

## **Supplemental Online Content**

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This supplemental material has been provided by the authors to give readers additional information about their work.

## eAppendix. Supplemental Methods

### Study design, participants, and protocol

We conducted a nested matched case-control study to investigate the association between nasal microbiota and postoperative infectious complications using participants selected from a prospective cohort study of elective high risk clean surgical procedures. The protocol for subjects enrolled in the prospective surgical cohort study, which served as the parent to the current microbiome study, was previously published<sup>1</sup>. Of the 802 subjects enrolled into the cohort at the Johns Hopkins Hospital or the University of Maryland Medical Center (from 2/1/2007 to 9/30/2014), we identified 53 participants who developed the composite infectious outcome (deep SSI, bacteremia, or pneumonia) within 6 months of the index surgical procedure. We selected non-infected controls to match cases (~3:1) by age (+/- 5 years), sex, and surgical procedure; for some cases, only 2 matches were identified (yielding a total of 144 controls). We targeted a sample size of ~200 cases plus controls given the financial resources available to us to conduct the microbiome analyses. Cases and controls were selected from a prospective surgical cohort because of the high incidence of bacterial disease expression in the weeks immediately following surgery, allowing temporal inference to be drawn regarding characteristics of microbiota in an infection-free state (before surgery) and subsequent development of clinical infection after a high risk exposure (i.e. surgery).

Patients were eligible for inclusion in the original cohort if they were ≥40 years old and underwent any of the following elective clean surgical procedures: cardiac surgery (coronary artery bypass or valve), vascular surgery (aortic or lower extremity revascularization or open aneurysm repair), spinal fusion, or craniotomy. These surgical procedures were selected because of the relatively high risk for postoperative SSI and pneumonia and because they share a common pathologic basis for SSI, including the type of infecting pathogen, that is, predominantly skin and mucosal flora. Patients were excluded for any of the following: history of immunodeficiency syndrome, autoimmune disease, immunosuppressive medications in the past 6 months (oral corticosteroids <5 days was allowed if not current at the time of surgery), central venous catheter was inserted before surgery, any infection/antibiotic therapy at the time of surgery (excluding antibiotics for perioperative prophylaxis), or inability to obtain written informed consent. (None of the participants was intubated at baseline.)

Baseline information from all subjects was obtained from in-person interviews and medical chart review. The following data elements, which could potentially confound the relation between the main exposure (i.e. nasal microbiome cluster class) and primary outcome (i.e. composite of postoperative SSI, bacteremia, or pneumonia), were recorded: demographics (age, sex, race), baseline comorbidities, infection or hospitalization in the year prior to surgery, American Society of Anesthesiologists Class, Charlson Comorbidity score, inpatient/outpatient status at time of surgery, and study site (Johns Hopkins Hospital, University of Maryland Medical Center). A previous report in twins indicated that genetic factors contribute to composition of nasal microbiota<sup>2</sup>. Because genetic architecture is known to differ by race, we included race as a demographic variable to adjust for potential confounding between the main exposure (nasal microbiome cluster class) and infectious outcome. Race was self-reported by each participant. The following comorbidities were recorded: obesity (BMI >/=30 by weight and height recorded at time of surgery), diabetes, hypertension, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease (previous stroke or TIA), chronic obstructive pulmonary disease (COPD), smoking history (past or present), gastric ulcer disease, chronic liver disease, renal failure requiring dialysis, history of cancer (past or in the context of the scheduled surgical procedure). Each comorbidity was dichotomized and recorded as present if endorsed by the patient during the baseline interview or if the comorbidity was

recorded as present in the hospital record admission history and physical. For the diagnoses of diabetes, hypertension, and COPD, the subject also required concurrent treatment with a therapeutic agent for that disease for the comorbidity to be recorded as present; i.e., oral hypoglycemic agent or insulin for diabetes, anti-hypertensive agent for hypertension, inhaled bronchodilator or inhaled steroid for COPD.

### **Identification of *S aureus* from nasal swabs by clinical culture**

Both anterior nares were swabbed with culturettes at the baseline visit before surgery. Swabs were transported to the clinical laboratory and plated to Chromagar *S. aureus* (BD Diagnostics, Sparks, MD) then stored at -80C for subsequent extraction of bacterial DNA for 16S rRNA gene sequencing (see below). Plates were incubated in the dark at 37°C for a minimum of 20 hours and then reincubated for another 24 hours, if negative. All mauve colonies were confirmed as *S aureus* positive using latex agglutination (Staphaurex Plus; Remel, Lenexa, KS).

### **Main exposure**

We classified each of the 197 participants in this case-control study based solely on features derived from 16S rRNA gene sequencing of the material extracted from each subject's preoperative nasal swab. Nasal microbiome cluster class served as the main exposure. Two critical steps- 16S rRNA gene sequencing followed by unsupervised clustering analysis- were taken to classify nasal microbiota samples independently and agnostic of the baseline covariates and infection case/control status of each participant. A detailed description of these two steps follows below:

#### *Microbiota profiling using 16S rRNA gene sequencing*

Total metagenomic DNA was extracted and isolated from nasal swabs as previously described<sup>3,4</sup>. Briefly, samples were thawed and spun down, the resulting cell pellet was resuspended in 1 ml ice-cold PBS and transferred into Lysing Matrix B tubes (MP Biomedicals, Solon, OH). Bacterial lysis was then performed using two rounds of enzymatic lysis, first with a cocktail composed of lysozyme, mutanolysin, proteinase K, and then with lysostaphin, followed by mechanical lysis using bead beating. The mgDNA was then further purified using the Zymo fecal DNA kit (Zymogen). Negative extraction controls (PBS) were processed in parallel with each extraction to ensure no contaminating DNA was introduced during the DNA extraction process and PCRs. All samples included in our analyses had negative controls.

Microbiota profiling was performed by PCR amplification of the V3V4 hypervariable region of the 16S rRNA gene, followed by sequencing on the Illumina MiSeq 300-bp paired-reads platform (Illumina, San Diego, CA) using procedures previously published<sup>5,6</sup>. Sample barcoding was performed using the dual-indexing strategy for multiplexed sequencing developed at the Institute for Genome Sciences<sup>5,6</sup>. PCRs were set-up in 96-well microtiter plates using the 319F and 806R 16S universal primers, each of which also included a linker sequence required for Illumina sequencing, and also a 12-bp heterogeneity spacer index sequence aimed at minimizing biases associated with low-diversity amplicon sequencing<sup>5,6</sup>. No-template negative controls were processed for each primer pair. The presence of PCR amplicons was confirmed using gel electrophoresis, after which the SequalPrep normalization plate kit (Life Technologies, Inc.) was used for cleanup and normalization before sequencing.

Following sequencing, initial processing of the raw 16S sequences (read pair merging, read trimming and chimera filtering) was performed as previously described<sup>4</sup>. We then used QIIME 1.9.1<sup>7</sup> to generate an open-reference operational taxonomic unit (OTU) matrix and to perform all downstream analyses. In the process, sequence reads were clustered using a 97% similarity cutoff with UCLUST version 1.2.22 and aligned using PyNAST v1.2.2 against a core

Greengenes database vgg\_13\_8<sup>8</sup>. OTUs were assigned a taxonomic annotation using the RDP Classifier v2.0.2<sup>9</sup> and labeled to the most specific known taxonomic level. When taxonomic classification was not possible for a given taxa level, OTUs were labeled as “unclassified”.

#### *Clustering analysis of nasal microbial profiles*

CountClust<sup>10</sup> (R package) was used to assign each sample to a clustering group based on the counts for each taxonomic unit in each sample. CountClust fits a topic mixed membership model to visualize and annotate clusters, extracting the top features driving cluster membership. Grades of membership modeling (GoM) was used to determine the number of clusters that provided best fit to the data. GoM allows each sample to have some proportion of its membership – partial membership – in each cluster. For microbiome data, the partial membership assumption corresponds to each sample having some proportion of its reads from each cluster, and each cluster is characterized by a probability vector of relative taxa expression levels. In our analysis, we used these partial membership weights to assign each sample to a cluster. To determine the optimal number of clusters, we computed log Bayes factor (provided in CountClust) and compared model fit under k=2 to 5 versus a null single cluster model. The log Bayes factor was corrected for the number of parameters fitted in each model. We evaluated the data with k = 2 to 5 and found that k=2 produced the largest Bayes factor. Because sample cluster assignment may differ between different random seeds, despite similar cluster characteristics in feature abundance, we ran CountClust under 100 different random seeds. We chose the random seed that produced the largest Bayes Factors across different random seeds and sample cluster membership.

#### **Primary and secondary outcomes**

The primary outcome was a composite of deep SSI, pneumonia, or bacteremia, as defined by CDC surveillance criteria<sup>11</sup>, occurring within 6 months postoperatively. Bacteremia was defined as the occurrence of one or more positive blood cultures for a pathogenic organism or 2 or more positive cultures at different times for a skin commensal. Secondary outcomes were SSI, pneumonia, and bacteremia separately, the composite outcome at 30 days, and death at 6 months.

Outcomes were ascertained during the 6 month follow-up period after surgery for all participants involved in the original cohort. Follow-up data were obtained from each participant by study team personnel using in-person or phone interview and by review of medical records. Follow-up occurred daily during the inpatient phase of care immediately following the index surgical procedure and then at 30 days and 6 months after the date of surgery. Outpatient follow-up consisted of scripted mail and/or phone surveys. In addition, medical records were obtained from any primary or specialty care visits and for emergency department encounters and hospitalizations that occurred after discharge from the index surgical procedure. All outcomes reported by patients were confirmed from the obtained medical records, and in cases of death, from death certificates and/or autopsy reports. The social security death index was queried for loses to follow-up.

The outcomes for participants in this nested matched case-control study, like all outcomes in the original cohort, were adjudicated by trained research nurses.

#### *Statistical analyses*

Aggregated counts of rRNA sequences to the species level annotation were batch corrected and used for differential abundance analysis. To account for the variability in sequencing depth we performed cumulative sum scaling (CSS)<sup>12</sup>. To identify taxa significantly different between

clusters and accounting for the sparsity inherent to 16S rRNA gene sequencing, we performed differential abundance analysis using a zero-inflated log-normal model as implemented within metagenomeSeq version 1.21.1 9 (software publically available at [10.18129/B9.bioc.metagenomeSeq](https://doi.org/10.18129/B9.bioc.metagenomeSeq))<sup>13</sup>. To characterize the within-sample (alpha) diversity, we calculated Shannon's Diversity Index (H). To characterize the between-sample (beta) diversity, we performed Principal Component Analysis on CSS log<sub>2</sub> normalized species abundances.

Generalized linear model (GLM) analyses were performed to determine the factors associated with primary and secondary outcomes, unadjusted and adjusted for potentially confounding covariates. Weighted probability of assignment to microbiome cluster class served as the main exposure. Models were defined using a binomial probability distribution and a logit link function. In a first step, demographic and comorbidities risk factors were tested individually between clusters. In a second step, a propensity score (PS) for cluster assignment was estimated. To estimate the PS, we used multivariable logistic regression analysis that included all of the baseline variables. Inverse probability of treatment weights (IPTW) used the PS to form a weight. The IPTW approach used weights based on the propensity score to create a sample in which the distribution of measured baseline covariates was independent of cluster assignment. The weights were incorporated in the multivariable weighted logistic regression model to predict infectious outcome.

We bootstrapped propensity score analyses by selecting ~70% of the 197 subjects in 500 subsamples, maintaining a fixed ratio of cases to controls in the subsamples (1:2.8). In each subsample, we first selected the case subjects with matched control subjects. We randomly sampled 38 cases in each subsample with replacement and then iteratively sampled matched control subjects for each case subject until the ratio of case vs control subject satisfied our requirement. The number of subjects in each of the 500 subsamples ranged between 122 to 144.

We examined the association of infection with alpha diversity and abundance of individual microbial taxa using logistic regression. Due to skewness in the abundance (count) of microbial taxa, we log transformed counts to approximate normality. Analyses were performed using the R version 3.2.2 (R foundation for Statistical Computing, Vienna, Austria). Statistical significance was set at p-value < 0.05 and all tests were two-sided. Benjamini-Hochberg false discovery procedure was used to correct for multiple comparisons.

#### *Data access*

Github site which contains all scripts to reproduce our analysis.

<https://jhsiao999.github.io/nasalmicrobiome/>

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**eTable 1.** Association of Taxa Abundance With Microbiome Cluster Class

| Taxa   | samples<br>clust1 | samples<br>clust2 | counts<br>clust1 | counts<br>clust2 | logFC         | se             | p-value           | q-value           |
|--|-------------------|-------------------|------------------|------------------|---------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Mycobacteriaceae;g_Mycobacterium;s_ | 28                | 11                | 76               | 71               | 3.63<br>1E+00 | 0.6<br>01      | 1.5<br>80         | 5.3<br>10<br>E-07 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_g_s_                               | 154               | 30                | 180<br>8         | 13<br>82<br>5    | 1.60<br>9E+00 | 0.2<br>86<br>8 | 2.0<br>20<br>E-08 | 3.3<br>90<br>E-06 |
| k_Bacteria;p_Chloroflexi;c_Thermomicrobia;o_JG30-KF-CM45;f_g_s_                                      | 11                | 9                 | 22               | 31<br>52         | 4.09<br>8E+00 | 0.7<br>51<br>4 | 4.9<br>50<br>E-08 | 4.1<br>40<br>E-06 |
| k_Bacteria;p_TM7;c_TM7-1;o_f_g_s_  | 19                | 10                | 46               | 66<br>05         | 3.60<br>3E+00 | 0.6<br>58<br>7 | 4.5<br>10<br>E-08 | 4.1<br>40<br>E-06 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_g_s_                                | 27                | 15                | 84               | 12<br>09<br>9    | 3.05<br>7E+00 | 0.5<br>65<br>1 | 6.3<br>30<br>E-08 | 4.2<br>40<br>E-06 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacterales;f_g_s_                           | 11                | 12                | 19               | 27<br>49         | 3.80<br>6E+00 | 0.7<br>12<br>5 | 9.2<br>20<br>E-08 | 4.5<br>50<br>E-06 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_s_           | 139               | 29                | 292<br>4         | 10<br>24<br>00   | 1.75<br>6E+00 | 0.3<br>29<br>2 | 9.5<br>20<br>E-08 | 4.5<br>50<br>E-06 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_s_             | 128               | 29                | 273<br>7         | 60<br>88<br>9    | 1.50<br>8E+00 | 0.3<br>13<br>9 | 1.5<br>70<br>E-06 | 6.5<br>50<br>E-05 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_s_              | 44                | 12                | 214              | 82<br>41         | 2.66<br>8E+00 | 0.5<br>64<br>3 | 2.2<br>70<br>E-06 | 8.4<br>40<br>E-05 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobales;f_g_s_                                 | 12                | 10                | 17               | 11<br>34         | 3.26<br>6E+00 | 0.7<br>00<br>3 | 3.1<br>00<br>E-06 | 1.0<br>37<br>E-04 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_SMB53;s_                     | 19                | 11                | 87               | 57<br>62         | 2.96<br>9E+00 | 0.6<br>55<br>3 | 5.8<br>90<br>E-06 | 1.7<br>93<br>E-04 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_s_                           | 16                | 9                 | 47               | 29<br>18         | 3.09<br>9E+00 | 0.6<br>90<br>1 | 7.0<br>90<br>E-06 | 1.9<br>79<br>E-04 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_s_          | 23                | 16                | 285              | 16<br>48         | 2.33<br>2E+00 | 0.5<br>39<br>8 | 1.5<br>60<br>E-05 | 4.0<br>21<br>E-04 |
| k_Bacteria;p_TM7;c_TM7-3;o_f_g_s_  | 49                | 20                | 951              | 29<br>99         | 1.83<br>2E+00 | 0.4<br>28<br>5 | 1.9<br>20<br>E-05 | 4.5<br>84<br>E-04 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Exiguobacteriaceae;g_Exiguobacterium;s_             | 41                | 14                | 137              | 29<br>99         | 2.02<br>4E+00 | 0.4<br>86<br>5 | 3.1<br>80<br>E-05 | 7.1<br>04<br>E-04 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_Parvimonas;s_               | 28                | 8                 | 211              | 75<br>1          | 2.58<br>9E+00 | 0.6<br>53<br>2 | 7.4<br>10         | 1.5<br>51         |

|   |     |    |           |               |                        |                | E-05              | E-03              |
|---|-----|----|-----------|---------------|------------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Leggia;f_Legionellaceae;g_s                               | 7   | 8  | 8         | 18<br>92      | 3.50<br>9E+<br>00      | 0.9<br>03<br>3 | 1.0<br>27<br>E-04 | 1.9<br>11<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s   | 153 | 21 | 147<br>34 | 66<br>2       | -<br>1.64<br>6E+<br>00 | 0.4<br>23<br>6 | 1.0<br>22<br>E-04 | 1.9<br>11<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Moraxella;s             | 46  | 12 | 174<br>86 | 12<br>07      | 3.35<br>4E+<br>00      | 0.8<br>73<br>5 | 1.2<br>35<br>E-04 | 2.1<br>77<br>E-03 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Sphingobacterium;s | 6   | 8  | 11        | 11<br>0       | 3.25<br>8E+<br>00      | 0.8<br>66<br>4 | 1.6<br>97<br>E-04 | 2.8<br>43<br>E-03 |
| k_Bacteria;p_Cyanobacteria;c_Synechococcophycideae;o_Synechococcales;f_Synechococcaceae;g_Synechococcus;s     | 12  | 2  | 26        | 15<br>93      | 4.37<br>3E+<br>00      | 1.1<br>85<br>1 | 2.2<br>48<br>E-04 | 3.2<br>74<br>E-03 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_Deinococcus;s                           | 27  | 13 | 401       | 37<br>44<br>8 | 2.54<br>9E+<br>00      | 0.6<br>88<br>0 | 2.1<br>12<br>E-04 | 3.2<br>74<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Microbacterium;s         | 55  | 18 | 343       | 25<br>34<br>5 | 1.69<br>7E+<br>00      | 0.4<br>59<br>6 | 2.2<br>21<br>E-04 | 3.2<br>74<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Methylphilales;f_Methylphilaceae;g_s                       | 4   | 5  | 4         | 60<br>6       | 3.79<br>4E+<br>00      | 1.0<br>59<br>8 | 3.4<br>34<br>E-04 | 4.7<br>93<br>E-03 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_s                                    | 59  | 20 | 630       | 13<br>29      | 1.51<br>2E+<br>00      | 0.4<br>24<br>4 | 3.6<br>59<br>E-04 | 4.9<br>03<br>E-03 |
| k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_RB41;f_Ellin6075;g_s                                      | 17  | 9  | 151       | 19<br>18      | 2.43<br>7E+<br>00      | 0.6<br>86<br>0 | 3.8<br>18<br>E-04 | 4.9<br>19<br>E-03 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobactillales;f_Carnobacteriaceae;g_Granulicatella;s                   | 86  | 16 | 267<br>7  | 14<br>06<br>5 | 1.75<br>9E+<br>00      | 0.5<br>00<br>1 | 4.3<br>63<br>E-04 | 5.4<br>13<br>E-03 |
| k_Bacteria;p_TM7;c_SC3;o_f_g_s  | 10  | 7  | 21        | 32<br>66      | 3.19<br>2E+<br>00      | 0.9<br>14<br>8 | 4.8<br>52<br>E-04 | 5.4<br>59<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_g_s                                       | 9   | 6  | 30        | 11<br>05      | 3.10<br>0E+<br>00      | 0.8<br>84<br>4 | 4.5<br>74<br>E-04 | 5.4<br>59<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinomyces;s             | 111 | 24 | 339<br>5  | 50<br>06      | 1.31<br>0E+<br>00      | 0.3<br>75<br>6 | 4.8<br>89<br>E-04 | 5.4<br>59<br>E-03 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptostreptococcaceae;g_Peptostreptococcus;s           | 15  | 6  | 107       | 49<br>2       | 2.75<br>8E+<br>00      | 0.7<br>98<br>1 | 5.4<br>92<br>E-04 | 5.5<br>75<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_g_s                                    | 12  | 9  | 34        | 87<br>2       | 2.48<br>9E+<br>00      | 0.7<br>20<br>1 | 5.4<br>63<br>E-04 | 5.5<br>75<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Novosphingobium;s  | 13  | 11 | 41        | 26<br>0       | 2.21<br>4E+<br>00      | 0.6<br>38<br>6 | 5.2<br>65<br>E-04 | 5.5<br>75<br>E-03 |

|  |     |    |           |               |                   |                | E-04              | E-03              |
|--|-----|----|-----------|---------------|-------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_                        | 161 | 30 | 366<br>52 | 62<br>81<br>1 | 1.13<br>7E+<br>00 | 0.3<br>29<br>8 | 5.6<br>81<br>E-04 | 5.5<br>97<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_;s_                   | 34  | 13 | 157<br>40 | 20<br>40      | 1.74<br>9E+<br>00 | 0.5<br>10<br>9 | 6.1<br>78<br>E-04 | 5.9<br>14<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Bifidobacterium;s_longum | 13  | 11 | 65<br>6   | 83<br>6       | 2.44<br>3E+<br>00 | 0.7<br>19<br>2 | 6.8<br>22<br>E-04 | 6.3<br>49<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Hyphomicrobium;s_          | 7   | 10 | 25<br>37  | 16<br>37      | 2.93<br>0E+<br>00 | 0.8<br>72<br>3 | 7.8<br>25<br>E-04 | 7.0<br>85<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Paracoccus;s_marcusii   | 32  | 13 | 85<br>83  | 14<br>83      | 1.57<br>5E+<br>00 | 0.4<br>70<br>8 | 8.2<br>27<br>E-04 | 7.2<br>53<br>E-03 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Hymenobacter;s_                         | 23  | 11 | 122<br>24 | 15<br>5       | 2.28<br>4E+<br>00 | 0.6<br>94<br>2 | 1.0<br>01<br>E-03 | 8.3<br>85<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacterial es;f_Coriobacteriaceae;g_Atopobium;s_              | 37  | 9  | 204<br>1  | 40<br>1       | 1.81<br>3E+<br>00 | 0.5<br>50<br>5 | 9.9<br>14<br>E-04 | 8.3<br>85<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylocystaceae;g_Methylosinus;s_             | 5   | 8  | 5<br>2    | 25<br>2       | 2.92<br>8E+<br>00 | 0.8<br>95<br>4 | 1.0<br>77<br>E-03 | 8.8<br>03<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Beijerinckiaceae;g_;s_                         | 17  | 10 | 68<br>89  | 33<br>89      | 2.31<br>9E+<br>00 | 0.7<br>12<br>3 | 1.1<br>31<br>E-03 | 9.0<br>24<br>E-03 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Alcaligenaceae;g_;s_                        | 25  | 10 | 166<br>77 | 11<br>77      | 2.15<br>3E+<br>00 | 0.6<br>63<br>0 | 1.1<br>64<br>E-03 | 9.0<br>70<br>E-03 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobales;f_EB1017;g_;s_                                     | 3   | 9  | 3<br>2    | 17<br>2       | 3.32<br>0E+<br>00 | 1.0<br>41<br>8 | 1.4<br>39<br>E-03 | 1.0<br>95<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Rhodoplanes;s_             | 12  | 10 | 21<br>9   | 25<br>9       | 2.00<br>4E+<br>00 | 0.6<br>31<br>7 | 1.5<br>15<br>E-03 | 1.1<br>03<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_;s_                           | 35  | 13 | 288<br>3  | 68<br>3       | 1.60<br>6E+<br>00 | 0.5<br>06<br>1 | 1.5<br>06<br>E-03 | 1.1<br>03<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobales;f_C111;g_;s_                                       | 9   | 8  | 35<br>9   | 74<br>9       | 2.66<br>9E+<br>00 | 0.8<br>51<br>0 | 1.7<br>12<br>E-03 | 1.2<br>20<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella;s_dispar                    | 114 | 19 | 790<br>7  | 93<br>07      | 1.29<br>9E+<br>00 | 0.4<br>17<br>8 | 1.8<br>78<br>E-03 | 1.2<br>58<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_;s_                        | 111 | 27 | 131<br>8  | 96<br>9       | 8.21<br>7E-<br>01 | 0.2<br>63<br>7 | 1.8<br>36<br>E-03 | 1.2<br>58<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Micrococcus;s_                 | 145 | 27 | 466<br>37 | 37<br>37      | -<br>6.42         | 0.2<br>06<br>4 | 1.8<br>73<br>E-03 | 1.2<br>58<br>E-02 |

|  |     |    |            |               | OE-01          |                | E-03              | E-02              |
|--|-----|----|------------|---------------|----------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s_granulosum | 154 | 27 | 922        | 73            | -6.36<br>4E-01 | 0.2<br>05<br>7 | 1.9<br>72<br>E-03 | 1.2<br>96<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_s                                | 67  | 17 | 629        | 16<br>59<br>1 | 1.43<br>8E+00  | 0.4<br>69<br>8 | 2.2<br>20<br>E-03 | 1.4<br>E-02       |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobiales;f_Microthrixaceae;g_s                                   | 3   | 8  | 3          | 21<br>9       | 3.35<br>4E+00  | 1.1<br>14<br>2 | 2.6<br>07<br>E-03 | 1.6<br>48<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Anoxybacillus;s_kestanbolensis                          | 147 | 27 | 220        | 10<br>8       | -9.32<br>0E-01 | 0.3<br>10<br>4 | 2.6<br>77<br>E-03 | 1.6<br>61<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Stenotrophomonas;s            | 145 | 26 | 588        | 47            | -6.09<br>2E-01 | 0.2<br>12<br>2 | 4.0<br>88<br>E-03 | 2.4<br>90<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_An aerococcus;s                             | 159 | 27 | 128<br>879 | 91<br>95      | -1.16<br>9E+00 | 0.4<br>08<br>6 | 4.2<br>22<br>E-03 | 2.4<br>95<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s              | 72  | 19 | 113        | 94<br>83      | 1.15<br>9E+00  | 0.4<br>05<br>2 | 4.2<br>46<br>E-03 | 2.4<br>95<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_g_s   | 66  | 4  | 164        | 29            | -2.69<br>5E+00 | 0.9<br>45<br>7 | 4.3<br>68<br>E-03 | 2.5<br>14<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_s                           | 26  | 10 | 94         | 39<br>3       | 1.67<br>9E+00  | 0.5<br>89<br>9 | 4.4<br>29<br>E-03 | 2.5<br>14<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Plano coccaceae;g_Paenisporesarcina;s                                 | 25  | 8  | 79         | 23<br>14      | 1.98<br>3E+00  | 0.6<br>99<br>2 | 4.5<br>75<br>E-03 | 2.5<br>54<br>E-02 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_Trebouxiophyceae;g_s  | 8   | 6  | 28         | 16<br>30<br>0 | 3.44<br>0E+00  | 1.2<br>22<br>5 | 4.8<br>97<br>E-03 | 2.6<br>89<br>E-02 |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Dethiosulfovibrionaceae;g_TG5;s                             | 4   | 3  | 26         | 17<br>6       | 3.62<br>7E+00  | 1.3<br>00<br>3 | 5.2<br>85<br>E-03 | 2.8<br>56<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodoclales;f_Rhodocyclaceae;g_s                                    | 17  | 9  | 32         | 38<br>8       | 1.87<br>2E+00  | 0.6<br>78<br>1 | 5.7<br>76<br>E-03 | 3.0<br>43<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Rhodospirillaceae;g_s                           | 31  | 14 | 199        | 77<br>7       | 1.35<br>8E+00  | 0.4<br>92<br>4 | 5.8<br>14<br>E-03 | 3.0<br>43<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_CandidatusAquiluna;s_rubra        | 4   | 4  | 9          | 25<br>74      | 3.82<br>3E+00  | 1.3<br>90<br>0 | 5.9<br>59<br>E-03 | 3.0<br>71<br>E-02 |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Fusobacteriaceae;g_Fusobacterium;s                       | 74  | 15 | 224<br>1   | 15<br>00      | 1.25<br>7E+00  | 0.4<br>72<br>3 | 7.7<br>90<br>E-03 | 3.9<br>54<br>E-02 |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_g_s   | 3   | 6  | 3          | 64<br>8       | 3.41<br>4E+00  | 1.3<br>08<br>4 | 9.0<br>62         | 4.5<br>31         |

|  |     |    |     |               |                        |                | E-03              | E-02              |
|--|-----|----|-----|---------------|------------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Intrasporangiaceae;g_;s_                              | 38  | 8  | 387 | 53<br>13      | 1.80<br>1E+<br>00      | 0.7<br>04<br>1 | 1.0<br>54<br>1    | 5.1<br>91<br>E-02 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_                 | 46  | 14 | 482 | 20<br>96      | 1.33<br>1E+<br>00      | 0.5<br>28<br>2 | 1.1<br>74<br>E-02 | 5.7<br>01<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_TA18;o_PHOS-HD29;f_;g_;s_  | 2   | 7  | 2   | 11<br>2       | 3.21<br>5E+<br>00      | 1.2<br>86<br>0 | 1.2<br>43<br>E-02 | 5.8<br>66<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingopyxis;s_             | 4   | 9  | 8   | 47<br>0       | 2.68<br>1E+<br>00      | 1.0<br>71<br>3 | 1.2<br>31<br>E-02 | 5.8<br>66<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Aeromonadaceae;g_;s_                               | 33  | 8  | 191 | 10<br>67      | 1.64<br>7E+<br>00      | 0.6<br>65<br>5 | 1.3<br>33<br>E-02 | 6.2<br>03<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Moryella;s_                                   | 24  | 7  | 283 | 22<br>62      | 1.97<br>4E+<br>00      | 0.8<br>00<br>9 | 1.3<br>70<br>E-02 | 6.2<br>87<br>E-02 |
| k_Bacteria;p_TM6;c_SJA-4;o_;f_;g_;s_   | 2   | 6  | 2   | 14<br>58      | 3.89<br>1E+<br>00      | 1.5<br>90<br>7 | 1.4<br>44<br>E-02 | 6.5<br>21<br>E-02 |
| k_Bacteria;p_TM7;c_;o_;f_;g_;s_  | 6   | 7  | 16  | 27<br>93      | 2.60<br>9E+<br>00      | 1.0<br>72<br>7 | 1.4<br>99<br>E-02 | 6.5<br>21<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Bulleidiia;s_                   | 8   | 7  | 53  | 75<br>5       | 2.46<br>3E+<br>00      | 1.0<br>11<br>8 | 1.4<br>94<br>E-02 | 6.5<br>21<br>E-02 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Stramenopiles;f_;g_;s_  | 8   | 7  | 54  | 10<br>63      | 2.39<br>3E+<br>00      | 0.9<br>82<br>3 | 1.4<br>85<br>E-02 | 6.5<br>21<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_;s_                          | 112 | 26 | 196 | 13<br>8<br>93 | 8.15<br>3E-<br>01      | 0.3<br>37<br>1 | 1.5<br>59<br>E-02 | 6.6<br>96<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Oribacterium;s_                               | 21  | 9  | 134 | 12<br>26      | 1.78<br>7E+<br>00      | 0.7<br>40<br>5 | 1.5<br>82<br>E-02 | 6.7<br>07<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Ruminococcus;s_                               | 28  | 8  | 453 | 27            | -<br>1.62<br>9E+<br>00 | 0.6<br>94<br>7 | 1.9<br>04<br>E-02 | 7.9<br>74<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Agrrobacterium;s_                     | 42  | 12 | 325 | 85<br>6       | 1.24<br>3E+<br>00      | 0.5<br>33<br>5 | 1.9<br>79<br>E-02 | 7.9<br>88<br>E-02 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_melaninogenica                | 80  | 16 | 263 | 96<br>4<br>23 | 1.13<br>3E+<br>00      | 0.4<br>85<br>8 | 1.9<br>75<br>E-02 | 7.9<br>88<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_;s_                           | 144 | 25 | 334 | 41            | -<br>4.81<br>2E-<br>01 | 0.2<br>06<br>2 | 1.9<br>63<br>E-02 | 7.9<br>88<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Pseudoxanthomonas;s_mexcicana | 3   | 3  | 4   | 16<br>4       | 3.24<br>2E+<br>00      | 1.4<br>00<br>1 | 2.0<br>58         | 8.1<br>51         |

|   |     |    |          |          |                        |                | E-02              | E-02              |
|---|-----|----|----------|----------|------------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Fusobacteria;c_Fusobacterii;a_o_Fusobacteriales;f_Leptotrichiaceae;g_Leptotrichia;s_                 | 73  | 20 | 244<br>5 | 42<br>66 | 1.10<br>7E+<br>00      | 0.4<br>78<br>6 | 2.0<br>68<br>E-02 | 8.1<br>51<br>E-02 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_g_;s_  | 3   | 4  | 7        | 15<br>23 | 3.43<br>5E+<br>00      | 1.4<br>97<br>4 | 2.1<br>80<br>E-02 | 8.4<br>90<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_;s_                        | 16  | 9  | 68       | 13<br>7  | 1.47<br>3E+<br>00      | 0.6<br>45<br>9 | 2.2<br>56<br>E-02 | 8.5<br>90<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f_Gemellaceae;g_;s_  | 64  | 14 | 120<br>4 | 25<br>80 | 1.12<br>8E+<br>00      | 0.4<br>94<br>6 | 2.2<br>56<br>E-02 | 8.5<br>90<br>E-02 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacterii;a_o_Sphingobacteriales;f_Sphingobacteriaceae;g_Pedobacter;s_         | 60  | 16 | 668      | 96<br>67 | 1.06<br>1E+<br>00      | 0.4<br>67<br>4 | 2.3<br>27<br>E-02 | 8.7<br>57<br>E-02 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacterii;a_o_Sphingobacteriales;f_Sphingobacteriaceae;g_;s_                   | 5   | 7  | 77       | 91<br>3  | 2.33<br>4E+<br>00      | 1.0<br>39<br>5 | 2.4<br>76<br>E-02 | 9.2<br>15<br>E-02 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Janthinobacterium;s_      | 23  | 8  | 70       | 75<br>4  | 1.55<br>1E+<br>00      | 0.6<br>94<br>6 | 2.5<br>57<br>E-02 | 9.4<br>15<br>E-02 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Trueperaceae;g_Truepera;s_                                   | 7   | 5  | 46       | 46<br>6  | 2.36<br>7E+<br>00      | 1.0<br>64<br>1 | 2.6<br>15<br>E-02 | 9.5<br>21<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_;s_                                      | 38  | 14 | 428      | 32<br>8  | 1.16<br>5E+<br>00      | 0.5<br>26<br>1 | 2.6<br>82<br>E-02 | 9.6<br>59<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Aeromicrobium;s_               | 2   | 5  | 4        | 13<br>6  | 3.11<br>8E+<br>00      | 1.4<br>19<br>6 | 2.8<br>05<br>E-02 | 9.8<br>11<br>E-02 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Turicibacterales;f_Turicibacteraceae;g_Turicibacter;s_                        | 7   | 9  | 65       | 49<br>7  | 1.82<br>7E+<br>00      | 0.8<br>32<br>1 | 2.8<br>11<br>E-02 | 9.8<br>11<br>E-02 |
| k_Bacteria;p_Actinobacteria;c_Coriobacterii;a_o_Coriobacteriales;f_Coriobacteriaceae;g_;s_                        | 32  | 12 | 233      | 45<br>8  | 1.24<br>9E+<br>00      | 0.5<br>68<br>2 | 2.7<br>91<br>E-02 | 9.8<br>11<br>E-02 |
| k_Bacteria;p_TM6;c_F38;o_;f_;g_;s_  | 3   | 6  | 3        | 54<br>0  | 2.78<br>9E+<br>00      | 1.2<br>83<br>8 | 2.9<br>82<br>E-02 | 1.0<br>30<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Paracoccus;s_aminovorans | 144 | 28 | 272      | 49       | -<br>4.01<br>6E-01     | 0.1<br>85<br>6 | 3.0<br>44<br>E-02 | 1.0<br>41<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_Roseomonas;s_mucosa    | 14  | 2  | 201      | 8        | -<br>2.80<br>9E+<br>00 | 1.3<br>05<br>4 | 3.1<br>39<br>E-02 | 1.0<br>62<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_;s_                        | 28  | 8  | 159      | 18<br>7  | 1.38<br>5E+<br>00      | 0.6<br>45<br>8 | 3.1<br>97<br>E-02 | 1.0<br>71<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_;g_;s_                                     | 2   | 5  | 3        | 18<br>4  | 3.03<br>0E+<br>00      | 1.4<br>19<br>1 | 3.2<br>77         | 1.0<br>76         |

|  |     |    |          |               |                        |                | E-02              | E-01              |
|--|-----|----|----------|---------------|------------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardiaceae;g_Rhodococcus;s_             | 31  | 6  | 131      | 22<br>35<br>9 | 1.80<br>4E+<br>00      | 0.8<br>44<br>5 | 3.2<br>63<br>E-02 | 1.0<br>76<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Enhydrobacter;s_     | 155 | 29 | 314<br>6 | 23<br>08      | 6.91<br>2E-01          | 0.3<br>27<br>0 | 3.4<br>54<br>E-02 | 1.1<br>23<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f_0319-6G20;g_;s_                         | 9   | 3  | 132      | 3             | -<br>2.44<br>5E+<br>00 | 1.1<br>61<br>2 | 3.5<br>25<br>E-02 | 1.1<br>36<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Rothia;s_dentocariosa    | 70  | 16 | 120<br>8 | 21<br>22      | 1.02<br>9E+<br>00      | 0.4<br>89<br>7 | 3.5<br>67<br>E-02 | 1.1<br>38<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Hyphomonadaceae;g_;s_                | 3   | 6  | 11       | 20<br>3       | 2.52<br>4E+<br>00      | 1.2<br>12<br>9 | 3.7<br>43<br>E-02 | 1.1<br>83<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Faecalibacterium;s_prausnitzii    | 17  | 9  | 124      | 23<br>0       | 1.46<br>4E+<br>00      | 0.7<br>06<br>9 | 3.8<br>39<br>E-02 | 1.2<br>02<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Salinibacterium;s_    | 29  | 9  | 131      | 37<br>73      | 1.43<br>2E+<br>00      | 0.6<br>96<br>5 | 3.9<br>75<br>E-02 | 1.2<br>33<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_;s_                | 27  | 9  | 207      | 21<br>9       | 1.16<br>2E+<br>00      | 0.5<br>71<br>6 | 4.1<br>98<br>E-02 | 1.2<br>90<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Rothia;s_mucilaginosa    | 117 | 23 | 764<br>1 | 20<br>36<br>2 | 9.40<br>9E-01          | 0.4<br>65<br>4 | 4.3<br>21<br>E-02 | 1.3<br>16<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Salmonella;s_ | 11  | 5  | 36       | 36            | 1.72<br>2E+<br>00      | 0.8<br>70<br>2 | 4.7<br>84<br>E-02 | 1.4<br>44<br>E-01 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_Deinococcus;s_aquutilis              | 2   | 4  | 2        | 71<br>0       | 3.20<br>5E+<br>00      | 1.6<br>23<br>3 | 4.8<br>33<br>E-02 | 1.4<br>46<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Kaistobacter;s_ | 29  | 12 | 252      | 75<br>1       | 1.12<br>9E+<br>00      | 0.5<br>75<br>2 | 4.9<br>67<br>E-02 | 1.4<br>72<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobillales;f_Streptococcaceae;g_Streptococcus;s_anginosus           | 30  | 11 | 276      | 85<br>4       | 1.27<br>3E+<br>00      | 0.6<br>51<br>4 | 5.0<br>58<br>E-02 | 1.4<br>86<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_;s_                 | 4   | 5  | 5        | 55            | 2.17<br>2E+<br>00      | 1.1<br>20<br>6 | 5.2<br>59<br>E-02 | 1.5<br>32<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f_Gemellaceae;g_Gemella;s_                                  | 145 | 27 | 384      | 99            | -<br>3.86<br>6E-01     | 0.2<br>00<br>0 | 5.3<br>30<br>E-02 | 1.5<br>39<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Capnocytophaga;s_     | 48  | 9  | 737      | 46<br>1       | 1.25<br>2E+<br>00      | 0.6<br>50<br>7 | 5.4<br>43<br>E-02 | 1.5<br>49<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_;s_                      | 89  | 15 | 729      | 30<br>50      | 8.53<br>3E-01          | 0.4<br>43<br>9 | 5.4<br>57         | 1.5<br>49         |

|  |     |    |       |        |            |        | E-02      | E-01      |
|--|-----|----|-------|--------|------------|--------|-----------|-----------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_                | 52  | 10 | 1560  | 143861 | 1.354E+00  | 0.7125 | 5.742E-02 | 1.616E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Rubellimicrobium;s_         | 20  | 8  | 176   | 1244   | 1.486E+00  | 0.7847 | 5.829E-02 | 1.627E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Coprococcus;s_                              | 6   | 3  | 66    | 3      | -2.246E+00 | 1.1930 | 5.971E-02 | 1.653E-01 |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacterales;f_Campylobacteraceae;g_Arcobacter;s_         | 8   | 6  | 17    | 744    | 1.809E+00  | 0.9689 | 6.191E-02 | 1.700E-01 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacterales;f_Conexibacteraceae;g_;s_                        | 2   | 6  | 3     | 180    | 2.620E+00  | 1.4087 | 6.285E-02 | 1.701E-01 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovibrionales;f_Bdellovibrionaceae;g_Bdellovibrio;s_         | 14  | 6  | 66    | 188    | 1.401E+00  | 0.7533 | 6.296E-02 | 1.701E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Carnobacterium;s_                          | 38  | 5  | 287   | 13     | -1.568E+00 | 0.8501 | 6.517E-02 | 1.733E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_   | 43  | 15 | 1827  | 588    | 9.205E-01  | 0.4986 | 6.487E-02 | 1.733E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Nocardioides;s_planatarum         | 2   | 5  | 2     | 94     | 2.598E+00  | 1.4177 | 6.692E-02 | 1.765E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocyclales;f_Rhodocyclaceae;g_Zoogloea;s_                      | 2   | 6  | 2     | 245    | 2.749E+00  | 1.5039 | 6.751E-02 | 1.767E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_echinoides | 38  | 10 | 328   | 1379   | 1.021E+00  | 0.5608 | 6.857E-02 | 1.781E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_;s_  | 28  | 8  | 530   | 32     | -1.208E+00 | 0.6777 | 7.466E-02 | 1.924E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptococcaceae;g_Peptococcus;s_                               | 7   | 4  | 33    | 30     | 1.732E+00  | 0.9784 | 7.666E-02 | 1.960E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissiellaceae];g_Finegoldia;s_                               | 141 | 23 | 50194 | 3616   | -8.165E-01 | 0.4633 | 7.798E-02 | 1.979E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_Mesorhizobium;s_              | 4   | 6  | 26    | 344    | 1.870E+00  | 1.0638 | 7.883E-02 | 1.985E-01 |
| k_Bacteria;p_TM7;c_TM7-3;o_EW055;f_;g_;s_  | 2   | 8  | 9     | 284    | 2.431E+00  | 1.3912 | 8.051E-02 | 2.013E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Limnohabitans;s_               | 3   | 8  | 9     | 212    | 1.945E+00  | 1.1271 | 8.433E-02 | 2.093E-01 |

|   |     |    |      |      |            |        | E-02      | E-01      |
|---|-----|----|------|------|------------|--------|-----------|-----------|
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Ralstonia;s_                            | 128 | 27 | 1312 | 709  | 6.225E-01  | 0.3644 | 8.753E-02 | 2.156E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megamonas;s_   | 2   | 3  | 29   | 223  | 2.665E+00  | 1.5836 | 9.239E-02 | 2.259E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Neisseria;s_                                  | 84  | 16 | 4172 | 4899 | 8.963E-01  | 0.5338 | 9.313E-02 | 2.261E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Catonella;s_   | 2   | 3  | 32   | 186  | 2.673E+00  | 1.6009 | 9.499E-02 | 2.289E-01 |
| k_Bacteria;p_Fusobacteria;c_Fusobacterii;a_Fusobacteriales;f_Leptotrichiaceae;g_;s_   | 2   | 4  | 2    | 81   | 2.519E+00  | 1.5619 | 1.068E-01 | 2.556E-01 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprosirales];f_Chitinophagaceae;g_;s_  | 2   | 7  | 25   | 245  | 2.030E+00  | 1.2655 | 1.087E-01 | 2.558E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Jeotgalicoccus;s_  | 21  | 4  | 543  | 206  | 1.522E+00  | 0.9503 | 1.092E-01 | 2.558E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_minor                                  | 7   | 7  | 19   | 87   | 1.388E+00  | 0.8658 | 1.089E-01 | 2.558E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Friedmanniella;s_                            | 8   | 3  | 46   | 5    | -1.721E+00 | 1.0793 | 1.108E-01 | 2.578E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Scardovia;s_                            | 10  | 6  | 147  | 124  | 1.584E+00  | 0.9975 | 1.124E-01 | 2.597E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Sporichthyaceae;g_;s_  | 6   | 5  | 21   | 70   | 1.527E+00  | 0.9722 | 1.163E-01 | 2.668E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Hydrogenophaga;s_                         | 4   | 5  | 16   | 1782 | 2.010E+00  | 1.2917 | 1.197E-01 | 2.694E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacterii;a_Flavobacterial es;f_[Weeksellaceae];g_;s_  | 16  | 5  | 107  | 130  | 1.327E+00  | 0.8531 | 1.198E-01 | 2.694E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g_Lautropia;s_                            | 21  | 6  | 231  | 136  | 1.176E+00  | 0.7540 | 1.188E-01 | 2.694E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_iners                                  | 55  | 9  | 406  | 35   | -7.910E-01 | 0.5135 | 1.235E-01 | 2.757E-01 |
| k_Bacteria;p_Verrucomicrobia;c_[Spartobacteria];o_[Chthoniobacterales];f_[Chthoniobacteraceae];g_CandidatusXiphinematabacter;s_ | 2   | 3  | 44   | 195  | 2.444E+00  | 1.5927 | 1.249E-01 | 2.771E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Bifidobacterium;s_adolescentis          | 17  | 8  | 74   | 149  | 9.095E-01  | 0.6082 | 1.348E-01 | 2.951E-01 |

|   |     |    |     |    |                    |           | E-01      | E-01      |
|---|-----|----|-----|----|--------------------|-----------|-----------|-----------|
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_[Paraprevotellaceae];g_[Prevotella];s_                   | 42  | 10 | 576 | 43 | 9.01<br>8E-01      | 0.6<br>01 | 1.3<br>40 | 2.9<br>51 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Elizabethkingia;s_meningoseptica | 12  | 4  | 16  | 10 | 1.36<br>5E+00      | 0.9<br>27 | 1.4<br>09 | 3.0<br>65 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_Porphyromonas;s_                    | 74  | 16 | 195 | 76 | 7.32<br>1E-01      | 0.4<br>99 | 1.4<br>30 | 3.0<br>90 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Dialister;s_                               | 62  | 13 | 283 | 27 | -<br>8.11<br>8E-01 | 0.5<br>63 | 1.4<br>97 | 3.2<br>15 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_fragi        | 114 | 23 | 223 | 83 | 4.98<br>0E-01      | 0.3<br>52 | 1.5<br>75 | 3.3<br>60 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_zae                        | 3   | 3  | 33  | 32 | 2.04<br>2E+00      | 1.4<br>61 | 1.6<br>24 | 3.4<br>44 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Tepidimonas;s_                | 47  | 2  | 281 | 4  | -<br>1.71<br>2E+00 | 1.2<br>42 | 1.6<br>80 | 3.5<br>40 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Paracoccus;s_              | 49  | 12 | 275 | 20 | 6.90<br>1E-01      | 0.5<br>06 | 1.7<br>28 | 3.6<br>17 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_SBla14;f_g_;s_   | 2   | 3  | 5   | 5  | 2.08<br>6E+00      | 1.5<br>51 | 1.7<br>87 | 3.7<br>06 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Aurantimonadaceae;g_s_                            | 17  | 6  | 41  | 72 | 1.00<br>2E+00      | 0.7<br>48 | 1.8<br>03 | 3.7<br>06 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Arthrobacter;s_                   | 19  | 10 | 142 | 17 | 8.53<br>2E-01      | 0.6<br>36 | 1.8<br>01 | 3.7<br>06 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Chitinophagaceae;g_Flavisolibacter;s_                | 6   | 3  | 585 | 34 | 1.90<br>4E+00      | 1.4<br>47 | 1.8<br>84 | 3.7<br>58 |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Synergistaceae;g_vadinCA02;s_                            | 4   | 3  | 4   | 49 | 1.61<br>4E+00      | 1.2<br>30 | 1.8<br>95 | 3.7<br>58 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermacoccaceae;g_Dermacoccus;s_                    | 22  | 3  | 880 | 10 | -<br>1.52<br>2E+00 | 1.1<br>52 | 1.8<br>68 | 3.7<br>58 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Acidovorax;s_delafieldii      | 4   | 6  | 36  | 53 | 1.51<br>9E+00      | 1.1<br>53 | 1.8<br>78 | 3.7<br>58 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibionales;f_Pseudoalteromonadaceae;g_Pseudoalteromonas;s_      | 12  | 4  | 125 | 21 | 1.38<br>9E+00      | 1.0<br>61 | 1.9<br>07 | 3.7<br>58 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Micrococcus;s_luteus              | 21  | 5  | 66  | 11 | -<br>1.01          | 0.7<br>67 | 1.8<br>69 | 3.7<br>58 |

|   |     |    |           |               | 2E+00              |                | E-01              | E-01              |
|---|-----|----|-----------|---------------|--------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Delftia;s_                | 135 | 28 | 677<br>6  | 36<br>63      | 4.37<br>7E-01      | 0.3<br>33<br>9 | 1.9<br>00<br>E-01 | 3.7<br>58<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_intermedia             | 5   | 2  | 49        | 83            | 1.86<br>9E+00      | 1.4<br>52<br>0 | 1.9<br>80<br>E-01 | 3.8<br>75<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Selenomonas;s_                         | 37  | 12 | 802       | 32<br>0       | 7.57<br>7E-01      | 0.5<br>89<br>8 | 1.9<br>89<br>E-01 | 3.8<br>75<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_Bradyrhizobium;s_         | 146 | 27 | 405       | 64            | -<br>2.53<br>3E-01 | 0.1<br>97<br>9 | 2.0<br>06<br>E-01 | 3.8<br>84<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_nanceiensis            | 20  | 5  | 120       | 32            | 1.00<br>0E+00      | 0.7<br>89<br>7 | 2.0<br>54<br>E-01 | 3.9<br>54<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrophobacterales;f_Syntrophobacteraceae;g_;s_            | 2   | 4  | 2         | 96            | 1.93<br>0E+00      | 1.5<br>43<br>9 | 2.1<br>12<br>E-01 | 3.9<br>57<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Leucobacter;s_             | 7   | 8  | 54        | 16<br>4       | 1.20<br>1E+00      | 0.9<br>56<br>9 | 2.0<br>96<br>E-01 | 3.9<br>57<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Aggregatibacter;s_segnis | 12  | 5  | 123       | 12<br>2       | 1.13<br>7E+00      | 0.9<br>09<br>7 | 2.1<br>14<br>E-01 | 3.9<br>57<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Planococcaceae;g_Planomicrombium;s_                            | 23  | 9  | 114       | 45<br>3       | 8.87<br>4E-01      | 0.7<br>07<br>6 | 2.0<br>99<br>E-01 | 3.9<br>57<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Facklamia;s_                              | 36  | 6  | 325       | 57            | -<br>8.84<br>4E-01 | 0.7<br>02<br>6 | 2.0<br>82<br>E-01 | 3.9<br>57<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacteriales;f_Solirubrobacteraceae;g_;s_               | 6   | 5  | 12        | 40            | 1.23<br>9E+00      | 0.9<br>97<br>1 | 2.1<br>38<br>E-01 | 3.9<br>80<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Gallicola;s_                         | 8   | 3  | 83        | 34<br>2       | 1.63<br>6E+00      | 1.3<br>32<br>5 | 2.1<br>95<br>E-01 | 4.0<br>42<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_Clostridium;s_                          | 36  | 11 | 242       | 17<br>5       | 6.60<br>9E-01      | 0.5<br>38<br>4 | 2.1<br>96<br>E-01 | 4.0<br>42<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_durum   | 37  | 6  | 458       | 62<br>2       | 9.40<br>2E-01      | 0.7<br>75<br>4 | 2.2<br>53<br>E-01 | 4.1<br>24<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_;s_                         | 7   | 4  | 22        | 15            | 1.20<br>2E+00      | 1.0<br>08<br>7 | 2.3<br>33<br>E-01 | 4.2<br>47<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella;s_parvula                  | 15  | 5  | 80        | 75            | 9.42<br>5E-01      | 0.8<br>04<br>3 | 2.4<br>13<br>E-01 | 4.3<br>69<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Peptoniphilus;s_                     | 137 | 24 | 610<br>85 | 10<br>40<br>5 | -<br>5.60          | 0.4<br>82<br>8 | 2.4<br>57         | 4.4<br>25         |

|   |     |    |            |          | 5E-01                  |                | E-01              | E-01              |
|---|-----|----|------------|----------|------------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodoclycales;f_Rhodocyclaceae;g_Dechloromonas;s_                | 2   | 8  | 17         | 34<br>3  | 1.72<br>0E+<br>00      | 1.4<br>95<br>4 | 2.4<br>99<br>E-01 | 4.4<br>53<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_parainfluenzae | 66  | 10 | 179<br>4   | 33<br>52 | 7.47<br>7E-01          | 0.6<br>51<br>1 | 2.5<br>08<br>E-01 | 4.4<br>53<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_s_                          | 19  | 9  | 86         | 97       | 7.27<br>2E-01          | 0.6<br>33<br>8 | 2.5<br>12<br>E-01 | 4.4<br>53<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_[Ruminococcus];s_                          | 14  | 9  | 51         | 48       | 7.38<br>2E-01          | 0.6<br>48<br>2 | 2.5<br>48<br>E-01 | 4.4<br>92<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Geobacillus;s_                                       | 50  | 9  | 106<br>6   | 11<br>8  | -<br>7.66<br>6E-01     | 0.6<br>84<br>5 | 2.6<br>27<br>E-01 | 4.6<br>08<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Rathayibacter;s_caricis        | 6   | 2  | 367        | 11<br>6  | 1.70<br>3E+<br>00      | 1.5<br>92<br>7 | 2.8<br>49<br>E-01 | 4.9<br>17<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_Enterococcus;s_                             | 11  | 4  | 72         | 14       | -<br>1.10<br>3E+<br>00 | 1.0<br>32<br>7 | 2.8<br>55<br>E-01 | 4.9<br>17<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Morganella;s_          | 71  | 3  | 698        | 31       | -<br>1.06<br>2E+<br>00 | 0.9<br>94<br>4 | 2.8<br>57<br>E-01 | 4.9<br>17<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Abiotrophia;s_                                | 33  | 6  | 570        | 50<br>6  | 8.13<br>7E-01          | 0.7<br>63<br>9 | 2.8<br>68<br>E-01 | 4.9<br>17<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Aggregatibacter;s_           | 17  | 9  | 320        | 96       | 8.02<br>8E-01          | 0.7<br>55<br>0 | 2.8<br>77<br>E-01 | 4.9<br>17<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Capnocytophaga;s_ochracea      | 3   | 3  | 5          | 7        | 1.41<br>2E+<br>00      | 1.3<br>37<br>1 | 2.9<br>09<br>E-01 | 4.9<br>22<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g_Burkholderia;s_             | 145 | 30 | 768        | 22<br>51 | 2.53<br>0E-01          | 0.2<br>38<br>9 | 2.8<br>96<br>E-01 | 4.9<br>22<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Acidovorax;s_                 | 2   | 3  | 7          | 10<br>2  | 1.79<br>6E+<br>00      | 1.7<br>09<br>7 | 2.9<br>34<br>E-01 | 4.9<br>40<br>E-01 |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Treponema;s_                          | 3   | 2  | 31         | 29       | 1.66<br>6E+<br>00      | 1.5<br>96<br>7 | 2.9<br>66<br>E-01 | 4.9<br>64<br>E-01 |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Leptotrichiaceae;g_Sneathia;s_                        | 13  | 3  | 230        | 4        | -<br>1.14<br>1E+<br>00 | 1.0<br>95<br>9 | 2.9<br>78<br>E-01 | 4.9<br>64<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_                              | 167 | 30 | 131<br>054 | 49<br>31 | -<br>1.55<br>4E+<br>00 | 1.5<br>05<br>8 | 3.0<br>22<br>E-01 | 4.9<br>86<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Lachnospira;s_                             | 4   | 2  | 9          | 34       | 1.52<br>6E+<br>00      | 1.4<br>75<br>7 | 3.0<br>11         | 4.9<br>86         |

|  |     |    |           |          |                        |                | E-01                    | E-01              |
|--|-----|----|-----------|----------|------------------------|----------------|-------------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Serratia;s_marcescens                 | 11  | 2  | 116<br>1  | 3        | -<br>1.57<br>5E+<br>00 | 1.5<br>51<br>6 | 3.1<br>01<br>93<br>E-01 | 5.0<br>93<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Mogibacteriaceae];g_;s_  | 14  | 4  | 58        | 62       | 9.42<br>8E-01          | 0.9<br>41<br>9 | 3.1<br>68<br>E-01       | 5.1<br>77<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Polaromonas;s_                               | 17  | 7  | 32        | 58       | 6.28<br>3E-01          | 0.6<br>40<br>7 | 3.2<br>68<br>E-01       | 5.3<br>14<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissiellaceae];g_1-68;s_   | 17  | 4  | 334       | 38<br>7  | 9.97<br>7E-01          | 1.0<br>30<br>0 | 3.3<br>27<br>E-01       | 5.3<br>59<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_                             | 162 | 29 | 890<br>9  | 22<br>57 | 3.16<br>3E-01          | 0.3<br>25<br>8 | 3.3<br>17<br>E-01       | 5.3<br>59<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Pseudonocardia;s_                            | 9   | 2  | 51        | 10       | -<br>1.27<br>7E+<br>00 | 1.3<br>38<br>1 | 3.4<br>00<br>E-01       | 5.4<br>00<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Actinomycetospora;s_                         | 5   | 4  | 14        | 10       | 1.04<br>1E+<br>00      | 1.0<br>91<br>5 | 3.4<br>04<br>E-01       | 5.4<br>00<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Brevundimonas;s_diminuta                 | 19  | 6  | 163       | 18<br>9  | 7.98<br>2E-01          | 0.8<br>33<br>2 | 3.3<br>81<br>E-01       | 5.4<br>00<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megasphaera;s_  | 30  | 8  | 279       | 12<br>6  | 5.96<br>8E-01          | 0.6<br>27<br>7 | 3.4<br>17<br>E-01       | 5.4<br>00<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Thermoanaerobacterales;f_Caldicellulosiruptoraceae;g_Caldicellulosiruptor;s_saccharolyticus | 13  | 4  | 138       | 38       | -<br>9.40<br>5E-01     | 0.9<br>92<br>9 | 3.4<br>35<br>E-01       | 5.4<br>03<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_epidermidis                                  | 167 | 30 | 153<br>99 | 70<br>2  | -<br>1.26<br>9E+<br>00 | 1.3<br>45<br>0 | 3.4<br>55<br>E-01       | 5.4<br>09<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Yaniellaceae;g_Yaniella;s_  | 4   | 2  | 14        | 9        | 1.32<br>4E+<br>00      | 1.4<br>13<br>5 | 3.4<br>89<br>E-01       | 5.4<br>37<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Comamonas;s_                                 | 29  | 5  | 339       | 74       | -<br>7.50<br>5E-01     | 0.8<br>11<br>8 | 3.5<br>52<br>E-01       | 5.5<br>09<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_[Ruminococcus];s_gnavus                                   | 3   | 4  | 64        | 19<br>0  | 1.37<br>0E+<br>00      | 1.4<br>98<br>9 | 3.6<br>09<br>E-01       | 5.5<br>45<br>E-01 |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_MLE1-12;f_;;;g_;;s_  | 116 | 19 | 290<br>3  | 52<br>22 | 3.83<br>0E-01          | 0.4<br>18<br>6 | 3.6<br>02<br>E-01       | 5.5<br>45<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Brucellaceae;g_;;s_  | 22  | 9  | 74        | 34       | 5.36<br>1E-01          | 0.5<br>97<br>1 | 3.6<br>93<br>E-01       | 5.6<br>23<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_viridisflava                | 47  | 14 | 673       | 74<br>1  | 4.71<br>4E-01          | 0.5<br>24<br>2 | 3.6<br>85               | 5.6<br>23         |

|   |     |    |            |               |                        |                | E-01                    | E-01              |
|---|-----|----|------------|---------------|------------------------|----------------|-------------------------|-------------------|
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Planococca ceae;g_;s_  | 167 | 30 | 228<br>426 | 13<br>92<br>8 | -<br>1.48<br>4E+<br>00 | 1.6<br>66<br>5 | 3.7<br>31<br>37<br>E-01 | 5.6<br>37<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Proteus;s_               | 21  | 5  | 498<br>1   | 85<br>2       | 1.02<br>5E+<br>00      | 1.1<br>52<br>3 | 3.7<br>35<br>E-01       | 5.6<br>37<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Chitinophagaceae;g_Sediminibacterium;s_                | 109 | 19 | 301<br>4   | 43<br>8       | -<br>3.55<br>7E-01     | 0.4<br>07<br>3 | 3.8<br>24<br>E-01       | 5.7<br>44<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Sanguibacteraceae;g_Sanguibacter;s_                  | 3   | 4  | 5          | 30            | 1.17<br>6E+<br>00      | 1.3<br>55<br>0 | 3.8<br>52<br>E-01       | 5.7<br>61<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Eikenella;s_                        | 6   | 4  | 28         | 20            | 9.32<br>4E-01          | 1.0<br>91<br>0 | 3.9<br>27<br>E-01       | 5.7<br>96<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Kingella;s_                         | 14  | 4  | 137        | 66            | 8.65<br>6E-01          | 1.0<br>10<br>9 | 3.9<br>19<br>E-01       | 5.7<br>96<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_Methylobacterium;s_adhaesivum | 22  | 6  | 115        | 10<br>7       | 6.17<br>9E-01          | 0.7<br>20<br>7 | 3.9<br>13<br>E-01       | 5.7<br>96<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Neisseria;s_subflava                | 10  | 2  | 87         | 10            | -<br>1.14<br>0E+<br>00 | 1.3<br>58<br>3 | 4.0<br>13<br>E-01       | 5.8<br>12<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_Paludibacter;s_                       | 8   | 5  | 47         | 62            | 8.57<br>1E-01          | 1.0<br>21<br>0 | 4.0<br>12<br>E-01       | 5.8<br>12<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Mycoplana;s_                | 21  | 8  | 131        | 18<br>4       | 5.58<br>8E-01          | 0.6<br>67<br>5 | 4.0<br>25<br>E-01       | 5.8<br>12<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_;s_                          | 107 | 23 | 169<br>8   | 79<br>8       | 2.94<br>9E-01          | 0.3<br>49<br>7 | 3.9<br>91<br>E-01       | 5.8<br>12<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_johnsonii       | 151 | 26 | 825        | 28<br>1       | -<br>2.24<br>5E-01     | 0.2<br>64<br>4 | 3.9<br>59<br>E-01       | 5.8<br>12<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f_;g_;s_   | 29  | 5  | 286        | 20<br>0       | 7.08<br>4E-01          | 0.8<br>50<br>9 | 4.0<br>52<br>E-01       | 5.8<br>25<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Hylemonella;s_                  | 3   | 4  | 24         | 7             | -<br>1.06<br>4E+<br>00 | 1.2<br>93<br>6 | 4.1<br>07<br>E-01       | 5.8<br>65<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Saprospiraceae;g_;s_                                   | 4   | 6  | 70         | 14<br>3       | 9.64<br>0E-01          | 1.1<br>73<br>7 | 4.1<br>15<br>E-01       | 5.8<br>65<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_;s_                             | 2   | 5  | 10         | 84            | 1.15<br>2E+<br>00      | 1.4<br>11<br>6 | 4.1<br>46<br>E-01       | 5.8<br>85<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Chryseobacterium;s_                | 153 | 29 | 272<br>6   | 92<br>96      | 2.61<br>6E-01          | 0.3<br>23<br>8 | 4.1<br>91               | 5.9<br>25         |

|   |     |    |                 |                |                        |                | E-01                    | E-01              |
|---|-----|----|-----------------|----------------|------------------------|----------------|-------------------------|-------------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_          | 166 | 29 | 182<br>219<br>0 | 12<br>02<br>46 | -<br>1.44<br>8E+<br>00 | 1.8<br>06<br>7 | 4.2<br>27<br>50<br>E-01 | 5.9<br>50<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_aureus                      | 166 | 28 | 214<br>01       | 43<br>3        | -<br>1.32<br>6E+<br>00 | 1.6<br>64<br>4 | 4.2<br>58<br>E-01       | 5.9<br>68<br>E-01 |
| k_Bacteria;p_WPS-2;c_;o_;f_;g_;s_   | 5   | 5  | 115             | 30<br>8        | 8.72<br>9E-<br>01      | 1.1<br>17<br>4 | 4.3<br>47<br>E-01       | 6.0<br>68<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Cardiobacteriales;f_Cardiobacteriaceae;g_Cardiobacterium;s_   | 6   | 2  | 18              | 9              | 1.04<br>4E+<br>00      | 1.3<br>44<br>1 | 4.3<br>75<br>E-01       | 6.0<br>82<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Klebsiella;s_        | 9   | 2  | 310             | 36             | -<br>1.19<br>6E+<br>00 | 1.5<br>71<br>3 | 4.4<br>67<br>E-01       | 6.1<br>84<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_copri                    | 9   | 5  | 140             | 10<br>3        | -<br>7.60<br>6E-<br>01 | 1.0<br>09<br>6 | 4.5<br>12<br>E-01       | 6.2<br>21<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermabacteraceae;g_Dermabacter;s_                | 39  | 7  | 301             | 56             | -<br>4.89<br>3E-<br>01 | 0.6<br>57<br>6 | 4.5<br>68<br>E-01       | 6.2<br>72<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Spirosoma;s_                             | 3   | 2  | 64              | 74<br>7        | 1.21<br>3E+<br>00      | 1.6<br>50<br>3 | 4.6<br>25<br>E-01       | 6.3<br>23<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Oceanospirillales;f_Halomonadaceae;g_Halomonas;s_             | 162 | 29 | 350<br>7        | 11<br>38       | 1.91<br>2E-<br>01      | 0.2<br>62<br>4 | 4.6<br>61<br>E-01       | 6.3<br>48<br>E-01 |
| k_Bacteria;p_SR1;c_;o_;f_;g_;s_   | 4   | 4  | 24              | 57             | 8.87<br>4E-<br>01      | 1.2<br>26<br>2 | 4.6<br>93<br>E-01       | 6.3<br>64<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nakamurellaceae;g_;s_                            | 6   | 7  | 21              | 51             | 7.28<br>8E-<br>01      | 1.0<br>13<br>2 | 4.7<br>19<br>E-01       | 6.3<br>75<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_Parabacteroides;s_                | 5   | 2  | 10              | 13             | 1.01<br>8E+<br>00      | 1.4<br>33<br>9 | 4.7<br>76<br>E-01       | 6.3<br>96<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_uniformis               | 17  | 8  | 166             | 10<br>2        | 5.18<br>3E-<br>01      | 0.7<br>32<br>4 | 4.7<br>92<br>E-01       | 6.3<br>96<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Shewanellaceae;g_Shewanella;s_algae         | 157 | 29 | 211<br>5        | 71<br>4        | 1.84<br>8E-<br>01      | 0.2<br>59<br>0 | 4.7<br>56<br>E-01       | 6.3<br>96<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micromonosporaceae;g_;s_                         | 5   | 4  | 65              | 10             | -<br>8.29<br>8E-<br>01 | 1.1<br>91<br>8 | 4.8<br>63<br>E-01       | 6.4<br>64<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s_acnes | 166 | 30 | 320<br>674      | 21<br>90<br>2  | -<br>1.21<br>6E+<br>00 | 1.8<br>04<br>6 | 5.0<br>06<br>E-01       | 6.5<br>71<br>E-01 |
| k_Bacteria;p_Tenericutes;c_Mollicutes;o_Mycoplasmatales;f_Mycoplasmataceae;g_Mycoplasma;s_                        | 3   | 4  | 71              | 42             | -<br>9.04              | 1.3<br>42<br>9 | 5.0<br>08               | 6.5<br>71         |

|   |     |    |     |      | 1E-01              |            | E-01          | E-01          |
|---|-----|----|-----|------|--------------------|------------|---------------|---------------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_lubricantis | 8   | 4  | 48  | 122  | 6.60<br>1E-01      | 0.9<br>835 | 5.0<br>21E-01 | 6.5<br>71E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingobium;s_           | 37  | 9  | 249 | 189  | 3.98<br>3E-01      | 0.5<br>875 | 4.9<br>78E-01 | 6.5<br>71E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Phascolarctobacterium;s_                   | 6   | 4  | 52  | 50   | -<br>7.26<br>5E-01 | 1.1<br>022 | 5.0<br>98E-01 | 6.6<br>45E-01 |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacteriales;f_Coriobacteriaceae;g_Eggerthella;s_lenta           | 2   | 4  | 10  | 20   | 9.82<br>5E-01      | 1.5<br>119 | 5.1<br>58E-01 | 6.6<br>85E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_[Paraprevotellaceae];g_[Prevotella];s_tannerae           | 13  | 2  | 98  | 51   | -<br>8.81<br>9E-01 | 1.3<br>660 | 5.1<br>85E-01 | 6.6<br>85E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Shewanellaceae;g_Shewanella;s_                | 17  | 8  | 101 | 13   | 4.09<br>5E-01      | 0.6<br>357 | 5.1<br>95E-01 | 6.6<br>85E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_Methylobacterium;s_         | 47  | 11 | 496 | 130  | 3.58<br>2E-01      | 0.5<br>578 | 5.2<br>08E-01 | 6.6<br>85E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Microlunatus;s_             | 3   | 3  | 9   | 24   | 8.72<br>4E-01      | 1.3<br>797 | 5.2<br>72E-01 | 6.6<br>91E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_Modestobacter;s_             | 10  | 3  | 113 | 7    | -<br>7.20<br>7E-01 | 1.1<br>453 | 5.2<br>92E-01 | 6.6<br>91E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_reuteri                    | 13  | 4  | 126 | 525  | 7.11<br>5E-01      | 1.1<br>347 | 5.3<br>06E-01 | 6.6<br>91E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermabacteraceae;g_Brachybacterium;s_conglomeratum | 35  | 7  | 191 | 50   | 4.01<br>8E-01      | 0.6<br>418 | 5.3<br>13E-01 | 6.6<br>91E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_;s_                               | 124 | 22 | 440 | 4758 | -<br>3.47<br>4E-01 | 0.5<br>483 | 5.2<br>63E-01 | 6.6<br>91E-01 |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_iii1-15;f_;g_;s_   | 6   | 4  | 145 | 73   | -<br>7.40<br>6E-01 | 1.1<br>914 | 5.3<br>42E-01 | 6.6<br>93E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Sinobacteraceae;g_;s_                         | 80  | 20 | 101 | 280  | 2.23<br>9E-01      | 0.3<br>613 | 5.3<br>54E-01 | 6.6<br>93E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_;f_;g_;s_   | 63  | 12 | 609 | 657  | 3.02<br>4E-01      | 0.4<br>989 | 5.4<br>44E-01 | 6.7<br>79E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_;g_;s_   | 20  | 9  | 142 | 121  | 3.86<br>5E-01      | 0.6<br>421 | 5.4<br>72E-01 | 6.7<br>90E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Mogibacteriaceae];g_Mogibacterium;s_                        | 5   | 3  | 11  | 6    | 7.14<br>8E-01      | 1.2<br>035 | 5.5<br>25     | 6.8<br>30     |

|  |     |    |           |          |                    |                | E-01              | E-01              |
|--|-----|----|-----------|----------|--------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissi<br>erellaceae];g_WAL_1855D;s_                                      | 21  | 3  | 707       | 14<br>00 | 7.31<br>4E-01      | 1.2<br>56<br>5 | 5.6<br>05<br>E-01 | 6.9<br>03<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobi<br>ales;f_Phyllobacteriaceae;g_Aminobacter;s_                        | 8   | 6  | 41        | 11<br>6  | 5.06<br>0E-01      | 0.9<br>04<br>0 | 5.7<br>56<br>E-01 | 7.0<br>64<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobi<br>ales;f_Phyllobacteriaceae;g_Phyllobacterium;s_                    | 144 | 30 | 490       | 53<br>5  | 1.30<br>4E-01      | 0.2<br>34<br>6 | 5.7<br>84<br>E-01 | 7.0<br>72<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Nocardiaceae;g_Rhodococcus;s_fascians                       | 4   | 2  | 13        | 4        | -<br>7.96<br>6E-01 | 1.4<br>68<br>8 | 5.8<br>76<br>E-01 | 7.1<br>57<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Paste<br>urellales;f_Pasteurellaceae;g_Actinobacillus;s_parahaemolytic<br>us | 11  | 3  | 79        | 15<br>7  | 6.13<br>7E-01      | 1.1<br>43<br>5 | 5.9<br>15<br>E-01 | 7.1<br>80<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillo<br>nellaceae;g_Veillonella;s_                                      | 20  | 4  | 360       | 49       | -<br>4.88<br>7E-01 | 0.9<br>29<br>5 | 5.9<br>91<br>E-01 | 7.2<br>45<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Actinomycetaceae;g_Varibaculum;s_                           | 16  | 3  | 152       | 14       | -<br>5.35<br>8E-01 | 1.0<br>32<br>6 | 6.0<br>38<br>E-01 | 7.2<br>50<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_<br>Prevotellaceae;g_Prevotella;s_                                    | 96  | 23 | 118<br>49 | 13<br>86 | 2.25<br>6E-01      | 0.4<br>32<br>4 | 6.0<br>18<br>E-01 | 7.2<br>50<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Gordoniaceae;g_Gordonia;s_                                  | 5   | 3  | 108       | 46       | 6.40<br>5E-01      | 1.3<br>19<br>3 | 6.2<br>74<br>E-01 | 7.4<br>79<br>E-01 |
| k_Bacteria;p_TM7;c_TM7-3;o_CW040;f_F16;g_;s_   | 8   | 4  | 61        | 11<br>3  | 5.61<br>2E-01      | 1.1<br>52<br>0 | 6.2<br>61<br>E-01 | 7.4<br>79<br>E-01 |
| k_Bacteria;p_Chloroflexi;c_Ellin6529;o_;f_;g_;s_   | 7   | 6  | 27        | 48       | 4.02<br>8E-01      | 0.8<br>72<br>6 | 6.4<br>44<br>E-01 | 7.6<br>55<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carno<br>bacteriaceae;g_;s_  | 19  | 10 | 84        | 10<br>3  | 2.64<br>7E-01      | 0.5<br>96<br>3 | 6.5<br>71<br>E-01 | 7.7<br>78<br>E-01 |
| k_Bacteria;p_Cyanobacteria;c_Nostocophycideae;o_Stigonem<br>atales;f_Rivulariaceae;g_Calothrix;s_                                | 5   | 2  | 229       | 13<br>9  | -<br>7.03<br>6E-01 | 1.6<br>02<br>3 | 6.6<br>06<br>E-01 | 7.7<br>92<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobi<br>ales;f_Bradyrhizobiaceae;g_Bosea;s_genosp.                        | 14  | 6  | 56        | 38       | 3.52<br>0E-01      | 0.8<br>16<br>6 | 6.6<br>64<br>E-01 | 7.8<br>33<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobi<br>ales;f_Hyphomicrobiaceae;g_Devosia;s_                             | 35  | 11 | 242       | 22<br>0  | 2.38<br>0E-01      | 0.5<br>61<br>3 | 6.7<br>15<br>E-01 | 7.8<br>66<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkhol<br>deriales;f_Alcaligenaceae;g_Achromobacter;s_                       | 89  | 20 | 948       | 30<br>4  | -<br>1.64<br>1E-01 | 0.4<br>01<br>7 | 6.8<br>30<br>E-01 | 7.9<br>72<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobi<br>ales;f_Microthrixaceae;g_CandidatusMicrothrix;s_parvicella         | 4   | 2  | 17        | 10       | 5.74<br>2E-01      | 1.4<br>67<br>3 | 6.9<br>55         | 7.9<br>94         |

|   |     |    |     |    |                    |                | E-01              | E-01              |
|---|-----|----|-----|----|--------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Amaricoccus;s_         | 3   | 4  | 8   | 39 | 5.54<br>1E-01      | 1.3<br>87<br>4 | 6.8<br>96<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Alkanindiges;s_           | 4   | 3  | 12  | 42 | 5.13<br>0E-01      | 1.3<br>32<br>7 | 7.0<br>03<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Rhizobium;s_                   | 6   | 3  | 50  | 19 | -<br>4.72<br>1E-01 | 1.2<br>36<br>6 | 7.0<br>27<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Wautersiella;s_              | 5   | 3  | 9   | 12 | 4.70<br>2E-01      | 1.2<br>44<br>4 | 7.0<br>55<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_Xenococcaceae;g_;s_                        | 20  | 5  | 794 | 79 | -<br>3.68<br>5E-01 | 0.9<br>64<br>4 | 7.0<br>24<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Cupriavidus;s_          | 30  | 3  | 218 | 13 | -<br>3.60<br>7E-01 | 0.9<br>57<br>3 | 7.0<br>63<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_nigrescens             | 20  | 5  | 103 | 72 | 2.95<br>8E-01      | 0.7<br>80<br>8 | 7.0<br>48<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacteriales;f_Coriobacteriaceae;g_Collinsella;s_aerofaciens | 21  | 7  | 187 | 20 | 2.79<br>8E-01      | 0.7<br>30<br>4 | 7.0<br>16<br>E-01 | 7.9<br>94<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_;s_                | 165 | 30 | 281 | 17 | 6.42<br>5E-01      | 1.8<br>24<br>1 | 7.2<br>47<br>E-01 | 8.1<br>46<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Cellulomonadaceae;g_Cellulomonas;s_            | 23  | 4  | 158 | 47 | -<br>3.23<br>0E-01 | 0.9<br>10<br>3 | 7.2<br>28<br>E-01 | 8.1<br>46<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibrionales;f_Vibrionaceae;g_Vibrio;s_                      | 13  | 2  | 44  | 9  | -<br>4.31<br>3E-01 | 1.2<br>65<br>4 | 7.3<br>32<br>E-01 | 8.2<br>15<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alloioococcus;s_                          | 87  | 16 | 245 | 35 | 2.72<br>1E-01      | 0.8<br>26<br>6 | 7.4<br>20<br>E-01 | 8.2<br>86<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Blautia;s_                             | 38  | 11 | 349 | 28 | 1.76<br>6E-01      | 0.5<br>58<br>8 | 7.5<br>20<br>E-01 | 8.3<br>69<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_                       | 89  | 15 | 242 | 13 | 1.46<br>3E-01      | 0.4<br>85<br>8 | 7.6<br>33<br>E-01 | 8.4<br>67<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Variovorax;s_paradoxus    | 151 | 30 | 624 | 37 | -<br>6.07<br>4E-02 | 0.2<br>05<br>5 | 7.6<br>76<br>E-01 | 8.4<br>87<br>E-01 |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_Xenococcaceae;g_Chroococcidiopsis;s_       | 8   | 3  | 70  | 43 | -<br>3.27<br>6E-01 | 1.2<br>00<br>0 | 7.8<br>49<br>E-01 | 8.6<br>49<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dietziaceae;g_;s_                              | 5   | 3  | 26  | 14 | 3.36<br>8E-01      | 1.2<br>69<br>9 | 7.9<br>08         | 8.6<br>84         |

|   |     |    |           |          |                    |                | E-01              | E-01              |
|---|-----|----|-----------|----------|--------------------|----------------|-------------------|-------------------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_             | 144 | 27 | 122<br>92 | 12<br>18 | -<br>8.04<br>7E-02 | 0.3<br>06<br>9 | 7.9<br>32<br>E-01 | 8.6<br>84<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_;s_                                | 13  | 6  | 39        | 56       | 2.00<br>2E-01      | 0.7<br>75<br>1 | 7.9<br>62<br>E-01 | 8.6<br>88<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Psychrobacter;s_sanguinis     | 14  | 2  | 36        | 15       | -<br>3.07<br>9E-01 | 1.2<br>24<br>1 | 8.0<br>14<br>E-01 | 8.7<br>12<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Dorea;s_                                   | 6   | 4  | 47        | 21       | 2.74<br>2E-01      | 1.1<br>02<br>7 | 8.0<br>36<br>E-01 | 8.7<br>12<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacterales;f_Caulobacteraceae;g_Phenylobacterium;s_        | 6   | 5  | 50        | 14       | -<br>2.35<br>4E-01 | 0.9<br>93<br>5 | 8.1<br>27<br>E-01 | 8.7<br>82<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Janthinobacterium;s_lividum | 156 | 30 | 301<br>0  | 14<br>56 | -<br>6.66<br>6E-02 | 0.2<br>85<br>3 | 8.1<br>53<br>E-01 | 8.7<br>82<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_;s_                         | 40  | 6  | 256       | 28<br>1  | 1.53<br>7E-01      | 0.6<br>98<br>2 | 8.2<br>57<br>E-01 | 8.8<br>41<br>E-01 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Thermales;f_Thermaceae;g_Thermus;s_  | 67  | 11 | 119<br>7  | 30<br>2  | -<br>1.22<br>9E-01 | 0.5<br>59<br>3 | 8.2<br>60<br>E-01 | 8.8<br>41<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Brevibacteriaceae;g_Brevibacterium;s_              | 40  | 9  | 105<br>8  | 11<br>9  | -<br>1.38<br>0E-01 | 0.6<br>61<br>5 | 8.3<br>47<br>E-01 | 8.9<br>05<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Aerococcus;s_                                 | 15  | 3  | 151       | 14       | -<br>2.24<br>7E-01 | 1.1<br>19<br>0 | 8.4<br>09<br>E-01 | 8.9<br>41<br>E-01 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Streptophyta;f_;g_;s_  | 110 | 21 | 563<br>4  | 14<br>47 | -<br>7.89<br>6E-02 | 0.3<br>99<br>6 | 8.4<br>34<br>E-01 | 8.9<br>41<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Psychromonadaceae;g_Psychromonas;s_           | 3   | 2  | 33        | 12       | 2.44<br>4E-01      | 1.5<br>98<br>4 | 8.7<br>85<br>E-01 | 9.1<br>72<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dietziaceae;g_Dietzia;s_                           | 10  | 2  | 287       | 5        | -<br>2.12<br>8E-01 | 1.4<br>05<br>1 | 8.7<br>96<br>E-01 | 9.1<br>72<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_[Eubacterium];s_biforme      | 4   | 3  | 8         | 12       | -<br>1.96<br>4E-01 | 1.3<br>20<br>3 | 8.8<br>18<br>E-01 | 9.1<br>72<br>E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Lactococcus;s_                             | 47  | 7  | 527       | 17<br>4  | 1.06<br>6E-01      | 0.7<br>11<br>7 | 8.8<br>10<br>E-01 | 9.1<br>72<br>E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Erwinia;s_             | 27  | 7  | 146       | 26       | -<br>1.06<br>5E-01 | 0.6<br>63<br>3 | 8.7<br>25<br>E-01 | 9.1<br>72<br>E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_rhizophila              | 77  | 15 | 215<br>09 | 24<br>95 | 8.93<br>6E-02      | 0.5<br>76<br>4 | 8.7<br>68         | 9.1<br>72         |

|  |    |    |      |     |            |        | E-01      | E-01      |
|--|----|----|------|-----|------------|--------|-----------|-----------|
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacterales;f_Campylobacteraceae;g_Campylobacter;s_      | 69 | 14 | 4611 | 374 | -8.045E-02 | 0.5530 | 8.843E-01 | 9.172E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinobaculum;s_                 | 10 | 2  | 42   | 33  | 1.640E-01  | 1.2892 | 8.987E-01 | 9.293E-01 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingopyxis;s_alaskensis | 2  | 3  | 4    | 12  | 1.686E-01  | 1.6492 | 9.186E-01 | 9.398E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_[Chromatiaceae];g_Rheinheimera;s_              | 2  | 4  | 19   | 18  | 1.586E-01  | 1.4780 | 9.146E-01 | 9.398E-01 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Psychrobacter;s_               | 14 | 4  | 27   | 9   | 9.196E-02  | 0.9173 | 9.201E-01 | 9.398E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_                           | 30 | 9  | 4714 | 31  | 6.942E-02  | 0.6382 | 9.134E-01 | 9.398E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_caccae                     | 5  | 2  | 23   | 32  | 1.235E-01  | 1.460  | 9.326E-01 | 9.494E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_flexus                                     | 5  | 3  | 30   | 13  | 1.062E-01  | 1.3136 | 9.356E-01 | 9.494E-01 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Dyadobacter;s_                              | 3  | 4  | 38   | 43  | -1.031E-01 | 1.3281 | 9.381E-01 | 9.494E-01 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Cloacibacterium;s_                | 44 | 9  | 349  | 236 | 3.330E-02  | 0.6085 | 9.564E-01 | 9.650E-01 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_s_   | 18 | 5  | 72   | 33  | 3.569E-02  | 0.7851 | 9.637E-01 | 9.695E-01 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Propionicimonas;s_                | 7  | 7  | 423  | 69  | -3.987E-02 | 0.9883 | 9.678E-01 | 9.707E-01 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_ovatus                     | 7  | 4  | 219  | 65  | 5.892E-03  | 1.2341 | 9.962E-01 | 9.962E-01 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_CM44;s_  | 1  | 2  | 1    | 115 | NA         | NA     | NA        | NA        |
| k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_DS-100;f_g;s_  | 1  | 6  | 1    | 434 | NA         | NA     | NA        | NA        |
| k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_RB41;f_g;s_  | 0  | 3  | 0    | 74  | NA         | NA     | NA        | NA        |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_CCU21;f_g;s_  | 1  | 3  | 6    | 30  | NA         | NA     | NA        | NA        |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_iii1-15;f_mb2424;g_s_   | 1  | 5  | 10   | 111 | NA         | NA     | NA        | NA        |
| k_Bacteria;p_Acidobacteria;c_DA052;o_Ellin6513;f_g;s_  | 2  | 0  | 65   | 0   | NA         | NA     | NA        | NA        |

|   |   |   |     |     |    |    |    |    |
|---|---|---|-----|-----|----|----|----|----|
| k_Bacteria;p_Acidobacteria;c_Holophagae;o_Holophagales;f_Holophagaceae;g_Geothrix;s_-                       | 0 | 2 | 0   | 40  | NA | NA | NA | NA |
| k_Bacteria;p_Acidobacteria;c_Sva0725;o_Sva0725;f_;g_;s_-  | 0 | 6 | 0   | 60  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_ACK-M1;g_;s_-                              | 0 | 3 | 0   | 144 | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Mobiluncus;s_-          | 7 | 1 | 133 | 1   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_Geodermatophilus;s_- | 5 | 0 | 11  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Intrasporangiaceae;g_Arsenicicoccus;s_-    | 2 | 0 | 21  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Kineosporiaceae;g_Kineococcus;s_-          | 3 | 0 | 73  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_-               | 4 | 1 | 8   | 2   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Nesterenkonia;s_-         | 0 | 2 | 0   | 40  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardiopsaceae;g_;s_-                     | 5 | 0 | 15  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Luteococcus;s_-     | 2 | 1 | 22  | 1   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Saccharopolyspora;s_- | 5 | 0 | 75  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Streptomycetaceae;g_Streptomyces;s_-       | 6 | 0 | 40  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Williamsiaceae;g_Williamsia;s_-            | 5 | 1 | 61  | 3   | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacterial es;f_Coriobacteriaceae;g_Slackia;s_-          | 0 | 2 | 0   | 37  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_KIST-JJY010;o_;f_;g_;s_-  | 1 | 2 | 2   | 80  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Rubrobacteria;o_Rubrobacteriales;f_Rubrobacteraceae;g_Rubrobacter;s_-         | 1 | 3 | 1   | 108 | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_;g_;s_-  | 1 | 5 | 1   | 243 | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_AK1AB1_02E;g_;s_-                              | 1 | 4 | 8   | 79  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_Gaiellaceae;g_;s_-                             | 4 | 1 | 37  | 26  | NA | NA | NA | NA |
| k_Bacteria;p_Aquificae;c_Aquificae;o_Aquifiales;f_Aquifica ceae;g_;s_-                                      | 4 | 1 | 45  | 2   | NA | NA | NA | NA |
| k_Bacteria;p_Armatimonadetes;c_[Fimbriimonadia];o_[Fimbriimonades];f_[Fimbriimonadaceae];g_Fimbriimonas;s_- | 5 | 0 | 21  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_[Rhodothermi];o_[Rhodotherma les];f_Rhodothermaceae;g_Rubricoccus;s_-          | 0 | 2 | 0   | 724 | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprosirales];f_Chitinophagaceae;g_Segetibacter;s_-           | 1 | 2 | 29  | 39  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_BA008;g_;s_-                                     | 0 | 1 | 0   | 57  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_;s_-                        | 0 | 2 | 0   | 53  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_Dysgonomonas;s_-            | 5 | 1 | 93  | 1   | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyromonadaceae;g_Tannerella;s_-              | 3 | 0 | 43  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_S24-7;g_;s_-                                     | 1 | 0 | 21  | 0   | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_;s_-                               | 1 | 3 | 69  | 48  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Rhodocytophaga;s_-                 | 1 | 0 | 78  | 0   | NA | NA | NA | NA |

|  |    |   |     |         |    |    |    |    |
|--|----|---|-----|---------|----|----|----|----|
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Rudanella;s_                      | 1  | 2 | 1   | 47<br>4 | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Flavobacterii;a_o_Flavobacterial es;f_Cryomorphaceae;g_Fluvicolae;s_          | 1  | 0 | 22  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Flavobacterii;a_o_Flavobacterial es;f_Flavobacteriaceae;g_;s_                 | 1  | 3 | 22  | 10<br>1 | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Flavobacterii;a_o_Flavobacterial es;f_Flavobacteriaceae;g_Myorides;s_         | 2  | 0 | 27  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacterii;a_o_Sphingobacteriales;f_g_;s_                                | 1  | 1 | 44  | 13<br>7 | NA | NA | NA | NA |
| k_Bacteria;p_Chlamydiae;c_Chlamydia;o_Chlamydiales;f_P arachlamydiaceae;g_;s_                              | 1  | 6 | 1   | 18<br>1 | NA | NA | NA | NA |
| k_Bacteria;p_Chlamydiae;c_Chlamydia;o_Chlamydiales;f_P arachlamydiaceae;g_CandidatusProtochlamydia;s_      | 1  | 1 | 3   | 64<br>4 | NA | NA | NA | NA |
| k_Bacteria;p_Chlamydiae;c_Chlamydia;o_Chlamydiales;f_P arachlamydiaceae;g_Parachlamydia;s_                 | 0  | 1 | 0   | 22      | NA | NA | NA | NA |
| k_Bacteria;p_Chlamydiae;c_Chlamydia;o_Chlamydiales;f_R habdochlamydiaceae;g_CandidatusRhabdochlamydia;s_   | 0  | 1 | 0   | 97      | NA | NA | NA | NA |
| k_Bacteria;p_Chlorobi;c_Ignavibacteria;o_Ignavibacteriales;f_Ignavibacteriaceae;g_;s_                      | 0  | 1 | 0   | 71      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_;   | 0  | 6 | 0   | 34      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_A31;f_S47;g_;s_   | 0  | 4 | 0   | 49      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_An aerolineales;f_An aerolinaceae;g_An aerolinea;s_             | 1  | 0 | 26  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_Caldilineales;f_C aldilineaceae;g_;s_                           | 1  | 6 | 1   | 58      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_Caldilineales;f_C aldilineaceae;g_Caldilinea;s_                 | 1  | 7 | 1   | 34<br>6 | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_H39;f_;g_;s_  | 0  | 2 | 0   | 55      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_An aerolineae;o_SHA-20;f_g_;s_  | 0  | 2 | 0   | 93      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_Chloroflexi;o_[Roseiflexales];f_[K ouleothrixaceae];g_Kouleothrix;s_            | 0  | 1 | 0   | 52      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_Chloroflexi;o_AKIW781;f_g_;s_   | 2  | 0 | 40  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_TK10;o_AKYG885;f_Dolo_23;g_;s_  | 0  | 5 | 0   | 63      | NA | NA | NA | NA |
| k_Bacteria;p_Chloroflexi;c_TK17;o_mle1-48;f_g_;s_  | 0  | 4 | 0   | 88      | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_SM1D11;f_g_;s_   | 0  | 1 | 0   | 71      | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_YS2;f_g_;s_  | 1  | 5 | 1   | 11<br>7 | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_Chlamydomonadaceae;g_;s_                          | 0  | 2 | 0   | 74      | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_g_;s_                                 | 0  | 2 | 0   | 93      | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_Cyanobacteriaceae;g_Cyanobacterium;s_ | 0  | 1 | 0   | 24      | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Oscillatoriales;f_Phormidiaceae;g_Phormidium;s_       | 2  | 0 | 326 | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Cyanobacteria;c_Synechococcophycideae;o_Ps eudanabaenales;f_g_;s_                             | 1  | 0 | 29  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_;  | 2  | 0 | 26  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_;s_   | 11 | 1 | 75  | 77      | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Listeriaceae;g_Brochothrix;s_                             | 9  | 0 | 64  | 0       | NA | NA | NA | NA |

|   |    |   |     |                 |    |    |    |    |
|---|----|---|-----|-----------------|----|----|----|----|
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Paenibacillaceae;g_Aneurinibacillus;s_                 | 1  | 1 | 1   | 31              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Planoococcaceae;g_Sporosarcina;s_                      | 4  | 1 | 5   | 4               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Salinicoccus;s_                    | 2  | 0 | 27  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f__;g__;s__  | 16 | 0 | 32  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f__;g__;s__   | 13 | 1 | 46  | 1               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alkalibacterium;s_                | 7  | 0 | 294 | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Trichococcus;s_               | 1  | 0 | 37  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_Vagococcus;s_                   | 5  | 0 | 6   | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g__;s__                          | 6  | 0 | 390 | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Pediococcus;s_                 | 1  | 0 | 238 | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Leuconostoc;s_                 | 13 | 1 | 80  | 1               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Weissella;s_                   | 4  | 1 | 9   | 3               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g__;s__                          | 1  | 2 | 1   | 46              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissiellaceae];g__;s__                          | 3  | 0 | 35  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissiellaceae];g_Helcococcus;s_                 | 5  | 1 | 54  | 2               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissiellaceae];g_ph2;s_                         | 13 | 0 | 103 | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Christensenellaceae;g__;s__                      | 1  | 0 | 24  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Eubacteriaceae;g_Acetobacterium;s_               | 0  | 6 | 0   | 33              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Eubacteriaceae;g_Pseudoramibacter_Eubacterium;s_ | 0  | 4 | 0   | 88              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Shuttleworthia;s_              | 9  | 0 | 37  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g__;s__                          | 0  | 3 | 0   | 11 <sub>4</sub> | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Anaeromusa;s_                  | 0  | 3 | 0   | 41              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Schwartzia;s_                  | 1  | 1 | 5   | 69              | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_vadinHB04;s_                   | 0  | 1 | 0   | 34              | NA | NA | NA | NA |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f__;g__;s__                                 | 1  | 1 | 1   | 87              | NA | NA | NA | NA |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Fusobacteriaceae;g_u114;s_                | 0  | 5 | 0   | 17              | NA | NA | NA | NA |
| k_Bacteria;p_Gemmamimonadetes;c_Gemm-1;o__;f__;g__;s__  | 0  | 1 | 0   | 43              | NA | NA | NA | NA |
| k_Bacteria;p_Gemmamimonadetes;c_Gemm-3;o__;f__;g__;s__  | 2  | 0 | 48  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Gemmamimonadetes;c_Gemmamimonadetes;o__;f__;g__;s__  | 1  | 0 | 18  | 0               | NA | NA | NA | NA |
| k_Bacteria;p_Gemmamimonadetes;c_Gemmamimonadetes;o_G_emmamimonadales;f__;g__;s__                        | 0  | 2 | 0   | 15 <sub>3</sub> | NA | NA | NA | NA |
| k_Bacteria;p_GN02;c_BD1-5;o__;f__;g__;s__   | 1  | 1 | 1   | 69              | NA | NA | NA | NA |

|   |    |   |     |         |    |    |    |    |
|---|----|---|-----|---------|----|----|----|----|
| k_Bacteria;p_GN02;c_GKS2-174;o__;f__;g__;s__  | 0  | 1 | 0   | 26      | NA | NA | NA | NA |
| k_Bacteria;p_Kazan-3B-28;c__;o__;f__;g__;s__  | 0  | 2 | 0   | 36      | NA | NA | NA | NA |
| k_Bacteria;p_Nitrospirae;c_Nitrospira;o_Nitrospirales;f_Nitrospiraceae;g_Nitrospira;s__                     | 1  | 3 | 1   | 44<br>7 | NA | NA | NA | NA |
| k_Bacteria;p_OD1;c__;o__;f__;g__;s__  | 0  | 5 | 0   | 95      | NA | NA | NA | NA |
| k_Bacteria;p_OD1;c_ABY1;o__;f__;g__;s__   | 0  | 1 | 0   | 41      | NA | NA | NA | NA |
| k_Bacteria;p_OD1;c_SM2F11;o__;f__;g__;s__   | 0  | 1 | 0   | 17<br>6 | NA | NA | NA | NA |
| k_Bacteria;p_OP11;c_WCHB1-64;o_d153;f__;g__;s__   | 1  | 1 | 19  | 30      | NA | NA | NA | NA |
| k_Bacteria;p_Planctomycetes;c_C6;o_d113;f__;g__;s__   | 0  | 1 | 0   | 34      | NA | NA | NA | NA |
| k_Bacteria;p_Planctomycetes;c_Phycisphaerae;o_Phycisphaerales;f__;g__;s__                                   | 1  | 0 | 25  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Planctomycetes;c_Phycisphaerae;o_WD2101;f__;g__;s__  | 2  | 0 | 22  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Planctomycetes;c_Planctomycetia;o_B97;f__;g__;s__  | 1  | 5 | 1   | 73      | NA | NA | NA | NA |
| k_Bacteria;p_Planctomycetes;c_Planctomycetia;o_Gemmatales;f_Gemmataceae;g__;s__                             | 0  | 3 | 0   | 29<br>9 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_BD7-3;f__;g__;s__                                       | 0  | 2 | 0   | 14<br>5 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Arthospira;s__    | 4  | 1 | 5   | 4       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_Balneimonas;s__       | 7  | 0 | 23  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Brucellaceae;g_Ochrobactrum;s__           | 15 | 1 | 68  | 2       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Parvibaculum;s__      | 1  | 0 | 71  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Pedomicrobium;s__     | 0  | 3 | 0   | 49      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylocystaceae;g__;s__                  | 5  | 0 | 36  | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacteriales;f_Rhodobacteraceae;g_Jannaschia;s__    | 0  | 2 | 0   | 32      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacteriales;f_Rhodobacteraceae;g_Rhodobacter;s__   | 1  | 6 | 1   | 57      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_Roseococcus;s__  | 1  | 3 | 1   | 11<br>0 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Rhodospirillaceae;g_Azospirillum;s__ | 1  | 3 | 2   | 71      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_mitochondria;g__;s__                    | 17 | 0 | 555 | 0       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_Rickettsiaceae;g__;s__                  | 1  | 5 | 1   | 13<br>1 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Zymomonas;s__    | 0  | 3 | 0   | 40      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_f__;g__;s__  | 0  | 1 | 0   | 40      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_ASSO-13;f__;g__;s__                                      | 1  | 4 | 1   | 10<br>3 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g__;s__               | 0  | 3 | 0   | 64      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g__;s__               | 0  | 2 | 0   | 33      | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Variovorax;s__        | 5  | 0 | 9   | 0       | NA | NA | NA | NA |

|  |    |   |    |          |    |    |    |    |
|--|----|---|----|----------|----|----|----|----|
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Ellin606<br>7;f__;g__;s__   | 0  | 3 | 0  | 23       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Hydroge<br>nophilales;f_Hydrogenophilaceae;g_Thiobacillus;s__         | 9  | 1 | 43 | 7        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseri<br>ales;f_Neisseriaceae;g_Microvirgula;s__                   | 0  | 2 | 0  | 42       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Nitroso<br>monadales;f_Nitrosomonadaceae;g__;s__                      | 1  | 4 | 1  | 14<br>5  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Procaba<br>cteriales;f_Procabacteriaceae;g__;s__                      | 1  | 4 | 1  | 37<br>7  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocy<br>clales;f_Rhodocyclaceae;g_C39;s__                          | 0  | 3 | 0  | 51       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocy<br>clales;f_Rhodocyclaceae;g_Hydrogenophilus;s__              | 9  | 0 | 61 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_SC-I-<br>84;f__;g__;s__   | 0  | 6 | 0  | 23<br>2  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o__;f__;g__<br>;s__  | 0  | 2 | 0  | 14<br>3  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovi<br>brionales;f_Bacteriovoracaceae;g__;s__                   | 4  | 1 | 64 | 73       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Desulfo<br>bacteriales;f_Desulfobulbaceae;g_Desulfobulbus;s__        | 1  | 2 | 11 | 65       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_FAC87;f<br>__;g__;s__  | 0  | 1 | 0  | 38       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_MIZ46;f<br>__;g__;s__  | 0  | 1 | 0  | 30       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxoco<br>ccales;f_OM27;g__;s__                                      | 3  | 0 | 20 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxoco<br>ccales;f_Polyangiaceae;g__;s__                             | 0  | 2 | 0  | 13<br>7  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_NB1-<br>j;f_JTB38;g__;s__  | 0  | 1 | 0  | 37       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_NKB15;f<br>__;g__;s__  | 0  | 3 | 0  | 28       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Spiroba<br>cillales;f__;g__;s__                                      | 0  | 3 | 0  | 19<br>18 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrop<br>hobacteriales;f_Syntrophaceae;g_Desulfomonile;s__         | 0  | 3 | 0  | 39       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrop<br>hobacteriales;f_Syntrophorhabdaceae;g__;s__               | 0  | 1 | 0  | 23       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Camp<br>ylobacteriales;f_Campylobacteraceae;g_Sulfurospirillum;s__ | 0  | 3 | 0  | 42       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Camp<br>ylobacteriales;f_Helicobacteraceae;g__;s__                 | 1  | 2 | 1  | 24       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o__;f__;g__<br>;s__  | 4  | 0 | 27 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Aero<br>monadales;f_Aeromonadaceae;g_Tolumonas;s__                   | 1  | 2 | 7  | 19<br>4  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alter<br>omonadales;f__[Chromatiaceae];g__;s__                       | 6  | 0 | 9  | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alter<br>omonadales;f_OM60;g__;s__                                   | 0  | 1 | 0  | 21       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Chro<br>matiales;f_Chromatiaceae;g_Allochromatium;s__                | 0  | 1 | 0  | 11<br>6  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Chro<br>matiales;f_Halothiobacillaceae;g_Thiovirga;s__               | 0  | 1 | 0  | 12<br>3  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enter<br>obacteriales;f_Enterobacteriaceae;g_Buchnera;s__            | 1  | 0 | 29 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enter<br>obacteriales;f_Enterobacteriaceae;g_Citrobacter;s__         | 10 | 0 | 26 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enter<br>obacteriales;f_Enterobacteriaceae;g_Yersinia;s__            | 6  | 0 | 9  | 0        | NA | NA | NA | NA |

|   |    |   |    |          |    |    |    |    |
|---|----|---|----|----------|----|----|----|----|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_HOC3<br>6;f__;g__;s__   | 0  | 2 | 0  | 88<br>8  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f__;g__;s__  | 1  | 7 | 5  | 14<br>71 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f_Coxiellaceae;g__;s__                                       | 0  | 5 | 0  | 32<br>6  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f_Coxiellaceae;g_Aquicella;s__                               | 1  | 7 | 6  | 19<br>22 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f_Francisellaceae;g__;s__                                    | 0  | 1 | 0  | 23       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f_Legionellaceae;g_Legionella;s__                            | 1  | 5 | 1  | 47<br>9  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legio<br>nellaes;f_Legionellaceae;g_Tatlockia;s__                             | 0  | 1 | 0  | 32       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Meth<br>ylococcaceae;f_Methylococcaceae;g_Methylocaldum;s__                   | 0  | 2 | 0  | 19<br>7  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Ocea<br>nospirillales;f_Halomonadaceae;g__;s__                                | 1  | 0 | 62 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Thiot<br>richales;f_Thiotrichaceae;g_Thiothrix;s__                            | 0  | 3 | 0  | 37       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibri<br>onales;f_Vibrionaceae;g_Phacobacterium;s__                           | 5  | 0 | 73 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanth<br>omonadales;f_Xanthomonadaceae;g_Luteimonas;s__                       | 3  | 0 | 35 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Sphaerochaetal<br>es;f_Sphaerochaetaceae;g_Sphaerochaeta;s__                           | 0  | 2 | 0  | 14<br>0  | NA | NA | NA | NA |
| k_Bacteria;p_TM6;c_SJA-4;o_S1198;f__;g__;s__  | 0  | 4 | 0  | 11<br>2  | NA | NA | NA | NA |
| k_Bacteria;p_TM7;c_TM7-3;o_CW040;f__;g__;s__  | 6  | 1 | 99 | 2        | NA | NA | NA | NA |
| k_Bacteria;p_TM7;c_TM7-3;o_I025;f__;g__;s__   | 1  | 1 | 1  | 18<br>5  | NA | NA | NA | NA |
| k_Bacteria;p_Verrucomicrobia;c_[Spartobacteria];o_[Chthonio<br>bakterales];f_[Chthoniobacteraceae];g_DA101;s__                    | 1  | 0 | 47 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_WS3;c_PRR-12;o_Sediment-1;f_PRR-<br>10;g__;s__   | 0  | 1 | 0  | 23       | NA | NA | NA | NA |
| k_Bacteria;p_WS6;c_SC72;o_WCHB1-15;f__;g__;s__  | 0  | 3 | 0  | 29       | NA | NA | NA | NA |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;a_O_Chlamydiales;f_P<br>arachlamydiaceae;g_Parachlamydia;s_acanthamoebae                      | 0  | 2 | 0  | 13<br>3  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Pepto<br>streptococcaceae;g_Peptostreptococcus;s_anaerobius                | 5  | 0 | 17 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_D<br>ethiosulfovibronaceae;g_Jonquetella;s_anthropi                    | 1  | 0 | 65 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Mycobacteriaceae;g_Mycobacterium;s_arupense                  | 1  | 3 | 1  | 25       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovi<br>brionales;f_Bdellovibrionaceae;g_Bdellovibrio;s_bacteriovorus     | 0  | 1 | 0  | 78       | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Corynebacteriaceae;g_Corynebacterium;s_bovis                 | 2  | 0 | 22 | 0        | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanth<br>omonadales;f_Xanthomonadaceae;g_Lysobacter;s_brunescens              | 0  | 2 | 0  | 10<br>4  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseri<br>ales;f_Neisseriaceae;g_Neisseria;s_cinerea                         | 1  | 2 | 10 | 39       | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkhol<br>deriales;f_Oxalobacteraceae;g_Polynucleobacter;s_cosmopolit<br>anus | 0  | 2 | 0  | 13<br>9  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_P<br>orphyromonadaceae;g_Parabacteroides;s_distasonis                  | 5  | 1 | 15 | 7        | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_P<br>orphyromonadaceae;g_Porphyromonas;s_endodontalis                  | 10 | 1 | 42 | 2        | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycet<br>ales;f_Actinomycetaceae;g_Actinomyces;s_europaeus                   | 4  | 1 | 74 | 15       | NA | NA | NA | NA |

|  |    |   |     |    |    |    |    |    |
|--|----|---|-----|----|----|----|----|----|
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_frigidarium        | 6  | 0 | 7   | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_influenzae          | 6  | 0 | 748 | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Agrococcus;s_jenensis               | 9  | 1 | 19  | 14 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Rhizobium;s_leguminosarum               | 13 | 0 | 333 | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Leuconostoc;s_mesenteroides                     | 7  | 1 | 18  | 68 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Methylophilales;f_Methylophilaceae;g_Methylotenera;s_mobilis          | 1  | 6 | 3   | 53 | NA | NA | NA | NA |
| k_Bacteria;p_Verrucomicrobia;c_Verrucomicrobiae;o_Verrucomicrobiales;f_Verrucomicrobiaceae;g_Akkermansia;s_muciniphila   | 1  | 4 | 1   | 9  | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Sphingobacterium;s_multivorum | 15 | 1 | 130 | 4  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alloiococcus;s_otitis                              | 6  | 0 | 46  | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_palustris                    | 5  | 1 | 8   | 2  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_pettenkoferi                       | 6  | 0 | 15  | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Dethiosulfovibrionaceae;g_Pyramidobacter;s_piscolens          | 0  | 1 | 0   | 70 | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Arthrobacter;s_psychrolactophilus      | 5  | 1 | 22  | 2  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Jeotgalicoccus;s_psychrophilus                      | 8  | 0 | 33  | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Marinilactibacillus;s_psychrotolerans              | 2  | 0 | 44  | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_rhizosphaerae      | 29 | 1 | 184 | 2  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Microbispora;s_rosea                   | 10 | 1 | 76  | 91 | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_schindleri         | 5  | 0 | 193 | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_sciuri                             | 11 | 1 | 43  | 79 | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_selenatarsenatis                               | 8  | 0 | 85  | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_sobrinus                        | 2  | 1 | 72  | 1  | NA | NA | NA | NA |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Treponema;s_socranskii                     | 1  | 2 | 1   | 33 | NA | NA | NA | NA |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_succinicans        | 10 | 1 | 17  | 2  | NA | NA | NA | NA |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_varabile         | 15 | 1 | 102 | 1  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_wittichii      | 5  | 0 | 111 | 0  | NA | NA | NA | NA |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_yabuuchia      | 3  | 1 | 22  | 30 | NA | NA | NA | NA |

**eTable 2.** Association of Taxa Abundance With Composite Infectious Outcome

| taxa   | rank cluster | rank infection | infection q-value | infection OR | infection lower 95 | infection upper 95 |
|--|--------------|----------------|-------------------|--------------|--------------------|--------------------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Aggregatibacter;s_segnis        | 177          | 1              | 1.148 E-03        | 1.610        | 1.336              | 1.986              |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Moraxella;s_                     | 19           | 2              | 1.302 E-03        | 1.162        | 1.091              | 1.240              |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_;f_;g_;s_  | 269          | 3              | 4.397 E-03        | 0.741        | 0.641              | 0.848              |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Salmonella;s_             | 111          | 4              | 5.636 E-03        | 1.626        | 1.305              | 2.086              |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Jeotgalicoccus;s_                                 | 142          | 5              | 1.055 E-02        | 1.320        | 1.151              | 1.530              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_;s_                            | 189          | 6              | 1.055 E-02        | 1.417        | 1.190              | 1.702              |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_[Paraprevotellaceae];g_[Prevotella];s_                      | 153          | 7              | 1.055 E-02        | 1.269        | 1.124              | 1.437              |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_;s_                                   | 307          | 8              | 1.284 E-02        | 0.454        | 0.284              | 0.659              |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Variovorax;s_paradoxus           | 303          | 9              | 1.284 E-02        | 1.410        | 1.182              | 1.703              |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptococcaceae;g_Peptococcus;s_                                 | 131          | 10             | 1.302 E-02        | 1.594        | 1.255              | 2.081              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s_acnes      | 253          | 11             | 1.302 E-02        | 0.818        | 0.732              | 0.910              |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Janthinobacterium;s_lividum    | 311          | 12             | 1.302 E-02        | 1.277        | 1.121              | 1.461              |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_                  | 119          | 13             | 1.328 E-02        | 1.158        | 1.072              | 1.258              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s_granulosum | 51           | 14             | 1.557 E-02        | 0.706        | 0.580              | 0.854              |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_;s_   | 93           | 15             | 1.629 E-02        | 0.774        | 0.666              | 0.888              |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Capnocytophaga;s_ochracea         | 197          | 16             | 1.629 E-02        | 2.563        | 1.603              | 4.809              |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Finegoldia;s_                               | 132          | 17             | 1.629 E-02        | 0.866        | 0.798              | 0.939              |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Morganella;s_             | 194          | 18             | 1.629 E-02        | 0.743        | 0.622              | 0.871              |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Streptophyta;f_;g_;s_   | 316          | 19             | 1.931 E-02        | 1.160        | 1.066              | 1.265              |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Novosphingobium;s_          | 33           | 20             | 2.017 E-02        | 0.719        | 0.586              | 0.863              |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Anærococcus;s_                              | 56           | 21             | 2.017 E-02        | 0.864        | 0.792              | 0.940              |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_Bosea;s_genosp.                  | 285          | 22             | 2.067 E-02        | 0.607        | 0.440              | 0.794              |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_;s_                           | 231          | 23             | 2.091 E-02        | 0.839        | 0.755              | 0.929              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Brevibacteriaceae;g_Brevibacterium;s_                 | 314          | 24             | 2.298 E-02        | 1.236        | 1.090              | 1.405              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium;s_           | 18           | 25             | 2.298 E-02        | 0.862        | 0.788              | 0.941              |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Desulfobacterales;f_Desulfobulbaceae;g_Desulfobulbus;s_            | 476          | 26             | 2.395 E-02        | 2.068        | 1.466              | 3.868              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_Modestobacter;s_                | 263          | 27             | 2.484 E-02        | 0.484        | 0.290              | 0.714              |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_Phyllobacterium;s_              | 274          | 28             | 2.484 E-02        | 1.285        | 1.105              | 1.502              |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_;s_                                | 184          | 29             | 2.484 E-02        | 0.449        | 0.252              | 0.686              |

|  |     |     |            |       |       |       |            |       |       |       |
|--|-----|-----|------------|-------|-------|-------|------------|-------|-------|-------|
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Facklamia;s_                                       | 179 | 30  | 2.861 E-02 | 1.252 | 1.090 | 1.440 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Aerococcus;s_                                      | 315 | 31  | 2.960 E-02 | 0.565 | 0.376 | 0.777 |            |       |       |       |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Fusobacteriaceae;g_u114;s_                                 | 429 | 32  | 2.960 E-02 | 0.266 | 0.098 | 0.541 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Actinobacillus;s_parahaemolyticus | 276 | 33  | 3.403 E-02 | 1.435 | 1.156 | 1.839 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Scardovia;s_                     | 145 | 34  | 3.784 E-02 | 1.361 | 1.126 | 1.684 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacteriale;s;f_Coriobacteriaceae;g_Atopobium;s_                      | 40  | 35  | 3.794 E-02 | 1.190 | 1.064 | 1.332 |            |       |       |       |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Synergistaceae;g_vadinCA02;s_                                 | 165 | 36  | 3.866 E-02 | 0.341 | 0.131 | 0.596 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Cattonella;s_                                   | 139 | 37  | 3.866 E-02 | 1.415 | 1.148 | 1.822 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacteriales;f_Rhodobacteraceae;g_Paracoccus;s_                  | 160 | 38  | 4.210 E-02 | 1.211 | 1.068 | 1.375 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Bulleidia;s_                      | 76  | 39  | 4.210 E-02 | 1.261 | 1.086 | 1.479 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_aureus                             | 239 | 40  | 4.244 E-02 | 0.834 | 0.738 | 0.939 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Parvimonas;s_                                 | 16  | 41  | 4.453 E-02 | 1.168 | 1.053 | 1.296 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Shewanellaceae;g_Shewanella;s_                     | 260 | 42  | 4.794 E-02 | 0.618 | 0.432 | 0.834 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_g;s_   | 408 | 43  | 4.833 E-02 | 0.281 | 0.099 | 0.577 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Planococcaceae;g_Sporosarcina;s_  | 405 | 44  | 5.180 E-02 | 2.036 | 1.337 | 3.718 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_sciuri                             | 546 | 45  | 5.379 E-02 | 1.501 | 1.170 | 2.089 |            |       |       |       |
| k_Bacteria;p_Chloroflexi;c_Anaerolineae;o_A31;f_S47;g_;s_  | 384 | 46  | 5.837 E-02 | 1.761 | 1.216 | 2.730 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_                             | 349 | 47  | 5.837 E-02 | 2.655 | 1.450 | 6.058 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_;   | 402 | 48  | 5.837 E-02 | 1.459 | 1.148 | 1.981 |            |       |       |       |
| k_Bacteria;p_SR1;c_;   | o_; | f_; | g_;        | s_    | 247   | 49    | 6.181 E-02 | 1.430 | 1.116 | 1.862 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Mycobacteriaceae;g_Mycobacterium;s_arupense             | 519 | 50  | 6.181 E-02 | 2.526 | 1.406 | 5.334 |            |       |       |       |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Treponema;s_socranskii                     | 549 | 51  | 6.181 E-02 | 1.622 | 1.195 | 2.451 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Hydrogenophaga;s_                  | 147 | 52  | 6.340 E-02 | 0.678 | 0.495 | 0.868 |            |       |       |       |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Sphingobacterium;s_           | 20  | 53  | 6.436 E-02 | 0.630 | 0.420 | 0.837 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_;                             | 35  | 54  | 6.436 E-02 | 0.845 | 0.745 | 0.950 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Gallicola;s_                                  | 181 | 55  | 6.436 E-02 | 1.280 | 1.078 | 1.548 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Microlunatus;s_                  | 262 | 56  | 6.436 E-02 | 0.589 | 0.384 | 0.835 |            |       |       |       |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_g;s_  | 101 | 57  | 6.788 E-02 | 1.351 | 1.089 | 1.695 |            |       |       |       |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Phascolactobacterium;s_                         | 257 | 58  | 7.066 E-02 | 0.379 | 0.159 | 0.679 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_palustris                    | 537 | 59  | 7.110 E-02 | 2.285 | 1.304 | 4.584 |            |       |       |       |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Microbisporea;s_rosea                  | 544 | 60  | 7.110 E-02 | 1.394 | 1.112 | 1.842 |            |       |       |       |

|  |     |    |            |       |       |       |
|--|-----|----|------------|-------|-------|-------|
| k_Bacteria;p_Actinobacteria;c_Coriobacterii;o_Coriobacterales;s;f_Coriobacteriaceae;g_Slackia;s_                     | 356 | 61 | 7.137 E-02 | 1.885 | 1.298 | 3.609 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_copri                       | 243 | 62 | 7.287 E-02 | 0.665 | 0.473 | 0.875 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_               | 208 | 63 | 8.260 E-02 | 0.841 | 0.737 | 0.958 |
| k_Bacteria;p_Plantomycetes;c_Plantomycetia;o_Gemmatales;f_Gemmataceae;g_;s_  | 446 | 64 | 8.548 E-02 | 1.469 | 1.117 | 2.027 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Limnohabitans;s_               | 135 | 65 | 1.003 E-01 | 0.759 | 0.602 | 0.929 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_durum        | 183 | 66 | 1.015 E-01 | 1.170 | 1.035 | 1.325 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_nanceiensis                 | 174 | 67 | 1.029 E-01 | 1.256 | 1.050 | 1.505 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_intermedia                  | 171 | 68 | 1.029 E-01 | 1.310 | 1.068 | 1.650 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Eubacteriaceae;g_Pseudoramibacter_Eubacterium;s_              | 422 | 69 | 1.034 E-01 | 1.366 | 1.084 | 1.803 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Propionicimonas;s_                | 334 | 70 | 1.140 E-01 | 0.615 | 0.398 | 0.872 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g_Burkholderia;s_              | 198 | 71 | 1.143 E-01 | 1.164 | 1.031 | 1.318 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_;s_                     | 297 | 72 | 1.172 E-01 | 1.135 | 1.026 | 1.260 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_ASSO-13;f_;g_;s_  | 462 | 73 | 1.197 E-01 | 0.542 | 0.303 | 0.837 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Helcococcus;s_                            | 418 | 74 | 1.197 E-01 | 1.732 | 1.150 | 2.873 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardiaceae;g_Rhodococcus;s_fascians               | 275 | 75 | 1.201 E-01 | 0.476 | 0.238 | 0.820 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_[Ruminococcus];s_                           | 190 | 76 | 1.201 E-01 | 0.720 | 0.539 | 0.928 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacteriales;f_Solirubrobacteraceae;g_;s_                    | 180 | 77 | 1.213 E-01 | 0.456 | 0.191 | 0.763 |
| k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_DS-100;f_;g_;s_  | 337 | 78 | 1.216 E-01 | 1.249 | 1.042 | 1.508 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Agrobacterium;s_                    | 81  | 79 | 1.216 E-01 | 0.875 | 0.780 | 0.974 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_echinoides | 129 | 80 | 1.216 E-01 | 0.878 | 0.786 | 0.975 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Bifidobacterium;s_longum     | 36  | 81 | 1.216 E-01 | 0.804 | 0.661 | 0.952 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_Rickettsiaceae;g_;s_                             | 459 | 82 | 1.216 E-01 | 0.632 | 0.410 | 0.891 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Psychrobacter;s_               | 327 | 83 | 1.216 E-01 | 0.629 | 0.403 | 0.887 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Thermales;f_Thermaceae;g_Thermus;s_   | 313 | 84 | 1.278 E-01 | 0.870 | 0.772 | 0.976 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Carnobacterium;s_                          | 125 | 85 | 1.356 E-01 | 0.761 | 0.592 | 0.945 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingopyxis;s_           | 71  | 86 | 1.356 E-01 | 1.253 | 1.037 | 1.529 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_anginosus                   | 114 | 87 | 1.396 E-01 | 1.143 | 1.019 | 1.283 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Yaniellaceae;g_Yaniella;s_                          | 215 | 88 | 1.485 E-01 | 1.529 | 1.071 | 2.278 |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococccales;f_Xenococcaceae;g_;s_                            | 293 | 89 | 1.508 E-01 | 1.159 | 1.019 | 1.320 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megamonas;s_                                | 137 | 90 | 1.515 E-01 | 0.581 | 0.284 | 0.831 |
| k_Bacteria;p_Actinobacteria;c_Rubrobacteria;o_Rubrobacterales;f_Rubrobacteraceae;g_Rubrobacter;s_                    | 358 | 91 | 1.515 E-01 | 1.325 | 1.038 | 1.710 |

|   |     |     |            |       |       |        |
|---|-----|-----|------------|-------|-------|--------|
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Delftia;s_                    | 170 | 92  | 1.515 E-01 | 1.121 | 1.016 | 1.242  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_g_;s_   | 2   | 93  | 1.558 E-01 | 1.113 | 1.013 | 1.224  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_[Ruminococcus];s_gnavus                    | 217 | 94  | 1.580 E-01 | 1.427 | 1.078 | 2.069  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Nitrosomonadales;f_Nitrosomonadaceae;g_s_                        | 469 | 95  | 1.598 E-01 | 1.501 | 1.074 | 2.268  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_viridisflava | 220 | 96  | 1.617 E-01 | 0.889 | 0.798 | 0.985  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_                           | 302 | 97  | 1.617 E-01 | 1.125 | 1.013 | 1.251  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Leuconostoc;s_mesenteroides                | 532 | 98  | 1.686 E-01 | 1.491 | 1.087 | 2.336  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Kaistobacter;s_          | 113 | 99  | 1.722 E-01 | 0.864 | 0.754 | 0.983  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_g_;s_  | 58  | 100 | 1.796 E-01 | 0.845 | 0.718 | 0.980  |
| k_Bacteria;p_Kazan-3B-28;c_o_;f_g_;s_   | 436 | 101 | 1.796 E-01 | 0.744 | 0.545 | 0.951  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Neisseria;s_subflava              | 228 | 102 | 1.894 E-01 | 1.367 | 1.026 | 1.857  |
| k_Bacteria;p_TM7;c_TM7-3;o_EW055;f_g_;s_  | 134 | 103 | 1.894 E-01 | 0.844 | 0.712 | 0.980  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Dorea;s_                                   | 309 | 104 | 1.911 E-01 | 1.338 | 1.022 | 1.775  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella;s_                             | 277 | 105 | 1.981 E-01 | 1.194 | 1.010 | 1.415  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinomyces;s_europaeus         | 527 | 106 | 1.981 E-01 | 1.330 | 1.025 | 1.784  |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_Gaiellaceae;g_s_                                       | 361 | 107 | 2.070 E-01 | 1.550 | 1.065 | 2.613  |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_AK1AB1_02E;g_s_  | 360 | 108 | 2.070 E-01 | 1.417 | 1.021 | 2.017  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_                              | 202 | 109 | 2.105 E-01 | 0.884 | 0.784 | 0.995  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasturellales;f_Pasteurellaceae;g_Aggregatibacter;s_            | 196 | 110 | 2.110 E-01 | 1.186 | 1.005 | 1.399  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Nesterenkonia;s_                  | 350 | 111 | 2.145 E-01 | 1.244 | 1.010 | 1.557  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocylales;f_Rhodocyclaceae;g_Zoogloea;s_                      | 128 | 112 | 2.158 E-01 | 1.288 | 1.009 | 1.664  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Ellin6067;f_g_;s_  | 466 | 113 | 2.158 E-01 | 3.223 | 1.340 | 12.749 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Micrococcus;s_luteus              | 169 | 114 | 2.220 E-01 | 1.277 | 1.004 | 1.630  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Erwinia;s_             | 321 | 115 | 2.244 E-01 | 0.779 | 0.599 | 0.984  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Phenylbacterium;s_        | 310 | 116 | 2.251 E-01 | 0.556 | 0.270 | 0.905  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_zae                        | 158 | 117 | 2.258 E-01 | 1.390 | 1.022 | 2.018  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Plancoccaceae;g_s_   | 221 | 118 | 2.258 E-01 | 0.893 | 0.798 | 0.999  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermabacteraceae;g_Brachybacterium;s_conglomeratum | 265 | 119 | 2.293 E-01 | 0.833 | 0.687 | 0.993  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Mogibacteriaceae];g_s_                                      | 205 | 120 | 2.293 E-01 | 1.222 | 1.001 | 1.502  |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Dysgonomonas;s_                     | 368 | 121 | 2.322 E-01 | 1.912 | 1.076 | 4.045  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Microbacterium;s_              | 23  | 122 | 2.322 E-01 | 0.910 | 0.825 | 0.999  |

|  |     |     |               |       |       |       |
|--|-----|-----|---------------|-------|-------|-------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dietziaceae;g_;s_   | 305 | 123 | 2.322<br>E-01 | 0.595 | 0.295 | 0.903 |
| k_Bacteria;p_Chloroflexi;c_;o_;f_;g_;s_  | 383 | 124 | 2.322<br>E-01 | 1.402 | 0.997 | 1.988 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Leuconostoc;s_  | 414 | 125 | 2.334<br>E-01 | 0.286 | 0.047 | 0.715 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Zymomonas;s_                          | 460 | 126 | 2.350<br>E-01 | 1.427 | 0.997 | 2.090 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Comamonas;s_                               | 216 | 127 | 2.350<br>E-01 | 0.808 | 0.638 | 0.991 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermabacteraceae;g_Dermabacter;s_                               | 244 | 128 | 2.350<br>E-01 | 0.828 | 0.676 | 0.996 |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_[Eubacterium];s_biforme                   | 319 | 129 | 2.390<br>E-01 | 0.437 | 0.146 | 0.886 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_                       | 57  | 130 | 2.390<br>E-01 | 0.920 | 0.844 | 1.001 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Acidovorax;s_                              | 199 | 131 | 2.459<br>E-01 | 1.308 | 0.997 | 1.766 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_epidermidis                                | 214 | 132 | 2.532<br>E-01 | 0.870 | 0.751 | 1.005 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Rathayibacter;s_caricis                     | 192 | 133 | 2.633<br>E-01 | 0.841 | 0.688 | 0.997 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Stenotrophomonas;s_                     | 55  | 134 | 2.663<br>E-01 | 0.825 | 0.670 | 1.010 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Psychrobacter;s_sanguinis                  | 308 | 135 | 2.663<br>E-01 | 0.604 | 0.313 | 0.958 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinobaculum;s_                             | 324 | 136 | 2.668<br>E-01 | 1.285 | 0.987 | 1.703 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Elizabethkingia;s_meningoseptica              | 154 | 137 | 2.703<br>E-01 | 0.833 | 0.675 | 1.002 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Mogibacteriaceae];g_Mogibacterium;s_                                     | 271 | 138 | 2.703<br>E-01 | 1.427 | 0.975 | 2.120 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Porphyromonas;s_endodontalis                     | 526 | 139 | 2.726<br>E-01 | 1.508 | 0.979 | 2.430 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f_;g_;s_  | 407 | 140 | 2.732<br>E-01 | 0.468 | 0.167 | 0.923 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_;s_   | 148 | 141 | 2.745<br>E-01 | 1.183 | 0.986 | 1.425 |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_CCU21;f_;g_;s_  | 339 | 142 | 2.755<br>E-01 | 1.549 | 0.989 | 2.671 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Cardiobacteriales;f_Cardiobacteriaceae;g_Cardiobacterium;s_                  | 241 | 143 | 2.780<br>E-01 | 0.426 | 0.106 | 0.852 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_;s_   | 9   | 144 | 2.904<br>E-01 | 0.925 | 0.846 | 1.005 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_[Paraprevotellaceae];g_[Prevotella];s_tannerae                        | 259 | 145 | 2.909<br>E-01 | 1.193 | 0.981 | 1.458 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_;s_                                     | 83  | 146 | 2.981<br>E-01 | 0.832 | 0.676 | 1.020 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrophiobacteriales;f_Syntrophobacteraceae;g_;s_                           | 175 | 147 | 2.986<br>E-01 | 1.332 | 0.969 | 1.863 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_nigrescens                              | 295 | 148 | 3.009<br>E-01 | 1.194 | 0.977 | 1.461 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Alcaligenaceae;g_Achromobacter;s_                           | 287 | 149 | 3.070<br>E-01 | 0.910 | 0.817 | 1.012 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_fragi                     | 157 | 150 | 3.070<br>E-01 | 1.093 | 0.989 | 1.209 |
| k_Bacteria;p_Chloroflexi;c_Thermomicrobia;o_JG30-KF-CM45;f_;g_;s_  | 3   | 151 | 3.141<br>E-01 | 1.081 | 0.988 | 1.182 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_;s_  | 236 | 152 | 3.168<br>E-01 | 1.261 | 0.964 | 1.652 |
| k_Bacteria;p_Verrucomicrobia;c_[Spartobacteria];o_[Chthoniobacteriales];f_[Chthoniobacteraceae];g_CandidatusXiphinematobacter;s_ | 151 | 153 | 3.168<br>E-01 | 0.868 | 0.726 | 1.011 |

|  |     |     |               |       |       |       |
|--|-----|-----|---------------|-------|-------|-------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Klebsiella;s_             | 242 | 154 | 3.186<br>E-01 | 0.665 | 0.352 | 0.970 |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacterales;s;f_Coriobacteriaceae;g_Collinsella;s_aerofaciens       | 296 | 155 | 3.198<br>E-01 | 0.843 | 0.683 | 1.018 |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacterales;f_Campylobacteraceae;g_Campylobacter;s_        | 323 | 156 | 3.296<br>E-01 | 0.916 | 0.826 | 1.013 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_Deinococcus;s_                                   | 22  | 157 | 3.296<br>E-01 | 1.073 | 0.988 | 1.165 |
| k_Bacteria;p_WPS-2;c_;o_;f_;g_;s_  | 240 | 158 | 3.296<br>E-01 | 0.799 | 0.594 | 1.017 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_;s_   | 371 | 159 | 3.296<br>E-01 | 1.264 | 0.959 | 1.680 |
| k_Bacteria;p_Verrucomicrobia;c_Verrucomicrobiae;o_Verrucomicrobiales;f_Verrucomicrobiaceae;g_Akkermansia;s_muciniphila | 534 | 160 | 3.296<br>E-01 | 0.572 | 0.279 | 1.060 |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Dethiosulfovibrionaceae;g_TG5;s_                            | 62  | 161 | 3.296<br>E-01 | 1.182 | 0.971 | 1.452 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Thiotrichales;f_Thiotrichaceae;g_Thiothrix;s_                      | 506 | 162 | 3.394<br>E-01 | 0.815 | 0.625 | 1.024 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_melaninigenica                | 82  | 163 | 3.425<br>E-01 | 1.073 | 0.986 | 1.167 |
| k_Bacteria;p_Chloroflexi;c_Anaeolineae;o_Caldilineales;f_Caldilineaceae;g_;s_  | 386 | 164 | 3.436<br>E-01 | 1.254 | 0.954 | 1.645 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_;s_                              | 52  | 165 | 3.441<br>E-01 | 1.072 | 0.986 | 1.166 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Sanguibacteraceae;g_Sanguibacter;s_                   | 224 | 166 | 3.454<br>E-01 | 0.810 | 0.616 | 1.030 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_mitochondria;g_;s_                                 | 458 | 167 | 3.454<br>E-01 | 0.658 | 0.354 | 1.007 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Agrococcus;s_jenensis             | 530 | 168 | 3.486<br>E-01 | 0.335 | 0.045 | 0.851 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_;s_                            | 7   | 169 | 3.489<br>E-01 | 1.071 | 0.986 | 1.165 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_rhizosphaerae    | 543 | 170 | 3.517<br>E-01 | 0.785 | 0.564 | 1.031 |
| k_Bacteria;p_TM6;c_SJA-4;o_S1198;f_;g_;s_  | 510 | 171 | 3.517<br>E-01 | 1.380 | 0.946 | 2.142 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Rhizobium;s_leguminosarum             | 531 | 172 | 3.582<br>E-01 | 0.606 | 0.253 | 0.963 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Serratia;s_marcescens     | 204 | 173 | 3.694<br>E-01 | 0.676 | 0.366 | 1.000 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_;s_                         | 90  | 174 | 3.704<br>E-01 | 0.894 | 0.771 | 1.023 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Kocuria;s_rhizophila                 | 322 | 175 | 3.752<br>E-01 | 1.077 | 0.981 | 1.182 |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_iii1-15;f_mb2424;g_;s_  | 340 | 176 | 3.752<br>E-01 | 1.241 | 0.944 | 1.638 |
| k_Bacteria;p_Chloroflexi;c_TK10;o_AKYG885;f_Dolo_23;g_;s_  | 392 | 177 | 3.752<br>E-01 | 1.287 | 0.933 | 1.778 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g_;s_                            | 464 | 178 | 3.855<br>E-01 | 0.826 | 0.633 | 1.038 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_Methylobacterium;s_            | 261 | 179 | 3.855<br>E-01 | 0.904 | 0.792 | 1.026 |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_;g_;s_  | 397 | 180 | 3.858<br>E-01 | 1.245 | 0.938 | 1.664 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_;g_;s_   | 498 | 181 | 3.858<br>E-01 | 0.895 | 0.771 | 1.026 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_Trebouxiophyceae;g_;s_  | 61  | 182 | 3.858<br>E-01 | 0.934 | 0.849 | 1.015 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_parainfluenzae    | 188 | 183 | 3.858<br>E-01 | 0.919 | 0.820 | 1.021 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_[Exiguobacteraceae];g_Exiguobacterium;s_                              | 15  | 184 | 3.858<br>E-01 | 1.085 | 0.976 | 1.205 |

|   |     |     |            |       |       |       |
|---|-----|-----|------------|-------|-------|-------|
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_reuteri                | 264 | 185 | 3.858 E-01 | 1.149 | 0.959 | 1.381 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Devosia;s_                | 286 | 186 | 3.858 E-01 | 0.904 | 0.790 | 1.027 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Salinibacterium;s_         | 108 | 187 | 3.858 E-01 | 0.926 | 0.834 | 1.019 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Tepidimonas;s_            | 159 | 188 | 3.858 E-01 | 0.860 | 0.699 | 1.037 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Cupriavidus;s_          | 294 | 189 | 3.879 E-01 | 0.852 | 0.682 | 1.040 |
| k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacteriale;s;f_Coriobacteriaceae;g_;s_                      | 96  | 190 | 4.046 E-01 | 1.097 | 0.969 | 1.239 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Beijerinckiaceae;g_;s_                        | 42  | 191 | 4.226 E-01 | 0.912 | 0.800 | 1.028 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Neisseria;s_                  | 138 | 192 | 4.235 E-01 | 1.066 | 0.977 | 1.163 |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_MLE1-12;f_;g_;s_  | 218 | 193 | 4.421 E-01 | 1.067 | 0.976 | 1.166 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Spirobiales;f_;g_;s_  | 483 | 194 | 4.421 E-01 | 0.921 | 0.816 | 1.025 |
| k_Bacteria;p_TM7;c_TM7-3;o_CW040;f_F16;g_;s_  | 281 | 195 | 4.421 E-01 | 1.185 | 0.935 | 1.511 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella;s_                       | 279 | 196 | 4.421 E-01 | 1.067 | 0.975 | 1.168 |
| k_Bacteria;p_TM7;c_TM7-3;o_CW040;f_;g_;s_   | 511 | 197 | 4.421 E-01 | 0.597 | 0.214 | 1.038 |
| k_Bacteria;p_OD1;c_;o_;f_;g_;s_   | 438 | 198 | 4.421 E-01 | 0.866 | 0.701 | 1.048 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_;g_;s_                                     | 463 | 199 | 4.435 E-01 | 1.353 | 0.893 | 2.163 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Faecalibacterium;s_prausnitzii         | 107 | 200 | 4.451 E-01 | 1.112 | 0.956 | 1.291 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Coprococcus;s_                         | 121 | 201 | 4.451 E-01 | 1.319 | 0.896 | 2.000 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Dialister;s_                           | 156 | 202 | 4.457 E-01 | 0.927 | 0.830 | 1.029 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocylales;f_Rhodocyclaceae;g_;s_                          | 63  | 203 | 4.457 E-01 | 0.869 | 0.705 | 1.051 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_        | 238 | 204 | 4.595 E-01 | 0.940 | 0.860 | 1.027 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_SMB53;s_                                | 11  | 205 | 4.595 E-01 | 1.072 | 0.969 | 1.185 |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacteriales;f_Helicobacteraceae;g_;s_              | 487 | 206 | 4.595 E-01 | 1.240 | 0.907 | 1.699 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Methylophilales;f_Methylophilaceae;g_Methylotenera;s_mobilis | 533 | 207 | 4.595 E-01 | 1.134 | 0.944 | 1.360 |
| k_Bacteria;p_Chloroflexi;c_Anaerolineae;o_SHA-20;f_;g_;s_   | 389 | 208 | 4.662 E-01 | 1.211 | 0.913 | 1.611 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Saprospiraceae;g_;s_                             | 235 | 209 | 4.662 E-01 | 1.186 | 0.923 | 1.524 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Geobacillus;s_                                   | 191 | 210 | 4.668 E-01 | 1.086 | 0.962 | 1.225 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Eubacteriaceae;g_Acetobacterium;s_                       | 421 | 211 | 4.676 E-01 | 1.282 | 0.887 | 1.847 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Rhodospirillaceae;g_;s_                  | 64  | 212 | 4.714 E-01 | 1.080 | 0.964 | 1.208 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Friedmanniella;s_            | 144 | 213 | 4.714 E-01 | 0.789 | 0.540 | 1.095 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Brucellaceae;g_Ochrobactrum;s_                | 450 | 214 | 4.714 E-01 | 0.677 | 0.342 | 1.122 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_;s_                      | 100 | 215 | 4.714 E-01 | 0.912 | 0.793 | 1.042 |

|   |     |     |            |       |       |       |
|---|-----|-----|------------|-------|-------|-------|
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_Parachlamydiaceae;g_;s_                                      | 378 | 216 | 4.714 E-01 | 1.162 | 0.927 | 1.454 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Rothia;s_mucilaginosa           | 110 | 217 | 4.714 E-01 | 1.055 | 0.974 | 1.143 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprosirales];f_Chitinophagaceae;g_Sediminibacterium;s_             | 223 | 218 | 4.734 E-01 | 0.936 | 0.848 | 1.032 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Neisseria;s_cinerea             | 523 | 219 | 4.791 E-01 | 1.210 | 0.907 | 1.631 |
| k_Bacteria;p_Acidobacteria;c_Sva0725;o_Sva0725;f_;g_;s_   | 343 | 220 | 4.849 E-01 | 1.225 | 0.898 | 1.667 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Parabacteroides;s_distasonis      | 525 | 221 | 4.853 E-01 | 0.607 | 0.210 | 1.097 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_flexus                                  | 330 | 222 | 4.880 E-01 | 0.800 | 0.534 | 1.079 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Legionellaceae;g_Legionella;s_                | 502 | 223 | 5.019 E-01 | 1.140 | 0.929 | 1.397 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibrionales;f_Pseudoalteromonadaceae;g_Pseudoalteromonas;s_   | 168 | 224 | 5.132 E-01 | 1.108 | 0.942 | 1.303 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Anoxybacillus;s_kestanbolensis                     | 54  | 225 | 5.138 E-01 | 0.912 | 0.788 | 1.051 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_Leucobacter;s_               | 176 | 226 | 5.138 E-01 | 0.905 | 0.768 | 1.051 |
| k_Bacteria;p_Chloroflexi;c_Ellin6529;o_;f_;g_;s_  | 282 | 227 | 5.138 E-01 | 1.185 | 0.904 | 1.547 |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_Parachlamydiaceae;g_Parachlamydia;s_acanthamoebae            | 516 | 228 | 5.138 E-01 | 1.176 | 0.907 | 1.523 |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_Ys2;f_;g_;s_  | 395 | 229 | 5.250 E-01 | 1.196 | 0.895 | 1.597 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Citrobacter;s_       | 495 | 230 | 5.350 E-01 | 0.607 | 0.221 | 1.211 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rickettsiales;f_;g_;s_  | 29  | 231 | 5.376 E-01 | 0.908 | 0.769 | 1.055 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dermacoccaceae;g_Dermacoccus;s_                  | 166 | 232 | 5.376 E-01 | 1.122 | 0.928 | 1.355 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Parabacteroides;s_                | 249 | 233 | 5.388 E-01 | 0.710 | 0.344 | 1.130 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_1-68;s_                                | 207 | 234 | 5.391 E-01 | 1.081 | 0.950 | 1.227 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_Mesorhizobium;s_           | 133 | 235 | 5.391 E-01 | 1.116 | 0.930 | 1.333 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Variovorax;s_               | 465 | 236 | 5.391 E-01 | 1.944 | 0.673 | 7.018 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_succinicans | 550 | 237 | 5.391 E-01 | 1.360 | 0.813 | 2.274 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_;s_                        | 87  | 238 | 5.394 E-01 | 1.108 | 0.935 | 1.309 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonades;f_Pseudomonadaceae;g_Pseudomonas;s_             | 306 | 239 | 5.411 E-01 | 0.937 | 0.840 | 1.044 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Lactococcus;s_                           | 320 | 240 | 5.411 E-01 | 0.907 | 0.767 | 1.059 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_;s_                     | 78  | 241 | 5.440 E-01 | 0.941 | 0.851 | 1.041 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_;f_;g_;s_   | 474 | 242 | 5.440 E-01 | 1.242 | 0.864 | 1.854 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_ovatus                  | 335 | 243 | 5.440 E-01 | 1.164 | 0.899 | 1.507 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Pseudonocardia;s_           | 209 | 244 | 5.449 E-01 | 1.215 | 0.872 | 1.700 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacteria;f_Thermoleophilaceae;g_Solirubrobacter;s_       | 6   | 245 | 5.449 E-01 | 1.052 | 0.965 | 1.146 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Hydrogenophilales;f_Hydrogenophilaceae;g_Thiobacillus;s_       | 467 | 246 | 5.541 E-01 | 0.762 | 0.436 | 1.144 |

|   |     |     |            |       |       |       |
|---|-----|-----|------------|-------|-------|-------|
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Microbacteriaceae;g_CandidatusAquiluna;s_rubra           | 65  | 247 | 5.645 E-01 | 0.940 | 0.840 | 1.040 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Listeriaceae;g_Brochothrix;s_                                       | 403 | 248 | 5.645 E-01 | 0.742 | 0.382 | 1.147 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_Balneimonas;s_                      | 449 | 249 | 5.658 E-01 | 0.556 | 0.126 | 1.224 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_;s_  | 25  | 250 | 5.706 E-01 | 1.061 | 0.956 | 1.177 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardiaceae;g_Rhodococcus;s_                            | 102 | 251 | 5.706 E-01 | 1.083 | 0.940 | 1.248 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Rothia;s_dentocariosa                   | 105 | 252 | 5.706 E-01 | 1.055 | 0.960 | 1.158 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_g_Rhodococcus;s_   | 5   | 253 | 5.706 E-01 | 1.044 | 0.968 | 1.124 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pasteurellales;f_Pasteurellaceae;g_Haemophilus;s_influenzae           | 529 | 254 | 5.706 E-01 | 0.531 | 0.072 | 1.067 |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacteriales;f_Campylobacteraceae;g_Arcobacter;s_             | 122 | 255 | 5.742 E-01 | 0.866 | 0.652 | 1.094 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovibrionales;f_Bacteriovoracaceae;g_;s_                          | 475 | 256 | 5.742 E-01 | 0.683 | 0.243 | 1.141 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Brevundimonas;s_diminuta        | 211 | 257 | 5.742 E-01 | 1.095 | 0.930 | 1.287 |
| k_Bacteria;p_Acidobacteria;c_Acidobacteria-6;o_iii1-15;f_g;s_   | 267 | 258 | 5.742 E-01 | 1.145 | 0.896 | 1.460 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_;s_   | 283 | 259 | 5.755 E-01 | 1.103 | 0.924 | 1.313 |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Leptotrichiaceae;g_;s_                                      | 140 | 260 | 5.815 E-01 | 0.751 | 0.394 | 1.168 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_;s_                               | 109 | 261 | 5.858 E-01 | 1.074 | 0.943 | 1.221 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Polynucleobacter;s_cosmopolitanus | 524 | 262 | 5.873 E-01 | 0.910 | 0.759 | 1.070 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Lachnospira;s_                                   | 203 | 263 | 5.873 E-01 | 0.753 | 0.390 | 1.168 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Rhodoplanes;s_                      | 45  | 264 | 5.970 E-01 | 1.101 | 0.920 | 1.312 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Burkholderiaceae;g_Lautropia;s_                      | 149 | 265 | 6.031 E-01 | 0.919 | 0.781 | 1.069 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_Roseomonas;s_mucosa            | 99  | 266 | 6.122 E-01 | 1.140 | 0.886 | 1.464 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_                    | 69  | 267 | 6.122 E-01 | 1.058 | 0.951 | 1.175 |
| k_Bacteria;p_TM7;c_TM7-3;o_I025;f_g;s_  | 512 | 268 | 6.166 E-01 | 0.735 | 0.294 | 1.155 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_Peptoniphilus;s_                               | 186 | 269 | 6.263 E-01 | 0.962 | 0.894 | 1.036 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_                                 | 34  | 270 | 6.272 E-01 | 1.057 | 0.951 | 1.179 |
| k_Bacteria;p_Bacteroidetes;c_[Rhodothermi];o_[Rhodothermalest];f_Rhodothermaceae;g_Rubricoccus;s_                         | 364 | 271 | 6.297 E-01 | 1.099 | 0.911 | 1.320 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_[Chromatiaceae];g_;s_                               | 490 | 272 | 6.311 E-01 | 0.442 | 0.044 | 1.474 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alloiococcus;s_otitis                               | 536 | 273 | 6.325 E-01 | 0.629 | 0.164 | 1.286 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_                                | 328 | 274 | 6.325 E-01 | 0.929 | 0.801 | 1.069 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Methylococcales;f_Methylococcaceae;g_Methylocaldum;s_                 | 504 | 275 | 6.325 E-01 | 0.922 | 0.778 | 1.073 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Rhodospirillaceae;g_Azospirillum;s_                | 457 | 276 | 6.325 E-01 | 0.811 | 0.510 | 1.179 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Aeromonadaceae;g_;s_                                  | 72  | 277 | 6.325 E-01 | 0.924 | 0.786 | 1.073 |

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|--|-----|-----|------------|-------|-------|--------|
| k_Bacteria;p_Tenericutes;c_Mollicutes;o_Mycoplasmatales;f_Mycoplasmataceae;g_Mycoplasma;s_                     | 254 | 278 | 6.366 E-01 | 1.131 | 0.880 | 1.451  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_ACK-M1;g_;s_                                  | 344 | 279 | 6.366 E-01 | 0.917 | 0.763 | 1.080  |
| k_Bacteria;p_Cyanobacteria;c_Synechococcophycideae;o_Synechococcales;f_Synechococcaceae;g_Synechococcus;s_     | 21  | 280 | 6.383 E-01 | 0.946 | 0.842 | 1.051  |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Hymenobacter;s_                       | 39  | 281 | 6.385 E-01 | 1.049 | 0.953 | 1.152  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_WAL_1855D;s_                        | 272 | 282 | 6.482 E-01 | 0.934 | 0.807 | 1.065  |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_;s_                       | 375 | 283 | 6.482 E-01 | 0.917 | 0.762 | 1.084  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_;s_                   | 13  | 284 | 6.539 E-01 | 0.947 | 0.847 | 1.056  |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Rudanella;s_                          | 373 | 285 | 6.539 E-01 | 1.099 | 0.900 | 1.335  |
| k_Bacteria;p_TM6;c_F38;o_;f_;g_;s_   | 97  | 286 | 6.618 E-01 | 0.917 | 0.759 | 1.089  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Nocardioides;s_planatarum   | 127 | 287 | 6.623 E-01 | 0.915 | 0.754 | 1.094  |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_Parachlamydiaceae;g_CandidatusProtochlamydia;s_           | 379 | 288 | 6.623 E-01 | 0.821 | 0.454 | 1.149  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_minor                 | 143 | 289 | 6.646 E-01 | 0.878 | 0.654 | 1.137  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alloiococcus;s_                          | 300 | 290 | 6.651 E-01 | 1.026 | 0.972 | 1.083  |
| k_Bacteria;p_TM7;c_o_;f_g_;s_  | 75  | 291 | 6.651 E-01 | 0.924 | 0.772 | 1.083  |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus;s_pettenkoferi             | 538 | 292 | 6.651 E-01 | 0.506 | 0.064 | 1.578  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Sporichthyaceae;g_;s_                         | 146 | 293 | 6.651 E-01 | 1.122 | 0.874 | 1.429  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Kingella;s_                  | 226 | 294 | 6.651 E-01 | 0.895 | 0.690 | 1.116  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_bovis  | 521 | 295 | 6.651 E-01 | 1.832 | 0.669 | 22.122 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Salinicoccus;s_                           | 406 | 296 | 6.651 E-01 | 1.799 | 0.684 | 21.010 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_;s_                         | 46  | 297 | 6.651 E-01 | 0.947 | 0.841 | 1.063  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_SC-I-84;f_g_;s_   | 473 | 298 | 6.651 E-01 | 1.100 | 0.892 | 1.346  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibrionales;f_Vibrionaceae;g_Vibrio;s_                     | 299 | 299 | 6.651 E-01 | 1.170 | 0.827 | 1.642  |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_Deinococcus;s_aquatisilis                | 112 | 300 | 6.651 E-01 | 0.927 | 0.779 | 1.084  |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Capnocytophaga;s_         | 117 | 301 | 6.694 E-01 | 0.944 | 0.830 | 1.066  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Geodermatophilaceae;g_Geodermatophilus;s_     | 346 | 302 | 6.802 E-01 | 0.590 | 0.113 | 1.515  |
| k_Bacteria;p_Gammamonomadetes;c_Gemm-3;o_f_g_;s_   | 431 | 303 | 6.802 E-01 | 1.465 | 0.662 | 5.137  |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micromonosporaceae;g_;s_                      | 252 | 304 | 6.816 E-01 | 0.871 | 0.627 | 1.164  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Alkanindiges;s_          | 290 | 305 | 6.816 E-01 | 1.151 | 0.834 | 1.574  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Aurantimonadaceae;g_;s_                      | 162 | 306 | 6.816 E-01 | 1.072 | 0.916 | 1.250  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Paracoccus;s_marcusii | 38  | 307 | 6.876 E-01 | 0.946 | 0.833 | 1.069  |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingobium;s_      | 256 | 308 | 6.977 E-01 | 0.934 | 0.795 | 1.087  |

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|--|-----|-----|---------------|-------|-------|-------|
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f__Chitinophagaceae;g_Segetibacter;s_                   | 365 | 309 | 6.977<br>E-01 | 0.793 | 0.385 | 1.244 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Phyllobacteriaceae;g_Aminobacter;s_                | 273 | 310 | 6.977<br>E-01 | 0.924 | 0.766 | 1.102 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Arhrobacter;s_                     | 163 | 311 | 6.996<br>E-01 | 1.069 | 0.914 | 1.246 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Rhodobacter;s_              | 455 | 312 | 6.996<br>E-01 | 0.915 | 0.738 | 1.115 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Vibrionales;f_Vibrionaceae;g_Photobacterium;s_                   | 507 | 313 | 6.996<br>E-01 | 0.805 | 0.398 | 1.228 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_Enterococcus;s_                              | 193 | 314 | 7.030<br>E-01 | 0.847 | 0.553 | 1.213 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_s_  | 424 | 315 | 7.152<br>E-01 | 0.837 | 0.503 | 1.223 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylocystaceae;g_Methylosinus;s_                 | 41  | 316 | 7.188<br>E-01 | 0.941 | 0.809 | 1.084 |
| k_Bacteria;p_Actinobacteria;c_KIST-JJY010;o_f_g_s_   | 357 | 317 | 7.291<br>E-01 | 0.926 | 0.759 | 1.107 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Paenibacillaceae;g_Aneurinibacillus;s_                              | 404 | 318 | 7.370<br>E-01 | 0.756 | 0.299 | 1.365 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_s_   | 130 | 319 | 7.473<br>E-01 | 0.924 | 0.749 | 1.117 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobiales;f_Microthrixaceae;g_CandidatusMicrothrix;s_parvicella | 288 | 320 | 7.479<br>E-01 | 0.845 | 0.513 | 1.242 |
| k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Solirubrobacteriales;f_Conexibacteraceae;g_s_                        | 123 | 321 | 7.479<br>E-01 | 1.092 | 0.871 | 1.357 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Rubellimicrobium;s_         | 120 | 322 | 7.491<br>E-01 | 0.949 | 0.827 | 1.079 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_Chlamydomonadaceae;g_s_                                     | 396 | 323 | 7.501<br>E-01 | 0.925 | 0.751 | 1.117 |
| k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_RB41;f_Ellin6075;g_s_  | 26  | 324 | 7.501<br>E-01 | 1.048 | 0.927 | 1.181 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Luteococcus;s_               | 352 | 325 | 7.501<br>E-01 | 1.293 | 0.664 | 3.152 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_s_   | 12  | 326 | 7.501<br>E-01 | 0.954 | 0.841 | 1.074 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylocystaceae;g_s_                              | 453 | 327 | 7.501<br>E-01 | 0.754 | 0.275 | 1.389 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobiales;f_EB1017;g_s_   | 44  | 328 | 7.501<br>E-01 | 0.936 | 0.787 | 1.105 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Chlorophyta;f_g_s_  | 86  | 329 | 7.501<br>E-01 | 0.958 | 0.853 | 1.065 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptostreptococcaceae;g_Peptostreptococcus;s_anerobius        | 517 | 330 | 7.502<br>E-01 | 0.684 | 0.163 | 1.517 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Lysobacter;s_brunescens     | 522 | 331 | 7.520<br>E-01 | 0.781 | 0.280 | 1.305 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_lubricantis  | 255 | 332 | 7.528<br>E-01 | 0.924 | 0.744 | 1.128 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium;s_frigidarium    | 528 | 333 | 7.528<br>E-01 | 0.617 | 0.120 | 1.875 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Ruminococcus;s_                             | 80  | 334 | 7.528<br>E-01 | 0.935 | 0.778 | 1.110 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Turicibacteriales;f_Turicibacteraceae;g_Turicibacter;s_                          | 95  | 335 | 7.559<br>E-01 | 1.061 | 0.905 | 1.238 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Hyphomonadaceae;g_s_                           | 106 | 336 | 7.638<br>E-01 | 1.093 | 0.855 | 1.384 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Cloacibacterium;s_                | 332 | 337 | 7.638<br>E-01 | 1.057 | 0.909 | 1.224 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Hyphomicrobium;s_              | 37  | 338 | 7.642<br>E-01 | 0.954 | 0.835 | 1.080 |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Treponema;s_                           | 200 | 339 | 7.752<br>E-01 | 1.118 | 0.810 | 1.526 |

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| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Rhizobiaceae;g_Rhizobium;s_                        | 291 | 340 | 7.752 E-01 | 1.120 | 0.808 | 1.532 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Streptomycetaceae;g_Streptomyces;s_                 | 354 | 341 | 7.752 E-01 | 1.243 | 0.656 | 2.371 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Procacteriales;f_Procacobacteriaceae;g;;s_                        | 470 | 342 | 7.926 E-01 | 0.899 | 0.630 | 1.188 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_selenatarsenatis                           | 547 | 343 | 7.969 E-01 | 0.786 | 0.316 | 1.417 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Ralstonia;s_                 | 136 | 344 | 7.978 E-01 | 0.962 | 0.860 | 1.075 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovibionales;f_Bdellovibrionaceae;g_Bdellovibrio;s_          | 124 | 345 | 8.194 E-01 | 1.068 | 0.873 | 1.296 |
| k_Bacteria;p_Chloroflexi;c_Anaerolineae;o_Caldilineales;f_Caldilineaceae;g_Caldilinea;s_                             | 387 | 346 | 8.194 E-01 | 1.066 | 0.874 | 1.289 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Moryella;s_                                 | 73  | 347 | 8.194 E-01 | 0.954 | 0.822 | 1.093 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Blautia;s_                                  | 301 | 348 | 8.194 E-01 | 0.956 | 0.833 | 1.092 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_[Chromatiaceae];g_Rheinheimera;s_              | 326 | 349 | 8.263 E-01 | 0.865 | 0.527 | 1.312 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Spirosoma;s_                                | 245 | 350 | 8.291 E-01 | 1.058 | 0.882 | 1.258 |
| k_Bacteria;p_Chloroflexi;c_TK17;o_mle1-48;f;;g;;s_   | 393 | 351 | 8.427 E-01 | 1.134 | 0.742 | 1.716 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_Vagococcus;s_                                | 411 | 352 | 8.457 E-01 | 0.613 | 0.075 | 2.406 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_johnsonii      | 232 | 353 | 8.473 E-01 | 1.048 | 0.902 | 1.216 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Legionellaceae;g;;s_                             | 17  | 354 | 8.473 E-01 | 1.039 | 0.916 | 1.175 |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f;;g;;s_  | 67  | 355 | 8.532 E-01 | 0.964 | 0.850 | 1.083 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocyclales;f_Rhodocyclaceae;g_Hydrogenophilus;s_               | 472 | 356 | 8.532 E-01 | 0.872 | 0.507 | 1.312 |
| k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_CM44;s_  | 336 | 357 | 8.720 E-01 | 1.081 | 0.818 | 1.408 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g_Bacillus;s_   | 126 | 358 | 8.720 E-01 | 1.040 | 0.908 | 1.189 |
| k_Bacteria;p_Plantomycetes;c_Plantomycetia;o_B97;f;;g;;s_  | 445 | 359 | 8.720 E-01 | 1.095 | 0.794 | 1.485 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Mobiluncus;s_                    | 345 | 360 | 8.737 E-01 | 1.090 | 0.797 | 1.468 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Saccharopolyspora;s_           | 353 | 361 | 8.761 E-01 | 0.855 | 0.415 | 1.386 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_Clostridium;s_                               | 182 | 362 | 8.761 E-01 | 1.045 | 0.893 | 1.219 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardiopsaceae;g;;s_                               | 351 | 363 | 8.761 E-01 | 0.797 | 0.293 | 1.628 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptostreptococcaceae;g_Peptostreptococcus;s_                 | 31  | 364 | 8.770 E-01 | 1.037 | 0.909 | 1.177 |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f;;g;;s_  | 233 | 365 | 8.954 E-01 | 1.044 | 0.888 | 1.220 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g;;s_  | 333 | 366 | 8.954 E-01 | 1.049 | 0.875 | 1.250 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingopyxis;s_alaskensis | 325 | 367 | 8.954 E-01 | 0.834 | 0.391 | 1.574 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Paracoccus;s_aminovorans    | 98  | 368 | 8.954 E-01 | 1.059 | 0.855 | 1.314 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Cellulomonadaceae;g_Cellulomonas;s_                 | 298 | 369 | 8.954 E-01 | 0.949 | 0.774 | 1.146 |
| k_Bacteria;p_Cyanobacteria;c_Chloroplast;o_Stramenopiles;f;;g;;s_  | 77  | 370 | 8.954 E-01 | 1.028 | 0.925 | 1.137 |

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| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_uniformis                                | 250 | 371 | 8.954 E-01 | 1.049 | 0.873 | 1.251 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Coxiellaceae;g_Aquicella;s_                                    | 500 | 372 | 9.003 E-01 | 0.954 | 0.786 | 1.134 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Arthrobacter;s_psychrolactophilus                | 540 | 373 | 9.003 E-01 | 1.115 | 0.714 | 1.694 |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Dyadobacter;s_  | 331 | 374 | 9.003 E-01 | 0.949 | 0.769 | 1.153 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobial es;f_C111;g_;s_-  | 47  | 375 | 9.053 E-01 | 0.971 | 0.864 | 1.084 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Chitinophagaceae;g_Flavisolibacter;s_-                              | 164 | 376 | 9.056 E-01 | 0.937 | 0.700 | 1.189 |
| k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprospirales];f_Chitinophagaceae;g_;s_-   | 141 | 377 | 9.066 E-01 | 0.962 | 0.821 | 1.117 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_;g_;s_-   | 270 | 378 | 9.072 E-01 | 0.953 | 0.781 | 1.149 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Williamsiaceae;g_Williamsia;s_-                                   | 355 | 379 | 9.072 E-01 | 1.104 | 0.721 | 1.648 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Jannaschia;s_-                            | 454 | 380 | 9.072 E-01 | 1.105 | 0.725 | 1.639 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Psychromonadaceae;g_Psychromonas;s_-                         | 317 | 381 | 9.072 E-01 | 0.901 | 0.554 | 1.327 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_SBla14;f_;g_;s_-  | 161 | 382 | 9.118 E-01 | 1.103 | 0.723 | 1.640 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Oceanospirillales;f_Halomonadaceae;g_Halomonas;s_-                             | 246 | 383 | 9.275 E-01 | 0.963 | 0.822 | 1.130 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Gordoniaceae;g_Gordonia;s_-                                       | 280 | 384 | 9.305 E-01 | 1.074 | 0.774 | 1.462 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_;g_;s_-   | 377 | 385 | 9.315 E-01 | 0.902 | 0.497 | 1.346 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nakamurellaceae;g_;s_-  | 248 | 386 | 9.391 E-01 | 0.948 | 0.739 | 1.190 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobial es;f_;g_;s_-  | 10  | 387 | 9.448 E-01 | 1.023 | 0.922 | 1.132 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_Roseococcus;s_-                         | 456 | 388 | 9.503 E-01 | 1.062 | 0.797 | 1.389 |
| k_Bacteria;p_Nitrospirae;c_Nitrospira;o_Nitrospirales;f_Nitrosopiraceae;g_Nitrospira;s_-   | 437 | 389 | 9.618 E-01 | 1.059 | 0.791 | 1.389 |
| k_Bacteria;p_TM7;c_SC3;o_;f_;g_;s_-  | 28  | 390 | 9.618 E-01 | 0.977 | 0.872 | 1.088 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella;s_parvula                                     | 185 | 391 | 9.621 E-01 | 1.046 | 0.837 | 1.293 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_BD7-3;f_;g_;s_-  | 447 | 392 | 9.703 E-01 | 1.084 | 0.701 | 1.628 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Paludibacter;s_-                                   | 229 | 393 | 9.841 E-01 | 0.947 | 0.700 | 1.233 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Janthinobacterium;s_-                      | 91  | 394 | 9.905 E-01 | 0.971 | 0.827 | 1.128 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides;s_caccae                                   | 329 | 395 | 9.905 E-01 | 0.923 | 0.566 | 1.375 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Pseudoxanthomonas;s_mexicana              | 84  | 396 | 9.905 E-01 | 1.059 | 0.763 | 1.435 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Mycobacteriaceae;g_Mycobacterium;s_-                              | 1   | 397 | 9.905 E-01 | 0.985 | 0.904 | 1.068 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Intrasporangiaceae;g_;s_-   | 68  | 398 | 9.905 E-01 | 0.978 | 0.864 | 1.100 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Thermoanaerobacterales;f_Caldicellulosiruptoraceae;g_Caldicellulosiruptor;s_saccharolyticus | 213 | 399 | 9.905 E-01 | 1.042 | 0.818 | 1.311 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella;s_dispar                                      | 48  | 400 | 9.905 E-01 | 1.013 | 0.939 | 1.094 |

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| k_Bacteria;p_Gemmatimonadetes;c_Gemmatimonadetes;o_Gemmatimonadales;f__;g__;s__  | 433 | 401 | 9.905<br>E-01 | 1.047 | 0.788 | 1.361 |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Chryseobacterium;s__                  | 237 | 402 | 9.905<br>E-01 | 0.981 | 0.875 | 1.097 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megasphaera;s__                                 | 212 | 403 | 9.905<br>E-01 | 1.023 | 0.889 | 1.171 |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Oribacterium;s__                                | 79  | 404 | 9.905<br>E-01 | 1.022 | 0.893 | 1.162 |
| k_Bacteria;p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g__;s__                             | 115 | 405 | 9.905<br>E-01 | 0.959 | 0.734 | 1.230 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Porphyromonas;s__                        | 155 | 406 | 9.905<br>E-01 | 0.985 | 0.897 | 1.081 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Sphingobacterium;s_multivorum | 535 | 407 | 9.905<br>E-01 | 1.054 | 0.745 | 1.453 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Coxiellaceae;g__;s__                                 | 499 | 408 | 9.905<br>E-01 | 1.034 | 0.827 | 1.276 |
| k_Bacteria;p_Actinobacteria;c_Acidimicrobia;o_Acidimicrobiales;f_Microthrixaceae;g__;s__                                 | 53  | 409 | 9.905<br>E-01 | 0.976 | 0.829 | 1.138 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Luteimonas;s__                  | 508 | 410 | 9.905<br>E-01 | 0.861 | 0.197 | 2.106 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Granulicatella;s__                             | 27  | 411 | 9.905<br>E-01 | 0.988 | 0.909 | 1.071 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Planoococcaceae;g_Planomicrobium;s__                                    | 178 | 412 | 9.905<br>E-01 | 1.017 | 0.909 | 1.133 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Alcaligenaceae;g__;s__                              | 43  | 413 | 9.905<br>E-01 | 0.986 | 0.893 | 1.083 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f_Gemellaceae;g_Gemella;s__   | 116 | 414 | 9.905<br>E-01 | 1.030 | 0.844 | 1.256 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Proteus;s__                 | 222 | 415 | 9.905<br>E-01 | 1.020 | 0.886 | 1.165 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_Shewanellaceae;g_Shewanella;s_algae                | 251 | 416 | 9.905<br>E-01 | 0.978 | 0.840 | 1.141 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f__;g__;s__   | 32  | 417 | 9.905<br>E-01 | 0.979 | 0.844 | 1.128 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g__;s__   | 416 | 418 | 9.905<br>E-01 | 1.059 | 0.675 | 1.592 |
| k_Bacteria;p_TM7;c_TM7-3;o__;f__;g__;s__   | 14  | 419 | 9.905<br>E-01 | 1.013 | 0.924 | 1.109 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Hylemonella;s__                    | 234 | 420 | 9.905<br>E-01 | 1.097 | 0.536 | 2.124 |
| k_Bacteria;p_Bacteroidetes;c_Sphingobacteriia;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Pedobacter;s__                | 89  | 421 | 9.905<br>E-01 | 1.013 | 0.922 | 1.111 |
| k_Bacteria;p_Cyanobacteria;c_Nostocophycideae;o_Stigonematales;f_Rivulariaceae;g_Calothrix;s__                           | 284 | 422 | 9.905<br>E-01 | 0.967 | 0.743 | 1.221 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocyclales;f_Rhodocyclaceae;g_Dehloromonas;s__                     | 187 | 423 | 9.905<br>E-01 | 1.026 | 0.840 | 1.241 |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_yabuuchiiae    | 553 | 424 | 9.905<br>E-01 | 0.941 | 0.529 | 1.467 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinomyces;s__                      | 30  | 425 | 9.905<br>E-01 | 0.989 | 0.909 | 1.076 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g__;s__                              | 8   | 426 | 9.905<br>E-01 | 0.988 | 0.898 | 1.087 |
| k_Bacteria;p_TM6;c_SJA-4;o__;f__;g__;s__   | 74  | 427 | 9.905<br>E-01 | 1.019 | 0.873 | 1.179 |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Gemellales;f_Gemellaceae;g__;s__   | 88  | 428 | 9.905<br>E-01 | 0.988 | 0.897 | 1.086 |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g__;s__                                  | 266 | 429 | 9.905<br>E-01 | 1.009 | 0.939 | 1.083 |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_Bifidobacterium;s_adolescentis   | 152 | 430 | 9.905<br>E-01 | 0.978 | 0.807 | 1.172 |

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| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_</i> ;s_                           | 118 | 431 | 9.905 E-01 | 1.011 | 0.922 | 1.108 |
| <i>k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Polaromonas;s_</i>             | 206 | 432 | 9.905 E-01 | 0.974 | 0.772 | 1.218 |
| <i>k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Methylophilales;f_Methylophilaceae;g_</i> ;s_                     | 24  | 433 | 9.905 E-01 | 1.016 | 0.885 | 1.159 |
| <i>k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Sinobacteraceae;g_</i> ;s_                     | 268 | 434 | 9.905 E-01 | 0.987 | 0.882 | 1.104 |
| <i>k_Bacteria;p_Acidobacteria;c_[Chloracidobacteria];o_RB41;f_</i> ;g_";s_  | 338 | 435 | 9.905 E-01 | 1.036 | 0.747 | 1.402 |
| <i>k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Leptotrichiaceae;g_Sneathia;s_</i>                     | 201 | 436 | 9.905 E-01 | 0.971 | 0.733 | 1.248 |
| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Corynebacteriaceae;g_Corynebacterium;s_varabile</i> | 551 | 437 | 9.905 E-01 | 0.965 | 0.680 | 1.317 |
| <i>k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocyclales;f_Rhodocyclaceae;g_C39;s_</i>                       | 471 | 438 | 9.905 E-01 | 1.045 | 0.672 | 1.565 |
| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Varibaculum;s_</i>               | 278 | 439 | 9.905 E-01 | 0.974 | 0.740 | 1.248 |
| <i>k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Plancoccaceae;g_Paenisporosarcina;s_</i>                            | 60  | 440 | 9.905 E-01 | 0.991 | 0.901 | 1.084 |
| <i>k_Bacteria;p_TM7;c_TM7-1;o_</i> ;f_";g_";s_  | 4   | 441 | 9.905 E-01 | 0.990 | 0.899 | 1.087 |
| <i>k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Fusobacteriaceae;g_Fusobacterium;s_</i>                | 66  | 442 | 9.905 E-01 | 1.009 | 0.923 | 1.102 |
| <i>k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_</i> ;s_                       | 49  | 443 | 9.905 E-01 | 1.011 | 0.903 | 1.134 |
| <i>k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f_0319-6G20;g_</i> ;s_                              | 104 | 444 | 9.905 E-01 | 0.969 | 0.668 | 1.326 |
| <i>k_Bacteria;p_Actinobacteria;c_Coriobacteriia;o_Coriobacteriales;f_Coriobacteriaceae;g_Eggerthella;s_lenta</i>        | 258 | 445 | 9.905 E-01 | 1.038 | 0.660 | 1.573 |
| <i>k_Bacteria;p_[Thermi];c_Deinococci;o_Deinococcales;f_Trueperaceae;g_Truepera;s_</i>                                  | 92  | 446 | 9.905 E-01 | 1.015 | 0.842 | 1.210 |
| <i>k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Abiotrophia;s_</i>                             | 195 | 447 | 9.905 E-01 | 0.989 | 0.864 | 1.124 |
| <i>k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_Xenococcaceae;g_Chroococcidiopsis;s_</i>        | 304 | 448 | 9.905 E-01 | 1.023 | 0.765 | 1.340 |
| <i>k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_ph2;s_</i>                                | 419 | 449 | 9.905 E-01 | 0.971 | 0.650 | 1.372 |
| <i>k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Enhydrobacter;s_</i>           | 103 | 450 | 9.905 E-01 | 1.010 | 0.896 | 1.137 |
| <i>k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Brucellaceae;g_</i> ;s_                            | 219 | 451 | 9.905 E-01 | 1.015 | 0.837 | 1.222 |
| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Intrasporangiaceae;g_Arsenicicoccus;s_</i>          | 347 | 452 | 9.905 E-01 | 0.938 | 0.265 | 2.121 |
| <i>k_Bacteria;p_Actinobacteria;c_Thermoleophilia;o_Gaiellales;f_</i> ;g_";s_  | 359 | 453 | 9.905 E-01 | 1.009 | 0.876 | 1.155 |
| <i>k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Pedomicrobium;s_</i>           | 452 | 454 | 9.905 E-01 | 1.025 | 0.693 | 1.469 |
| <i>k_Bacteria;p_Proteobacteria;c_TA18;o_PHOS-HD29;f_</i> ;g_";s_  | 70  | 455 | 9.905 E-01 | 0.988 | 0.822 | 1.178 |
| <i>k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodospirillales;f_Aacetobacteraceae;g_</i> ;s_                  | 59  | 456 | 9.905 E-01 | 1.008 | 0.883 | 1.147 |
| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Bifidobacteriales;f_Bifidobacteriaceae;g_</i> ;s_                     | 312 | 457 | 9.905 E-01 | 1.010 | 0.860 | 1.177 |
| <i>k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Eikenella;s_</i>                   | 225 | 458 | 9.905 E-01 | 0.982 | 0.715 | 1.308 |
| <i>k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_Tannerella;s_</i>                    | 369 | 459 | 9.905 E-01 | 0.956 | 0.338 | 1.986 |
| <i>k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_NKB15;f_</i> ;g_";s_   | 482 | 460 | 9.905 E-01 | 0.984 | 0.737 | 1.287 |
| <i>k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Micrococcaceae;g_Micrococcus;s_</i>                 | 50  | 461 | 9.905 E-01 | 1.012 | 0.827 | 1.239 |

|   |     |     |            |           |       |                |
|---|-----|-----|------------|-----------|-------|----------------|
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Shuttleworthia;s_                            | 423 | 462 | 9.905 E-01 | 0.978     | 0.626 | 1.434          |
| k_Bacteria;p_Acidobacteria;c_DA052;o_Ellin6513;f__;g__;s_   | 341 | 463 | 9.905 E-01 | 1.028     | 0.531 | 1.747          |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Methylobacteriaceae;g_Methylobacterium;s_adhaesivum | 227 | 464 | 9.905 E-01 | 0.993     | 0.860 | 1.139          |
| k_Bacteria;p_WS6;c_SC72;o_WCHB1-15;f__;g__;s_   | 515 | 465 | 9.905 E-01 | 0.986     | 0.731 | 1.303          |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Nocardioidaceae;g_Aeromicromium;s_                   | 94  | 466 | 9.905 E-01 | 1.008     | 0.855 | 1.177          |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactocillaceae;g__;s_   | 412 | 467 | 9.905 E-01 | 1.021     | 0.582 | 1.627          |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Mycoplana;s_                | 230 | 468 | 9.905 E-01 | 1.007     | 0.853 | 1.181          |
| k_Bacteria;p_Fusobacteria;c_Fusobacteriia;o_Fusobacteriales;f_Leptotrichiaceae;g_Leptotrichia;s_                      | 85  | 469 | 9.905 E-01 | 0.997     | 0.911 | 1.089          |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Bradyrhizobiaceae;g_Bradyrhizobium;s_               | 173 | 470 | 9.905 E-01 | 0.994     | 0.806 | 1.226          |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Selenomonas;s_                               | 172 | 471 | 9.905 E-01 | 0.997     | 0.891 | 1.111          |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_[Weeksellaceae];g_Wautersiella;s_                    | 292 | 472 | 9.905 E-01 | 0.993     | 0.616 | 1.512          |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus;s_sobrinus                     | 548 | 473 | 9.905 E-01 | 0.000     | NA    | 22088 0.319    |
| k_Bacteria;p_Chloroflexi;c_Anaerolineae;o_H39;f__;g__;s_  | 388 | 474 | 9.905 E-01 | 2719. 537 | 0.000 | NA             |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Christensenellaceae;g__;s_                                     | 420 | 475 | 9.905 E-01 | 18.38 6   | 0.000 | NA             |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Dethiosulfovibrionaceae;g_Pyramidobacter;s_piscolens       | 539 | 476 | 9.905 E-01 | 18.76 6   | 0.003 | NA             |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactocillaceae;g_Pediococcus;s_                                 | 413 | 477 | 9.905 E-01 | 9.553     | 0.000 | NA             |
| k_Bacteria;p_GN02;c_GKS2-174;o__;f__;g__;s_   | 435 | 478 | 9.905 E-01 | 69.41 7   | 0.000 | NA             |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Jeotgalicoccus;s_psychrophilus                   | 541 | 479 | 9.905 E-01 | 0.000     | NA    | NA             |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Dietziaceae;g_Dietzia;s_                             | 318 | 480 | 9.905 E-01 | 0.000     | NA    | 12060 3.867    |
| k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Sphaerochaetales;f_Sphaerochaetaceae;g_Sphaerochaeta;s_                    | 509 | 481 | 9.905 E-01 | 27.36 9   | 0.005 | NA             |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Aeromonadaceae;g_Tolumonas;s_                     | 489 | 482 | 9.905 E-01 | 0.021     | NA    | 5711. 099      |
| k_Bacteria;p_GN02;c_BD1-5;o__;f__;g__;s_  | 434 | 483 | 9.905 E-01 | 0.001     | NA    | NA             |
| k_Bacteria;p_Gemmatimonadetes;c_Gemmatimonadetes;o__;f__;g__;s_   | 432 | 484 | 9.905 E-01 | 0.033     | NA    | NA             |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_S24-7;g__;s_   | 370 | 485 | 9.905 E-01 | 0.043     | NA    | NA             |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales;f_Hyphomicrobiaceae;g_Parvibaculum;s_                 | 451 | 486 | 9.905 E-01 | 0.088     | NA    | 27507 934.8 20 |
| k_Bacteria;p_Synergistetes;c_Synergistia;o_Synergistales;f_Dethiosulfovibrionaceae;g_Jonquetella;s_anthropi           | 518 | 487 | 9.905 E-01 | 0.084     | NA    | 36656 530.9 30 |
| k_Bacteria;p_Chloroflexi;c_Anaerolineae;o_Anaerolineales;f_Annaerolinaceae;g_Anaerolinea;s_                           | 385 | 488 | 9.905 E-01 | 0.046     | NA    | NA             |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Oceanospirillales;f_Halomonadaceae;g__;s_                         | 505 | 489 | 9.905 E-01 | 0.075     | NA    | NA             |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Leuconostocaceae;g_Weissella;s_                                 | 415 | 490 | 9.905 E-01 | 0.000     | NA    | NA             |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrophobacteriales;f_Syntrophaceae;g_Desulfomonile;s_           | 484 | 491 | 9.905 E-01 | 0.001     | 0.000 | 2851. 329      |

|   |     |     |            |             |             |                |
|---|-----|-----|------------|-------------|-------------|----------------|
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Schwartzia;s_                              | 426 | 492 | 9.905 E-01 | 78.63 4     | 0.000       | NA             |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas;s_wittichii | 552 | 493 | 9.905 E-01 | 0.000       | NA          | NA             |
| k_Bacteria;p_Aquificae;c_Aquificae;o_Aquificales;f_Aquificaceae;g_;s_   | 362 | 494 | 9.905 E-01 | 0.000       | NA          | NA             |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Pseudonocardiaceae;g_Actinomycetospora;s_          | 210 | 495 | 9.905 E-01 | 0.000 0.000 | 19998 2.076 |                |
| k_Bacteria;p_Chloroflexi;c_Chloroflexi;o_[Roseiflexales];f_[Kolleotheothrixaceae];g_Kouleothrix;s_                  | 390 | 496 | 9.905 E-01 | 35.32 4     | 0.000       | NA             |
| k_Bacteria;p_WS3;c_PRR-12;o_Sediment-1;f_PRR-10;g_;s_   | 514 | 497 | 9.905 E-01 | 77.37 2     | 0.000       | NA             |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Alteromonadales;f_OM60;g_;s_                                    | 491 | 498 | 9.905 E-01 | 86.22 1     | 0.000       | NA             |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_NB1-j;f_JTB38;g_;s_   | 481 | 499 | 9.905 E-01 | 47.26 7     | 0.000       | NA             |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_FAC87;f_>;g_;s_   | 477 | 500 | 9.905 E-01 | 46.12 4     | 0.000       | NA             |
| k_Bacteria;p_Gemmatimonadetes;c_Gemm-1;o_;f_>;g_;s_   | 430 | 501 | 9.905 E-01 | 41.33 5     | 0.000       | NA             |
| k_Bacteria;p_Planctomycetes;c_C6;o_d113;f_>;g_;s_   | 442 | 502 | 9.905 E-01 | 51.18 5     | 0.000       | NA             |
| k_Bacteria;p_Chloroflexi;c_Chloroflexi;o_AKIW781;f_>;g_;s_  | 391 | 503 | 9.905 E-01 | 0.038       | NA          | 58531 943.3 10 |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_Parachlamydiaceae;g_Parachlamydia;s_                           | 380 | 504 | 9.905 E-01 | 0.007       | NA          | NA             |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Syntrophobacterales;f_Syntrophorhabdaceae;g_;s_                 | 485 | 505 | 9.905 E-01 | 0.007       | NA          | NA             |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Chroococcales;f_Cyanobacteriaceae;g_Cyanobacterium;s_          | 398 | 506 | 9.905 E-01 | 0.008       | NA          | 96840 309.2 40 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Legionellaceae;g_Tatlockia;s_                   | 503 | 507 | 9.905 E-01 | 0.011       | NA          | 21006 759.3 60 |
| k_Bacteria;p_Chlamydiae;c_Chlamydii;o_Chlamydiales;f_Rhabdochlamydiaceae;g_CandidatusRhabdochlamydia;s_             | 381 | 508 | 9.905 E-01 | 0.034       | NA          | 32986 9.646    |
| k_Bacteria;p_Fusobacteria;c_Fusobacterii;o_Fusobacteriales;f_>;g_;s_  | 428 | 509 | 9.905 E-01 | 0.004       | NA          | NA             |
| k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Kineosporiaceae;g_Kineococcus;s_                   | 348 | 510 | 9.905 E-01 | 0.000       | NA          | NA             |
| k_Bacteria;p_Armatimonadetes;c_[Fimbriimonadia];o_[Fimbriimonadales];f_[Fimbriimonadaceae];g_Fimbriimonas;s_        | 363 | 511 | 9.905 E-01 | 0.000       | NA          | NA             |
| k_Bacteria;p_OD1;c_SM2F11;o_>;f_>;g_>;s_  | 440 | 512 | 9.905 E-01 | 0.070       | NA          | 66252 4.372    |
| k_Bacteria;p_OD1;c_ABY1;o_>;f_>;g_>;s_  | 439 | 513 | 9.905 E-01 | 0.027       | NA          | 80027 541.2 10 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_BA008;g_;s_  | 366 | 514 | 9.905 E-01 | 0.036       | NA          | 20653 084.2 20 |
| k_Bacteria;p_Chlorobi;c_Ignavibacteria;o_Ignavibacteriales;f_Ignavibacteriaceae;g_;s_                               | 382 | 515 | 9.905 E-01 | 0.042       | NA          | 92895 30.49 4  |
| k_Bacteria;p_Cyanobacteria;c_4C0d-2;o_SM1D11;f_>;g_>;s_   | 394 | 516 | 9.905 E-01 | 0.042       | NA          | 92895 30.49 4  |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Chromatiales;f_Chromatiaceae;g_Allochromatium;s_                | 492 | 517 | 9.905 E-01 | 0.057       | NA          | 19859 86.74 2  |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_vadinHB04;s_                               | 427 | 518 | 9.905 E-01 | 0.023       | NA          | NA             |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_MIZ46;f_>;g_>;s_  | 478 | 519 | 9.905 E-01 | 0.020       | NA          | NA             |

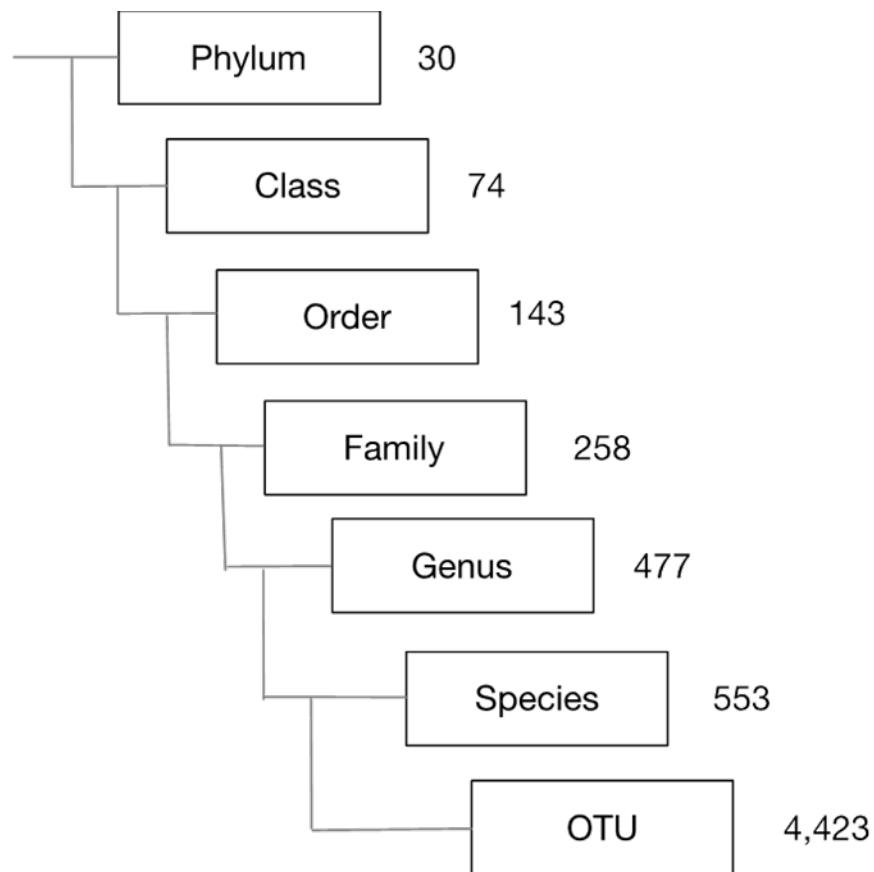
|   |     |     |            |            |       |                      |
|---|-----|-----|------------|------------|-------|----------------------|
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Legionellales;f_Francisellaceae;g_;s_                                 | 501 | 520 | 9.905 E-01 | 0.015      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovibrionales;f_Bdellovibrionaceae;g_Bdellovibrio;s_bacteriovorus | 520 | 521 | 9.905 E-01 | 0.044      | NA    | 67463<br>94.79<br>4  |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_;f_;g_;s_  | 461 | 522 | 9.905 E-01 | 0.027      | NA    | 89335<br>300.2<br>20 |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Chromatiales;f_Halothiobacillaceae;g_Thiovirga;s_                     | 493 | 523 | 9.905 E-01 | 0.058      | NA    | 16841<br>14.10<br>3  |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f_Polyangiaceae;g_;s_                                    | 480 | 524 | 9.905 E-01 | NA         | 0.000 | NA                   |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Marinilactibacillus;s_psychrotolerans               | 542 | 525 | 9.905 E-01 | 0.004      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g_Arhospira;s_                    | 448 | 526 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Acidobacteria;c_Holophagae;o_Holophagales;f_Holophagaceae;g_Geothrix;s_                                      | 342 | 527 | 9.905 E-01 | 0.003      | NA    | 48283<br>753.3<br>30 |
| k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrimonadaceae;g_;s_                                       | 367 | 528 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_;o_;f_;g_;s_  | 401 | 529 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Neisseriales;f_Neisseriaceae;g_Microvirgula;s_                         | 468 | 530 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_;f_;g_;s_   | 488 | 531 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_OP11;c_WCHB1-64;o_d153;f_;g_;s_  | 441 | 532 | 9.905 E-01 | 0.009      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_[Tissierellaceae];g_;s_  | 417 | 533 | 9.905 E-01 | 0.015      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter;s_schindleri          | 545 | 534 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Yersinia;s_                  | 496 | 535 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_HOC36;f_;g_;s_  | 497 | 536 | 9.905 E-01 | 0.009      | NA    | 18524<br>743.6<br>60 |
| k_Bacteria;p_Cyanobacteria;c_Oscillatoriophycideae;o_Oscillatoriophycideae;f_Phormidiaceae;g_Phormidium;s_                | 399 | 537 | 9.905 E-01 | 0.001      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Trichococcus;s_                                 | 410 | 538 | 9.905 E-01 | 14.19<br>3 | 0.000 | NA                   |
| k_Bacteria;p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacteriales;f_Campylobacteraceae;g_Sulfurospirillum;s_       | 486 | 539 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_An aeromusa;s_                                   | 425 | 540 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Plantomycetes;c_Phycisphaerae;o_Phycisphaerales;f_;g_;s_   | 443 | 541 | 9.905 E-01 | 0.102      | NA    | NA                   |
| k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Myxococcales;f_OM27;g_;s_   | 479 | 542 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Plantomycetes;c_Phycisphaerae;o_WD2101;f_;g_;s_  | 444 | 543 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alkalibacterium;s_                                  | 409 | 544 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Flavobacteriaceae;g_Myroides;s_                          | 376 | 545 | 9.905 E-01 | 0.000      | NA    | NA                   |
| k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales;f_Cytophagaceae;g_Rhodocytophaga;s_                                | 372 | 546 | 9.905 E-01 | 0.092      | NA    | NA                   |
| k_Bacteria;p_Cyanobacteria;c_Synechococcophycideae;o_Pseudanabaenales;f_;g_;s_  | 400 | 547 | 9.905 E-01 | 0.057      | NA    | NA                   |
| k_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus;s_iners                            | 150 | 548 | 9.905 E-01 | 0.999      | 0.861 | 1.154                |

|   |     |     |            |       |       |       |
|---|-----|-----|------------|-------|-------|-------|
| <b>k_Bacteria;p_Verrucomicrobia;c_[Spartobacteria];o_[Chthoniobacteriales];f_[Chthoniobacteraceae];g_DA101;s_</b>     | 513 | 549 | 9.905 E-01 | 0.071 | NA    | NA    |
| <b>k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g_Buchnera;s_</b>       | 494 | 550 | 9.905 E-01 | 0.040 | NA    | NA    |
| <b>k_Bacteria;p_Bacteroidetes;c_Flavobacteriia;o_Flavobacteriales;f_Cryomorphaceae;g_Fluviicola;s_</b>                | 374 | 551 | 9.905 E-01 | 0.052 | NA    | NA    |
| <b>k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhodobacterales;f_Rhodobacteraceae;g_Amaricoccus;s_</b>        | 289 | 552 | 9.916 E-01 | 1.003 | 0.633 | 1.503 |
| <b>k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Acidovorax;s_delafieldii</b> | 167 | 553 | 9.984 E-01 | 1.000 | 0.784 | 1.249 |

**eTable 3.** Association of Individual Taxa and Cluster Class With Composite Infectious Outcome

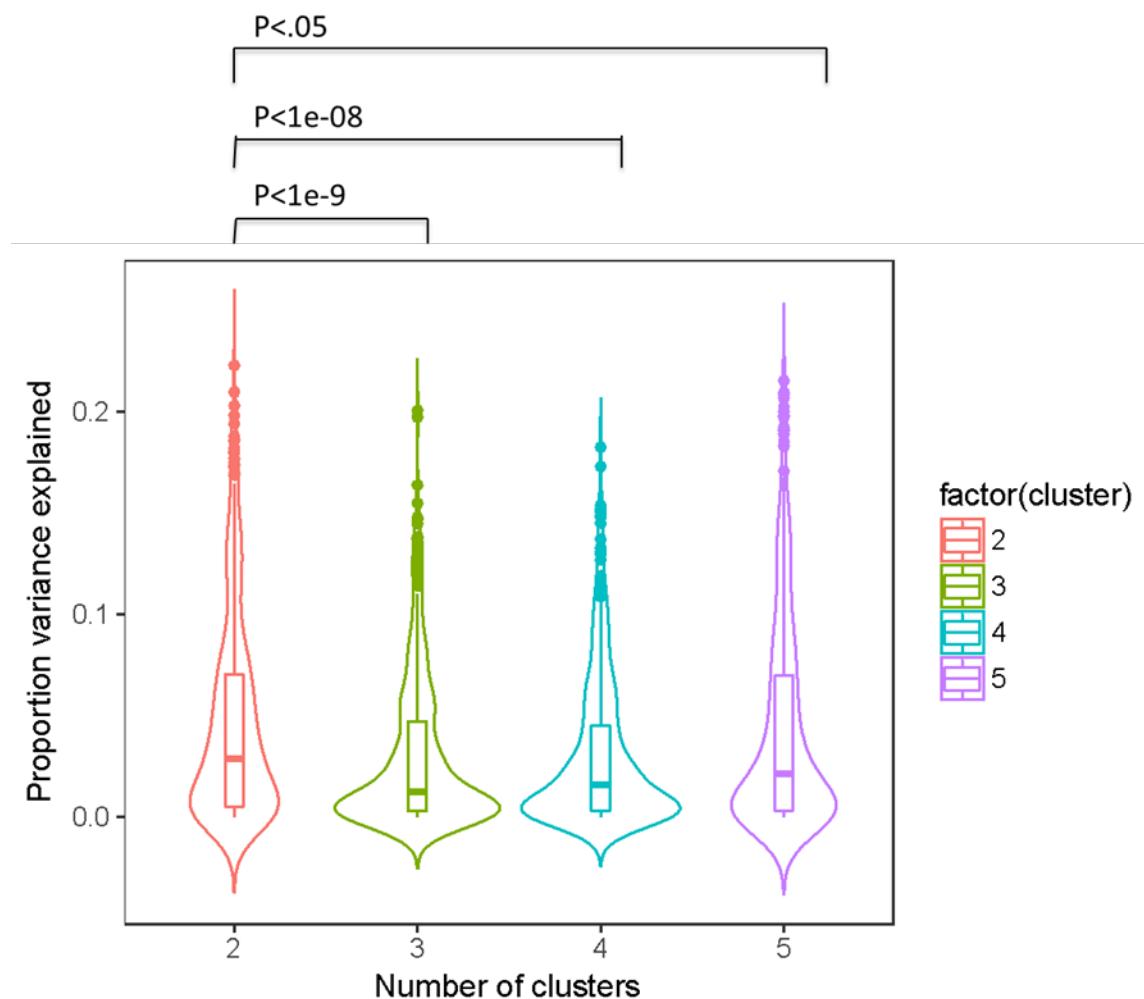
| Variables                           | Unadjusted Odds Ratio | P value | Adjusted Odds Ratio | P value |
|-------------------------------------|-----------------------|---------|---------------------|---------|
| <i>Moraxella spp.</i>               | 1.17 (1.05,1.29)      | 0.003   | 1.16 (1.00,1.34)    | 0.04    |
| <i>Propionibacterium granulosum</i> | 0.86 (0.79,0.94)      | 0.001   | 0.91 (0.79,1.06)    | 0.25    |
| <i>Novosphingobium spp.</i>         | 1.16 (1.10,1.24)      | <0.001  | 1.13 (1.05,1.23)    | 0.001   |
| <i>Anaerococcus spp.</i>            | 0.71 (0.59,0.86)      | <0.001  | 0.43 (0.31,0.57)    | <0.001  |
| <i>Propionibacterium spp.</i>       | 1.19 (1.06,1.33)      | 0.002   | 0.98 (0.83,1.15)    | 0.87    |
| <i>Atopobium spp.</i>               | 0.70 (0.58,0.85)      | <0.001  | 0.69 (0.53,0.89)    | 0.005   |
| <i>Parvimonas spp.</i>              | 0.86 (0.79,0.94)      | <0.001  | 0.94 (0.82,1.07)    | 0.36    |
| Cluster 2 probability               | 6.18 (3.30,11.7)      | <0.001  | 6.71 (2.91,15.84)   | <0.001  |

**eFigure 1.** Taxonomic Classification of 16S rRNA Gene Sequences Identified From Preoperative Nasal Swabs



Numbers of uniquely annotated taxa against the Greengenes database within each clade identified from 4,423 operational taxonomic units (OTUs).

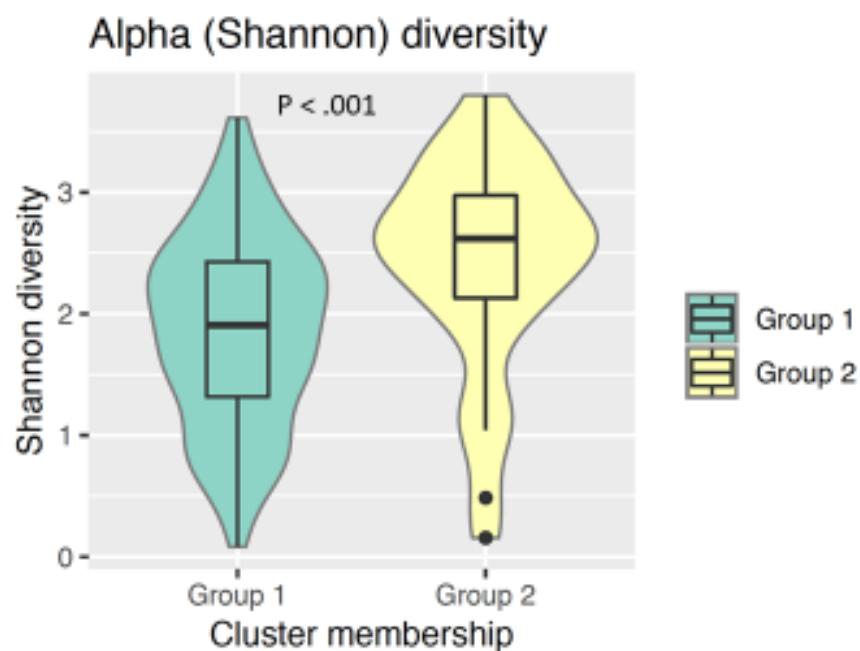
**eFigure 2.** Violin Plots of Variance Associated With Microbiome Cluster



Along the abscissa are the number of clusters defined from  $K = 2$  to  $K = 5$ . The ordinate represents the variance explained by cluster (within to between sum of squares). Cluster of  $K = 2$  has the greatest (median) variability explained in comparison to other cluster representations and is the most parsimonious.

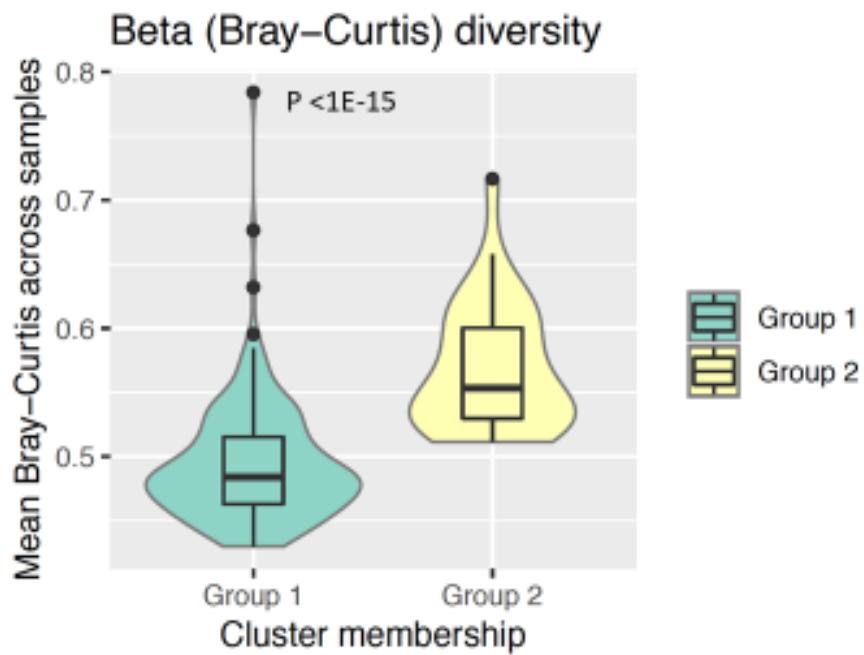
**eFigure 3.** Diversity Characterization of Nasal Microbiota by Cluster Class

**eFigure 3A. Microbiome diversity metrics by cluster class: Alpha (Shannon) diversity**



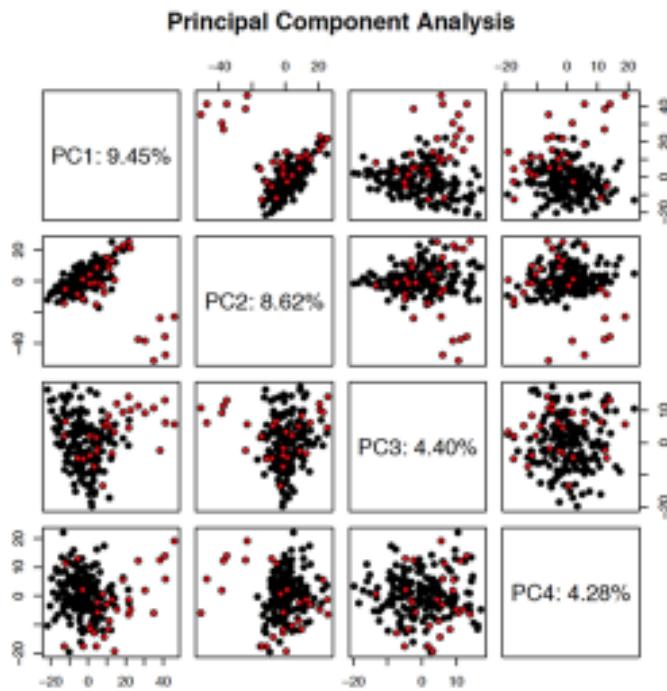
eFigure 3A shows violin plots describing sample Shannon diversity in each of the microbiome clusters. There is significantly less diversity within cluster1 (Group 1) compared to cluster2 (Group 2).

eFigure 3B. Microbiome diversity metrics by cluster class: Beta diversity



eFigure 3B shows violin plots describing the average Bray-Curtis distance (beta diversity) for each sample within by microbiome cluster. Cluster1 (Group 1) is a significantly more homogeneous (less diverse) than cluster2.

**eFigure 3C. Microbiome diversity metrics by cluster class:  
Principal Components Analysis**



eFigure 3C is a pairwise scatterplot of the first through fourth principal components. Each point represents an individual patient sample, black= cluster1 (Group 1) and red= cluster2 (Group 2); proportion of variance explained by each principal component (PC) shown (%).