes\_uc\_o;;Firmicutes\_uc\_f;;Firmicutes\_uc\_g;Firmicutes*\_uc\_s | *Firmicutes* | *Firmicutes*\_uc\_s | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 |
| *Bacteria;;;Acidobacteria;;Solibacteres;;EU445199\_o;;EU445199\_f;;EU445199\_g;JX001319*\_s | *Acidobacteria* | JX001319\_s | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Proteobacteria;;Betaproteobacteria;;Burkholderiales;;Ralstonia\_f;;Ralstonia;Ralstonia pickettii* | *Proteobacteria* | *Ralstonia pickettii* | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Firmicutes;;Bacilli;;Bacillales;;Bacillaceae;;Geobacillus;Geobacillus*\_uc | *Firmicutes* | *Geobacillus*\_uc | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| *Bacteria;;;Planctomycetes;;*HQ681992\_c*;;*HQ681992\_o*;;*HQ681992\_f*;;*HQ681992\_f\_uc*;*HQ681992\_f\_uc\_s | *Planctomycetes* | HQ681992\_f\_uc\_s | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 |
| *Bacteria;;;Proteobacteria;;Gammaproteobacteria;;DQ906757\_o;;DQ906757\_f;;DQ906757\_g;DQ906757\_g\_uc* | *Proteobacteria* | DQ906757\_g\_uc | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| *Bacteria;;;Proteobacteria;;Betaproteobacteria;;Burkholderiales;;Sphaerotilus\_f;;Aquabacterium;Aquabacterium commune* | *Proteobacteria* | *Aquabacterium commune* | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Acetobacter;Acetobacter nitrogenifigens* | *Proteobacteria* | *Acetobacter nitrogenifigens* | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter hansenii* | *Proteobacteria* | *Komagataeibacter hansenii* | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Sphingomonadales;;Sphingomonadaceae;;Sphingomonas;Sphingomonas aquatilis* group | *Proteobacteria* | *Sphingomonas aquatilis* group | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Caulobacterales;;Caulobacteraceae;;Brevundimonas;Brevundimonas bullata* | *Proteobacteria* | *Brevundimonas bullata* | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;*AY957891\_o*;;*AY957891\_f*;;*AY957891\_g*;*AY957891\_s | *Proteobacteria* | AY957891\_s | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhizobiales;;Bradyrhizobiaceae;;Bradyrhizobium;Bradyrhizobium japonicum* group | *Proteobacteria* | *Bradyrhizobium japonicum* group | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Actinobacteria;;Actinobacteria\_c;;Micrococcales;;Micrococcaceae;;Arthrobacter;Arthrobacter histidinolovorans* group | *Actinobacteria* | *Arthrobacter histidinolovorans* group | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter*\_uc | *Proteobacteria* | *Komagataeibacter*\_  uc | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Firmicutes;;Bacilli;;Lactobacillales;;Lactobacillaceae;;Lactobacillus;Lactobacillus yonginensis* | *Firmicutes* | *Lactobacillus yonginensis* | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| *Bacteria;;;Firmicutes;;Bacilli;;Bacillales;;Bacillaceae;;Bacillus;Bacillus aryabhattai* | *Firmicutes* | *Bacillus aryabhattai* | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhodospirillales;;Acetobacteraceae;;Komagataeibacter;Komagataeibacter maltaceti* group | *Proteobacteria* | *Komagataeibacter maltaceti* group | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| *Bacteria;;;Proteobacteria;;Alphaproteobacteria;;Rhizobiales;;Methylobacteriaceae;;Methylobacterium;Methylobacterium jeotgali* | *Proteobacteria* | *Methylobacterium jeotgali* | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 |

¶ Y indicates Young; § O indicates Old