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Predation by Bdellovibrio bacteriovorus significantly reduces viability and alters the microbial community composition of activated sludge flocs and granules

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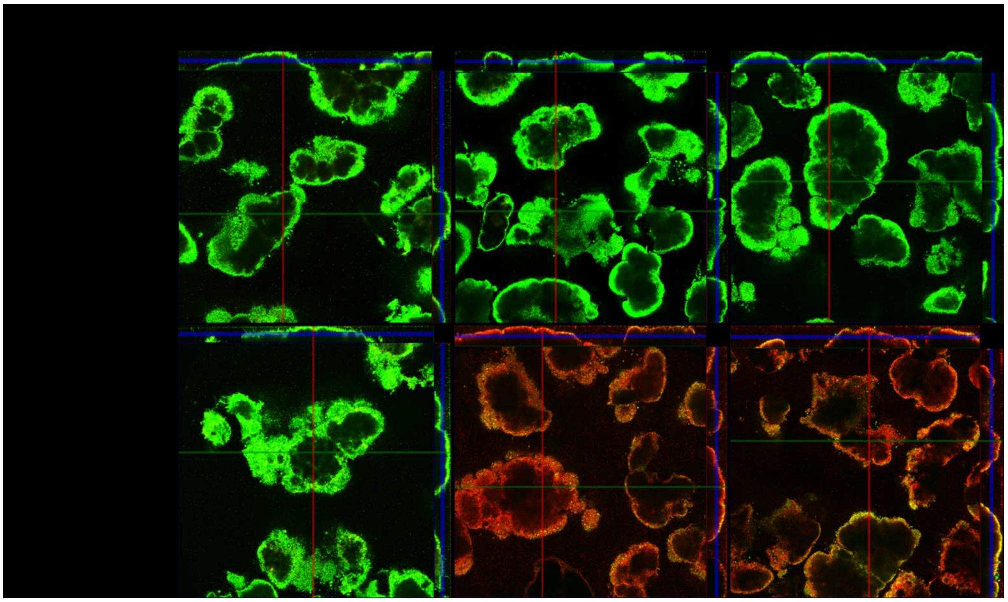
Keywords:	Bdellovibrio bacteriovorus, predation, microbial community, activated sludge, granules, floccular sludge



232x138mm (150 x 150 DPI)

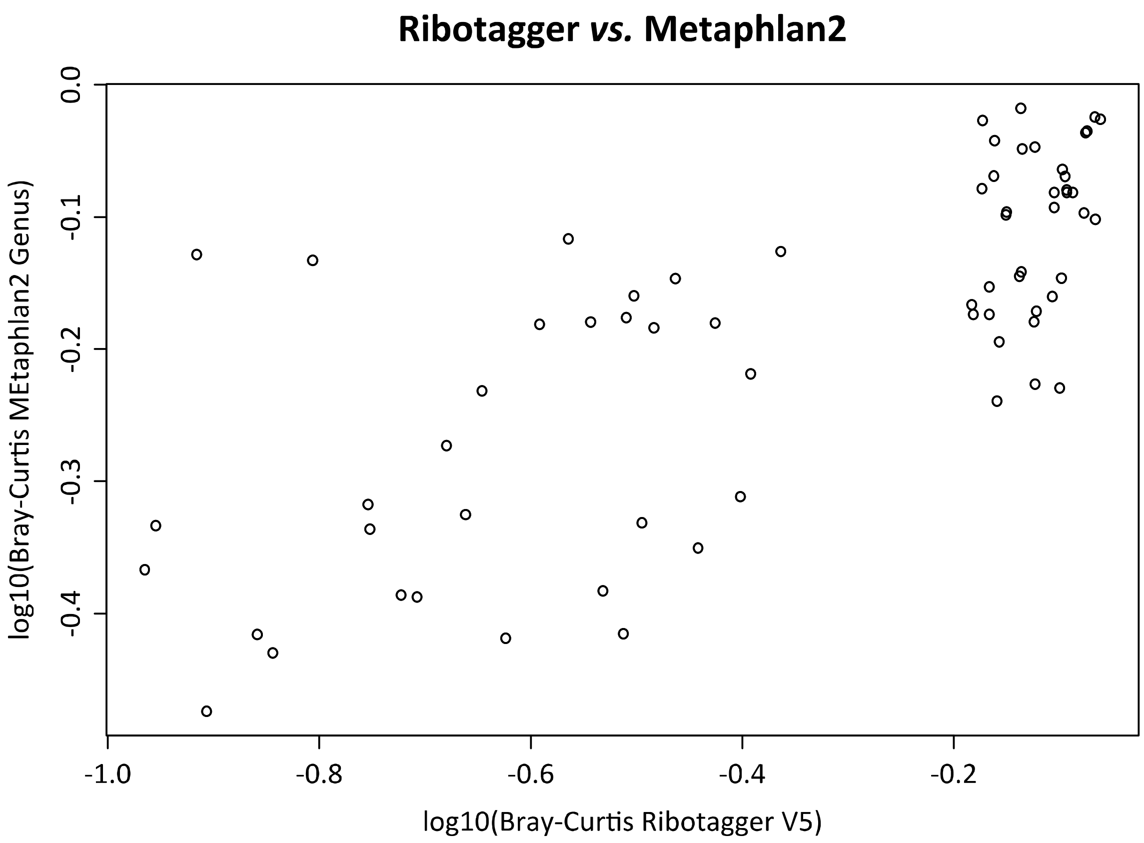
Reviewer: 1

Comments to the Author
The revised manuscript by Feng et al. has many improvements, but I still have concerns mainly about the RNA sequence data analysis.
The Ribotagger method used has not been published, so it is impossible to say how well it performs. The 33 nt used for taxonomic classification is very short and probably not very reliable. There are several other methods published, that use either a set of genes or different parts of the 16S rRNA gene for taxonomic classification, for example metaxa2 or metaphlan2.

The Ribotagger method has now been accepted and published in BMC Bioinformatics (**Xie *et al.*, 2016** – Attached for review purposes). The paper describes how to identify and extract taxonomically informative ribotags located in a specified variable region of the small subunit ribosomal RNA (SSU) gene in a high-throughput fashion. The Ribotagger method exhibits high sensitivity and specificity and is substantially faster than comparable programs. However, this method may exhibit limited taxonomic resolution for some reads, i.e., it may not be able to resolve some taxa at the genus or species level due to the use of the short 33 nt and stringent criteria applied. In such circumstances, we did additional BLAST searches against the NCBI-nr database to confirm the unresolved taxa and these have been highlighted in Fig. 5 (Lines 798-800).

Xie C, Goi CLW, Huson DH, Little PFR & Williams RBH (2016) RiboTagger: fast and unbiased 16S/18S profiling using whole community shotgun metagenomic or metatranscriptome surveys. *BMC Bioinformatics* **17**: 277-282. DOI 10.1186/s12859-016-1378-x.

As suggested by the reviewer, we have re-analysed our RNA sequencing data using Metaphlan2 and compared the results to those using Ribotagger. We found that Metaphlan2 may not be suitable for our RNA sequencing study. This is because Metaphlan2 uses marker genes (i.e., taxa specific sequences other than rRNA) for taxonomic classification with high resolution, making it particularly useful for metagenomic based analyses. However, in our current study, we did not deplete rRNA experimentally and hence >95% of total sequences are rRNA. Therefore, our dataset has a low amount of mRNA sequences (<5% of the total RNA reads). Consequently, Metaphlan2 was able to resolve only two taxa at the species level in our study (**Table_Metaphlan2** – Attached). Furthermore, no Bdellovibrio taxa were detected using Metaphlan2, even for samples spiked with the *Bdellovibrio* cultures. Hence Metaphlan2 does not appear to be suitable for the determination of community composition for our data. Nevertheless, our analysis showed that there is a strong correlation between community dissimilarities (Bray-Curtis) generated using Ribotagger (OTU level) and Methaphlan2 (genus level) (Mantel test; $r=0.75$, $p < 0.001$), suggesting that both methods demonstrated similar trends in terms of the overall community changes (**Figure_Ribotagger vs. Metaphlan2** – see below). Therefore, we consider that our analysis using the Ribotagger method is rather comprehensive and reflective of the community members present based on the available short sequences. We have now included comments regarding the use of the Ribotagger vs. Metaphlan2 in the discussion (Lines 462-472).



```
Mantel statistic based on Pearson's product-moment correlation

Call:
mantel(xdis = Bray-Curtis Ribotagger V5, ydis = Bray-Curtis MEtaphlan2 Genus)

Mantel statistic r: 0.7529
Significance: 0.001

Upper quantiles of permutations (null model):
  90%   95% 97.5%   99%
0.153 0.218 0.288 0.387
Permutation: free
Number of permutations: 999
```

Also all the sequence data should be made public, that is also the journal policy.

We have now submitted the sequence data to SRA, with the accession number SRP094935 and this is now included in the materials and methods section (Lines 205-207).

The authors find big differences in the microbial community profiles, but not in the functional profiles. As noted, this might be due to the functional redundancy, but if there is a strong functional redundancy, why the performance of the community would be then reduced? The short time can't be the explanation, since the expression of the 16S rRNA has changed during this period. I think that these contradictory results have more to do with the possible biases from the 16S data analysis.

We agree with the reviewer that the discrepancy between community and functional profiles is more likely due to functional redundancy and is less likely due to the short exposure times. We have modified the text to indicate that this is likely to be due to the functional redundancy in the community, where the predation resistant taxa may subsequently contribute to the maintenance of reactor performance. As highlighted above, we are confident of the taxonomic analysis and assignment based on the Ribotagger methodology. While the amount of mRNA was not sufficient for taxonomic assignment using Metaphlan2, the amount of mRNA was nonetheless sufficient for quantification of community changes in functional genes. We have now included the changes in the discussion (Lines 506-515) as well as in the conclusions (Lines 538-544).

Minor comments:

1. Change also the graphical abstract, it still has the duplicated 0h image.

We again apologise for this oversight and have corrected the graphical abstract.

2. use Bray-Curtis dissimilarity instead of distance.

We thank the reviewer for this suggestion and have made the appropriate changes at lines 248, 789, and 820.

Reviewer: 2

Comments to the Author

line 462, poor sentence '...that the most TAGs...'

The sentence has now been changed to ' … that most TAGs …' (now line 473).

line 501, reactors 'that' were.....

Changed (now line 518).

It is not clear in the methods that both the floc and granule reactors were performing SNDPR. Were there differences in the performance? That could relate to differences detected in the mRNA analysis that indicated significant expression differences between the floc and granule sludges. Some comment in the discussion could be made on this.

We thank the reviewer for highlighting this question. In fact, both the flocular and granular reactors were operated for SNDPR and showed comparable nutrient removal efficiency (i.e., >80% of phosphorus and nitrogen removal and ~100% carbon removal). When we specifically compared the mRNA profiles of genes associated with SNDPR between the two reactors, no significant differences were observed, suggesting that the communities of both reactors were expressing similar functional genes associated with SNDPR (i.e., Fig S3. carbon metabolism and nitrogen metabolism). Thus, the differentiation of flocs and granules at the mRNA level was unlikely to be a consequence of differences in SNDPR performance and were more likely due to other processes, such as genes associated with floccular vs granular biofilm formation. We have now included such comment in the discussion (Line 506-515).

RiboTagger: fast and unbiased 16S/18S profiling using whole community shotgun metagenomic or metatranscriptome surveys

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Abstract

Taxonomic profiling of microbial communities is often performed using small subunit ribosomal RNA (SSU) amplicon sequencing (16S or 18S), while environmental shotgun sequencing is often focused on functional analysis. Large shotgun datasets contain a significant number of SSU sequences and these can be exploited to perform an unbiased SSU–based taxonomic analysis. Here we present a new program called RiboTagger that identifies and extracts taxonomically informative ribotags located in a specified variable region of the SSU gene in a high-throughput fashion. RiboTagger permits fast recovery of SSU-RNA sequences from shotgun nucleic acid surveys of complex microbial communities. The program targets all three domains of life, exhibits high sensitivity and specificity and is substantially faster than comparable programs.

Background

Studying the composition and dynamics of microbial communities is a key problem in microbiome research and microbial ecology [1]. Traditionally, these studies have been based on isolating and sequencing short subunits of the 16S and 18S genes, present in bacteria or archea, and eukaryotes, respectively. Typically most studies now make use of amplicon sequencing to obtain such data from complex microbial communities [2, 3]. The PCR amplicon technique was very useful when sequencing power was limited, however, with the increasing power and complexity of the new generation of sequencing technologies, the broad advantages of amplicon sequencing are starting to be balanced by major limitations, which include PCR primer selection and amplification bias [4, 5]. In particular, no PCR primers are able to amplify all known bacterial taxonomic groups efficiently and uniformly [5], which leads to biased rRNA profiling analysis, and the use of short read technologies, notably Illumina, results in a complex, interdependent chain of technical decisions, that can heavily influence the subsequent community profiling results [6].

Within microbiome research, there is increasing use of whole community gDNA surveys (*i.e.* shotgun metagenomics), which offer, at theoretically, a less biased view of community composition than using from amplicon based methods, by eliminating dependency on 16S primers [7]. In practice however, the interpretation of shotgun metagenome data is heavily dependent on having access to reference genomes of community members, without which substantial limitations of interpretation may arise [8]. While the intended use of these shotgun data is typically to capture functional capacity of a community [9], or to permit member genome recovery [8], it has been recognized that whole commnuity shotgun surveys will of course contain a substantial number of reads derived from SSU-rRNA genes, and these can be exploited for the purposes of community profiling [10, 11, 12, 13, 14, 15, 16, 17]. Similarly, when using total RNA metatranscriptome sequencing, rRNA often account for 95% of reads sequenced, and thus provides coverage of SSU diversity to great depth. Within this general area, a number of examples of this approach have been undertaken and several software implementations of this approach are now available [13, 16, 17], mostly based on the use of Hidden Markov Models to capture reads of SSU-origin from the total read population [10, 11, 12, 13, 14, 16, 17]

Here we present a new open source software package, RiboTagger[1] to analyze rRNA data from shotgun sequencing reads. The software takes raw metagenome or metatranscriptome sequencing reads in FASTQ or FASTA files as input, and is able to process billions of Illumina HiSeq reads under an hour. RiboTagger produces a BIOM formatted files for downstream analysis in standard packages

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[1] https://github.com/xiechaos/ribotagger

like QIIME [18] or MEGAN [19]. It is equally sensitive over all known bacterial and archaeal phyla and classes, and highly specific in not classifying non-rRNA sequences as rRNA.

Implementation

We start with genomic DNA or total RNA from a microbial community that has been sequenced, then attempt to recover sequencing reads covering a particular region on 16S rRNA gene using a short conserved *recognition sequence* (RS). A short sequence adjacent to the RS is used as the *tag sequence* (TS) to represent the origin of the 16S gene. For this strategy to be feasible with short-read sequencing technologies, by nature both RS and TS have to be short but informative and in particularly the RS must be conserved across all taxonomic branches, while the TS must be diverse with high taxonomic resolution. The boundaries of each hypervariable region are logical candidates for being RS, which we call ribotags from here on. After examining all bacterial and archaeal 16S sequences in the RDP database [20] we designed a combination of probe patterns and Position Specific Scoring Matrices (PSSM) to recognize the conserved site immediately outside a hypervariable region as RS, which we describe as a *universal recognition profile* (**Fig. 1**). The short region in the hypervariable region adjacent to the RS is then considered as a candidate tag sequence for the hypervariable region (**Fig. 1**). In this PSSM-based detection, the RS sequences are 23 n.t. in length and the TS are typically 33 n.t. in length. The lengths of both RS and TS were empirically determined so as to achieve a good trade-off between sensitivity and specificity, while maintaining a total length that is smaller than a typical sequencing read. For each of the three domains of life and each of the most commonly used variable regions, namely V4, V5, V6 and V7, we computed a universal recognition profile by analyzing the Greengenes database [21] (**Fig. 2**). To improve sensitivity, our implementation provides and can utilize a set of 17–30 supplementary taxon-specific recognition profiles for each of the variable regions.

Results

Validation analyses

Application of our universal profiles to the Greengenes database gave rise to a set of 90,061 ribotags. Each ribotag was assigned a taxon based on the set of SSU sequences that contain it, using the majority taxon in the case of discordance. The sensitivity of each of the profiles is over 95% percent (**Fig. 2**), as established by applying the profiles to all SSU sequences in the SILVA database [22]. To test the false positive rate, we ran the profiles on 5.6 billion faux reads, obtained by sampling all 80nt non–overlapping fragments in the RefSeq database (release 66), calculating the false positive rate to be at most 2×10^{-6} in all cases (**Fig. 2**). To address the problem of the extent to which sequencing–error can generate false ribotags, RiboTagger estimates the expected frequency of each ribotag due to sequencing error, based on the observed frequencies of ribotags that differ by one letter and a simple probabilistic model.

To determine how well ribotags can differentiate between organisms at a given taxonomic rank, we computed the *concordance* of all ribotags obtained from an analysis of the Greengenes database. We consider a ribotag as fully concordant (or to have concordance 1) at a given taxonomic rank, if all database sequences that contain that ribotag have the same taxonomic assignment at the given rank. For example, the concordance is between 0.95 and 1.00 if between 95% and 100% of the database sequences that contain the ribotag all have the same taxon assignment. The percentages of V4 ribotags with a given range of concordance (*i.e.* 1, [0.95,1), [0.95,0.90), etc) for different taxonomic ranks as annotated in the Greengenes database are shown in **Figure 3A**. Approximately 80% of all ribotags are fully concordant on the species level, while practically all reads are concordant at the phylum level. Results are similar for V6 ribotags, while the number of fully concordant ribotags is about 5% lower for V5 and V7 (data not shown). We also examined the degree of concordance against de novo OTU clusters defined by Greengenes over a range of percent identity thresholds, showing that for ribotags in clusters defined at 99% similarity, over 80% show no sequence differences (**Fig. 3B**).

Due to the short length of the 16S tags, we need to consider the possible influence of sequencing errors explicitly. PCR artifacts during library generation would lead to abnormally high numbers of reads with identical starting position and sequence content. Therefore, simply counting sequencing reads with different starting position can detect possible PCR artifacts. Using stringent quality value filtering for each nucleotide that covers 16S tags can also the impact of limit potential sequencing errors, which results extremely low error probability for each sequencing read considered. For example, with quality value threshold 30, the probability of sequencing error is only 0.1%. In addition, we also calculate the number of expected number of occurrence of any 16S tag, assuming the tag is not present at all. Assuming the tag of interest is not present, given the observed average sequencing error probability at each nucleotide position along the tag and the abundance of all other tag sequences with one nucleotide difference in the data, we can calculate the expected abundance of the tag of interest by sequencing error. Firstly, for the tag under study, all tag sequences with one nucleotide difference from the tag of interest are collected. Each of the 1nt neighbors will contribute

$E = n \times e/3$ false positive counts to the tag of interest, where n is the number of reads covering the 1nt neighbour and e is the observed error probability for the difference position on the tag of interest. The sum of E for all 1nt neighbours gives the expected false positive tag of interest due to one sequencing error. Multiple sequencing errors can be also considered in a similar fashion but due to the quality–value filtering step, we can consider the probability of observing multiple sequencing errors in ribotag sequences as negligible.

Example

To illustrate the results obtained from RiboTagger, we ran RiboTagger against a coupled DNA–Seq and RNA–Seq datasets generated from an activated sludge community of an operational wastewater treatment (Ulu Pandan Water Reclamation Plant, Northworks, Tank 3C operated by the Public Utilities Board, Republic of Singapore; samples obtained between 10/08/2012 and 17/08/2012). Genomic DNA and total RNA sequencing were each performed on a HiSeq2500 Rapid run using 250bp paired end sequencing for DNA samples, and 150 bp paired end read sequencing for RNA samples. From the DNA dataset, we observed a total of 4686 V4–region ribotags in the entire dataset. We can estimate whether the number of observed 16S tags is as expected using the following rough approximation: if we assume there are up to 5000 genes in a typical free–living bacteria [23], and if we neglect the likely variation in 16S copy number across the member species in the community, and assume that one of those is a 16S gene with roughly 9 equally sized V–regions and 10 equally sized conserved regions, then we would expect approximately 308,505,950/(195000)=3247 reads to originate from a single V–region in our analysis, which is a conservative underestimate to our observed number. For the RNA data, we report only results for one sample to for purposes of illustration, specifically with a total of 41,523,808 RNA reads available after QC filtering, we obtained a total of 4867 tags, of which the top 11 accounted for 20%, 80% and 95% of community membership (as described by total number of reads). Collectively there are 327 unique genera detected, 203 families, 128 orders and 51 phyla, The majority of annotated tags at kingdom level (1450) were attributable to bacteria, as expected in this community, with 34 and 40 tags being assigned to archaea and eukaryota, respectively. Approximately 3343 tags could not be assigned any annotation using SILVA v119 [22], including 1 and 41 in the top 20% and 50% of the community, respectively. These latter results highlight the substantial numbers of unknown taxa residing in complex microbial communities.

Comparison to related programs

Using the RNA dataset described above, we compared the computational time of RiboTagger against two other existing search tools, RiboFrame [16] and SSUSearch [17], which are designed for retrieval of 16S sequences from whole metagenomic sequencing datasets. The comparison was carried out on a standalone server with the following specifications – 2 Intel Xeon X7542 (18M Cache, 2.66 GHz) CPUs, 128 GB memory, internal 146 GB HDD and external 8 TB RAID HDD. RiboTagger took approximately 90 minutes to complete, and we observed RiboTagger to be approximately 6 times faster than RiboFrame ($\sim$9 hr) and 6.6 times faster than SSUSearch ($\sim$10 hr). As RiboTagger and SSUsearch both used SILVA annotations, we compared the identity and relative abundance of detected phyla between both programs. In total 112 phyla were detected (51 with Ribotagger and 86 with SSUsearch) of which 25 were common between the two methods. The number of unclassifiable sequences differed, with 21.6% being called in SSUsearch and 47.5% in RiboTagger, however, of the 25 common phyla, 7 accounted for 95% of community composition in each set of results. The overall correlation between relative abundance was 0.99 (with 25 common phyla) and 0.88 (using all 112 phyla with non–detects set as zero). We note that while some of these differences may be accounted for by different database versions (SILVA v115 and SILVA v119 for SSUearch and Ribotagger, respectively) and/or handling of unclassifiable sequences, these results suggest that further investigation of the differences between detection methodologies are warranted.

Practical aspects

RiboTagger is a implemented as a platform independent Perl program. It can be executed in a single command in several modes with are briefly described here, along with their respective outputs. Full details can be found on the RiboTagger project page on Github (see **Availability and Requirements**)

Single input file mode

The most basic way to run RiboTagger is using a single FASTQ file (including with either gzip and bzip2 compression), which will generate an output file formatted as a table with the following fields:

- `tag`: the tag sequence for the variable region
- `n`: the number of reads that contains this tag

- `npos`: the number of different locations of the tag on their source reads (big value of `n` with small value of `npos` indicates the presence of duplicated reads or would be observed in the case of analysing amplicon sequencing reads).
- `fp`: the number of reads you would expect to see this tag due to sequencing errors alone
- `long.total.count`: the number of reads containing a longer sequence of this tag (see the `--long` option)
- `long1.count, long2.count, long3.count`: number of reads containing the most abundant variants of this tag's long sequences (a low value of `long1.count` to `long.total.count` ratio indicates that this tag is very likely representing a mixture of "species")
- `long1, long2`: the most abundant long representive sequences of this tag

Multiple input file mode

For multiple input files, RiboTagger can return a series of files. Data from paired end read data can also be combined into a single output. The `.tab` file returns a table of unnormalized read counts, with ribotags indexed in rows and samples indexed in columns. The `.anno` files contains QC, metadata and annotations, if available, for the same set of ribotags with the following columns fields:

- `tag`: the ribotag sequence
- `use`: "tag" or "long", whether the annotation was based on the short tag or long representative sequence
- `taxon_level`: taxa rank of this annotation of this tag
- `taxon_data`: taxa rank of the most specific annotation appeared in the database (SILVA or Greengenes) for this tag
- `long`: the long representative sequence of this tag
- `long_total`: the number of samples having any long representative sequence
- `long_this`: the number of samples having this long sequence as its major representative of this tag
- `support`: the number of database sequences having this this tag or long sequence

- `confidence`: the proportion of the database sequences agreed on this annotation
- `k, p, c, o, f, g, s`: annotation for each of the taxa ranks, namely kingdom/domain, phylum, class, order, family, genus, and species

The `.xls` file is an Excel file combining data from the `.tab` and `.anno` files. Using `biom.pl`, a `.biom` file can be subsequently used by QIIME [19]. We have implemented options for generating annotations to either SILVA [21] or Greengenes [22]. All 4 files types can automatically be generated if RiboTagger is run in batch mode.

Conclusions

Here, we have developed software for the fast recovery of SSU–RNA sequences from shotgun nucleic acid surveys of complex microbial communities. Our code is fast, completing an analysis of about 40M reads within 1.5 hrs, and with output an annotated matrix of read counts that can be used for downstream community profiling analysis with minimal further processing. Our implementation executes in a single line, avoiding the complications and the lack of robustness inherent in combination–type pipelines and is at least 6 times faster than SSUsearch [17] and RiboFrame [16]. Additional, we also note that our approach avoids the use of OTU generation, which recent analyses suggest may carry significant advantages in resolving intra–community dynamics when using some classes of experimental designs [24].

Availability and Requirements

Project name: RiboTagger
Project home page: `https://github.com/xiechaos/ribotagger`
Operating system(s): Platform independent
Programming language: Perl
Other requirements: None
Any restrictions to use by non-academics: currently free–for–use. RiboTagger will be released under an open source license after it is published.

List of abbreviations

OTU, operational taxonomic unit; *PSSM*, Position specific scoring matrix; *RS*, recognition sequence; *TS*, tag sequence

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable

Availability of data and material

The sequencing datasets analyzed during the current study are not yet publicly available due to their forming part of a large set of data being released as part of a primary manuscript. They are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

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Author contribution statement

C.X. conceived and designed the approach and implemented methods. C.X., W.G, R.B.H.W analyzed example data, and all authors interpreted the results. The paper was mainly written by X.C, D.H.H and R.B.H.W.

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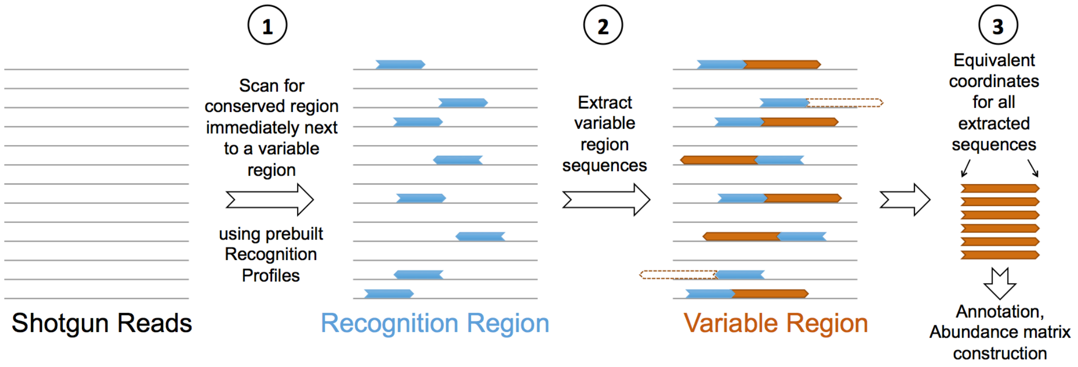

Figure 1: Schematic representation of RiboTagger detection scheme. Starting with shotgun sequencing reads from (either gDNA or cDNA) RiboTagger procedes as follows; *(1)* all reads are screened using PSSMs for the presence of a conserved recognition sequence (blue arrowed rectangles) adjacent to V-regions using a cohort of pre-defined recognition profiles; *(2)* for reads that are positive for recognition sequences, the adjacent V–region tag sequence is extracted, assuming if sufficient length is available (dashed blue rectangles denote in sufficient length in the tag sequence); and *(3)* for related tag sequences, equivalent coordinates are defined, prior to counting and annotation.

		Universal Recognition Profile	Sensitivity	False Positive Rate
V4	B		96.9%	3.4E-07
	A		96.2%	1.7E-10
	E		96.9%	9.6E-07
V5	B		96.6%	1.2E-06
	A		95.6%	3.3E-08
	E		96.5%	5.1E-07
V6	B		98.3%	1.9E-07
	A		95.6%	3.1E-08
	E		97.7%	6.0E-07
V7	B		98.4%	2.0E-06
	A		95.3%	1.6E-08
	E		97.2%	4.1E-07

Figure 2: Universal recognition profiles for each of the variable regions V4–V7 used to target bacteria (B), archaea (A) and eukaryotes (E), respectively, with corresponding observed sensitivities and false positive rates.

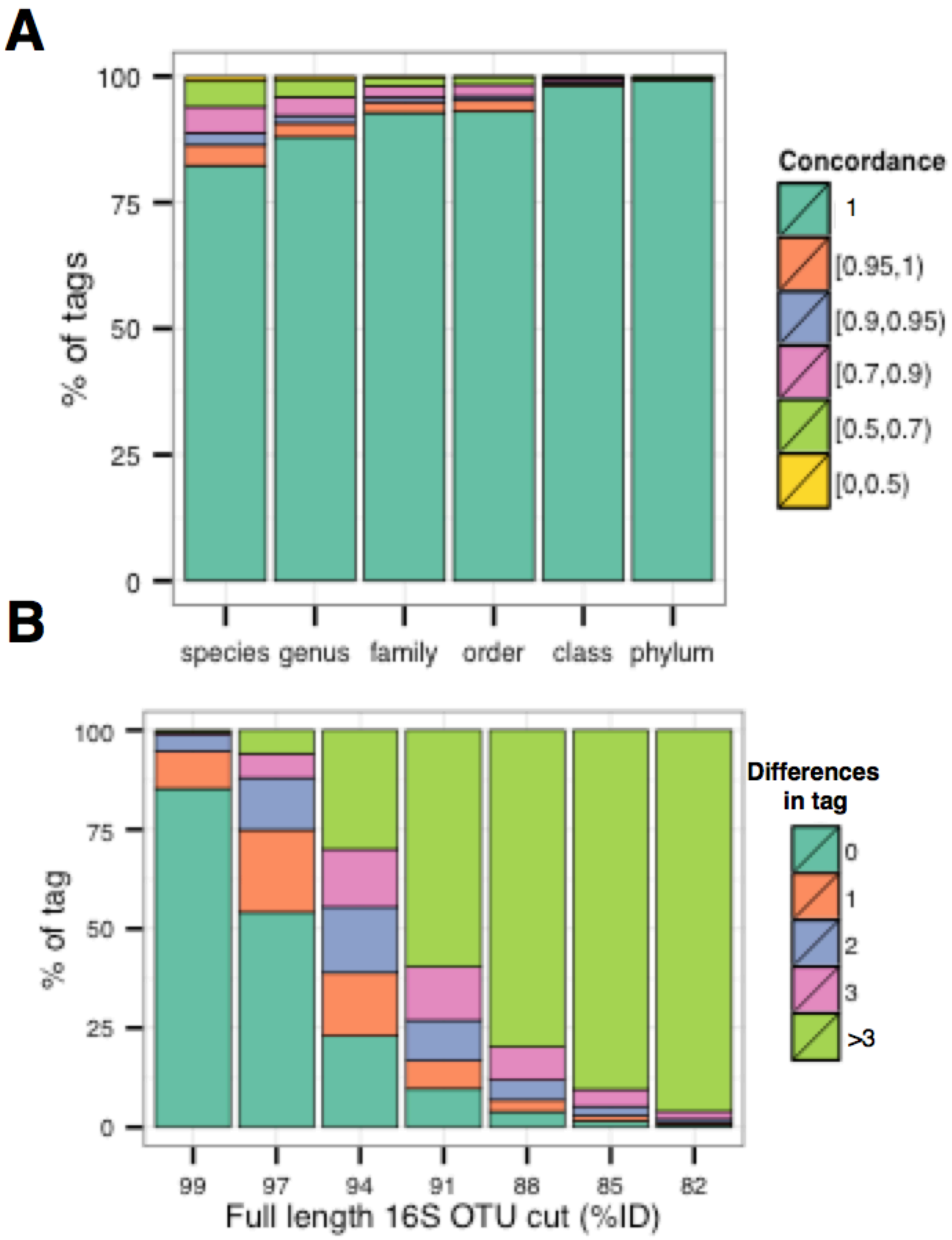

Figure 3: Percentage of V4 ribotags with a given range of concordance for different taxonomic ranks as *(A)* annotated in the Greengenes database and *(B)* as measured against Greengenes de novo OTU clusters as a function of cluster formation threshold.

Predation by *Bdellovibrio bacteriovorus* significantly reduces viability and alters the microbial community composition of activated sludge flocs and granules

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Abstract

We recently isolated and characterized a predatory *Bdellovibrio bacteriovorus* strain from activated sludge (Ulu Pandan Water Reclamation Plant, Singapore), and this strain, *B. bacteriovorus* UP was able to prey upon a broad spectrum of bacterial isolates from the activated sludge when grown as planktonic cells or as biofilms. Here, we have tested the effect of *Bdellovibrio* predation on floccular and granular sludge to determine if the spatial organization, loosely or tightly aggregated communities, was protective from predation. The effect of predation was assessed using a combination of biomass quantification, cellular activity measurement and microscopic image analysis to determine community viability. Additionally, changes in the microbial communities due to predation by *B. bacteriovorus* UP were analyzed through total RNA sequencing. Predation led to a significant reduction in microbial activity and total biomass for both floccular and granular sludge communities. Predation was also associated with significant changes in the microbial community composition in both communities, with >90% of the community members reduced in relative abundance after 24 h. Of those community members, the dominant organisms, such as *Proteobacteria* and *Bacteroidetes*, were the most affected phylotypes. This suggests that predatory bacteria, which display indiscriminant feeding, could significantly shift the species composition and thus, may disturb the operational performance of wastewater treatment systems.

Introduction

Predation plays a significant ecological role within ecosystems, which has been well documented for higher organisms (Berryman, 1992, Godfray & Pacala, 1992, Fedriani *et al.*, 2000, Ripple & Beschta, 2004), and has also been well described with respect to the predation of microorganisms by viruses (bacteriophages) and protists in natural and engineered ecosystems (Curds, 1982, Bergh *et al.*, 1989, Gonzalez *et al.*, 1990, Suttle & Chan, 1994, Ronn *et al.*, 2002, Parry, 2004, Sutherland *et al.*, 2004). Wastewater treatment plants (WWTPs) are engineered systems designed to remediate wastewater, which contain various organic materials as well as high concentrations of nutrients such as nitrogen and phosphorus (Bolong *et al.*, 2009, Wells *et al.*, 2009). The WWTP is dependent upon a highly diverse microbial community that collectively functions to remove carbon and nutrients from used water (Bitton, 2005, Ahmed *et al.*, 2008, Yilmaz *et al.*, 2008). The community is typically present as a floccular biomass (known as activated sludge), where the community members are loosely held together by self-produced extracellular polymers as suspended biofilms. A relatively recent advance in wastewater treatment technology has been the conversion of floccular biomass into granules (Morgenroth *et al.*, 1997, Beun *et al.*, 1999, Wilen *et al.*, 2004, Tan *et al.*, 2014). Granules are more compact with increased biomass density and granules have distinct advantages over floccular sludge that make them attractive for application for wastewater remediation. For example, the highly dense granules settle faster than floccular biomass, which can reduce settling time and requires small settling tanks (Lin *et al.*, 2003, Yang *et al.*, 2003, Adav *et al.*, 2007). Granular biomass also is more tolerant to high strength and industrial waste (Gonzalez-Gil & Holliger, 2014).

The function of both floccular and granular activated sludge, e.g., degradation of organic matter as well as nitrogen and phosphorus removal (Lin *et al.*, 2003, Schwarzenbeck *et al.*, 2004), is highly dependent on the collective metabolic activities of the constituent microbial community members (Ghigliazza *et al.*, 1998, Wagner *et al.*, 2002, Ahmed *et al.*, 2008). Therefore, any environmental disturbance of the key functional microorganisms may significantly affect the performance of WWTPs. Whilst WWTPs can be impacted by chemical stresses, such as organic compounds and toxicants (Shchegolkova *et al.*, 2016), they are also subjected to biological stressors in the form of microbial predators. Indeed, the impact of predators, such as bacteriophages and protozoa, has been extensively studied, particularly for their impact on the performance of wastewater treatment systems (Ewert & Paynter, 1980, Jurgens *et al.*, 1994, Jurgens & Gude, 1994, Wanner *et al.*, 2000, Shapiro *et al.*, 2010). However, few studies have focused on the role of *Bdellovibrio*-and-like organisms (BALOs) and their potential influence on the structure and function of microbial communities in wastewater treatment systems.

Bdellovibrio species are a group of predatory organisms that are commonly found in natural and man-made ecosystems, which prey upon a broad range of Gram-negative bacteria (Jurkevitch *et al.*, 2000, Sockett, 2009). In a previous study, a *Bdellovibrio* species, *Bdellovibrio bacteriovorus* UP, was isolated and characterized from activated sludge (Ulu Pandan Water Reclamation Plant, Singapore) (Feng *et al.*, 2016). This isolate was shown to prey on all but one of the Gram-negative isolates, irrespective of whether they were grown as biofilms or as planktonic cultures as populations or dual-species communities. As expected, none of the Gram-positive bacteria or fungi was sensitive to predation. Those experiments focused on simple pair-wise assembled communities, in contrast to the floccular and granular communities that contain high densities of much more complex communities. This exceptionally high species diversity may protect the otherwise sensitive Gram-negative bacteria in that the predation-resistant bacteria can serve as barriers protecting the sensitive bacteria. Further, it is possible that the higher density and increased structural integrity of the granules may afford the communities increased protection from predation compared to the loosely organized floccular biomass.

In this study, the effects of *B. bacteriovorus* UP upon both floccular and granular communities were investigated. The impact of predation on the overall microbial community composition and function was determined through total RNA sequencing analysis as well as alterations of biomass and viability of the communities. The results showed that the viability and total microbial biomass of both sludge communities were significantly reduced due to the presence of *B. bacteriovorus* UP. Additionally, while there were significant alterations in the microbial community composition, changes in functional gene expression were limited for either sludge type due to the predation by *B. bacteriovorus* UP.

Materials and Methods

Preparation of *Bdellovibrio bacteriovorus* UP

Frozen *B. bacteriovorus* UP stocks were thawed on ice and mixed (1:24 v/v) with *Pseudomonas protegens* suspensions in liquid DNB ('Lab-Lemco' power 0.1 g/L, yeast extract 0.2 g/L, peptone 0.5 g/L and NaCl 0.5 g/L, amended by 3 mM $MgCl_2$ and 2 mM $CaCl_2$) medium and incubated for 24 h. The co-cultures of *B. bacteriovorus* UP incubated with *P. protegens* were centrifuged at 2,000 *g* for 10 min, and the supernatant containing *B. bacteriovorus* UP cells was inoculated (1:9 v/v) with fresh *P. protegens* suspensions. *B. bacteriovorus* UP cells were collected after 48 h cultivation with *P. protegens* by centrifugation (2,000 *g* for 10 min). The supernatant was passed through 0.45 μm membrane filters twice to remove the prey bacteria. Part of the 0.45 μm filtrate was further passed through 0.2 μm membrane filters three times to remove the predator for use as a negative control. The *Bdellovibrio* cell numbers were presented here as plaque forming units (PFU's). PFU's was determined through counting plaques formed on a given prey species lawn. In brief, the *Bdellovibrio* cell suspension was serially diluted and the dilutions were incubated on the lawns of *P. protegens*. After 3-5 d incubation, the plaques were counted to determine the PFU.

Maintenance of floccular and granular sludge

Activated sludge collected from the Ulu Pandan Water Reclamation Plant was used to seed laboratory reactors in which the microbial community was maintained as floccular biomass or was converted into granular biomass. The floccular sludge (Fig. S1A) was collected from the sequencing batch reactor (SBR) undergoing stable simultaneous nitrification, denitrification and phosphorus removal (SNDPR) performance, which was fed with synthetic wastewater with organic matter, ammonia and phosphate. The organic source was a mixture of acetate and propionate of 200 mg COD/L ($COD_{Acetate}$: $COD_{Propionate}$, 3:1) and the ammonia and phosphate concentrations were 20 mg $N\text{-}NH_4^+$/L and 10 mg $P\text{-}PO_4^{3-}$/L, respectively. This reactor was operated with a working volume of 4 L and a cycle time of 5 h. Each cycle included stages of: 58 min anaerobic, 105 min aerobic and 25 min anoxic periods in the first phase, and 38 min anaerobic, 40 min aerobic and 20 min anoxic periods in the second phase (Zhou *et al.*, 2010).

The granular SBR reactor (Fig. S1B) had a volume of 4 L and used the same feed synthetic wastewater as above. The operation of the bioreactor involved a 6 h cycle comprised of two different phases: Phase I - feeding (8 min), anaerobic (60 min), aerobic (80 min at day 0 and gradually increased to 95 min by the end of week 5) and anoxic (40 min at day 0 and gradually increased to 50 min by the end of week 5); Phase II - feeding (2 min), anaerobic (30 min), aerobic (40 min at day 0 and gradually increased to 70 min by the end of week 5) and anoxic (30 min). Each cycle was completed with a settling stage (60 min at day 0 and gradually decreased to 5 min by the end of week 5) and a 10 min decanting stage. The settling time was 5 min per cycle from week 6 onwards (Tan *et al.*, 2015).

Predation of floccular and granular sludge

Floccular biomass of the floccular sludge and granules of the granular sludge were both collected during the anoxic stage. The microbial biomass in the floccular and granular sludge was collected by centrifugation (5,000 *g*, 8 min) and the pellet was re-suspended in DNB. Both the sludge samples were incubated with *B. bacteriovorus* UP cell suspensions (final concentration, 10^8 PFU/mL) as the 'Treated' group, whilst the negative control had no predators added. At 0, 24 and 48 h, the activated sludge was collected to determine the ATP content (microbial activity) and total protein (total biomass). The experiments were repeated independently three times.

Total biomass quantification of microbial community

The total biomass was quantified by determining the total amount of protein, where the floccular and granular sludge samples were lysed using a probe sonicator (SM Vibracell VCX750, Sonics & Materials, Inc.), and quantified using the Bradford assay according to the manufacture's guidelines (Bio-Rad™) at 595 nm (TECAN, INFINITE® 200, PRO). The protein concentrations were calculated by comparing the OD_{595} readings with a standard curve generated using bovine serum albumin. The total biomass was determined for each of the three independent experiments with three technical replicates for each sample.

Microbial activity measurement (ATP)

Total ATP was quantified as a proxy for microbial activity and viability to determine the predation impact on floccular and granular community. Briefly, 100 µL of the experimented floccular or granular sludge were mixed evenly with 100 µL of the ATP measurement reagent (BacTiter-Glo™, Promega). The luminescence response was quantified as relative luminescence unit (RLU) using a micro-plate reader (TECAN, INFINITE® 200, PRO). The ATP measured from three samples for each time point and for each treatment condition.

Viability of microbial community in floccular and granular sludge

The viability of the microbial community in sludge was additionally assessed by the Live/Dead staining assay according to the manufacture's guidelines (*Bac*Light^{TM} Cell Viability Assays, Thermo Fisher Scientific Inc.). Stained samples were observed and image acquisition of sludge community was conducted by using a ZEISS LSM780 confocal microscope (Carl Zeiss Optical Co., Ltd., Germany) equipped with an argon ion laser at 488 nm (for SYTO9) and a diode laser at 561 nm (for propidium iodide) for excitation. Images were captured with the ZEISS LSM780 confocal microscopy bundled program ZEN 2010. Multiple images (two-dimensional images for floccular sludge and three-dimensional images for granular sludge) were captured randomly for quantitative image analysis using IMARIS (V7.6.4. Bitplane, Oxford Instruments).

RNA extraction, library preparation and sequencing

Total RNA was extracted from floccular and granular biomass using a RNA Clean and Concentrator^{TM}-5 kit (ZYMO Research Corporation, Singapore) according to the manufacturer's guidelines. DNA was removed using TURBO DNA-free kit (Applied Biosystems, Singapore). RNA quality was determined using Agilent 2100 Bioanalyser and reported as RNA integrity number. The quantity of total RNA and residual DNA was measured by Quant-iT RiboGreen RNA and PicoGreen DNA assays (Invitrogen, Singapore), respectively. Total RNA, 200 ng, was used for complimentary DNA (cDNA) library preparation according to the manufacturer's instructions (Illumina, Singapore). Each cDNA library was ligated with a unique adaptor sequence for sample multiplexing. A total of 12 different cDNA libraries were pooled and sequenced by Illumina Hiseq (Hiseq 2500, Illumina) and a total of 263 million raw sequencing reads with an average read length of 101 nucleotides were generated. The RNA sequencing dataset obtained in this study is now deposited in the Sequence Read Archive (SRA), NCBI with an accession number of SRP094935.

Sequencing analysis for community structure and functions

Illumina adaptors, shorter reads (-m 50) and low quality reads (-q 20) were removed using cutadapt (version 1.11)(Chen *et al.*, 2014). High quality reads (97±0.3% of the raw reads) were subjected to sortmeRNA analysis (version 2.0)(Kopylova *et al.*, 2015) to extract both rRNA (92±2%) and mRNA (8±2%). In order to characterize the taxonomic composition of the microbial communities, rRNA reads were analyzed using a fast tag-based approach, the RiboTagger (Xie *et al.*, 2016). The RiboTagger scripts used in this study can be found at the following link http://chaos.bic.nus.edu.sg/ribotagger/manual.html. Briefly, a universal primer for each of hyper-variable regions, i.e., V4, V5, V6 and V7 of the 16S rRNA was used to scan each sequencing read to obtain 33 nt downstream of the primer, and the 33 nt sequences were defined as the tag of the 16S rRNA gene. Those universal primer sequences are conserved among bacteria, *Achaea* and eukaryot*es* (Xie *et al.*, 2016). Short reads that did not cover the full 33 nt region were discarded. Each different tag (TAG) was used as a signature sequence to represent one operational taxonomic unit (OTU). TAGs assigned to the *Bdellovibrionaceae* family, as well as TAGs that only occurred once (i.e., singletons) were removed from the TAG table prior to random subsampling for normalization. For functional analysis, mRNA sequences were aligned against the NCBI non-redundant (NR) protein database (ftp.ncbi.nlm.nih.gov/blast/db/FASTA/nr.gz, March 2016) using DIAMOND (version 0.7.10.59, http://ab.inf.uni-tuebingen.de/software/diamond) (Buchfink *et al.*, 2015). Aligned reads were assigned to KO using GI to KEGG mapping file implemented in MEGAN (version CE_6_5_5). In order to remove mRNA expressed by *Bdellovibrio bacteriovorus* species, the lowest common ancestor approach was used to define the taxonomic origin of mRNA reads (LCA, default parameters, MEGAN). Only genes expressed by taxa other than *Bdellovibrionaceae* family were kept for further analysis.

Statistical analysis

All statistical analyses were conducted using Prism 6 Version 6.04 (GraphPad) or R (www.r-project.org). Statistical analyses for changes of ATP content, protein concentration, quantitative image data as well as alpha diversity indices were performed using two-way ANOVA, followed by Sidak post-tests to examine differences between the 'control' and 'treated' groups. Differences in relative abundance of taxa between 'treated' and 'control' groups were tested based on the null hypothesis that there is no difference between the two groups. Corrected *P*-values based on 1% false discovery rates (FDR) were reported in each case. Multivariate analysis was conducted to determine the overall changes of community composition and function between different treatments. Taxonomic and functional community data were clustered based on Bray-Curtis dissimilarity (at the OTU and pathway levels, respectively) using PCoA and dendrogram with complete linkage clustering method. Multivariate differences between groups were assessed using PREMANOVA. Multivariate analysis and plots were performed using *vegan* R package (Oksanen *et al.*, 2007). Differential gene expression was analyzed using DESeq2 R package (Love *et al.*, 2014), which includes standardization and normalization procedures as well as negative binomial model testing.

Results

The microbial activity and biomass of floccular and granular sludge communities were significantly affected by *B. bacteriovorus* UP predation

The viability of floccular and granular sludge communities was determined by quantifying microbial activity and total biomass, which were represented by ATP content and total protein concentration, respectively. The ATP content of the predator-free controls for both floccular and granular sludge communities increased gradually whilst the protein content remained similarly over 48 h, indicating that the control sludge biomass stayed viable during the period of the experiment (Fig. 1). In the presence of *B. bacteriovorus* UP, the ATP content of the floccular sludge decreased significantly in the first 24 h of predation compared to the controls without *B. bacteriovorus* UP (P<0.0001) (Fig. 1A). The ATP content of the granular sludge was also reduced significantly in the first 24 h of predation (P<0.0001) and was further reduced at 48 h (P<0.0001) (Fig. 1C). Similarly, the total biomass of both floccular and granular sludge communities was reduced significantly, ~50% reduction in protein concentration, when cultured in the presence of *B. bacteriovorus* UP at 24 h (P<0.0001) (Fig. 1B and D). The protein concentration of the floccular sludge was further reduced to approximately 30% of the predator-free controls at 48 h (Fig. 1B). In contrast, there was no further biomass reduction after the first 24 h for the granular sludge incubated with *B. bacteriovorus* UP (Fig. 1D).

B. bacteriovorus UP predation significantly reduced the viability of floccular and granular sludge communities

To better understand the impact of predators on the viability of the sludge communities and structural role of biofilms (i.e., loosely aggregated flocs vs. highly compact granules) against predation, the biomass was stained with the Live/Dead reagents and quantified by image analysis. As expected, in the absence of added predators (Fig. 2A '-*B. b* UP'), most cells in the floccular sludge community appeared to be viable (green color) for the 48 h duration of the experiment, with only a few dead cells visible (red color). The bio-volume of the viable cells gradually increased from $2.7 \pm 0.14 \times 10^5$ μm^3 to $3.2 \pm 0.12 \times 10^5$ μm^3, whilst the bio-volume of the non-viable cells, $<1.0 \times 10^5$ μm^3, did not change significantly over the 48 h ($P>0.05$) (Fig. 2B). The live/dead (L/D) ratios of the floccular sludge community in the predator-free controls fluctuated between 4-6, suggesting that most of the biomass in the predator-free controls was viable over the 48 h (Fig. 2C). In contrast, the viability of the floccular sludge community incubated with *B. bacteriovorus* UP decreased significantly from $2.54 \pm 0.17 \times 10^5$ μm^3 at 0 h to $0.28 \pm 0.03 \times 10^5$ μm^3 at 48 h ($P<0.0001$) (Fig. 2A and B, '+*B. b* UP'), whilst non-viable cells increased significantly from $1.07 \pm 0.11 \times 10^5$ μm^3 at 0 h to $3.21 \pm 0.22 \times 10^5$ μm^3 at 48 h ($P<0.0001$). Correspondingly, the Live/Dead ratios decreased from 2.71±0.88 at 0 h to 0.10±0.05 at 48 h (Fig. 2C). There was no distinct structural predation pattern observed where all cells in flocs were found evenly preyed upon by *B. bacteriovorus* UP (Fig. 2A).

Similar results were observed for the granular sludge community, where the predator-free control was composed predominantly of viable cells over the 48 h (Fig. 3A and B). The bio-volume of viable cells decreased by 34% at 48 h, whilst the bio-volume of the non-viable cells did not change significantly over the 48 h ($P>0.05$) (Fig. 3B). The Live/Dead ratios of the granular sludge community in the predator-free control decreased from 19.58±5.96 at 0 h to 12.64±2.37 at 24 h and eventually to 9.97±2.91 at 48 h (Fig. 3C), suggesting that most cells of the granular sludge community in the control were viable but that the viability decreased gradually over time. In contrast, the viability of the granular sludge community incubated with *B. bacteriovorus* UP decreased markedly from $2.29 \pm 0.09 \times 10^7$ μm^3 at 0 h to $3.92 \pm 0.28 \times 10^6$ μm^3 at 48 h ($P<0.0001$) (Fig. 3A and B, '+*B. b* UP'), whilst non-viable cells increased significantly from 1.47±0.06×10^6 μm^3 at 0 h to 1.66±0.06×10^7 μm^3 at 48 h (P<0.0001). Thus, the Live/Dead ratios were reduced by approximately 50 fold in the presence of the predator, i.e., 16.04±4.02 at 0 h to 0.25±0.08 at 48 h (Fig. 3C). Although most cells in both sludge samples incubated with *B. bacteriovorus* UP appeared to be non-viable, the morphological structures of the floccular and granular sludge were unaffected by predation.

Predation pressure results in a significant change in the microbial community composition

Predation significantly reduced both the viability and total biomass of both floccular and granular sludge communities. Total RNA sequencing of both sludge communities indicated that predation resulted in a shift from high (no predator) to low (with predator) diversity, as determined by Shannon-Wiener diversity analysis of the communities (Fig. S2). Regardless of the sludge type (floccular and granular sludge) and 16S RNA hyper-variable regions used (V4-V7), the diversity of the microbial communities was consistently reduced after *Bdellovibrio* treatment. For example, based on the V5 hyper-variable region of 16S rRNA, the Shannon-Wiener index for the floccular sludge community decreased from 4.15±0.34 to 3.67±0.06 (P<0.05), whilst that of granular sludge community was reduced from 3.57±0.11 to 2.75±0.15 (P<0.01). Generally, the taxonomic composition of both sludge communities was found dramatically affected by predation (Table S1). A principal coordinates analysis (PCoA) indicated that not only was there a significant difference between floccular and granular sludge communities (P<0.001) (Fig. 4, Axis 1), but also between the control and the treated groups in the granular sludge community, where the controls were segregated from the treated cluster (Fig. 4, Axis 2; triangles). For the floccular sludge community, the treatment effect on the overall community composition was not as distinct as for the granular sludge due to the variability amongst the controls, where one control group was clearly different from the other two biological replicates (Fig. 4, Axis 2; circles-red). Despite this, the floccular sludge communities of two of the control groups were clearly separated from the predator treated reactors (Fig. 4, Axis 2; circles), demonstrating the effect of *B. bacteriovorus* UP on both floccular and granular sludge communities.

The impact of predation on the individual phylotype in the sludge communities

The top 200 most abundant TAGs, making up >95% of the sludge community, were selected from the RNA sequence data to investigate the impact of predation on different phylotypes (Table S2). The results showed that members of the *Acidobacteria* (7%, 14 out of 200), *Bacteroidetes* (13%), *Planctomycetes* (4%) and *Proteobacteria* (27.5%) were the predominant groups of identifiable microorganisms in the floccular sludge community (Table S2 - Floccular sludge). Similarly, *Bacteroidetes* (12%), and *Proteobacteria* (28%) were the predominant microorganisms in granular sludge community (Table S2 - Granular sludge). It should be noted that between 35%-45% of both floccular and granular community members that comprised the top 200 most abundant TAGs could not be taxonomically assigned based on the RiboTagger due to the use of short rRNA reads (Table S2).

The relative abundance of each TAG between the 'treated' and the 'control' groups was log10 transformed. A log10 transformed ratio less than 0 indicates that the relative abundance of the community member was reduced due to the presence of *B. bacteriovorus* UP; whilst a log transformed ratio higher than 0 suggests that the relative abundance of community members increased. More than 90% of the 200 most abundant TAGs for the floccular sludge were reduced in relative abundance ($\text{Log}_{10}<0$) (Table S2 - Floccular sludge). The majority of those clearly taxonomically assigned TAGs that were reduced in relative abundance were *Bacteroidetes* (15 TAGs) and *Proteobacteria* (19 TAGs), some of which were significantly reduced in abundance due to the predation by *Bdellovibrio* ($P<0.01$), such as TAG238 (*Bacteroidetes*) as well as TAG134 and TAG1 (*Proteobacteria*) (Fig. 5A). The 19 *Proteobacteria* TAGs were mainly from the *Alphaproteobacteria*, *Betaproteobacteria* and *Gammaproteobacteria* clades (Fig. 5A). It should be noted that there were also many TAGs in the floccular sludge communities that could not be taxonomically assigned but that were also significantly ($P<0.01$) reduced in relative abundance e.g., TAG42, TAG133 and TAG402 (Fig. 5A).

Similarly, of the 200 most dominant TAGs from the granular sludge communities, > 90% were reduced in relative abundance ($\text{Log}_{10}<0$) upon predation by *B. bacteriovorus* UP (Table S2 - Granular sludge). The majority of those clearly taxonomically assigned TAGs that were greatly reduced in relative abundance were *Bacteroidetes* (21 TAGs) and *Proteobacteria* (52 TAGs) (Table S2 and Fig. 5B). Notably, those TAGs that were significantly reduced in abundance mainly belonged to the *Proteobacteria* clade ($P<0.01$) (Fig. 5B). Similarly, for the granular sludge, a great number of the TAGs that were sensitive to *B. bacteriovorus* UP could not be taxonomically assigned (Table S2).

The impact of predation on the microbial community function

To determine the impact of predation on microbial community function, mRNA reads from both sludge communities were extracted and analysed using DESeq2 package by R. A total of 27±1% mRNA reads (randomly subsampled to 847,400 reads per sample) were mapped to the KEGG pathways, including 39±5%, 44±3%, 12±3% and 6±1% of the reads assigned to the classes of metabolism, genetic information processing, environmental information processing and cellular processes, respectively (Fig. S3). Multivariate analysis revealed that floccular sludge was remarkably different from the granular sludge in terms of KEGG functions ($R^2 = 0.23$, $P<0.01$). The differential expression of several KEGG pathways such as cAMP signaling, thiamine metabolism, two component systems, etc., distinguished the floccular from granular sludge communities. In contrast to its impact on community composition (Fig. 4 and 5), predation had no significant effect on the expression of functional genes for either the floccular or granular sludge.

Discussion

Bdellovibrio species are highly active and mobile predators, which have a broad prey spectrum, mainly Gram-negative bacteria, and they can feed on planktonic cells as well as biofilms (Rice *et al.*, 1998, Kadouri & O'Toole, 2005). Whilst the formation of biofilms, such as floccular and granular sludge, is thought to protect bacteria from predation by physically excluding the predators through the production of an extracellular EPS matrix (McSwain *et al.*, 2005, Adav *et al.*, 2008). The effects of predation by *B. bacteriovorus* UP on individual microbial isolates from activated sludge were investigated and it was shown that almost all of the Gram-negative bacteria were sensitive to predation. Dual-species cultures composed of two bacterial isolates, either in planktonic or biofilm form, were also sensitive to *B. bacteriovorus* UP (Feng *et al.*, 2016). Additionally, previous work showed that *Bdellovibrio* species readily preyed upon biofilms developed by single species (Kadouri & O'Toole, 2005, Dashiff *et al.*, 2011). However, few studies have focused on more complex microbial communities, such as floccular and granular sludge and therefore, these were investigated here to determine the impact of predation on floccular and granular sludge communities from the isolation site of *B. bacteriovorus* UP.

It has previously been suggested that the granular sludge, which is more compact and has a higher unit volume of EPS than floccular sludge, should be generally better protected bacteria from other microbial predators, such as bacteriophages and protozoa relative to floccular sludge (Weber *et al.*, 2007, Adav *et al.*, 2008). However, it has been shown that viral predation can significantly modify both microbial biomass production and granular sludge community composition and that this also affected the biomass and energy transfer in the ecosystems (Suttle, 1994, Fuhrman, 1999, Koskella & Brockhurst, 2014). Not only did bacteriophage infection alter the sludge community composition, but it also strongly affected the sludge performance (Barr *et al.*, 2010). The effects of protozoan grazing on microbial communities and their performances were also well documented (Pauli *et al.*, 2001, Huws *et al.*, 2005, Matz & Kjelleberg, 2005, Yu *et al.*, 2011). For example, protozoan predation was shown to cause a clear population shift of nitrite-oxidizing bacteria, however, the nitrification performance of the microbial community was not significantly affected and this may be due to redundancy of nitrite oxidation capacity in other community members (Yu *et al.*, 2011).

The data presented in this study showed that biofilms and microbial communities were generally not protected from the predation by *B. bacteriovorus* UP. Indeed, both floccular and granular sludge communities seemed equally sensitive to predation. This was reflected in the significant reductions in microbial biomass, ATP content and Live/Dead staining (Figs. 1-3). The ATP results at 48 h for floccular sludge seem to contrast with viability as assessed using the Live/Dead staining reagents (Fig. 1A and Fig. 2A). This could be due to the recovery of the floccular sludge community over time (Barr *et al.*, 2010). Alternatively, the increase of ATP content after 48 h could be attributed to the growth of *B. bacteriovorus* UP associated with the floccular biomass or in the liquid space surrounding the floccular sludge. ATP measurements should comprise both sludge and supernatant, and hence if there are any free-swimming *Bdellovibrio* in the supernatant, they will be captured by the ATP assay. This is supported by the RNA sequence data, which indicated that there was 46 times more *Bdellovibrio* sequencing reads associated with the floccular sludge compared to the granular biomass at the end of the experiment despite being seeded with equal numbers of the predator (Table S1). While the number of *Bdellovibrio* was not determined at the beginning of the experiments, comparison of the treated and non-treated reactors shows a 100 fold increase in *Bdellovibrio* reads (Table S1). In contrast, the numbers of *Bdellovibrio* reads detected for the granular sludge were considerably lower than for the treated floccular biomass and this may correlated with the lower ATP concentration detected at 48 h (Table S1).

For the granular sludge, it was observed that, even for the predator-free controls, the interiors of the granules were unstained, either by the SYTO9 or propidium iodide reagents. Whilst it is possible that the granules were hollow (Ma *et al.*, 2006, Koh *et al.*, 2007), this was more likely due to limited penetration of the reagents or the excitation light into the granule interior (usually deeper than 80-130 μm) (Saiki *et al.*, 2002). Further work using FISH and cryo-sectioning of granules would be helpful in resolving these possibilities. Nonetheless, it was clear that the surface and near surface regions were highly susceptible to the predation by *B. bacteriovorus* UP. Therefore, compared with protozoan grazing and viral lysis of microorganisms (Matz & Kjelleberg, 2005, Kay *et al.*, 2011), *B. bacteriovorus* UP showed stronger predation effects on complex microbial communities (Figs. 4 and 5).

Total RNA sequencing analysis additionally demonstrated that predation significantly affected the sludge communities. In this study, a fast and unbiased 16S profiling method, the RiboTagger was used to determine the community composition (Xie *et al.*, 2016). Unlike Methaphlan2 that uses marker genes for taxonomic classification with high resolution and is particularly useful for metagenomic samples, the RiboTagger that based on the highly abundant 16S rRNA sequences for community profiling was found to be more suitable and reliable for our RNA sequencing study (with high rRNA and less mRNA reads). Despite the differences in taxonomic resolution, both RiboTagger and Methphlan2 demonstrated a strong correlation between community dissimilarities (Bray-Curtis) (Mantel test; $r=0.75$, $p < 0.001$), suggesting that both methods detected similar trends in the community changes (Data not shown). Subsequent sequencing analysis based on the RiboTagger using the Silva rRNA database indicated that most TAGs could be identified using the V5 region, which also had the highest number of high quality reads compared to other regions (Table S1). Irrespective of the variable region used, it was observed that both floccular and granular sludge communities were significantly reduced in microbial diversity after the predation by *B. bacteriovorus* UP as shown by the Shannon-Wiener index (Fig. S2). Therefore, the V5 region was used for subsequent analyses.

The reductions in the granular community diversity were more striking than for the floccular communities (Table S1 and Fig S2). This might be related to the inherent differences in community composition between flocs and granules in that communities with more diverse compositions (i.e., floccular sludge) might better withstand predation pressure (McCann, 2000, Girvan *et al.*, 2005, Erkus *et al.*, 2013). It was shown here that most TAGs were primarily assigned to the classes of *Proteobacteria* and *Bacteroidetes*, which were also consistent with bacterial groups identified in other activated sludge communities (Wagner *et al.*, 2002, Kong *et al.*, 2007, Mahendran *et al.*, 2012). Within these classes, many bacterial groups, such as ammonia-oxidizing bacteria, nitrite-oxidizing bacteria, phosphate accumulating bacteria, as well as bacteria that hydrolyze diverse organic matter in wastewater, are responsible for essential functions, including nutrient and carbon removal (Wagner *et al.*, 2006, Kong *et al.*, 2007). Some members of these functional bacterial groups in the activated sludge communities in this study, such as *Nitrospira* (containing nitrite-oxidizing bacteria) and *Acinetobacter* (containing phosphate accumulating bacteria) (Daims *et al.*, 2006), were dramatically reduced in their relative abundance due to predation by *B. bacteriovorus* UP. Therefore, the biological removal of nitrogen and phosphate by activated sludge community may potentially be reduced correspondingly. To address this question, the mRNA data was extracted from the total RNA sequencing reads and analysed to determine if predation had significant impact on reactor performance, as indicated by changes in gene expression. Unlike the dramatic changes in sludge community diversity after predation (Fig. S2), there was very little difference in the community level expression of functional genes between the controls and treated samples for either floccular or granular sludge (Fig. S3). A detailed analysis on specific community functions, such as carbon and nitrogen metabolism, also showed no significant difference between control and treated sludge samples (Fig. S3). Further, when we compared the expression profiles of genes involved in SNDPR (i.e., carbon, nitrogen and phosphorus metabolism) between the floccular and granular communities, we observed no differences in gene expression between the two sludge types, even though they have distinct taxonomic profiles. This may not be surprising since many different organisms may contribute to carbon or nutrient removal, the genetically encoded functional redundancy of these diverse communities may mask the effect of *Bdellovibrio* predation on individual species and therefore retaining the sludge functions for nutrient removal. Finally, low numbers of *Bdellovibrio* sequencing reads, representing less than 0.02% of the community, were observed in the control reactors and reflects their natural abundance levels. Given that these were 1000 fold lower than the reactors that were seeded exogenously with the predator, it is possible that there is also an important density or predator-prey ratio that is required for the predator to impact the community dramatically, which should be investigated in subsequent experiments.

Bdellovibrio predation upon both floccular and granular activated sludge can significantly alter microbial community composition. Even so, the effects of predation by *Bdellovibrio* on the performance of sludge community in more complex systems, such as sequencing batch reactors and even full-scale systems are largely unknown. Additionally, the operational conditions for both floccular and granular sludge may not favor the proliferation of *Bdellovibrio* species. For example, such systems include periods of anoxic or anaerobic incubation, which are unfavourable to *Bdellovibrio* spp. Therefore, further studies on the impact of *Bdellovibrio* on waste-water systems might sample the different incubation tanks or stages as well as quantify the predators numbers and activity in those stages as well as undertaking such experiments over a much longer time frame.

In this study, the effects of predation by *B. bacteriovorus* UP on highly complex microbial community that formed both floccular and granular activated sludge were studied. It was shown that *B. bacteriovorus* UP exerted a significant impact on these microbial communities, in terms of biomass, viability and community composition. This shows that *B. bacteriovorus* UP is a generalist predator that can have broad impact on the microbial communities (Jurkevitch *et al.*, 2000). Interestingly, while the community composition was dramatically altered by *Bdellovibrio* predation, there were limited changes in community functions based on mRNA expression, suggesting functional redundancy and high levels of resilience within sludge communities under predation pressure. It will be interesting to determine if longer-term predation experiments may alter the community functions and responses and if the community was able to recover from such perturbations.

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Figure Legends

Fig. 1 Effects of predation by *B. bacteriovorus* UP on microbial activity and total biomass of communities in floccular and granular sludge. Microbial activity was represented as ATP relative luminescence unit for (A) floccular and (C) granular sludge, respectively; and total biomass was represented as protein concentration in (B) floccular and (D) granular sludge, respectively. Sludge was incubated in the absence (negative control, ■) and presence (treatment, □) of *B. bacteriovorus* UP. Data represent the means of three independent replicates. Error bars represent the standard deviation. Two-way ANOVA was performed and Sidak post-tests were conducted to compare each treatment to the negative control where significant differences were indicated as follows: * $P<0.05$, **** $P<0.0001$.

Fig. 2 Effects of predation by *B. bacteriovorus* UP on the viability of floccular sludge. **A.** Floccular sludge was incubated over 48 h in the absence and presence of *B. bacteriovorus* UP. Viable cells were shown in green (SYTO9 stained), whilst non-viable cells were shown in red (PI stained). Confocal microscopy images were taken at 200× magnification. Scale bars represent 500 µm. **B.** Bio-volumes of viable (live) and non-viable (dead) communities in floccular sludge incubated in the absence (negative control, ■ and □ respectively) and presence (treatment, 🟩 and 🟥, respectively) of *B. bacteriovorus* UP. **C.** The ratio of live/dead communities in predator-free controls (■) and *Bdellovibrio*-treated groups (□). Data represent the means of multiple replicates (n=30). Error bars represent the standard deviation. Two-way ANOVA was performed and Sidak post-tests were conducted to compare each treatment to the negative control where significant differences were indicated as follows: * $P<0.05$, **** $P<0.0001$.

Fig. 3 Effects of predation by *B. bacteriovorus* UP on the viability of granular sludge. **A.** Granular sludge was incubated over 48 h in the absence and presence of *B. bacteriovorus* UP. Viable cells were green (SYTO9 stained), whilst non-viable cells were red (PI stained). Confocal microscopy images were taken at 200× magnification. Scale bars represent 500 µm. **B.** Bio-volumes of viable (live) and non-viable (dead) communities in granular sludge incubated in the absence (negative control, ■ and □ respectively) and presence (treatment, 🟩 and 🟥, respectively) of *B. bacteriovorus* UP. **C.** The ratio of live/dead communities in predator-free controls (■) and *Bdellovibrio*-

treated groups (☐). Data represent the means of multiple replicates (n=20). Error bars represent the standard deviation. Two-way ANOVA was performed and Sidak post-tests were conducted to compare each treatment to the negative control where significant differences were indicated as follows: * $P<0.05$, **** $P<0.0001$.

Fig. 4 Principal coordinates analysis (PCoA) showing the alterations of microbial communities in floccular (circle) and granular (triangle) sludge incubated in the absence (control; cyan) and presence (treatment; red) of *B. bacteriovorus* UP. The data were square root transformed and similarities among communities were computed based on the Bray-Curtis dissimilarity. Data represented three independent replicates. PERMANOVA was performed using R. Factors including type of sludge (floccular vs. granular sludge) and *B. bacteriovorus* UP treatment (control vs. treatment) contributing to the community differences were indicated as follows: the interaction between type and treatment ($R^2 = 0.07$; $P<0.01$), the main effect for type ($R^2 = 0.81$; $P<0.001$) and for treatment ($R^2 = 0.04$; $P>0.05$).

Fig. 5 Effects of predation by *B. bacteriovorus* UP on the dominant microbial taxa in (A) floccular and (B) granular sludge. The Log_{10} of the ratios of sequencing reads of *Bdellovibrio*-treatment group to negative control were calculated for each TAG. TAGs that were unidentified by the RiboTagger were subjected to comparison against NCBI-nr database and the closest relative with > 97% sequence identity are shown where applicable. Data represent the means of three biological replicates, with error bars representing the standard deviation. Multiple *t*-test was performed with 1% false discovery rate to compare each treatment to the negative control where significant differences were marked with '*'.

Supporting Information

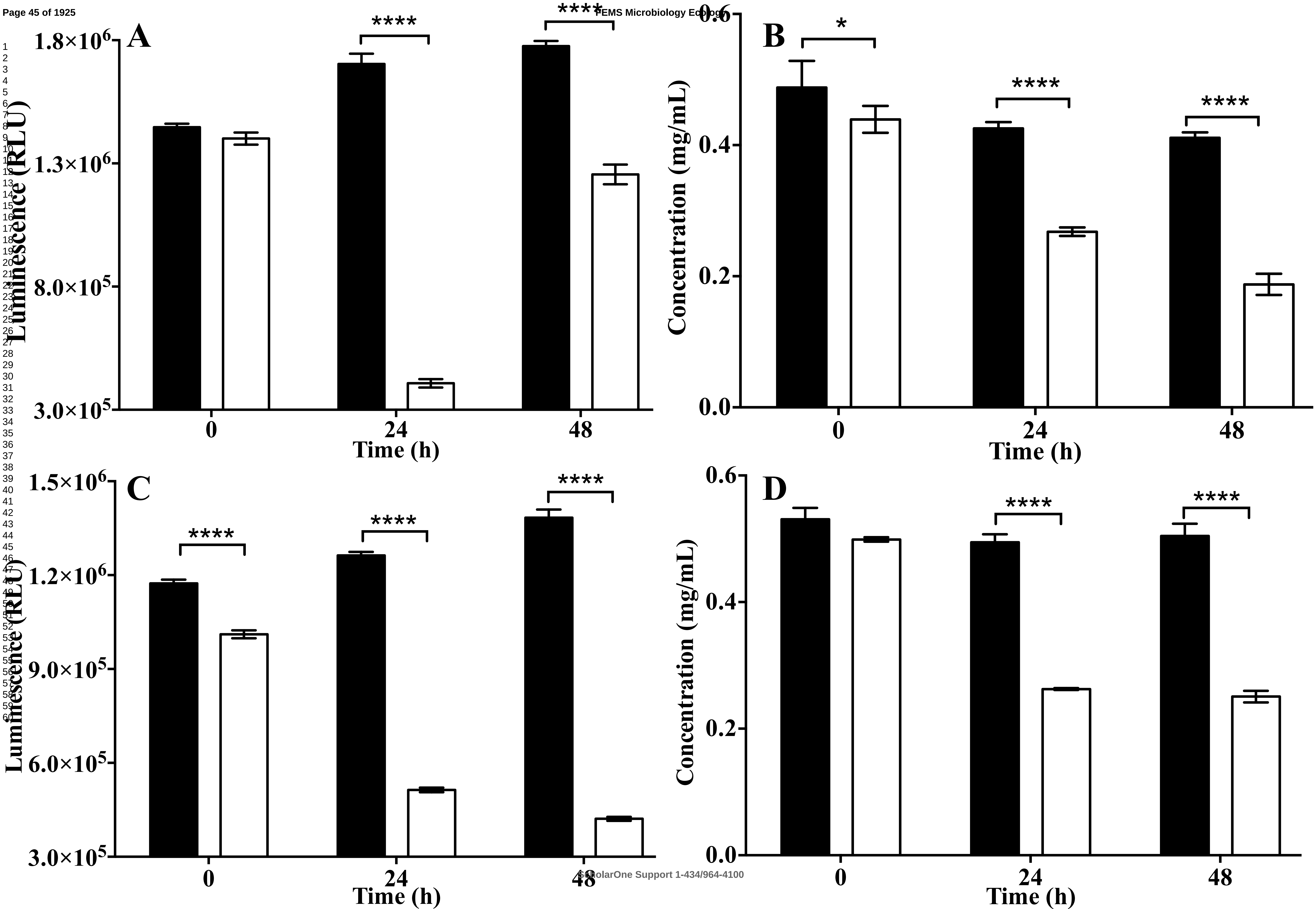
Fig. S1 The activated sludge samples used in this study. Floccular sludge (A) and granular sludge (B) were observed with stereotype microscopy (Stereo V8, ZEISS). Images were taken at 10× magnification. Scale bars represent 500 µm.

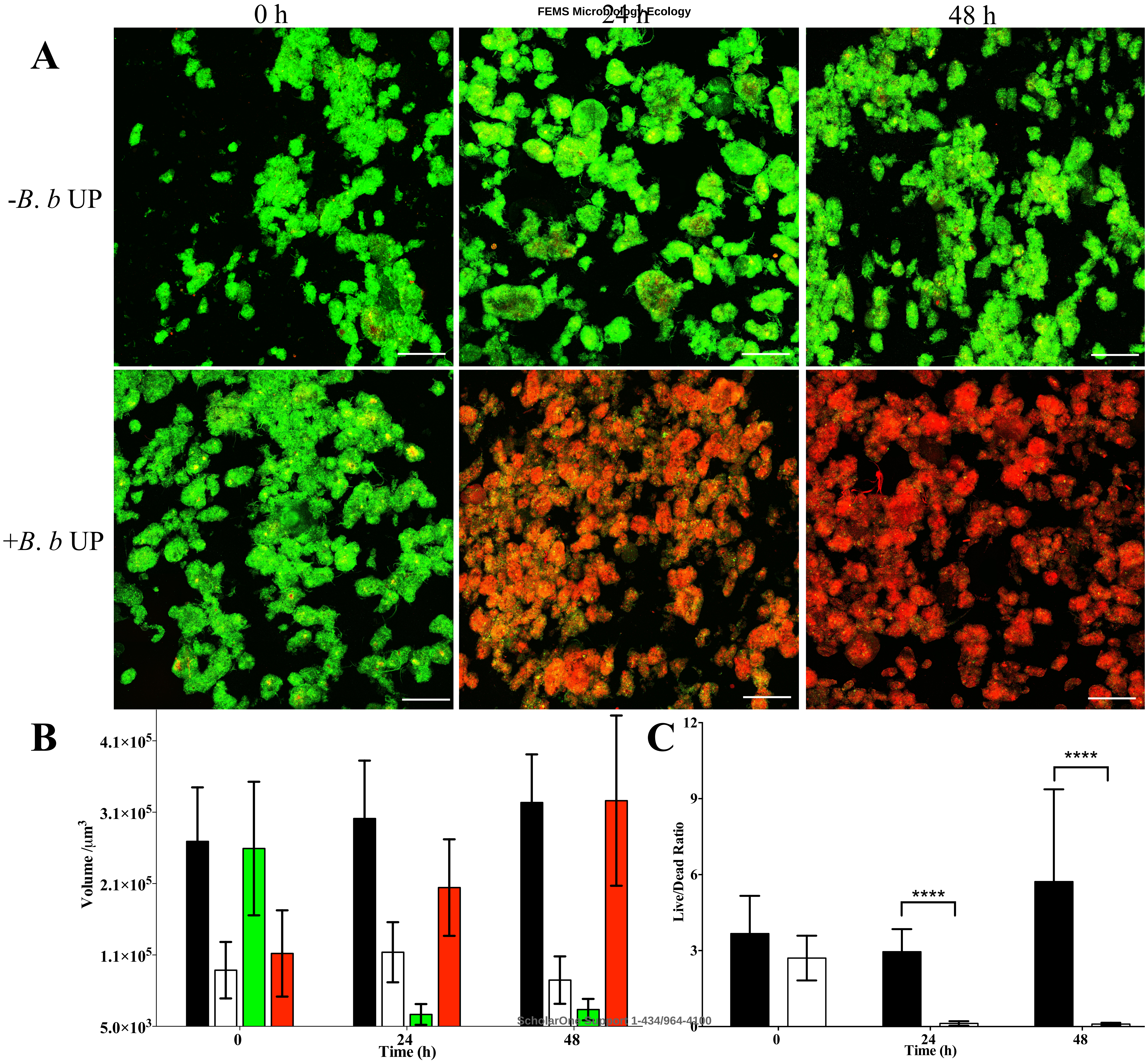
Fig. S2 Comparison of alpha diversities of floccular and granular sludge community in the absence and presence of *B. bacteriovorus* UP. The alterations of community diversity were investigated into each hyper-variable region V4-V7. Diversity was measured by Shannon-Wiener index. The top and bottom boundaries represented the 75th and 25th quartile values. Two-way ANOVA was performed, followed by Sidak post-tests to examine differences between ‘control’ and ‘treated’ groups, where significant differences were indicated as follows: * $P<0.05$, ** $P<0.01$.

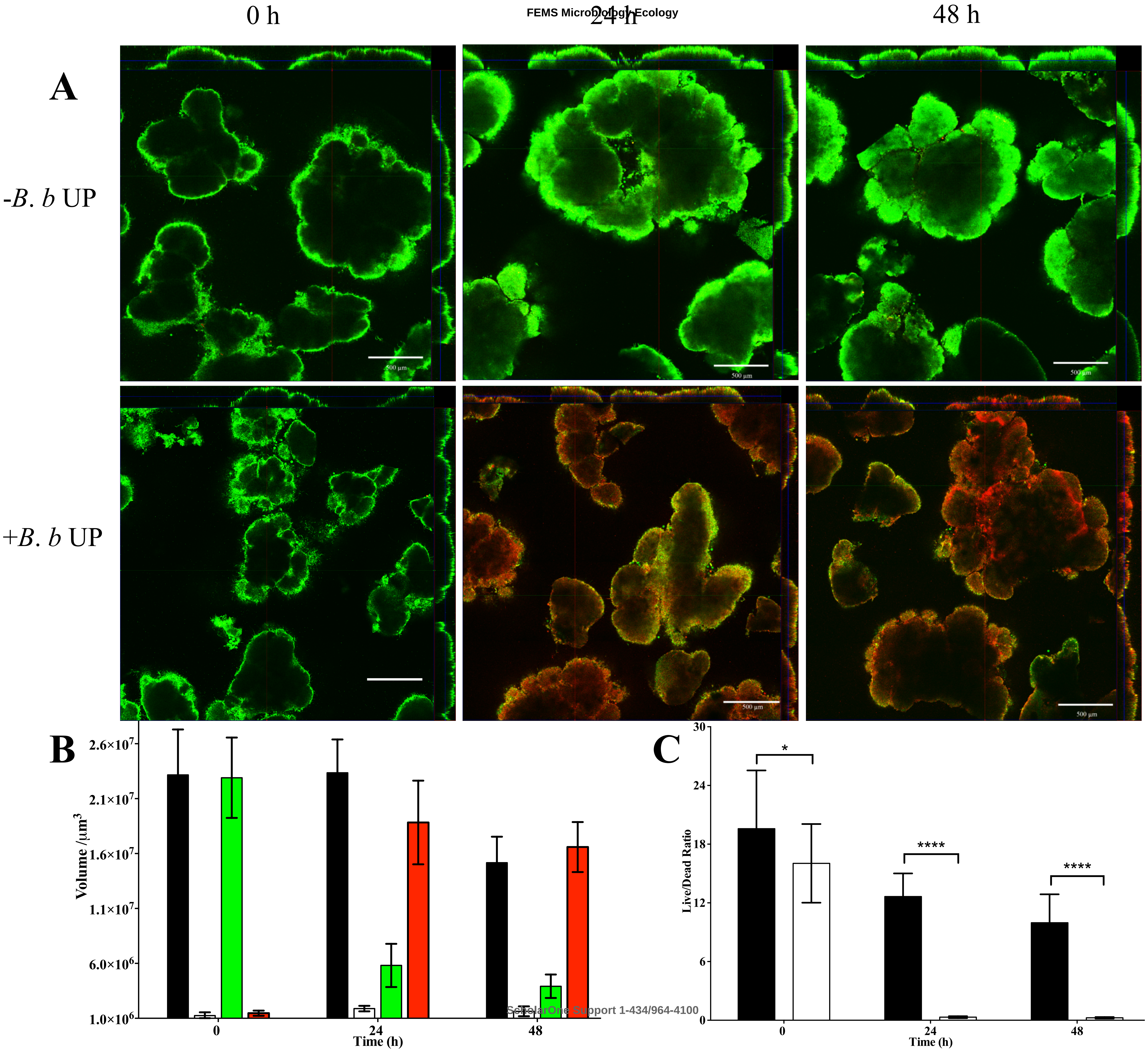
Fig. S3 Unsupervised clustering of the sludge samples based on the KEGG pathway expression. Similarities among samples were computed based on the Bray-Curtis dissimilarity and clustered using complete linkage. Log10Mean indicates the overall relative abundance of the reads assigned to a particular pathway. As differential expression tests only reported significant differences between sludge and granules samples, the Log2 fold change (log2FC) sign was reported to highlight those pathways that were significantly differentially expressed between Granules vs. Floccular sludge samples ($p<0.05$). Data represented three independent biological replicates.

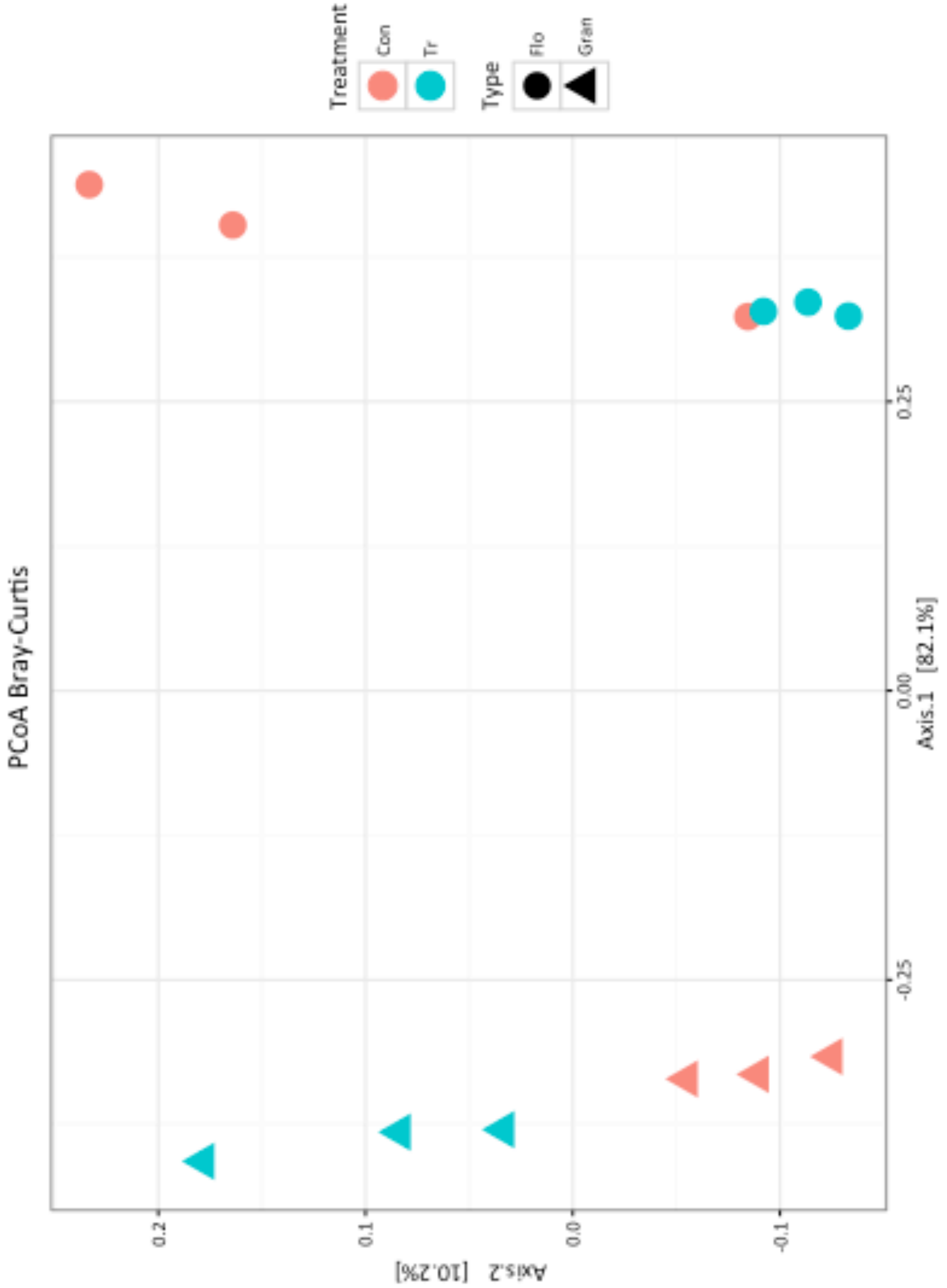
Table S1 16S rRNA sequence data including hyper-variable regions V4-V7 extracted by RiboTagger scripts.

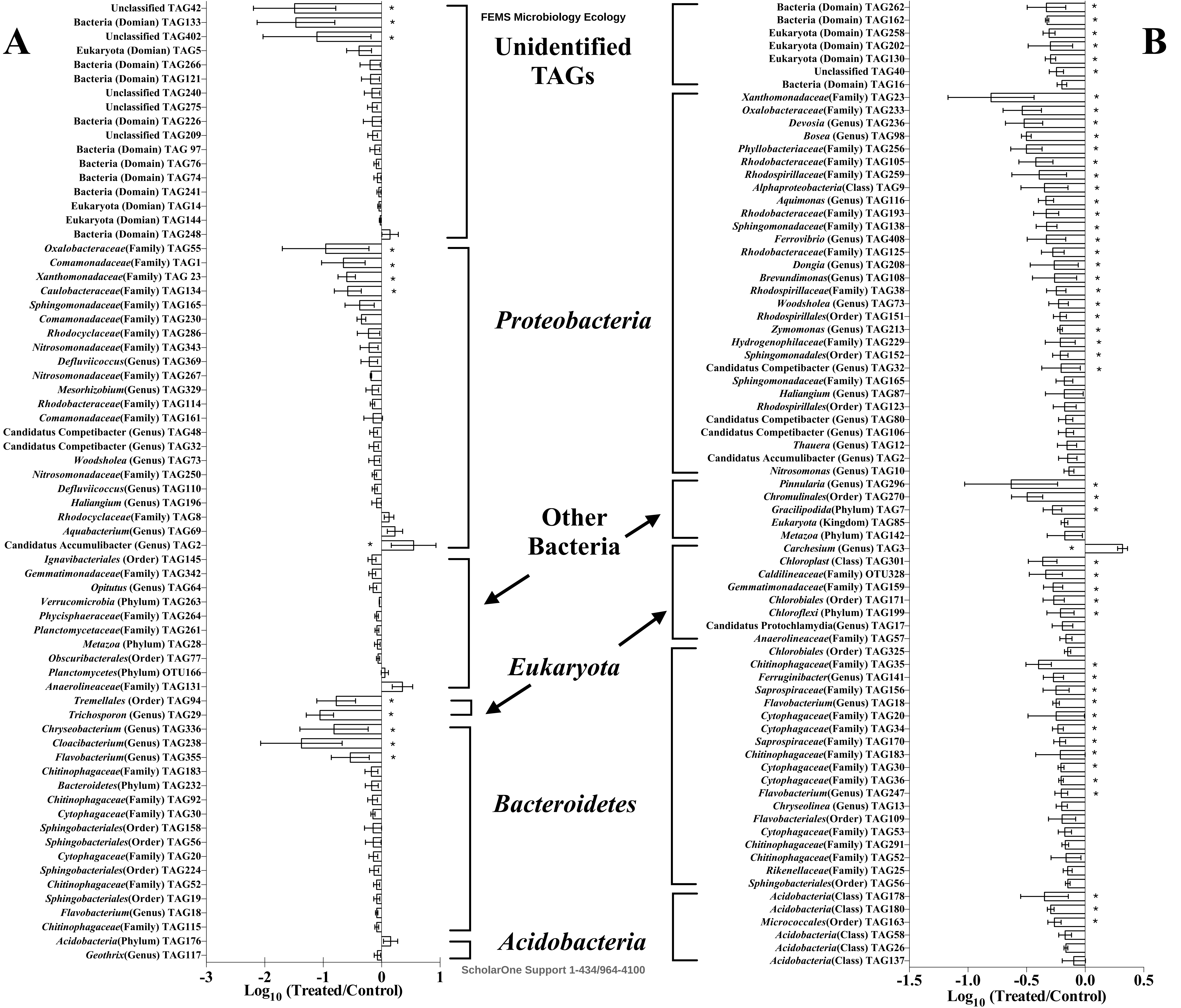
Table S2 The top 200 TAGs of microorganisms making up >95% of the microbial community in both floccular and granular sludge.

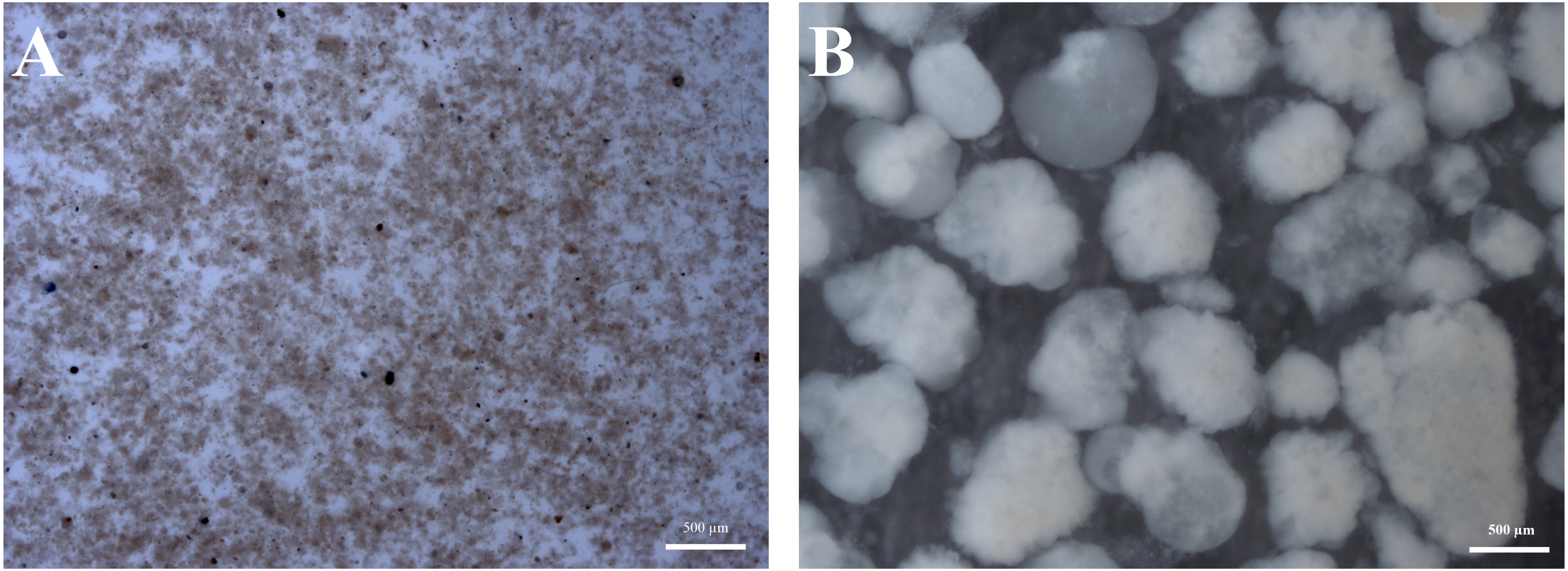

A
Luminescence (RLU)
1.8×10⁶
1.3×10⁶
8.0×10⁵
3.0×10⁵
0
24
48
Time (h)
****
****
B
Concentration (mg/mL)
0.6
0.4
0.2
0.0
0
24
48
Time (h)
*
****
****
C
Luminescence (RLU)
1.5×10⁶
1.2×10⁶
9.0×10⁵
6.0×10⁵
3.0×10⁵
0
24
48
Time (h)
****
****
****
D
Concentration (mg/mL)
0.6
0.4
0.2
0.0
0
24
48
Time (h)
****
****

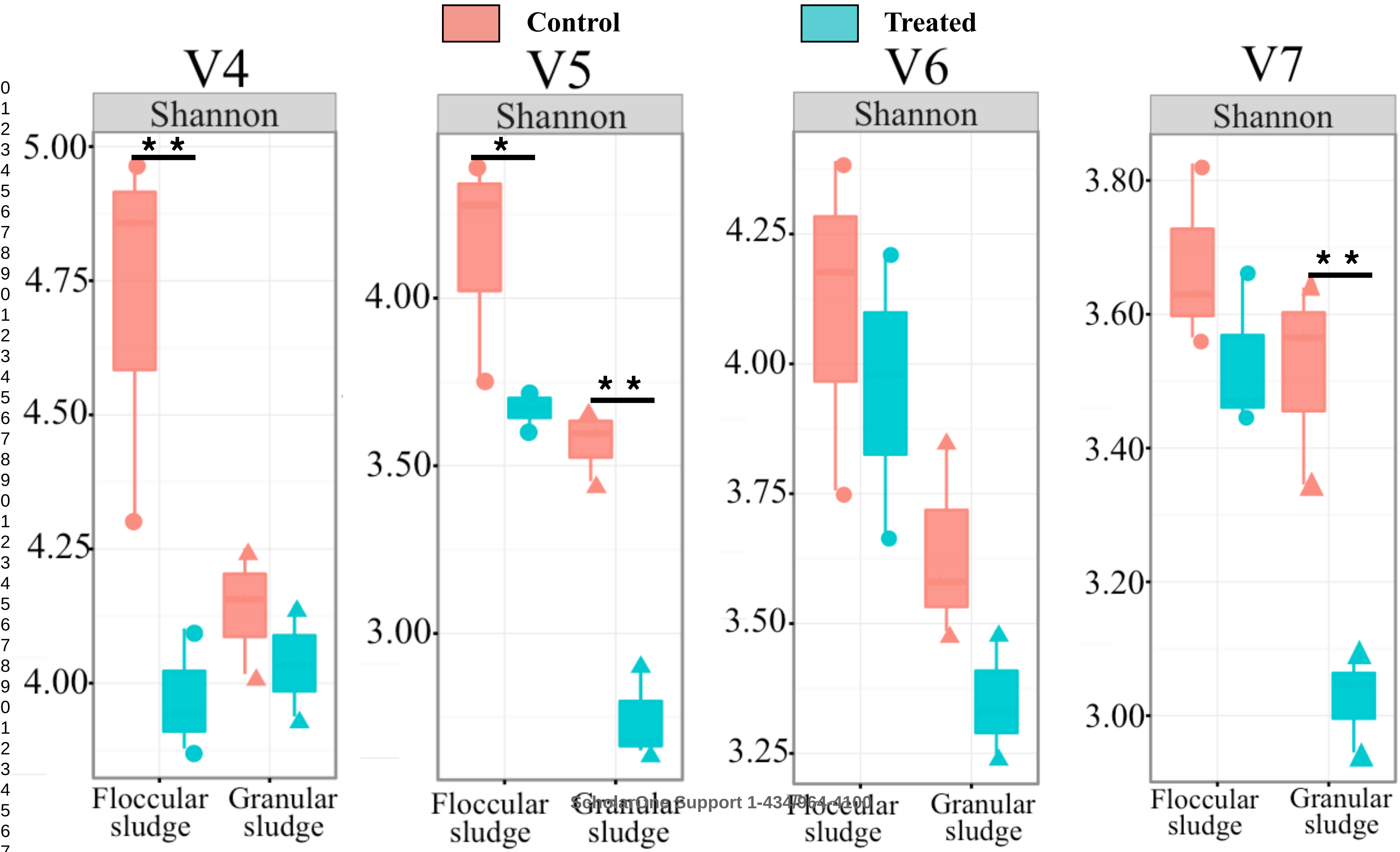

0 h
24 h
48 h
A
-B. b UP
+B. b UP
B
Volume /µm^3
4.1×10^5
3.1×10^5
2.1×10^5
1.1×10^5
5.0×10^3
0
24
48
Time (h)
C
Live/Dead Ratio
12
9
6
3
0
0
24
48
****
****
Time (h)

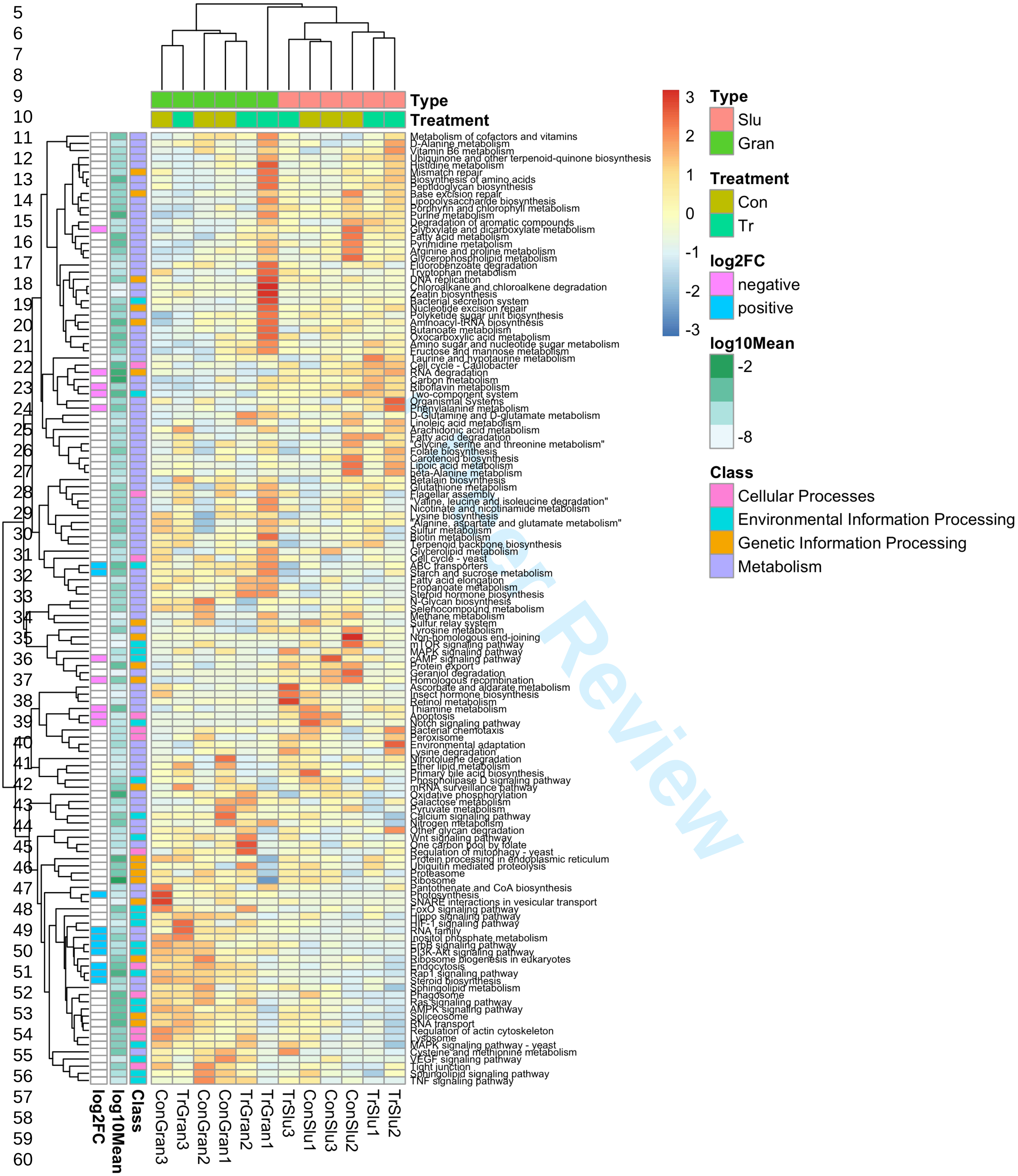

0 h
24 h
48 h
A
-B. b UP
+B. b UP
500 µm
B
Volume /µm³
2.6×10⁷
2.1×10⁷
1.6×10⁷
1.1×10⁷
6.0×10⁶
1.0×10⁶
0
24
48
Time (h)
C
Live/Dead Ratio
30
24
18
12
6
0
*
****
****
0
24
48
Time (h)


PCoA Bray-Curtis
Treatment
Con
Tr
Type
Flo
Gran
Axis.1 [82.1%]
0.25
0.00
-0.25
Axis.2 [10.2%]
0.2
0.1
0.0
-0.1


A
Unclassified TAG42
Bacteria (Domian) TAG133
Unclassified TAG402
Eukaryota (Domian) TAG5
Bacteria (Domain) TAG266
Bacteria (Domain) TAG121
Unclassified TAG240
Unclassified TAG275
Bacteria (Domain) TAG226
Unclassified TAG209
Bacteria (Domain) TAG 97
Bacteria (Domain) TAG76
Bacteria (Domain) TAG74
Bacteria (Domain) TAG241
Eukaryota (Domian) TAG14
Eukaryota (Domian) TAG144
Bacteria (Domain) TAG248
Oxalobacteraceae(Family) TAG55
Comamonadaceae(Family) TAG1
Xanthomonadaceae(Family) TAG 23
Caulobacteraceae(Family) TAG134
Sphingomonadaceae(Family) TAG165
Comamonadaceae(Family) TAG230
Rhodocyclaceae(Family) TAG286
Nitrosomonadaceae(Family) TAG343
Defluviicoccus(Genus) TAG369
Nitrosomonadaceae(Family) TAG267
Mesorhizobium(Genus) TAG329
Rhodobacteraceae(Family) TAG114
Comamonadaceae(Family) TAG161
Candidatus Competibacter (Genus) TAG48
Candidatus Competibacter (Genus) TAG32
Woodsholea (Genus) TAG73
Nitrosomonadaceae(Family) TAG250
Defluviicoccus(Genus) TAG110
Haliangium (Genus) TAG196
Rhodocyclaceae(Family) TAG8
Aquabacterium(Genus) TAG69
Candidatus Accumulibacter (Genus) TAG2
Ignavibacteriales (Order) TAG145
Gemmatimonadaceae(Family) TAG342
Opitutus (Genus) TAG64
Verrucomicrobia (Phylum) TAG263
Phycisphaeraceae(Family) TAG264
Planctomycetaceae(Family) TAG261
Metazoa (Phylum) TAG28
Obscuribacterales(Order) TAG77
Planctomycetes(Phylum) OTU166
Anaerolineaceae(Family) TAG131
Tremellales (Order) TAG94
Trichosporon (Genus) TAG29
Chryseobacterium (Genus) TAG336
Cloacibacterium(Genus) TAG238
Flavobacterium(Genus) TAG355
Chitinophagaceae(Family) TAG183
Bacteroidetes(Phylum) TAG232
Chitinophagaceae(Family) TAG92
Cytophagaceae(Family) TAG30
Sphingobacteriales(Order) TAG158
Sphingobacteriales(Order) TAG56
Cytophagaceae(Family) TAG20
Sphingobacteriales(Order) TAG224
Chitinophagaceae(Family) TAG52
Sphingobacteriales(Order) TAG19
Flavobacterium(Genus) TAG18
Chitinophagaceae(Family) TAG115
Acidobacteria(Phylum) TAG176
Geothrix(Genus) TAG117
-3
-2
-1
0
1
Log10 (Treated/Control)
Unidentified TAGs
Proteobacteria
Other Bacteria
Eukaryota
Bacteroidetes
Acidobacteria
B
Bacteria (Domain) TAG262
Bacteria (Domain) TAG162
Eukaryota (Domain) TAG258
Eukaryota (Domain) TAG202
Eukaryota (Domain) TAG130
Unclassified TAG40
Bacteria (Domain) TAG16
Xanthomonadaceae(Family) TAG23
Oxalobacteraceae(Family) TAG233
Devosia (Genus) TAG236
Bosea (Genus) TAG98
Phyllobacteriaceae(Family) TAG256
Rhodobacteraceae(Family) TAG105
Rhodospirillaceae(Family) TAG259
Alphaproteobacteria(Class) TAG9
Aquimonas (Genus) TAG116
Rhodobacteraceae(Family) TAG193
Sphingomonadaceae(Family) TAG138
Ferrovibrio (Genus) TAG408
Rhodobacteraceae(Family) TAG125
Dongia (Genus) TAG208
Brevundimonas(Genus) TAG108
Rhodospirillaceae(Family) TAG38
Woodsholea (Genus) TAG73
Rhodospirillales(Order) TAG151
Zymomonas (Genus) TAG213
Hydrogenophilaceae(Family) TAG229
Sphingomonadales(Order) TAG152
Candidatus Competibacter (Genus) TAG32
Sphingomonadaceae(Family) TAG165
Haliangium (Genus) TAG87
Rhodospirillales(Order) TAG123
Candidatus Competibacter (Genus) TAG80
Candidatus Competibacter (Genus) TAG106
Thauera (Genus) TAG12
Candidatus Accumulibacter (Genus) TAG2
Nitrosomonas (Genus) TAG10
Pinnularia (Genus) TAG296
Chromulinales(Order) TAG270
Gracilipodida(Phylum) TAG7
Eukaryota (Kingdom) TAG85
Metazoa (Phylum) TAG142
Carchesium (Genus) TAG3
Chloroplast (Class) TAG301
Caldilineaceae(Family) OTU328
Gemmatimonadaceae(Family) TAG159
Chlorobiales (Order) TAG171
Chloroflexi (Phylum) TAG199
Candidatus Protochlamydia(Genus) TAG17
Anaerolineaceae(Family) TAG57
Chlorobiales (Order) TAG325
Chitinophagaceae(Family) TAG35
Ferruginibacter(Genus) TAG141
Saprospiraceae(Family) TAG156
Flavobacterium(Genus) TAG18
Cytophagaceae(Family) TAG20
Cytophagaceae(Family) TAG34
Saprospiraceae(Family) TAG170
Chitinophagaceae(Family) TAG183
Cytophagaceae(Family) TAG30
Cytophagaceae(Family) TAG36
Flavobacterium(Genus) TAG247
Chryseolinea (Genus) TAG13
Flavobacteriales(Order) TAG109
Cytophagaceae(Family) TAG53
Chitinophagaceae(Family) TAG291
Chitinophagaceae(Family) TAG52
Rikenellaceae(Family) TAG25
Sphingobacteriales(Order) TAG56
Acidobacteria(Class) TAG178
Acidobacteria(Class) TAG180
Micrococcales(Order) TAG163
Acidobacteria(Class) TAG58
Acidobacteria(Class) TAG26
Acidobacteria(Class) TAG137
-1.5
-1.0
-0.5
0.0
0.5
Log10 (Treated/Control)


A
500 µm
B
500 µm


Control
Treated
V4
Shannon
5.00
4.75
4.50
4.25
4.00
* *
Floccular sludge
Granular sludge
V5
Shannon
4.00
3.50
3.00
*
* *
Floccular sludge
Granular sludge
V6
Shannon
4.25
4.00
3.75
3.50
3.25
Floccular sludge
Granular sludge
V7
Shannon
3.80
3.60
3.40
3.20
3.00
* *
Floccular sludge
Granular sludge


Type
Treatment
Metabolism of cofactors and vitamins
D-Alanine metabolism
Vitamin B6 metabolism
Ubiquinone and other terpenoid-quinone biosynthesis
Histidine metabolism
Mismatch repair
Biosynthesis of amino acids
Peptidoglycan biosynthesis
Base excision repair
Lipopolysaccharide biosynthesis
Porphyrin and chlorophyll metabolism
Purine metabolism
Degradation of aromatic compounds
Glyoxylate and dicarboxylate metabolism
Fatty acid metabolism
Pyrimidine metabolism
Arginine and proline metabolism
Glycerophospholipid metabolism
Fluorobenzoate degradation
Tryptophan metabolism
DNA replication
Chloroalkane and chloroalkene degradation
Zeatin biosynthesis
Bacterial secretion system
Nucleotide excision repair
Polyketide sugar unit biosynthesis
Aminoacyl-tRNA biosynthesis
Butanoate metabolism
Oxocarboxylic acid metabolism
Amino sugar and nucleotide sugar metabolism
Fructose and mannose metabolism
Taurine and hypotaurine metabolism
Cell cycle - Caulobacter
RNA degradation
Carbon metabolism
Riboflavin metabolism
Two-component system
Organismal Systems
Phenylalanine metabolism
D-Glutamine and D-glutamate metabolism
Linoleic acid metabolism
Arachidonic acid metabolism
Fatty acid degradation
"Glycine, serine and threonine metabolism"
Folate biosynthesis
Carotenoid biosynthesis
Lipoic acid metabolism
beta-Alanine metabolism
Betalain biosynthesis
Glutathione metabolism
Flagellar assembly
"Valine, leucine and isoleucine degradation"
Nicotinate and nicotinamide metabolism
Lysine biosynthesis
"Alanine, aspartate and glutamate metabolism"
Sulfur metabolism
Biotin metabolism
Terpenoid backbone biosynthesis
Glycerolipid metabolism
Cell cycle - yeast
ABC transporters
Starch and sucrose metabolism
Fatty acid elongation
Propanoate metabolism
Steroid hormone biosynthesis
N-Glycan biosynthesis
Selenocompound metabolism
Methane metabolism
Sulfur relay system
Tyrosine metabolism
Non-homologous end-joining
mTOR signaling pathway
MAPK signaling pathway
cAMP signaling pathway
Protein export
Geraniol degradation
Homologous recombination
Ascorbate and aldarate metabolism
Insect hormone biosynthesis
Retinol metabolism
Thiamine metabolism
Apoptosis
Notch signaling pathway
Bacterial chemotaxis
Peroxisome
Environmental adaptation
Lysine degradation
Nitrotoluene degradation
Ether lipid metabolism
Primary bile acid biosynthesis
Phospholipase D signaling pathway
mRNA surveillance pathway
Oxidative phosphorylation
Galactose metabolism
Pyruvate metabolism
Calcium signaling pathway
Nitrogen metabolism
Other glycan degradation
Wnt signaling pathway
One carbon pool by folate
Regulation of mitophagy - yeast
Protein processing in endoplasmic reticulum
Ubiquitin mediated proteolysis
Proteasome
Ribosome
Pantothenate and CoA biosynthesis
Photosynthesis
SNARE interactions in vesicular transport
FoxO signaling pathway
Hippo signaling pathway
HIF-1 signaling pathway
RNA family
Inositol phosphate metabolism
ErbB signaling pathway
PI3K-Akt signaling pathway
Ribosome biogenesis in eukaryotes
Endocytosis
Rap1 signaling pathway
Steroid biosynthesis
Sphingolipid metabolism
Phagosome
Ras signaling pathway
AMPK signaling pathway
Spliceosome
RNA transport
Regulation of actin cytoskeleton
Lysosome
MAPK signaling pathway - yeast
Cysteine and methionine metabolism
VEGF signaling pathway
Tight junction
Sphingolipid signaling pathway
TNF signaling pathway
log2FC
log10Mean
Class
ConGran3
TrGran3
ConGran2
ConGran1
TrGran2
TrGran1
TrSlu3
ConSlu1
ConSlu3
ConSlu2
TrSlu1
TrSlu2
3
2
1
0
-1
-2
-3
Type
Slu
Gran
Treatment
Con
Tr
log2FC
negative
positive
log10Mean
-2
-8
Class
Cellular Processes
Environmental Information Processing
Genetic Information Processing
Metabolism

tag	Flocs Control 1	Flocs Control 2
TTTTGTAAGACAGTGGTGAAATCCCCGGGCTCA	0	3
TTGGGTAAGTCAGATGTGAAATCCCCGGGCTCA	13218	1695
CTTTGTAAGTCAGGTGTGAAAGCCTGGGGCTCA	208	55
CCTGACAAGTCTGATGTGAAAGACCTGGGCTTA	0	4
TGATGTAAGACAGATGTGAAATCCCCGGGCTCA	5759	5986
TTTTTTAAGACAGGCGTGAAATCCCCGGGCTTA	3044	2481
CTCGAAAAGCGTTCCGTGAAATCCCCCGGCTCA	241	426
CTTGCCAAGTGCTTTGTGAAATCCCACGGCTCA	6237	3502
TTTTGTAAGACAGATGTGAAATCCCCGGGCTTA	1534	828
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AACAACTCACACATTGATGTGAGACGGAGGCGG	0	0
AACAACTCATTCAGTCAATTGATTGAGACGGAG	0	0
TTTGGTCAGTCAGCCGTGAAAGCCCCGGGCTTA	128	253
TTTGGTAAGTCAGATGTGAAATCCCCGGGCTCA	1152	1473
AACAACTCATTCATTCAATGAGTGAGACGGAGG	0	0
TTCGTTAAGTCTGATGTGAAAGCCCTGGGCTCA	1163	2044
AACAACTCATTGTAAAAGATGAGACGGAGGCGG	0	0
TCAGACTAAGTCGAATGTAAAATACCAAGGCTT	8	0
GAATGTAAGTCAGACGTGAAATCCCGGAGCTCA	0	0
CCCTGTAAGTCAGTGGTGAAATATCTCAGCTTA	0	0
TGCTGTAAGTCAGATGTGAAATCCCCGGGCTTA	869	592
TTTGATAAGTCAGATGTGAAATCCCCGGGCTCA	909	1316
TTTGGTAAGTCAGATGTGAAAGCCCCGGGCTCA	297	221
TCTTTCAAGCGTCCTGTGAAAGCCTCCGGCTCA	701	1730
TTTTGTAAGTCAGATGTGAAATCCCCGGGCTTA	561	558
TTTGGTAAGACAGGCGTGAAATCCCCGGGCTCA	1090	1357
TTTGGTAAGCCTTCTGTTAAAGCTTCGGGCCCA	489	888
TTTCGGGCTGAGCTGTGAAGGCTCACCGCAAGG	118	149
TTATGCAAGACAGATGTGAAATCCCCGGGCTCA	379	1939
TTATGTAAGACAGATGTGAAATCCCCGGGCTCA	1131	792
CTTGGCAAGTCAGATGTGAAAGCCCATGGCTTA	456	496
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TTTGTCGCGTCTGCTGTGAAAACTCGGGGCTTA	431	884
TTCGGTCAGTCAGCCGTGAAAGCCCCGGGCTCA	154	170
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TCGTGCAAGACAGATGTGAAATCCCCGGGCTTA	841	484

TTTGCCAAGTTTGGTGTGAAATCTCCCGGCTTA	793	1099
TTTTCCAAGTTGGATGTGAAAGCCTTGAGCTCA	936	1039
CCCTGTAAGTCAGTGCTGAAATATCCCGGCTTA	924	835
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TTGTGTAAGACAGGTGTGAAATCCCCGGGCTTA	443	1097
CTTCGGGCTGGGCTGTGAAGGCTCATCGCAAGG	8	5
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CTTCGTAAGACAGAGGTGAAATCCCCGGGCTCA	618	956
CTCTTTAAGTCAGACGTGAAAGCCCTAGGCTTA	655	778
CTTTTCAAGTCAGAGGTGAAATCCCCAGGCTCA	16	11
AACAGCTCATTGTAAAAGATGAGACGGAGGCGG	0	0
TTTGTCGCGTCTGCAGTGAAAATCCGGGGCTCA	0	0
CCTTGTAAGTCTTGTGTGAAAGCCCTCGGCTTA	603	407
CTTTGTAAGACAGGTGTGAAATCCCCGGGCTTA	411	1024
CGCCATAAGACAGCTGTGAAATCCCCGGGCTTA	404	950
TTTGTTAAGTCTGCTGTGAAATCCCCGGGCTCA	475	1349
CTTGGTAAGTCAGGGGTGAAAGCTTCCCGCTCA	478	683
CTTCTTAAGCCAGACGTGAAATCCCCGAGCTTA	0	0
CTTGGCAAGTGAGGCGTGAAAGTCCTGGGCTCA	487	781
TCTATCAAGTCAGGCGTGAAATTCCCGGGCTCA	0	3
TTTCTGTGAGATTCGAATTGTTTGGCCTGCGGG	1193	449
TGATTTAAGTCAGTGGTGAAATACGGCAGCTTA	3	4
CTTTTCAAGTCAGACGTGAAAGCCCTGGGCTTA	642	628
CTTGATAAGTCAGATGTGAAAGCCCTCGGCTCA	35	69
TTTTGTAAGACTGTCGTGAAATCCCCGGGCTTA	73	1697
ACTTGTAAGTCAGTGGTGAAATCTTTGGGCTTA	487	466
CTCTTCAAGTCAGGCGTGAAAGCCCTGAGCTCA	183	476
TTTGTCAAGTCTGATGTTAAAGATCGGGGCTCA	265	593
TTGCGTAAGACAGATGTGAAATCCCCGGGCTCA	263	202
TTCTGTAAGATTGGTGTGAAATCTCCCGGCTTA	443	356
GTTTGTAAGTCAGTGGTGAAAGCCGGCAGCTTA	4	8
GTTCTGATTGTTCGGGCCTCGCGCTTTATAGCC	0	16
CTTTTTACGTCTGCTGTGAAATATCCCGGCTTA	0	0
CTTAATAAGTCAGGTGTGAAATCCCGGGGCTCA	15	1113
CATTGTAAGTGTCTGGTGAAATCCCACGGCTCA	9	9
GACCTCAAGTCGGTTGTGAAATCCCTCAGCTCA	0	0
CGATGTGTGTGAGGCGTGAAAGCCCGGGGCTTA	0	0
TCTTGTAAGTCAGTGGTGAAATACGGCAGCTTA	0	0

CCAAGTGTGTGAGGCGTGAAAGCCCGGGGCTTA	392	364
TTTAGTAAGTCAGTGGTGAAATCCGGCAGCTTA	0	0
CTTTGTAAGTCAGTGGTGAAAGCTCGGAGCTCA	343	391
CTTCGGGCTGAGCTGTGAAGGCTCACCGCAAGG	321	341
CCGAGCGGGTCGTGGGTGAAATCCCCCAGCTTA	189	558
CCGATCAAGTCAGGCGTGAAATTCCCGGGCTCA	12	12
GCTCGCAAGCGTCCTGTGAAATACCTCAGCTCA	148	153
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CTCGATTAGTCTCTTGTGAAAGCCTTGGGCTTA	94	664
TTTGCTAAGTCTGGTGTGAAATCTCCTGGCTTA	294	236
CTTTTTAAGTCGGATGTGAAATCCCCGGGCTCA	210	437
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CATCGTAAGTGTCTGGTGAAATCCCACGGCTCA	289	458
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GCGCTTAAGTCAGCGGTGAAATGCGGGGGCTCA	0	0
ACTATTAAGTCAGTGGTGAAAGCCCACAGCTCA	19	4
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TTGGATAAGTCAGTTGTGAAATTTCCTCGCTTA	0	0
ACCTTCAAGCGTTCTGTGAAATCCCCCGGCTCA	264	392
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ATGGGTCAGTCAGCCGTGAAAGCCCCGGGCTCA	10	17
TCTCGGGTGCAGGCCGACGGTCCACCTCGCGGT	387	165
GTTTGCAAGCGTTTTGTGAAAGCCCCCGGCTCA	234	378
ATTTTCAAGTCGATGGTGAAATCTTGCGGCTCA	350	360
CTGATTAAGTCTGACGTGAAATCTCCTGGCTTA	261	301
AACATCTTGCTCTTTGAGTGAGACGGAGGCGGA	0	0
CTTCATAAGTCGGATGTGAAATCCCTCGGCTTA	287	352
GCTATTAAGTCAGTGGTGAAATCTCCGAGCTTA	288	218
TTGTTTAAGTCTGTCGTGAAAGCCCTGGGCTCA	77	56
CTAGATAAGTCAGTGGTGAAAGCTGGTCGCTTA	0	0
GTTGGTAAGTCAGTGGTGAAATCCCCGAGCTTA	281	177
ATCTGTAAGTCAGTGGTGAAATCTCACAGCTTA	118	821
TTTTATAAGTCAGATGTGAAAGCCTTGGGCTTA	0	0
CTTCGATAGTCAGGCGTGAAATCCCCAGGCTCA	18	27
TTTTTGTTTGATTGCTTTGGAAAGGTTACTGTT	214	308
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TTAATCAAGTCAGACGTGAAAGCCTTGGGCTTA	0	0
AACAGCTCACACATTGATGTGAGACGGAGGCGG	0	0

AGCGCTAAGTCGGGCGTGAAATCCCCAGGCTCA	77	247
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ACCTGTAGGCGCGTTGTGAAAGCCCCCGGCTCA	0	3
CCTTATAAGTCAGTGGTGAAATCTCTGGGCTTA	255	133
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GTAAGTAAGTCAGCGGTGAAATCTCCGAGCTTA	171	322
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TCCTGCAAGTCGGATGTGAAATCCCACGGCTCA	159	291
TGCTCTAAGTTTGGTGTGAAATCTCCCGGCTCA	200	246
CTTTTCAAGTCAGGGGTGAAATCCCACGGCTCA	301	150
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CGCATTAAGTCTGACGTGAAATCTCCCGGCTTA	152	235
TTCTATAAGTCAGATGTGAAATCCCCGGGCTTA	142	192
CACTGTAAGTGTCTGGTGAAATCCCACGGCTCA	119	72
ACTGATAAGTCAGTGGTGAAATCCGACAGCTTA	0	0
CTTTTTAAGTCGGATGTGAAATCCCCGGGCTTA	78	267
GCAGTTAAGTCAGTGGTGAAATCTCCGGGCTTA	140	114
TTCCGTGCGTCGGAGGTGAAATCCCCGGGCTTA	125	243
TCGTGTGCGTCGGAGGTGAAATCCCCGGGCTTA	185	196
ACTGGAAAGTTGGGGGTGAAATCCCGAGGCTCA	207	170
TCCATTAAGTCAGTGGTGAAATACGGCAGCTTA	2	12
TTTGTCACGTCTGCTGTGAAAACTGGAGGCTCA	98	327
ATCTTTAAGTCAGGGGTGAAATCCCGAGGCTCA	63	328
CATGGCAAGTCACTTGTGAAATCTCCGGGCTTA	131	92
CCAACTAAGTCAGAAGTGAAAGCCCCGGGCTCA	0	0
TCTTTTAAGTGAGTGGTGAAATCCCGAGGCTCA	6	84
TTTCGTAAGACAGAGGTGAAATCCCCGGGCTCA	111	126
TCACCGAAGCTTTTCGCAGACTACCACGTCCTT	176	167
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TTGGTTAAGTCTGACGTGAAAGCTCCTGGCTTA	25	31
TCTTGCAAGACAGATGTGAAATCCCCGGGCTCA	173	134
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CCAAGCAGGTCGGATGTGAAATCCCTCGGCTCA	44	377
GAGAGAAAGTCAGATGTGAAATCCCGGGGCTCA	0	0
TTCACTAAGTCTGATGTGAAATCCCCCGGCTCA	6	0

TTGGGTAAGATTGACGTGAAACCTTCTGGCTTA	0	0
CTCTTTAAGTCGGATGTGAAATCCCCGGGCTCA	113	153
CTTGTCGCGTCTGCTGTGAAAACCCGGAGCTCA	0	0
CCCGATTAGTTGGAGGTGAAATCCCGGAGCTCA	0	0
TCTCGTAAGTCGACTGTGAAAGCCCTTGGCTCA	81	209
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TTTTGTAAGACAGGCGTGAAATCCCCGGGCTCA	114	129
TCAAATAAGTCAACTGTTAAATCTTGAGGCTCA	0	0
TTAGACAAGTGAGGCGTGAAAGCCCTGGGCTCA	66	216
TTTCTGGCGTGGTGCGTCTGGTCGCGCGGGGCG	123	109
GCTCTTAAGTGTCGCGTGAAAGCCCACGGCTTA	121	166
TATTGTAAGTCAGATGTGAAAGCCCCGGGCTTA	173	150
TGACTCAAGTCAGAGGTGAAAGCCTGGAGCTCA	2	7
CTATTCAAGTCAGAGGTGAAAGCCTGGAGCTCA	0	0
CATCGTAAGTCATGGTTGAAATCCGGCGGCTCA	2	0
ACATTTAAGTCAGAGGTGAAAGCCCAGGGCTCA	20	72
ATTGGCAAGTCAGAAGTGAAATCTTACGGCTCA	0	3
TTTAATAAGTCAGTGGTGAAAGCCCATCGCTTA	0	0
TGGGGAATGAAAGGAGGAAGGAGAAGGGGAACC	182	90
CTTTTTAAGTCAGACGTGAAAGCCCTAGGCTTA	117	119
ATCAGAAAGTCAGAGGTGAAATCCCAGGGCTCA	74	110
CCCACCAAGTGTCTTGTGAAATACCTTAGCTCA	0	0
TTCGGTCAGTCAGCCGTGAAAGCCCTGGGCTTA	0	0
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TCTAATAAGTGAGGGGTGAAATCCTGCGACTCA	75	157
CTTCGATAGTCAGGCGTGAAAGGCCTGGGCTCA	2	11
ATGATTAAGTTAGGAGTGAAATCCCCGGGCTCA	0	0
CTTGTCACGTCGGATGTGAAAACTCGGGGCTCA	82	132
CGATTCAAGTCAGATGTGAAATGCCTGAGCTCA	38	74
ACTGGAAAGTCAGGGGTGAAATCCCGGGGCTCA	0	0
ACTTGCAAGTCGATGGTGAAATCTTACGGCTCA	92	163
TTGGCTAAGTTTGGTGTGAAATCTCCCGGCTCA	135	79
TTTTGTAAGTTGGACGTTAAATCTCCAGGCTCA	0	0
TTACGTAAGTCTGATGTGAAAGCCCCGGGCTCA	0	0
CCGTTTAAGTTAGGTGTGAAAGTCCTGGGCTCA	0	0
TTTCGTAAGTTTGGTGTGAAATCTCCCGGCTTA	64	163

AATTTTTGGTCATGTTTTCACACACATTTTGTG	0	2
CGCGGTAAGTTGGGTGTGAAATCTCCCGGCTCA	72	90
TTCGGTAAGTTGGGCGTGAAATCTCCCGGCTCA	35	98
CATGGCAAGTCGGGAGTGAAAGCCCGGGGCTCA	42	127
ATGGTTAAGTCGGGTGTGAAATCCTGGGGCTCA	0	0
TTGGATAAGTCTGGCGTGAAATCATTCGGCTTA	0	0
TTTCGGGTATTTGTTGCCGGTTGGTCTTCGCGA	17	27
TATATTCAAACATATATATAATTTTAACAGGTG	0	3
CTATTTAAGTCAGTGGTGAAATACGGCAGCTTA	112	110
TTAGTCACGTCGGATGTGAAAACCCGGAGCTTA	84	104
TCGTGCAAGACAGATGTGAAATCCCCGGGCTCA	74	103
GTGTATAAGTCAGTGGTGAAATCCCCGAGCTTA	0	0
CTTGCCAAGTCTGGTGTGAAAGCCCACGGCTCA	47	132
CTTTGTAAGACAGTGGTGAAATCCCCGGGCTCA	0	0
TCTCGGGGTGCCGTTGTGGTTCTCTGTTTTCTT	7	12
CGTGGCAAGTCAGATGTGAAAGCCCGGGGCTCA	83	69
ATCGTTAAGTCAGAGGTGAAAGCTCACAGCTCA	0	0
TCTTGCAGGTCGGATGTGAAATCCCTCGGCTCA	33	131
TTTTGTTAGTTTGGTGTGAAATCTCCCGGCTTA	77	74
GCAGGTAAGTCAGCGGTGAAATCTCCGAGCTTA	83	92
CGGGGTAAGTCAGATGTGAAATCCCGGGGCTCA	0	0
ATCGGTAAGTGTTCTGTGAAAGCCCCCGGCTCA	64	110
GCCGCTAAGTGTCGTGTGAAATCCCAGGGCTCA	83	101
TCTGCTAAGTCGCGTGTGAAATGTCCCGGCTCA	76	126
GTTTTTAAGTCAGGGGTGAAATCCTGGAGCTCA	56	165
CGCCATAAGACAGATGTGAAATCCCCGGGCTTA	48	64
CCATCTAAGTCAGATGTGAAATCCCTTGGCTCA	0	0
CTCGGAAAGTCGGATGTGAAAGCCCTGGGCTCA	48	128
TTTGTTAAGTTGGGGGTTTAATCTCTGGGCTCA	31	74
CTTGCCAAGCGTCCTGTGAAATCCCGCGGCTCA	71	101
TTCTGTAAGTCAGATGTGAAATCCCCGGGCTTA	57	105
TTTGTCGCGTCGGGAGTGAAAACACACAGCTTA	53	141
TTTCGGCGTGCGCTCGGGCTGGTCGGCCGTCAA	104	27
CTGTTCAAGTCTGACGTGAAATCGCTCGGCTTA	47	93
TTCGGTAAGTTGGGCGTGAAATCTCCTGGCTTA	0	0
TATTGTAAGTCGGATGTGAAAGCCCCGGGCTTA	91	91
CGCGCCAAGTCAGATGTGAAAGCCCCGGGCTTA	58	114
TTTTGTAAGACAGTGGTGAAATCCCGGGCTCAA	0	0

TCTTGTAAGTCGAATGTGAAAGCCCCTGGCTCA	51	68
CTTGGCAAGTCTGATGTGAAAGCCCATGGCTCA	0	0
ACTTTTAAGTCGGAGGTGAAAGCCCAGGGCTCA	65	51
CTTCGGACTTGGAGGAACGGTCTGCCTTACGGT	18	298
TCTAAAAATTTCGAATGGAGAAAAGTTTAAAGC	32	47
CTTGCTAAGACTGACGTGAAAGCTCCTGGCTTA	46	94
GCTAGTAAGTCAGTGGTGAAATCTTCGAGCTTA	0	0
CTTGTTAAGATTGACGTGAAAACTGCTGGCTTA	66	92
CGGCGCAAGTGTCGAGTGAAATCCCACTGCTCA	44	110
TCATGCAAGACAGATGTGAAATCCCCGAGCTCA	58	120
CTTATTAAGCAGGGTGTGAAAGCCCCCGGCTCA	65	85
CTGGGTAAGCGTGTGGTGAAAGCCCGGGGCTCA	60	51
TTAGATACGTCTGATGTGAAAGTCCTGGGCTTA	0	0
ATAGTTTAGTCAGAGGTGAAAGCCCAGGGCTCA	32	151
TTCTGAAAGTCAGATGTGAAATCCCTGGGCTTA	32	52
AATTTTTGGTCATGTCTGTACACACATGTTGTG	0	2
CACGGATAGTTGGGTGTGAAAGCCCGGAGCTTA	40	32
CTTGGCAAGTCGGATGTGAAATCCCACGGCTCA	30	99
TTGTCTAAGACTGACGTGAAAGCTCCTGGCTTA	16	46
CCTTGTAAGTCTTGGGTGAAATCCCTCAGCTCA	38	118
CTAAGAGTGGGTGTGTAGTAATTAGTTTTATCA	0	0
CGATTTTAGTCAGGCGTGAAAGCCCTGGGCTCA	0	0
GCCCGCAAGCACTTTGTGAAATCCCTCGGCTCA	0	0
ACTGTCAAGTCAGAGGTGAAATCCCAAGGCTCA	21	107
CTTTGCAAGTCAGAGGTGAAATCCCCAGGCTCA	0	0
CGTTACAAGTCACTTGTGAAATCTCCGGGCTTA	68	61
GCATTTAAGTCAGTGGTGAAATCTCCGAGCTCA	45	63
TTTGGTAAGCCCTCTGTGAAAGCTTCGGGCTCA	62	100
TTTCTCTTAAGATCAACCAAATTGATAGTAAAA	3	9
CTTTGTAAGTCAGATGTGAAATCCCCGGGCTTA	65	83
ACCTGTAAGTGTCGTGTGAAAGCCCACCGCTCA	77	62
TTAAATAAGTCAGTTGTGAAATTCTCCGGCTTA	7	9
TTTGCTAAGTTTGGTGTGAAATCTCCCGGCTTA	79	66
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TCATGTAAGACAGATGTGAAATCCCCGGGCTTA	0	0
TTGAGAAAGTCTGACGTGAAATTTCTTGGCTTA	10	26
CTTTGCCAGTCAGGGGTGAAATCCCACAGCTTA	3	162
CTACTCAAGTCAGAGGTGAAAGCCCGGGGCTCA	12	35

CTCTTCAAGTCAGGCGTGAAAGCCCCGGGCTCA	67	67
CTTGTTAAGTCAGGGGTGAAATCCCGGAGCTCA	2	9
ACCAGAAAGTCAGAGGTGAAATCCCAGGGCTCA	0	0
TGGCTCAAGTTTGGTGTGAAATCTCCCGGCTCA	60	81
CCTTGCAAGTCAGAGGTGAAAGTCCTGGGCTCA	0	0
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TATCAGGTTTGCGGTGAGGGCAGTGTTTAGTTG	0	0
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GCAGGTAAGTCAGTGGTGAAATCTCCGAGCTTA	49	68
CTTGGTAAGCGTGCGGTGAAAGCTCGAGGCTCA	52	71
GCTGGTAAGTCAGTGGTGAAATCCCCGAGCTTA	0	0
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ACACTTAAGTCAGGGGTGAAATCCCGGGGCTCA	0	0
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GCATTTAAGTCAGTGGTGAAATCTCCGAGCTTA	44	74
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GATGATAAGTCAGCGGTCAAATCCGACAGCCTA	65	50
TTTGCTAAGACAGGTGTGAAATCCCCGGGCTTA	70	28
ACTTTTAAGTGTCGCGTGAAAGCCCACGGCTTA	62	64
TCTTGCGCGTCGGAGGTGAAATCCCCGGGCTTA	29	87
TTATCTAAGTCAGGTGTGAAATCTCTCGGCTCA	63	28
CTGAGGGCGCCCAAGTAGACGGTCAAGTCCCAT	0	5
CTTGACAAGTCAGGAGTGAAATCCCAGGGCTTA	0	0
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TTTGTCGCGTCTGCTGTGAAAATCCGGGGCTCA	35	69
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CTGAGCAAGTGCGATGTGAAAGCCCCCGGCCTA	30	82
CGTGGTAAGTCAGCTGTGAAATCTCCGAGCTTA	59	39
TTTGATCAGTTAGGTGTGAAATTCCTGGGCTTA	5	2
ACTATTAAGTCAGGGGTGAAAGCCCGCAGCTCA	0	0
CTTGGATAGTCGGGTGTGAAAGCCCAGGGCTCA	5	2
GTTCGTAAGTGTCTTGTGAAATCCCCCGGCTCA	61	70

CCTGGTAAGTCGGGGGTGAAACGCTGCGGCTCA	42	63
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TTGGCTAAGTCAGATGTGAAAGCCCCGGGCTCA	0	0
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CTTTTTGCGTCAGAGGTGAAATCCACGGGCTTA	0	43
TCCTCCAAGCGTCTTGTGAAATCCCACGGCTCA	52	52
TCGGGTAAGTCTGACGTGAAATCTTCAAGCTCA	51	57
TTTTTAAGACAGGCGTGAAATCCCCGGGCTTAA	33	19
ATTGGTAAGTCAGAGGTGAAAGCCCGTAGCTTA	0	0
GCTTTTAAGTCAGTGGTGAAATCTCCGGGCTCA	22	65
ATTGTTAAGTTAGGGGTGAAATCCCAGGGCTCA	40	19
CTGGGTAAGCGTGTGGTGAAAGTCCGGGGCTCA	21	17
TATCCGGCGTCTCTGACGTCTGCCTGACTCGGC	58	62
CTGAGGGCCGCTCAAGGTTTTCAAGCAAGTCCC	0	0
TCTGTTAAGTCAGTGGTGAAATACGGCAGCTCA	38	57
TTTGCTAAGTCTTGTGTGAAAGCCCTGGGCTCA	42	69
TCCGGTCAGTCAGCCGTGAAAGCCCCGGGCTCA	0	0
ACTATTAAGTCAGGGGTGAAATCCCGGGGCTCA	12	35
TTTTTCAAGTCAGGGGTGAAAGCCCGGAGCTCA	0	0
CCGTGTGTGTGAGGTGTGAAATCCCGGAGCTTA	29	26
TCTTGTAAGACAGTGGTGAAATCCCCGGGCTCA	0	0
TCCTACAAGCCAGAGGTGAAATCCCGGAGCTTA	0	34
TTTAATAAGTCAGTGGTGAAAGCCTATCGCTTA	74	65
CTTGGCAAGTCGGGCATGAAATCTCCTGGCTTA	20	64
ACTGGAAAGTCAGAGGTGAAATCCCAGGGCTCA	0	0
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TGTTATAAGTCTGATGTGAAACCTTCTGGCTTA	15	42
CCCGATAAGTCCCGCGTGAAATCCCCCGGCTCA	29	74
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GTTGGTAAGTCAGTGGTGAAATCTCCGGGCTTA	68	39
TCCTATAAGTCGGATGTGAAAGCCCCGGGCTCA	70	34
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TCTGCCAAGCTCGATGTGAAATCCCCGGGCTTA	32	56
ACATTTAAGTCAGACGTGAAATCCCCGGGCTTA	0	0
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ACCAGAAAGTCAGAGGTGAAAGCCCGGGGCTCA	32	33
TTTTGTAAGTCAGTGGTGAAATCCGGCAGCTCA	0	0
ACTTTTAAGTCGGGGGTGAAATCCCGGGGCTCA	65	28

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CTACTTAAGTCAGTGGTGAAATACGGCAGCTTA	44	48
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GTTGCTAAGTCAGGGGTGAAATCCTGGAGCTCA	27	49
TTTCTGGTGTGGTACGCCGAGCCCGCCCTTAGG	33	25
TTTGTCGCGTCTGCCGTGAAAATCCGGGACTCA	6	7
TTTGATAAGACAGGCGTGAAATCCCCGGGCTTA	41	40
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TTAGTCACGTCGGATGTGAAAACCCGGGGCTTA	53	45
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CCCTGCGCGTCGAGCGTGAAAGGCCTGGGCTCA	7	15
TTTCGCAAGTCAGATGTGAAAGCCCCGGGCTTA	32	37
TTCGGTAAGTTGGGCGTGAAATCTCTTGGCTTA	12	0
TTTGTCGCGTCTGCTGTGAAATCCCGAGGCTCA	0	27
ATTGATAAGTTATTGTTTAAATTCATGGGCTTA	63	33
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CATGGTGTGTCGGGCGTGAAACTCCGGAGCTTA	41	40
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CTCTGCAGGTCGGATGTGAAATCCCTCGGCTCA	2	4
TCTCGTAAGTTCGGTGTGAAATCTCCCGGCTCA	33	46
TCGCTTAAGTAATGCGTTAAAGCCTTGGGCTCA	43	38
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CTTGGCAAGTCAGATGTGAAAGCCCTCGGCTTA	38	55
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GCTCGTAAGTGTTCTGTGAAAGCCCACGGCTCA	24	51
TTTAATAAGTCAGTGGTGAAAGCCCGCAGCTCA	40	52
ACCCGAAGGTGCATCGTGAAATCCCTTGGCTCA	0	0
TCTGTCGCGTCGGAAGTGAAAACTCGGGGCTCA	15	50
CCTGATAAGCCTGGCGTGAAAGTCACCGGCTCA	0	0

TTTTGTAAGTCGGTTGTGAAATCCCTGGGCTCA	0	0
TTGTAAGACAGTGGTGAAATCCCCGGGCTCAAC	0	0
CATCGTAAGTGTCGGGTGAAATCCCACGGCTCA	29	47
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GTTGGTAAGTCAGTGGTGAAATCTCCGAGCTTA	40	28
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TCTGGTAGGTGAGGTGTGAAATCCCCCGGCTCA	12	18
TGTTGTAAGTCAGTGGTGAAATCCGGCAGCTTA	0	0
GTTTGTAAGTAGAGGGTGAAATCCCAGGGCTCA	0	0
TTTTGTAAGACAGAGGTGAAATCCCCGGGCTCA	46	18
TTTCGTAAGTCTGGCGTGAAATTTCTCGGCTTA	41	32
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ACTTTTAAGTCGGGTGTGAAATCCCGGGGCTCA	0	43
CCTTATAAGTCAGTGGTGAAATCTTTGGGCTTA	52	17
AATGATAAGTCAGTGGTGAAATCCTGCAGCTTA	23	49
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TTGCGTGTGTCTGGTGTGAAATCTCCTGGCTCA	13	27
TGTTGTAAGTCAGATGTGAAATCCCCGGGCTTA	13	7
TTGGGTAAGTCAGATGTGAAATCCCGGGCTCAA	14	0
ACTGGAAAGTTGGGGGTGAAATCCCGGGGCTCA	18	21
ATAGGTAAGTCAGAGGTGAAAGCCTGGAGCTTA	0	0
TTAGATAAGTCAGTTGTGAAATTCCCCGGCTTA	24	23
TTAGATAAGTCAGTTGTGAAATTCCTCGGCTTA	30	27
ACCACTCAGTCAGGCGTGAAAGCCCCGGGCTCA	18	42
CGGATCAAGTGAGGCGTGAAAGGCCTGGGCTCA	14	62
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ACTTGTAAGTCAGTGGTGAAATCTGTGGGCTTA	13	52
CTCTTCAAGTCAGACGTGAAAGCCCCGGGCTCA	33	27
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TTATTTAAGTCCGTTGTGAAAGCCCTGGGCTCA	17	87
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TTGGGTAAGTCTAATGTGAAATCTCCGAGCTCA	27	32
CCTGTTAAGTCAGGGGTGAAATCCTGGAGCTCA	0	0
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TTTTGTAAGACAGGCGTGAAATCCCCGGGCTTA	0	0
TGATGTAAGACAGAGGTGAAATCCCCGGGCTCA	16	28

CGTCGCAAGTCAGGCGTGAAATCCCCGGGCTTA	17	38
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CCATGTAAGTCGGATGTGAAAGCCCTCAGCTCA	17	35
CGCTACAAGTCAGGGGTGAAATCCCAGAGCTTA	11	30
TTCGTTAAGTCTGATGTGAAAGCCCCGGGCTCA	3	23
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AATTCTAAGTCAGTGGTGAAAGCCTCCCGCTTA	22	13
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TCTTGTAAGACAGATGTGAAATCCCCGGGCTCA	3	0
AATGAACTTTTTTTTTTCGATTCTTGTTTTGGC	20	22
TGTCGTAAGTGTCTGGTGAAATCCCACGGCTCA	0	0
CCTTTTAAGTCTTAATCAAAGAAGCTAAGCCTA	35	7
CGCGACAAGTGAGGTGTGAAAGCTCCTGGCTCA	18	24
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CTCAGAAAGTTGGGTGTGAAATCCCCCGGCCTA	4	0
TTGGGTAAGTCTGTGGTGAAATTTCGAGGCTCA	25	11
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CTCGGTAAGCGTGTGGTGAAAGCCCGGGGCTCA	6	12
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CGCAGAAAGTTGGGTGTGAAATCCCTCGGCTCA	4	2
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ACCTGCAAGTCGGTGGTGAAAGCCCGGGGCTCA	0	2
TTTCGTAAGACAGTGGTGAAATCCCCGGGCTCA	0	0
TAAAGTAAGTCAGTGGTGAAATCCCTTCGCTCA	12	12
TTCGTTAAGTCTGTCGTGAAATCCCCGGGCTCA	8	20
CGTGACAAGTCACTTGTGAAATCTCCGGGCTTA	23	13
GCTGCCAAGTCTGTGGTGAAATCCTCCAGCTTA	11	25
ACAGTTTAGTCAGAGGTGAAAGCCCAGGGCTCA	0	27
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CCGGTCAAGTCGGATGTGAAAGCCCTGGGCTCA	7	24
CTTCGTAAGTTGGACGTTAAATCTTTCGGCCTA	8	15
CTGAGTAAGTTGAGGTTGAAATCCGGCGGCTCA	0	0
AATGCTAAGTCAGTGGTGAAATCTCCCGGCTTA	3	6
CGTCGTAAGTCGGATGTGAAAGCCCTCGGCTCA	0	0
TCTCGTAAGTCTACTGTGAAATCCCCGGGCTTA	0	0
CCTTATAAGTCAGTGGTGAAATCTTTCCGCTTA	10	7
CTACTTAAGTTGGGTGTGAAATCCCCGGGCTTA	7	18
TTATGCAAGACAGAGGTGAAATCCCCGGGCTCA	9	28
TAAGATAAGTCAGATGTGAAATCCCGGAGCTTA	0	10
ACTTATAAGTCAGTGGTGAAATCCTGTCGCTTA	0	30
TTTGTTAAGTCAGGTGTGAAATCCCCCGGCTCA	7	15
TTTCGGAGCATTCACGATGCTGACCGCTGAAAC	5	0
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TCAGGTCAGTCGGATGTGAAATCCCCGGGCTCA	0	0
GTTCTGGCTGTATTGGGCCTTTGCACTTGATGC	0	25
CGCATCAAGTCGGGCGTGAAAGCCCCGGGCTCA	0	0
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CTGTGTCAGTCAGGCGTGAAATTCCTGGGCTTA	6	9
CCTGTTAAGACTGACGTGAAAGCTCCTGGCTTA	5	7
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TTGACTAAGTCGGATGTGAAAGCTCCTGGCTTA	10	15
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	72516	77602

Flocs Control 3	Flocs Treated 1	Flocs Treated 2	Flocs Treated 3
0	0	0	0
4239	25486	19194	21336
5190	21586	22848	29131
2	5	3	0
5077	5942	4249	4840
2554	6123	4364	5020
354	258	229	192
4126	3287	2075	3787
882	869	839	944
0	0	0	0
0	0	2	3
6	0	2	0
208	92	130	130
1459	1491	1161	1086
0	2	2	2
3546	1848	976	1736
2	0	0	0
10	22	33	29
0	0	0	0
0	0	2	0
406	233	294	783
1193	954	758	737
174	163	129	204
1387	1087	1154	646
681	563	368	479
1460	942	679	929
752	358	504	545
192	111	142	144
1766	433	545	121
927	980	472	1207
437	410	278	352
0	0	0	0
0	2	0	0
890	1262	1312	498
180	86	103	111
0	0	0	0
536	1163	972	855

862	654	505	564
777	483	505	537
690	485	346	639
3	2	0	0
663	793	743	587
0	0	2	4
0	0	0	0
683	406	443	659
805	611	443	483
17	12	5	8
0	0	0	0
0	0	0	0
524	865	400	872
525	563	621	349
607	444	503	280
822	150	221	157
748	544	448	507
0	0	0	0
737	346	410	420
0	0	0	0
539	281	119	312
2	2	0	3
437	399	314	447
76	38	25	29
529	34	252	6
583	417	243	449
136	110	161	148
391	293	330	252
268	797	516	576
385	291	260	329
2	2	3	3
2	3	14	0
0	0	0	0
134	71	780	13
8	9	3	11
0	0	0	0
0	0	0	0
0	0	0	0

348	246	183	229
4	0	0	0
302	241	153	184
431	314	303	307
310	359	400	197
16	11	10	12
148	93	84	95
0	0	0	0
318	284	483	75
264	217	191	248
458	262	233	245
0	0	0	0
280	358	269	202
16	7	7	12
0	0	0	0
6	4	0	10
0	0	0	0
0	0	0	0
261	294	270	179
0	0	0	0
14	8	8	10
367	261	109	342
312	227	259	174
286	189	175	177
363	237	186	203
0	0	0	0
265	141	213	212
267	247	182	243
286	436	309	280
0	0	0	0
227	172	161	248
291	13	25	0
0	0	0	0
44	28	28	17
271	165	194	132
261	195	215	184
0	0	0	0
0	0	0	0

139	105	118	99
0	0	0	0
3	0	0	0
269	226	83	218
2	20	9	8
250	148	148	100
0	0	0	0
224	118	142	188
227	151	133	161
202	159	90	217
0	0	0	0
216	159	159	98
323	236	130	129
277	11	153	2
230	122	158	154
179	140	76	161
116	95	81	122
0	401	515	282
235	173	152	123
128	66	88	95
203	185	123	129
217	157	113	124
194	151	149	101
10	3	11	2
209	99	129	91
171	86	113	56
252	299	47	81
0	0	0	0
20	24	79	4
84	71	56	73
188	118	96	116
0	0	0	0
27	12	19	11
157	103	136	146
155	121	116	125
167	62	105	51
0	0	0	0
4	138	60	70

0	0	3	0
186	103	118	125
0	311	86	396
0	0	0	0
157	115	131	62
182	137	110	85
141	111	136	52
0	0	0	0
101	91	52	104
0	0	0	0
155	92	116	66
159	141	86	107
142	114	77	81
129	52	52	131
7	3	3	0
0	0	0	0
0	0	0	0
58	36	15	10
0	0	0	0
0	49	48	416
125	50	50	144
119	121	73	106
147	110	150	35
0	0	0	0
0	0	0	0
0	0	0	0
138	96	88	48
2	8	6	0
0	0	0	0
116	94	93	64
54	31	55	31
0	0	0	0
87	81	82	63
122	74	61	92
0	0	0	0
0	0	0	0
0	0	0	0
110	72	71	58

0	2	0	2
107	106	90	91
82	68	105	51
122	80	102	66
0	0	0	0
0	0	0	0
48	24	11	31
0	0	0	0
104	76	42	59
130	66	70	56
83	89	86	88
0	0	0	0
97	72	95	69
0	0	0	0
12	10	6	4
80	73	55	73
0	0	0	0
85	103	125	31
132	75	61	70
86	75	76	82
0	0	0	0
116	82	56	55
102	73	63	54
75	74	68	61
82	35	41	35
50	41	49	35
0	0	0	0
82	61	99	53
75	34	87	45
105	70	54	61
99	61	58	55
103	47	76	35
62	64	20	103
91	37	50	50
0	0	0	0
100	51	48	70
102	41	73	53
0	0	0	0

98	34	52	52
0	0	0	0
111	86	35	61
42	4	34	3
34	20	30	19
90	48	48	56
0	0	0	0
93	45	47	48
87	42	44	33
76	47	63	48
67	61	64	54
55	108	35	42
0	0	0	0
145	18	26	14
40	19	34	36
3	3	0	5
30	25	13	30
67	54	90	39
21	15	26	7
76	45	65	47
0	0	0	0
0	0	0	0
0	0	0	0
79	70	92	16
0	0	0	0
94	62	40	52
64	45	39	36
56	46	54	53
12	2	0	2
85	46	38	44
69	49	43	67
3	5	8	4
68	62	36	52
71	28	22	94
0	0	0	0
18	12	14	13
56	41	83	10
17	3	9	6

65	52	43	28
7	9	4	3
0	0	0	0
66	43	55	38
0	0	0	0
0	0	0	0
0	0	0	0
84	49	32	45
4	0	6	3
68	51	41	44
53	76	33	44
0	0	0	0
52	44	45	37
0	0	0	0
30	4	4	2
0	0	0	0
71	45	42	32
57	42	60	38
43	36	20	24
39	60	46	78
61	52	33	43
51	51	38	54
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1207	1760	1760	1138
1459	1564	1003	1209
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2587	4432	2909	1873
2432	4528	2905	1826
2447	4485	2872	1778
2927	1773	1742	2207
1175	594	642	693
1726	3065	1982	1282
47	31	81	21
1543	2696	1829	1272
2625	2024	1164	1926
1097	1584	1768	730
2362	1685	619	1490
909	803	780	582
196	199	169	295
1345	725	767	950
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663	645	610	527
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596	465	413	430
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88	80	73	57
326	534	356	365
226	277	148	649
685	483	188	460
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384	380	396	290
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164	308	192	126

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
1	0	0	0
1	0	0	0
1	0	0	0
0	1	0	0
0	1	0	0
0	1	0	0
0	1	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
91669	96000	71416	77524

Granules Treated 2	Granules Treated 3	tag	use	taxon_level
0	0	TTTTGTAAGA	long	g
13794	11628	TTGGGTAAGT	long	g
293	253	CTTTGTAAGT	long	g
8347	4740	CCTGACAAGTCTGATGTGAAAGACCTGGGC		
1255	1754	TGATGTAAGA	long	g
1122	1088	TTTTTTAAGA	long	g
3715	3906	CTCGAAAAGCGTTCCGTGAAATCCCCCGGC		
2	5	CTTGCCAAGTGCTTTGTGAAATCCCACGGCT		
1571	2002	TTTTGTAAGA	long	g
2864	2725	AACATCTCACACATTGATGTGAGACGGAGG		
2733	2761	AACAACTCACACATTGATGTGAGACGGAGG		
2679	2763	AACAACTCATTCAGTCAATTGATTGAGACG		
1642	1718	TTTGGTCAGT	long	g
653	710	TTTGGTAAGT	long	g
1818	1871	AACAACTCATTCATTCAATGAGTGAGACGG		
16	113	TTCGTTAAGT	tag	f
1642	1722	AACAACTCATTGTAAAAGATGAGACGGAG		
1351	1252	TCAGACTAAG	long	o
1142	1779	GAATGTAAGTCAGACGTGAAATCCCGGAG		
1225	643	CCCTGTAAGT	long	f
670	853	TGCTGTAAGTCAGATGTGAAATCCCCGGGC		
108	142	TTTGATAAGT	tag	g
671	959	TTTGGTAAGT	long	g
18	13	TCTTTCAAGCGTCCTGTGAAAGCCTCCGGCT		
461	526	TTTTGTAAGT	tag	f
20	9	TTTGGTAAGA	long	g
392	419	TTTGGTAAGC	long	g
496	874	TTTCGGGCTGAGCTGTGAAGGCTCACCGCA		
0	0	TTATGCAAGA	long	f
5	4	TTATGTAAGA	tag	f
375	577	CTTGGCAAGTCAGATGTGAAAGCCCATGGC		
0	0	TTTGTAAGACAGTGGTGAAATCCCCGGGCT		
753	507	TAATATAAGTTGGGCGTGAAACCTCTGAGC		
0	0	TTTGTCGCGT	tag	g
480	554	TTCGGTCAGT	long	g
745	810	TATGATAAGTCAGGTGTGAAATCCCGGGGC		
3	5	TCGTGCAAGA	tag	f

15	8	TTTGCCAAGT	tag	o
16	20	TTTTCCAAGT	tag	g
42	57	CCCTGTAAGT	long	f
597	122	TCTTATAAGTCAGTGGTGAAATCTCGCAGC		
0	0	TTGTGTAAGA	long	f
477	679	CTTCGGGCTGGGCTGTGAAGGCTCATCGCA		
358	919	TTAGATAAGT	long	g
29	23	CTTCGTAAGACAGAGGTGAAATCCCCGGGC		
0	0	CTCTTTAAGTCAGACGTGAAAGCCCTAGGC		
703	731	CTTTTCAAGTCAGAGGTGAAATCCCCAGGC		
518	587	AACAGCTCATTGTAAAAGATGAGACGGAG		
333	591	TTTGTCGCGT	long	g
0	0	CCTTGTAAGTCTTGTGTGAAAGCCCTCGGC		
0	0	CTTTGTAAGA	long	o
29	57	CGCCATAAGA	long	g
0	2	TTTGTTAAGT	long	f
0	0	CTTGGTAAGTCAGGGGTGAAAGCTTCCCGC		
701	589	CTTCTTAAGCCAGACGTGAAATCCCCGAGC		
0	0	CTTGGCAAGT	tag	g
341	420	TCTATCAAGT	long	f
0	0	TTTCTGTGAGATTCGAATTGTTTGGCCTGCG		
413	226	TGATTTAAGTCAGTGGTGAAATACGGCAGC		
3	3	CTTTTCAAGTCAGACGTGAAAGCCCTGGGC		
430	396	CTTGATAAGTCAGATGTGAAAGCCCTCGGC		
0	0	TTTTGTAAGA	long	g
9	7	ACTTGTAAGT	long	f
168	199	CTCTTCAAGT	tag	o
52	97	TTTGTCAAGT	long	o
11	15	TTGCGTAAGA	tag	c
61	83	TTCTGTAAGATTGGTGTGAAATCTCCCGGC		
355	350	GTTTGTAAGTCAGTGGTGAAAGCCGGCAG		
380	527	GTTCTGATTGTTCGGGCCTCGCGCTTTATAG		
324	192	CTTTTTACGTCTGCTGTGAAATATCCCGGCT		
21	53	CTTAATAAGT	tag	c
314	371	CATTGTAAGT	tag	c
276	430	GACCTCAAGTCGGTTGTGAAATCCCTCAGC		
279	370	CGATGTGTGTGAGGCGTGAAAGCCCGGGG		
167	12	TCTTGTAAGTCAGTGGTGAAATACGGCAGC		

32	65	CCAAGTGTGT	long	g
342	246	TTTAGTAAGT	tag	f
33	67	CTTTGTAAGT	long	f
0	0	CTTCGGGCTGAGCTGTGAAGGCTCACCGCA		
0	0	CCGAGCGGG	long	g
175	271	CCGATCAAGT	long	f
164	110	GCTCGCAAGCGTCCTGTGAAATACCTCAGC		
281	332	AACATCTCAGTCAATCGATTGAGACGGAGG		
0	0	CTCGATTAGTCTCTTGTGAAAGCCTTGGGCT		
63	62	TTTGCTAAGT	long	o
2	0	CTTTTTAAGT	long	f
237	210	CTTGACAAGTCGGATGTGAAATCCCTCGGC		
0	0	CATCGTAAGTGTCTGGTGAAATCCCACGGC		
252	172	TTTCTGAAAATAATCTTGTGATTGATTTAAC		
258	274	GCGCTTAAGT	long	g
276	164	ACTATTAAGTCAGTGGTGAAAGCCCACAGC		
232	312	CTTGGCAAGT	long	g
251	241	TTGGATAAGTCAGTTGTGAAATTTCCTCGCT		
0	0	ACCTTCAAGCGTTCTGTGAAATCCCCCGGCT		
185	321	CTTGATAAGT	long	f
185	254	ATGGGTCAGT	long	g
0	0	TCTCGGGTGC	tag	p
0	0	GTTTGCAAGCGTTTTGTGAAAGCCCCCGGC		
0	0	ATTTTCAAGT	tag	f
0	0	CTGATTAAGTCTGACGTGAAATCTCCTGGCT		
197	251	AACATCTTGCTCTTTGAGTGAGACGGAGGC		
0	0	CTTCATAAGT	long	g
5	3	GCTATTAAGT	long	f
7	0	TTGTTTAAGT	long	g
193	102	CTAGATAAGTCAGTGGTGAAAGCTGGTCGC		
21	22	GTTGGTAAGT	tag	f
0	0	ATCTGTAAGT	long	g
230	205	TTTTATAAGTCAGATGTGAAAGCCTTGGGCT		
139	168	CTTCGATAGTCAGGCGTGAAATCCCCAGGC		
0	0	TTTTTGTTTGATTGCTTTGGAAAGGTTACTG		
0	0	TCGGGTAAGT	tag	c
148	180	TTAATCAAGTCAGACGTGAAAGCCTTGGGC		
165	200	AACAGCTCACACATTGATGTGAGACGGAGG		

58	55	AGCGCTAAGTCGGGCGTGAAATCCCCAGG		
174	254	TATAGTAAGTTAGAAGTGAAAGCCTTGGGC		
139	134	ACCTGTAGGCGCGTTGTGAAAGCCCCCGGC		
0	0	CCTTATAAGT	long	f
153	190	TGGATTAAGTCGGGTGTGAAATCTCCGGGC		
0	0	GTAAGTAAG	long	g
139	290	CCCCATAAGTCAGTCGTGAAATCGCTGGGC		
0	0	TCCTGCAAGTCGGATGTGAAATCCCACGGC		
0	0	TGCTCTAAGT	long	o
0	0	CTTTTCAAGTCAGGGGTGAAATCCCACGGC		
129	199	CCCTGCAAGTCAGAGGTGAAAGTCCTGGG		
0	0	TCCGCTAAGT	long	c
6	11	GCTGGTAAGTCCGTGGTGAAATCCCCGAGC		
0	0	TTTGGTAAGA	long	g
0	0	CGCATTAAGT	long	f
34	22	TTCTATAAGT	long	g
71	35	CACTGTAAGT	long	c
0	0	ACTGATAAGT	long	g
0	0	CTTTTTAAGT	tag	p
58	30	GCAGTTAAGT	long	g
0	0	TTCCGTGCGT	long	o
0	0	TCGTGTGCGTCGGAGGTGAAATCCCCGGG		
0	4	ACTGGAAAG	long	g
123	89	TCCATTAAGT	long	f
0	0	TTTGTCACGT	long	f
8	12	ATCTTTAAGT	tag	o
0	0	CATGGCAAG	long	o
114	143	CCAACTAAGTCAGAAGTGAAAGCCCCGGG		
76	157	TCTTTTAAGTGAGTGGTGAAATCCCGAGGC		
39	51	TTTCGTAAGA	long	f
0	0	TCACCGAAGCTTTTCGCAGACTACCACGTCC		
47	129	TTTGTTAAGT	long	f
113	80	TTGGTTAAGTCTGACGTGAAAGCTCCTGGC		
0	0	TCTTGCAAGA	long	g
5	3	CTTTGCAAGA	long	f
0	0	CCAAGCAGGTCGGATGTGAAATCCCTCGGC		
121	161	GAGAGAAAGTCAGATGTGAAATCCCGGGG		
89	84	TTCACTAAGTCTGATGTGAAATCCCCCGGCT		

102	94	TTGGGTAAGATTGACGTGAAACCTTCTGGC		
0	0	CTCTTTAAGT	tag	g
28	33	CTTGTCGCGT	long	g
79	118	CCCGATTAGTTGGAGGTGAAATCCCGGAGC		
0	0	TCTCGTAAGTCGACTGTGAAAGCCCTTGGC		
0	0	CTTGACAAGTCAGATGTGAAAGCCCTCGGC		
0	0	TCTTGTGCGTCGGAGGTGAAATCCCCGGGC		
91	147	TTTCTTAAGC	long	f
12	24	TTTTGTAAGA	tag	c
74	35	TCAAATAAGT	tag	c
0	0	TTAGACAAGT	long	g
0	0	TTTCTGGCGTGGTGCGTCTGGTCGCGCGGG		
0	0	GCTCTTAAGTGTCGCGTGAAAGCCCACGGC		
0	0	TATTGTAAGTCAGATGTGAAAGCCCCGGGC		
102	35	TGACTCAAGT	long	f
63	95	CTATTCAAGT	long	f
97	77	CATCGTAAGTCATGGTTGAAATCCGGCGGC		
39	48	ACATTTAAGT	tag	g
77	98	ATTGGCAAGTCAGAAGTGAAATCTTACGGC		
48	6	TTTAATAAGT	long	g
0	0	TGGGGAATGAAAGGAGGAAGGAGAAGGG		
0	0	CTTTTTAAGT	tag	o
0	0	ATCAGAAAGT	long	f
63	125	CCCACCAAGTGTCTTGTGAAATACCTTAGCT		
90	91	TTCGGTCAGTCAGCCGTGAAAGCCCTGGGC		
116	150	TTAGGTAAGT	tag	c
0	0	TCTAATAAGTGAGGGGTGAAATCCTGCGAC		
75	75	CTTCGATAGTCAGGCGTGAAAGGCCTGGGC		
65	102	ATGATTAAGT	long	f
0	5	CTTGTCACGT	long	c
30	30	CGATTCAAGT	long	g
46	125	ACTGGAAAGT	long	g
0	0	ACTTGCAAGTCGATGGTGAAATCTTACGGC		
0	0	TTGGCTAAGT	tag	f
77	75	TTTTGTAAGT	tag	p
152	52	TTACGTAAGT	long	g
66	55	CCGTTTAAGT	long	g
0	0	TTTCGTAAGT	tag	o

88	40	AATTTTTGGTCATGTTTTCACACACATTTTG		
0	0	CGCGGTAAG	long	f
12	20	TTCGGTAAGT	long	f
0	3	CATGGCAAG	long	f
47	139	ATGGTTAAGTCGGGTGTGAAATCCTGGGG		
83	85	TTGGATAAGT	long	f
55	62	TTTCGGGTATTTGTTGCCGGTTGGTCTTCGC		
79	101	TATATTCAAACATATATATAATTTTAACAGG		
3	0	CTATTTAAGT	long	f
0	0	TTAGTCACGT	long	o
0	0	TCGTGCAAG	long	f
92	49	GTGTATAAGTCAGTGGTGAAATCCCCGAGC		
0	0	CTTGCCAAGTCTGGTGTGAAAGCCCACGGC		
0	0	CTTTGTAAGA	long	g
51	65	TCTCGGGGTGCCGTTGTGGTTCTCTGTTTTC		
4	5	CGTGGCAAG	tag	k
58	57	ATCGTTAAGTCAGAGGTGAAAGCTCACAGC		
0	0	TCTTGCAGGT	tag	p
0	0	TTTTGTTAGTTTGGTGTGAAATCTCCCGGCT		
0	0	GCAGGTAAG	long	g
66	76	CGGGGTAAG	long	f
0	0	ATCGGTAAGTGTTCTGTGAAAGCCCCCGGC		
0	0	GCCGCTAAGTGTCGTGTGAAATCCCAGGGC		
0	0	TCTGCTAAGT	long	c
8	2	GTTTTTAAGT	long	g
18	36	CGCCATAAG	long	f
56	26	CCATCTAAGTCAGATGTGAAATCCCTTGGCT		
0	0	CTCGGAAAG	long	g
24	21	TTTGTTAAGT	long	g
0	0	CTTGCCAAGCGTCCTGTGAAATCCCGCGGC		
5	6	TTCTGTAAGT	long	g
0	0	TTTGTCGCGT	long	g
12	12	TTTCGGCGTGCGCTCGGGCTGGTCGGCCGT		
8	15	CTGTTCAAGTCTGACGTGAAATCGCTCGGC		
68	98	TTCGGTAAGT	long	f
0	0	TATTGTAAGTCGGATGTGAAAGCCCCGGGC		
0	0	CGCGCCAAGTCAGATGTGAAAGCCCCGGG		
0	0	TTTTGTAAGACAGTGGTGAAATCCCGGGCT		

13	15	TCTTGTAAGT	tag	c
39	117	CTTGGCAAGTCTGATGTGAAAGCCCATGGC		
0	5	ACTTTTAAGT	long	g
0	0	CTTCGGACTT	long	g
25	47	TCTAAAAATTTCGAATGGAGAAAAGTTTAA		
4	3	CTTGCTAAGACTGACGTGAAAGCTCCTGGC		
61	31	GCTAGTAAGT	long	g
5	0	CTTGTTAAGATTGACGTGAAAACTGCTGGC		
9	10	CGGCGCAAGTGTCGAGTGAAATCCCACTGC		
0	0	TCATGCAAGA	long	f
3	0	CTTATTAAGC	long	g
6	3	CTGGGTAAGCGTGTGGTGAAAGCCCGGGG		
64	49	TTAGATACGTCTGATGTGAAAGTCCTGGGC		
0	0	ATAGTTTAGT	tag	f
28	38	TTCTGAAAGTCAGATGTGAAATCCCTGGGC		
56	22	AATTTTTGGTCATGTCTGTACACACATGTTG		
30	28	CACGGATAGTTGGGTGTGAAAGCCCGGAG		
2	5	CTTGGCAAGTCGGATGTGAAATCCCACGGC		
34	36	TTGTCTAAGACTGACGTGAAAGCTCCTGGC		
0	0	CCTTGTAAGT	long	f
30	16	CTAAGAGTGC	tag	g
41	57	CGATTTTAGT	long	f
34	72	GCCCGCAAGCACTTTGTGAAATCCCTCGGC		
0	0	ACTGTCAAGTCAGAGGTGAAATCCCAAGGC		
83	72	CTTTGCAAGTCAGAGGTGAAATCCCCAGGC		
0	0	CGTTACAAGT	tag	o
7	3	GCATTTAAGT	long	f
0	0	TTTGGTAAGCCCTCTGTGAAAGCTTCGGGC		
69	39	TTTCTCTTAAGATCAACCAAATTGATAGTAA		
0	3	CTTTGTAAGT	long	g
0	0	ACCTGTAAGT	tag	g
39	68	TTAAATAAGTCAGTTGTGAAATTCTCCGGCT		
0	0	TTTGCTAAGTTTGGTGTGAAATCTCCCGGCT		
0	0	TGGGGAATGAGTGGAGGAAGGAGAAGGG		
42	25	TCATGTAAGACAGATGTGAAATCCCCGGGC		
27	31	TTGAGAAAGTCTGACGTGAAATTTCTTGGC		
0	0	CTTTGCCAGTCAGGGGTGAAATCCCACAGC		
23	15	CTACTCAAGT	tag	g

6	5	CTCTTCAAGT	tag	k
38	50	CTTGTTAAGT	long	o
39	70	ACCAGAAAG	tag	f
0	0	TGGCTCAAGTTTGGTGTGAAATCTCCCGGC		
42	51	CCTTGCAAGTCAGAGGTGAAAGTCCTGGG		
57	17	TTTTTCAAGTCAGGCGTGAAAGCCCGAGGC		
34	54	TATCAGGTTTGCGGTGAGGGCAGTGTTTAG		
0	0	CCTGATAAGTCGGGGGTGAAACGCTGCGG		
24	29	TTGGGTAAG	long	f
0	0	GCAGGTAAG	tag	g
0	0	CTTGGTAAGC	tag	f
34	40	GCTGGTAAG	tag	f
0	0	TTTCTTAAGTCGGATGTGCAATCCCCGGGC		
40	28	CCCCGTAAGT	long	f
34	21	ACATTTAAGT	tag	c
29	7	ACACTTAAGT	long	g
0	0	TTTTTTAAGT	long	g
0	0	GCATTTAAGTCAGTGGTGAAATCTCCGAGC		
17	7	ACTTCTAAGTGTCGCGTGAAAGCCCACGGC		
0	0	TTTGATAAGTCAGTTGTGAAATTCGCCGGC		
0	0	TCCTGTAAGA	long	o
0	0	GATGATAAG	tag	p
10	13	TTTGCTAAGA	long	g
0	0	ACTTTTAAGTGTCGCGTGAAAGCCCACGGC		
0	0	TCTTGCGCGTCGGAGGTGAAATCCCCGGGC		
0	0	TTATCTAAGT	long	g
48	40	CTGAGGGCG	long	g
42	37	CTTGACAAGT	tag	o
44	69	TTTTGTAAGT	long	f
0	0	TCCTGTGCGTCGGAGGTGAAATCCCCGGGC		
0	0	TTTGTCGCGT	tag	f
0	0	TTGTTTAAGT	long	g
0	0	CTGAGCAAGTGCGATGTGAAAGCCCCCGG		
0	0	CGTGGTAAG	long	o
22	45	TTTGATCAGT	long	g
56	21	ACTATTAAGTCAGGGGTGAAAGCCCGCAG		
41	31	CTTGGATAGTCGGGTGTGAAAGCCCAGGG		
0	0	GTTCGTAAGTGTCTTGTGAAATCCCCCGGC		

0	0	CCTGGTAAGT	tag	f
4	6	TTTATTATTTTTAAAGGTAAAATCCGAGGAT		
35	62	TTGGCTAAGT	long	g
0	7	AATGAACTTTTTTTTTTCGATTCTGTTTTTTTT		
20	26	CTTTTTGCGT	tag	f
0	0	TCCTCCAAGCGTCTTGTGAAATCCCACGGCT		
0	0	TCGGGTAAGT	long	c
11	9	TTTTTAAGAC	long	g
32	20	ATTGGTAAGTCAGAGGTGAAAGCCCGTAG		
0	0	GCTTTTAAGT	long	f
14	7	ATTGTTAAGT	tag	g
25	13	CTGGGTAAG	tag	f
0	0	TATCCGGCGTCTCTGACGTCTGCCTGACTCG		
33	40	CTGAGGGCCGCTCAAGGTTTTCAAGCAAGT		
0	0	TCTGTTAAGT	long	f
0	0	TTTGCTAAGTCTTGTGTGAAAGCCCTGGCT		
37	28	TCCGGTCAGTCAGCCGTGAAAGCCCCGGG		
13	15	ACTATTAAGT	long	f
20	14	TTTTTCAAGT	tag	f
10	20	CCGTGTGTGTGAGGTGTGAAATCCCGGAG		
0	0	TCTTGTAAGACAGTGGTGAAATCCCCGGGC		
22	45	TCCTACAAGCCAGAGGTGAAATCCCGGAG		
0	0	TTTAATAAGT	long	g
0	0	CTTGGCAAGTCGGGCATGAAATCTCCTGGC		
17	31	ACTGGAAAGT	long	g
6	19	ATCGTTAAGT	long	g
9	10	TGTTATAAGTCTGATGTGAAACCTTCTGGCT		
0	0	CCCGATAAGTCCCGCGTGAAATCCCCCGGC		
0	0	TTTGTTAAGT	long	o
0	0	GTTGGTAAGT	tag	f
0	0	TCCTATAAGTCGGATGTGAAAGCCCCGGGC		
26	40	TTTACTAAGTCAAACGTGAAAGCCCCGGGC		
5	0	TCTGCCAAGCTCGATGTGAAATCCCCGGGC		
34	42	ACATTTAAGTCAGACGTGAAATCCCCGGGC		
14	8	TTTTGTAAGTCAGTGGTGAAATGTCTCGGCT		
0	0	ACCAGAAAGT	long	g
37	28	TTTTGTAAGT	long	f
0	0	ACTTTTAAGT	tag	c

13	21	TGGAGTAAGTCAGTTGTGAAATTCCCTCGC		
0	0	CTACTTAAGTCAGTGGTGAAATACGGCAGC		
13	23	ATTGTTAAGT	long	g
38	39	TTTGTTAAGT	long	g
0	6	GTTGCTAAGT	long	g
0	0	TTTCTGGTGTGGTACGCCGAGCCCGCCCTT		
21	30	TTTGTCGCGTCTGCCGTGAAAATCCGGGAC		
0	2	TTTGATAAGA	long	f
0	0	TTAGATAAGTCAGTCGTGAAATCGCTGGGC		
0	0	TTAGTCACGTCGGATGTGAAAACCCGGGG		
0	0	TTCTTAGAGACAGTAGGAACTAGAATTTGA		
0	0	CGGACTAAGTCGGGTGTGAAATCTCCGGG		
25	33	TGCCATAAGTCAGGTGTGAAAGATTCCGGC		
20	15	CCCTGCGCGTCGAGCGTGAAAGGCCTGGG		
0	0	TTTCGCAAGT	tag	f
26	31	TTCGGTAAGT	long	f
0	0	TTTGTCGCGT	tag	f
0	0	ATTGATAAGTTATTGTTTAAATTCATGGGCT		
0	0	TTCATCAAGTGTTCTGTGAAATCCCTCGGCT		
0	0	CATGGTGTGTCGGGCGTGAAACTCCGGAG		
2	12	ATCTTTAAGT	tag	p
16	20	CTCTGCAGGTCGGATGTGAAATCCCTCGGC		
0	0	TCTCGTAAGTTCGGTGTGAAATCTCCCGGC		
0	0	TCGCTTAAGTAATGCGTTAAAGCCTTGGGC		
0	0	ATCTGTAAGT	long	g
20	17	TGGGTAAGTCAGATGTGAAATCCCCGGGCT		
0	0	CTTGGCAAGT	long	o
0	0	ATTTGTAAGACAGTGGTGAAATCCCCGGGC		
0	0	TCATTTAAGTCGGGTGTGAAATCCCCGGGC		
0	0	CTAGGTAAGTCAGGGGTGAAAGCTTCCCGC		
0	0	TCTGGTAAGT	tag	g
10	6	TTGGGTGTGT	long	g
0	0	TTTTACAAATCCTGTTGGAATAGCTTCCGTT		
0	0	GCTCGTAAGTGTTCTGTGAAAGCCCACGGC		
0	0	TTTAATAAGT	long	g
23	18	ACCCGAAGGTGCATCGTGAAATCCCTTGGC		
0	0	TCTGTCGCGT	long	g
26	39	CCTGATAAGCCTGGCGTGAAAGTCACCGGC		

32	34	TTTTGTAAGTCGGTTGTGAAATCCCTGGGCT		
0	0	TTGTAAGACAGTGGTGAAATCCCCGGGCTC		
2	3	CATCGTAAGT	tag	c
30	11	TTGGTAAGTC	tag	g
0	0	GTTGGTAAGT	long	f
33	22	AGAGGTCAGTCGGCCGTGAAAGCCCCGGG		
17	16	TCTGGTAGGT	long	g
24	15	TGTTGTAAGT	long	f
26	27	GTTTGTAAGT	long	g
0	0	TTTTGTAAGA	tag	f
0	0	TTTCGTAAGT	long	f
16	23	TTGTATAAGT	long	f
7	6	ACTTTTAAGTCGGGTGTGAAATCCCGGGGC		
0	0	CCTTATAAGTCAGTGGTGAAATCTTTGGGCT		
0	0	AATGATAAGT	tag	o
21	25	ATGGGTCAGT	long	g
9	10	TTGCGTGTGTCTGGTGTGAAATCTCCTGGCT		
8	25	TGTTGTAAGTCAGATGTGAAATCCCCGGGC		
22	20	TTGGGTAAGTCAGATGTGAAATCCCGGGCT		
0	0	ACTGGAAAGT	tag	f
21	25	ATAGGTAAGTCAGAGGTGAAAGCCTGGAG		
2	0	TTAGATAAGT	long	f
0	0	TTAGATAAGT	long	f
0	0	ACCACTCAGTCAGGCGTGAAAGCCCCGGGC		
0	0	CGGATCAAGT	tag	g
0	0	TTCGGAAAGA	long	f
0	0	TCCCTTAAGTTTGTCGTGAAATCTCCCGGCT		
0	0	ACTTGTAAGTCAGTGGTGAAATCTGTGGGC		
3	0	CTCTTCAAGTCAGACGTGAAAGCCCCGGGC		
5	7	TTTTGTAAGC	tag	f
0	0	TTATTTAAGT	long	g
26	26	TCTAAAAACTTCGAATGGAGAAAGTTTAA		
0	0	TCTGTTAAGT	tag	p
0	0	TTGGGTAAGT	tag	c
13	22	CCTGTTAAGT	long	g
0	0	TTTGTTACAA	long	f
27	29	TTTTGTAAGA	long	g
8	11	TGATGTAAGA	long	f

0	0	CGTCGCAAGT	long	f
12	39	TTTTTTAAGTTGTATTTTAAAGACTAGAGCT		
16	19	GCTCGCAAGCGTCTTGTGAAATCCCATGGC		
0	0	CCATGTAAGTCGGATGTGAAAGCCCTCAGC		
0	0	CGCTACAAGTCAGGGGTGAAATCCCAGAG		
6	13	TTCGTTAAGT	tag	p
11	10	AATGATAAGT	long	f
0	0	AATTCTAAGTCAGTGGTGAAAGCCTCCCGC		
24	18	TTTCTTAAGTTTGACGTGAAAGCTCTCGGCT		
28	8	TCTTGTAAGA	long	f
2	5	AATGAACTTTTTTTTTTCGATTCTTGTTTTGG		
27	19	TGTCGTAAGT	long	c
4	2	CCTTTTAAGTCTTAATCAAAGAAGCTAAGCC		
3	0	CGCGACAAGTGAGGTGTGAAAGCTCCTGG		
0	0	GTTTGTAAGT	tag	f
0	0	TTTCGGAACTGGGAATGATTGGTCGGGCCT		
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGGC		
13	24	CTCAGAAAGTTGGGTGTGAAATCCCCCGGC		
0	0	TTGGGTAAGTCTGTGGTGAAATTTCGAGGC		
33	11	TTTTATAAGA	long	g
10	3	CTCGGTAAGC	long	f
49	24	TTATACAAGTCTGGTGTGCAAGACCAAGGC		
0	0	TGGTTTAAGT	long	g
16	16	TGATCCATGTCAGAGGTGAAAGCCTGGGG		
20	21	GCCGGTGCGTCGGCGCCTGAAAGCCCCCGG		
0	0	TCGCACAAGACAGATGTGAAATCCCCGGGC		
0	2	ATCGTTAAGT	long	g
14	21	GTTGTTGAGTTGGAGGATGAAATGTCTGGT		
14	18	TTTTGTAAGA	long	f
15	34	TTGAAAGCTGTCAAGAATAGTCAAAATATC		
21	9	TTTTGTACGTTTGATGTGAAAGTCCTGGGCT		
2	3	CTTCGCAAGTCGGGCATGAAATCTCCTCGC		
17	21	CTTTTTAAGTCAAATGTGAAATCCTAGGGCT		
7	38	TCCAATAAGTCAGCCGTGAAATCGCTGGGC		
0	0	TTCGCTAAGTCTGATGTGAAATCTCCCGGCT		
0	0	TTTTGTAAGACAGTGGTGAATCCCCGGGCT		
17	22	TTATCTAAGTCTGGTGTGAAATCTGTCGGCT		
3	4	TTTTTTATTTTAAAAAAGAAATGCTGAGACT		

4	0	TTCGTTGCGTCGTGCGTGAAAGACCCTGGC		
6	13	ATTTGTAAGT	long	f
0	0	TTTTGTAAGT	tag	c
0	0	ACGCGTAGGCGCTTTGTGAAATCCCTCGGC		
0	0	AACGGTAAGTCAGTGGTGAAATCCTGTTGC		
0	0	TTTCGGAATATGCAGGAGGCGGTCCACAG		
0	3	AGCGACACGTCGGTCGTTGAAAGCCCCCG		
14	17	CTGCTTAAGT	long	f
17	18	TTATACAAGTCAGGAGTGAAATCCCAGGGC		
0	0	TCTTGCAAGA	long	f
0	0	CTTTGTAAGT	long	f
0	0	TTTTGTAAGACAGTGGTGAAATCCCTGGGC		
12	6	ATTGTTAAGTCAGTGGTGAAATCAACGGGC		
4	0	TTTTTTTAAGACAGGCGTGAAATCCCCGGG		
0	0	ATCGTTAAGTCAGTGGTGAAAGCCCACAGC		
0	7	CCTTCTAAGT	long	o
0	0	CTTAACAAGTCGGGCATGAAATCTCCTGGC		
0	0	CTGGGCAAGT	long	f
0	0	GCAGGTAAGT	tag	f
12	19	CGAATCAAGT	long	g
12	19	ATTGTTAAGT	long	f
0	0	ATTAATAAGT	tag	o
9	0	CCTGTTAAGT	long	f
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGCT		
0	0	TCATGCAAGA	long	f
0	0	CTCGGCGAGTCGGGCATGAAATCTCCTGGC		
14	7	CTGAGGGCCC	long	g
0	0	CTTAGTAAGTCAGCGGTAAAAGGCGACAGC		
0	0	TCTGTTAAGTGTGAAGTGAAATCTCCAGCG		
2	7	CTTGTCGCGT	long	g
11	10	TTTGATAAGTCAGGTGTGAAATCCCACAGC		
0	0	ACTGATAAGTCAGGTGTGAAATCCCTGGGC		
0	0	TTTTGTAAGACAGTGGTGAAATTCCCGGGC		
5	0	TTTAATAAGT	long	g
9	16	CGCAGAAAGT	long	f
0	0	CTTTGCAAGT	long	g
0	0	CTTTTTAAGTCAGGTGTGAAATCCTAGGGC		
15	11	CGAGGTAAGT	tag	k

3	4	CCTCCTAAGTCATACGTGAAATCCCACGGCT		
10	8	CCGTTTAAGTTAGATGTGAAAGTCCTGGGC		
7	4	AACGGCACGTCGGTCGCTGAAAGCCCCCGG		
0	0	CTTTGTAAGTTGGATGTGAAAACTCTGGGC		
0	0	CCATGCAAGT	long	g
0	0	CTCGTTAAGACAGATGTGAAATCCCCGGGC		
18	14	CTTGTTAAGT	tag	f
18	20	CATCGCAAGT	tag	c
0	2	CTTGATAAGTAGGGGGTGAAATCTCATGGC		
14	15	CCTATTAAGT	tag	p
0	0	TTCCGTGCGT	tag	o
0	0	TCTAATAAGTCAGTGGTGAAATCTGGTCGC		
0	0	TTCTCTAAGT	tag	o
0	0	CCTAGCAGGT	tag	g
7	10	CCTTATAAGTCAGTTGTGAAATATCCTCGCT		
0	36	TCTTATAAGTCTGTTGTGAAATCCCCGAGCT		
15	12	TTTAGTCAGTCTGATGTGAAATCCCCGGGCT		
0	0	CTTTGTAAGT	long	g
0	0	TTTTGTAAGACAGTGGTGGAATCCCCGGGC		
12	19	TGAGTTAAGT	tag	g
14	24	TTTTAGTGGGTTATCAGGTGATTGGTCGGA		
17	20	CCATCTAAGTCGGGTGTGAAATCTCCGGGC		
13	9	ATGATTAAGT	tag	f
0	0	TCTAATAAGTTTTTTATAAAAGCTTATGGCTT		
14	14	TCTTGTAAGA	long	f
9	13	CGATCTTAGTCAGGCGTGAAAGCCCCGGGC		
8	6	ATAGTTAAGTCTAAAGTGGAAGCCCGGGGC		
10	18	TGCGGTACGGTTCGGGTGAAATCCCTCGGC		
0	3	TCTCCTAAGTCTGGTGTGAAATCCCTCGGCT		
12	14	GGCGTTAAGTCAGTGGTGAAAGCCTACAGC		
9	9	ACCCGTAAGTGTTCTGTGAAATCCCCCGGCT		
14	8	CTGGGTAAGTCAGATGTGAAATCCCCGGGC		
0	6	CCCCGCGCGTCGAGCGTGAAAGGCCTGGG		
0	0	CCCGTCAAGT	long	o
0	0	TTTTGTAAGT	long	g
13	22	TTGCTTAAGTCTGTCGTGAAAGCCCTGGGCT		
11	15	TGATTCAAGTTGGATGTGTAATCCCCGGGC		
14	15	CTTTGTAAGT	long	f

0	0	ACCAGCAGGTCGGTCGTGAAAGCCCGGGG		
0	0	CGGATCAAGT	long	g
12	17	GTTATTAAGT	long	f
5	18	CCTACTAAGTCATACGTGAAATCCCACGGCT		
14	12	CTTGGCAAGT	long	o
14	8	ACAGGTCAGT	long	p
8	29	TATTGAGAGT	tag	f
0	0	TTGGGTAAGC	tag	g
7	27	ATTATTAAGT	tag	f
14	15	ATATGTAAGTTAGATGTGAAATCCCCGAGCT		
0	0	CTTTGCAAGTCAGGTGTGAAAGCCTAGGGC		
0	0	CTTTGTAAGTTTGGTGTGAAATCTCCCGGCT		
8	7	CTAAACAGGT	long	g
0	0	CTTTTCAAGTCAGACGTGAAAGCCCCGGGCT		
0	0	CTCGCCAAGT	long	f
9	16	TTTGGTAAGTCGGTGGTTTAACCTATGGGCT		
0	0	ATTTGTAAGT	tag	p
11	13	CTTGGTAAGTCTGGTGTGAAAACTTGGGGC		
0	0	TTTAGTAAGTCAGTGGTGAAAGCCCGCAGC		
15	14	TTTGTCGCGTCTGCTGTGAAAATCCGAGACT		
0	0	CTCGTTAAGTCGGATGTGAAAGCCCCGGGC		
6	4	CCGGGCAAGTCTGGTGTGAAATCGTCACCG		
5	8	GCTGTTGAGTTGGAGGATGAAATGTCTGGT		
9	6	TTGCGTAAGTGTCGAGTGAAATCCTGCCGCT		
7	10	CGAACCAAGTCTGGTGTGAAATCCCACGGC		
7	8	TCTGCTAAGC	tag	g
8	4	TTGAACAAGTCTGCTGTTAAAGCGTGGAGCT		
8	11	CTTATCAAGT	tag	f
8	15	TTATTTAAGC	long	f
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGGCT		
0	0	CGCTGTAAGTCTGACGTGAAATCTCCTGGCT		
0	5	ACTTTCAAGT	long	g
11	9	ATCGGTAAGTGCCTTGTGAAAGCCCCTCGCT		
4	11	ACCATTAAGT	long	f
3	7	CCAAATAAGT	long	g
14	4	CTTTCTACGTCTGCTGTGAAATATCCCGGCT		
0	0	TTTGTTAAGT	tag	p
0	0	ACAAATAAGTCAGGTGTGAAATACCAAAGC		

0	0	ATCGATAAGTGTCGTGTGAAAGCCCACTGC		
0	2	CACGACAAG	long	f
0	0	ATTATTTCGGCGTCAGGCTGGCTGGAAAAT		
0	0	TTTGATAAGT	tag	f
0	0	TGTTGTAAGTCAGTCGTGAAATTCCCCGGC		
8	9	TTTAATAAGT	tag	g
0	0	CCCTTCAAGTCAGTCGTGAAATCGCTGGGC		
11	8	ATCTGCAGGCGCGTTGTGAAAGCCCCCGGC		
0	0	CGAGGTAAG	long	f
0	0	TCTGCTAAGC	long	g
0	0	CTGGGTAAGTGTGGCGTGAAAGTCCTGGG		
0	2	TTTGGTAAGT	long	f
0	0	CTCTGTAAGTCGGACATGAAAGCTCCTGGC		
0	0	TTATGTAAGA	tag	f
8	12	ATTTGTCAGT	long	g
0	0	ACCTGCAAGTCGGTGGTGAAAGCCCGGGG		
0	0	TTTCGTAAGA	long	g
2	3	TAAAGTAAGTCAGTGGTGAAATCCCTTCGC		
0	0	TTCGTTAAGT	long	g
0	0	CGTGACAAG	long	f
0	0	GCTGCCAAGTCTGTGGTGAAATCCTCCAGC		
0	0	ACAGTTTAGT	long	g
0	0	TCTCGTTTGTCTGAGGTGAAATCCCCGAGC		
0	0	CCGGTCAAGTCGGATGTGAAAGCCCTGGG		
0	0	CTTCGTAAGTTGGACGTTAAATCTTTCGGCC		
8	11	CTGAGTAAGTTGAGGTTGAAATCCGGCGG		
0	0	AATGCTAAGTCAGTGGTGAAATCTCCCGGC		
5	18	CGTCGTAAGTCGGATGTGAAAGCCCTCGGC		
7	10	TCTCGTAAGTCTACTGTGAAATCCCCGGGC		
3	3	CCTTATAAGTCAGTGGTGAAATCTTTCCGC		
0	0	CTACTTAAGTTGGGTGTGAAATCCCCGGGC		
0	0	TTATGCAAGA	long	f
4	6	TAAGATAAGTCAGATGTGAAATCCCGGAGC		
0	0	ACTTATAAGT	tag	g
0	0	TTTGTTAAGT	long	g
3	7	TTTCGGAGCA	long	g
0	0	CGACTCAAGT	long	o
6	14	AGCGTTAAGT	long	f

9	14	CCTTTTAAGTTTTAAAGTAAATGCTCGAGCT		
10	7	ATTTGTCAGT	tag	g
2	13	TCAGGTCAGTCGGATGTGAAATCCCCGGGC		
0	0	GTTCTGGCTG	long	f
9	4	CGCATCAAGT	long	g
0	0	ACATTTAAGT	long	g
0	0	CTGTGTCAGTCAGGCGTGAAATTCCTGGGC		
7	3	CCTGTTAAGACTGACGTGAAAGCTCCTGGC		
17	6	TTTTTTAAGT	long	g
4	9	ATTGGTAAGTTGGATGTTTAAGCGTTAGGC		
0	0	TTTGCTAAGATTGACGTGAAAACTCTTGGCT		
0	0	TTGACTAAGT	long	c
0	4	GACGGCACGTCGGTGACTGAAAGCCCCCG		
0	0	TGTTGTAAGT	tag	o
11	2	ATCTGTAGGC	long	g
7	2	ATTTACAAGT	long	c
8	6	GGTGGCACGTCGGATGCTGAAAGCCCCCG		
0	0	TTTGTCGCGT	long	o
9	4	TTTCGATAGT	long	f
2	2	TGAGAAAAGTCGGGTGTGAAATCCCTCGGC		
10	8	CTGAACAAGTTGGATGTGAAAGCCCTGGGC		
5	2	TTTGTAAGACAGATGTGAAATCCCCGGGCT		
10	6	TTTAATAAGT	long	f
0	0	ACTGGAAAG	tag	f
9	6	ATGGGTAAG	tag	o
0	0	CCACTTAAGTCGGGTGTGAAAGCCCGGGG		
4	17	CATGTCAAGTCAGACGTGAAAGACCGGGG		
0	0	TCCGCCAAGTGCTTTGTGAAATCCCACGGCT		
9	0	TTGAGTAAGTCCGCGGTGAAATTTCGAGGC		
0	0	TTGTGCAAGA	long	o
0	0	TTTTGTAAGTTGGGCGTGAAAACTCCGGGC		
0	0	CTCTTCAAGTCAGCCGTGAAATCTCCGGGCT		
6	5	TGATCCATGT	long	c
3	2	CGGTGTAAGCATGGCGTGAAAGCCCCTGG		
3	16	ACTTGTGCGT	long	f
0	0	ATATATAAGTTAGATGTGAAATCCCCGAGC		
0	0	TTCGGTAAGTCTGTCATGAAATCTCCCGGCT		
0	0	TAGCGTTAGT	long	g

0	0	CTTGCCAAGCGTCCTGTGAAATCCCACGGC		
14	5	ATCGTTAAGTCGGGGGTGAAAGCCCGAGG		
0	0	TTGTGCAAGA	long	c
5	6	CACGACAAGTGAGGTGTGAAAGCTCCTGG		
9	5	TGAATTAAGTCGGGTGTGAAATCTCCGGGC		
0	0	ACTTCTAAGTCGGGGGTGAAATCCCGGGG		
0	4	TTATTCAAGTCAGGGGTGAAATCCTGAGGC		
10	8	ATCTTTAAGT	tag	o
3	2	GTCGTTAAGTGCTTTGTGAAAGCCCCTGGC		
0	0	CGGCGTAAGTCAGAGGTGAAATCCCATCGG		
6	3	ACTCTTAAGT	long	g
0	0	ACAGTTTAGT	tag	g
0	0	CGACATAAGTCAGAGGTGAAATCCCATCGG		
9	9	ACCCGAAGGTGCATCGTGAAATCCCCCGGC		
8	5	TTCGTTGCGT	tag	c
0	0	TTTGTTGCGT	long	g
0	0	CTTAGTAAGTCAGATGTGAAATCCCTGGGC		
3	17	CCTATTAAGTGTGGTGTGAAATCTCCAGGG		
8	7	ACTTGCAGGCACCTTGTGAAAGCCCTCGGC		
0	0	CTTGCTAAGTCCTGTGTGAAAGCCCCGGGC		
6	5	TCTGAATAGTCCAAGTTGAAATCCCGGAGC		
0	9	GTTGTTGAGTTGGAGGATGAAATGTCTGGC		
0	0	TTTTGTAAGA	tag	g
7	6	ATGATTAAGTTACTGGTGAAAGCGCCGGGC		
5	5	CTGTGGGCCGTCGTAGATGATCAGGTTCCG		
0	5	TTTATCAGGTTGGATGTGAAAGACCCGGGC		
6	0	ATTGTTAAGT	long	c
5	9	CCGGGTGTGTTAGATGTGAAATCCCGAGGC		
7	7	AAAGCTAAGTCAGTGGTGAAAGCCCGCAG		
3	4	ATGGGTAAGTCAGATGTGAAATCCCCGGG		
0	0	GCATGTAAGTCAGATGTGAAATTCCGGAGC		
0	0	TTCCACGCGTCGGAGGTGAAATCCCCGGGC		
0	0	CTTGACAAGTCAGAGGTGAAAGCCTGGAG		
4	5	CCTGATTAGTTGGAGGTGAAATCCCGGAGC		
7	11	GAAAGTCAGTCAGATGTGAAAGCCCAGGG		
0	14	TTTCGTAAGT	long	f
5	4	CGCGGAAAG	tag	f
0	0	TTGGACAAGTGAGGCGTGAAAGCCCTGGG		

5	6	CTCGGCAAGTCTGGTGTGAAAACGCTACCG		
5	5	TTGGGTAAG	tag	o
8	9	ATTGGTAAGTCAGAGGTGAAATCCCACAGC		
0	0	TTTTGTAGAC	tag	g
5	7	TTTTAGTAGGATTTTTAGAGATAGGTCGGT		
0	0	TTTTGTAAGA	long	g
0	0	TTATACAAGTCAGGGGTGAAATCCCAGAGC		
0	0	CTTGTCGCGTCTGCTGTGAAAATCCGGGGC		
0	6	GTTCGTAAGTCTTAGAGTAAATCTCACGGC		
6	5	TTTTAGTAAGATTATTAGAAATAGGTCGGT		
0	0	CTAGATAAGTCGGATGTGAAAGCCCCGGG		
0	0	TAGCGTTAGTTGGCCGTGAAAGCCCTGGGC		
0	0	CTCTATAAGA	long	g
7	16	CTTTTTAAGT	tag	g
7	6	TTCGGTAAGT	tag	o
0	5	CTTGTTAAGT	tag	g
0	0	AAATCTAAGTCAGTGGTGAAATCCTGCAGC		
0	0	ATCATTAAGTCAGGTGTGAAAACTTCGGGC		
4	9	TTTTAGTAAGATTATTAGAAATAGGTCGGG		
0	0	TTTTGTAAGACAGTGGTGAAATCTCCGGGC		
4	4	CCAGATCAGT	tag	g
5	8	TTTTAGTGAGTTATTTAGATGATTGGTCGG		
6	5	CAGCCTAAGTCTGGCGTGAAATATCCCGGC		
0	0	CCCGCAAAGTGCTTTGTGAAATCCCGGAGC		
0	0	CTTGTCAAGTCGGGCGTGAAAGCTCCGGGC		
4	0	CTTGGTAAGTTGGGCGTGAAATCTCCGGGC		
4	5	TGTCGTAAGT	long	f
0	2	TTTTAAGACAGGCGTGAAATCCCCGGGCTT		
3	3	ACTCTTAAGT	long	g
0	0	GTTTTTAAGTCAGATGTGAAATCTCGGAGC		
0	0	TGCGGTAAG	tag	f
0	0	CTTCGGGCCT	tag	o
4	10	TTTAGACAGTCAGATGTGAAATCCTGGAGC		
7	2	AAAGAAGAGGGCAGATATTTTTGCAAGAG		
0	0	CCTGTTAAGT	tag	k
0	0	TTTCTTAAGT	long	g
0	3	ATAAAAAAGAGAAAGAGAGAGAGAAAAAC		
0	0	CTAGGTAAGCGTGTGGTGAAAGCTCGGGG		

0	0	TTTGCTAAGTTCGGTGTGAAATCTCCTGGCT		
0	0	GCAAGCAAGTCGAAGGTGAAATCCCACGG		
5	4	ATCGGAAAGTGTTTTGTGAAATCCCTCGGC		
3	5	CGCTCTAAGT	tag	o
0	0	TTTCCGGCAGCATTGCCTGTCTGCAAGAGT		
5	5	TTGGGTAAGTCAGATGTGAAATCCCCGGCT		
0	0	TTTTGTAAGACAGTGGTGAAATCCTCGGGC		
5	3	CTTGGTAAGTCAGATGTGAAAGCCCTCGGC		
0	0	CTCCGTAGGT	tag	g
7	14	CCAAGCAAGTCTGTTGTGAAATCCCGGGGC		
0	0	CTTGAAAAGTTGGATGTGAAAGCTCCTGGC		
0	0	TTCGTCAAGT	tag	o
0	0	TTTTCTAAGT	tag	g
4	7	CTCTATAAGTCAGATGTGAAAGCCCTGGGC		
4	2	CCCGACAAGT	tag	p
0	0	GCTTTTGCGTCGAGGGTTAAAGACCAAAGC		
0	0	TTTTGTAAGATAGTGGTGAAATCCCCGGGC		
0	0	CTATTCAAGTCAGAGGTGAAATCCCTGGGC		
8	13	CGGTCTAAGT	long	c
0	0	TCTTGTTTGTCTGTGGTGAAAGCCTTGGGCT		
4	3	TCTTGTAAGA	long	f
0	0	TTGTCATAGT	tag	g
5	4	TCTTTTAAGTTGGGTGTGAAATCCCCGGGC		
0	0	TTATGTAAGT	tag	c
0	0	CAATCTAAGTCAGAGGTGAAATACTATCGG		
4	6	GGTGGTAAGTCAGTGGTGAAATCCTGCGG		
6	11	TTCATTAAGTCTGATGTGAAAGCCCTGGGC		
0	0	TATCAGTGGGGGTTCAATCTATTTATATAAA		
14	6	TTTTTCGTGTGTTAGCAACTAAAAATCAAAC		
5	7	GCTGTTGAGTTGGAGGATGAAATGTCTGGC		
0	0	CTTCGTAAGTCGGATGTGAAATCCCCGGGC		
5	6	TTTACTGTATTTTTAGTAAAAGTCTCCGGCT		
2	0	TTCGTTAAGT	tag	f
0	0	CCGCTTAAGTCGGGTGTGAAAGCCCGGGG		
0	0	TTCGCTAAGTCTGATGTGAAATCTCCTGGCT		
4	3	TCTGCTAAGCGTGCGGTGAAAGCCCAGGG		
0	0	GAAATTAAGT	tag	f
6	2	TCGTGTTAGTCAGATGTCAAATCCTTCGACT		

0	2	TAAGGAAAGTCAGATGTGAAATCCCGGGG		
8	3	TTGGGTAAGTCAGATGTGAATCCCCGGGCT		
2	6	TCGGGTAAGTCAGATGTGAAATCCCCGGG		
0	0	GTCGTTAAGT	long	o
7	18	GCTCTGGCGCCGGCCGCGCGGCCGCCCTTC		
4	6	TTTTGTAAGA	tag	c
0	0	ATTCTGGTTGTATTGGGCCTATGCACTTGTT		
8	4	GCTTGTAAGT	long	f
4	0	AGTGGTAAGTACCTTGTGAAATCCCCGGTC		
7	2	TTCCATAAGT	long	f
4	4	CTTGTTAAGC	long	g
4	3	CTTTCTAAGT	tag	o
0	0	CTCTTCAAGT	tag	f
0	0	ATGTGTCAGT	long	g
5	3	TTGGTTAAGACTGACGTGAAAGCTCCTGGC		
0	0	GTTGATAAGT	long	f
0	0	TTTACCAAGTCTGGTGTGAAATCTCTCGGCT		
12	8	TTTTAGTGGGTTTTAAGATGATTGGTCGGA		
0	0	CTTCGTAAGTTCGGTGTGAAATCTCCCGGC		
0	0	GCTCGCAAGCGTCTTGTGAAAGCCCCCGGC		
0	0	AAGTGTAAGTCAGGTGTGAAATACCAAAG		
0	0	TTGTGTAAGA	long	f
0	0	TGGGGTAAGTTCAAGGTGAAAGCTTCGGG		
0	0	TTTGTAAAATTTAAAATAAAATTAAAAATTT		
5	8	TTGTATAAGT	long	f
0	0	TTCGGTAAGT	long	f
0	0	TCCTACAAGC	long	f
2	0	TTTGTCGCGT	long	f
5	5	CCCATCAAGTCTGCGGTTAAAGACCGGAGC		
0	0	ATTCTGGCTGTATTGGGCCTCTGCACTCGAT		
0	0	CTTGGTAAGC	long	f
0	0	TTCAGCAAGT	long	o
0	0	CTTGTCACGTCGGGTGTGAAAACTCGGGGC		
7	2	TTCGTTAAGT	tag	p
4	5	CTCGGCAGGTCACTGGTGAAATCCCACGGC		
3	3	CCTTGTAAGT	long	g
4	9	ACCTGTAGGCGCGTTGTGAAAGCCCTCGGC		
0	0	TTGTGTAAGTTGGATGTGAAATTTCCAAGC		

3	4	TTTAGTAAGTCGATTGTGAAAGCCCCAGGC		
4	0	CTTAGAATTATTACAAGTTATTTTACTTGATT		
3	12	ATTGATAAGTCAGATGTGAAATCTCGGGGC		
0	0	ATCGTCAAGTGCCTTGTGAAACCTCCCGGC		
0	0	GTAAGTAAGTCAGATGTGAAATTTCGAAGC		
0	0	TTTTTAAGACAGTGGTGAAATCCCCGGGCT		
0	3	TCGCACAAGT	long	g
0	0	CCTTTTAAGT	tag	f
0	0	ACAGGTGCG	long	f
6	6	TTTCTTAAGT	long	k
0	0	CATGGTATGTCGGGCGTGAAACTCCGGAG		
0	0	TATCCGGCGTCTCTGACGTCTGCCTGATAC		
0	0	CTTTTTGCGT	long	f
4	2	GTCGTTAAGT	long	g
0	0	ATAAAACATGGTTTTCTATTTTTTTTATTTT		
5	11	CACTGTAAGTGTCGAGTGAAATCCCACGGC		
5	0	TTGTGGATTGTGATTCCGAGGTTCAGTCCTT		
0	0	ATTGTTAAGT	long	f
0	12	TTCGGTAAGTTGGTTATGAAAGCTCCTGGC		
0	0	TCCATCAAGTTGGGTGTGAAAGCCCTCGGC		
7	2	CGATTTTAGTCAGGCGTGAAAGCCCTGGGC		
0	0	CCGATTAAGTCGGGTGTGAAATCTCCGGGC		
7	3	ATTGGAAAG	tag	f
0	0	CCAGGTAAGTTTGATGTGAAAGCTCGGAGC		
4	8	CTTGGTAAGC	tag	f
6	17	GCTCTGGCGCCGGCCGCGCGGCCGCCTTCG		
0	0	TATTGTAAGACAGTGGTGAAATCCCCGGGC		
0	0	TTTGTCGCGT	tag	g
0	0	CTTGGCAAGT	tag	o
5	4	GTGGGCACGTCGGACCCTGAAAGCCCCGG		
0	0	TTTTGTAAGACAGTGGAGAAATCCCCGGGC		
6	5	TGATATGAGTGTGATGTGAAAGCCCTGGGC		
2	0	TTGGGTAAGTCAGATGTGAAATTCCCGGGC		
0	0	GTCGGTAAGTCAGTGGTCAAATCCTATAGC		
4	5	TTGCGTAAGT	tag	f
2	2	GCTGGAAAG	long	g
0	0	CTTGGCAAGTCGGGTGTGAAATCCCCGGGC		
0	0	TTTTGTAAGACAGTGGAAATCCCCGGGCTC		

0	0	TTGAATAAGTTATCTGTGAAATCCCCGGGCT		
2	0	AATGAACTTTTTTTTTCGATTCTGTTTTTTTTT		
4	0	TCTGTTGCGT	long	g
2	2	AACAGCTCAGTCTTTCAAAGGATTGAGACG		
0	2	TCTTATAAGTCAGTGGTGAAATCTCCGGGCT		
0	0	CCTGGCAAGTTTGAGGTGAAATCTCCCGGC		
0	0	ATTGTTAAGTCGGGTGTGAAATCCCGGGGC		
3	5	ATTATTAAGTCGGGGGTGAAATCCCGAGGC		
0	0	TCGGGTAAGTCTGCTGTGAAAGCTCCGGGC		
0	0	CATGGAAAGTTGGACGTGAAAACTCCTGGC		
0	0	GTCGTTAAGT	long	f
2	4	CTCGAAAAGCGTTCCGTGAAATCCCCGGCT		
0	0	CTTTGTAAGTCAGGTGTGAAAGCCTGGGCT		
0	0	TTTCGGACAAGGCATTCTGGTCTACCTTTTA		
0	0	CCTGTTAAGT	long	g
0	0	TGTGTGGTGT	long	c
0	0	ACTATTAAGTCAGGTGTGAAAACTATGGGC		
0	0	TTCCCTAAGT	tag	o
2	0	CTGATCAAGTCTGGCGTGAAAGCCCCCGGC		
0	5	ATGGGCGCA	long	g
0	2	TTGGTTAAGT	tag	f
0	11	CTTTGTAAGTCAGGTGTGAAAGCCCCGGGC		
0	5	ATTGTTGAGTTGGAGGATGAAATGTCTGGC		
0	0	TTTTGTAAGACAGTGGTGAAATCCCCAGGC		
0	0	AATGAACTTTTTTTTTCGATTCTTGTTTGGG		
0	0	TTGGGTAAGTCAGATGTGAAATCCCTGGGC		
0	0	TGGGGCACG	long	g
0	10	CCATGTAAGT	tag	g
0	0	ACTTTTAAGT	tag	f
3	3	CGCTGCAAGT	long	g
5	2	TTGGGTAAGTCAGATGTGAAATCTCCGGGC		
2	8	CTCTTTAAGTCAGATGTGAAATCCCCGAGCT		
2	8	GAACGTAAGTCAGATGTTAAATCTCGGGGC		
0	0	TTTGATAAGT	tag	c
2	0	AATGAACTTTTTTTTTCGATTCTTGTTTTGGC		
3	2	CTTTCTAAGTCAGAGGTGAAATCCCGGGGC		
4	4	CGTCCCAAGTTAGGCGTGAAAGCCCCGGGC		
3	4	CCCGTTAAGA	long	f

0	0	CGCGGAAAG	tag	f
2	0	GCTTGTGCGTCGAGGGTTAAAGACCTCAGC		
5	2	TTGTATTAGT	long	g
2	2	GATGATAAGTCAGTGGTGAAAGCTCGTTGC		
0	0	ATATTTAAGT	long	o
4	0	TTCAAAAAGTCTGGTGTTAAATCCCGCAGC		
0	0	CCGCTCGCGTGAGGCGTGAAAGCCCCGGG		
5	3	CCAAGTGTGTTAGATGTGAAATCCCGAGGC		
3	5	CTGTGGAGTTTGATCCAGAGATCCCGTCCT		
0	2	TTTGTTAAGT	tag	f
0	0	TGCGTTAAGTCTGACGTGAAATCTCCTGGC		
0	0	TGATACAAGTCGGGTGTGAAATTCCGGGG		
0	0	TCAGACAAGTGAGGCGTGAAAGCCCTGGG		
2	6	GAAGGAAAGTCAGATGTGAAATGCCGGGG		
0	0	GACGTCAAGCGGGGTGTGAAAGCTCCTGG		
3	0	CTATGCAAGTTAGATGTGAAAGCCCCGGGC		
0	0	ATTATTAAGTCGGATGTGAAAACTATGGGC		
0	0	ATAAAACATGGTTCTCTATTTTTTTATTTTA		
0	0	ACATTTAAGT	tag	c
2	3	CCTGTTAAGT	long	o
0	0	TGATGTAAGACAGATGTGAAATCCCGGGCT		
0	0	TAGGGTAAGTTCAATGTGAAAGCTTCGGGC		
0	0	GTGGATAAGTCAGGGGTGAAAGCCCACGG		
0	0	TCTCGTTTGTCCGGGGTGAAATCCTTGAGC		
5	4	CTGGGCAAGTCTGGTGTGAAAACGCTATCG		
0	0	TCTTGTAAGTCGGGTGTGAAAGCCCTCAGC		
0	0	CTTCCTAAGT	long	o
0	0	TATATTAAGT	long	p
2	4	CTTGGTAAGT	tag	k
0	0	CCGTTTAAGT	long	g
0	0	GCTGTCAAGT	tag	g
0	0	GTCTGTAAGTGTCTCGTGAAATCCCCCGGC		
0	0	TCTTGTAAGTCGAGTGTGAAAGCCCCTGGC		
0	0	TTTTGAAGACAGTGGTGAAATCCCCGGGCT		
2	4	AGTGGAGAAAGGTTCCATAACAACAGTGAT		
0	0	TTTGTTAAGT	long	g
3	2	TCCCAAAAGTCTACTGTGAAATCCCTGGGC		
0	0	TTACGTATGTCTGGGGTGAAATCCCTGAGC		

0	0	TCTTGTAAGTCGGATGTGAAAGCCCCGGGC		
0	0	CTTAGCAAGTTGGATGTGAAATCCCTCGGC		
3	4	TTTTAGTGAGTTATTTAGATGATTGGTCGG		
0	0	TTTTTTAAGT	tag	g
0	0	CTTGGCAAGTTTCGAGTGAAATCTCCCGGC		
4	4	TTAGATAAGT	long	g
0	0	ATGGGCAAGCGAGGTGTGAAAGCTCCCGG		
0	0	TATGCAAGACAGATGTGAAATCCCCGGGCT		
0	0	CCTCTCAAGCGTCCTGTGAAAGCCTCCCGCT		
0	0	TTTTGTAAGA	long	g
0	0	CTTGGCAAGTGAGGCGTGAAAGGCCTGGG		
0	0	TTCTTCAAGTCAGTCGTGAAATCTCCGGGCT		
0	0	ATAAAACATGGTTTTCTATTTTTTTATTTTA		
0	0	CACATTAAGTCAGTTGTGAAATACGGCAGC		
0	0	CCTATTAAGT	tag	g
0	0	ATCAGCAAGTCAGGTGTGAAATCTCGGAGC		
3	4	CGATGTAAGTCAGATGTGAAAGCCCTGGGC		
0	3	CATGACAAGTCAGGGGTGAAATCCTTCGGC		
2	3	CTTTCTAAGTCGGATGTGAAATCCCTCGGCT		
0	2	ACCGGAAAG	long	g
0	0	TTTGGTAAGTTGGGCGTGAAATCTCCCGGC		
0	12	TTTGCCAAGTCTGATGTGAAATCCCTGGACT		
0	8	GTTTGTAAGT	tag	g
0	0	CATGAAAAGCAGGGTGTGAAAGCCCTCGG		
0	0	CTCATTAAGT	long	g
0	0	CTTGTTAAGT	tag	p
3	0	CCCGTCAAGC	tag	g
2	6	TTATGAAAGTGGAACTTTTCAGCGACGGGC		
0	0	TTTTTTAAGTTGTTTTTTAAAGACTAGAGCT		
0	0	TTGTGTAAGCCCTCCGTGAAAGCTTCGGGC		
0	0	CTTTGTAAGA	tag	g
3	8	TTTGTTAAGT	tag	o
3	6	TTGGGTAAGTCAGATGTGGAATCCCCGGGC		
0	0	ATTAGTAAGT	long	g
5	2	GTAAGCAAG	long	g
2	3	TTTGTGGTGCCGCCTGCAGTCCAATTAGCTT		
0	0	CGCGTTAAGTCTGACGTGAAATCTCCCGGC		
0	0	TTTGTCACGT	tag	f

2	0	TCGTATAAGTCGAATGTGAAAGCCCCCGGC		
6	4	TTCGAAAAGTTTCTAGCGAAATCTGTCAGC		
0	0	TCTCATTTGT	long	f
4	3	TGGACTAAGTCGGGTGTGAAATCTCCGGGC		
0	0	ATATGTAAGTCAGTGGTGAAATCCCTGGGC		
0	0	GCTGATAAGT	long	f
0	3	CTTTGTAAGT	tag	c
0	0	CACGGTAAGTGGGGTGTGACAGCGGACGG		
0	0	CAGTGTAAGTCCGGTGTGAAATCTCGGGGC		
4	5	TCGTATTAGTCTCCTTTCAAAGCTCCCGGCC		
2	0	TCGCGTAAGTAAGTGGTGAAATCCCTGAGC		
0	0	CTGGGCACG	tag	g
0	4	TTTTAGTGAGATTTCAGAAATAGGTCGGGT		
4	6	CCCGAAAAGTTTTCAGCGAAATCTGTCAGC		
0	0	CTCTTCAAGTCAGACGTGAAATCCTCGGGC		
0	5	TTTCGGGGCGGCGGAGGGCTGCGGCCGGC		
2	0	ACCGTTAAGT	long	f
0	0	CGTGCTAAGTTAGTTGTTAAATCTCTCGGCC		
2	0	ACCGGCAAGCGTCTTGTGAAATCCCACGGC		
0	0	TTTGGTAAGT	tag	g
3	4	TTTCGTAAGTTAGGCGTGAAAGACTTCGGC		
0	0	CTAGATAAGTTATTCTTCAAAGACTACGGC		
3	2	TTCAGTAAGT	tag	g
0	0	TCCCGTAAGTCGAATGTGAAAGCCCTCGGC		
6	0	CTGTGGGCT	long	g
0	0	TCTAGTGTGTCTGGTGTGAAAGCCCTTGGC		
7	0	CTTCTGTTCA	long	g
3	4	TTTCTTAAGC	long	f
0	0	CTTCGTAAGT	tag	o
0	0	CAAGGTAAGTTCGATGTGAAATCTCCGGGC		
0	2	CTTTGTGCGTCAGATGTGAAAGTCCTGGGC		
0	0	GCTGGTAAG	tag	g
5	2	CTGCGTAAGT	long	c
2	3	TTAATTAAGTTTATTGTTAAATTCAATGAGC		
0	2	TTTGTAAGTCAGATGTGAAATCCCCGGGCT		
0	0	TTTGTTAAGT	tag	p
0	0	TAATGTAAGA	long	g
0	0	CCCGTTAAGTCAGTTGTGAAAGCCCCCGGC		

0	0	TCTGTCAAGT	long	f
0	0	TCTCGGGTAC	tag	p
5	0	TTTCTTAAGT	long	g
4	4	AACAACTCATTCAGTCAATTGATTGAGACG		
0	0	TCTTGTTAGTCAGGTGTGAAAGCCCTCAGC		
0	0	AACAACTCATTCATTCAATGAGTGAGACGG		
0	0	TTTAATAAGTTTTTTGTAAAATCTTATGGCT		
0	0	TTTTGTAAGACAGTGGCGAAATCCCCGGGC		
4	2	CTTTTTAAGTCAGTGGTGAAATTCTACCGCT		
0	0	TAAGGTAAGTTTGGTGTGAAAGCTTCGAGC		
0	0	CTTAGCAAGTCAGATGTGAAAGCCCGGGG		
0	0	ATTTGTTAGT	long	g
0	0	CGATGTAAGTCAGAGGTGAAATCCCATCGG		
0	0	TAGCGTCAGT	tag	g
0	0	ATCGCTAAGT	tag	o
2	7	CCTTGTAAGCCTGGCGTGAAAGTCACCGGC		
0	0	TTTGTCGCGT	long	g
0	0	CCGAGCGGG	long	g
2	0	TCGATTAAGTCAGTGGTGAAATACTTCAGC		
0	0	GTCTTTAAGT	long	g
2	2	CTTTTTAAGT	long	g
0	0	CTTCGGGCTG	long	g
0	5	TTGCGTAAGTTCGGCGTGAAATTTTTCGGC		
3	2	ACTTCTAAGT	tag	g
0	0	CAAGGTAAGTTCGATGTGAAATCTCCGGGC		
0	0	CTTTGCAAGA	long	g
2	0	CTTGGTAAGT	tag	g
0	0	ATTTTTTTATTTTTTTGAATATTTTTAATTAG		
0	0	TTTCGCAAGT	tag	c
4	2	ATGTGTAAGTGTCTTGTGAAAGCCCCGGGC		
0	2	AACAGCTCAGTCGCAAGATTGAGACGGAG		
0	0	TAAGTGAAGTCAGATGTGAAATCCCGGGG		
0	4	TTGGGTAAGTCAGATGTGAAATCCCCAGGC		
0	0	TCTGTTAAGT	long	p
0	0	TTTGTCACGT	long	g
0	0	ATAAAAAAGAGAAAGAGAGAGAGAAAAA		
5	0	CTTTTCAAGCCAGGGGTGAAATCCCAGAGC		
0	0	TCAGACTAAGTCAGATGTAAAATCCCAGGG		

0	0	TATGGTAAGTTGGATGTGAAAGCTCCCGGC		
2	0	TTGGATAAGTGGGGCGTGAAATATCCCGG		
0	2	AGATATTAGTCAGATGTGAAATCCCGGGGC		
0	4	TTTTAGTGAGTTTATTTAGGTAGTTGGTCGG		
0	0	TTTTGTAAGT	long	g
0	0	TTTTGTAGGACAGTGGTGAAATCCCCGGGC		
2	2	TTGAGTCAGT	long	g
0	7	GAAAATAAG	tag	c
0	0	CCGAGCGGGTCGCGGGTGAAATCCCCCAG		
0	0	ACTTGTAAGTCAGTGGTGAAATCTCTTCGCT		
0	0	TTGACTGGGGATCTTTGTTTACTTTGAATAA		
4	2	TCTGGTAAGTTGGGAGTGAAAGCCCGGGG		
0	5	TTATTTAAGT	tag	f
0	0	ACATTTAAGTGAGTTGTGAAATACCCGTGC		
0	5	TCTTTTAAGT	long	g
0	1	CTTTGTAAGA	long	f
0	0	CTTGTCGCGT	long	g
0	0	TTAGTCACGTCGGATGTGAAAACTCGGAGC		
0	0	GTGTTCAAGTGGTGTATGAAATCGCTCGGC		
0	0	TTTCGGGTATTTGTTGCTAGCTGGTCTCATT		
0	0	ATAAAACATGGTCTTCTATTTTTTTTATTTT		
3	0	GACGGCACG	tag	f
0	3	CGTGGTAAG	tag	f
3	3	CTTAGAATTATTACAAGTTTGGTTTAATTGA		
0	4	TGACGGAAGTCATGTGTGAAAGCTCCCAGG		
0	0	ATCAGTCAGT	tag	g
0	0	CTCTGTGCGT	tag	f
5	3	CTTAATAAGTTACGGCTGAAATCCGGCGGC		
0	0	ACTGTTTAGT	long	g
2	2	TTTTTTAAGT	long	f
4	5	AACAACTCATTCAGTCAATTGATTGAGACG		
0	3	TCAGATAAGT	long	p
0	0	TTTTATAAGACAGTGGTGAAATCCCCGGGC		
0	0	ACTGTCAAGTCAGGGGTGAAATCCCGAGG		
0	0	TTTTGTAAGT	tag	o
3	0	TTGGGTAAGTCAGATGTGAAATCCTCGGGC		
0	0	CTTTGTAAGTCAGGTGTGAAGGCCTGGGGC		
0	0	GCGATTAAGTCAGGGGTGAAATCCCGGAG		

0	0	TTTTTTAAGACAGGCGTGAAATCCCGGGCT		
0	0	TCCGTTGCGT	long	f
0	3	TTTTAGTGAGTTTATTTAAGAGATAGGTCG		
0	0	TCTGTTAAGTGAAAAGTGAAATCTCCATCG		
3	2	TTGGGTAAGTCAGATGAGAAATCCCCGGGC		
5	2	TTGGGTAAGTCGGATGTGAAATCCCCGGGC		
0	0	GTTTGTAAGACAGTGGTGAAATCCCCGGGC		
0	0	ACTAATAAGT	long	f
0	0	CTTTGTAAGT	tag	g
0	0	TCTTCTAAGTCGGATGTGAAAGCTCCTGGC		
0	3	TAATGTTAGTCATTTGTAAAAGCCCCCGGCT		
0	3	TTCGTTAAGTCTGGCGTGAAAGCCTCCGGC		
0	0	ATCGTTAAGT	long	g
2	0	TTTGTTAAGT	long	g
0	0	CTTTATAAGT	tag	f
3	2	TTTGGCCAGTCAGCCGTGAAAGCCCTGGGC		
0	5	CCTGATAAGTCAGAGGTGAAAGCCTGCAGC		
0	0	TTTGTAAGACTGTCGTGAAATCCCCGGGCT		
0	3	CTATGCAAGTCAGAGGTGAAATCCCAGGGC		
0	0	TTCTATAAGTCAGATGTGAAAGCCTCGGGC		
0	4	TCTAGTAAGTCAGTCGTGAAATCGCTGGGC		
2	0	CCTGTTAAGT	long	g
0	0	CCTGTTAAGT	tag	p
0	0	CGCATTAAGTCTGACGTGAAATCTCTCGGC		
0	0	TTATTTAAGT	long	o
3	0	TTCGGTAAGT	long	g
0	0	ATTGAAAAGT	tag	f
0	2	ACAGGTCAGTCTAAAGTGGAAGCCCGGGG		
0	4	CCTTGTAAGCCTGGCGTGAAAGTCACCGGC		
0	0	CTGAGGGTTA	long	g
0	0	TTTCGCAAGTCAGGCGTGAAAGCCCCGGGC		
3	2	CTGTGCAAGTCTGAGGTGAAATTCCGAGGC		
0	0	TTTTGTAAGACAGTAGTGAAATCCCCGGGC		
3	0	CCTGCTAAGACTGACGTGAAAGCTCCTGGC		
0	0	TCTTGGCGTAAAAGATTAAAAACTTTTAATT		
0	0	CTTTGTAAGTCAGGTGTGAAAGCCTGGGGT		
2	2	ATTGCTAAGT	tag	g
4	0	CCATGCAAGTCAGATGTGAAATCCCGGGGC		

0	0	CCTGATCAGT	long	g
0	0	TTGTGCAAGTCGGGTGTGAAATTCCGGAGC		
0	0	ACGGGTAAGTGGGTTGTGAAAGCGCTCGG		
0	2	TTGGGTAGTCAGATGTGAAATCCCCGGGCT		
0	0	GAGTGCAAGTCAGATGTGAAATCCCGGGG		
0	0	TTGGGTAAGTCAGATGTGAAATCCCCGGGT		
0	0	TCTTATAAGTCAGTGGTGAAATCTCCTCGCT		
0	0	TTTAGTAAGACAGTGGTGAAATCCCCGGGC		
0	0	CCTTGTAAGTGTCTGATGAAATCCCACGGCT		
0	0	ACTGAAAAGT	long	g
0	2	CGCTGTTAGT	tag	g
0	0	CTTGTAAGTCAGGTGTGAAAGCCTGGGGCT		
0	0	CCCCATAAGTCCCGTGTGAAATCCCCCGGCT		
0	0	CTTGGTAAGT	long	o
0	0	CGGCGCAAGCGTCGTGTGAAATCCCATCGC		
0	0	TGGGGAATGAGTGGAGGAAGGAAAAGGG		
0	0	AAGGGTAAG	long	o
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGGC		
3	0	TTTTGTTAGTCGTCTTTTAAATCTCCCGGCCT		
0	0	TTTGTTAAGTTGGTGGTTTAATCTTCGGGCT		
0	0	TTTAATAAGTTCTTTATAAAAGCTTATGGCT		
0	0	TTTCGGAAG	tag	g
0	2	TTTAGAGAGTGTTAACATCGAAATCCCAAA		
0	0	CCGGCTAAGTCAGTTGTAAAATTCCTGCGCT		
0	0	TTTTGTAAGACAGTGGTAAAATCCCCGGGC		
0	0	CTATGCAAGA	long	o
3	4	GACTGTAAGTCAGGTGTGAAAACTACGAG		
0	0	AACATCCCTGATTGCAAAATCAGAGACGGA		
0	0	CGCGATAAGT	tag	f
0	2	ACTTGTAAGT	tag	f
0	0	CGGTATAAGTCAGCGGTGAAATCCTTCGGC		
5	0	GAAGGTAAGTCAGATGTGAAATTCCGAAG		
0	0	CTTGTCGCGT	tag	g
0	0	TCTTGCAAGA	long	f
0	5	ATCAATAAGTCTGCTGTGAAAGTCGAAGGC		
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGAC		
0	0	CCTTTCAAGCGTCCTGTGAAAGCCTCCCGCT		
2	2	GTCTGTAAGTGCCTTGTGAAATCCCCGGGC		

5	0	TTGGGTAAGCCAGATGTGAAATCCCCGGGC		
0	0	ATTATTAAGT	long	f
0	0	CGCATTAAGTCTGACGTGAAATCTCCTGGCT		
0	0	CTTGGCGAGTGAGGCGTGAAAGGCCTGGG		
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGGT		
0	0	GCGCGTAAGTGCTTTGTGAAAGCCCTGGGC		
2	2	ATCTGTAAGTGTCGTGTGAAAGCCCACTGC		
0	3	TATAATAAGTTGAAAGTGAAAGCCCGGGGC		
0	0	TTTTTTAAGACAGTGGTGAAATCCCCGGGCT		
0	0	TGATTTAAGTGAGTTGTGAAATACCCGTGCT		
0	0	GATAATAAGTCAGTGGTGAAAGCTCACAGC		
3	0	CTATTTAAGTCAGTTGTGAAAGCCTGGGGCT		
0	2	TGAGGTAAGTCAGGTGTGAAATCCCGGAGC		
0	2	CGCAGAAAGTTGGGTGTGAAAGCCCTCGGC		
0	0	TGTTATAAGTGTGTTGTGAAATCCCTGGGCT		
0	0	CCAAGCAGGTCGGGTGTGAAATCCCTCGGC		
0	0	AATAATAAGT	tag	f
0	0	CTTTGTAAGTCAGGTGAAAGCCTGGGGCTC		
0	0	ATAAGAAAGGGAGAGAGAGAGAGAAAAAT		
0	0	CCTTGTGTGTGAAGTGTGAAAGCCCGGGGC		
0	0	TTGATTAAGTTATCTGTGAAATCCCCGGGCT		
0	0	TTTTGTAAGACAGTGATGAAATCCCCGGGCT		
2	0	CTTTTTAAGACAGGCGTGAAATCCCCGGGCT		
4	2	CGATGTAAGACAGATGTGAAATCCCCGGGC		
3	0	GACGGAAAGTCAGAGGTGAAATCCCGGGG		
5	0	GGCGTTAAGT	tag	f
0	0	CTGGGCGCGTGGGGTGTGAAAGCCGGCGG		
3	0	TCTGATAAGTCTGGCGTGAAATTGACCGGCT		
0	0	TTGGTTAAGTTTGGTGTGAAATCTCCCGGCT		
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0	0	TTGGGTAAGTCAGATGCGAAATCCCCGGGC		
0	0	TTTGTGGTGGCCTCGATGGTCCATTCATTTT		
0	0	TCTTGGCGTAAAAAATTAAAAACTTTTAAAA		
0	0	TAGGGTAAGTCAGATGTGAAATCCCCGGGC		
0	0	CAAGATAAGTCAATCATTAAATCTCCTGGCT		
0	0	TCGTTTAAGT	tag	g
0	0	AACAACTCACACATTGATGTGAGACGGAGG		
2	2	ATGGGTGTGTCAGATGTGAAATCCCCAGGC		

0	2	TATTACAAGTCTATAATTAAATCTCTGAAGC		
3	0	GTCAGCAAGTCAGATGTGAAATTCCGGAAC		
0	0	TCTGTCGCGT	tag	f
0	0	TTTTAGAGTTTATTCAGTAGAGTCCGCTTGA		
0	0	TTTGTTAAGTTGGAGGTTTAATCTCTGGGCT		
0	0	CTACGTAAGTGTCCTGTGAAATCTCATGGCT		
0	0	ACCAGAAAG	tag	f
0	6	TTCTTCGTGTGTTAGCACCTAAAAACCAGA		
0	0	TTTGGTTAGTTGGATGTGAAATCTCCTGGCT		
5	0	CCTGACAAGTCTGATGTGAAAGACCTGGCT		
0	0	TTTTGGGGCGGGTGGGGCTGTGTCTGCCGT		
0	0	TCCTATTTGTCTGAGGTGAAATCCCAGGGCT		
0	0	CTCATTAAGTGTGTGGTGAAATCTCTGTGCT		
0	0	TTTTGTAAGACAGTGGTGAAATCCCCGGGT		
0	2	GTCGTTAAGT	long	f
0	0	TTGCCTAAGC	tag	f
2	0	CTATATGAGTTGGGTGTGAAATCCCGGGGC		
0	2	TTGGGTAAGTCAGATGTGAAATCCCCGGGC		
0	0	CTTTGTAAGTCGGGTGTGAAAGCCTGGGGC		
0	0	CCGTGCGAGTGAGGCGTGAAAGCCCCGGG		
0	0	CTATTTAAGTCAGTGGTGAAATCCTTCAGCT		
0	0	TGATGTAAGACAGATGTGAATCCCCGGGCT		
0	0	TACCATAAGT	tag	g
0	0	TTTTGGGGCGGGCGGGGCTGTGTCTGCCGT		
0	0	TTTTTTAAGA	tag	f
0	0	CCTTGGGCCT	long	f
0	0	TTCGTTAAGT	long	g
0	0	TTTGTCGCGT	long	g
0	0	CTTGTCGCGT	long	g
0	0	GCCGATGCGTCCGTGGCTGAAATCCCCCGG		
0	0	TTCTTATAAATATTAGGAACTAGAATTTGAT		
2	0	TTGTTTAAGTGAGGTGTTAAAGCCCTGGGC		
0	0	CTTGGAAAGTCGGATGTGAAAGCCCGGGG		
0	3	ATACTTAAGT	tag	g
2	2	CTCGAAAAGCGTTCCGTGAAATTCCCCGGC		
0	0	ATTTTTTTATTTTTTTTTGAATAAAATTATTTT		
0	0	TTTGTCGCGT	tag	f
0	0	CGATGTAAGTGTAGGGTGAAATCCCACGGC		

3	3	AACAACTCATTCAGTCAATTGATTGAGACG		
2	0	CTAGATACGTTTGATGTGAAATCCCTGGGC		
0	0	CTATTCAAGT	tag	f
0	0	TTTCGTATGT	long	o
0	0	TCTCGTGCGT	long	o
0	0	CTTTATAAGTCAGTGGTGAAAGCCCGGAGC		
0	0	CTGGGCAAGTCGGATGTGAAATACCTCGGC		
0	3	CCTGACAAGTCTGATGTGAAGGACCTGGGC		
3	0	TGCTATAAGTCTGATGTGAAACCTTCTGGCT		
0	0	CCTCGTAAGTGCTTTGTGAAAGCCCCCGGC		
0	0	TTTAAAAAGTATTCTGTCAAAGATTAGGGC		
0	0	TCTTGTAAGT	long	f
5	3	AACATCTTGCTCTTTGAGTGAGACGGAGGC		
0	2	CCTTTCAAGTCAGTCGTGAAATCGCTGGGC		
2	0	TTCGCTAAGTCTGGCGTGAAATATTTCGGC		
3	0	AACAACTCACACATTGATGTGAGACGGAGG		
0	0	TTCTGTAAGC	tag	f
2	0	TTTCGTAAGA	long	g
0	0	GCGTGTAAGTGTCTTGTGAAAGCCCCGGGC		
0	0	TCCTGTAAGCCTGACGTGAAAGGCTATGGC		
0	0	CTTGCCAAGTGCCTTGTGAAATCCCACGGC		
3	0	TTCGTTAAGT	long	g
0	0	CAAGGCAAGTCTCGCGTAAAAGCTCCCGGC		
0	0	CATTGTAAGTCGGGGGTGAAAGCCTGGAG		
0	0	CGTCGTAAGT	tag	f
0	0	ATATGCAAGACAGATGTGAAATCCCCGGGC		
0	0	CCTTGCGCGTCTCGCGTTAAATTCCATTGCT		
0	0	AACAGCTCAGTCGTAAAAGATTGAGACGG		
2	0	ATTGTTAAGC	tag	g
0	0	GTTCGTAAGTGCTATGTGAAAGCCCTCGGC		
0	0	TCTGTTAAGCATGAAGTGAAATCCCCAGGG		
0	2	GGATTTAAGTCAGATGTGAAATCCCGAGGC		
2	0	CTTGGCCAGT	long	g
0	0	TCTATTGCGTCGAAAGTGAAAACTCAGGGC		
0	0	CGTTCGGGTTCCGCGGACGGGGCCGCCCC		
0	0	AGTTAATAAAAGTTTTACTAAATAGAGTGA		
0	0	TTGGGAAGTCAGATGTGAAATCCCCGGGCT		
0	2	GTTGATAAGT	tag	g

3	0	TTTTGAAAGTCAATTGTTAAATCCCAGGGCT		
0	3	TTGGCTAAGT	tag	f
0	0	TTTTTGTAAGACAGTGGTGAAATCCCCGGG		
0	4	TCTTGTCCGT	long	g
0	0	GGCGATAAG	long	f
0	0	TTGGGAAAGTCAGATGTGAAATCCCCGGG		
0	0	TCTTGTATGTCGAATGTGAAAGCCCCTGGCT		
0	0	TTGGGTAAGTCAGATGTGAAATCCCCGGGC		
0	0	ATGATTAAGT	long	g
0	2	GCTCTGGCGCCGGCCGTGCGGCCGCCCTTC		
0	0	CTTAGCAAGTCAGAGGTGAAATGCCGGGG		
2	0	TTGGGTAAGACAGATGTGAAATCCCCGGG		
0	0	GACGGTAAGTCAGACGTGAAATCCCGAGG		
0	0	AGAGGAAAGTCGGTCGTGAAAGCCCGGGG		
0	0	TTTAACAAGTCAGAAGTGAAAGCCCTGGGC		
0	0	TTTTGTCAGT	long	g
0	0	TCTGTCACGT	tag	f
0	0	TCTGGTAAGTGGGGTGTGAAAGCCCTCGG		
0	0	ATTGTTAAGT	tag	c
0	0	TTTGATAAGT	long	c
3	0	AACAACTCATTCAGTCAATTGATTGAGACA		
6	0	CTTGACAAGTCTGATGTGAAAGACCTGGGC		
0	0	CTTACCAAGT	tag	p
0	3	CCTGTCAAGTCTGATGTGAAAGACCTGGGC		
0	0	ATAGTTAAGTCAGAGGTGAAATCCCGGGG		
2	0	TTCGGTAAGTCGGGTGTGAAAACTTTAGGC		
3	0	TTGTGCAAGTCAGATGTGAAAGCCCTGGGC		
0	0	TTTGTCGCGT	tag	f
0	0	ATGGGCGCATCGATTGCTGAAAGCCCCCGG		
0	0	GCTGCAAAGTCCGGGGTGAAATCCTCCAGC		
0	0	CGGCACAAG	long	g
3	2	CACTGTAAGTGTGGGGTGAAAGCCCACGG		
2	0	TTGGGTAAGTCAGATGTAAAATCCCCGGGC		
0	0	ATTGTTAAGT	long	g
0	2	GATGTAAGACAGATGTGAAATCCCCGGGCT		
0	0	CTTCGTAAGT	tag	f
0	0	TTTTAGTAGGATTTTAGAGATAGGTCGGTT		
0	0	TTGATAAGTCAGATGTGAAATCCCCGGGCT		

0	3	AGGCGGGGCGCTGGGCGAGGTGGTAGGA		
0	0	TTTCTGCTTGTTAGAGTCAAGTCCTCGCGGA		
0	0	TCTTTTAAGACAGGCGTGAAATCCCCGGGC		
0	0	CCCGACAAGTCTGATGTGAAAGACCTGGG		
2	0	TCCGCCAAGCGTTTTGTGAAATCCCACGGC		
0	0	ATAGGTCAGTCAGGTGTGAAATTCCGGTAC		
0	0	ATTATTAAGT	tag	g
0	0	TTACTCAAGT	long	g
0	0	TTTGTCGCGT	long	g
0	0	TTATTCAAGT	tag	c
0	0	TAGAGTCAGTCAGTCGTGAAAGGCCTGGG		
0	0	GCTATCAAGT	tag	g
0	0	CTTTGTAAGTCAGGTGTGAAAGCCCGGGG		
3	0	TTGGGTAAG	tag	g
0	0	GTTCCTAAGT	tag	f
0	0	ACTTTTAAGT	tag	g
0	0	CTTTGTGAGTCAGGTGTGAAAGCCTGGGG		
0	0	CGCAGTAAG	tag	f
4	0	ATTGTTAAGT	long	f
0	0	ACTTTTAAGT	tag	o
0	0	CCAATTAAGT	tag	c
0	0	CCTTGTAAGTCAGGTGTGAAAGCCTGGGG		
0	0	AGATAAAAGTCAGATGTGAAATCCCGGGG		
3	0	TTGGGTAAGTCAGATGTGAGATCCCCGGG		
0	0	AACATCTCACACATTGATGTGAGACGGAGG		
1	1	TTGGGTAAGTCTGATGTGAAATCCCCGGGC		
0	0	CTTTGTAAGT	long	g
0	0	TTTGTCACGT	long	g
0	0	CTGAGAGCTGTACTTAGATAGCGATTCTAC		
4	0	ATCCGTAAGTGTCTTGTGAAATCCCCGGGC		
0	0	TTGGGTAAGTCAGATGTGAAATCCCCGGGT		
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0	0	CTTTGTAAGTCAGGTGTGGAAGCCTGGGGC		
0	0	TTTTCTAAGACAGTGGTGAAATCCCCGGGC		
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0	2	CAATATAAGTCAGGGGTGAAAGCCTACGG		
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0	0	GGTAGCAAG	tag	f
0	0	CTTTGTAAGT	tag	g
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0	0	TCACGCAGGTCGGATGTGAAAGCCCCGGG		
0	0	TGCCGCAAGTCAGGGGTGAAATCCCGGAG		
0	0	TTTGTCGCGT	long	g
0	2	AGTGGAAAGTTAGATGTGAAAGCCCGGGG		
0	3	CTTTTTAAGT	long	g
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0	0	TTGGCCAAGT	tag	f

0	0	TGATGTAAGA	tag	f
0	0	CTTGCCAAGT	long	g
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0	0	TTAGTTAAGT	long	g
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0	0	ATCAATTAGT	tag	f
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0	2	TCTGTCGCGT	long	g
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0	0	CTTTGTAAGTCAGGTGTGAAAGCCCGGGGC		
0	0	TTGTTTAAGT	tag	k
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0	0	TTATGTAAGACAGATGTGAAATCCCGGGCT		
0	0	CTTGTCGCGT	long	g
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0	0	TTTTGGGGTATTTAAAGGTGAGGGGCAACC		
0	0	TTTGGTCAGTCAGCCGTGAAAGCTCCGGGCT		
0	0	ACGCAATTGGGAGGTTACAGCTTGCATTGG		
0	0	CCTTGCAAGTCAGAGGTGAAAATCCTGGGC		
0	0	TTGTGTAAGA	tag	o
0	0	AACAACTCATTCAGTCAATTGATTTAGACGG		
0	0	CTTGTTAAGT	tag	g
0	0	CATGTCAAGTCAGATGTGAAAGACCGGGGC		
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0	0	TCTATCAAGTCAGGCGTGAATTCCCGGGCTC		
0	0	TCTTGTTTGT	long	f
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0	0	TTTCTCGCGTCTGCAGTGAAAATCCGGGGCT		
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0	0	CTCGGCAAGT	long	o
0	0	TTTGGTCAGTCAGCCGTGAAAGCCCGGGGC		
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0	2	TTTTTCAAGTCAGGAGTGAAAGCCCGAGGC
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0	2	TGATGTAAGACAGATGTGAAATCCCCGGTC
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73359	72015	

taxon_data	long	long_total	long_this	support	confidence
g	TGGGCGTAA	6	6	942	0.97664544
g	TGGGCGTAA	12	12	19	1
g	TGGGCGTAA	12	12	2	1
TTA	TGGGCGTAA	10	10		
g	TGGGCGTAA	12	12	75	0.94666667
g	TGGGCGTAA	12	12	42	0.90476191
TCA	TGGGCTTAAA	12	12		
CA	TGGGCTTAAA	11	11		
g	TGGGCGTAA	12	12	396	0.8989899
CGG	TGCAGTTAAA	6	6		
CGG	TGCAGTTAAA	8	8		
AG	TGCAGTTAAA	8	7		
g	TGGGCGTAA	10	10	34	1
g	TGGGCGTAA	12	12	93	0.98924731
AGG	TGCAGTTAAA	9	9		
g				1173	0.99829497
CGG	TGCAGTTAAA	6	6		
o	TGGGCGTAA	11	11	2	1
TCA	TGGGCGTAA	6	6		
f	TGGGTTTAAA	7	7	8	1
TTA	TGGGCGTAA	12	12		
g				7	0.85714286
g	TGGGCGTAA	12	12	11	1
CA	TGGGCTTAAA	12	12		
g				193	0.97409326
g	TGGGCGTAA	12	12	6	0.83333333
g	TGGGCGTAC	12	12	95	1
AGG	TGCAGTTAAA	12	12		
g	TGGGCGTAA	6	6	503	0.99403579
g				3415	0.86061493
TTA	TGGGCGTAA	12	12		
CAA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	7	7		
g	TGGGCGTAA	7	7	23	0.82608696
g	TGGGCGTAA	12	12	24	0.95833333
TCA	TGGGCATAA	6	6		
g				16	0.9375

o	TGGGCGTAA	12	12	15	1
g	TGGGCGTAA	11	11	8	1
g	TGGGTTTAAA	12	12	17	1
TA	TGGGTTTAAA	8	8		
g	TGGGCGTAA	7	7	341	0.98533724
AGG	TGCAGTTAAA	10	10		
g	TGGGTTTAAA	6	6	3	1
TCA	TGGGCGTAA	12	12		
TA	TGGGCGTAA	6	6		
TCA					
CGG	TGCAGTTAAA	6	6		
g	TGGGCGTAA	6	6	13	1
TA	TGGGCGTAA	7	7		
o	TGGGCGTAA	6	6	10	0.8
g	TGGGCGTAA	12	12	10	0.8
g	TGGGCGTAA	10	10	27	1
TCA	TGGGTTTAAA	7	7		
TA	TGGGCGTAA	6	6		
g				14	1
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GG	TGCAGTTAAA	6	6		
TTA	TGGGTTTAAA	10	10		
TTA	TGGGCGTAA	11	11		
TCA	TGGGCGTAA	12	12		
g	TGGGCGTAA	6	6	23	0.95652174
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f	TGGGCGTAA	12	12	3	1
TA	TGGGCGTAA	12	12		
TTA	TGGGTTTAAA	11	11		
CC	TGCAGTTAAA	10	10		
TA	TGGGCGTAA	6	6		
c	TGGGCATAA	12	12	7	1
c	TGGGCTTAAA	12	12	3	1
TCA	TGGGCATAA	6	6		
CTTA	TGGGCGTAA	6	6		
TTA	TGGGTTTAAA	6	6		

g	TGGGCGTAA	12	12	8	1
f	TGGGTTTAAA	7	7	2	1
f	TGGGTTTAAA	12	12	8	1
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g	TGGGCTTAAA	6	6	3	1
f	TGGGCGTAA	12	12	2	1
TCA	TGGGCTTAAA	12	12		
CGG	TGCAGTTAAA	6	6		
TA	TAGGCGTAA	6	6		
o	TGGGCGTAA	12	12	11	1
f	TGGGCGTAA	7	7	7	1
TCA	TGGGCGTAA	7	7		
TCA	TGGGCTTAAA	6	6		
CG	TGCGGTTAAA	12	12		
g	TGGGTTTAAA	6	6	6	0.83333333
TCA					
g	TGGGCGTAA	6	6	2	1
TA	TGGGTTTAAA	6	6		
CA	TGGGCTTAAA	6	6		
f	TGGGTTTAAA	6	6	5	1
g	TGGGCGTAA	12	12	28	0.96428571
p	TGCAGTTAAA	6	6	3	1
TCA	TGGGCTTAAA	6	6		
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GGA	TGCAGTTAAA	6	6		
g	TGGGCGTAA	7	7	3	1
f	TGGGTTTAAA	12	12	2	1
g	TGGGCGTAA	8	8	172	1
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g				168	1
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TCA					
TT	TGGGCGTAA	6	6		
c	TGGGCGTAA	6	6	4	1
TTA	TGGGCGTAA	6	6		
CGG	TGCAGTTAAA	6	6		

CTCA	TGGGCGTAAA	12	12		
CTCA	TGGGCGTAAA	6	6		
CTCA	TGGGCTTAAA	8	8		
f	TGGGTTTAAA	6	6	6	1
CTCA					
g	TGGGTTTAAA	6	6	2	1
TCA	TGGGTTTAAA	6	6		
TCA	TGGGCGTAAA	6	6		
o	TGGGCGTAAA	6	6	6	1
TCA	TGGGCGTAAA	6	6		
CTCA	TGGGCGTAAA	6	6		
c	TGGGCATAAA	6	6	2	1
CTTA	TGGGTTTAAA	12	12		
g	TGGGCGTAAA	6	6	399	1
f	TGGGCGTAAA	6	6	2	1
g	TGGGCGTAAA	12	12	3	1
c	TGGGCTTAAA	12	12	4	1
g	TGGGTTTAAA	4	4	97	1
c	TGGGCGTAAA	6	6	2	1
g	TGGGTTTAAA	10	10	39	0.92307692
o	TGGGCGTAAA	6	6	2	1
CTTA					
g	TGGGCGTAAA	7	7	9	1
f	TGGGTTTAAA	11	11	2	1
g	TGGGCGTAAA	6	6	51	1
g				284	0.99647887
o	TGGGCGTAAA	6	6	7	1
CTCA	TGGGCGTAAA	6	6		
TCA	TGGGCGTAAA	12	12		
g	TGGGCGTAAA	12	12	81	0.97530864
CTT	TTCGGTTATA	6	6		
g	TGGGCGTAAA	6	6	38	1
TTA	TGGGCGTAAA	12	12		
g	TGGGCGTAAA	6	6	36	0.86111111
g	TGGGCGTAAA	12	12	180	1
CTCA	TGGGCGTAAA	6	6		
CTCA	TGGGCGTAAA	6	6		
TCA	TGGGCATAAA	11	11		

TTA	TGGGCGTAA	7	7		
g	TGGGCGTAA	6	6	3	1
g	TGGGCGTAA	7	7	15	0.93333333
TCA	TGGGCGTAA	6	6		
CA	TGGGCGTAA	8	8		
TCA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	4	1
g				873	0.99427262
c				185	1
g	TGGGCGTAA	6	6	6	1
GCG	TGCAGTTAAA	6	6		
TTA	TGGGCTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
g	TGGGCGTAA	11	11	43	0.95348837
f	TGGGCGTAA	6	6	48	0.95833333
TCA	TGGGCTTAAA	7	7		
g	TGGGCGTAA	12	12	14	1
TCA	TGGGTGTAA	7	7		
g	TGGGTTTAAA	6	6	6	1
GAACC					
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g	TGGGCGTAA	7	7	109	0.98165138
CA	TGGGCTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
o	TGGGCGTAA	6	6	5	0.8
TCA	TGGGTGTAA	6	6		
TCA	TGGGCGTAA	11	10		
f	TGGGCGTAA	6	6	6	1
f	TGGGCGTAA	9	9	4	1
g	TGGGCTTAAA	12	12	39	1
g	TGGGCGTAA	6	6	78	1
CA	TGGGTGTAA	6	6		
f				15	1
p	TGGGCGTAA	6	6	2	1
g	TGGGCGTAA	6	6	15	0.93333333
g	TGGGCGTAA	6	6	10	0.9
o	TGGGCGTAA	6	6	3	1

G	TGCAGTTAAA	9	9		
f	TGGGCGTAA	6	6	5	1
f	TGGGCGTAA	12	12	19	1
f	TGGGCGTAA	7	7	2	1
TCA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	3	1
GA	TGTGTTTAAA	12	12		
TG	TGGGCGTAA	7	7		
f	TGGGTTTAAA	7	7	5	1
o	TGGGCGTAA	6	6	5	1
g	TGGGCGTAA	6	6	15	1
TTA					
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	2	1
TT	TGCAGTTAAA	11	11		
g	TGGGCGTAA	12	12	4	1
TCA	TGGGTGTAA	6	6		
o	TGGGCGTAA	6	6	2	1
TA	TGGGCGTAA	6	6		
g	TGGGTTTAAA	6	6	10	1
f	TGGGCGTAA	6	6	9	1
TCA	TGGGCTTAAA	6	6		
TCA	TGGGCTTAAA	7	7		
c	TGGGCATAAA	6	6	3	1
g	TGGGCGTAA	12	12	399	0.99749373
g	TGGGCGTAA	12	12	4	1
CA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	4	1
g	TGGGCGTAA	12	12	5	1
TCA	TGGGCTTAAA	7	7		
g	TGGGCGTAA	10	10	3	1
g	TGGGCGTAA	6	6	3	1
CAA	TGCAGTTAAA	12	12		
TTA	TGGGCGTAA	12	12		
f	TGGGCGTAA	6	6	38	1
TTA	TGGGCGTAA	6	6		
CTTA	TGGGCGTAA	6	6		
CAA	TGGGCGTAA	6	6		

c	TGGGCGTAA	12	12	2	1
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	10	10	44	1
g	TGCAGTTAAA	6	6	21	1
AGC	TGGGCGTAA	12	12		
TTA	TGGGCGTAA	12	12		
g	TGGGTTTAAA	6	6	3	1
TTA	TGGGCGTAA	11	11		
TCA	TGGGCTTAA	11	11		
g	TGGGCGTAA	6	6	5	0.8
g	TGGGCTTAAA	9	9	5	1
CTCA	TGGGCGTAA	12	12		
TTA	TGGGCGTAA	6	6		
g				262	0.98854962
TTA	TGGGCGTAA	12	12		
TG	TGCAGTTAAA	8	8		
TTA					
TCA					
TTA	TGGGCGTAA	12	12		
f	TGGGCGTAA	6	6	3	1
g				10	1
f	TGGGCGTAA	6	6	8	1
TCA	TGGGCTTAAA	6	6		
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
o	TGGGCGTAA	6	6	2	1
f	TGGGTTTAAA	11	11	3	1
TCA	TGGGCGTAC	6	6		
AA					
g	TGGGCGTAA	7	7	47	0.95744681
g	TGGGCTTAAA	6	6	2	1
TA	TGGGTTTAAA	12	12		
TA	TGGGCGTAA	6	6		
GAACC	TGCAGTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	12	12		
TTA	TGGGCGTAA	6	6		
g				82	0.91463415

o	TGGGCGTAA	11	11	5	1
f	TGGGCGTAA	12	12	4	1
g	TGGGCGTAA	6	6	10	1
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	6	6		
TTG	TGCAGTTAAA	6	6		
CTCA	TGGGCGTAA	8	8		
f	TGGGCGTAA	9	9	2	1
g				56	0.83928571
f	TGGGCGTAA	6	6	2	1
g	TGGGTTTAAA	6	6	5	1
CA	TGGGCGTAA	6	6		
f	TGGGTTTAAA	6	6	4	1
o				52	1
g	TGGGCGTAA	6	6	3	1
g	TGGGCGTAA	6	6	31	0.96774194
TTA	TGGGTTTAAA	6	6		
TTA	TGGGCTTAAA	12	12		
TA	TGGGTTTAAA	8	8		
o	TGGGCGTAA	9	9	2	1
p	TGGGTGTAA	6	6	3	1
g	TGGGCGTAA	12	12	40	0.875
TTA	TGGGCTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
g	TGGGCTTAAA	6	6	6	1
g	TGCTGTTAAA	10	10	2	1
o	TGGGCGTAA	6	6	2	1
f	TGGGTGTAA	6	6	11	1
TTA					
g				997	0.99799398
g	TGGGCGTAA	6	6	16	1
CTA	TGGGCTTAAA	6	6		
o	TGGGCGTAA	6	6	10	1
g	TGGGCGTAA	9	9	3	1
TCA	TGGGTTTAAA	6	6		
CTCA	TGGGCGTAA	12	12		
CA	TGGGCTTAAA	6	6		

f	TGGGCGTAA	7	7	3	1
TA	TGGGCGTAA	12	12		
g	TGGGCGTAA	6	6	2	1
	TGCAGTTAAA	9	9		
f	TGGGTATAA	8	8	9	1
CA					
c	TGGGCGTAA	6	6	13	1
g	TGGGCGTAA	11	11	3	1
TTA	TGGGTGTAA	6	6		
f	TGGGTTTAAA	6	6	7	1
g				416	0.84855769
f	TGGGCGTAA	12	12	12	1
GC	TGCAGTTAAA	6	6		
CCC	TGCTGTTAAA	6	6		
f	TGGGTTTAAA	6	6	12	1
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	12	12	504	0.80555556
f	TGGGCGTAA	6	6	8	1
TTA					
TCA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	10	10		
g	TGGGTTTAAA	6	6	16	1
TTA	TGGGCGTAA	6	6		
g	TGGGCGTAA	8	8	83	0.80722892
g	TGGGCGTAA	12	12	107	0.99065421
TA	TGGGCGTAA	12	12		
TCA	TGGGCGTAA	6	6		
o	TGGGCGTAA	6	6	9	1
g	TGGGTTTAAA	6	6	18	1
TCA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	8	8		
TTA	TGGGCGTAA	11	11		
TTA	TGGGCGTAA	6	6		
TA	TGGGTTTAAA	12	12		
g	TGGGCGTAA	6	6	19	0.94736842
f	TGGGTTTAAA	6	6	4	1
g	TGGGCGTAA	6	6	4	1

TTA	TGGGTTTAAA	12	12		
TTA	TGGGTTTAAA	6	6		
g	TGGGCGTAA	10	10	778	0.93958869
g	TGGGCGTAA	7	6	5	1
g	TGGGCGTAA	10	10	3	1
AGG	TGCAGTTAAA	6	6		
TCA					
f	TGGGCGTAA	7	7	3	1
TTA	TGGGTTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
TAG	TAGGTGTAA	4	4		
TCA	TGGGCGTAA	7	6		
TCA					
TCA	TGGGCGTAA	11	11		
f	TGGGCGTAA	6	6	5	1
f	TGGGCGTAA	10	10	5	1
g				2117	0.99196977
TA	TGGGCGTAA	6	6		
CA	TGGGCTTAAA	7	7		
TTA	TGGGCGTAA	6	6		
f				26	1
TCA	TGGGCGTAA	10	10		
CA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
g	TGGGTTTAAA	4	4	2	1
CAA					
o	TGGGCGTAA	6	6	7	1
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
TCA					
g	TGGGCGTAA	6	6	6	1
g	TGGGCGTAA	11	11	7	1
GG	CGCGGTCAA	6	6		
TCA	TGGGCTTAAA	6	6		
g	TGGGTTTAAA	6	6	18	1
TCA	TGGGCTTAAA	6	6		
g	TGGGCGTAA	6	6	4	1
TCA	TGGGCGTAA	6	6		

CA	TGGGCGTAA	6	6		
AAC	TGGGCGTAA	4	4		
c				3	1
g	TGGGCGTAA	11	11	2	1
f	TGGGTTTAAA	10	10	65	1
CTCA	TGGGCGTAA	6	6		
g	TGGGCTTAAA	12	12	8	1
f	TGGGTTTAAA	6	6	7	1
g	TGGGCGTAA	6	6	6	1
g				7493	0.99959963
f	TGGGCGTAA	8	8	4	1
f	TGGGTTTAAA	6	6	12	1
TCA	TGGGCGTAA	10	10		
TA	TGGGTTTAAA	6	6		
f	TGGGTTTAAA	6	6	4	1
g	TGGGCGTAA	6	6	3	1
CA	TGGGCGTAA	12	12		
TTA	TGGGCGTAA	12	12		
CAA	TGGGCGTAA	11	11		
g				622	0.99678457
CTTA	TGGGTTTAAA	6	6		
f	TGGGTTTAAA	7	7	3	1
f	TGGGTTTAAA	7	7	2	1
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	3	1
g	TGGGCGTAA	5	5	1450	0.99862069
CA	TGGGCGTAA	6	6		
TTA	TGGGTTTAAA	6	6		
TCA	TGGGCGTAA	9	9		
f				65	0.83076923
g	TGGGCGTAA	4	4	706	0.99858357
AGC	TGGGCGTAA	6	6		
p	TGGGCGTAA	6	6	4	1
c	TGGGCGTAA	6	6	2	1
g	TGGGCGTAA	6	6	2	1
f	TGGGCGTAA	6	6	2	1
g	TGGGCGTAA	6	6	301	0.86046512
g	TGGGCGTAA	12	12	135	1

f	TGGGCGTAA	6	6	3	1
CA	TGGGCGTAA	10	10		
TCA	TGGGCTTAAA	9	9		
TCA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	6	6		
o				78	0.98717949
f	TGGGTTTAAA	12	12	3	1
TTA	TGGGTTTAAA	6	6		
TA	TGGGCGTAA	6	6		
g	TGGGCGTAA	7	6	3	1
C	TGCAGTTAAA	8	8		
c	TGGGCTTAAA	6	6	2	1
TA	TGGGCGTAA	12	12		
TCA	TGGGCGTAA	8	8		
f	TGGGTTTAAA	6	6	3	1
TGA	TGCAGTTAAA	4	4		
TCG	TGGGCGTAA	5	5		
CTA	TGGGCTTAAA	9	9		
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	8	0.875
f	TGGGCGTAA	12	12	3	1
TTA	TGGGCGTAA	6	6		
g	TGGGCGTAA	3	3	49	0.97959184
TCA	TGGGCGTAA	6	6		
CTC	TGGGCTTAAA	9	9		
TTA	TGGGCGTAA	5	5		
g	TGGGCGTAA	5	5	393	1
AGT	TGCAGTTAAA	6	6		
g	TGGGCGTAA	8	8	87	1
TT	TGCTGTTAAA	5	5		
TA	TGGGCGTAA	6	6		
TA					
CA	TGGGCGTAA	6	6		
TTA	TGGGTTTAAA	6	6		
TA	TGGGCGTAA	5	5		
CAA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	6	6		
CC	TGGGCGTAA	9	9		

TCA					
f	TGGGTTTAAA	11	11	2	1
g	TGGGCGTAA	6	6	225	0.90666667
TCA	TGGGCTTAAA	6	6		
TTA	TGGGTTTAAA	6	6		
AAT	TGCAGTTAAA	6	6		
CTC	TGGGCTTAAA	8	8		
f	TGGGCGTAA	7	7	4	1
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	22	1
f	TGGGTTTAAA	6	6	2	1
TCA	TGGGCGTAA	6	6		
TCA	TGGGTTTAAA	6	6		
CTT	TGGGCGTAA	10	10		
TCA	TGGGTTTAAA	6	6		
o	TGGGCGTAA	11	11	18	0.94444444
CTA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	4	1
g				135	1
g	TGGGCTTAAA	6	6	6	1
f	TGGGCGTAA	6	6	78	0.96153846
f	TGGGTTTAAA	6	6	5	1
g	TGGGTTTAAA	5	5	25	1
CAA	TGGGCGTAA	5	5		
g	TGGGCGTAA	6	6	21	0.95238095
CTA	TGGGCGTAA	6	6		
g	TGCTGTTAAA	6	6	7	1
CTTA	TGGGTTTAAA	6	6		
CTC	TGGGCGTAA	6	6		
g	TGGGCGTAA	9	9	20	0.95
TTA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
g	TGGGTTTAAA	11	11	7	1
f	TGGGCTTAAA	9	9	2	1
g	TGGGCGTAA	4	4	2	1
TTA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	3	1

CA	TGGGCGTAA	10	10		
TCA	TGGGCGTAA	11	11		
CTC	TGGGCTTAAA	11	11		
TTA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	4	1
TTA	TGGGCGTAA	5	5		
g	TGGGCGTAA	6	6	12	0.91666667
c	TGGGCTTGAA	6	6	5	1
TCA	TGGGCGTAA	7	7		
p	TGGGCGTAA	6	6	2	1
o	TGGGCGTAA	6	6	2	1
TCA	TGGGTTTAAA	6	6		
f	TGGGCGTAA	6	6	22	0.95454546
g	TGGGCTTAAA	5	5	10	1
TA	TGGGTTTAAA	12	12		
TA	TGGGCGTAA	4	4		
CA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	464	0.98491379
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	4	1
TAG	TGCAGTTAAA	6	5		
TCA	TGGGCGTAA	9	9		
f	TGGGCGTAA	6	6	4	1
TA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	14	0.92857143
TTA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	11	11		
TCA	TGGGCTTAAA	6	6		
CA	TGGGCATAAA	7	7		
TCA	TGGGTTTAAA	6	6		
CA	TGGGCTTAAA	6	6		
TCA	TGGGCGTAA	10	10		
CTCA	TGGGCGTAA	11	11		
o	TGGGCGTAA	6	6	7	1
g	TGGGCGTAA	4	4	30	0.93333333
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	7	7		
f	TGGGCGTAA	6	6	19	1

CTCA	TGGGCGTAA	5	5		
g	TGGGCGTAA	5	5	4	1
f	TGGGTTTAAA	8	8	4	1
TCA	TGGGCGTAA	6	6		
o	TGGGCGTAA	6	6	2	1
p	TGGGCGTAA	6	6	12	1
f				14	1
g				131	1
f	TGGGCGTAA	6	6	3	1
TTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	6	6		
g	TGGGCTTAAA	11	11	16	1
TCA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	2	1
TCA	TGGGCGTAA	6	6		
c	TGGGTTTAAA	6	6	4	1
TTA	TGGGCGTAA	8	8		
TCA	TGGGTTTAAA	6	6		
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
CTC	TGGGCGTAA	5	5		
AGT					
TCA					
TCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	4	1
TAA					
f				68	0.95588235
f	TGGGCGTAA	11	11	2	1
TTA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	6	6		
g	TGGGCGTAA	10	10	42	0.95238095
TCA	TGGGCTTAAA	5	5		
f	TGGGCGTAA	6	6	41	0.97560976
g	TGGGCTTAAA	12	12	3	1
TA					
c	TGGGCGTAA	6	6	2	1
TCA	TGGGCGTAA	6	6		

TCA	TGGGCTTAAA	9	9		
f	TGGGCGTAA	11	11	2	1
TTA	TGCAGTTAAA	6	6		
f	TGGGTTTAAA	6	6	2	1
TCA					
g				112	1
TCA	TGGGTTTAAA	8	8		
TCA	TGGGCTTAAA	6	6		
f	TGGGTTTAAA	7	7	3	1
g	TGGGCGTAA	8	8	6	1
CTCA	TGGGCGTAA	6	6		
f	TGGGCGTAA	10	10	6	1
TTA	TGGGCGTAA	6	6		
g				592	0.98817568
g	TGGGCGTAA	6	6	2	1
CTCA	TGGGCGTAA	4	4		
g	TGGGCGTAA	6	6	5	1
TCA	TGGGTTTAAA	11	11		
g	TGGGCGTAA	6	6	41	1
f	TGGGCGTAA	6	6	2	1
TTA	TGGGCTTAAA	6	6		
g	TGGGCGTAA	4	4	40	0.925
TA	TGGGCGTAA	6	6		
CTCA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	5	5		
CTCA	TGGGCTTAAA	6	6		
TTA	TAGGTTTAAA	6	6		
TCA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	6	6		
TA	TGGGTTTAAA	12	12		
TTA	TGGGCGTAA	4	4		
g	TGGGCGTAA	6	6	303	0.99009901
CTTA					
g				49	1
g	TGGGCTTAAA	6	6	2	1
g	TGCAGTTAAA	9	9	8	1
g	TGGGCGTAA	6	6	31	1
f	TGGGTTTAAA	7	7	2	1

CA	TGGGCGTTA	8	8		
g				17	0.94117647
TCA	TGGGCGTAA	5	5		
f	TGCAGTTAAA	4	4	4	1
g	TGGGCGTAA	6	6	7	1
g	TGGGCGTAA	8	8	142	1
TTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	11	11		
g	TGGGCGTAA	6	6	145	0.9862069
TCA	TGGGCGTAA	8	8		
TA	TGGGCGTAA	6	6		
c	TGGGCGTAA	7	7	12	0.91666667
CTC	TGGGCTTAAA	9	9		
o	TGGGCGTAA	6	6	2	1
g	TGGGCTTAAA	6	6	2	1
o	TGGGCTTAAA	6	6	2	1
CTC	TGGGCTTAAA	11	11		
o	TGGGCGTAA	6	6	5	0.8
f	TGGGCGTAA	10	10	3	1
CCA	TGGGCATAA	11	11		
TCA	TGGGCGTAA	6	6		
TAA	TGGGCGTAA	9	9		
f	TGGGTTTAAA	6	6	8	1
g	TGGGCGTAA	6	6	337	1
o	TGGGCTTAAA	6	6	3	1
TCA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	6	6		
TCA	TGGGCTTAAA	6	6		
TTA	TGGGCGTAA	5	5		
g	TGGGCGTAA	5	5	255	0.99607843
TTA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	5	5		
o	TGGGCGTAA	6	6	2	1
TTA	TGGGCGTAA	10	10		
f	TGGGTGTAA	6	6	7	1
TTA	TGGGCGTAA	4	4		
TA	TAGGCGTAA	4	4		
g	TGGGCGTAA	6	6	2	1

TCA					
CTCA	TGGGCGTAA	6	6		
f	TGGGCGTAA	6	6	128	1
CTCA	TGGGCGTAA	11	11		
TCA	TGGGCGTAA	6	6		
CTCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
g				63	0.98412698
TCA	TGGGCTTAAA	10	10		
GCTC	TGGGCTTAAA	7	7		
g	TGGGCGTAA	11	9	57	1
g	TGGGCGTAA	6	6	6	1
CTC					
TCA	TGGGCTTAAA	6	6		
c	TGGGCGTAA	9	8	3	1
g	TGGGCGTAA	5	5	2	1
TCA	TGGGCGTAA	5	5		
CTC	TGGGCGTAA	6	6		
TCA	TGGGCTTAAA	6	6		
TCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
AGT					
g	TGGGCGTAA	5	5	2	1
TAA	TGGGCGTAA	6	6		
TCC	TGCTGTTAAA	6	6		
TTA	TGGGCGTAA	11	11		
g	TGGGCGTAA	5	5	3	1
TCA	TGGGCGTAA	6	6		
CTCA	TGGGTTTAAA	6	6		
CTCA	TGGGCGTAA	10	10		
TCA	TGGGCGTAA	5	5		
TTA	TGGGCGTAA	6	6		
CTCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
CTCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	4	4	55	1
f	TGGGCTTAAA	9	9	23	1
CTCA					

CTT	TGGGCGTAA	6	6		
o				3	1
TTA	TGGGTTTAAA	6	6		
g	TGGGCGTAA	3	3	5	1
AG	TGCAGTTAAA	6	6		
g	TGGGCGTAA	6	6	97	1
TTA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
CA	TGGGCGTAA	5	5		
AG	TGCAGTTAAA	6	6		
CTTA	TGGGCGTAA	5	5		
TTA	TGGGCGTAA	6	6		
g	TGGGCGTAA	6	6	17	0.88235294
g				3	1
o	TGGGCGTAA	7	7	2	1
g	TGGGCTTACA	10	10	8	1
TTA	TGGGTTTAAA	5	5		
TCA	TGGGCGTAA	6	6		
TTA	TGCAGTTAAA	6	6		
TCA	TGGGCGTAA	5	5		
g	TGGGCGTAA	10	10	3	1
TT	TGCAGTTAAA	5	5		
TTA	TGGGCGTAA	5	5		
TCA	TGGGCTTAAA	6	6		
CTTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	7	7		
f	TGGGCGTAA	6	6	26	1
AC	TGGGCGTAA	7	7		
g	TGGGCGTAA	6	6	14	1
CA	TGGGCGTAA	4	4		
f	TGGGCGTAA	6	6	2	1
g				17	0.94117647
TTA	TGGGCGTAA	4	4		
ATA	TGCAGTTAAA	8	8		
p	TGGGCGTAA	6	6	4	1
g	TGGGCGTAA	6	6	1106	0.99457505
AATG	TGCAGTTAAA	7	7		
CTCA	TGGGCGTAA	5	5		

TA	TGGGCGTAA	5	5		
TCA					
TCA					
o				10	1
TT	TGCAGTTAAA	5	5		
CAA	TGGGCGTAA	8	8		
TCA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	8	8		
g				7	1
TCA	TGGGTGTAA	5	5		
TTA	TGGGCGTAA	6	6		
o	TGGGCGTAA	7	6	10	1
g				7	1
TTA	TGGGCGTAA	5	5		
p	TGGGCGTAA	6	6	2	1
TTA	TGGGTATAAA	4	4		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	6	6		
c	TGGGCGTAA	5	5	2	1
TA	TGGGCGTAA	3	3		
f	TGGGCGTAA	8	8	2	1
g				59	1
TA	TGGGCGTAA	5	5		
f				26	0.96153846
CTC	TGGGCTTAAA	6	6		
TCA	TGGGTTTAAA	5	5		
TCA	TGGGCGTAA	4	4		
AA	TGGGCGTAA	4	4		
CG	TGGGCGTAA	4	4		
AGT	TGCAGTTAAA	6	6		
TTA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	5	5		
g				233	0.99570816
TCA	TGGGCGTAA	6	6		
TA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	6	6		
f	TGGGTTTAAA	6	6	2	1
CA	TGGGCGTAA	6	6		

TCA					
CAA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	11	11		
f	TGGGCGTAA	6	6	102	1
GGG	TGCAGTTAAA	4	4		
g				170	0.99411765
GT	TGCAGTTAAA	5	5		
f	TGGGTGTAA	6	6	2	1
TCA	TGGGCTTAAA	8	8		
f	TGGGTTTAAA	5	5	4	1
g	TGGGCTTACA	8	8	35	1
f				71	0.98591549
f	TGGGCGTAA	6	6	17	1
g	TGGGCGTAA	6	6	20	1
TTA	TGGGCGTAA	5	5		
f	TGGGTTTAAA	5	5	2	1
TA	TGGGCGTAA	6	6		
TAG	TGCAGTTAAA	6	6		
CA	TGGGCGTAA	5	5		
TCA	TGGGCTTAAA	6	6		
TCA					
g	TGGGCGTAA	6	6	11	0.90909091
CTCA	TGGGCGTAA	4	4		
AA	TGGGCGTAA	5	5		
f	TGGGCGTAA	4	4	2	1
f	TGGGTGTAA	6	6	3	1
f	TGGGCGTAA	4	4	2	1
g	TGGGCGTAA	9	9	674	0.92581602
TCA	TGGGCGTAA	6	6		
GC	TGCAGTTAAA	3	3		
f	TGGGCGTAA	6	6	28	1
g	TGGGCGTAA	2	2	5220	1
TTA	TGGGCGTAA	4	4		
g	TGGGCGTAA	7	7	68	1
TCA	TGGGCATAA	6	6		
g	TGGGCTTAAA	6	6	8	1
TCA	TGGGCTTAAA	5	5		
TA	TGGGCGTAA	6	6		

TTA	TGGGCGTAA	6	6		
G					
TTA	TGGGCGTAA	4	4		
TCA	TGGGCTTAAA	6	6		
TCA	TGGGTGTAA	4	4		
CAA	TGGGCGTAA	5	5		
g	TGGGCTTAAA	6	6	4	1
f				12	0.91666667
f	TGGGTGTAA	4	4	2	1
p	TGGGCGTAA	5	5	2	1
TTA	TGGGCGTAA	6	6		
AC	TGCAGTTAAA	3	3		
f	TGGGTATAAA	4	4	2	1
g	TGGGCGTAA	4	4	22	1
	TGCAGTTAAA	6	6		
TTA	TGGGCTTAAA	4	4		
CG	TGCTGTTAAA	5	5		
f	TGGGCGTAA	6	6	57	0.96491228
TA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	6	6		
TCA					
g				804	0.99502488
TCA	TGGGCGTAA	6	6		
f	TGGGCGTAA	5	5	6	1
GGC	TGCAGTTAAA	4	4		
TCA	TGGGCGTAA	5	5		
g				72	1
o	TGGGCGTAA	6	6	11	1
CTC	TGGGCTTAAA	8	8		
TCA	TGGGCGTAA	4	4		
TTA					
TCA					
TTA	TGGGTGTAA	5	5		
f				3	1
g	TGGGCGTAA	6	6	15	1
TCA	TGGGCGTAA	5	5		
AC	TGGGCGTAA	2	2		

TCA	TGGGCGTAA	5	5		
T					
g	TGGGCGTAA	7	7	4	1
GAG	TGCAGTTAAA	4	4		
TTA	TGGGTTTAAA	7	6		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	5	5		
CTA	TGGGCGTAA	6	6		
TTA	TGGGCGTAA	4	4		
f	TGGGCGTAA	5	5	7	1
CAA					
CAA	TGGGCGTAA	3	3		
GG	TGCAGTTAAA	5	5		
g	TGGGCTTACA	6	6	5	1
c	TGCAGTTAAA	6	6	2	1
TCA	TGGGCGTAA	5	5		
o	TGGGCGTAA	4	4	3	1
TCA	TGGGCGTAA	7	7		
g	TGGGCTTAAA	8	8	2	1
g	TGGGCGTAA	8	8	13	0.92307692
TCA	TGGGCGTAA	4	4		
AGT	TGCAGTTAAA	4	4		
TCA	TGGGCGTAA	5	5		
C	TGCAGTTAAA	4	4		
TCA	TGGGCGTAA	7	7		
g	TGGGCGTAA	7	7	2	1
g	TGGGCGTAA	5	5	2	1
g				2037	0.84977909
g	TGGGCGTAA	5	5	5	1
TCA	TGGGCGTAA	7	7		
TA					
TCA	TGGGCGTAA	6	6		
o	TAGGCGTAAA	6	6	3	1
A	TGCAGTTAAA	7	7		
TCA					
TCA	TGGGCGTAA	5	5		
f	TGGGCGTAA	7	7	9	1

f				91	1
TTA	TGGGTGTAA	6	6		
g	TGGGCGTAA	5	5	9	1
TTA	TGGGTTTAAA	8	8		
g	TGGGCGTAA	4	4	621	0.99677939
TA	TGGGCGTAA	4	4		
CTCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	5	5		
TT	TGCTGTTAAA	6	6		
g				706	0.82152975
TA	TGGGCGTAA	5	5		
CTA	TGGGCGTAA	6	6		
CTCA	TGGGCGTAA	4	4		
CTCA	TGGGCGTAA	5	5		
CTTA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	4	4		
A	TGCAGTTAAA	5	5		
o				2109	0.99952584
o	TGGGCGTAA	4	4	10	1
CAA	TGGGCGTAA	7	7		
TCA	TGGGCGTAA	4	4		
CTCA	TGGGCTTAAA	5	5		
TA	TGGGCGTAA	4	4		
CTC	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	2	2		
o	TGGGCGTAA	4	4	6	1
p	TGGGCGTAA	3	3	2	1
p				3	1
g	TGGGCGTAA	6	6	5	1
g				37	1
TCA	TGGGCTTAAA	6	6		
TCA	TGGGCGTAA	7	7		
CAA	TGGGCGTAA	2	2		
TGC					
g	TGGGCGTAA	4	4	1998	0.997998
TA	TGGGCGTAA	5	5		
TA					

TTA					
TTA	TGGGCGTAA	5	5		
TA					
g				150	0.97333333
TCA	TGGGCGTAA	5	5		
g	TGGGTTTAAA	5	5	10	1
CTCA	TGGGCGTAA	5	5		
CAA					
CA	TGGGCTTAAA	6	6		
g	TGGGCGTAA	3	3	2	1
CTCA					
TA	TGGGCGTAA	5	5		
A					
TTA					
g				194	0.99484536
TTA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	5	5		
CCA	TGGGCATAA	6	6		
TA	TGGGCGTAA	5	5		
g	TGGGCGTAA	4	4	16	0.8125
TCA	TGGGCGTAA	4	4		
CA					
g	TGGGCGTAA	2	2	12	1
CTCA	TGGGCTTAAA	6	6		
g	TGGGCTTAAA	4	4	4	1
p	TGGGCGTAA	6	6	6	1
g				2	1
TCA	TGGGCGTAA	4	4		
CA	TGGGCGTAA	5	5		
CTA	TGGGCGTAC	4	4		
g				19	0.84210526
o				6	1
CTCA	TGGGCGTAA	6	6		
g	TGGGCGTAA	4	4	29	1
g	TGGGTGTAA	4	4	2	1
TG	TGCAGTTAAA	5	5		
TTA	TGGGCGTAA	6	6		
f	TGGGCGTAA	5	5	2	1

TCA	TGGGCGTAA	6	6		
TA	TGGGTTTAAA	4	4		
f	TGGGCGTAA	3	3	4	1
TCA	TGGGCGTAA	5	5		
TTA	TGGGTTTAAA	3	3		
f	TGGGTTTAAA	5	5	8	1
o	TGGGCGTAA	5	5	2	1
CTTA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	4	4		
TA	TGGGCGTAA	4	4		
TTA	TGGGCGTAA	3	3		
g				3	1
TAG	TGCAGTTAAA	5	5		
TA	TGGGTTTAAA	5	5		
TA	TGGGCGTAA	4	4		
GCGC					
f	TGGGCGTAA	3	3	15	0.93333333
TA	TGGGCGTAA	4	4		
TCA					
g	TGGGCGTAA	5	5	9	0.88888889
TAA					
TA	TGGGCGTAA	4	4		
g				18	0.94444444
TCA	TGGGCGTAA	4	4		
g	TGCTGTTAAA	3	3	2	1
TCA	TGGGCGTAA	5	5		
g	TGCAGTTAAA	3	3	13	1
f	TGGGCGTAA	4	4	38	0.94736842
o				2	1
TTA	TGGGCGTAA	4	4		
TA	TGGGCGTAA	3	3		
g				5	0.8
c	TGGGCGTAA	5	5	4	1
T	TGGGCGTAA	5	5		
TAA					
g				195	0.9948718
g	TGGGCGTAA	3	3	163	0.90184049
TCA	TGGGCATAA	4	4		

g	TGGGCGTAA	3	3	12787	0.94635176
p	TGCAGTTAAA	5	5	8	1
g	TGGGCGTAA	3	3	17	1
AAG					
TCA	TGGGCTTAAA	5	5		
AGA					
CA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	2	2		
TA	TGGGTTTAAA	5	5		
TTA	TGGGCGTAA	4	4		
CTTA	TGGGCGTAA	5	5		
g	TGGGCGTAA	5	5	93	0.89247312
CTC	TGGGCTTAAA	5	5		
g				5	1
o	TGGGCGTAA	5	5	3	1
TTA	TGGGCGTAA	5	5		
g	TGGGCGTAA	4	4	2	1
g	TGGGCTTAAA	5	5	13	1
TCA	TGGGTTTAAA	4	4		
g	TGGGCGTAA	3	3	2591	0.97452721
g	TGGGCGTAA	6	6	1521	1
g	TGCAGTTAAA	4	4	2	1
TA					
g				4	1
TCA					
g	TGGGCGTAA	5	5	15	0.86666667
g	TGGGCGTAA	5	5	2	1
-					
f	TGGGCGTAA	3	3	4	1
TCA	TGGGCTTAAA	5	5		
GCGG					
CTCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	6	6		
p	TGGGCGTAA	5	5	6	1
g	TGGGCGTAA	4	4	14	1
CAATT					
TCA	TGGGCGTAA	5	5		
CTT	TGGGCGTAA	4	4		

TTA	TGGGTGTAAA	5	5		
CTAA					
CTCA	TGGGCGTAAA	5	5		
GAT					
g	TGGGCGTAAA	3	3	50	0.98
TCA	TGGGCGTAAA	2	2		
g	TGGGCGTAAA	5	5	18	1
c				9	0.88888889
CTTA	TGGGCTTAAA	5	5		
TA	TGGGTTTAAA	3	3		
AA					
CTTA	TGGGCGTAAA	5	5		
f	TGGGCGTAAA	3	3	3	1
TCA					
g	TGGGCGTAAA	3	3	2	1
g	TGGGCGTAAA	7	7	15	1
g	TGGGCGTAAA	4	4	25	1
TTA	TGGGCGTAAA	5	5		
TCA	TGGGCGTAAA	5	5		
GG	TGTGTTTAAA	6	6		
A	TGCAGTTAAA	4	4		
f	TGGGCTTAAA	5	5	15	1
g				36	0.94444444
TT					
GCTT	TGGGCGTAAA	4	4		
g				38	0.97368421
f	TGGGCGTAAA	3	3	4	1
TCA	TGGGCTTAAA	5	5		
g	TGGGCGTAAA	3	3	105	1
f	TGGGCGTAAA	4	4	2	1
GGG					
p	TGGGCGTAAA	5	5	6	1
TCA	TGGGCGTAAA	3	3		
CTCA	TGGGCGTAAA	3	3		
f				4	1
TCA	TGGGCGTAAA	5	5		
CTCA	TGGGCGTAAA	3	3		
CTCA	TGGGCGTAAA	6	6		

TAA	TGGGCGTAA	4	4		
f	TGGGCGTAA	3	3	2	1
GAT	TGCAGTTAAA	5	5		
CTC					
CTCA	TGGGCGTAA	6	6		
CTTA	TGGGCGTAA	4	4		
CTCA	TGGGCGTAA	2	2		
f	TGGGTTTAAA	5	5	7	1
g				1577	0.99048827
TTA					
TCA	TGGGCGTAA	4	4		
TCA					
g	TGGGCGTAA	5	5	12	0.83333333
g	TGGGCGTAA	5	5	49	0.93877551
f	TGGGTTTAAA	3	3	3	1
TTA	TGGGCGTAA	4	4		
CTTA	TGGGTTTAAA	4	4		
TAA	TGGGCGTAA	3	3		
CTTA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	4	4		
TTA	TGGGTTTAAA	4	4		
g	TGGGCTTACA	6	6	2	1
p				6	1
TTA	TGGGCGTAA	4	4		
o	TGGGCGTAA	3	3	42	0.97619048
g	TGGGCGTAA	4	4	2	1
g	TGGGCGTAA	3	3	4	1
CTCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	3	3		
g	TGCTGTTAAA	3	3	2	1
CTTA	TGGGCGTAA	5	5		
CTCA	TGGGCGTAA	6	6		
TCA	TGGGCGTAA	4	4		
TTA	TGGGCGTAA	5	5		
TT					
TCA	TGGGCGTAA	3	3		
g				36	1
CTCA					

g	TGGGCGTAA	4	4	2	1
CTA	TGGGCGTAA	3	3		
TAA	TGGGCGTAA	4	4		
CAA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	5	5		
TCA					
TA	TGGGTTTAAA	5	5		
TCA	TGGGCGTAA	2	2		
TA					
g	TGGGCGTAA	4	4	10	0.8
g	TGGGCTTAAA	4	4	9	1
CAA	TGGGCGTAA	3	3		
CA	TGGGCGTAA	4	4		
o	TGGGCGTAA	4	4	3	1
TCA	TGGGCTTAAA	5	5		
AACC					
o	TGGGCTTAAA	6	6	4	1
TAA					
A	TGGGCGTAA	3	3		
CA					
A					
g	TGCAGTTAAA	1	1	6	1
CG	TGGGCGTAA	4	4		
CA	TGGGCGTAA	5	5		
TCA	TGGGCGTAA	2	2		
g	TGGGCGTAA	4	4	88	0.95454546
TCA	TGGGCGTAA	3	3		
GGC					
f				3	1
f				2	1
CCA					
TCA					
g				506	0.98814229
g	TGGGCGTAA	4	4	44	0.97727273
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	3	3		
CA	TGGGCTTAAA	4	4		
TCA	TGGGCTTAAA	4	4		

TCA					
f	TGGGTTTAAA	2	2	3	1
TTA					
CTCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	2	2		
TCA					
TCA	TGGGCTTAAA	5	5		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	3	3		
TCA					
TTA					
TCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	4	4		
TCA	TGGGCTTAAA	4	4		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	4	4		
f				7	0.85714286
AAC	TGGGCGTAA	2	2		
TAATT					
TTA	TGGGCGTAA	3	3		
CA					
TCA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	5	5		
CTCA					
f	TGGGTTTAAA	3	3	7	1
CTTA					
TTA	TGGGCGTAA	3	3		
CA	TGGGCGTAA	3	3		
TA					
TCA	TGGGCGTAA	7	7		
GT					
AA					
TCA	TGGGCGTAA	4	4		
TA	TGGGCGTAA	2	2		
g				1713	0.9918272
CAG					
TCA	TGGGCGTAA	3	3		

AT	TGGGCGTAAA	4	4		
TCA	TGGGTGTAAA	4	4		
g				2	1
AA					
CA	TGGGCGTAAA	3	3		
CA					
g				528	0.99242424
CG					
CA	TGGGCGTAAA	3	3		
TAA	TGGGCGTAAA	3	3		
ATG	TGCAGTTAAA	3	3		
TA	TGGGCGTAAA	2	2		
CA					
CAT	TGGGCGTAAA	2	2		
f	TGGGCGTAAA	3	3	24	0.91666667
f	TGGGCGTAAA	3	3	3	1
TTA					
TCG	TGGGCGTAAA	5	5		
TCA	TGGGCGTAAA	4	4		
CTCA	TGGGCGTAAA	3	3		
TA	TGGGTTTAAA	2	2		
CAA	TGGGCGTAAA	4	4		
g				8	1
ACG	TGCAGTTAAA	2	2		
g				36	0.88888889
g	TGTGGTTAAA	2	2	16	0.8125
g	TGGGCGTAAA	2	2	2957	0.99763274
g	TGGGCGTAAA	2	2	5	1
g	TGGGCGTAAA	1	1	136	1
CTC					
AG	TAGGTGTAAA	1	1		
TCA	TGGGCGTAAA	4	4		
CTTA	TGGGCGTAAA	4	4		
g	TGGGCGTAAA	3	3	2	1
TCA					
-					
g				70	1
TTA	TGGGCATAAA	4	4		

GAA					
TTA	TGGGCGTAAA	3	3		
f	TGGGCGTAAA	2	2	4	1
o	TGGGCGTAAA	4	4	10	1
o	TGGGCGTAAA	4	4	5	1
TTA					
CTCA	TGGGCATAAA	3	3		
CTTA	TGGGCGTAAA	4	4		
TA	TGGGCGTAAA	3	3		
TCA					
TTA	TGGGCGTAAA	2	2		
f	TGGGCGTAAA	2	2	2	1
GGG					
TCA	TGGGTTTAAA	3	3		
TA					
GAGG					
f	TGGGCGTAAA	3	3	5	1
g	TGGGCGTAAA	3	3	25	0.92
CTCA	TGGGCTTAAA	3	3		
TCA	TGGGCGTAAA	2	2		
TCA					
g	TGGGCGTAAA	3	3	709	1
CTCA	TGGGCGTAAA	2	2		
CTTA	TGGGCGTAAA	1	1		
f	TGGGCTTAAA	2	2	2	1
CTCA	TGGGCGTAAA	2	2		
CA	TGGGCGTAAA	3	3		
AGGC	TGCAGTTAAA	3	3		
g				308	0.98701299
TCA	TGGGCTTAAA	3	3		
CTC					
CTCA	TGGGCGTAAA	3	3		
g	TGGGCGTAAA	4	4	14	1
TCA	TGGGCGTAAA	3	3		
CGCG	TGCAGTTAAA	2	2		
ATT					
CAA	TGGGCGTAAA	3	3		
g	TGGGTTTAAA	4	4	2	1

TA					
f				5	1
CTC	TGGGCGTAA	1	1		
g	TGGGCGTAA	2	2	57	0.94736842
f	TGGGTTTAAA	2	2	4	1
CTCA	TGGGCGTAA	4	4		
TCA	TGGGCGTAA	3	3		
CCA					
g	TGGGCGTAA	2	2	5	1
GGG	TGCAGTTAAA	3	3		
CTCA	TGGGCGTAA	3	3		
CTCA	TGGGCGTAA	7	6		
CTTA	TGGGCGTAA	2	2		
CTCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
g	TGGGCGTAA	2	2	2	1
f				6	1
TCA	TGGGCTTAAA	3	3		
o	TGGGCGTAA	2	2	2	1
c	TGGGCGTAA	2	2	7	1
GAG					
TTA					
c	TGGGCGTAA	3	3	2	1
TTA	TGGGCGTAA	3	3		
CTCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	3	3		
f	TGGGCGTAA	2	2	4	1
CTC	TGGGCTTAAA	2	2		
TCA	TGGGCTTAAA	2	2		
g	TGGGCTTAAA	2	2	7	1
CTCA	TGGGCTTAAA	3	3		
TCA	TGGGCGTAA	3	3		
g	TGGGCGTAA	1	1	22	1
CAA					
f				3	1
AGG	TGCAGTTAAA	2	2		
CAA					

GACTG	TGCAGTTGAA	3	3		
TG					
TTA					
TTA	TGGGCGTAA	3	3		
TCA	TGGGCTTAAA	3	3		
TCA	TGGGCGTAA	2	2		
g				18	0.83333333
g	TGGGCGTAA	2	2	116	0.95689655
g	TGGGCGTAA	2	2	1536	1
f	TGGGCGTAA	3	3	5	1
TTA					
g	TGGGCTTAAA	2	2	4	1
TTA	TGGGCGTAA	2	2		
g				2	1
f	TGGGTGTAA	3	3	2	1
g				1377	0.99273784
TCA	TGGGCGTAA	4	4		
f				6	1
f	TGGGCGTAA	2	2	10	0.8
f	TGGGCGTAA	2	2	8	1
c	TGGGCGTAA	2	2	2	1
TCA	TGGGCGTAA	3	3		
CTCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	3	3		
CAG					
TCA	TGGGCGTAA	5	5		
g	TGGGCGTAA	2	2	25	0.96
g	TGGGCGTAA	2	2	6	1
CC					
TCA	TGGGCTTAAA	2	2		
TTA	TGGGCGTAA	2	2		
CA	TGGGCGTAA	2	2		
g	TGGGCGTAA	2	2	83	1
AA	TGGGCTTAAA	2	2		
CTC	TGGGCTTAAA	2	2		
g				125	0.84
CA	TGGGCTTAAA	3	3		
g				9	0.88888889

g	TGGGCGTAA	3	3	2	1
TA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TA					
TCA	TGGGCGTAA	2	2		
CA					
c	TGGGTTTAAA	2	2	2	1
CA	TGGGCGTAA	2	2		
GG	TGCAGTTAAA	3	3		
TTA					
TA					
CGG					
TCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TTA	TGGGCTTAAA	2	2		
TA	TGGGTTTAAA	3	3		
TCA	TGGGCGTAA	3	3		
CA					
TCA	TGGGTGTAA	3	3		
TTA	TGGGCGTAA	3	3		
f				2	1
g				552	0.91666667
TCA					
TTA					
TA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	2	2		
CA	TGGGCGTAA	2	2		
g	TGGGCGTAA	2	2	27	0.96296296
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	2	2		
g	TGGGCGTAA	3	3	8	0.875
CTCA	TGGGCGTAA	3	3		
g	TGGGCGTAA	2	2	17	1
TA	TGGGCGTAA	3	3		
g	TGGGCGTAA	3	3	7	1
f				2	1

g	TGGGCGTAA	2	2	5	1
g	TGGGCGTAA	2	2	30	1
TCA	TGGGCTTAAA	2	2		
CA					
g	TGGGCGTAA	2	2	56	1
TTA	TGCAGTTAAA	2	2		
f				2	1
CA	TGGGCGTAA	2	2		
g	TGGGCGTAA	3	3	10	0.9
TCA	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	3	3		
o	TGGGCGTAA	2	2	9	1
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	2	2		
f	TGGGTTTAAA	2	2	6	0.83333333
TCA					
CAA	TGGGCGTAA	3	3		
g	TGGGCGTAA	2	2	57	0.92982456
CA	TGGGCGTAA	2	2		
CGG					
CG	TGCAGTTAAA	2	2		
f				16	1
TTA	TGGGCGTAA	2	2		
g				19	0.89473684
TTG	TGCAGTTAAA	2	2		
TTA					
g				44	0.93181818
g	TGGGCGTAA	2	2	2	1
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
AA					
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TCA					
CTC					

g				114	1
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TAA	TGGGCGTAA	2	2		
g	TGGGTTTAAA	1	1	21	1
g	TGGGCTTAAA	1	1	13	1
g				3	1
CTCA	TGGGCGTAA	1	1		
GCG					
CTT					
TTA	TGGGCGTAA	2	2		
TA					
TCA					
CAA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TCA					
TTA	TGGGTTTAAA	2	2		
GTAT	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
c				1765	0.99660057
AACT					
TCA	TGGGCTTAAA	3	3		
CTCA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	2	2		
TA	TGGGTTTAAA	2	2		
TAA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TCA					
CCA					
g	TGGGCTTAAA	2	2	3	1
g	TGGGCTTAAA	2	2	2	1
TCA					
f				202	0.99504951
g	TGGGCGTAA	2	2	2	1
g	TGGGCGTAA	2	2	9	1
CTCA	TGGGCGTAA	2	2		
CTTA					
CTCA	TGGGCGTAA	3	3		

TCA	TGGGCTTAAA	2	2		
c	TGGGCATAAA	2	2	2	1
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	1	1		
TTA					
f	TGGGCGTAA	2	2	12	1
CTCA	TGGGCGTAA	2	2		
CTTA					
TTA	TGGGCGTAA	3	3		
TAA					
TTA					
TTA	TGGGTTTAAA	2	2		
GCAG					
TA	TGGGCGTAA	3	3		
CA	TGGGCGTAA	2	2		
GCGG	TGCAGTTAAA	1	1		
CAA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
CAG	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
ACC					
CTTA	TGGGCGTAA	2	2		
CTTA	TAGGTTTAAA	2	2		
TTA	TGGGCGTAA	1	1		
AGG					
GAG					
o	TGGGCGTAA	1	1	11	0.90909091
CTTA	TGGGCGTAA	2	2		
TT					
CTCA	TGGGTTTAAA	2	2		
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	556	0.90827338
TCA	TGGGCTTAAA	1	1		
g	TGGGCGTAA	2	2	3	1
CTCA	TGGGCGTAA	2	2		
f	TGGGCGTAA	2	2	2	1
CTCA	TGGGCGTAA	2	2		
o	TGGGCGTAA	2	2	12	1

TTA	TGGGCGTAA	2	2		
TCA					
TA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
CTCA	TGGGCGTAA	2	2		
g				2	1
g				2	1
TCA	TGGGCGTAA	2	2		
f	TGGGCGTAA	2	2	66	0.98484849
f				113	0.9380531
TTA	TGGGCGTAA	2	2		
f	TGGGCGTAA	2	2	5	1
CG	TGCAGTTAAA	2	2		
TTA					
TCA	TGGGCGTAA	2	2		
g				8	1
f	TGGGCTTAAA	1	1	3	1
g	TGGGCTTAAA	1	1	2	1
TCA					
o				77	1
TTA	TGGGTTTAAA	1	1		
CTCA	TGGGCGTAA	1	1		
TAA	TGGGCGTAA	2	2		
f	TGGGCGTAA	2	2	9	1
CA	TGGGCGTAA	2	2		
CA	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
g				5	1
o				2718	0.99632082
TCA	TGGGCGTAA	1	1		
CCA	TGGGCTTAAA	1	1		
g	TGGGCGTAA	1	1	100	0.99
p	TGGGCGTAA	1	1	5	1
TTA					
TCA	TGGGCGTAA	1	1		
CTA	TGGGCTTACA	1	1		
TA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	2	2		

T	TGCAGTTAAA	2	2		
CGG					
TTA	TGGGCGTAA	2	2		
G					
TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TAA					
TC	TGCAGTTAAA	2	2		
CA	TGGGCTTAAA	2	2		
AAC	TGGGCGTAA	2	2		
g	TGGGCGTAA	2	2	2	1
o				2	1
AG					
CGG					
TTA	TGGGCGTAA	2	2		
CGG					
TAA					
GAT					
TTA	TGGGCGTAA	3	3		
TAG	TGCAGTTAAA	2	2		
GGA					
TCA					
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	2	2		
CCA	TGGGTTTAAA	2	2		
TTG					
TG	TGCAGTTAAA	2	2		
TA					
o	TGGGCGTAA	2	2	3	1
f	TGGGCTTAAA	2	2	4	1
TCA	TGGGCGTAA	2	2		
TTA	TGGGCTTAAA	2	2		
TCA					
g				3	1
CTCA					
c				36	1
C					
CCA	TGGGCGTAA	2	2		

CAA					
TTA	TGGGCGTAA	2	2		
o	TGGGCGTAA	2	2	7	1
TCA	TGGGCTTAAA	2	2		
TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	3	3		
TTA					
CAATT	TGCAGTTAAA	2	2		
g	TGGGCGTAA	2	2	11	0.90909091
TA					
o	TGGGCGTAA	2	2	17	0.88235294
f	TGGGCTTAAA	2	2	7	1
g	TGGGCGTAA	2	2	641	0.97035881
TCA	TGGGCGTAA	2	2		
TCA	TGGGTGTAA	2	2		
AC	TGTGTTTAAA	2	2		
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
o	TGGGCGTAA	2	2	6	1
g	TGGGCGTAA	2	2	3	1
AA	TGGGCGTAA	2	2		
AC					
g				258	0.81007752
g	TGGGCGTAA	1	1	2	1
TGA	TGGGCGTAA	1	1		
f	TGGGCGTAA	1	1	13	1
g	TGGGCGTAA	1	1	8	1
TCA	TGGGCGTAA	1	1		
CTTA	TGGGCGTAA	1	1		
CTCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA					
g	TGGGTTTAAA	2	2	2	1
CGA					
TA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		

TTA	TGGGCGTAA	2	2		
AGG	TGCAGTTAAA	2	2		
g	TGCAGTTAAA	1	1	158	0.98734177
TCA	TGGGCGTAA	1	1		
g	TGGGTTTAAA	1	1	23	1
f	TGGGCGTAA	1	1	2	1
g	TGGGCTTAAA	1	1	10	1
CAA	TGGGCTTAAA	1	1		
CGG	TGCAGTTAAA	1	1		
CA	TGGGCGTAA	1	1		
TTA					
CA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CGG					
CGA	TGCAGTTAAA	1	1		
AA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
AACT					
g	TGGGCGTAA	1	1	3	1
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
CTCA	TGGGCGTAA	1	1		
TAA	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TAA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
g	TGGGCTTAAA	1	1	101	0.99009901
CAA	TGGGCGTAA	2	2		
AG	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
CGG	TGCAGTTAAA	1	1		
TCA	TGGGCGTAA	2	2		
TTA					

TCA	TGGGCTTAAA	2	2		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	2	1
o	TGGGCGTAA	1	1	36	1
CT					
TCA	TGGGCGTAA	1	1		
o	TGGGCGTAA	1	1	6	1
g	TGGGCGTAA	1	1	4	1
g	TGGGCGTAA	1	1	2	1
TA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
CG	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	22	0.95454546
GACCT	TGCAGTTGAA	1	1		
AAG	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	3709	0.99595578
TCA	TGGGCTTAAA	2	2		
o	TGGGCGTAA	1	1	22	0.81818182
TCA	TGGGCGTAA	1	1		
g	TGGGTTTAAA	1	1	10	0.9
TTA	TGGGTTTAAA	1	1		
CAA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TCA	TGGGTTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
f	TGGGCGTAA	1	1	4	1
TCA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
g	TGGGCGTAA	1	1	6	1
CTTA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
CTC	TGGGCTTAAA	1	1		

TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
f	TGGGCTTAAA	2	2	2	1
AC	TGGGCGTAA	2	2		
ATT	TGCAGTTAAA	2	2		
TCA					
TTA	TGGGCGTAA	2	2		
TCA					
TTA	TGGGCGTAA	3	3		
TTA					
TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	3	3		
TTA	TGGGCGTAA	1	1		
TTA	TGGGTGTAA	1	1		
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TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	26	0.96153846
TCA					
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	5	1
CTC	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	1271	1
GGC	TGCAGTTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TCT					
TCA					
g	TGGGCGTAA	1	1	14	1
TCA	TGGGCGTAA	2	2		

TCA	TGGGCGTAA	2	2		
GGG					
TTA	TGGGCGTAA	1	1		
CTTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TAG	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TCG	TGGGCGTAA	3	3		
TCA	TGGGCGTAA	2	2		
TCA	TGGGCGTAA	2	2		
TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
AT	TGCAGTTAAA	1	1		
TTA	TGGGTTTAAA	1	1		
CAA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
o	TGGGCGTAA	1	1	2	1
TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
TA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
CCA	TGGGCGTAA	1	1		
CTCA	TGGGCGTAA	1	1		
AAC	TGGGTTTAAA	1	1		
CAA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TC	TGGGCGTAA	1	1		
TTA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CTT	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	41	0.90243902
TTA	TGGGCGTAA	1	1		

TA	TGGGCGTAA	1	1		
TCA					
TA					
TCA	TGGGCGTAA	1	1		
TTC	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TGA					
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	15	0.86666667
AG	TGCAGTTAAA	1	1		
g				2	1
TCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
AA	TGGGCGTAA	1	1		
f	TGGGCGTAA	1	1	2	1
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
GGA					
AG	TGCAGTTAAA	1	1		
CA	TGGGCTTAAA	1	1		
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TCA	TGGGCATAA	1	1		
CAA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
CC					
TCA	TGGGCGTAA	1	1		
A	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	2	1
TTA	TGGGCGTAA	1	1		
CGG					
CA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
CGG	TGCAGTTAAA	1	1		
AT					
TCA	TGGGCGTAA	1	1		

C			
TAG	TGCAGTTAAA	1	1
CA	TGGGCGTAA	1	1
TCA			
TCA	TGGGCGTAA	1	1
AGG			
TTA	TGGGCGTAA	1	1
CAA	TGGGCGTAA	1	1
TA	TGGGCGTAA	1	1
TCA	TGGGCGTAA	1	1
TCA			
ATTG	TGCAGTTAAA	1	1
TAA	TGGGTTTAAA	1	1
TTA	TGGGCGTAA	1	1
AG	TGCAGTTAAA	1	1
GAG			
TA	TGGGCGTAA	1	1
TCA	TGGGTTTAAA	1	1
CTCA	TGGGCGTAA	1	1
TTA	TGGGCGTAA	1	1
TTA	TGGGCGTAA	1	1
CTA	TGGGCGTAA	1	1
TCA	TGGGCGTAA	1	1
TTA	TGGGTTTAAA	1	1
CTT	TGGGCGTAA	1	1
AG			
CCC			
CAA			
AT	TGGGCGTAA	1	1
TTA	TGGGCGTAA	1	1
TTG	TGGGCGTAA	1	1
TA	TGGGCGTAA	1	1
CGG	TGCAGTTAAA	1	1
TCA	TGGGCGTAA	1	1
TTA	TGGGCGTAA	1	1
TTG	TGCAGTTAAA	1	1
AGG			
TCA	TGGGCGTAA	1	1

TAA	TGGGCGTAA	1	1		
AG					
CTCA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TA	TGGGTTTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
CTTA					
CTA	TGGGCGTAA	1	1		
TTA					
TA	TGGGCGTAA	1	1		
CA	TGGGCTTAAA	1	1		
TCA	TGGGTGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
AT	TGCAGTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
AGG	TGCAGTTAAA	1	1		
TCA					
CTTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	4	1
AAC	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TA	TAGGCGTAA	1	1		
f	TGGGCGTAA	1	1	8	1
TCA	TGGGCGTAA	1	1		
CTCA	TGGGCTTAAA	1	1		
g	TGGGTGTAA	1	1	2	1
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
TC					
AA	TGCAGTTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
G	TACAGTTAAA	1	1		
TT	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	7	1
TA	TGGGCGTAA	1	1		

TA	TGGGCGTAA	1	1		
TCA					
CTCA	TGGGCGTAA	1	1		
TTA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
g	TGGGCTTAAA	1	1	2	1
TCA	TGGGTTTAAA	1	1		
CA	TGGGCGTAA	1	1		
CA	TGGGCGTAA	1	1		
g	TGGGTCTAAA	1	1	151	1
GCA					
TA	TGGGCGTAA	1	1		
TAG					
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	5	1
g				122	0.81967213
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
CA	TGGGCTTAAA	1	1		
CA	TGGGCGTAA	1	1		
CA	TGGGCTTAAA	1	1		
g	TGGGCGTAA	1	1	4	1
CTCA	TGGGCGTAA	1	1		
AAA	TGTAGTTAAA	1	1		
f	TGGGCGTAA	1	1	2	1
AGC	TGGGCGTAA	1	1		
AG	TGCAGTTAAA	1	1		
TCA					
TA					
f	TGGGCGTAA	1	1	128	1
TA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	423	0.99763593
TCA	TGGGCGTAA	1	1		
TTG	TGCAGTTAAA	1	1		
TTA					
TTA	TGGGCTTAAA	1	1		
CGG	TGCAGTTAAA	1	1		
AA	TGGGCGTAA	1	1		

CTCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CTTA	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	2	1
g	TGGGCGTAA	1	1	20	1
TTA	TGGGCGTAA	1	1		
AAC	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
GAG	TGCAGTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
CAG					
GCGG	TGCAGTTAAA	1	1		
CTCA	TGGGCATAA	1	1		
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CTCA	TGGGTTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
CTT	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
GCG					
g	TGGGCTTAAA	1	1	3	1
TCA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
TCG	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
CTTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
TTA	TGGGCGTAA	2	2		
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCTTAAA	1	1		
g	TGGGCGTAA	1	1	418	0.9784689
TCA	TGGGCGTAA	1	1		

TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	191	0.95811518
TCA					
TTA	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
AA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	420	0.99761905
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CA	TGGGCTTAAA	1	1		
CG	TGGGCGTAA	1	1		
CA	TGGGCGTAA	1	1		
CAA					
CA	TGGGCGTAA	1	1		
TTA	TGGGCTTAAA	1	1		
AA	TGGGCGTAA	1	1		
g	TGCAGTTAAA	1	1	14	0.92857143
AA	TGGGCGTAA	1	1		
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TCA	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	2	1
o	TGGGCGTAA	1	1	3	1
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
g	TGGGCGTAA	1	1	4	1
TTA	TGGGTTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
f	TGGGCGTAA	1	1	62	1
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CAA	TGGGCGTAA	1	1		
CTCA	TGGGCGTAA	1	1		
TCA	TGGGCATAA	1	1		
TCA	TGGGCTTAAA	1	1		
f	TGGGCGTAA	1	1	4	1
TCA	TGGGCATAA	1	1		
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TCA	TGGGCTTAAA	1	1		
CTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA					
TTG	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
GG	TGCAGTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	522	0.86015326
TA	TGGGCGTAA	1	1		
g	TGGGCTTACA	1	1	29	0.93103448
TTA	TGGGCGTAA	1	1		
o	TGGGCGTAA	1	1	2	1
TA					
TCA					
GT	TGCAGTTAAA	1	1		
TA	TGGGCGTAA	1	1		
TTA					
TCA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
AGG					
AC	TGGGCTTAAA	1	1		
AG	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TCA	TGGGCATAA	1	1		
TTA	TGGGCGTAA	1	1		
c	TGCAGTTAAA	1	1	7	1
TCA	TGGGCGTAA	1	1		
f				2	1
TTA	TGGGCGTAA	1	1		
TAA	TGGGCGTAA	1	1		
GA					
f	TGGGCGTAA	1	1	2	1
TTTA					
GTG					

GAG	TGCAGTTAAA	1	1		
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TTA	TGGGTTTAAA	1	1		
GGCA	TGGGCGTAA	1	1		
GCTC					
TCA					
TCA	TGGGCTTAAA	1	1		
GCAG					
GAT	TGGGCGTAA	1	1		
CTTA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TCA					
GCGG	TGCAGTTAAA	1	1		
CGG					
GCGG	TGCAGTTAAA	1	1		
o	TGGGCGTAA	1	1	205	0.8
CC	TGCAGTTAAA	1	1		
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TTA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
AAC	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	6	0.83333333
AT	TGGGCGTAA	1	1		
GT	TGCAGTTAAA	1	1		
g	TGGGCTTAAA	1	1	2	1
CAA					
TTA	TGGGCGTAA	1	1		
CTT	TGCAGTTAAA	1	1		
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TCA					
TA	TGGGCTTAAA	1	1		
g	TGGGCGTAA	1	1	7456	0.88452253
o	TGGGCGTAA	1	1	7	1
TA	TGGGCGTAA	1	1		
TCA	TGGGCATAA	1	1		
TCG					
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CTC	TGGGCTTAAA	1	1		
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TTA	TGGGTGTAA	1	1		
TA	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
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CA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	76	1
TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	5	1
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TA	TGGGTGTAA	1	1		
TCA	TGGGCGTAA	1	1		
TCA	TGGGCTTAAA	1	1		
f	TGGGCTTAAA	1	1	4	1
g	TGGGCGTAA	1	1	18182	0.82680673
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CAA	TGGGCGTAA	1	1		
TTA					
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TA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CA					
TCA	TGGGCTTAAA	1	1		
AA	TGGGCTTAAA	1	1		
TCA	TGGGTGTAA	1	1		
TTA	TGGGCGTAA	1	1		
CTCA					
TA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	1915	0.87780679
TTA	TGGGCGTAA	1	1		
TCA					
TCA	TGGGCGTAA	1	1		
CTCA	TGGGCTTAAA	1	1		
g	TGGGTTTAAA	1	1	81	1
TCA	TGGGCGTAA	1	1		

TTA	TGGGCGTAAA	1	1		
g	TGGGTTTAAA	1	1	3	1
TTA	TGGGCGTAAA	1	1		
CTCA	TGGGCGTAAA	1	1		
g	TGGGCGTAAA	1	1	2	1
AAC	TGGGCGTAAA	1	1		
AAC	TGGGTTTAAA	1	1		
p				2	1
f	TGGGCGTAAA	1	1	4	1
TCA	TGGGCTTAAA	1	1		
TA					
ACA	TGGGCTTAAA	1	1		
c	TGGGCGTAAA	1	1	2	1
CTCA	TGGGCATAAA	1	1		
TCA					
TTA	TGGGCGTAAA	1	1		
CTA	TGGGCGTAAA	1	1		
g	TGGGCGTAAA	1	1	14	1
g	TGGGCGTAAA	1	1	274	0.97810219
TTA	TGGGCGTAAA	1	1		
g	TGGGCGTAAA	1	1	2	1
TTA	TGGGTTTAAA	1	1		
CTCA	TGGGCGTAAA	2	2		
CTTA	TGGGCGTAAA	2	2		
g	TGGGCGTAAA	2	2	10	1
CTCA	TGGGCGTAAA	2	2		
TTA					
g	TGGGCGTAAA	1	1	2	1
TTA	TGGGCGTAAA	1	1		
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TAA	TGGGCGTAAA	1	1		
TA	TAGGCGTAAA	1	1		
TCA	TGGGCATAAA	1	1		
TA	TGGGCGTAAA	1	1		
CCA	TGGGCGTACA	1	1		
TAA	TGGGCGTAAA	1	1		
f	TGGGCGTAAA	1	1	2	1
g	TGGGCGTAAA	1	1	13	1

CTCA	TGGGCGTAAA	1	1		
CA	TGGGCTTAAA	1	1		
g	TGGGCGTAAA	1	1	2	1
AA	TGGGCGTAAA	1	1		
TCA	TGGGCGTAAA	1	1		
TCA	TGGGCGTAAA	1	1		
TCA	TGGGCGTAAA	1	1		
TA	TGGGCGTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
TTA	TAGGCGTAAA	1	1		
CAA	TGGGCGTAAA	1	1		
CCA	TGGGCGTACA	1	1		
o	TGGGCGTAAA	1	1	7	1
G	TGCAGTTAAA	1	1		
g	TGGGCGTAAA	1	1	797	0.99749059
CTTA	TGGGCTTAAA	1	1		
o	TGGGCGTAAA	1	1	11	1
f	TGGGCGTAAA	1	1	2	1
TTA	TGGGCGTAAA	1	1		
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TCA	TGGGCATAAA	1	1		
TCA	TGGGCTTAAA	1	1		
CTTA	TGGGCTTAAA	1	1		
CTCA	TGGGCGTAAA	1	1		
g	TGGGCGTAAA	1	1	115	0.99130435
CAA	TGGGCGTAAA	1	1		
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f				12	1
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CTTA					
CTA	TGGGCGTAAA	1	1		
AAGA	TGCAGTTAAA	1	1		
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g	TGGGCGTAAA	1	1	2	1
TCA	TGGGCTTAAA	1	1		
AA	TGGGCTTAAA	1	1		
CTT	TGGGCGTAAA	1	1		
TAA	TGGGCGTAAA	1	1		

CGG					
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TA	TGGGCGTAA	1	1		
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TTA	TGGGCGTAA	1	1		
ATA	TGGGTTTAAA	1	1		
CTC	TTGGCTTAAA	1	1		
AG	TGCAGTTAAA	1	1		
CGG	TGCAGTTAAA	1	1		
TA	TGGGCGTAA	1	1		
g				2	1
TCA	TGGGCGTAA	1	1		
CTC	TGGGCGTAA	1	1		
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TTA	TAGGCGTAA	1	1		
CA	TGGGCGTAA	1	1		
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TG	TGGGCGTAA	1	1		
AGG					
GA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
TT	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	2	1
CA	TGGGCTTAAA	1	1		
CGG	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	2	1
GGG	TGGGTTTAAA	1	1		
CA	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
TGA	TGCAGTTAAA	1	1		
TA	TGGGCGTAA	1	1		
AG	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	2	1
f	TGGGTTTAAA	1	1	2	1
GCGG	TGCAGTTAAA	1	1		
CGG					

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TCA	TGGGCTTAAA	1	1		
g	TGGGCTTAAA	1	1	2	1
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
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CTT	TGGGCGTAA	1	1		
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CGG					
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g	TGGGCGTAA	1	1	48	1
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A					
AA	TGGGCGTAA	1	1		
TCA					
AAC	TGGGCTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	13	1
TTA	TGGGCGTAA	2	2		
CGG	TGCAGTTAAA	1	1		
CA					
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AGG	TGCAGTTAAA	1	1		
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CGG					
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CA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		

TTA	TGGGCGTAA	1	1		
CGG	TGCAGTTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
AAC	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	2	1
GAG					
CGGA	TGCAGTTAAA	1	1		
g	TGGGCGTAA	1	1	15	1
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CGG	TGCAGTTAAA	1	1		
AAC	TGGGTTTAAA	1	1		
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GATT	TGCAGTTAAA	1	1		
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TA	TGGGCGTAA	1	1		
TCA	TGGGCGTAA	1	1		
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CGGA					
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GGC	TGCAGTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
GAG	TGCAGTTAAA	1	1		
CGG	TGCAGTTAAA	1	1		
CTCA	TGGGCGTAA	1	1		
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TCA	TGGGCGTAA	2	2		
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o	TGGGCGTAA	2	2	3	1

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GGT	TGCAGTTAAA	1	1		
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GG	TGCAGTTAAA	1	1		
TCA	TGGGCGTAA	1	1		
TAA					
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CTT	TGGGCTTAAA	1	1		
CAA	TGGGCGTAA	1	1		
CA	TGCAGTTAAA	1	1		
f	TGGGCGTAA	1	1	3	1
TAC	TGCAGTTAAA	1	1		
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AAC	TGGGCGTAA	1	1		
TCA	TGGGTTTAAA	1	1		
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CA	TGGGCTTAAA	1	1		
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TCA	TGGGCTTAAA	1	1		
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GAG	TGCAGTTAAA	1	1		
TCA	TGGGCTTAAA	1	1		
CAA					
TCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
g	TGGGCTTAAA	1	1	4	1
TCA	TGGGTTTAAA	1	1		
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TCA					
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TTA	TGGGCGTAA	1	1		
TTA	TGGGTTTAAA	1	1		
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TA	TGGGCGTAA	1	1		
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g				6	1
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TA	TGGGCGTAA	1	1		
CTCA	TGGGCTTACA	1	1		
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TA	TGGGCGTAA	1	1		
CAA	TGGGCGTAA	1	1		
CCA	TGGGCGTAA	1	1		
TTA	TGGGCGTAA	1	1		
TAA	TGGGCGTAA	1	1		
AAC	TGGGCGTAA	1	1		
TA	TGGGCGTAA	1	1		
p	TGGGCGTAA	1	1	3	1
TCA	TGGGCTTAAA	1	1		
TTA	TGGGCGTAA	1	1		
CA	TGGGCGTAA	1	1		
CA					
AA					
g	TGGGCGTAA	1	1	48	0.97916667
c	TGGGCGTAA	1	1	2	1
TCA	TGGGCATAA	1	1		
f	TGGGTTTAAA	1	1	6	1

CTT					
g	TGGGCGTAA	1	1	4	1
CA	TGGGCTTAAA	1	1		
CA	TGGGCTTAAA	1	1		
TA	TGGGCGTAA	1	1		
g	TGGGCGTAA	1	1	29	0.82758621
TAA	TGGGCGTAA	1	1		
g				5	0.8
CGAG	TGCAGTTAAA	1	1		
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TAA	TGGGCGTAA	1	1		
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TTA	TGGGCGTAA	1	1		
o	TGGGCGTAA	1	1	3	1
g	TGGGCGTAA	1	1	2	1
TA					
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o	TGGGCGTAA	1	1	4	1
TA	TGGGCGTAA	1	1		
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CGG					
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CCG					
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CGT			
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TCG	TGGGCGTAA	1	1
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CG	TGGGCTTAA	1	1
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TCA	TGGGCGTAA	1	1
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TCA	TGGGCGTAA	1	1

k	p	c	o	f	g
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Azonexus
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Dechloromon
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Actinobacteri	Actinobacteria			Ornithinicocc
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangi	Tetrasphaera
Bacteria	Proteobacteri	Betaproteoba	B1-7BS		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Denitratisoma
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Planctomycet	BD7-11			
Bacteria	Planctomycet	OM190			

Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 wastev
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Phaselicystida	Phaselicystis
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Eukaryota	Metazoa				
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Haliangiaceae	Haliangium
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Stenotrophon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Verrucomicro	OPB35 soil group			

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Planctomycet	OM190			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Elizabethkingi
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Acidobacteria	Holophagae	Subgroup 7		
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Leptothrix
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Proteobacteri	Gammaproteobacteria			Thiothrix
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Leucobacter
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Phenylobacte
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Rhodobacter
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderia	Chitinimonas
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	DS-100	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria					
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	DEV007	
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bradyrhizobiu
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Polyangiacea	Byssovorax
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Turneriella
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Nocardioidac	Nocardioides
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	

Bacteria	Chloroflexi	KD4-96			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Eukaryota	Basidiomycot	Tremellomyc	Tremellales	Trichosporon	Trichosporon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibact
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacteraceae	
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Eukaryota	Heterolobose	Tetramitia			Naegleria
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	B79	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Novosphingo

Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavisolibacte
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Geothrix
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	OC31				
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangiaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Thermomona
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Acidocella

Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Plasticicumula
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Azonexus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteri	Mesorhizobiu
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	SD04E11	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacter	Rhodobacter
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacter	Rhodobacter
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Ensifer
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Turneriella
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Rhodoplanes
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Bacteria	Bacteroidetes				
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Proteobacteri	Gammaprote	Chromatiales	Chromatiacea	Nitrosococcus
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Micropruina

Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus Ac
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Hirschia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Cc
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Stenotrophon
Bacteria	Armatimonadetes				
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Meganema
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	mitochondria	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Cupriavidus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	KD3-93	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Undibacteriu
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Pseudoxanth
Bacteria	Proteobacteri	Alphaproteo	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	MNG7	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Eubodonida	Bodo
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteria	Leucobacter
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Runella
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria					

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacteraceae	
Bacteria	Planctomycet	OM190			
Bacteria	Armatimonadetes				
Bacteria	Acidobacteria	Holophagae	Subgroup 7		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Ferrovibrio
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	JTB255 marine benthic grou	

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Firmicutes	Clostridia	Clostridiales	Peptococcaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Bacteroidetes				
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	F0723	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteria				

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Rhodanobacte
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	RB41	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Phenylobacte
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Cloacibacteriu
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Echinamoeba
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymenophorea	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Stella
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Proteobacteri	Gammaprote	Chromatiales	Chromatiacea	Rheinheimera
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	CL500-3
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Planctomycet	Phycisphaera	WD2101 soil group		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C

Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Phenylobacte
Bacteria	Chloroflexi	TK10			
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Propionicicella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Pandoraea
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisoma
Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichacea	Thiothrix
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Eukaryota	Basidiomycot	Tremellomyce	Tremellales		
Bacteria					
Bacteria	Firmicutes	Clostridia	Clostridiales	Peptostrepto	Incertae Sedis

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Candidate division BRC1				
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	DA111	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM2D12	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Gammaprote	Pseudomonadales		
Bacteria	Proteobacteria				
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria					
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Nocardioidac	Nocardioides
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea

Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Propionicicell
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Cercozoa	Novel Clade Gran-3			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaer
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Roseiflexacea	Roseiflexus
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Brucellaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Elusimicrobia	Elusimicrobia			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	TM6				
Bacteria					
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylosarci
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingopyxis
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Sphingobacte
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Rhodobacter
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Candidatus Rh
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Armatimonadetes				
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Limnobacter
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiacea	Rickettsia
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Simkania
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	

Bacteria	Proteobacteri	Deltaproteob	Myxococcale	0319-6G20	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Deltaproteobacteria			
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Roseiflexacea	Roseiflexus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Proteobacteri	Deltaproteob	Desulfobacte	Desulfobulba	Desulfobulbu
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	CL500-29 mar
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Tetrahymena
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Niabella
Bacteria	Proteobacteri	SPOTSOCT00m83			
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Variovorax

Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus Ca
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Microbacteriu
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bradyrhizobiu
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellacea	Acinetobacte
Eukaryota	Gracilipodida				Filamoeba
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Aquabacteriu
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Armatimonadetes				
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Microlunatus

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Bacteroidetes	vadinHA17			
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus Ca
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Leucobacter
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicrobiaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Amaricoccus
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Caulobacter
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Chloroflexi				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		

Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	PHOS-HE51	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Dokdonella
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Armatimonadetes				
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Actinobacteri	Acidimicrobiia	Acidimicrobia	Acidimicrobia	CL500-29 mar
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Defluviimonas
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria	Actinobacteri	Thermoleoph	Gaiellales		
Bacteria	Planctomycet	Phycisphaera	WD2101 soil group		
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Vermamoeba
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Dermabactera	Brachybacteri
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	WCHB1-69	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Stenotrophon

Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus O
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Eukaryota	Ascomycota	Sordariomyce	Microascales	Microascaceae	
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Actinobacteri	Actinobacteri	Actinomyceta	Actinomyceta	Actinomyces
Bacteria	Actinobacteri	Actinobacteri	Micromonosp	Micromonosp	Micromonosp
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteria	Mesorhizobiu
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangiaceae	

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Acidobacteria	Holophagae	Subgroup 7		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisoma
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenoph	Thiobacillus
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavitalea

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Deltaproteob	Desulfobacter	Desulfobacter	Desulfobacter
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Kaistia
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Cyanobacteria	Chloroplast			
Bacteria	Proteobacteria				
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Dermatophilaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacter	Labrys
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadales Incertae S	

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Thioclava
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Novosphingob
Bacteria	Actinobacteri	Actinobacteri	Corynebacter	Mycobacteria	Mycobacteriu
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Verrucomicro	Verrucomicro	Verrucomicrobiales		Haloferula
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae	Clostridium se
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	TA18			
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Microlunatus
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Leptospira
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Ciliophora	Intramacronu	Conthreep	Colpodea	Platyophrya

Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Coxiella
Bacteria	Bacteroidetes				
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		Sphingomona
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Rhodanobacte
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangi	Phycicoccus
Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichacea	Thiothrix
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylocaldu
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Methylobacte
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Rhodanobact
Bacteria	Actinobacteri	Thermoleoph	Solirubrobact	480-2	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteri	Microbacteri
Bacteria					
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteri	Leucobacter
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacter	Rhodobacter
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales		

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	Phycisphaera
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Actinobacteri	Actinobacteri	Frankiales	Nakamurellac	Nakamurella

Bacteria	Planctomycet	OM190			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Microbacteriu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Xylophilus
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		

Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadales Incertae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	F0723	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	JG35-K1-AG5	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Eukaryota	Ascomycota				
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	SHA-109				

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Eukaryota	Discosea	Flabellinia	Vannellida		
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteria				

Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Dokdonella
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiacea	Clostridium s
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderia	Lautropia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophag	Ferruginibact

Eukaryota		Chlorophyceae			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiracea	Haliscomenob
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Deltaproteob	Bdellovibriona	Bdellovibriona	Bdellovibrio
Archaea	Euryarchaeot	Methanomicr	Methanomicr	Methanoregu	Methanolinea

Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Coxiella
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Nocardioidac	Marmoricola
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiacea	Clostridium se
Bacteria	Proteobacteri	Gammaprote	Aeromonadal	Aeromonada	Aeromonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavitalea
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Pelomonas

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Dechloromon
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellacea	Acinetobacte
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales

Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Meganema
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	Xanthomonadales Incertae	
Bacteria	Caldiserica	Caldisericia	Caldisericales	Caldisericacea	Caldisericum
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Blastopirellula
Archaea	Euryarchaeot	Methanomicr	Methanosarci	Methanosaet	Methanosaeta
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Ferrovibrio
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	

Bacteria	Actinobacteri	Acidimicrobiia	Acidimicrobia	Acidimicrobia	Candidatus M
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Steroidobacte
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Firmicutes	Erysipelotrich	Erysipelotrich	Erysipelotrich	Turicibacter

Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Ascomycota	Saccharomyc	Saccharomyc	Incertae Sedis	Candida
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Betaproteoba	B1-7BS		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomonac	Gallionellacea	Gallionella
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingobium
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Eukaryota		Chlorophyceae			
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	CCU22	

Bacteria	Proteobacteri	Gammaprote	Gammaproteobacteria Incertae Sedis		
Bacteria	Proteobacteri	Alphaproteo	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Rhodobacter
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteri	Escherichia-Sh
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae	Clostridium se
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavisolibacte
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Lysobacter
Bacteria	Armatimonadetes				
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangiaceae	
Bacteria	Firmicutes	Bacilli	Lactobacillale	Streptococca	Lactococcus
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	B142	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	Thermomicro	JG30-KF-CM45		
Bacteria	Firmicutes	Clostridia	Clostridiales	Peptostrepto	Incertae Sedis
Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Verrucomicro	Spartobacteri	Chthoniobact	FukuN18 freshwater group	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobiaceae	
Bacteria	Actinobacteri	Thermoleoph	Solirubrobact	480-2	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Rhodoplanes

Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale:	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla(	Defluviicoccus
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Rubellimicrob
Bacteria	Proteobacteri	Gammaprote(	Legionellales	Coxiellaceae	Aquicella
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	

Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Agromyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Gammaprote	JPC-34		

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces

Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Methylorosul
Bacteria	Chloroflexi	KD4-96			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	

Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Iamiaceae	Iamia
Bacteria	Proteobacteri	Gammaproteobacteria			BD1-7 clade
Bacteria	Proteobacteria				Granulosicocc
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Acidobacteria	Holophagae	Subgroup 7		

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tag	Flocs Control 1	Flocs Control 2
TCAACTGGTTGTTGGGTCTTAACTGACTCAGTA	105	174
TCAACTAGGTGTTGGGAGGGTTAAACCTTTTAG	64822	11841
CCGACTCGGATTCAGATGAATCAAAAAGTTCAT	82	1101
GATACTTGTTGTTGGAGGTATTGACCCCTTCAG	291	251
TCAACTAGTTGTTCGGTGAGGAGACTCATTGAG	15627	15566
CCGACTTGGGATTGGAGGCGTGCACTTTCCGCC	35313	17284
TCAACTGGTTGTTGGGAGGGTTTCTTCTCAGTA	7075	33750
CCGACCAGGGATCGAGGACAGTCCCATGGTTGA	2823	4530
TCAACTAGGTGTTGGGTGGGTAAAACCATTTAG	6154	6077
TGCACTTGGTGTTGGGCCGATTAGGTTCAGTGC	3	0
TCAACTAGTTGTCGGATCTTAATAGATTTGGTA	3853	3059
CGAACTGGATGTTGGGCTCAACTTGGAGCTCAG	3711	7488
TCGACTAGTCGTTCGGAGCAGCAATGCACTGAG	3871	2018
ATGACTCGATGTTGGCGATACACAGCCAGCGTC	0	4
CCAACTAGGGATATGTGGACGTTTGTTTGAAGA	6573	6209
TACACTAGACTGGTGCGGTTTTGACGCCGTATC	329	620
GATACTAGCTGTTGGAGGAAACTTCAGTGGCTA	0	2
TATACTTGGTGTAACTGGACTCAACCCTAGTTG	29	13
GATACTAGCTGTTGGGAGTAATTTCAGTGGCTA	402	668
ATTACTCGTTGCTGGGAGGTAACTTTCAGTGAC	4755	4342
ATGACTCGATGTTGGCGATATACAGCCAGCGTC	4694	4802
CGCACTAGACCGGTGCGGTTTTGACGCCGTATC	5417	3299
CCGACTAGGGATGAGTGAACGTTGCATTATCGA	2604	6731
CGAACTGGATGTTGGTCTCAACTCGGAGATCAG	3180	9777
TCGACTAGGTGTTCGGGAAGGAGACTTCTTGAG	2279	5578
ATGGCTGGATGTTGGCGATACACCGTCAGCGTC	0	0
ATGACTTGGTGTGTCGGGTTTTAAGTCCCGGCG	16	17
TCAACTAGTTGTCGGGTCTGTTTAAGGATTTGG	2835	1682
CCGACTAGCGATCCGCCGGCGTGGTTTCGATGA	3989	2249
CCGACTAGGGATCGGTCCACGTTATTTTTTGAC	832	14567
ATTACTCGATGTGTGCGATACACGGCACGCGTC	957	869
ATTACTCGCTGCTAGATGGCAACGTTTAGTGGC	4	7
AGCACTAGACGTCGGGCGGGTGACCGTCCGGTG	232	500
CTAACGATGGACGCGGGGAATCAGAACATCACA	0	0
ATTACTCGATGTTGGCGATACACAGCCAGCGTC	18	60
ATTACTCGACATACGCGATACACAGTGTGTGTC	2014	2315
ATCACTCGATGTTGGCGATACACAGCCAGCGTC	21	12

TATGCTAGACCGGTGCGGTTTTGACGCCGTATC	1844	3245
AATGCTAGACGTTGGCGAGCATGCTCGTCAGTG	67	87
CCGACCGGGGATGGGGAGAGGTAATACCTTAAC	3772	1732
CCGACCAAGGATAAGAGGTCGTAATTATCTTGA	1826	2609
TGAACTTGGCGTTGGTGGGTTAAACTCCATCAG	1272	1985
CTAACTCGTTTTTGGGGCGTAAGTTTCAGAGAC	1099	8394
AGAACTAGGTGTCGTGGGTGTTGACCCCCGCGG	1392	1027
CTTACTCGACGTACGGCCCTGGCGGCTGTGCGT	1614	2222
ATTACTCGTTTTTGGGTTTTATGATTCAGAGAC	0	0
CCGACTCGGATTCAGATGAATATTAAAGTTCAT	161	3969
ATTACTCGACATACGCGATACACTGTGTGTGTC	1389	2440
AGCACTAGACGTCGGGTGGGTGACCGTCCGGTG	458	479
ATCACTAGATTTTGGCCGTATGGTCAGAGTCCA	0	0
TACGCTAGATCGGTGCGGGTTTGACCCCGTATC	955	2624
AGAACTGGACGTTGGGAGGAATTCGCCTCTTAG	1039	2171
GATACTCGACATCAGCGATACACTGTTGGTGTC	1289	1461
ATTACTCGATGTTGGCGATACACGGCCAGCGTC	5	6
TCAACTAGTTGTCGGGTCTTATTGGGCTTGGTA	1540	1034
TCTACTAGTTGTCGGGTCTTAATTGACTTGGTA	277	5686
ATTACTCGCTGCTGGGAGGTAACTTTCAGTGGC	364	268
TAAACTTGGCGTCGGTGGCTTAAACTCCATCGG	118	44
CATACTTGGTGTGAGCCATTCATTTGGTTCGTG	1356	1606
TTCACTAGTGTTGCGGGTATTTATTTATCTGCA	1082	986
TCGACTAAGGATGATAAAATATTAAATGAATGA	94	38
CTGACTTGGTGCCCCCGGTTTAAAGTCCGGGGG	684	1832
CTAACGATGGACGCGGGGAATCAGTCTCTTTTT	0	0
CCGACTAGGGATCGGTGGACGTTGCATAGCATG	10	2769
CACACTAGGTCTTGGCGGATTCGACCCCCCCAG	789	835
ATTACTCGGTGCTAGCGATATACGGTTAGTGCC	2	11
CCGACTCAGGATTGGCAGACGTCTTTACCGACT	6	42
CTGACTTGGTGTTCCAGGTTTTAAATCTTGGGG	1284	1285
CCAACTAGGGATACGTGGACGTTTGTTCGAAGA	1298	1084
TCAACTGGTTGTTGGACGGCTTGCTGTTCAGTA	1075	682
CTAACGATGGACGCGGGGAATCAGATCACTTTG	0	0
AACACTAGATGTTACGGGTATTGACCCCTGTAG	671	1755
GATACTAGCTGTTGGGAGCAATTTCAGTGGCTA	0	3
AGAGCTAGTTGTCGGCACGCATGCGTGTCGGTG	719	704
TACGCTGAGTTAGAGCGGCTCTGACGCCGTTCG	849	1204

ATTACTCGCTGCTAGAGGGCAACTTTTAGTGGC	1300	473
TACGCTAGACTGGTGCGGTTTTGAAGCCGTATC	470	459
GATACTAGGCGTATCGGGTATCGACCCCTGATG	610	1255
TCAACTAGTTGTCGGGCCTTAATAGGTTTGGTA	725	924
CAAACTTGGTGTAGGCAGTTCAGTCTGTCTGTG	975	1208
AGCACTAGACGCTGGTGGGGTGACCTGCCGGTG	3	6
CCAACTAGTTGTTGGGGAAGGAGACTTCCTTAG	558	1310
TTTACTTGCTGTTTGGCTTTCGGGCTGAGTGGC	0	0
CCGACTTGGTGTTCCCGGTTTTAAGTCCGGGGG	765	965
CTAACGATGGACGCGGGGAATCAGTCTCTCTTT	0	0
CCGACCAGCGATTGGGAGACGTTACATGGATGA	1047	429
CTAACGATGGACGCGGGGAATCAGAAAGAAATT	0	0
AGTGCTAGATGCTGTGGGTATTGACCCCCGCGG	6	15
TCAACTAGTTGTTGGATCCGTTTAAGGATTTGG	1165	878
CGCACTAGGTGACGGGACCTCTCACGGTCTCGC	453	1037
GATACTCGACATACGCGATACACTGTGTGTGTC	731	544
ATCACTAGATTTTGGCCGTATAGTCAGAGTCCA	0	0
TAAACTCGACATTAGCGATATACAGTTAGTGTC	680	814
CCGACCAGGGATTGGGAGACGTTAAATTTTATA	1088	225
CCGACTAGGGATCGGTCCACGTTATTTTCTGAC	297	2718
TCGACTAGCCGTTGGAATCCTTGAGATTTTAGT	48	2462
CATACTCGCTGTTGGGTTATAGATTCAGCGGCT	0	0
TCAACTAGTTGTTGGATCCATTTAAGGATTTAG	691	773
AATGCCAGCCGTTGGGGAGCTTGCTCTTCAGTG	469	334
CGAACTAGGTGTTGGGGAAGGAGACTTCTTTAG	439	888
CGAACTGGATGTTGGGTGCAATTTGGCACGCAG	217	397
TCAACTGGTTGTTGGAGGGGTTTCTCTTCAGTA	537	913
CCGACTGGGTGTGGGAGGTGAACACCTTCTGTG	0	4
CTCACTTGCTGTTCCCGATTACTCGGGAGTGGC	2	0
CCGACCAGGGATCGGAGAGTGTTACATGGATGA	501	685
AATGCCAGACGTCGGGCAGCATGCTGTTCGGTG	395	392
AGCACTAGACGCTGGGGGGGTGACCTTTCGGTG	9	10
CTAACGATGGACGCGGGGAATCAGAAAGAATAC	0	0
ATTGCTAGTTGTCGGGAAGTTTACTTCTCGGTG	0	0
ATCACTCGAGATCGGCGATATACGGTCGGTCTC	17	29
GGTGCTGGATGTCGGGGGGCTTGCCCTTCGGTG	440	717
CTAACGATGGACGCGGGGAATCAGATCACAATC	0	0
GATACTCGACATACGCGATATACTGTGTGTGTC	438	612

ATTACTAGATTTTGGCCGCAAGGTCAGAGTCCA	0	0
AATGCCAGTCGTCGGCAAGCATGCTTGTCGGTG	671	371
GATACTCGACATTTGCGATACACTGTAAGTGTC	460	447
CGAACTGGACGTTGGTCTCAACTTGGAGATCAG	0	0
AACACTTGGTGTGGAGGGAGTTGACCCCTTCCG	481	538
CGCATTTGCTGTGGGCGGAATCGACCCCGCCCG	8	8
TCGACCAGACGTCGGGGGTGTCAACCCCTCCGG	0	0
AGAGCTAGGTGTCGTGGGTGTTGACCCCCGCGG	54	49
TCGACTGGGTGTCGGCGATTAAAAACCGTCGGT	243	562
AGCACTAGGTGTTGGTCCCTTTGGGGCCAGTGC	274	690
GATGCTGGATGTCGGGGGGCTTGCCCCTCGGTG	0	0
CCGACCAGGGATATGAGGTAATTAATAGATTAT	0	8
AATGCCAGACGTCGGCAAGCATGCTTGTCGGTG	291	67
CTAACGATGGACGCGGGGAATCAGAGAGAAGAA	0	0
GCGACCGAGATTCAGGAAATGCCCAAGATGGCT	266	828
GGTACTAGGCGTCGGGGGGAGCGACCCCCTCGG	353	430
AGTGCTAGACGTCGGGGGGTTGCCTCTCGGTGT	0	0
CCAGTTAGGGATTGGCAGGGTCTCGTTACGTCC	0	0
TGAACTTGGCGTCGGTGGCTTAAACACCATCGG	289	201
AGGACTAGGTATTGGCTCGCAAGAGTCGGTGCC	502	337
CTAACTCGTTTTTGGGACGTAAGTTTCAGAGAC	175	1495
AGTGCTAGTTGTCGGCATGCATGCATGTCGGTG	215	609
GGTGCTAGGTGTCGCGGGCTTTGACCCTCGCGG	293	510
TCAACTAGTTGTTGGATCTTAATAGATTTGGTA	220	190
CATACTTGGTGTGGGTGATTCATTTTATCCGTG	225	229
ATAACTAGCTGTCCGGGCTCTCAGAGCTTGGGT	0	0
TACACTAGACCGGTGCGGTTTTGACGCCGTATC	288	492
AGAACTAGGTAGTGGGTCCGACCTGGGCACACT	212	561
GATACTCGACATTTGCGATATACTGTAAGTGTC	82	41
CCAACTGTCTTTTAGATGCGGTTACTCATATGA	87	77
GGTGCTTGGTGTCGGGGGTATCGACCCCTCCGG	242	464
CCAACCAAAGATAAGAGGTTGTAAATACAAAAA	349	211
AATACTCGGTGTCGGGTCGCAAGATTCGGCGCC	422	414
TCAACTAGTTGTCGGGTCTTATTAGATTTGGTA	318	345
AATGCCAGCCGTCGGAAAGCTTGCTTTTCGGTG	0	4
GATGCTAGGCGTTGGCAGACTCAATCCTGTCCG	0	0
AGTACTAGGTAGAGGAGGCCTCGTCGCCTTCTC	0	0
AGTGCTAGATATTTAGATATTTATTCTGAGTGT	0	0

TGTGCTAGACGTTGGGAAGCCTAGCTTCTCAGT	13	20
ATAACTAGCTGTCCGGGCACATGGTGCTTGGGT	28	64
CTCATTAGGTATGGGGGGTATCGACCCCTCCCG	78	571
ATCACTCGATGTGTGCGATACACAGCACGCGTC	259	418
AGTACTAGGTGTAGGAGGAGTGAAATCCTTCTG	221	423
CTCACTCGACGTACGGTAGGAATATTGTGCGTC	0	0
GATACTTGGTGTTGGAGGTATTGACCCCTTCAG	63	67
CATACTAGGCGTAGCGGAATTTCAATTCTGCTG	0	2
ATTACTCGTTGCTGGGGAGCAATTTCCAGTGAC	262	456
GGCACTAGGTCCTTGGGGGAGCGACCCCGTGAG	176	200
ATCACTAGATTTTGGTCGCAAGATCAGAGTCCA	224	576
TCAACTGGTTGTTGGGAATTCATTTTCTCAGTA	543	166
AGTGCTAGATGTTGGGGTTTTACCTCAGTGTCG	0	0
GGCGCTAGGTGTGGGACTCATTCCACGAGTTCC	11	12
GGCACTAGCTTGGGGTCTCCCTGTGTGATCCCA	95	86
ATAACTAGCTGTCCGGGCACTTGGTGCTTGGGT	122	145
CCGACCAGGGATTGGGGGCCGTTAAAGTTCTAT	38	43
AACACTTGGTGTTCCGGGAGTTGACCCCCGGAG	150	755
GGTACTAGGCGTCGGGGGGAGCGACCCTCCCGG	205	392
AGTGCTAGATGTTGGTTGACTTATCAATCGGTG	0	0
TTTACTTGCTGTGTGATCTTCGGATTGCGTGGC	41	21
TATGCTTGATGTTGGGGTAGCAATACCTCAGTG	7	20
GATGCTAGCCGTTGGACAGCTTGCTGTTCAGTG	85	434
CATACTTGGTGTGGGCAGTTCATTCTGTCCGTG	220	348
CCGACCAAGGATCATGAGATGTTAAATATAAAT	422	16
CGCACTAGACTGGTGCGGTTTTGACGCCGTATC	39	49
ATCGCTGGGTGTGGGGGGTTTTTACTCCCCCCG	229	201
TCGACTAGGTGTCGGCGCCTAAAAACCGTCGGT	90	490
CATACTTGGTGTGAGTCCTTCATTGGATTCGTG	137	260
TCAACTAGTTGTCGGATCTTAATAGGTTTGGTA	96	130
CGGACTTGGTGTGGGCAGTTCAGTCTGTCTGTG	209	189
CGCACTAGGTCGGGGAGGCTTGACGCCCTCCTG	0	6
CACGTTTGGTGTGGGCGCAATCGACCGCGTCCG	234	186
GATACTCGACATTTGCGATACACAGTAAGTGTC	227	167
CGCACTGGATCGGAGCAACTCTCACGTTGTTTC	0	0
AGTGCTGGATGTCGGGAAGCCTAGCTTTTCGGT	140	392
TGTGCTGGATCACGGCGGCTCTGACGCCGTCGG	170	308
TATACTTGGTGTAATTGGAATCAACCCTAATTG	0	0

TTTACTTGCTGTTTCTGGGCAACTGGGAGTGGC	124	243
CGAACTGGATGTTGGGTGCAACTAGGCACTCAG	16	31
CCGACCAGCCATTCGGAGACGTTACATTTTATG	109	56
CCGACTTGGTGTCCCCGGTTTTAAGTCCGGGGG	167	278
TACATTGTATGGTGGGAATCTTGCATTTTCACT	11	624
AATGCCAGTCGTCGGGCAGCATGCTGTTCGGTG	10	5
AGTACTAGGTGTGGGTGGAGTCAAATCTATCCG	179	251
ATTGCTAGTTGTCGGGCTGCATGCAGTTCGGTG	27	62
AGTGCTAGGTGCTGCGGGTATTGACCCCTGCGG	223	247
TGCACTAGGTGTTGGGGACTTCGTCTTCAGCGC	0	0
TCAACTAGTTGTCGGATCTGTTTAAGGATTTGG	22	7
AATACTAGGTGTTGGTGGCTTTAACCCCACCAG	0	0
ATCACTCGTCATTGGCGATATACGGTCAGTGAC	0	0
AATGCCAGCCGTCGGGGAGCTTGCTCTTCGGTG	28	105
ACCCCCATGAATTGGGGAGTATTTTGGTTCTTT	0	0
TGTGCTGGATGTTGGGTGGCCTAGCCATTCAGT	7	15
TATACTAGTTGTTGGTGGTTTCAACGCCATCAG	115	180
TGCGCTGGATGTTGGGTGACCTAGTCACTCAGT	133	217
AATACTAGGCGTAGGGAGAGTCAAATCTTTCTG	76	299
GATACTCGACATACGCGATACACAGTGTGTGTC	332	166
AATGCTAGACGTTGGGGAGCTTAGCTCTTCAGT	0	0
AATACTCGGTGTTGGTCCGCAAGGATCAGCGCC	174	291
GCCCCCATGAATTGGGGAGTATTTGGTATCAGG	0	0
TTCACTAGTTTTGCGGGATGTTTTTATTCTGCA	16	144
CACACTTGGTGTGAGCGATTCATTTCGTTCGTG	152	290
ATAACTAGCTGCCAGGGCTCTTAGAGCTTTGGT	7	6
AGTGCTAGTTGTTAGCCCGGCTTGAGCCGGGTT	0	0
TACATTGTATGGTGGGGATCTTGCATTCTCACT	0	0
CCAACTAGATGTTCGGTTGGGGAAACTCAACAG	0	0
CTGACTAGGTGTCGGCGATTAAAAACCGCCGGT	95	346
ACACCCATGAATTGGGGAGTACTTTGGTCGCCT	0	0
AACACTCGACGTTGGCCCTGTATGGGGTCAGTG	0	0
AGCACTAGACGTTGGGCGGGTGACCGCCCGGTG	2	9
GATACTAGCTGTTTGGAGCAATCTGAGTGGCTA	286	138
GGTGCTAGACGTTGGCGGGCTTGCTCGTCAGTG	217	216
AATGCCAGCCGTTAGTGGGTTTACTCACTAGTG	102	367
ATCACTCGATGTTGGCGATACACTGTCAGCGTC	172	229
GGCACTAGGTCCTTGGGGGAGCGACCCCTTGAG	181	228

AGAACTAGGTATCGTGGGTGTTGACCCCCGCGG	169	211
TCAACTAGTTGTCGGACCTTAATAGGTTTGGTA	127	210
GGTGCTGGATGTCGGGGGGCTTGCCCCTCGGTG	144	239
TCAACTGGCTGTTGGGAGAGAAATCTTTCAGTA	0	0
TCAACTGGTTGTTGGGTTTTAATTAACTCAGTA	171	227
CTTACTCGTTGTTTGGCTTTCGGGCTGAGTGAC	0	0
ATTACTCGATGTGTGCGATACACTGTACGCGTC	173	246
TCTACTAGTTGTCGGGACTTAATTGTCTTGGTA	0	0
CACACTAGGTTTTGGAGGATTCGACCCCTTCAG	87	114
TCGACTAGTTGTTGGGGAAGGTAACTTCCTTAG	36	54
AGAGCTAGCCGTTGGAGGATTTATCCTTCAGTG	0	0
CACGTTTGCTGTAAGAGGAATCGACCCCTTTTG	160	153
CTAACTCGTTTTTGGTATTTCGGTATCAGAGAC	20	508
CACACTAGGTCTTGGCGGATTCGACCCCACCAG	82	111
AATATTAATTGTCGAATTTTCGGTAATTTAGTT	174	192
TGCACTAGACTGGTGCGGTTTTGACGCCGTATC	136	174
CTAACGATGGACGCGGGGAATCAGAACACAAAA	0	0
CAAACTTGGTGTGCGCCCTTCATTGGGTGCGTG	205	173
AATACTTGGTGTCTGGAGGTTTAATACTCCGGG	136	75
TCTACTAGTTGTTGGGGTAGCAATACCTTAGTA	0	0
CCAACCAAAGATAAGAGGTTGTAAATATTATAA	126	94
GATACTAGCTGTTGGAGGTAACTTCAGTGGCTA	0	0
TTTACTTGCTGTTTGGCTTTCGGGCCGAGTGGC	148	130
GATGCTAGCCGTCGGCAAGCTTGCTTGTCGGTG	61	74
TCGACTAGTTGTTGGGGAAGGAAACTTCCTTAG	96	234
CCGACTAGGGATCGGTGGATGTTTTTATTGACG	222	93
TCAACTAGTTGTCGGGCCTTATTGGGCTTGGTA	112	114
GGCACTAGCTTGGGGTCTCCCTGTGGGATCCCA	96	172
TAAACTCGACATTAGCGATATACTGTTAGTGTC	52	174
AACACTTGGTGTGGTGGGAGTTGACCCCTGCCG	168	112
GAAGCTAGCCGTCGGCAAGTTTACTTGTCGGTG	32	54
ATTACTCGTTCTCGGCGATATACGGTCGGGGAC	79	90
CCGACCAGTGATTGGGCGACGTTGCATGGATGA	2	6
AGTGCTAGTTGTTGGGAAGTTTACTTCTCAGTG	0	0
TCAACTAGTTGTCGGGCCTTAATAGGCTTGGTA	145	90
GGCACTGGGTAGGGGGCTCGCCGATGGGCTCCC	76	88
CGTGCTGGACGTTGGCCAGCCTAGCTGGTCGGT	6	21
CACGTTTGCTGTAAAAGGAATCGACCCCTTTTG	122	139

TGTGCTGAATCACGGCAGCTCTGACGCTGTCGG	160	115
TCAACTGGCTGTTGGGAGAGCAATCTCTTAGTA	0	0
TACGTTGAGTTAGAGCGGCTCTGACGCCGTTCG	97	177
TCGACTGGTTGTTGGGGGTTTGACACTCTCAGT	148	140
ATTACTCGCTGCTGGGGGGCAACCTTCAGTGGC	82	38
TCAACTGGTTGTTGAGGGGGTTCCTCCTCAGTA	93	169
CCGACTAGGGATTGGTGGGTGTTATTAGCGACT	4	15
TGCACTAGATCGGTGCCGGTTTGACCCGGTACC	11	10
AATGTAAAAAAAAAAATAATTTTTATTTTATTT	0	0
CACGCTTGATTACGACGGCTCTGACGCCGCCGG	96	120
TCAACTAGCTGTCTGTAGATTAAGGTTTATAGG	179	102
CATACTAGATCCGGGAGACACTCATCGTAATCC	91	187
TGCACTTGGCCTGGGAGGATTCGACCCCTTCCG	143	120
TCAACTAGTTGTCGGACCTTATTGGGTTTGGTA	134	110
CGCATTTGCTGTGAGCGGAATCGACCCCGCTCG	80	86
CACATTGGACCGGTGCTGCTCTGACGTAGTATT	0	0
AGAACTAGACGGTGGGGAGGTCACTTCTCGCTG	0	0
CGAACTAGGTGTTGGGGAAGGAGACTTTCTTAG	74	145
ATCACTCGAGATTGGCGATATACGGTCAGTCTC	2	7
AGCACTAGACGTCGGGCGGGTGACCGCCCGGTG	0	0
GGCACTGGGCAGGGGGGATACCTATGGTCCTCT	63	170
GGTGCTAGCCGTTGGAAAGCTTGCTTTTCAGTG	0	0
TCGACTAGTTGTTCGGAGCAGCAATGCACTGAG	121	158
TGTGCTAGTTGCTGGATCGCTTAGCGTTTCAGT	0	0
TTTACTTGCTGTTCGGGCTTAGGCTTGAGTGGC	65	74
TCAACTGGTTGTTGGGGAAGGTAACTTCCTTAG	76	129
ATTACTCGCTGTTGGCGATACACTGTCAGCGGC	94	54
GATACTCGACATCAGCGATACACAGTTGGTGTC	25	40
GGAACTAGATGTAGGGACCATTCCACGGTTTCT	66	160
GATGCTAGCCGTTGGGGGGATACCCTTCAGTGG	115	75
ATTACTCGTTGTTGGCGATATACTGTCAGCGAC	54	71
TTTACTTGCTGTTTGTTCTTCGGAATGAGTGGC	79	90
CCGGTTAGGGATTGGCAGGGTATCGTTACGTCT	0	0
AGAGCTAGCCGTTGGAGGGTTTACCCTTCAGTG	61	181
CCGACTCAGGATGGGCAGTCCGTTGTTTCCGAC	0	0
AGAACTAGACGTTGGGAGGGTCAGCCTCTCAGT	84	142
TACACTAGACCGGTGCGGCTCTGACGCCGTATT	64	122
GATACTAGATGTTGAACAGATCGACCTGTGCAG	0	2

CCGACCAGGGATATGAGGTATATAAAATATTAT	0	0
CCGACCAGGGATATGAGGTAAATAAAATATTAT	0	5
AACACTTGGTGTGGGGGGAGTTGACCCCTTCCG	6	24
TACACTGGACCGGTGCGATTTTGACGTTGTATC	5	21
AGCACTGGAGGAGGGAGGCTTCGGCCTTCTTTC	160	43
CAGACTCGGTGTCCACTCTCGCAAGGGAGGGGG	2	13
AATGCCAGCCGTCGGGAAGCTTGCTTTTCGGTG	0	0
TGTGCTAGACGTTGGGGGGTTGCCCTCCGGTGT	6	2
GATGCTAGCCGTTGGGGGGTTACCCTCCAGTGG	0	0
GATACTAGCTGTTGGGGGTAACTTCAGTGGCTA	101	101
ATGACTGGGTGTCGGCGATTAAAAACCGTCGGT	66	134
AGAGCTAGCCGTCGGCAAGTTTACTTGTCGGTG	86	46
TATACTCGACATCAGCGATACACTGTTGGTGTC	19	122
AATACTAGGTGTAGGTCGTGTCAAAACGGTCTG	34	75
CCGACCAGGGATATGAGGTAGAAATTGATTTAT	0	2
GGTGCTAGGTGTCGCGGGCATTGACCCCTGCGG	0	0
CGAACTGGATGTTGGGTGCAACTTGGCACCCAG	0	0
CCGACTAGGGATTGGGAGGTTACTTACCTCTCA	120	92
GATGCTAGCCGTTGGCGAGCTTGCTCGTCAGTG	61	105
AATGCCAGCCGTTGGGGAGCTTGCTCCTCAGTG	0	10
TCAACTAGTTGTCGGGGAAGCAATTCCTTGGTA	106	95
TATGCTTGGTGTTGGCTCTTTAGAGTCAGTGCC	0	0
TCAACTAGGTGTTGGGAGGGTTAAACCCTTTAG	49	14
TATGCTTGGTGTTGGGGCAGCAATGCTTCAGTG	0	91
ATAACTCGCTGTTGGTGTTTTGCATCAGTGGCT	170	56
GGTGCTAGGTGTCGCGGGCTTTGACCCCTGCGG	27	214
AATACTAGGTGTGAGTGGTGTCAAAGCCATTCG	0	0
GAAGCTAGCCGTTGGCAAGTTTACTTGTCGGTG	62	87
CTAACTCGATGTTTGGGCGTAAGTTTGAGCATC	0	21
GATACTAAGTGTCGGCGGGTTACCGCCGGTGCC	44	79
TCAACTAGTTGTTGGGCCTTAATAGGCTTGGTA	14	39
CGGACTTGGTGTAGGCAGTTCAGTCTGTCTGTG	58	110
ATTACTCGATGTTTGCGATACACTGTAAGCGTC	85	42
GGTGCTAGATGTCGGGGAGCTTGCTCTTCGGTG	74	114
CTAACTCGTTTTTGGGTTTTCGGATTCAGAGAC	3	406
AATACTAGACGTTGGGGTTAAACTCAGTGTCGC	0	0
GGAACTAGATGTAGGGCCTGTTCCACGGGTTCT	2	5
GGCACTTGATGTCGCGGGTTTCTACCCCTGCGG	63	114

TTTACTTGCTGTTGGGGGCAACCTTAGTAGCGA	0	0
TCAACTAGCTGTTGGGGCCTTCGGGCCTTGGTA	0	0
GGTGCTAGGCGTCGGGGGGAGCGACCCCTTCGG	82	78
ATGACTAGTTGTTGGAGGAGTTAAATCCTTTAG	85	100
TGCGCTAGACGTTGCCGGACCTAGTTCGGCAGT	5	20
AATACTAGGTGTAGGTGGTGTCAAAACTATCTG	11	18
CCAGCTGGATGTTCGTACCTCGAAAGGGGTATG	0	0
AGCACTGGGTAGAGGTGGTAGCTGATGCCTCCT	0	0
GATACTAGTTGTTTGGAGCAATCTGAGTGACTA	2	4
AATGCTAGTTGTCAGTAAGTATACTTATTGGTG	78	117
CCGACCAGGGATCCGGAGAAGTTACGTGGATGA	33	4
CAGACTAGGCGTGGGGGGAGTTGACCCCCTCCG	44	65
GGCGCTAGGTGTGGGGAACATTCCACGTTCTCC	92	63
TCAACTAGTTGTTGGATGGGTAAAACCATTTAG	0	0
AACACTCGCTGTTGGCGATAAACGGTCAGCGGC	0	0
GATACTAGCTGTTCGGAGCAATCTGAGTGGCTA	149	98
GGCACTGGACGCCGGAGGGGTGACCTTTCGGTG	0	3
ATTACTCGATGTTGGCGATATACTGTCAGCGTC	91	56
CTTACTTGCTGTTCCCGATTTATCGGGAGTGGC	0	0
TCAACTGGTTGTTGGGTCTTGACTGACTCAGTA	101	38
CCGACTATGAATAGGATATCGTTTTAAGAAGGG	87	47
CCGACCAAGGATTCGGAGAAGTTACGTGGATGA	101	35
CACACTTGGTCGGAGAGGTTAGACGCCTTTCCG	48	117
ATTACTCGCTGCTAGGAGGTAACTTTTAGTGGC	70	13
TGTGCTAGTTGTTGGGCAGCTTAGCTGTTCAGT	0	0
AGAGCTAGTTGTCAGTAAGCATGCTTATTGGTG	0	0
TGCACTAGGGAGAGGATGGGTCCTAACTCATTC	0	0
AGCGCTAGACGTTGGACGGAATGTTCAGTGTCG	80	76
TATGCTTGGTGTTGGGTCGCAAGACTCAGTGCC	0	0
GGTGCTAGATGTTGGGAGGCTTGCTTCTCGGTG	51	98
GATACTAGCTGTTGGATTTATTTTCAGTGGTTA	0	0
TTTACTCGACGTCCGGCCCCTGCGGCCGTGCGT	69	69
ACACCCATGAATTGGGGAGTACCTCCCGACGTG	0	0
CCGACTCGGATTCAGATGAATCAAAAAAGTTCA	0	0
GGTGCTAGATGTTGGGAAGCTTGCTTCTCGGTG	55	76
TTTACTTGCTGTTCCTGCACTACGCGGGAGTGG	43	78
TCAACTGGTTGTTGGGTCTTCACTGACTCAGTA	11	12
AATGCTAGGTGTTGGGGATTTACTCCTCAGTAC	0	0

CACACTTGGTGTGGGCCATTCATTTGGTCTGTG	64	81
ATTGCTAGTTGTTGGGAAGTTTACTTCTCGGTG	21	75
AGCGCTAGACGTGGGGCAGGTGACTGCTCGGTG	69	63
ATCACTAGATTTTGGTCGCGAGATCAGAGTCCA	124	32
ATTACTCGTTGTTGGCGATACACTGTCAGCGAC	48	64
CACGCTTGGTGTGGGAAGGTTCGACCCTTTCTG	0	0
AGCACTGGATCGGAGAGCCCTCCATAGCTTTCC	19	34
CATATTTGGTGTGGGTCATTCAGTTGATCCGTG	42	86
CTAGCTGGGTGTTCAGGGGGGGAAACCCCTCGG	74	69
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AGCACTGGGCGGAAGGAAGTTCGCTTCTTTCTG	0	0
ATTACTCGTTGTTGGCGATATAAAGTCAGCGAC	12	14
TAAACTTGGTGTCGGTGGCTTAAACTCCTTCGG	0	0
CTGACTTGGTGTCCCCGGTTTTAAGTCCGGGGG	49	59
TTTACTTGCTGTTTGGGCTATATGCCTGAGTGG	41	82
TGTGCTAGACGTCGGGAAGCCTAGCTTCTCGGT	38	41
AACACTAGGTGTGGGTGGGTTCAAAACCATCTG	47	64
TCAACTAGGCGTAGGAGGTTATAAACCCCTTCT	69	80
AATACTCGGCATCTGGTGGCCGATCTTCGGCGG	45	63
TCAACTGGTTGTTGGGAAGGTTCCTTCTCAGTA	22	63
TCAACTGGGTGTCGGTAGTTTTACACTAGCGGT	49	82
CCGACTCGGATTCAGATGAATCAAAAGTTCATT	0	0
GAAGCTAGCCGTCAGTCAGCTTGCTGAGTGGTG	50	79
TTCACTAGGCGTTGGGGTCGCAAGACCTCAGTG	0	0
TCAACTAGCCGTTGGGAGCTTTAAAGTTCTTAG	39	74
AGTGCTAGCTGTTGGGTCCTTGAGGCTCGATGG	20	93
TATACTAGATGTTGGGGGTTTCAACGCCCTCAG	0	30
CCGACCAGGGATCGGAGACAGTTACATGGATGA	57	39
AGTGCTAGGTGTCGTGGGTATTGACCCCCGCGG	2	186
TGCGCTGGATGTTGGGGCTCTTAGAGCTTCAGT	36	61
TGTGCTAGACGTCGGAAGGCTTGCCTTTCGGTG	0	0
CTTACTCGACGTCCGCCCCTTGCGGTCGTGCGT	62	64
TTAACTGGTTGTTGGGTCTTAACTGACTCAGTA	0	0
GGCGCTAGGTGTGGGATCCATTCCACGGGTTCC	40	85
ATTACTCGATGTGTGCGATATACAGCACGCGTC	50	70
ACAACTAGATGTTGGGAGGGTCTGCCTTCCGGT	32	65
GATACTAGGCGTAAGAGGTATCGACCCCTCTTG	22	84
AGCACTAGACGTCGGGCGGGTGACTGCTCGGTG	35	74

TGTGCTAGCTGTTGGTGCTTACGGCATCGGCGG	0	0
TCAACTGGTTGTTGGGCCTTCGCTGGCTCAGTA	5	9
TCGACCAGACGTCGGGGGAGTCAACCCCTCCGG	14	89
AATGCTTGGTGTCTGGAGTGTTAATTCTCTGGG	47	43
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GATGCTAGATGTCGCGGGTATTGACCCCTGCGG	32	63
TCAACTAGCCGTTGGGATCATTGAAGGTCTTAG	13	13
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CACACTAGATCGGAGTCGCTCTGACGCGCCTCT	0	2
TCAACTAGTTGTCGGGTCTGTTCAAGGATTTGG	25	10
ATCACTCGTGATTGGCGATATACGGTCAGTCAC	0	0
CGAACTGGATGTTGGGTGCAACTTGGCACTCAG	29	100
AGCACTAGTCCGTGGGGACTTTCACATCCTCTC	20	38
CCGACCAGGGATTCGAAGATATCCTTTATTAAA	0	0
GACACTAGGTGTAGGTAGAGTTAAATCTATCTG	6	26
CGCACTGGACCGGTGCGGTTTTGACGCCGTATC	58	38
AATACTTGGTGTCTGGAGTTTTTATCCTCCGGG	60	36
GACCCTAAATTTAATTTAAGCGAAAGCGCAAAG	88	31
GATACTAGCTGTTGGGGGCAACTTCAGTGGCTA	66	32
AGCACTGGGGGAGGGAGGTTTCGGCCTTCTTTC	26	72
GGTACTAGGCGTCGGGGGGAGCGACCCTCTCGG	27	58
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AGTACTAGGTGTCGGGGGTATCGACCCCCTCGG	28	53
ATCACTCGTTGCTGGGGGGTAACCTTCAGTGAC	11	5
GATACTAGGCGTATGGGGTATCGACCCCCCATG	19	88
CTCACTAGGTGTTGGGGAAGCGATTCCTTGGTA	12	93
GGTGCTAGGTGTCGCGGGCTTTGACTCCTGCGG	74	34
CCGACCAGAGATTGTAAGACGTTGAATATAAAG	57	40
CCGACCAGGGATATGAGGTAATATTTGTTTTAT	0	0
TCAACTAGTTGTTGGGGATTCATTTCCTTAGTA	56	93
AGTGCTAGTTGTTGGGGGGTTTACCTCTCAGTG	0	0
GATACTTGGTGTGTGGGGTTCTCAAAGTCCCCG	29	50
AGGACTAGGTATCGGCAATTTATTGTCGGTGCC	47	44
TCGACCAGACGTCGGAGGTATCTATCCCTTCGG	28	59
GGTGCTAGCCATATCGGGTGTTGACCCTTAGGT	13	53
CACACTAGATCGGTGCGGTTTTGACGCCGTATC	47	56
GGTGCTAGGTGTCAGGGGCTTTGACCCCTCTGG	21	55

AGTGCTAGTTGTCGGGGTCTTTGACTTCGGTGG	0	0
GATACTCGACATTTGCGATAAACTGTAAGTGTC	44	21
CCGACCAGGGATATGAGGTATTTAGATTATTAT	0	10
CCGACCAGGGATATGAGGTAGAAATTATTATAT	0	0
CACGTTTGCTGTAAGAGGAATCGACCCCTCTTG	39	53
AGAACTAGATGTTGGGAGGGTTTTGCCTCTCAG	24	60
AGTGCTAGATGTTGTGGGTATTGACCCCCGCAG	0	0
GGTGCTAGACGTTGGCGAGCTTGCTCGTCAGTG	27	45
ACACCCATGAATTGGGGAGTTTGTTGCGGGGTT	0	0
TTTACTTGCTGTTCCTGCATTAAGTGGGAGTGG	13	25
CCGACCAGGGATATGAGGTAAATAGTATATTAT	0	0
CGAACTGGATGTTGGGTTCAACTTGGAACCCAG	0	0
CGAACTAGCTTTTTGGTTTAGGATTAGGAGGCT	94	26
TCAACTAGTTGTTGGGAGGGTTTCTTCTCAGTA	3	2
AGCACTAGACCGGAGAACCCTCCACAGTTTTTC	0	7
TCAACTGGTTGTTGGGTGGGTTTCTACTCAGTA	0	0
CCGACTAGGGATCGGGCGGCGTTCATTTAGTGA	20	53
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GATACTAATTGTGAGAGGTATCGACCCCTCTCG	0	0
ATTACTCGATGTTGGCGATACACTGTCAGCGTC	50	24
AGTGCTAGACGTTGGAGGGTATCCTTCAGTGTT	0	0
TCTACTAGTTGTCGGGTTTTAATTAACTTGGTA	29	92
AGTGCTAGACGTTGGGAAGCTTAGCTTTTCAGT	19	31
AATACTAGGTGTGGGTGGAGTGAAATCCATCTG	42	54
TGCGCTAGGTGTAGGAGGTATCGACCCCTTCTG	11	5
ATCACTGGGTGTTCGGGGAGCGATCTCTGAGTA	12	55
TATACTAGTTGTTGGCGGTTTCAACGCCGTCAG	0	0
CACACTTGGTGTGGGTGATTCATTTCATCCGTG	39	37
TCAACTGGTTGTTGGGTTTTAACTGACTCAGTA	0	0
TCAATTGGTTGTTGGGTCTTAACTGACTCAGTA	0	0
TCAACTGGTTGTTGGGTCTTAACTGACTTAGTA	0	0
GATACTAGATGTCGGGGGTTCTTACCCTTCCGG	0	0
CCGACTAGGGATCGGTCCACGTTATTATTTGAC	16	132
TATACTAGGTGCGGGAGGTATCGACCCCTTCCG	0	0
CCAACCAAAGATAAGAGGTTGTAAAAATTATAA	16	13
GGTGCTAGGTGTCACGGGTATTGACCCCTGTGG	3	4
CCGACTAGGGATCGGACGATGTTATTTCTTGAC	14	141
GGCACTAGGTAGGGGGCTCGCCGATGGGCTCCC	5	10

AATGTTAGCCGTTGGGGAGTTTACTCTTCGGTG	0	2
GGCACTGGCTAGAGGTGACCCTGCGTCGTCTCT	18	42
AGTGCTAGGCGGTGGAGGATTTTGACCCCTTCG	14	54
CTTACTCGTTGTTTGTCCTTCGGGATGAGTGAC	0	0
AATGCTAGACGTGGTGGGTCTTGACCCCCGCCG	0	0
TCAACTGGTTGTTGAGTGGGTTTCTACTCAGTA	25	39
ATCACTGGGTGTTCGGGGAGCGATCTCTGGGTA	0	0
GATGCTAGCCGTCAGCAAGCATGCTTGTTGGTG	32	47
TCAACTAGTTGTCGGGTCTTAATAGGCTTGGTA	49	19
CCGACCAGGGATATGAGGTAAAAAGTATTATTA	0	0
TGCACTAGGTGCTGGGGCGGATGCCTCAGTGCC	0	0
TCAACTAGCCGTTGGGTTCGTAAATGAGCTTAG	38	22
GGTGCTCGGTGTCGCGGGTATCGACCCCTGCGG	23	37
TCTACTAGTTGTTGGTGGAGTGAAATCCATCAG	0	0
GATGCTAGCTGTTCGGGGGTTCCCCCTGAGTAG	0	89
ATCACTCGATGTTGGCATTTATGTCAGCGTCCA	8	77
CCGACCAGGGATCCGGAGAGTTTGCATGGATGA	8	10
TACACTGGGTGTTCAGTCGGGGAAGCTCGACGG	0	0
GACACTAGGTGTTGGTGGTATCAACCCCGCCAG	30	36
TCAACTGGTTGTTGGGAATTTACTTTCTCAGTA	0	0
TCAACTGGTTGTTGGGTCTTAACTGATTCAGTA	0	0
GGTACTTGGTGTTGGAGGTATTGACCCCTTCAG	0	0
AGCACTGGAGGGGGGCGGGTTCGCCCTTCCCCC	17	44
AACACTAGGTGTGAGCGGTGTCAAAGCCGTTCG	33	42
CCGACCAGGGATATGAGGTAAATAATTAGATTA	0	0
TCAACTGGCTGTTGGGAGAGCAATCTCTTGGTA	0	0
CCAACCAAAGATAAGAGGTTGTAAATACAAGAG	8	5
GGTGCTAGATGTCACGGGCTTTGACCCCTGTGG	6	39
AGTGCTAGACGTTGGGAAGCCTAGCTTTTCAGT	4	13
CTGACTTGGTGTCCCGGGTCTTAAGTCCCGGGG	35	18
GATACTTGGTGTGTGGGGTATTAAGTCCCTACG	14	13
CGCATTAGACCGGTGCAGGTCTGACCCTGTATT	17	28
TGCGCTAGACGTTGACGGACCTAGTTCGCCAGT	15	30
CCGACCAGGGATATGAGGTATATAAATTATTAT	0	0
CGAACTGGATGTTGGGTGCAACTAGGCACCCAG	0	0
TATGCTTGGTGTTGGATCTTTGATTCAGTGCCG	0	0
CACGTTTGCTGTGGGCGGATTCGACCCCGTCCG	26	34
GGCGCTAGGTGTGGGACTCATTTCACGAGTTCT	19	41

AATGCCAGACGTCGGCAGGCATGCCTGTCGGTG	0	0
AGCACTTGGTAGAAATCGCTCCGATGGCGACTT	25	26
TCAACTAGGTGTTGGGTGGGTTAAACCATTTAG	24	19
ATTACTCGACATTGGCGATAAACTGATCAGTGT	0	0
TCGACCAGGCGTCGGAGGTATCAACCCCTTCGG	16	29
AGAACTGAGCGGGGGGAGGCTTGCCTCTCCCGG	9	10
GATGCTAGCTGATGGGACTTCTACCGTCTCGTT	0	3
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CCGACCAGGGATCGGGGAACGTTATCGTCGACG	49	4
AACACTAGGTGTAGGTGATGTGAAAGTTATCTG	0	0
ATCACTCGATGTTGGCGATACACGGCCAGCGTC	17	27
AGAACTAGACGATGGTGTCCTTGAGGCATCAGT	26	4
CGCACTAGATCGGTGCAGGTCTGACCCTGTATC	27	24
TGTGCTGGGCGTCGGGGGGCTTGCCCCTCGGTG	17	27
TGCACTTGGCCTGGGAGGATTAGACCCCTTCCG	29	28
GGCGCTAGGTGTGGGGCTCTTTCCACGAGTTCC	13	25
AGTACTAGTGGGGAGGTCCGCGAGGGCTTTCTC	20	28
AATACTAGGTGTCGGGCGTGTCAAAACGGTCGG	14	37
AGTGCTAGATGTCGGATTTTCGGATTCGGTGTC	0	0
AGCGCTGGGTGTAGGGGGTATGAACCCCCCCTG	12	37
TCAACTGGTTGTTGGTCTTAACTGACTCAGTAA	0	0
CCAACCAAAGATAAGAGGTTGTAAATACAAGAA	22	20
AATGCTAGCCGTTGGTCAGCATGCTGATCGGTG	0	0
TATACTTGGTGTAGCCGGACTCAACCCTGGCTG	47	17
CATGCTAGATGTCGGTCTGTCAAAGGATCGGTG	0	0
TATACTTGATGTAGTTGGGCTCAACCCTGACTG	2	2
TTTACTTGCTGTTTGCCCCTTGAGGGTGAGTGG	25	69
CGCACTAGGTCGGGGAGGCTGACGCCCTCCTGG	0	0
AATACTAGGCGTAGGTGGAGTGAAATCCATCTG	21	27
CCGACTAGGGCTGAGTCTTTTTAGATTCGGACC	0	0
ATCACTCGTGATCGGCGATATACGGCCGGTCAC	15	43
TCAACTGGTTGTTGGGTATTTACTTACTCAGTA	0	0
GATGCTCGCCCTATGGAGGTCTTAAAGCCTTTG	14	48
TCAACTAGTTGTCGGGTCTTAATTGACTTGGTA	16	23
CGCATTTGAGGTGGGAGGATTCGACCCCTTCCG	13	47
AGTACTGAATTGAAGGGTCCTTCATAGCCCTTC	5	12
CGAACTGGATGTTGGGAGCAACTAGGCTCTCAG	25	17

GGCGCTAGGTGTGGGGCTCATTCCACGAGCTCT	0	0
TTTACTTGCTGTTTGTATTTCGGTATGAGTGGC	8	21
TCGACTAGCCGTTGGGATCCTTGAGATCTTAGT	4	77
CCGACCAGGGATATGAGTAGTATATTTCATTAG	0	3
TCAACTAGTTGTCGGATCTTAACTGATTTGGTA	4	8
ATTGCTAGTTGTCGGCACGCATGCGTGTCGGTG	24	36
CATACTTGGTGTAGTTGGACTCAACCCCGACTG	37	6
CCGACCAGGGATATGAGTAGTATATTTCAATTA	0	13
TCAACTGGTTGTTGGTTCTTAACTGACTCAGTA	0	0
TCAACTGGTTGTTGGGAATTAGTTTTCTCAGTA	0	33
GGTGCTGGGTGTCGCGGGTATTGACCCCCGCGG	5	25
GGCACTGGGCAGGGGGGATACTTATGGTCCTCT	28	16
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GATGCTAGCCGTCGGATAGCTTGCTATTCGGTG	26	24
GATGCTAGGTGTTGGCGGATTTAACCCTGCCAG	24	27
TAGATTAGGTGTCGGGGGAGTCGAACCCTTCGG	0	0
AGTACTAGGTGTTGGGGGTATCGACCCCCTCAG	8	8
GATGCTAGGTGTGGGTGGTATTGACCCCATCCG	11	30
GGCGCTAGGTGTGGGGAACCTTCCACGTTCTCC	15	23
CAGACTAGGCGTGGGGGGACTTGACCCCCTCCG	12	21
CCGACCAGGGATGGGCGGGCGTTGAATCCTGAG	10	38
CTAACTCGATGTTTGGATTTAGGTTTGAGCATC	6	42
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TTTACTTGCTGTTCCGGCTTATGTTGGAGTGGC	0	2
AGTGCTAGTTGTTGGGTTCTTAGAACTCAGTGA	0	16
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TCAACTAGCCGTTGGGAGCCTTGAGCTCTTAGT	12	10
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TCTACTAGCTGTTCGTGACCTTGTGTCGTGAGT	0	0
GATGCTAGGTGTTGTGGGTATTGACCCCTGCAG	12	42
AGCACTGGATTGGAGGGTCCTCCATAGCCTTCC	7	28
CTTACTAGCTGTTTGGTAGGAATATTGAGCGGC	6	73
CGAACTAGGTGTTGGGGGAGGAGACTTCCTTAG	0	7
AGTACTAGGTGTAGGGGGAGTGAAATCCTTCTG	18	25
GGCACTAGGTGTGGGTCTCAACCAACGAGATCC	0	5
GGGACTAGGTGCTTGGGGGAGCGACCCCTCGAG	33	9
AGAGCTAGCCGTTGGGAAGTTTACTTCTCAGTG	0	0

AGTGCTAGCCGCTGGGACTGTTACCGTCTCGGT	6	13
CACACTAGGTCTTAGCGGATTCGACCCCACTAG	21	25
AATGCCAGTCGTCGGGCAGTATACTGTTCGGTG	21	18
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GATGCTAGCTGTTGGGGGGTTACCTCTCAGTAG	0	0
AGTGCTAGACGTTGGCCCCTTCGGGGTCAGTGT	29	18
TCAACTGGTTGTTGGGAGGGTTCCTTCTCAGTA	13	32
TGTGCTAGTTCTTGGGCAGCTTAGCTGTTCGGG	0	0
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GGGACTAGGTGCTTGGGGGAACGACCCCCCGGG	0	0
CACACTAGATGACGGGGCCTCTCACGGCGCCGC	11	29
GATACTAGGTGTGGGAGGTATCGACTCCTTCCG	0	0
CACACTTGGTGCAGACGGGCTCAACCCTGTCTG	17	36
AATGCTAGCCGTTGGGAAGTTTACTTCTCCGTG	0	0
AGAACTAGGTAGTAGACTTGACTTGGGTTTACT	18	21
CTGACTTGGTGTCCCCGGTTTTAAGTCCAGGGG	21	23
CCGACTAGGGATTGGAAGGCTACGTACCTTTCA	0	0
TATGCTTGGTGTCGGGGTAGAAATATCTCGGTG	0	70
GATACTTGTTGTTGGTGGTATTGACCCCATCAG	6	28
AGTACTAGTGGGGAGGGAGTTCGCCTCCTTTCC	12	20
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TTAACTAGGTGTTGGGAGGGTTAAACCTTTTAG	10	2
TCAACTAGCTGTTGGTCATATGAATGTGATTAG	16	21
AATACTCGGCATCTGGCGGCCGATCTTCGGCGG	0	0
TCAACTGGTTGTTGGGTCTTAACCGACTCAGTA	0	0
CGAACTGGACGTTGGGCACACTTAGGTGCTCAG	7	8
GGGACTAGGTGCTTGGGGGAACGACCCCTCGAG	0	0
CCGACCAGGGATATGAGTAGTATATTTCAACAG	0	5
TCAACTAGTTGTCGGGTCTTATTGGACTTGGTA	14	11
CATACTTGGTGTGGGAGGATTCGACCCCTCCTG	0	0
AATGCTTGGTGTCTGGGGTTTTATATTCCCCGG	36	13
CACACTAGGCTTGAGGACCTCTTACGGATCTCG	12	23
CACGTTTGGTGTGGGAGGATTCGACCCCTTCCG	26	14
TATGCTTGGTGTTGGGATTTATCTCAGTGCCGA	0	6
TACGCTAGATCGGTGCGGTTTTGACGCCGTATC	15	18

ATAACTAGATGTTTGCGATACACTGTAAGCGTC	0	0
AGCACTAGACGTCGGGTGGGTGACCGCTCGGTG	7	27
AGCACTGGAGGGGAGGGGCTTCGGCCTTTTCCC	7	9
CCAACTAGCGATTAGCTGCTGTTAATTAAACGA	6	37
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AATACTCGGCATCTTTCGACCGAGCTTCGGCCG	13	20
CCGACTAGGGATGAGTGAGCGTTGCATTATCGA	15	30
CTGACTTGGTGTCCCGGGTTTGAAGTCCCGGGG	19	19
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GGCACTAGGTGCTTGGGGGAGCGACCCCCTGAG	22	16
TACGCTAGATCGGTGCAGGTCTGACCCTGTATC	14	12
GTGACTAGGTGTGGCTGGCTCAAGGGCTGGTCG	9	13
CCGGCGGGGCGCGGGGGGGCCGAGGGAGGCGCT	0	0
TATACTAGATGTAGTCGGACTCAACCCCGACTG	22	12
GAAGCTAGCCGTTGGCAGGTTTACCTGTCGGTG	0	0
ATCACTAGACGTTAGTCTCACTCTGTGAGATTA	29	5
GGCACTAGGCAAGGGAGGTACCTATGTCTTTCC	0	0
TCAACTAGTTGTTGGATCTATTTAAAGATTTGG	14	17
TCAACTGTTGTTGGGTCTTAACTGACTCAGTAA	0	0
TGTACTTGATGTAGCTAGGCTCAACCCTGGCTG	21	13
TATACTAGGTGTAGCCGGACTCAACCCTGGCTG	0	0
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GGTACTAGGCTTCGTGGGAATTGACCCCTGCGG	0	0
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GATACTAGACGTGGTGGGTCTTGACCCCTGCCG	0	0
CCAACCAAAGATAAGAGGTTGTAAAAACAAGAA	7	3
CCAACCGAGTATTTGGGAAGACACTATCCCAGC	0	0
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TCAACTGGTTGTTGAGAGGGTTCCTTCTCAGTA	18	8
AGTGCTAGTCGTTGGGGGTACCCATTCCCTCAG	0	0
CTGACTCGGATTCAGATGAATCAAAAAGTTCAT	0	0
CCGACTGTAGATTAGAAGACGTTATTCAAGGAA	12	12
AATACTCGATGTTGGCGATATACAGTCAGCGTC	6	31
GGTACTAGGTGTCTGGGGGAGCGACCCCCTGGG	24	12
TATACTTGATGTAGTTAGGCTCAACCCTGACTG	0	2
TCAACTGGTTGTTGGGAGTTTCTTCTCAGTAAC	0	37

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AATGCTAGGTGTTGGTGGGTCACCATCAGTGCC	0	0
AATACTCGTTGTTGGAGGTATTGACCCCTTCAG	0	0
CCGACCAAGTTTTCGAGGAATTCTATTGTTACC	0	0
TTTACTTGCTGTTCCGACTTAGGTTGGAGTGGC	23	16
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AGTGCTAGACGCTGTGGGTATTGACCCCTGCGG	0	0
CCAGCTGGGTGTTCAGTTGGGGAAACCCAACGG	0	2
CCGACTCGGATTCGGATGAATCAAAAAGTTCAT	0	0
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CCGACCAGGGATATGAGGTATTTAAAAGATTAT	0	0
TCAACTAGGTGTTGGAGGGTTAAACCTTTTAGT	8	2
CCGACTCGGATTCAGATGAATTAAAAAGTTCAT	0	0
GATGCTAGGTGTTGGAGGACTTAACCCCTCCTG	0	5
TACACTGGGTGTTCAGTCGGGGAAGCCTGACGG	0	0
TACACTAGATCGGTGCCGGTTTGACCCGGTACC	3	0
TCAACTAGCCGTTGGGTCCATTGAAGGGCTTAG	0	0
CGCACTTGCTGTAAGAGGATTCGAACCCCTTTTG	21	4
CCGACCAGGGATATGAGGTATTATATTATTTAT	0	0
CACACTAGGTCTTGACGGATTCGATCCCGCCAG	0	0
CCGACCAGGGATATGAGGTAAAAAGATTATTAT	0	0
TACGCTAGACTGGTGCGGTTTTCACGCCGTATC	8	18
AGTGCTAGTTGTTGGGAACTTAGTTCTCGGTGA	0	23
CCGACTAGGGATCGGACGATGTTATTTTTTGAC	0	6
CGAACTGGACGTTGGGAGCAACTTGGCTCTCAG	13	13
CCGACTAGGGATGGGTGAACGTTGCTTATCGAC	0	0
GGTGCTAGCCATATCGGGTGTTGACCCAAAGGT	0	0
AGTGCTGGGTGTTGTGGGTTACGACCTGCAGCG	0	0
TCAACTGGTTGTTGGGGATTAATTTTCTCAGTA	8	24
AACACTAGACGTTGGGCGGGTGACCGCCCGGTG	0	0
GATACTAGGTGTAGGAGGTCATTAACCCCTTCT	7	20
TCAACTGGTTGTTGGGTCTTAGCTGACTCAGTA	0	0
CCGACTCGGATTCAGATGAATCAAAAGGTTCAT	0	0
CCGACCAGGGATATGAGGATCTTTATTTATACT	0	0
GGCGCTAGGTGTGGGGCTCATTCCACGAGTTCC	6	16
AATGCTAGCTGATGGGGCTTCTACCGCTTCGTT	0	0
CCGACCAGGGATATGAGGTATTTAATAGATTAT	0	9
CATACTTGGTGTGGGTTCTTCACTGGATCCGTG	0	0

CTTACTCGTTGTTTGATCTAAGGATTGAGTGAC	4	8
TAAACTTGGCGTTGGTGGCTTAAACACCATCAG	0	0
AGTGCTAGTTGTCGGCAGGCATGCCTGTCGGTG	0	29
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GGCACTAGGTGTGGGGAACATTCCACGTTCTCC	10	17
TCGACTAGGTGTTCGGGGAGGAGACTCCTTGAG	4	10
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CGTATTTGAGGTGGGAGGATTCGACCCCTTCCG	9	13
CCGACCAGGGATATGAGGATTTTTATTTATACT	0	0
CCGACCAGGGATATGAGTAGTATATTTCACTAG	0	8
GAAGCTAGCCGTTGGTAAGTTTACTTATCGGTG	0	0
GATACTAGGTGTCCGGGCTTCTGGCCTGGGTGC	0	0
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CACACTAGATCGGTGCGGGTTTCACCCCGTATT	16	11
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GGCACTAGGCCCTTGGGGGAGCGACCCCCTGAG	0	0
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CAAATTAAAGATTAGTTTTTTTAAACAAGTCTT	6	49
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TCGACTTTGGATTAGGAAATATTACATGGATGA	22	6
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GGTACTAGGTAGTGGACTTACATGGGTTCACTG	8	15
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CGCATTTGCTGTAAGAGGAATCGACCCCTTTTG	14	14
GATGCTAGGCGTCGGGGGTATCGACCCCCCCGG	9	25
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CCGACTGTAGATTAGAAGACGTTAATCAAAGGA	5	8
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CACACTAGGTGACGCAATCTCTGACGATGGCGC	4	9
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GATACTAGCTGTCGGGAGTAATTTCAGTGGCTA	0	0
	260947	290181

Flocs Control 3	Flocs Treated 1	Flocs Treated 2	Flocs Treated 3
125	35	56	8
23745	83948	72725	71784
270	313	695	67
6514	27800	30207	36646
14431	11012	10907	11774
17235	9209	4232	9894
33561	7788	9966	2682
4603	3133	2569	2492
6657	8212	6742	5833
3	5	4	4
4792	3338	2585	3277
11670	6187	3755	5421
2078	1653	1620	2670
0	4	4	6
6028	5187	4066	4741
579	381	378	290
2	0	3	2
20	13	7	20
329	279	417	240
5561	4002	2424	3570
4052	2838	2304	2975
4013	3331	2036	3847
4512	2944	3273	1973
5599	1038	1410	977
3707	2793	3882	2172
0	7	4	2
20	50	68	29
1234	656	786	2182
4260	2944	1223	3373
1226	87	1417	54
986	561	515	590
4	3	2	2
449	194	270	256
2	0	0	2
49	29	24	16
2585	2225	1844	1849
10	23	10	23

2781	2391	1837	1451
89	43	43	49
2471	1268	1030	2635
2830	1837	1196	1349
2155	2067	2538	1581
2755	107	288	12
1179	955	749	1010
2554	1525	1421	1611
0	3191	4738	2298
1480	1404	3626	159
2727	1577	1350	802
506	270	277	350
0	0	0	0
1854	1354	1597	807
2148	1459	1294	1168
1285	978	945	780
7	5	3	5
1796	1144	939	1248
1910	81	924	23
320	183	151	236
86	204	135	155
1258	993	855	939
1643	1414	826	1170
102	85	20	76
433	410	482	551
0	0	0	0
203	192	3562	12
638	560	420	449
5	0	3	0
73	180	415	211
922	825	717	1060
992	786	651	990
752	1161	1146	1039
2	0	0	0
1191	960	988	492
2	436	405	3291
675	524	530	348
1109	788	685	671

1140	908	451	1116
424	363	274	300
858	583	788	551
1028	708	720	597
862	664	541	686
5	2	5	5
909	717	857	578
0	0	3	0
1149	772	548	689
3	0	0	0
715	591	298	1003
0	0	0	0
13	7	14	4
825	328	337	836
825	553	604	382
522	446	356	538
0	0	0	0
753	537	333	429
535	360	125	771
588	62	545	29
1025	47	537	18
0	0	0	0
781	411	439	555
703	558	238	337
575	479	511	350
751	831	665	596
645	370	477	510
0	0	0	0
2	5	2	2
714	472	519	394
604	491	535	281
13	10	5	4
0	0	0	0
2	0	2	0
19	19	13	14
694	298	430	403
0	0	0	0
448	512	423	357

0	0	0	0
671	417	232	344
570	369	323	410
0	0	0	0
516	410	312	326
4	12	6	9
0	0	0	0
104	58	36	30
428	233	231	213
531	332	350	201
0	0	0	0
0	0	2	0
78	60	45	55
0	0	0	0
310	336	347	117
420	392	266	295
0	0	0	0
0	0	0	0
221	472	449	325
374	293	226	381
503	21	51	2
522	83	101	80
414	279	222	287
488	322	154	251
280	181	122	193
0	0	0	0
350	300	309	224
355	331	332	169
27	19	19	52
248	136	71	116
372	334	273	221
429	315	112	361
351	244	215	228
404	286	254	248
3	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

35	20	18	15
53	24	26	15
275	295	426	99
329	295	227	193
371	229	219	245
0	0	0	0
73	52	32	76
0	0	0	0
356	216	240	140
186	296	113	108
285	227	230	121
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267504	236625	246628	248286

Granules Control 1	Granules Control 2	Granules Control 3	Granules Treated 1
28	25	21	22
64220	71374	68312	46456
78580	77929	72797	219109
330	258	258	719
3683	5601	5585	3615
0	0	0	2
11	5	9	7
8139	9772	10132	4379
3459	3269	2152	2724
11425	13966	5815	12115
5389	4770	5273	4347
54	24	6	13
6963	4075	5047	5471
13239	9690	4144	8993
2	0	3	4
7898	8177	5830	6638
5071	6813	11744	3733
5550	7603	9446	3498
3467	6400	10974	2273
2	0	0	0
718	379	274	321
2	4	2	0
0	0	0	0
235	36	16	34
5	2	9	11
3838	6076	4866	3527
6426	5354	3182	5046
2646	2609	2568	1680
0	0	0	0
0	0	2	2
4399	4101	1412	3322
7240	4700	540	5626
5413	2639	2491	3047
2669	5075	3365	2162
7579	3223	820	4924
538	117	41	224
4951	4568	1484	3677

0	0	0	0
4385	3430	2823	2367
0	0	6	0
274	337	370	186
155	163	190	137
0	0	0	0
837	1376	1669	791
12	3	0	6
0	0	0	33
0	0	0	0
56	66	25	21
2826	1527	1104	1610
2439	2618	1363	3525
70	55	19	37
0	2	0	0
781	726	224	424
2255	2549	1877	1841
243	238	166	180
0	0	0	0
1510	2145	1404	1391
1247	1923	2447	960
230	230	221	156
163	145	38	108
3032	1807	917	1699
1140	657	725	772
1422	2498	1790	878
4	3	4	45
761	795	839	618
417	1374	3096	323
430	435	670	1615
8	5	4	4
75	76	61	61
54	29	26	35
1232	2164	1308	1030
17	10	10	11
0	0	1	1826
633	814	238	504
81	54	27	57

0	0	0	0
1147	1083	330	898
113	100	199	93
65	65	74	40
9	15	10	4
1162	1092	1391	884
2	4	0	3
1248	1453	973	1140
0	0	0	0
907	1724	1211	671
182	168	150	112
958	1704	1059	752
1949	1217	559	995
0	0	0	0
128	121	110	109
369	299	142	353
793	1407	712	1102
178	110	109	172
202	212	297	102
2	3	0	0
0	0	0	0
1318	969	465	1245
0	0	3	0
473	236	269	129
53	74	134	41
11	0	0	94
42	25	32	21
1306	980	448	972
603	696	1264	413
0	0	0	0
158	116	147	49
786	758	710	579
602	1099	707	460
1720	882	212	758
1059	940	425	562
5	0	0	0
544	1057	695	370
4	0	0	0

579	1045	435	543
9	6	4	0
27	15	7	29
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Granules Treated 2	Granules Treated 3	tag	use	taxon_level
21	13	TCAACTGGTT	long	f
64244	71247	TCAACTAGGT	long	g
155188	221988	CCGACTCGGA	tag	g
751	575	GATACTTGTT	long	g
4086	5891	TCAACTAGTT	long	g
0	2	CCGACTTGGGATTGGAGGCGTGCACTTTCC		
7	7	TCAACTGGTT	long	f
5518	9131	CCGACCAGG	long	g
2339	2458	TCAACTAGGT	long	f
10014	6147	TGCACTTGGT	tag	g
4080	5309	TCAACTAGTT	long	g
7	7	CGAACTGGAT	long	g
3633	4536	TCGACTAGTC	long	g
6889	3917	ATGACTCGAT	long	g
4	0	CCAACTAGGGATATGTGGACGTTTGTTTGA		
5594	6261	TACACTAGAC	tag	g
5105	10480	GATACTAGCTGTTGGAGGAAACTTCAGTGG		
5729	9989	TATACTTGGT	tag	g
4205	9673	GATACTAGCT	long	g
0	0	ATTACTCGTT	long	f
219	371	ATGACTCGAT	long	f
9	0	CGCACTAGACCGGTGCGGTTTTGACGCCGT		
2	0	CCGACTAGGGATGAGTGAACGTTGCATTAT		
7	13	CGAACTGGAT	long	f
0	5	TCGACTAGGTGTTCGGGAAGGAGACTTCTT		
4639	4779	ATGGCTGGAT	long	g
4147	3232	ATGACTTGGT	long	o
2000	2658	TCAACTAGTTGTCGGGTCTGTTTAAGGATTT		
0	0	CCGACTAGCG	long	p
0	0	CCGACTAGGG	long	g
2561	1272	ATTACTCGAT	long	f
3518	556	ATTACTCGCTGCTAGATGGCAACGTTTAGTG		
2826	2398	AGCACTAGAC	long	g
3217	3545	CTAACGATGGACGCGGGGAATCAGAACAT		
2040	730	ATTACTCGAT	tag	f
66	52	ATTACTCGAC	long	f
2787	1416	ATCACTCGAT	long	f

0	0	TATGCTAGACCGGTGCGGTTTTGACGCCGT		
2246	2595	AATGCTAGAC	long	f
6	0	CCGACCGGGGATGGGGAGAGGTAATACCT		
210	376	CCGACCAAGGATAAGAGGTCGTAATTATCT		
114	201	TGAACTTGGC	tag	g
0	0	CTAACTCGTTTTTGGGGCGTAAGTTTCAGA		
1119	1437	AGAACTAGG	long	o
4	3	CTTACTCGACGTACGGCCCTGGCGGCTGTG		
4	4	ATTACTCGTT	long	g
0	0	CCGACTCGG	long	f
27	17	ATTACTCGAC	long	f
1522	1535	AGCACTAGAC	long	g
2250	1086	ATCACTAGAT	long	f
36	30	TACGCTAGATCGGTGCGGGTTTGACCCCGT		
0	2	AGAACTGGA	long	f
517	311	GATACTCGAC	long	f
2078	1679	ATTACTCGAT	tag	f
199	200	TCAACTAGTT	long	g
0	0	TCTACTAGTT	long	f
1565	1452	ATTACTCGCT	long	f
1604	2244	TAAACTTGGC	tag	f
193	177	CATACTTGGT	long	f
119	42	TTCACTAGTGTTGCGGGTATTTATTTATCTG		
1486	1188	TCGACTAAGGATGATAAAATATTAAATGAA		
600	644	CTGACTTGGTGCCCCCGGTTTAAAGTCCGG		
1713	1690	CTAACGATGGACGCGGGGAATCAGTCTCTT		
50	122	CCGACTAGGGATCGGTGGACGTTGCATAG		
646	825	CACACTAGGT	long	g
1048	3145	ATTACTCGGTGCTAGCGATATACGGTTAGT		
1829	3115	CCGACTCAGGATTGGCAGACGTCTTTACCG		
3	8	CTGACTTGGTGTTCCAGGTTTTAAATCTTGG		
64	46	CCAACTAGG	long	c
20	15	TCAACTGGTT	tag	g
1361	1433	CTAACGATGGACGCGGGGAATCAGATCACT		
12	15	AACACTAGATGTTACGGGTATTGACCCCTG		
718	50	GATACTAGCT	long	g
422	231	AGAGCTAGTT	long	g
29	14	TACGCTGAGTTAGAGCGGCTCTGACGCCGT		

0	0	ATTACTCGCT	long	f
668	329	TACGCTAGACTGGTGCGGTTTTGAAGCCGT		
96	247	GATACTAGG	long	o
55	75	TCAACTAGTT	long	g
7	9	CAAACTTGGT	long	o
955	1449	AGCACTAGA	tag	g
0	0	CCAACTAGTT	long	c
1141	957	TTTACTTGCTGTTTGGCTTTCGGGCTGAGTG		
0	0	CCGACTTGGTGTTCCCGGTTTTAAGTCCGG		
1050	1135	CTAACGATGGACGCGGGGAATCAGTCTCTC		
124	152	CCGACCAGC	long	p
1024	1030	CTAACGATGGACGCGGGGAATCAGAAAGA		
1025	688	AGTGCTAGA	tag	g
0	0	TCAACTAGTTGTTGGATCCGTTTAAGGATTT		
109	99	CGCACTAGGTGACGGGACCTCTCACGGTCT		
284	159	GATACTCGAC	tag	f
1179	794	ATCACTAGATTTTGGCCGTATAGTCAGAGT		
106	127	TAAACTCGAC	long	f
140	299	CCGACCAGGGATTGGGAGACGTTAAATTTT		
0	2	CCGACTAGG	tag	o
0	0	TCGACTAGCC	long	g
798	456	CATACTCGCTGTTGGGTTATAGATTCAGCG		
0	0	TCAACTAGTTGTTGGATCCATTTAAGGATTT		
109	109	AATGCCAGC	long	g
63	134	CGAACTAGG	long	g
5	0	CGAACTGGA	long	g
22	29	TCAACTGGTT	long	g
769	461	CCGACTGGGTGTGGGAGGTGAACACCTTCT		
607	1319	CTCACTTGCTGTTCCCGATTACTCGGGAGTG		
0	0	CCGACCAGGGATCGGAGAGTGTTACATGG		
72	77	AATGCCAGA	long	f
651	778	AGCACTAGA	tag	g
671	759	CTAACGATGGACGCGGGGAATCAGAAAGA		
489	194	ATTGCTAGTT	long	g
573	532	ATCACTCGAG	long	f
0	4	GGTGCTGGA	long	g
697	754	CTAACGATGGACGCGGGGAATCAGATCAC		
4	3	GATACTCGAC	long	f

873	465	ATTACTAGATTTTGGCCGCAAGGTCAGAGT		
0	2	AATGCCAGTC	tag	f
8	8	GATACTCGAC	long	f
292	620	CGAACTGGA	long	g
0	0	AACACTTGGT	tag	g
481	602	CGCATTTGCT	tag	c
405	1090	TCGACCAGACGTCGGGGGTGTCAACCCCTC		
503	474	AGAGCTAGGTGTCGTGGGTGTTGACCCCCG		
93	134	TCGACTGGGTGTCGGCGATTAAAAACCGTC		
0	0	AGCACTAGGTGTTGGTCCCTTTGGGGCCAG		
471	543	GATGCTGGA	tag	f
452	682	CCGACCAGGGATATGAGGTAATTAATAGAT		
245	523	AATGCCAGA	long	f
479	510	CTAACGATGGACGCGGGGAATCAGAGAGA		
0	23	GCGACCGAGATTCAGGAAATGCCCAAGAT		
8	5	GGTACTAGG	long	f
436	614	AGTGCTAGA	tag	f
377	285	CCAGTTAGGGATTGGCAGGGTCTCGTTACG		
27	35	TGAACTTGGC	tag	f
0	2	AGGACTAGG	tag	p
0	0	CTAACTCGTTTTTGGGACGTAAGTTTCAGA		
95	62	AGTGCTAGTT	tag	f
0	0	GGTGCTAGG	long	o
81	80	TCAACTAGTTGTTGGATCTTAATAGATTTGG		
119	131	CATACTTGGT	long	f
275	323	ATAACTAGCT	long	f
0	0	TACACTAGACCGGTGCGGTTTTGACGCCGT		
0	0	AGAACTAGG	long	g
343	175	GATACTCGAC	long	g
239	331	CCAACTGTCT	long	p
0	0	GGTGCTTGG	tag	o
22	21	CCAACCAAAGATAAGAGGTTGTAAATACAA		
0	0	AATACTCGGT	tag	f
0	0	TCAACTAGTT	long	g
334	348	AATGCCAGCCGTCGGAAAGCTTGCTTTTCG		
399	277	GATGCTAGGCGTTGGCAGACTCAATCCTGT		
335	486	AGTACTAGGTAGAGGAGGCCTCGTCGCCTT		
433	566	AGTGCTAGATATTTAGATATTTATTCTGAGT		

332	335	TGTGCTAGAC	long	f
229	139	ATAACTAGCT	long	o
0	0	CTCATTAGGT	tag	o
8	0	ATCACTCGATGTGTGCGATACACAGCACGC		
3	0	AGTACTAGGT	long	f
304	486	CTCACTCGAC	long	f
316	334	GATACTTGGT	tag	g
262	761	CATACTAGGCGTAGCGGAATTTCAATTCTG		
0	0	ATTACTCGTT	long	f
92	50	GGCACTAGGT	long	f
0	0	ATCACTAGAT	tag	f
0	0	TCAACTGGTT	long	f
285	364	AGTGCTAGATGTTGGGGTTTTACCTCAGTG		
220	335	GGCGCTAGG	tag	o
172	190	GGCACTAGCT	tag	c
130	114	ATAACTAGCT	long	f
233	292	CCGACCAGGGATTGGGGGCCGTTAAAGTTC		
0	0	AACACTTGGTGTTCCGGGAGTTGACCCCCG		
4	3	GGTACTAGG	long	f
382	397	AGTGCTAGATGTTGGTTGACTTATCAATCG		
219	296	TTTACTTGCT	long	f
290	331	TATGCTTGAT	long	f
67	92	GATGCTAGCC	tag	o
0	0	CATACTTGGT	long	o
0	0	CCGACCAAGGATCATGAGATGTTAAATATA		
197	301	CGCACTAGACTGGTGCGGTTTTGACGCCGT		
0	0	ATCGCTGGGT	long	o
5	2	TCGACTAGGTGTCGGCGCCTAAAAACCGTC		
61	55	CATACTTGGT	long	o
164	198	TCAACTAGTT	long	g
46	46	CGGACTTGGT	long	o
265	224	CGCACTAGGTCGGGGAGGCTTGACGCCCTC		
28	20	CACGTTTGGT	tag	g
71	90	GATACTCGAC	tag	f
217	375	CGCACTGGATCGGAGCAACTCTCACGTTGT		
0	0	AGTGCTGGAT	long	g
0	0	TGTGCTGGAT	long	g
288	405	TATACTTGGTGTAATTGGAATCAACCCTAAT		

0	0	TTTACTTGCTGTTTCTGGGCAACTGGGAGT		
103	572	CGAACTGGAT	long	f
152	186	CCGACCAGCCATTCGGAGACGTTACATTTTA		
0	0	CCGACTTGGTGTCCCCGGTTTTAAGTCCGG		
8	23	TACATTGTAT	long	c
182	213	AATGCCAGT	long	f
0	0	AGTACTAGGT	long	f
14	7	ATTGCTAGTT	long	g
6	2	AGTGCTAGGT	long	g
463	301	TGCACTAGGTGTTGGGGACTTCGTCTTCAG		
274	200	TCAACTAGTTGTCGGATCTGTTTAAGGATTT		
224	241	AATACTAGGT	long	p
288	245	ATCACTCGTC	long	f
142	159	AATGCCAGC	long	g
186	357	ACCCCCATGAATTGGGGAGTATTTTGGTTCT		
179	188	TGTGCTGGAT	tag	g
66	69	TATACTAGTT	long	g
4	0	TGCGCTGGAT	long	f
34	23	AATACTAGGCGTAGGGAGAGTCAAATCTTT		
0	3	GATACTCGA	long	f
176	175	AATGCTAGA	long	g
0	0	AATACTCGGTGTTGGTCCGCAAGGATCAGC		
165	47	GCCCCCATGA	tag	g
119	234	TTCACTAGTTTTGCGGGATGTTTTTATTCTG		
0	0	CACACTTGGT	long	o
220	49	ATAACTAGCT	long	g
162	159	AGTGCTAGTTGTTAGCCCGGCTTGAGCCGG		
233	250	TACATTGTATGGTGGGGATCTTGCATTCTCA		
224	231	CCAACTAGATGTTCGGTTGGGGAAACTCAA		
0	0	CTGACTAGGTGTCGGCGATTAAAAACCGCC		
220	67	ACACCCATGAATTGGGGAGTACTTTGGTCG		
143	148	AACACTCGACGTTGGCCCTGTATGGGGTCA		
172	261	AGCACTAGA	long	g
0	0	GATACTAGCT	long	g
4	2	GGTGCTAGA	long	g
16	18	AATGCCAGC	long	g
0	0	ATCACTCGAT	tag	f
0	0	GGCACTAGGT	long	f

0	0	AGAACTAGGTATCGTGGGTGTTGACCCCCG		
4	5	TCAACTAGTTGTCGGACCTTAATAGGTTTG		
0	0	GGTGCTGGATGTCGGGGGGCTTGCCCCTC		
181	245	TCAACTGGCT	long	f
0	0	TCAACTGGTT	long	f
188	143	CTTACTCGTTGTTTGGCTTTCGGGCTGAGTG		
5	2	ATTACTCGAT	tag	p
237	87	TCTACTAGTT	long	f
67	97	CACACTAGGTTTTGGAGGATTCGACCCCTT		
120	166	TCGACTAGTT	long	f
104	119	AGAGCTAGC	long	g
0	0	CACGTTTGCT	long	c
0	0	CTAACTCGTT	long	g
82	77	CACACTAGGT	tag	g
0	0	AATATTAATTGTCGAATTTTCGGTAATTTAG		
0	0	TGCACTAGACTGGTGCGGTTTTGACGCCGT		
198	222	CTAACGATGGACGCGGGGAATCAGAACAC		
0	0	CAAACTTGGT	long	f
0	0	AATACTTGGT	long	o
304	128	TCTACTAGTT	long	g
7	12	CCAACCAAAGATAAGAGGTTGTAAATATTA		
130	302	GATACTAGCT	long	g
0	0	TTTACTTGCTGTTTGGCTTTCGGGCCGAGTG		
68	86	GATGCTAGC	long	f
0	0	TCGACTAGTT	long	f
0	0	CCGACTAGGGATCGGTGGATGTTTTTATTG		
7	5	TCAACTAGTTGTCGGGCCTTATTGGGCTTG		
0	5	GGCACTAGCTTGGGGTCTCCCTGTGGGATC		
0	0	TAAACTCGAC	long	f
0	3	AACACTTGGT	tag	g
60	79	GAAGCTAGC	long	f
41	36	ATTACTCGTT	long	g
150	58	CCGACCAGTGATTGGGCGACGTTGCATGG		
144	87	AGTGCTAGTT	tag	f
0	0	TCAACTAGTT	tag	g
51	45	GGCACTGGG	tag	f
126	126	CGTGCTGGACGTTGGCCAGCCTAGCTGGTC		
0	0	CACGTTTGCT	long	c

0	0	TGTGCTGAAT	long	g
275	189	TCAACTGGCTGTTGGGAGAGCAATCTCTTA		
10	5	TACGTTGAGTTAGAGCGGCTCTGACGCCGT		
0	0	TCGACTGGTT	long	f
42	38	ATTACTCGCTGCTGGGGGCAACCTTCAGT		
3	5	TCAACTGGTTGTTGAGGGGGTTCCTCCTCA		
60	107	CCGACTAGG	long	o
144	123	TGCACTAGATCGGTGCCGGTTTGACCCGGT		
122	157	AATGTAAAAAAAAAAATAATTTTTATTTTAT		
11	10	CACGCTTGATTACGACGGCTCTGACGCCGC		
0	0	TCAACTAGCTGTCTGTAGATTAAGGTTTATA		
0	0	CATACTAGATCCGGGAGACACTCATCGTAA		
0	0	TGCACTTGGCCTGGGAGGATTCGACCCCTT		
0	0	TCAACTAGTTGTCGGACCTTATTGGGTTTG		
45	36	CGCATTTGCT	tag	c
121	134	CACATTGGACCGGTGCTGCTCTGACGTAGT		
95	211	AGAACTAGA	long	g
3	2	CGAACTAGG	tag	g
95	254	ATCACTCGAG	tag	f
114	108	AGCACTAGACGTCGGGCGGGTGACCGCCC		
0	0	GGCACTGGG	tag	c
112	87	GGTGCTAGC	long	f
0	0	TCGACTAGTT	long	g
133	137	TGTGCTAGTT	long	o
31	84	TTTACTTGCTGTTCGGGCTTAGGCTTGAGTG		
11	4	TCAACTGGTT	long	f
4	12	ATTACTCGCT	long	f
55	75	GATACTCGA	tag	f
0	2	GGAACTAGA	long	f
0	0	GATGCTAGCCGTTGGGGGATACCCTTCAG		
28	39	ATTACTCGTT	tag	f
0	4	TTTACTTGCT	long	f
49	43	CCGGTTAGG	long	g
3	7	AGAGCTAGC	long	g
78	174	CCGACTCAGGATGGGCAGTCCGTTGTTTCC		
0	0	AGAACTAGA	tag	o
18	28	TACACTAGACCGGTGCGGCTCTGACGCCGT		
78	74	GATACTAGA	long	c

87	212	CCGACCAGGGATATGAGGTATATAAAATAT		
113	184	CCGACCAGGGATATGAGGTAAATAAAATAT		
109	107	AACACTTGGTGTGGGGGGAGTTGACCCCTT		
104	89	TACACTGGACCGGTGCGATTTTGACGTTGT		
0	0	AGCACTGGA	long	g
93	131	CAGACTCGG	tag	k
129	79	AATGCCAGC	long	o
115	114	TGTGCTAGAC	tag	f
151	148	GATGCTAGCCGTTGGGGGGTTACCCTCCAG		
0	0	GATACTAGCT	long	g
0	0	ATGACTGGGTGTCGGCGATTAAAAACCGTC		
30	31	AGAGCTAGC	long	g
25	34	TATACTCGACATCAGCGATACACTGTTGGT		
60	30	AATACTAGGTGTAGGTCGTGTCAAAACGGT		
92	162	CCGACCAGGGATATGAGGTAGAAATTGATT		
87	148	GGTGCTAGG	long	g
0	0	CGAACTGGA	long	g
0	0	CCGACTAGGGATTGGGAGGTTACTTACCTC		
8	11	GATGCTAGC	long	g
71	96	AATGCCAGC	long	f
0	0	TCAACTAGTT	tag	f
89	104	TATGCTTGGT	long	k
43	41	TCAACTAGGTGTTGGGAGGGTTAAACCCTT		
63	64	TATGCTTGGT	tag	f
0	0	ATAACTCGCTGTTGGTGTTTTGCATCAGTG		
0	0	GGTGCTAGG	long	o
83	86	AATACTAGGT	long	f
10	16	GAAGCTAGC	long	g
90	129	CTAACTCGATGTTTGGGCGTAAGTTTGAGC		
23	33	GATACTAAGT	tag	g
70	52	TCAACTAGTTGTTGGGCCTTAATAGGCTTG		
3	0	CGGACTTGG	long	o
43	52	ATTACTCGAT	long	f
0	0	GGTGCTAGATGTCGGGGAGCTTGCTCTTCG		
6	0	CTAACTCGTT	long	g
108	140	AATACTAGAC	long	f
15	15	GGAACTAGA	long	g
0	0	GGCACTTGAT	long	c

63	95	TTTACTTGCT	long	f
0	0	TCAACTAGCT	tag	f
0	2	GGTGCTAGG	long	f
0	0	ATGACTAGTT	long	f
67	49	TGCGCTAGACGTTGCCGGACCTAGTTCGGC		
89	60	AATACTAGGT	tag	f
101	116	CCAGCTGGATGTTCGTACCTCGAAAGGGGT		
72	78	AGCACTGGGTAGAGGTGGTAGCTGATGCC		
74	115	GATACTAGTT	tag	g
0	0	AATGCTAGTTGTCAGTAAGTATACTTATTGG		
70	80	CCGACCAGG	long	g
27	19	CAGACTAGG	tag	o
0	0	GGCGCTAGG	long	o
95	98	TCAACTAGTT	long	f
30	0	AACACTCGCT	long	g
0	0	GATACTAGCT	long	g
92	89	GGCACTGGACGCCGGAGGGGTGACCTTTCC		
0	0	ATTACTCGAT	long	f
64	133	CTTACTTGCTGTTCCCGATTTATCGGGAGTG		
0	0	TCAACTGGTT	long	f
0	0	CCGACTATGAATAGGATATCGTTTTAAGAA		
0	0	CCGACCAAGGATTCGGAGAAGTTACGTGG		
0	2	CACACTTGGTCGGAGAGGTTAGACGCCTTT		
29	27	ATTACTCGCT	long	f
83	61	TGTGCTAGTTGTTGGGCAGCTTAGCTGTTC		
85	92	AGAGCTAGTT	long	g
77	77	TGCACTAGGGAGAGGATGGGTCCTAACTC		
0	0	AGCGCTAGACGTTGGACGGAATGTTCAGTG		
54	134	TATGCTTGGT	long	k
0	0	GGTGCTAGA	long	g
50	61	GATACTAGCTGTTGGATTTATTTTCAGTGGT		
0	0	TTTACTCGACGTCCGGCCCCTGCGGCCGTG		
90	106	ACACCCATGAATTGGGGAGTACCTCCCGAC		
96	146	CCGACTCGGATTCAGATGAATCAAAAAAGT		
0	0	GGTGCTAGATGTTGGGAAGCTTGCTTCTCG		
2	5	TTTACTTGCTGTTCCTGCACTACGCGGGAGT		
45	83	TCAACTGGTT	long	f
90	44	AATGCTAGGTGTTGGGGATTTACTCCTCAG		

0	0	CACACTTGGTGTGGGCCATTCATTTGGTCT		
6	5	ATTGCTAGTT	long	g
0	0	AGCGCTAGACGTGGGGCAGGTGACTGCTC		
0	0	ATCACTAGATTTTGGTCGCGAGATCAGAGT		
0	0	ATTACTCGTT	long	f
73	82	CACGCTTGGT	long	f
42	38	AGCACTGGATCGGAGAGCCCTCCATAGCTT		
0	0	CATATTTGGT	long	o
0	0	CTAGCTGGGT	long	f
59	84	ATTACTCGACATACGTGATACACTATGTGT		
74	70	AGCACTGGG	long	g
0	0	ATTACTCGTT	tag	c
47	123	TAAACTTGGTGTCGGTGGCTTAAACTCCTTC		
0	0	CTGACTTGGT	tag	o
6	6	TTTACTTGCTGTTTGGGCTATATGCCTGAGT		
21	26	TGTGCTAGAC	long	f
16	8	AACACTAGGTGTGGGTGGGTTCAAAACCAT		
4	2	TCAACTAGGC	long	c
17	11	AATACTCGGC	long	g
9	18	TCAACTGGTT	long	f
0	0	TCAACTGGGT	tag	p
58	120	CCGACTCGGATTCAGATGAATCAAAAGTTC		
0	0	GAAGCTAGC	long	f
62	78	TTCACTAGGCGTTGGGGTCGCAAGACCTCA		
2	0	TCAACTAGCCGTTGGGAGCTTTAAAGTTCTT		
0	0	AGTGCTAGCTGTTGGGTCCTTGAGGCTCGA		
40	96	TATACTAGATGTTGGGGGTTTCAACGCCCTC		
0	0	CCGACCAGGGATCGGAGACAGTTACATGG		
0	0	AGTGCTAGG	tag	f
4	10	TGCGCTGGAT	long	g
43	54	TGTGCTAGAC	tag	g
0	0	CTTACTCGACGTCCGCCCCTTGCGGTCGTGC		
0	0	TTAACTGGTTGTTGGGTCTTAACTGACTCAG		
0	0	GGCGCTAGG	long	g
0	0	ATTACTCGATGTGTGCGATATACAGCACGC		
0	0	ACAACTAGATGTTGGGAGGGTCTGCCTTCC		
0	0	GATACTAGG	long	p
0	0	AGCACTAGACGTCGGGCGGGTGACTGCTC		

51	60	TGTGCTAGCT	long	o
40	67	TCAACTGGTT	long	f
0	0	TCGACCAGACGTCGGGGGAGTCAACCCCTC		
0	0	AATGCTTGGTGTCTGGAGTGTTAATTCTCTG		
30	25	TCAACTAGGT	tag	g
0	0	GATGCTAGAT	long	o
39	45	TCAACTAGCC	long	p
5	8	AGAGCTAGTT	long	g
41	55	CACACTAGATCGGAGTCGCTCTGACGCGCC		
38	33	TCAACTAGTTGTCGGGTCTGTTCAAGGATTT		
55	57	ATCACTCGTG	long	f
0	0	CGAACTGGAT	long	f
10	15	AGCACTAGTC	long	g
49	66	CCGACCAGGGATTCGAAGATATCCTTTATTA		
21	29	GACACTAGGTGTAGGTAGAGTTAAATCTAT		
4	0	CGCACTGGACCGGTGCGGTTTTGACGCCGT		
0	0	AATACTTGGT	tag	o
2	0	GACCCTAAAT	tag	f
0	0	GATACTAGCT	long	g
0	0	AGCACTGGGGGAGGGAGGTTTCGGCCTTCT		
0	0	GGTACTAGG	tag	f
39	44	ACCCCCATGA	long	g
21	73	TCGACCAGGCGTCGGGGGTATCAACCCCCT		
5	12	AGTACTAGGT	tag	k
41	56	ATCACTCGTTGCTGGGGGGTAACCTTCAGT		
0	0	GATACTAGG	long	p
0	0	CTCACTAGGT	long	o
0	0	GGTGCTAGGT	tag	g
0	0	CCGACCAGAGATTGTAAGACGTTGAATATA		
57	62	CCGACCAGGGATATGAGGTAATATTTGTTTT		
0	0	TCAACTAGTT	long	f
51	51	AGTGCTAGTT	tag	f
2	0	GATACTTGGT	long	f
0	0	AGGACTAGGTATCGGCAATTTATTGTCGGT		
0	0	TCGACCAGACGTCGGAGGTATCTATCCCTT		
0	0	GGTGCTAGCCATATCGGGTGTTGACCCTTA		
0	0	CACACTAGATCGGTGCGGTTTTGACGCCGT		
0	0	GGTGCTAGGT	long	g

68	86	AGTGCTAGTTGTCGGGGTCTTTGACTTCGG		
0	0	GATACTCGAC	long	f
40	69	CCGACCAGGGATATGAGGTATTTAGATTAT		
61	53	CCGACCAGGGATATGAGGTAGAAATTATTA		
0	0	CACGTTTGCT	tag	c
0	0	AGAACTAGA	long	o
42	11	AGTGCTAGATGTTGTGGGTATTGACCCCCG		
0	3	GGTGCTAGA	long	g
57	51	ACACCCATGAATTGGGGAGTTTGTTGCGGG		
0	0	TTTACTTGCTGTTCCTGCATTAAGTGGGAGT		
43	48	CCGACCAGGGATATGAGGTAAATAGTATAT		
36	37	CGAACTGGA	long	g
5	0	CGAACTAGCT	long	g
24	20	TCAACTAGTT	long	g
27	45	AGCACTAGACCGGAGAACCCTCCACAGTTT		
54	45	TCAACTGGTT	long	g
0	0	CCGACTAGG	long	o
0	0	TCAACTGGTT	long	f
52	69	GATACTAATT	long	p
0	0	ATTACTCGAT	long	f
37	67	AGTGCTAGACGTTGGAGGGTATCCTTCAGT		
0	0	TCTACTAGTT	long	g
13	21	AGTGCTAGA	long	g
0	0	AATACTAGGT	tag	f
13	19	TGCGCTAGG	tag	p
5	12	ATCACTGGGT	long	o
34	50	TATACTAGTTGTTGGCGGTTTCAACGCCGT		
0	0	CACACTTGGTGTGGGTGATTCATTTCATCCG		
0	0	TCAACTGGTTGTTGGGTTTTAACTGACTCAG		
0	0	TCAATTGGTTGTTGGGTCTTAACTGACTCAG		
0	0	TCAACTGGTTGTTGGGTCTTAACTGACTTAG		
76	38	GATACTAGATGTCGGGGGTTCTTACCCTTC		
2	0	CCGACTAGGGATCGGTCCACGTTATTATTT		
37	41	TATACTAGGT	long	p
15	14	CCAACCAAAGATAAGAGGTTGTAAAAATTA		
35	33	GGTGCTAGG	tag	f
0	0	CCGACTAGG	long	f
30	25	GGCACTAGGTAGGGGGCTCGCCGATGGGC		

0	0	AATGTTAGCC	long	g
0	0	GGCACTGGCTAGAGGTGACCCTGCGTCGTC		
0	0	AGTGCTAGG	long	g
38	33	CTTACTCGTT	long	f
41	50	AATGCTAGACGTGGTGGGTCTTGACCCCCG		
0	0	TCAACTGGTTGTTGAGTGGGTTTCTACTCAG		
42	28	ATCACTGGGT	long	o
0	0	GATGCTAGCC	long	g
2	0	TCAACTAGTT	tag	g
34	60	CCGACCAGGGATATGAGGTAAAAAGTATTA		
40	38	TGCACTAGGT	tag	f
0	0	TCAACTAGCCGTTGGGTTCGTAAATGAGCTT		
0	0	GGTGCTCGG	long	f
36	51	TCTACTAGTT	long	f
0	0	GATGCTAGCTGTTCGGGGGTTCCCCCTGAG		
0	0	ATCACTCGATGTTGGCATTTATGTCAGCGTC		
0	3	CCGACCAGG	long	g
46	25	TACACTGGGTGTTCAGTCGGGGAAGCTCGA		
5	2	GACACTAGG	long	c
32	26	TCAACTGGTT	long	f
0	0	TCAACTGGTT	long	g
32	77	GGTACTTGG	long	g
0	0	AGCACTGGAGGGGGGCGGGTTCGCCCTTC		
0	3	AACACTAGGTGTGAGCGGTGTCAAAGCCGT		
44	53	CCGACCAGGGATATGAGGTAAATAATTAGA		
44	45	TCAACTGGCT	long	f
18	22	CCAACCAAAGATAAGAGGTTGTAAATACAA		
4	0	GGTGCTAGA	tag	g
24	29	AGTGCTAGA	long	f
0	0	CTGACTTGGTGTCCCGGGTCTTAAGTCCCG		
16	14	GATACTTGGTGTGTGGGGTATTAAGTCCCT		
9	10	CGCATTAGACCGGTGCAGGTCTGACCCTGT		
7	15	TGCGCTAGACGTTGACGGACCTAGTTCGCC		
35	49	CCGACCAGGGATATGAGGTATATAAATTAT		
33	35	CGAACTGGA	long	g
17	22	TATGCTTGGTGTTGGATCTTTGATTCAGTGC		
0	0	CACGTTTGCT	tag	c
0	0	GGCGCTAGG	long	g

20	25	AATGCCAGA	long	f
4	7	AGCACTTGGT	tag	f
7	16	TCAACTAGGT	long	g
14	29	ATTACTCGACATTGGCGATAAACTGATCAGT		
0	0	TCGACCAGGCGTCGGAGGTATCAACCCCTT		
15	30	AGAACTGAG	long	g
0	0	GATGCTAGCTGATGGGACTTCTACCGTCTC		
0	0	AGTGCTAGAT	tag	g
0	0	CGGACTTGGT	long	f
0	0	CCGACCAGGGATCGGGAACGTTATCGTCG		
37	37	AACACTAGGT	long	f
6	5	ATCACTCGAT	tag	f
8	28	AGAACTAGACGATGGTGTCCTTGAGGCATC		
0	0	CGCACTAGATCGGTGCAGGTCTGACCCTGT		
4	7	TGTGCTGGG	tag	g
0	0	TGCACTTGGCCTGGGAGGATTAGACCCCTT		
0	0	GGCGCTAGG	long	g
3	0	AGTACTAGTG	tag	g
4	0	AATACTAGGTGTCGGGCGTGTCAAAACGGT		
43	18	AGTGCTAGAT	long	g
0	0	AGCGCTGGG	tag	o
0	0	TCAACTGGTTGTTGGTCTTAACTGACTCAGT		
0	0	CCAACCAAAGATAAGAGGTTGTAAATACAA		
35	24	AATGCTAGCCGTTGGTCAGCATGCTGATCG		
0	0	TATACTTGGTGTAGCCGGACTCAACCCTGG		
31	35	CATGCTAGATGTCGGTCTGTCAAAGGATCG		
32	48	TATACTTGATGTAGTTGGGCTCAACCCTGA		
0	0	TTTACTTGCTGTTTGCCCCTTGAGGGTGAGT		
22	26	CGCACTAGGTCGGGGAGGCTGACGCCCTC		
6	0	AATACTAGGCGTAGGTGGAGTGAAATCCAT		
13	139	CCGACTAGGGCTGAGTCTTTTTAGATTCGG		
7	0	ATCACTCGTG	long	f
36	24	TCAACTGGTT	long	g
0	0	GATGCTCGCCCTATGGAGGTCTTAAAGCCT		
0	0	TCAACTAGTT	long	f
0	0	CGCATTTGAGGTGGGAGGATTCGACCCCTT		
13	13	AGTACTGAAT	tag	f
0	0	CGAACTGGAT	long	f

13	33	GGCGCTAGG	long	o
8	7	TTTACTTGCTGTTTGTATTTCGGTATGAGTG		
0	0	TCGACTAGCC	long	o
19	23	CCGACCAGGGATATGAGTAGTATATTTCAT		
28	9	TCAACTAGTTGTCGGATCTTAACTGATTTGG		
0	0	ATTGCTAGTT	long	g
8	0	CATACTTGGT	long	g
25	14	CCGACCAGGGATATGAGTAGTATATTTCAA		
0	0	TCAACTGGTTGTTGGTTCTTAACTGACTCAG		
20	4	TCAACTGGTT	long	g
9	3	GGTGCTGGG	tag	g
0	0	GGCACTGGG	long	c
0	0	AATACTAGATTTGGTGGGTCTTGACCCCCG		
3	2	GATGCTAGC	long	g
0	0	GATGCTAGG	tag	p
22	40	TAGATTAGGTGTCGGGGGAGTCGAACCCTT		
19	15	AGTACTAGG	long	c
0	0	GATGCTAGG	long	p
0	0	GGCGCTAGG	long	c
7	3	CAGACTAGG	tag	o
0	0	CCGACCAGGGATGGCGGGCGTTGAATCC		
10	14	CTAACTCGATGTTTGGATTTAGGTTTGAGC		
0	0	AGCACTAGTCCGTGGGAACCCTCACATTTT		
26	18	TTTACTTGCTGTTCCGGCTTATGTTGGAGTG		
13	23	AGTGCTAGTT	tag	f
20	26	CCGACCAGGGATATGAGGTAATTGTTATTA		
23	22	CACACTAGGTGACGCGAACTCTGACGTTTG		
6	4	TCAACTAGCC	long	g
27	21	TTGGCCTAGGATCGGAGGATGTTAATAGAC		
64	14	TCTACTAGCT	long	g
0	0	GATGCTAGG	long	g
5	0	AGCACTGGA	long	f
0	0	CTTACTAGCTGTTTGGTAGGAATATTGAGC		
21	26	CGAACTAGG	long	g
0	0	AGTACTAGGTGTAGGGGGAGTGAAATCCTT		
10	23	GGCACTAGG	long	g
3	3	GGGACTAGG	long	g
13	19	AGAGCTAGC	long	f

0	5	AGTGCTAGCCGCTGGGACTGTTACCGTCTC		
0	0	CACACTAGGT	long	g
0	0	AATGCCAGTC	long	f
14	7	ACACCCATGA	tag	g
21	42	GATGCTAGCTGTTGGGGGGTTACCTCTCAG		
0	0	AGTGCTAGACGTTGGCCCCTTCGGGGTCAG		
0	0	TCAACTGGTT	long	g
16	24	TGTGCTAGTT	long	o
17	36	AGTGCTAGACGTTGGGGAACTTAGTTCCTT		
9	13	GGGACTAGGTGCTTGGGGGAACGACCCCC		
0	0	CACACTAGATGACGGGGCCTCTCACGGCGC		
15	16	GATACTAGGT	tag	p
0	0	CACACTTGGTGCAGACGGGCTCAACCCTGT		
21	23	AATGCTAGCCGTTGGGAAGTTTACTTCTCC		
0	0	AGAACTAGGTAGTAGACTTGACTTGGGTTT		
0	0	CTGACTTGGTGTCCCCGGTTTTAAGTCCAG		
20	73	CCGACTAGGGATTGGAAGGCTACGTACCTT		
0	0	TATGCTTGGT	long	f
0	0	GATACTTGTT	tag	g
4	8	AGTACTAGTG	long	g
22	12	CCGACTAGG	long	f
0	0	GGCGCTAGGTGTGGGGCTCGTTCCACGAG		
12	19	AGAACTAGAT	long	o
19	35	GGTACTAGCT	tag	c
11	14	TTAACTAGGTGTTGGGAGGGTTAAACCTTTT		
0	0	TCAACTAGCT	tag	g
21	19	AATACTCGGCATCTGGCGGCCGATCTTCGG		
0	0	TCAACTGGTT	long	f
6	4	CGAACTGGA	long	g
14	12	GGGACTAGGTGCTTGGGGGAACGACCCCT		
7	17	CCGACCAGGGATATGAGTAGTATATTTCAA		
0	2	TCAACTAGTTGTCGGGTCTTATTGGACTTG		
32	13	CATACTTGGT	long	g
0	0	AATGCTTGGT	long	f
0	0	CACACTAGGCTTGAGGACCTCTTACGGATC		
0	0	CACGTTTGGT	long	o
7	4	TATGCTTGGTGTTGGGATTTATCTCAGTGCC		
0	0	TACGCTAGATCGGTGCGGTTTTGACGCCGT		

26	34	ATAACTAGATGTTTGCGATACACTGTAAGC		
0	0	AGCACTAGA	long	g
7	10	AGCACTGGA	long	g
0	0	CCAACTAGCG	long	p
22	53	CCGACTTGGATTCAGATGAATCAAAAAGTT		
2	3	AATACTCGGCATCTTTCGACCGAGCTTCGG		
0	0	CCGACTAGGGATGAGTGAGCGTTGCATTAT		
0	0	CTGACTTGGTGTCCCGGGTTTGAAGTCCCG		
0	0	ATAACTCGCTGCTGGGGGTAACCTTCAGT		
0	0	GGCACTAGG	long	k
0	6	TACGCTAGATCGGTGCAGGTCTGACCCTGT		
2	2	GTGACTAGGTGTGGCTGGCTCAAGGGCTG		
19	24	CCGGCGGGGCGCGGGGGGCCGAGGGAG		
3	3	TATACTAGATGTAGTCGGACTCAACCCCGA		
3	4	GAAGCTAGC	long	g
0	0	ATCACTAGACGTTAGTCTCACTCTGTGAGAT		
17	14	GGCACTAGGCAAGGGAGGTACCTATGTCTT		
0	0	TCAACTAGTTGTTGGATCTATTTAAAGATTT		
0	0	TCAACTGTTGTTGGGTCTTAACTGACTCAGT		
0	3	TGTACTTGATGTAGCTAGGCTCAACCCTGG		
22	23	TATACTAGGTGTAGCCGGACTCAACCCTGG		
11	13	AACACTGGGCGGGAGAAGGTTCGCCTTTTC		
0	0	GGTACTAGG	tag	f
13	15	GGTACTAGGCTTCGTGGGAATTGACCCCTG		
14	17	CGCACTAGG	tag	k
10	38	GATACTAGA	tag	p
11	12	CCAACCAAAGATAAGAGGTTGTAAAAACA		
6	3	CCAACCGAG	long	g
15	11	GGTACTAGG	long	g
0	0	ATAACTAGCT	long	f
0	2	TCAACTGGTT	long	f
10	11	AGTGCTAGTCGTTGGGGGTACCCATTCCCT		
26	33	CTGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	CCGACTGTAGATTAGAAGACGTTATTCAAG		
0	0	AATACTCGAT	tag	f
0	0	GGTACTAGG	long	f
9	33	TATACTTGAT	tag	g
0	0	TCAACTGGTTGTTGGGAGTTTCTTCTCAGTA		

0	0	AGTACTGGG	long	g
13	13	AATGCTAGGTGTTGGTGGGTCACCATCAGT		
11	18	AATACTCGTTGTTGGAGGTATTGACCCCTTC		
12	22	CCGACCAAGTTTTCGAGGAATTCTATTGTTA		
0	0	TTTACTTGCTGTTCCGACTTAGGTTGGAGTG		
15	13	ATCACTGGGTGTTGGGAGAGCGATCTTCTA		
9	26	AGTGCTAGACGCTGTGGGTATTGACCCCTG		
14	25	CCAGCTGGGTGTTCAGTTGGGGAAACCCAA		
21	30	CCGACTCGG	tag	f
0	0	CCGACCAGGGATATGAGTTGTTAAGATTAT		
21	30	CCGACCAGGGATATGAGGTATTTAAAAGAT		
12	5	TCAACTAGGTGTTGGAGGGTTAAACCTTTT		
25	27	CCGACTCGGATTCAGATGAATTAAAAAGTT		
11	9	GATGCTAGGTGTTGGAGGACTTAACCCCTC		
17	27	TACACTGGGT	tag	f
6	24	TACACTAGATCGGTGCCGGTTTGACCCGGT		
14	15	TCAACTAGCC	long	c
0	0	CGCACTTGCTGTAAGAGGATTCGAACCCTTT		
21	20	CCGACCAGGGATATGAGGTATTATATTATTT		
22	16	CACACTAGGTCTTGACGGATTCGATCCCGC		
16	27	CCGACCAGGGATATGAGGTAAAAAGATTAT		
0	0	TACGCTAGACTGGTGCGGTTTTCACGCCGT		
2	0	AGTGCTAGTT	tag	f
11	9	CCGACTAGG	tag	c
0	0	CGAACTGGA	long	g
23	35	CCGACTAGG	long	c
13	20	GGTGCTAGCCATATCGGGTGTTGACCCAAA		
12	34	AGTGCTGGGTGTTGTGGGTTACGACCTGCA		
0	0	TCAACTGGTT	long	f
13	22	AACACTAGA	long	g
0	2	GATACTAGGT	tag	c
4	5	TCAACTGGTT	long	f
30	20	CCGACTCGGATTCAGATGAATCAAAAGGTT		
25	8	CCGACCAGGGATATGAGGATCTTTATTTAT		
0	0	GGCGCTAGG	long	g
0	0	AATGCTAGCTGATGGGGCTTCTACCGCTTC		
10	15	CCGACCAGGGATATGAGGTATTTAATAGAT		
15	16	CATACTTGGT	long	o

11	16	CTTACTCGTT	long	f
9	13	TAAACTTGGC	long	f
0	0	AGTGCTAGTT	long	c
9	26	CCAACTGGGTGTTCGTCTCCCGCAAGGGAG		
58	0	CCGACTCGG	long	g
0	0	TCGACTAGGT	long	g
0	0	GGCACTAGG	long	g
0	0	TCGACTAGGT	long	g
0	0	TCGACTGGTT	long	f
0	0	AGCACTGGG	long	g
0	0	TCAACTAGCC	tag	g
0	0	AGAGCTAGA	tag	g
9	7	TCAACTAGGTGTTGGGAGGGTTAACCTTTT		
11	5	TCAACTAGGTGTTGGGAGGTTAAACCTTTT		
0	0	CGTATTTGAGGTGGGAGGATTCGACCCCTT		
25	4	CCGACCAGG	long	o
4	9	CCGACCAGGGATATGAGTAGTATATTTCAC		
4	7	GAAGCTAGC	tag	g
0	0	GATACTAGGTGTCCGGGCTTCTGGCCTGGG		
14	3	CCGACTAGG	long	g
0	0	CACACTAGATCGGTGCGGGTTTCACCCCGT		
13	14	CCAACTAGAT	tag	f
0	0	CCAACTGGTTGTTGGGTCTTAACTGACTCA		
0	0	AGTGCTAGA	tag	p
4	22	GGCACTAGGCCCTTGGGGGAGCGACCCCCT		
14	36	CCGACTCGGATTTAGATGAATCAAAAAGTT		
8	7	TCAATTAGGTGTTGGGAGGGTTAAACCTTT		
12	16	TCAACTAGGTGGTGATTGTGTCGATCCAAG		
0	0	CAAATTAAAGATTAGTTTTTTTAAACAAGTC		
0	0	TCGACTAGCCGTCGGGCTCATTATTGAGAG		
0	0	TCGACTTTGG	long	g
10	16	ATCGCTAGCTTTTCGGAGTATCGACCCTCTG		
0	0	AGCGCTAGG	long	g
21	22	TTTACTCGTTGTGCGGGAGCAATTTTGCGC		
8	3	GGTACTAGGTTGTGGACTTACATGGGTTCA		
0	0	GGTACTAGG	tag	f
12	17	AGTGCTAGATGTTGGGGCTTTTTGGTCTCG		
6	8	TATACTTGGTGTAGCTGGACTCAACCCCGG		

0	0	AGTACTAGGT	tag	c
0	0	ATTACTCGTT	long	f
0	0	TCAACTGGTTGGGTCTTAACTGACTCAGTA		
0	2	AATGCTAGTT	long	f
2	0	CGAGCTGGAT	long	g
10	13	AGAACTAGATGTTGGAGGGGGAACCCTGC		
9	11	TAGACTAGATGTGCGCGTCACTACGGTGAC		
0	0	AGAACTAGGTGTCGTAGGTGTTGACCCCTG		
16	14	TTCACTCGCTGTTGGATTTTACATTCAGTGG		
24	26	CCGACTCGGATTCAGATGAATCAAAAAGTT		
11	7	AATGCTAGAC	long	g
0	0	TCAACTGGTT	long	f
0	2	AATACTCGGC	long	g
0	4	AGTGTTTTATATACATATTTGTATATGATAG		
7	7	GGCACTGGGTAGAGGGCTCTCCGATGGGC		
0	0	ATTACTCGCT	tag	f
15	9	TCAACTAGGTGTTGGGAGGGTTAAACTTTT		
10	18	AGTGCTAGATGTCGGCTCCTTTAGGGGTCG		
14	19	AGCACTTATC	long	g
0	0	CGCATTTGCT	long	c
0	0	GATGCTAGG	long	p
12	21	GATACTTGTT	tag	g
0	0	GGTGCTAGAT	long	g
10	11	TCAACTGGTT	long	f
4	2	GGTGCTAGCTGTTCGGGGGTTCCCCCTGAG		
13	14	ATAGCTAGAT	long	o
2	0	TATACTTGGTGTAACTGGAATCAACCCTAGT		
0	0	ATAACTAGCT	long	o
16	25	CCGATTCGGATTCAGATGAATCAAAAAGTT		
19	5	CCGACCAGGGATATGAGGATTCTTATTTAT		
0	0	GGTACTTGGTAGAAATCGCTCCGATGGCGA		
0	0	TCAACTGGTT	long	f
18	8	AGCACTGGG	long	g
0	0	AGAACTGGA	long	f
0	0	CCGACCAGGGATATGAGTTGTTAGGATTAC		
0	0	TCAACTGGTT	long	f
0	0	TCAACTAGGTGTCCACTCGGCCACGGTCGA		
0	0	GATGCTAGCC	tag	o

10	7	TCAACTAGGTGTTGGGAGGGTTAACCCTTT		
14	14	CACACTAGACCGATGCGGCTCTGACGCCGT		
0	2	GATGCTAGA	tag	p
13	13	AATGTAAAAAAAAAATAATTTTTATTTTATT		
0	0	GATGCTAGATGTCACGGGTATTGACCCCTG		
0	2	TACGCTAGATCGGCCAGGCTCTGACGTCTG		
8	8	AGCACTAGA	long	g
0	0	AGAACTAGG	long	g
0	0	ATAACTAGCT	long	o
0	0	TCAACCGGTTGTTGGGTCTTAACTGACTCA		
0	0	TATGCTTGGTGTTGGGGCAGCAATGTTCCA		
11	8	TATACTTGGTGTAGTTGGACTCAACCCCGA		
0	0	CGAACTAGATGTCGGGAGGGTCAGCCTCC		
3	0	GGTACTAGGTTGCGGGCTTACATGGGCTCG		
0	0	CCGGTTAGG	long	f
5	7	AATACTAGGTGTAGGTGGTGTCAAAGCTAT		
10	13	GGCACTAGA	long	k
12	15	GATACTAGGCGTCAAGGGTATCGACCCCCT		
0	0	CCGACCAGGGATATGAGTTGTTAGGATTAT		
0	0	TATACTTGGT	tag	g
0	0	GGCACTAGG	long	f
5	3	TGTGCTGGAT	tag	g
0	0	TCGACTGGTT	long	f
0	0	GGTACTAGATTTGGTGGGATTTGACCCCTG		
0	0	ATAACTCGAT	long	g
0	0	GGTACTAGGTTTGGTGGGTCTTGACCCCTG		
0	0	CACACTAGACCGGTGCGGTTTTGACGCCGT		
0	0	ATTACTCGCT	long	g
20	16	AGTGCTAGGTGTCACGGGCTTTGACTCCTG		
0	6	AATGTTAGCC	long	g
0	0	AGTGCTAGACGTTGGGAGGTTACCTTTCAG		
12	23	CCGACCAGGGATATGAGGTAGAAATTATAT		
0	0	TGTGCTGGAT	tag	g
0	0	AGTGCTAGA	long	g
0	0	AGCACTAGG	long	o
0	0	ATAACTAGTT	long	g
10	15	CCGACCAGGGATATGAGGTAATAATTATTA		
8	15	ATTACTAGCTGTTTGCTTAAGTAAGTGGCTA		

2	0	TTTACTTGCTGTTCCGCCCCTGGGCGGAGT		
0	0	CCGACTAGGGATGGGTGAACGTTGACTTTA		
11	19	TCAACTAGCCGCTAGTCTCGCTTTAGAGATT		
17	2	CCGACCAGGGATATGAGGATTTTTATTTAT		
0	0	CATACTTGGT	tag	f
32	0	CCGACTAGG	long	f
0	0	TCAACTGGTT	long	f
16	10	TCTACTTGCTGTTGGGGGTAAAACCTTAGT		
0	0	AGCACTAGTTATCGGAGGTATTGACTCCTT		
0	0	ATAACTAGCT	long	f
5	7	GGCACTAGGTGTGGGGACTTATCAACGGT		
0	0	TCAACTGGTTGTTGGGTCTCAACTGACTCA		
4	15	TCTACTAGTT	long	f
0	0	TCAACTGGTT	tag	f
0	0	CCGACCGGGGATGGGGAGAGGTAATACCA		
0	0	TGAACTTGGC	tag	g
0	0	AGCACTAGATCGCTGGGGAGCTATCTTTGG		
0	0	GGTGCTAGATGTCGGGAAGCTTAGCTTCTC		
0	0	TCAACTGGTTGTTTGGTCTTAACTGACTCAG		
0	0	TCAACTAGGC	tag	c
0	2	CGCACTAGGTCGGGGAGGCTTCACGCCCTC		
0	0	AACACTGGA	long	g
4	11	TCTACCAGTTGTTTGAGGTATCAACCCCTCG		
0	0	TCAACTGGTT	long	f
0	7	CCAACTGTCT	long	p
2	0	TCAACTAGGT	tag	f
0	0	AACACTAGG	tag	f
3	8	GATACTAGTTGTTTGGAGTAATCTGAGTGA		
0	0	ATCACTAGACGTCTGTTTTGCTTAGCAAAAT		
0	0	CCGACTGTAGATTAGAAGACGTTAATCAAA		
0	3	AGAGCTAGT	tag	g
0	0	CACACTAGGTGACGCAATCTCTGACGATGG		
6	11	ATTACTCGCT	tag	f
6	24	TCAACTAGCTGTCTGATACATTAGATATTGG		
0	0	TCGATTAGGAAGTGGTTTATATCACTTTCGA		
4	5	CCGACCAGGGATATGAGTAGTATATTTCAA		
8	7	GGCACTAGA	tag	o
0	0	ATTACTCGTT	long	f

0	0	CACGCTTGGTGTGGGGGGTTGACACCCTCT		
0	0	GGCGCTAGGTGTGGGGCTTTCCACGAGTTC		
9	7	TGCACTAGGTGTTGGGGTGTAGACTTCAGC		
5	1	TCAACTAGGTGTTGGGAGGGTTAAATCTTT		
7	12	CCGACCAGGGATATGAGGTAGAATTTGATA		
5	13	TCAACTAGGTGTTGGGAGGGTTTAACCTTT		
0	0	AGCACTAGAT	long	g
10	3	GATGCTAGATGTTGGTAACGTCAAGTTATC		
10	10	CCGACCAGGGATATGAGGTATATAGATTAT		
0	0	CATACTAAGTGTCTGCCTGTAAAAGGGTGG		
0	0	CCAACTAGGGATGTGGACGTTTGTTTGAAG		
0	0	AATACTTGGT	long	o
12	5	TCCACTAGATTGTGGCGCTTTTAACGGCGT		
0	0	CCGACCAGG	long	c
0	13	CCGACTAGG	long	g
0	0	GGTGCTAGAT	tag	g
0	0	CCGACTAGG	long	g
0	2	AATGTTAGCC	long	f
0	0	ATTGTTAAACGTTAACGCTAAGCAATCCGC		
0	0	GATACTAGGTGTAGGCGGTCATTTACCCCG		
0	0	TAGACCAGAT	tag	o
0	0	AGTGCTAGAT	long	g
13	7	CCGACTAGG	long	g
2	3	TCAACTAGGTGTTGGGAGGTTTAAACCTTT		
20	3	CCGACAAGG	long	g
0	0	CCGTCTTTGAATGGGGAAGCGATTTAAGTT		
4	5	CATACTTGGTGTAGCTGGACTCAACCCCGG		
11	12	TACACTAAACGTTCAGTCTTGGAAACAAGA		
6	3	AGCACTAGA	long	g
0	0	GGCACTGGGCAGGGGAAGCACCTATGTCTT		
0	0	AGCACTAGATCGCTGGGGAGCTATTCCTTG		
0	0	ACAACTGGTTGTTGGGTCTTAACTGACTCA		
3	4	GATGCTAGCC	long	g
0	0	CCGACTAGG	long	o
0	0	CGAACTGGAT	tag	g
0	7	GATACTTGTT	tag	g
0	0	GGTGCTAGCTGTTCGGGGGTTACCTCTGAG		
0	0	TCAACTGGTT	long	f

0	0	GTGACTAGGT	long	f
0	0	CACATTTGCTGTAAGTGGAATCGACCCCACT		
0	0	TCAACTGGTC	tag	f
0	0	GGTACTCGGT	long	f
0	0	ATAACTCGCT	long	f
0	0	CACATTTGCTGTGGGCGGAATCGACCCCGC		
0	0	TCAACTGGTTGTTGGGAGGTTTCTTCTCAGT		
0	0	TCAACTGGTTGTTGGGTCTTAACAGACTCAG		
0	0	CCGACCAGGGATTGGAAGACGTTAATTTAA		
0	0	AGTGCTAGACGTTGGGCAGGTGACTGCTCG		
7	5	AGTGCTAGATGTGGGTACTTTGTATCCGTGT		
0	0	AGAACTAGAT	long	o
0	0	TATACTCGAC	tag	f
8	9	CACACTTGGT	long	g
7	6	AGTGCTAGATTTCGGGAAATTTTATTTCTCG		
0	0	GGAACTAGTT	long	g
0	0	AATACTAGCTGACTGGCGATAAGCTGGGTG		
0	0	AGAACTAGCT	long	o
0	0	ATGACTTGGT	long	o
0	0	CCGACTAAGGATCGGCAGGGGTCGGTTAG		
7	6	CACACTAGATCGGTGCAGGTTTCACCCTGT		
0	0	TCAACTGGTT	long	f
0	0	TATACTTGGTGTAGCTGGTCTCAACCCCGG		
0	0	AGGACTAGA	tag	o
10	11	TCGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	AGAACTGGATGAGGGGCTGGGTTAAACCA		
0	0	AACACTTGTTGTAGGAGGTATTGACCCCTC		
0	0	TCAACTGGTT	long	f
7	9	GATACTAGCTATTTGGGAATTCGTTCCTGA		
10	12	CCGACTCAGATTCAGATGAATCAAAAAGTT		
0	0	CCGACTAGG	tag	c
6	3	GACACTCGGCCTGTGGGCGGTGTAAGTGC		
4	7	TAGATTAGGTGTCGGAGGAGTCGAACCCTT		
0	0	CATACTTGGTGTAAGTCCTTCATTGGATTTG		
0	0	AGCACTAGTCGTGGTAGGAACTAACGCCTG		
0	0	CCGACTAGGGATCGCGCGGTGTTGATTACG		
0	0	TCAACTAGCC	long	g
0	0	TCGACTGGTT	tag	o

5	7	CGAACTAGCTTTTTGGCTTTGAGGTTGAGA		
0	0	GATGCTAGC	long	o
0	0	GGTGCTAGA	long	g
0	0	TCAACTAGTTGTCGGGTTCTATTGGACTTGG		
10	8	AATGCTAGC	long	g
0	0	CCGACCAGGGATGGGGAGAGGTAATACCT		
17	0	CCGACCAGGGATATGAGGATTCTTATTTAT		
0	0	CCGACCAGGGATATGAGTTGTTAAGATTAT		
0	0	CCGACCAGGGATATGAGTTGTTATGATTAT		
0	0	GGCGCTAGA	tag	f
6	0	TCAACTAGGT	tag	f
0	0	CACATTAGAC	long	o
0	0	ACAACTGGAT	long	f
2	3	AATGCCAGCCGTCGGGGAGCTTGCTCCTCG		
0	0	AATGCCAGC	long	g
3	10	AATGCTAGATGTCAGGCCTTTCGGGGTTTG		
2	0	AGTGCTTGGT	tag	o
3	9	GGCACTAGG	tag	g
0	0	TCAACTAGTT	tag	p
0	0	AATACTGATTGTTGAGTAGATTTCTATTCAG		
3	0	AGAACTAGACGATGGTGTCCTAGAGGCATC		
0	0	TCAACTGGTTGTTGGGTCTTAACTGACACA		
0	0	TGTACTTGATGTAGCTGGGCTCAACCCTAG		
7	5	AGTACTAGACTTTGGGCTTTTGTTCAGAGTC		
0	0	TCAACTGGATGTTGGGTCTTAACTGACTCA		
0	2	TCTACTTGCTGTTGGGGGTAGAACCTTAGT		
2	6	TCAACTAGGT	long	g
2	0	AGCACTAGA	tag	g
6	6	CGAACTAGCTTTTTGTCTTTAAGGTTGAGA		
8	12	CCGACTCGGACTCAGATGAATCAAAAAGTT		
6	11	ACAACTAGGTGTCGGGCATCTAAGGATGTT		
3	4	TCGATTTGGA	long	g
3	8	GATGCTAGG	tag	p
6	6	AACACTGGA	long	g
0	0	GATACTAGGCGTTAGGGGTATCGACCCCCC		
3	0	CCGACCAGGGATATGAGGTATTATTTTATTT		
8	1	TCGACTAGGT	long	g
0	0	AGTACTAGCT	tag	g

0	0	AGCACTAGA	tag	g
8	8	CCGACCAGGGATATGAGGTAGAAATTGAT		
5	8	GATACTAGG	tag	p
4	15	AGAACTAGATGTTTGTGGTTTAATAACTGT		
2	0	TGTGCTTGTC	long	f
8	12	CTAGCTGGGTGTTCAGGGGGGGAAACCTC		
0	0	GCCCCCATGAATTGGGGAGTTATTGAGCTG		
0	0	GGCACTAGGCAGGGGGGATACTTATGGTC		
0	0	AGCACTGGA	tag	g
0	17	AGTACTGGCCCTTGGAGGTATTGACCCCTT		
0	0	GATGCTAGGTGTTGGCAGATCTAACCCTGC		
0	0	AGTACTAGTG	long	g
6	0	TCAACTAGGTGTTGGGAGGGTAAACCTTTT		
0	0	GGCGCTAGG	tag	p
0	0	ATCGCTGGG	long	o
3	2	CCAACTAGGTGTTGGGAGGGTTAAACCTTT		
10	3	TATACTAGATGTTGGCGGTTTCAACGCCGT		
4	6	TATACTAGATGTTGGTGGTTTCAACGCCAT		
2	5	TACACTTGATGTAGCTGGTCTCAACCCCAGT		
6	5	AGCACTAGGTGTGGGGGGTTTTGACCCTCC		
13	1	CCGACTCGGATTCAGATGAGTCAAAAAGTT		
0	16	CTAACTCGATATAGGGACGAATGAGTTTCT		
0	0	CTAACTCGTT	long	g
0	0	ATCACTCGTCATTGGCGATACACGGTCAGT		
6	12	TTTACTTGCTGTTTGGCCTTTGGGTTGAGCG		
0	0	CCGACATAGGAATACATAATAGTAGGACTA		
5	8	AATGCTAAAC	long	f
0	0	TCAACTGGTT	long	f
8	7	TGCGCTAGGTGTTGGAGGTATCGACCCCTT		
2	2	TGTGCTAGAC	tag	g
0	0	AGCACCAGACGCCGGGCGGGTGACCGCCC		
0	5	TCAACTAGGTGTTGGGAGGGATAAACCTTT		
2	0	TCAACTAGGC	tag	f
0	0	TGCGCTGGA	long	g
2	0	CGAACTAGCTTTTTGATTTAGGATTAGGAG		
0	0	CCAACTAGGC	long	f
6	7	TACACTTGGTGTTGGTTCTTTATGGATCAGT		
7	9	AATACTCGGCATCTGGCGGCCGATTTTCGG		

0	0	CGAACTGGA	long	f
10	0	ATCACTAGAT	long	p
0	0	CCGACTAGG	long	p
0	0	CTTACTCGATATTCGCCCTTCGGGGTGAGT		
0	0	AATATTTTATGTTTATATCTTTGTATATGAAT		
0	0	AGCACTGAATTGAAGGGTCCCACATAACCC		
0	0	AGTGCTGGGTGTCCGGCGTATGCTGGGTG		
0	0	CGAACTGGA	tag	f
0	2	AGTGCTAGATGTTGGGAACGTAGTTCTCAG		
2	0	CCGACTCAGGATCGGTGGGCTGTATATTGT		
5	8	CCAGCTCGACGTTCACACCGCACCGCGGTG		
13	0	CCGACCAGGGATATGAGGATTTCTATTTAT		
0	0	CCGACTAGG	long	c
4	1	CCGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	AGTACTAGATTGTAGACTAATCATGGGTTT		
0	0	TCGACTTGGGATTGGAGGCGTGCACTTTCC		
0	0	AAGACTAGATGTTGGTAGGGTAAACCTATC		
5	6	CACGCTTGGTGTGGGAGGGTTCGACCCTTT		
0	0	TCAACTGGTTGTTGGGTCTTAACTGTCTCAG		
0	0	TCAACTGGTTGTGGGTCTTAACTGACTCAGT		
2	4	TCAACTAGGAGTTGGGAGGGTTAAACCTTT		
0	0	GGCGCTAGG	long	g
0	0	TCGACTAGCC	long	o
0	0	ACAACTAGG	long	f
6	8	AATACTCGTT	long	f
0	0	TCAACTAGTTGTTGGGCTTAAAAAGCTTGG		
0	9	CATACTTGGT	tag	g
0	0	ACCCCCATGAATTGGGGAGTTTTTGTGGAG		
0	3	TCTACTAGCC	long	g
5	0	TCAACTAGGTGTTAAACCTTTTAGTGCCGTA		
4	4	CCGACTCGGATTCAGACGAATCAAAAAGTT		
10	0	CCGACCAGGGATATGAGGATTTCTATTTAT		
4	3	AGAACTGGGCGTTGGAAGGTTTTACCTTTT		
4	3	GATGCCAGC	tag	g
10	4	CATACTTGGT	long	f
0	0	AGTACTAGTGGGAAGAGGCTTCGCGCTTTT		
6	3	AATACTAGAT	tag	g
3	8	TCGACTGGTTGTTGGGGGAAATTGTCCCTC		

0	0	ATCACTAGATGTTTGCGATACACTGTAAGC		
2	0	AGCACTAGA	tag	f
0	0	AGTGCTAGATGTCGGGGAGCTTGGCTTTTC		
3	7	TGCACTAGGT	tag	f
0	0	CCGACCGAG	long	g
8	4	ATGGCTGGG	long	g
3	0	AGCACTAGA	long	g
10	2	CCGACTCGGATTCAGATGGATCAAAAAGTT		
0	14	CTTACTAGTTGTTTGGATGAGAATCTGAGT		
5	2	CCGACTAGGCGCTGGTGGTTTGAACGCTGC		
4	13	CCGACTCGGGTTCAGATGAATCAAAAAGTT		
3	10	CCGGCGGGGCGCGGGGGGCCGAGTGGG		
4	5	CAAACTTGGTGTTGGTGGCGTAAAAACCAT		
0	0	ATAACTCGTT	tag	p
0	0	GGCACTAGG	long	g
3	7	AATGTTAGATGTCGGGAGGTTACCTCTCGG		
0	0	TCAACTGGTTGATGGGTCTTAACTGACTCA		
0	0	GAAGCTAGCCGTTGGTGGGTTTACTCATCG		
0	0	CGAACTAGCTTTTCGGTTTAGGATTGGGAG		
2	2	ATAACTAGCTGTCCGGGCCTTTAGGCTTGG		
2	19	CCGACTCGGATTCTGATGAATCAAAAAGTT		
6	9	TCGACTAGTT	long	o
0	0	AGTGCTAGTTGTTGGGTTTTTAAAACTCAGT		
0	0	TCAACTAGTTGTCGGGCCTATTTAGGTTTGG		
0	0	TCAACTGGCT	long	g
6	7	TATGCTGAAT	long	g
0	10	CTAACTCGATGTTGGGAATGCAAATTTTCA		
0	0	TCAACTAGTTGTCGGATCCATTTAAGGGTTT		
1	0	CCGACTCGGATTCAGATGAATCAGAAAGTT		
0	0	CTGACTTGGTGTCTCGGGTATTAATTCCCGG		
0	4	GATACTAGATGTTCGGAGAGTTAACCCTCT		
0	5	AGAGCTAGC	long	f
0	0	TCAACTAGGT	long	f
0	0	AGCGTTGAATGTTGGGAGACTTAAAAGTCT		
0	0	CAGATTAGCTTTTCGGAGTATCGACCCTTCG		
6	6	CTAGCTAGATGTCTGGGCCGCGCAAGCGG		
0	0	TATACTTGGTGTAGCTGGACTCAACCCCAG		
3	4	TCAACTAGGTGTTGGGAAGGTTAAACCTTT		

0	0	GATACTTGTTGTTGGAGGTATTGACCCCTTT		
0	0	AGTACTAGGTGTGGGTTGAGTGAAATCAAT		
0	0	AGTACTAGACGTTGGTGACGAGAGTTACGA		
0	15	CCGACTCGGATTCAGAAGAATCAAAAAGTT		
0	0	TCCACTAGATTGTGGTGGCTCTGACGCCAT		
0	0	ATTACTCGCT	tag	f
0	0	ATAATTTTAATTTTTGAGCGGATTTATAGAG		
4	2	CAGACTAGG	tag	o
0	0	AGAACTAGG	long	g
2	0	CACACTAGACCGGTGCCGCTCTGACGCGGT		
0	4	ATCACTAGGT	tag	p
0	0	ATGACTAGACCTGTGGTGGTGCTAAGCCTC		
3	0	GAAGCTAGC	tag	o
4	0	TCAACTAGGT	long	g
0	0	CACACTTGGT	long	o
2	6	CACACTAGGTATGGGAGGAATCGACCCCTT		
0	0	TATACTTGGT	tag	g
0	6	AGAACTAGGTGTCGTGGGTGTTGATCCCCG		
0	0	CCGACCAGGGATATGAGTTGTTAAGATTGT		
0	0	TGCGCTGGATGTTGGGGGGCATAGCCCTTC		
0	0	TCAACTGGTTGTTGGGTCTTAACTGACTCAG		
0	0	TCGACTTGGA	tag	f
5	4	TGTGCTAGCC	long	g
5	7	TGTACTGGATCGCAGAGACTAATACGTCAT		
0	0	TCAACTGGTTGTTGGGTCTTATCTGACTCAG		
0	0	ATAACTAGCT	long	f
5	2	CACACTAGGTCTTGGTGGATTCGACCCCAC		
0	0	CCGACTTGGGATTGGAGGCGTGCACCTTCC		
0	0	CAGACTTGGT	tag	f
0	0	ACAACTAGGCGCTGAGGGACTCAACCCCCG		
0	0	TAACTGGTTGTTGGGTCTTAACTGACTCAGT		
0	0	AGTGTTGAATGTTGGGGGACTTAAAAGTCT		
0	0	TCTACTGGTTGTTGGGTCTTAACTGACTCAG		
3	6	CTAACTCGAT	long	f
0	0	CTAACTCGACATGTGATCTACGGATTGTGT		
0	1	TATACTTGGTGTAACTGGACTCAACCCCAGT		
0	0	TCGACTGGCTGTCGGGGGGCTTGACCCCCT		
0	0	CTGACTTGGGATTGGAGGCGTGCACTTTCC		

0	0	TCAACTGGTT	tag	f
2	0	TTTACTTGCTGTTTGGGCCATGTGCCTGAGT		
0	0	CCGACTCAGGATTGACAGACGTCTTTACCG		
0	0	TTTACTTGCTGTTCGGACGCAAGTCGGAGT		
5	0	AGCACTAGCT	long	g
0	4	AGCACTAGATCGCTGGGGAGCTATTCTTTG		
0	0	GGCACTAGG	long	g
0	0	ATTACTGGAC	long	f
0	0	TGCGCTAGACGTTGGTGGACCTAGTTCACC		
0	5	GGCACTAGG	tag	c
0	0	AGTACTGGG	long	g
0	0	TCAACTAGTTGTCGGATCTAATAGATTTGGT		
3	6	CGAACTAGGGAGAGGGTGTTCCTAGACACT		
0	0	CCAACTAGGGATACGTGGAAGTTTGTTCGA		
0	0	AGCACTAGG	long	g
0	2	AGCACTTGAT	tag	g
3	9	GATGCTAGATATCGGGAGTATCGACCCTCC		
0	0	CCGACCAGGGATATGAGTTGTTATGATTAT		
0	0	TCAGCTAGGTGTTGGGAGGGTTAAACCTTT		
0	0	GCGACTAGTT	long	o
0	0	TCAACTAGGTGTTGGGAGGGTTAAATTTTT		
0	3	TCGACTAAGGATGATAAAATATTAAAGAAT		
0	0	AGTGCTAGATGTCGGGAAGCTTGGCTTTTC		
0	0	CGGACTTGGTGTGCGCCCTTCATTGGGTGC		
0	0	GGTACTAGATGTCAGAAGTTCTTACCCTTCT		
0	16	CCGACTCGGATCCAGATGAATCAAAAAGTT		
2	4	AGTGCTAGTTGTCGGGGCCTTAGGTCTCGG		
0	0	TCAACTGGTTGTTGGACGGCTTTCTGTTCAG		
0	0	AGTGCTAGG	long	g
0	0	TCAACTAGTTGTCGGGCCTTATTAGGCTTG		
0	0	AGTGCTAGACGTTGGACGGTTACCGTTCAG		
0	0	TCACTGGTTG	tag	g
0	6	AGCACTGGGTAGGGGGCTCGCCGATGGGC		
0	0	CCGACTAGGGATCGGTCCACGTTATTTTG		
0	0	TCAACTAGGTGTTGGGAGGGTTAAACCTTT		
0	8	TCGACTAAGGATGATAAAATATTAAGAATG		
4	4	CGTACTAGATAGCGGCTCGTTCCGACGAGC		
0	0	CTAACTCGTT	long	g

0	0	CCGACTTGGGATTGGAGGCGTGCACTTCCG		
0	0	TCAACTGGTT	long	g
4	5	CCGACTCGGATTCAGATGAATCAAAGTTCA		
0	2	ACAACTAGGTGTTGGGAGGGTTAAACCTTT		
0	0	CCGACTTGGGATTGGAGGCGTGCACTTCCC		
5	5	TCAACTGGTT	tag	g
0	0	TCAACTGGTT	tag	f
2	0	CCGACTCGGATTCAGATGAATCAAAGAGTT		
0	0	AGCACTGGA	tag	g
0	0	GATACTAGGTGTCCGGGCCTCTGGCCTGGG		
0	0	CCGACCAGGGATATGAGTTGTTATGATTGT		
0	4	TGCACTTGGTGTTGGGCTGATTAGGTTCAG		
0	0	CCGACCAGGGATATGAGTTGTTATAATTAT		
1	12	CCGACTCGGATTCAGGTGAATCAAAAAGTT		
0	3	AGAGCTAGC	long	f
0	0	TCAACTGGTT	tag	f
0	0	GATACTAGGCGTAAGAGGTATCTACCCCTC		
0	0	AGCACTAGTC	long	g
0	0	AGGACTAGGTGTCGGGTCGTAAGACTCGG		
0	0	TCAACTGGTTGTTGGGAGGGTTTCTTCTTA		
8	0	TCAACTAGCC	long	g
0	0	CCGACTAGG	long	g
2	3	GGTGCTAGC	long	g
0	0	TCAACTAGGTTTTGGGTGGGTAAAACCATT		
0	3	TCAACTAGGTGTTGTGAGGGTTAAACCTTT		
0	0	TGCGCTGAAT	long	g
0	0	AGAACTAGG	tag	k
2	0	GGCACTAGGTAGCGGGCCTCCATGGGCCC		
2	2	GGCACTGGGTAGGGGGCTCTCCGATGGGC		
5	5	GGTGCTTGTCGTTGTGAGTGTAAACCCTCG		
0	0	GGAACTAGT	tag	g
0	0	CCGACTTGGATTGGAGGCGTGCACTTTCCG		
0	0	CCGACCAGCGATTGGGCGACGTTGCATGG		
0	4	AATGCCAGTC	long	g
6	2	AGTGTTAGATGCTGTGGGTATTGACCCCTG		
2	2	AGCACTGGG	tag	f
0	3	TCAACTAGGTGCTGGGAGGGTTAAACCTTT		
0	0	CCGACTTGGGATTGGAGGCGTGCACTTTCT		

0	0	CCGACTTGGGATTGGGGGCGTGCACTTTCC		
0	0	AGAACTAGTT	tag	f
2	2	AGAACTAGATGTTGGAGGGGAGACCCTGC		
2	4	TCAACTAGGTTGGGAGGGTTAAACCTTTTA		
0	0	GGTACTAGGATTGGTGGGTCTTGACCCCTG		
5	0	GATACTAAATGCTGTCAAAAACAGTGTTGT		
0	0	TCAACTAGTTGTTGGGCCTTATTGGGCTTG		
10	10	CCGACTCGGATTCAGATAAATCAAAAAGTT		
0	0	AGCACTAGACGCTGGGCGGGTGACCGCCC		
0	2	CCGACTAGG	long	g
0	0	GGCGCTAGG	long	c
5	3	CACACTTGGTGTTGGGCCTTTTTGGCTCAGT		
0	0	CCAACTAGGGATATGTGGATGTTTGTTTGA		
5	3	AGTGCTAGACGTCGGATCTTTAAGATTCGG		
0	5	TCAACTAGGTGTCGGGAGGGTTAAACCTTT		
0	6	GATACTCGTTATTGGGGTTTCGACTTCAGTG		
0	0	GGAACTAGG	long	f
0	2	TACACTAGACTGGTGCGGTTTTGATGCCGT		
0	0	ATTACTCGAC	tag	g
2	9	TCTGTTGGCT	long	p
0	0	TCAACTGGTGTTGGGTCTTAACTGACTCAGT		
0	0	CCGACTTGGAATTGGAGGCGTGCACTTTCC		
0	0	ATTACTCGAT	tag	p
10	0	CCGACTCGGATTCAGATGAAACAAAAAGTT		
3	0	TCAATTAGTTGTTCGGTGAGGAGACTCATT		
0	0	CATGCTGGCTGTCGGAGGTATTCACCCCTT		
0	0	CCGACCAGC	tag	g
0	0	TCAACTGGTT	long	g
0	0	TCAACTAGTT	long	f
0	0	GATACTTGTTGTTGGAGGTATTGACCCTTTC		
0	0	CTGACTGGGCGTCTGCTGGTGTTTGCTCTTT		
5	4	ATTACTCGAT	tag	p
2	2	TACACTAGACCGCAGAGGTTTGACACCCTT		
2	4	TGTGCTAGGTGTTGCGGGAATCAACCCCCG		
3	0	AATACTAGGTGTGGGAGGTTTCGACCCCTT		
0	0	AGAACTGGG	tag	o
0	0	CGCGCTAGATCGGTGCGGGTTTGACCCCGG		
0	0	TGTACTTGATGTAGATTGGCTCAACCCTTTC		

3	3	GACACTTGGT	tag	g
4	2	AATACTAGG	long	p
5	6	AGTGCTAGATATTGGAAGCATGACTTTCAGT		
5	4	TCAACCAGGTGTTGGGAGGGTTAAACCTTTT		
0	0	AGAACTAGC	long	g
0	0	GTGACTAGGTGTGGGGAGCGTACAGCATC		
0	4	GACGCTAGGTGTTGGCAGATCTAACCCTGT		
0	0	AACACTTGGT	tag	g
0	0	GATACTAGCT	long	g
0	0	AGAACTGGCT	tag	g
0	0	TCAACTAGGTTTTGGGAGGGTTAAACCTTTT		
3	3	AGTGCTAGGTATCGGGAGAATTTCTTTCGGT		
0	0	AGTACTAGGT	tag	f
0	0	TCAACTGGTTGCTGGGTCTTAACTGACTCAG		
0	0	TTAACTAGTTGTTCGGTGAGGAGACTCATT		
0	0	GGCGCTAGGTGTGGGGAACATTTCCACGTT		
0	0	TCAACTGGTT	long	g
0	0	TCAACTAGGTGTTGGGTGGGAAAAACCATT		
0	0	TCAACTAGGTGTTGGGAGGGTTAAACCTTTT		
0	0	CCGACTCAGGATTGGCGGTGTACTTCAACGT		
0	0	ATCACTCGCTGCTGGGGGGTAACCTTCAGT		
0	0	ATTACTCGCT	tag	f
0	0	CACACTTGGTGTGGGAGGATTCGACCCCTT		
1	0	TCAACTAGGTGTTGGGAGGGTTAGACCTTTT		
3	9	CCGACTCGGAATCAGATGAATCAAAAAGTT		
0	0	CCAATTGGG	long	g
0	0	GATGCTAGC	long	o
0	0	ATAACTAGCT	tag	g
3	2	CACACTAGGT	tag	g
3	3	TATACTTGGTGTAACTGGATTCAACCCTAGT		
0	0	AGTGCTAGATGTCGGAAGATTTTCTTTCGGT		
0	0	TATACTCGTT	tag	f
14	4	CCGACTCGGATTCAGATGAATCAAAAAGCT		
0	4	TCTACTAGTT	long	f
0	0	TCAACTGGTTGGGGTCTTAACTGACTCAGT		
0	0	CCGACTCGG	tag	g
0	0	ATCACTAGATGTTGGCGATACACTGTCAGC		
5	4	TTAACTCGATATTTATTCTACGGAGTGAGTG		

0	2	CCGACCAGG	tag	g
0	9	CCAACTCGGATTCAGATGAATCAAAAAGTT		
0	0	GGCGCTAGG	long	g
0	0	TCTACTAGTT	tag	g
0	2	CCGACCAGCGATCGGGAGACGTCGCATGG		
0	0	TCAACTAGTT	long	g
0	0	ATTACTCGTTTTTGGGTTTATGATTCAGAGA		
6	0	ATAACTGGTTGTGCGCGATATACAGTGCGC		
3	2	AGAGCTAGC	tag	g
6	0	TGCACTGGGTGTCGGGCCGTAGGGCTCGG		
0	0	CGCACTTGCTGTAAGCGGATTCGAAACCGT		
2	0	TTCATTTGCTATTCGGAGTATCGACCCTCTG		
3	12	CCGACTCGGATTCAGATGAATCGAAAAGTT		
4	3	GGCACTAGATGTCGGACCTTCTTACCGGTT		
0	0	TCAACTGGTTATTGGGTCTTAACTGACTCAG		
0	3	TCAACTAGGTGTTGGGTGGGTAAACCATTT		
4	6	CCGACTAGGGATCGGTGGGTGTTTTTTATG		
5	0	CCGACCAGGGATATGAGGATCTTTATTTAT		
5	0	AATACTCGGTGTCGCCTTCTTTTGAGGGCG		
0	0	CATACTAGGTGACGGGCGCTCTGACGCATC		
0	0	GTCACTAGATGTCGGGAGTTCTTACCCTCTC		
0	0	TCAACAGGTTGTTGGGTCTTAACTGACTCA		
0	0	TAGACCCGGTCTTGGGCGATTCGACCCGCT		
0	0	CCAACCAAAGATAAGGGTGGGAAAAACAG		
0	0	GGCGCTAGG	tag	c
0	0	AGTGCTAGATGTCGCGGTCAAGACCATCGC		
0	2	AGTGCTAGA	tag	f
0	0	GATACTTGTTGTTGGAGGTATTGACCTCTTC		
2	0	AGCACTGGG	long	g
0	0	TCAACTGGTTGTTGGGAGGGCTTCTTCTCA		
0	0	CTAACTCGTTTTTGGAGCGTAAGTTTCAGA		
6	0	CCGACTAGGGATCGATGGGTGTTATTAATG		
0	0	TCAACTGGTT	tag	g
0	0	CCGACCAGAGATCAGAGGATGTTGAATGG		
4	0	CCGACCAGGGATATGAGGATTTCAATTTAT		
0	0	TCAACTGGTT	tag	f
0	0	ATTACTCGAT	long	f
0	2	CATACTAAGT	tag	f

0	0	CCGACTAGGGATCGGTGGGTGTTATTAATG		
5	0	CCATCTAGCG	tag	p
0	0	TTTACTTGCTGTGCGGTCTTAGGATTGCGTG		
2	0	TCAACTAGTTGTCGGATTTTAATAGATTTGG		
0	0	TCAACTGGTTGTTGGAGGGTTTCTTCTCAGT		
0	0	AGAGCTAGC	tag	f
0	0	TCAACTAGTTGCTCGGTGAGGAGACTCATT		
0	0	CACATTTGCTGTGGGCGGAATCGACCCTGC		
0	0	CTGACTTGGTGTCCTCGGTTTTAAATCCGGG		
0	0	CCAACTTGGGATTGGAGGCGTGCACTTTCC		
0	0	TCAACTAGTTGTTCGGTGAGGAGACTCATC		
0	0	CGAGCTGGA	tag	g
0	0	TCATCTGGTTGTTGGGTCTTAACTGACTCAG		
3	0	CTAACGATGGACGCGGGGAATCAGTCTCTT		
3	0	AGCACTAGGTGTGGGAGGTTTTGACCTTCC		
0	0	GGTACTAGG	long	p
5	0	TCAACTAGTTGTTCGGTGAGGAAACTCATT		
0	3	ATGACTCGATGTTGGCGATATATAGCCAGC		
0	0	GTCACTCGGTGCCGGCGATATACAGCCGGT		
0	0	AGCACTGGG	long	f
6	0	GATACTCGATGTTGGGCGGTATAGCTCAGT		
0	0	AGTGCTGGATGTCGGGAAACCTAGCTTTTC		
0	0	TCAACTGGTT	long	f
0	0	TCGACTGGTT	tag	f
0	0	CCGACCGGGGATGGGGAGAGGTAATATCTT		
0	0	AATACTGATTGTTGAATAGATTTCTATTCAG		
0	5	AGAACTAGGTGTCGTGGGTGTTGATTCCCG		
0	0	TCAACTGGTTGTTGGGAGGGTTTTTTCTCAG		
0	0	CCGACTTGGGATTGGAGGCGTGCACTTTCC		
0	0	ACAACTAGTTGTTCGGTGAGGAGACTCATT		
0	0	TCAACTAGGTGTTGGGAGGGTTAAACCTTTT		
0	4	CACACTAGGT	long	g
0	0	GATACTTGTTGTTGGAGGTATTGACCCCCTC		
5	0	TCAACTGGGTGTTGGGAGGGTTAAACCTTTT		
5	0	TCAACTAGGTGTTGGGAGGGTTAAACCTTT		
0	2	GGTGTTTGTTGTTGGAATGTTAACCTTTTCA		
0	0	TCAACTAGTTGTTCGGTGAGGAGACTTATT		
3	2	GATACTTGATGTTGAAGGTATTGACCCCTTC		

0	0	GATATTTGTTGTTGGAGGTATTGACCCCTTC		
0	0	TCAACTAGGTGTTGAGAGGGTTAAACCTTT		
2	5	CCGACTAGGTGTTCACTTTCCGACAGGGAA		
3	0	CCGACCAGGGATATGAGGACTTTTATTTAT		
0	0	AGTGCTAGATGTCGGGGAGTTCGCTCTTCG		
0	0	CCGACCAGGGATATGAGTTGTTAGGATTGT		
0	0	CCAACCAAAGATAAGGGTGGGAAAAACAA		
0	0	GATACTCGATGTAGCTGGTATTGACCCCGG		
7	6	CCGACTCGG	long	f
0	0	CTCGCTAGGGATTGGGAAATTAAATTTCA		
0	2	GAAGCCAGC	tag	f
0	0	GACACTAGATGGGTGGTGAGCTATCGCTGC		
2	4	GGCACTAGACGCCGGAGGGGTGACCTTTC		
0	0	CACATTAGACCGGTGCGGTTTTGACGCCGT		
0	0	CATACTAGGTGTAGGAGGGCTCAACCCTTT		
0	0	AGTGCTAGATGTCGGGGAGCTTAGCTTTTC		
0	0	CCGACTTGGGATTGGAGGCGTGTACTTTCC		
0	0	CCGACCAGGGATATGAGGTATTCTTTTTCT		
4	0	CCGACCAGGGATATGAGTAGTATATTTCAT		
0	0	CCGACTAGG	long	g
0	0	CATACTAGGT	tag	f
0	1	TCAACTAGGTGTTGGGAGGGTTGAACCTTT		
0	0	AATGCTAGCTGATGGAGCTTCTACCGCTTC		
0	0	AATGCTAGC	long	g
0	0	TCAATTGGTTGTTGGGAGGGTTTCTTCTCAG		
0	0	GGCACTAGG	tag	f
3	0	TCAACTAGCT	tag	g
0	0	AGCACTAGA	long	g
6	6	CAGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	GATACTTGTTGTTGGAGGTATCGACCCCTTC		
0	0	TTAACTGGTT	long	f
0	2	CGCACTAGGTCGGGAAGGCTTGACGCCCTC		
3	0	AGTGTTAAACGTTAGAATTTCTAATGTTACA		
0	0	CTGACTAGGGATCGGTCCACGTTATTTTTG		
1	1	TCAACTAGGTGTTGGGAGGGCTAAACCTTT		
0	0	CCGACTAGGGATTGGTGGGCGATTATTATA		
0	2	TCGACCAGACGTCGGAGGTATCTATCCCTC		
0	0	GATACTCGATGTGGCTGGTATTGACCCCGG		

0	0	GATACTTGTTGTTGGAGGTATTGACTCCTTC		
0	2	GATACTAGTCGTCGGGACACCTAATCGTCT		
0	3	TCAACTAGGTGTTGGGAGAGTTAAACCTTTT		
0	0	GACACTTGTT	tag	g
0	0	CCAATTAGGGATATGTGGACGTTTGTTTGA		
0	0	AATACTTGGT	tag	f
2	7	CACACTAGATCGGTGCAGGTCTGACCCTGT		
0	16	CCGACTAGGGATCAGGCAAGGAGTTTTTG		
0	0	ACGACTGGGT	tag	f
0	0	CATACAAGCTGTAGTGGGGTTTTTCTCCTGC		
0	0	TTCACTAGATGTAGGAGGTATTGACCCCTT		
2	0	TTCTCTTGCTTTTCGGAGTATCGACCCTCTG		
0	0	TCAACTAGGTGTTGGGTGGTAAAACCATTT		
0	3	TGCACTAGGT	long	f
0	5	CCGACTAGG	long	g
0	0	GATATTAGGT	long	p
0	5	TCGATTTGGA	tag	f
0	0	TGCATTAGGTGTAGGAGGATTCGACCCCTT		
3	6	AGCACTAGACGCTGGGGGTGACCTTTCG		
0	0	CAGATTAAGGGATGGAAGGAAAGAAATAA		
0	0	ATAACTAGCT	long	f
0	0	AATACTAGGT	long	g
0	0	GGTACTAGGTAGTGGACCGGACATGGGTT		
0	0	GGTACTAGAT	tag	f
0	0	CTAACTAGGGATATGTGGACGTTTGTTTGA		
0	0	GGCACTAGGTGTGGGGATCATCCTTGGTTT		
4	1	CTGACCAGGGATCGAGGACAGTCCCATGGT		
0	0	TCAACTGGTT	long	f
5	0	ATCACTCGATGTTGGCGATATACAGCCAGC		
5	2	CCGACCAGGGATATGAGTAGTATATTTCAAT		
0	0	TCAACTGGTTGTCGGGAGGGTTTCTTCTCA		
0	0	AGCACTAGGT	long	c
0	0	TTAACTAGGTGTTGGGTGGGTAAAACCATTT		
0	0	CTAACTCGTT	long	g
0	0	TCAACTGGTTGTTGGGAGGGTTCTTCTCAGT		
9	0	CCGACTAGG	long	g
0	0	CCGACCAGGGATATGAGTAGTATATTTCATT		
0	0	GGTACTGGGT	tag	f

2	0	AACACTAGCCGTTGGAGGTACCCATTCCTT		
2	0	TCAACTAGTTGATCGGTGAGGAGACTCATT		
2	2	ATTGCTAGTT	long	g
0	3	GGTGCTAGG	long	g
0	6	TCTACTAGGTGTTGGGAGGGTTAAACCTTT		
0	0	TCGACTAGTT	long	g
2	0	GATGCTAGC	tag	o
0	0	GATGCTAGC	long	g
0	3	AATACTAACT	long	g
5	7	CCGACTCGGATTCAGATGAACCAAAAAGTT		
0	0	TCAACTAGTTGTTCGGTGAGGGGACTCATT		
0	0	GGTACTAGATTTGGTGGGATTTGACCCTCG		
2	0	ATTACTCGAT	tag	c
0	0	GGTACTAGG	tag	f
0	0	AGCACTGGA	long	g
4	2	TAAACTTGGC	tag	f
0	0	TGGACCAAG	tag	g
0	2	AGTGCTAGACGTTGGGGATTTTTTCTTCAG		
0	0	TCAACTGGTAGTTGGGTCTTAACTGACTCA		
0	0	CCGACTCGGATTCAGATGTATCAAAAAGTT		
0	0	TCAACTGGTTTTGGGTCTTAACTGACTCAGT		
0	0	AATGCCAGC	long	g
2	2	GATACTAGATGTTTGGAGAATTAACCCTCC		
0	0	AGCACCAGACGCCGGTGGGGTGACCTGTC		
0	0	AGTGCTAAG	long	g
0	5	ATCACTCGTT	tag	p
0	13	CCGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	CGAACTGGATGTTGGGTTCAACTTGGAGCT		
0	4	TCAACTAGCCGTCAGGTCCGCTTTAGGGCT		
0	0	CTGACTAGCGATCCGCCGGCGTGGTTTCGA		
0	0	CCGACTTGGGATTGGAGGCGCGCACTTTCC		
0	0	AGCACTGGACCGGAGTTGTGCACACGATTT		
0	0	TCAACTAGTTGTCGGGTCTTGTTGGGCTTG		
0	0	TCAACTAGGTGTTGGGTGGTTAAAACCATT		
0	3	AATGCTAGTTGTTGGTAAGTTTACTTATCAG		
0	0	AGCACTAGGTGTTGGATCCTTTAGGATTCG		
0	0	CCGACCGGGGATAGGGAGCACTGGTGAAA		
0	0	AGTGCTAGA	tag	g

0	3	GAAGCCAGC	tag	f
0	0	CCGACTAGG	tag	p
0	5	AATGCTTGGT	long	o
3	0	GGTGCTAGGAGGTGGGCTCCTCGGCCTCT		
0	0	AGCACTAGACGCTGGGCGGTGACCGTCC		
0	0	AGAACTGGACGTTGGGAGGAATTCTCCTCT		
0	0	CGAACTGGA	tag	g
0	0	CGAACTGGA	tag	g
0	0	CCGACTGGAGTGGGGGAGTCACTAAAAA		
0	0	GATACTCGAC	tag	g
2	2	TCAACTAGTCGTTCGGTGAGGAGACTCATT		
2	2	TCAACTAGTTGTTTGGTGAGGAGACTCATT		
2	0	GATGCTAGC	long	o
0	0	TCAACTGGTTGTTGGGTCTTAACGACTCAG		
0	0	CCGACTGGA	tag	f
0	0	AATGCTAGTTGTTGGGGACTTAGTCTTCAG		
0	0	GATACTCGTTGTTGGAGGTATTGACCCCTT		
3	0	TCAACTTGGTGTTGGGAGGGTTAAACCTTT		
2	4	TGTACTAGAT	tag	f
0	0	GATACTAGATGTCGGGGGTCTGTCCCCTCG		
0	0	GATACTTGATGTTGGAGGTATTGACCCCTT		
0	0	AGTATTGAATGTTGGGAAAAGTTTTATTTT		
3	2	CCGACTAAGGATCGGAAGGGTTTCAACAG		
0	0	GGTACTTGTTGTTGGAGGTATTGACCCCTT		
0	0	GATACTTGTTGTTGGAGGTATTTACCCCTTC		
0	0	GATACTTGTTGTTGGAGGCATTGACCCCTT		
0	5	CCAACTAGGTCTTTTTTAGAGACACAATTCA		
0	0	TCGACTAGGGATCGGTCCACGTTATTTTTG		
0	2	TGCACTTGGTGTTGAGCCGATTAGGTTCAG		
2	0	ATGACTCGATGTTGGCGATACACAGCTAGC		
0	0	ATCACTCGATGTACACACTTGATGTGTGTGT		
3	6	CCGACTAGGGATCGGATGGGTTGTTATTTT		
3	6	CCGACTCGGATTCAGATGAATCAAAAGAT		
2	0	ATTGCTAGTTGTTGGGGTGCTTGCACCTCG		
0	0	TCCACTAGAGTGTGGCACCACTGACGGTGT		
0	3	CTAACGATGGACGCGGGGAATCAGTCTCTT		
0	0	CCGACTAGGGATCGGGCGATGTTGAATATA		
0	0	CCGACTAGG	long	g

0	0	CCGACATAGGAATACGTAATAGTAGGACTA		
0	0	TCAACTAGGTGTTGGGAGGGTTAAGCCTTT		
5	2	AGTGCTAGCCGTTGGGACTTTCAGTCTCAG		
0	3	CCAACTCGGTGTTTGGTCCGGGGAACCGGA		
0	0	ATCACTAGATGTCGGCGATACACAGTCGGT		
2	6	GAAGCTAGCCGTCGGGGAGCATGCTCTTCG		
0	0	TGCACTTGGTGTTGGCCGATTAGGTTCAGT		
0	0	GGTGCTAGC	long	f
0	0	CCGACTTGGGATTGGAGGCGTGCACTTTTC		
2	0	TCAACTAGGTGTTAGGAGGGTTAAACCTTT		
2	2	TCAACTAGTT	long	g
2	2	GATGCTAGGCGTGAGGGGTATCGACCCCC		
3	1	CCGACTCGGATACAGATGAATCAAAAAGTT		
0	0	TATGCTAGACGTGAGGGGACTTCGTCCTTT		
0	0	GGTACTTGGCAGCGGGAGAACCTATGTCTT		
0	0	ACAACTAGAT	long	o
2	0	GAAGCTAGC	long	f
0	0	TCAACTAGGTGTTGGGTGGGTTAAACCTTT		
3	2	CCGACCAGGGATATGAGGTATTTAGTATAG		
2	2	AGCACTAGGTGTTGGCCCCGTTAGGGGTCA		
0	0	TCAACTGGTTGTTCGGTGAGGAGACTCATT		
0	0	CCGACTTGGGATTGGAGGTGTGCACTTTCC		
0	0	TCAACTAGGTGTTGAGGGTTAAACCTTTTA		
5	2	AGAACTAGGTGTCGTGGGTGACCCCCGCGG		
0	0	AGCGCTAGA	tag	g
0	0	CGCACTAGACCGGTGCGGGTTTGACGCCGT		
0	0	TCAACTGGTT	long	g
2	0	TGCACTTGGTGTTGGGCCGATTAGGCTCAG		
0	0	CCGACTGTAGATTAGAAGACGTTATTACAA		
2	1	TATACTTGGTGTAACTGGACTTAACCCTAGT		
0	0	AGAACTGGGTGTAGGAGGGGTTAGAGCCT		
0	9	GGTACTAGG	tag	f
0	0	GGTACTAGGT	long	f
0	0	GATACTAGCT	tag	g
0	0	ATGACTGACTGAAGTGGGAGTAGATGTAG		
0	0	AATACTAGGT	tag	g
0	2	CGCACTAGAC	long	g
0	0	AAGACTCGATGTTGGCGATATACAGCCAGC		

5	0	CCGACTCGGATTCAGATGAATCAAAAAGTA		
0	4	ATGACTCGATGTTGGCGATACACAGCCAGT		
0	0	TGCACTAGACCGGTGCGGTTTTGACGCCGT		
0	0	ACAACTAGGCGCTGAGGGTCTCAACCCCG		
0	0	CCGACCAGGGATATGAGTTGTTAGGAATAT		
0	0	AACTGGTTGTTGGGTCTTAACTGACTCAGT		
0	0	AGCATTTGATTTAGTGTAATCTTTATATTATT		
0	0	ATCACTAGATGTCGGGGGTCTTACCCCTCC		
0	0	CGGACCAGG	tag	k
0	0	ATGACTCGACCTGTGCGGGGCTCAATCCCC		
0	0	CCGACTAGGGATCGGTTCACGTTATTTTTG		
0	0	TCAACTGGTT	tag	g
2	5	CCGACTAGGGATCGGTGGAAGTCGATTTTG		
0	0	AATGCCAGCC	tag	g
0	0	CCAACTAGTT	long	g
0	0	TCAACTAGTT	long	f
1	1	ATGGCTGGATGTTGGTGATACACCGTCAGC		
1	1	TCAACTAGGTGTTGGGAGGATTAAACCTTTT		
0	3	GATACTCGATGTTGGGGCTTCGGCTTCAGT		
0	0	CCGACTCAGGATTGGCGGGTGTCGTTTATG		
0	0	CGCACTAGACCGGTGCGGTTTTGACGCTGT		
0	0	GATACTTGTTGTTGGAGGTTGACCCCTTCAG		
0	3	AGAACTAGGCGTTGGAAGGTTTTACCTTTT		
0	0	TAACTAGGTGTTGGGAGGGTTAAACCTTTT		
0	0	TGTGCTGGG	tag	g
0	0	TCAACTAGGTGTTGGGAGGGTTACCTTTTA		
3	0	TCAACTAGGTGTTGGGGGGTTAAACCTTTT		
0	0	TTAACTCGAT	tag	g
0	0	CCGACTTGGGATTGGAGGCGTGCACTTTCC		
2	0	CCGACTCGGTTTCAGATGAATCAAAAAGTT		
0	0	CGCACTTGCTGTGAGCGGAATCGACCCCGC		
0	0	GATACTTGTTGTTGGAGGTATTGACCCTTCA		
1	2	CCGACTCTGATTCAGATGAATCAAAAAGTT		
0	0	TCAACTGGTT	long	g
2	0	TAGACAAGATGTGGGGGGTATCGACCCCCT		
0	0	GTCACTAGCTGTCGGGAGAACTTACCCTCC		
0	0	GATACTTGTTGTTGGAGGTATTGATCCCTTC		
2	0	ATGGCTGGATGTTGGCGATACATCGTCAGC		

0	0	CCAACTAGGAATACGTGGACGTTTGTTCGA		
0	3	CCGACTCGGATTCAGTTGAATCAAAAAGTT		
0	0	TCAACTAGTTGTCGGGTCTGTTTAAGGATTG		
0	0	ATTACTCGTTGCTGGAGGTAACTTTCAGTGA		
0	0	AGTGCTGGATATCAGTAGCGAAGCTATTGG		
0	0	TCAACTAGGTGTGGGAGGGTTAAACCTTTT		
0	0	TCAACTAGGTGTTGGGTGGGTAAAACCATT		
3	7	CCGACTCGGATTCAGATGAATCAAGAAGTT		
0	0	TAAACTCGACATTAGCGATACACAGTTAGT		
3	0	CCGACTCGGATTCAGATGAATCAAAAAGTC		
0	0	GGTACTAGAT	long	g
0	0	AGCACTGGGTTGGAGGGTTCTCCACGACCT		
0	0	CTAACTCGTT	long	g
3	3	CCGACTAGGGATTAGCAGACGTTTCATTGAT		
0	0	AGAACTTGAC	long	g
0	0	AGAACTAGGCGTTGGAAGGTTTTACCTTCT		
2	0	ATGGCTGGATGTTGGCGATATACCGTCAGC		
0	0	CCAACTAGGATATGTGGACGTTTGTTTGAA		
0	0	CCGACTTGGGATTGGAGGCGTGCATTTTCC		
0	0	AGAACTAGACGTTGGGAAGCTTGTCTTCTT		
0	0	ATAACTCGTT	tag	c
0	0	CGAACTGGATGTTGGGCTCAACTTGGAGCT		
0	0	ATTACTCGTTGCTGGGAGGTAACTTTCAGT		
0	0	CGCACTAGACCGGTGCGGTTTTGATGCCGT		
2	0	CCGACCAGGGATCGAGGACAGTTCCATGGT		
0	0	GATGCTAGCC	long	g
0	0	CCGACTAGGAATGAGTGAACGTTGCATTAT		
1	0	ATGACTCGATGTTGGCGATACATAGCCAGC		
0	0	TCAACAAGGTGTTGGGAGGGTTAAACCTTT		
0	2	GAAACTAGG	tag	f
0	0	AATGCTAGCC	tag	g
2	0	CCGACCAGGGATCGAGGACAGTCTCATGGT		
0	0	TCAACTAGTTGTTCGGTGAGGAGACTCATT		
0	0	TCAACTAGTTGTCGGGTCTTTGGGCTTGGT		
0	0	CCATCTTGGAATTGGGCGGATATATTATGAT		
1	0	TCAACTAAGTGTTGGGAGGGTTAAACCTTTT		
0	4	CCGACTAAGGATCGGCAGAGGTCGTTAGCG		
0	0	AGTACTAGCTGACTGGTTAAGACTGGGTGG		

0	2	ATGATTCGATGTTGGCGATACACAGCCAGC		
0	0	TCGACTGGGTGCGGGAGGGGCTCGACCCTT		
0	0	GGCACTAGGT	tag	g
0	0	GGTACTAGGTAGCAGACTAGACATGGGTTT		
0	0	TCAGCTGGTT	long	g
0	7	ATCACTGGAT	tag	p
0	0	TGAACTGGATGTTGGTCTCAACTCGGAGAT		
0	4	AAACAGTTATGATTGTTTAAATGATAAATGG		
0	3	TCGACCAGGGATCGAGGACAGTCCCATGGT		
0	3	AATACTAGAC	long	f
0	0	GGCACTAGGT	long	f
0	0	TCAACTGGTTGTTGGGTCTTAACTGACAGTA		
0	0	TCAACTAGGTGTAGGGAGGGTTAAACCTTTT		
2	0	TCAACTAGGTGTTGGTTGGGTAAAACCATTT		
3	3	TCGACCAGACGTCGGGGTGTCAACCCCTCC		
0	0	TTTACTAGTT	long	g
0	0	AGTACTGAGCGGAAGGAAGTTCGCTTTTTT		
0	0	CCGACCAGGGATATGAGTAGTATATTTCATT		
0	0	TCGACTAGTCGTTCGGAGCAGCGATGCACT		
0	3	CCGACTAGGGATCGGACGGGTAGTTATTTT		
0	0	ATGACTTGATGTTGGCGATACACAGCCAGC		
2	0	TTCATTAGGTTTTCGGAGTATCGACCCTCTG		
0	0	TCAACTAGGTGTTGGGAGTTAAACCTTTTAG		
0	5	CTAACGATGGACGCGGGAATCAGAACATCA		
2	3	TCGACTAGTCGTTCGGAGCAGTAATGCACT		
0	0	TTGACTAGGTGTTCGGGAAGGAGACTTCTT		
2	3	CCGACTCGAATTCAGATGAATCAAAAAGTT		
0	0	GGCACTAGGTGTGGGTCCTTACCAACGGGA		
0	0	ACGACTGGTTGTTGGGGGAGTTGTCCCTCA		
0	0	GATACTTGTTGTTAGAGGTATTGACCCCTTC		
0	0	GATACATGTTGTTGGAGGTATTGACCCCTTC		
0	0	CGAATTGGATGTTGGGCTCAACTTGGAGCT		
0	0	TCAACTAGCC	long	g
0	0	GATACTTGTTGTTGGAGGTATTGGCCCCTTC		
0	0	CCGACAAGGGATTGGTGGGGTTTCGTTATG		
0	0	CCGACCAGGGATATGAGGATTCTTACTTATA		
0	0	CCGACCGGGGATAGGGAGTCTGGTGAAACT		
0	0	TCTACTAGTTGTCGGGACTTGGTTGTCTTGG		

0	0	CACACTGGATGCCGGAAACTCTGACGTTGC		
0	0	CCGACTTGGGATTGGAGGCGTGTATTTTCC		
0	0	CCGACTTGGTGTTCCCGGGTTTAAGTCCGG		
2	4	TACACTAGACTGGTGCGGGTTTGACGCCGT		
0	0	CACGTTTGCTGTGAGAGGATTCGACCCCTT		
0	0	CCGATTTGGGATTGGAGGCGTGCACTTTCC		
0	0	CCGACTTGGGATTGGAGGCGTGCTCTTTCC		
2	4	ATGACTTGGTGTGTTGGGTTTTAAGTCCCG		
0	0	GGTACTGGGTAGAAAGCGTTCCGATGACG		
0	0	CCGATCGGGGATGGGGAGAGGTAATACCT		
0	0	GTCACTCGGT	long	f
0	0	TCAACTAGGTGTTGGGTGAGTAAAACCATT		
0	0	CGAACTGGATGTTGGGCTTAACTTGGAGCT		
0	0	AGTGCTGGGTGTAGGGGGTCATCACCCCCC		
0	0	GATACTTGTTGATGGAGGTATTGACCCCTTC		
0	0	TCAACTAGTTGTTCGGCGAGGAGACTCATT		
3	0	CCGACTCGG	long	g
3	0	ATGACTCGATGTTAGCGATACACAGCCAGC		
3	2	CCGACTCGGATTCAGATGAATAAAAAGTTC		
0	0	GGTACTAGGTAGTGGACTTACATGGGTTCC		
3	0	CCGACCAGGGATATGAGTAGGTTATTTCAT		
0	0	CCGACTAGGGATGAGTGAACGTTGAATTAT		
0	0	CCAACTAGGGATACGTGGATGTTTGTTCGA		
0	0	TATGCTAGACCGGTGCGGTTTTGATGCCGT		
0	5	TATACTAGACTGGTGCGGTTTTGACGCCGT		
4	0	ATCTCTAGCTTTGAGGAGTATCGACCCTCTT		
0	0	ATTACTCGATGTTGGCGATACGCGGCCAGC		
0	0	CCGGTTAGGGATTGGCAGGGTTTCGTTATG		
0	0	TCAACTAGCT	long	g
2	0	ATTACTAGATTTTGGCCGTAAGGTCAGAGT		
1	0	CCGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	CCGACTTGGGATTGGAGGCGTACACTTTCC		
5	0	TCTACTAGCC	long	g
0	0	ACCCCCATGAATTGGGGAATTTTTGGTCGG		
0	0	TCAACAAGTTGTTCGGTGAGGAGACTCATT		
2	0	TCGACTAGTCGTTCGGAGCAGCAATGTACT		
0	0	GGTGCTAGGTGTCACGGGTCATGACCCTGT		
0	0	CCGACTAGGGATGGGTGAACGTTGATTTTT		

0	0	AGTGCTGGG	tag	g
0	0	TCGACTAGTT	long	g
0	0	CGAACTGGA	long	g
0	0	TGAACTGGATGTTGGGCTCAACTTGGAGCT		
0	0	TCAACTGGTT	long	g
0	0	TACGCTAGATCGGTGCGGGTTTGACTCCGT		
0	0	ATTACTCGATGTGTGCGATACATGGCACGC		
0	0	TCAACTAGTAGTCGGATCTTAATAGATTTGG		
4	0	ATCACTTGAT	tag	f
0	0	TCAACTGGTTGTTGGGAGGGTCTCTTCTCA		
0	0	AGTGCTGGATGTCGGGAAGCCTATCTTTTC		
0	1	TCGACTAGTCGTTCAGAGCAGCAATGCACT		
0	0	TCAACTGGTT	long	f
0	0	GGTACTAGG	tag	o
0	0	AGTACTAGG	tag	f
0	0	CCGATTAGGGATGAGTGAACGTTGCATTAT		
0	0	CCGACCAGGGATATGAGTTGTTAGGAATAT		
0	2	TGCACTTGGTGTTGGGACGATTAGGTTCAG		
0	0	TCAACTGGTCGTTGGGAGGGTTTCTTCTCA		
0	0	GGTACTAGG	long	g
0	0	AGAACTAGCCGTTCGGTCCCGTATGGGATT		
0	0	ATAACTCGCT	long	f
0	0	AGCACTAGACGCTGGGTGGGTGACCGTCCC		
0	0	GGCACTAGG	tag	o
0	0	CGAACTGGA	tag	g
0	1	TACACTAGACTGATGCGGTTTTGACGCCGT		
0	0	TCAACTGGTTGTTGGGAGGGTTTCTTCAGT		
2	2	CCGACTCGGATTCAGATGATTCAAAAGTT		
0	0	AATGCTAGCCGTTGGCCAGCTTGCTGGTCA		
0	0	AGAACTGGGTAGTGGTCCGGGCATGGGAT		
2	0	CGTGTTGGA	tag	f
0	0	AATACTAGGTGTTGGATACATTTGTATCCA		
0	0	TCAACTGGTT	tag	f
0	0	ATGACTCGATGTTGGCGATACAGCCAGCGT		
0	0	GATACTAGG	tag	c
0	0	CTAACTCGTT	long	g
0	0	TCTACTAGTT	long	f
0	0	GGCACTAGG	long	f

0	0	CCAACCAAAGATAAGGGTGGAAAAACAA		
0	0	TCTACTAGTT	long	f
0	0	TGCATTTGGTGTTGGGCCGATTAGGTTCAG		
0	0	AATGCCAGA	long	f
0	0	TCAACTAGTTGTTCGGTGAGGAGATTCATT		
0	0	AGTGCTAGCTGTTGGGGGGTTACCTCTCAG		
0	0	CTAACTCGAT	long	g
0	0	TCAACTAGTTGTTCGGTGTGGAGACTCATT		
0	1	TCAACTAGATGTTGGGAGGGTTAAACCTTT		
2	0	CCGACTCGGATTCAGATGAATAAAGTTCAT		
0	2	TGTGCTAGATGTCGGGGTTTTAAACTTCGG		
0	0	GATGCTAGATGTTGGTAATTTCGGTTATCA		
2	0	TGCACTAGG	tag	p
2	0	TACACCAGACTGGTGCGGTTTTGACGCCGT		
0	0	CCGACTAGG	long	o
0	0	TCAACCGGTTGTTGGGAGGGTTTCTTCTCA		
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0	0	TCAACTAGGTGTTGGGAGGGTCAAACCTTT		
0	0	TCAACTAGTTGTCGGATCTTAATAGATTGG		
0	2	CCAACCAGGGATCGAGGACAGTCCCATGG		
4	0	TGCGCTTGGTGTTGGGCCGATTAGGTTCAG		
2	0	TCCACTAGATTGTGGCACTTTTAACGGTGT		
0	0	TCAACTAGG	tag	f
0	0	ATGACTTGGTGTGTCGGGTTTTAATTCCCG		
0	0	CCGACTCGGTTCAGATGAATCAAAAAGTTC		
0	0	AATGTAAAAAAAAAAATAATTTTTATTTTA		
0	0	GAAGCTAGC	long	g
0	0	CTAACGATGGACGCGGGGAATCAGAAAGA		
0	0	CCGACCCGGATTCAGATGAATCAAAAAGTT		
0	0	ATTACTCGCTGCTAGATGGCAACGTTTAGT		
0	0	AGCACTGGG	long	f
0	0	TCAACTAGAT	long	g
0	1	CCGACCAGGGATCGAGGACAGTCCCATGG		
2	0	ATCACTAGATTTTGGTCGTATAGTCAGAGT		
0	0	GATACTAGCTGTTGGGAGTAATTTCGGTGG		
0	0	TCAACTAGCTGTTCGGTGAGGAGACTCATT		
3	1	GATACCAGCTGTTGGGAGTAATTTCAGTGG		
3	0	ATCACTCGATGTTGGCGATACACAGCCAGC		

0	0	TCAACTAGGTGCTGGGTGGGTAAAACCATT		
0	2	GATACTTGTCGTTGGAGGTATTGACCCCTTC		
0	0	GATACTAGCTGTTGGAGGAAACTTCGGTGG		
4	0	CCGACTAAGGATCGGCAGAAGTCATTTTG		
4	0	CGAACTAGCT	tag	g
0	2	TGCACTTGGTGTTGGGCCGATTAGGTTCAG		
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0	0	AGTACTAGATATCGGGATTTATTTCGGTGTC		
0	0	CCAGCTAGGGATATGTGGACGTTTGTTTGA		
0	0	GGTACTAGCT	tag	f
0	0	GATACTTGTTGGAGGTATTGACCCCTTCAGT		
0	0	CTTACTCGACGTACGGCCCTGGTGGCTGTG		
0	0	GATACTAAATGCTGTCAAAAACAGTGTTGA		
0	0	TCAACTAGTTGTTCTGTGAGGAGACTCATTG		
0	0	CTTACTCGACGTCCGGCCCCTGTGGTCGTG		
0	0	GGCACTAGGTGTGGGGAGCATTTCACGTTC		
0	0	TATACTTGGTGTAATCGGACTCAACCCCGAT		
0	0	TTGACTAGGT	long	f
0	0	CTGACTTGGT	tag	o
0	0	CCGACTTGGGATTGGAGGCATGCACTTTCC		
0	0	CCAACTAGGAATATGTGGACGTTTGTTTGA		
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0	0	TCATCTAGGTGTTGGGAGGGTTAAACCTTTT		
0	0	ATGACTTGATGTTGGCGATATACAGCCAGC		
0	0	AACACTGGAGAAAGGGGGCTTCGGCCTTCT		
0	0	GATACTTGTTGTTGGAGATATTGACCCCTTC		
0	2	TCAACAGGTGTTGGGAGGGTTAAACCTTTT		
2	0	ATGACTCGAT	tag	g
0	2	TACACTAGACTGGTGTGGTTTTGACGCCGT		
0	0	ATTACTCGAC	long	g
0	0	TCAACTAGTTGTCGGGTCTTATTAGGCTTGG		
0	0	GATGCTAGCCGTCGGTCAGCTTGCTGATCG		
2	3	TCAACTAGGTGTTGGGAGGGTTAAACCTTCT		
0	0	GGCACTAGCTTGGGGTCTCCTGTGTGATCC		
0	0	TGTACTTGATGTACCTAGGCTCAACCCTGG		
0	0	TCAACTAGGGATATGTGGACGTTTGTTTGA		
0	0	CCGACTGGAGTGGAGGAGTCACAATTCATA		
0	0	GGTACCAGGTTGTGGACTTGCATGGGTTCA		

0	0	CCGACTTAGGATTGGAGGCGTGCACTTTCC		
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0	0	CCGACCAGGGATATGAGTTGTTAAGATTAC		
0	0	ATAACTAGCT	long	f
0	0	TCAACTAGGTGTTGGGTGGGTATAACCATT		
0	0	CCGACCGGGGATGGGGAGAGGTAATACTT		
2	2	CCGACTCGGATTCATGAATCAAAAAGTTCA		
2	2	CCGACCAGGGATATGAGTAGGTTATTTCAT		
0	0	TCAACTGGTTGTTGGGAGGGTTTCTTCACA		
0	0	CCGACTAGG	long	c
0	0	AATACTAGGT	tag	g
0	0	CCGACTGTAGATTAGAAGACGTTAATCAAG		
0	0	CCGACTAGCAATCCGCCGGCGTGGTTTCGA		
0	0	CCGACCGGGGATGGGAGAGGTAATACCTT		
0	0	ATTACTCGTTGCTGGGAGGTAATTTTCAGT		
0	0	CGCATTTGCTGTGGACGGAATCGACCCCGT		
0	0	CCGACTAGGGATATGTGGACGTTTGTTTGA		
0	0	CCAACTAGGGATATGTGGACGTATGTTTGA		
0	0	CCGACTAGGGATTGGGGAGTCATCAAGCTC		
0	0	AGCACTAGG	tag	p
0	0	CGCACTAGACCAGTGCGGTTTTGACGCCGT		
0	0	TATGCTAGACCGGTGTGGTTTTGACGCCGT		
0	0	TATACTAGGTGTAGCTGGACTCAACCCCAG		
0	0	TTTACTAGTGTTGCGGGTATTTATTTATCTG		
0	0	TTTACTTGCTGTTGGGGGCAACCTAAGTAG		
0	0	GATGCTAGC	long	g
0	0	CCGACTAGCGATCCGCCGGCGTGGTTTTGA		
0	0	CGAACTGGATGTTGGGCTCAACTTGGGGCT		
0	7	CCGACTCGATTCAGATGAATCAAAAAGTTC		
0	7	CCGACTCAGGATCGGTGGGCTGTTTTTAGT		
0	0	CTTACTCGACGTACGGTCCTGGCGGCTGTG		
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0	0	TCAACTGGTTGTTGGGAGGGTTTCTTCTCA		
0	4	TTTACTTGCTGTTCGGTCTTCGGATTGAGTG		
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0	0	CATATTTGAGGTGGGGGGATTCGACCCCTT		
0	0	CCAACTAGCGATTAGCTGCTGTTAAAAACG		
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0	0	TCGACTAGCTGTTGGAATCCTTGAGATTTTA		
0	0	CCGACTTGGGGTTGGAGGCGTGCACTTTCC		
0	0	TCTACTAGTT	long	f
0	0	TCAACTAGGAGTTGGGTGGGTAAAACCATT		
0	0	ATTACTCGACATACGCAATACACAGTGTGT		
0	0	ATTACTAGGT	long	p
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0	0	TCGACTGGTTGTTGGGAGGGTTTCTTCTCA		
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0	0	AGTGCTAGACGTTGGGGTTATAAACTTCAG		
0	0	TCAACTGGTTGTTGGGAGGTTTTCTTCTCAG		
0	0	GATACTAGCTGTTGGGGGTAATTTCAGTGG		
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0	0	AGCACTAGACGCTGGGCGGGTGACCGGCC		
0	0	CCGACTAGGGATGGGTGAACGTTGAATTTA		
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0	0	ACAACTAGA	tag	o
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0	0	TGCACTTGGTGTTGGGTCGATTAGGTTCAG		
0	0	GGCACTAACTTGAGGTCTCCCTGTGGGATC		
0	0	ATTACTCGACATACGCAATACACTGTGTGT		
0	0	AGTGCTCGTC	long	o
0	0	TCGACTAGGTGTTCAGGAAGGAGACTTCTT		
0	0	CGCACTAGACCGGTGTGGTTTTGACGCCGT		
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0	0	AGAACTAGGCGTTGGAAGGTATTACCTTCT		
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0	0	CCAACTAGGGAGATGTGGACGTTTGTTTGA		
2	2	CCGACTCAGGATTGGCAGACGTCCTTACCG		
0	0	TACGTTGGCT	long	g
0	0	ATTACTTGATGTTGGCGATACACAGCCAGC		
0	0	TCAACTAGTC	tag	g

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0	0	GATACTAGGTGTTGGAGAGATTCAAATCAT		
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0	0	ATCACTCGATGTTGGCGATACGCAGCCAGC		
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0	0	TTCTCTCGCT	tag	p
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0	0	CCGACTAGGGATCGGTCCACGTTATTCTCT		
0	0	GATACTTGGTGTGTGGGGTATTTAGTCCCC		
0	0	ATTGCTAGTT	long	g
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0	2	ATCACTAGATTTTGGCTGTATGGTCAGAGT		
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0	0	TCAACTAGTTGTTCGGTGAGGAGGCTCATT		
2	0	ATTACTCGAT	tag	f
2	2	TCAGCTAGTT	tag	g
0	0	TCGACTGGTT	long	f
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0	0	TACACTAGACTGGTGCGGTTTGACGCCGTA		
0	0	AGCACTGGAT	long	f
0	0	AGAACTAGGTGTCGTGGGGGTTGACCCCC		
0	0	AGCACTAGCT	tag	g
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0	0	CACGTTTGGT	long	f
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0	0	ATTACTCGAC	tag	f
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0	0	TCAACTGGTT	tag	f
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0	0	AGCACTGGG	long	f
0	0	GATACTAGG	long	o
0	0	TCAACTGGTT	tag	f
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0	0	ATAACTAGCT	long	g
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0	0	TCAACTGGTT	tag	f

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0	0	CTAACTCGTT	tag	g
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0	2	ATTACTAGATTTGGCCGCAAGGTCAGAGTC		
0	2	AGTGCTAGCT	long	g
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0	0	TCAACTAGGGGTTGGGAGGGTTAAACCTTT		
0	3	GATACTAGCTGATGGAGGAAACTTCAGTG		
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2	2	TCAACTAGTTGTCAGATCTTAATAGATTTGG		
0	1	TCAACTAGTTGTTCGGTGAGAAGACTCATT		
0	0	TCAACTGGTT	long	f
0	0	ATGACTTGGTGTGTCGGGTTTCAAGTCCCG		
0	0	TAAACTTGGCGTCGGTGACTTAAACTCCAT		
0	0	AATGTTAGCC	long	g
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0	0	ATGACTCGATGTTGGCGATACTCAGCCAGC		
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0	0	TATACTTAGTGTAACTGGACTCAACCCTAG		
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0	0	ATTACTCGATGTTGGCGATACACGGTCAGC		
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0	0	AATGCTAGACGTTGGCGAGCATGCTCGTCA		
0	0	TCAACTGGTTGTTGGGTTAACTGACTCAGT		
0	0	ATTTTTTATATTTACATAAATAAATCCACCA		
0	0	AATACTAGGT	long	f
0	0	CCGACTCGGATTCAGATGATCAAAAAGTTC		
0	0	CCGACTCGGATTCAGATGAATCAAAAAGTT		
0	0	AATGCTAGCTGTTGGGTTTTTAAAACTCAG		
0	0	TCAACCAGTTGTTCGGTGAGGAGACTCATT		
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0	4	GATACTAGAT	tag	c
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0	0	TGCACTTGGTGTTTGGCCGATTAGGTTCAGT		
0	0	AATACTCGAT	tag	f
0	0	ATGGCTCGAT	tag	f
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0	0	GATACTAGCT	long	g
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0	0	GGCGCTAGG	tag	c
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0	0	TCAACTGGTT	long	f
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0	2	GATACTAGCCGTTGGAGGAAACTTCAGTGG		
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0	2	TTAACGATGGACGCGGGGAATCAGAAAGA		
0	2	TACACTGGAT	tag	f

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0	2	TCGACTCAGGATTGGCAGACGTCTTTACCG	
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373563	463918	

taxon_data	long	long_total	long_this	support	confidence
g	GTAGTCCACG	18	18	2271	0.99647732
g	GTAGTCCACG	12	12	244	0.9795082
g	CTAGTCTTAA	12	12	29	0.89655172
g	GTAGTCCACG	12	12	42	1
g	GTAGTCCACG	12	12	535	0.97570093
GCC	CTAGTCTTAA	8	8		
g	GTAGTCCACG	10	10	713	0.99298738
g	GTAGTCTTAA	12	12	3	1
g	GTAGTCCACG	12	12	207	0.98067633
g	GTAGTCTATG	11	11	10	1
g	GTAGTCCACG	12	12	3	1
g	GTAGTCCACG	12	12	300	0.99
g	GTAGTCCACG	12	12	564	0.94858156
g	GTAGTCCACA	10	10	2	1
AGA	GTAGTCTCAA	10	10		
g	GTAGTCCACG	12	12	4	1
CTA	GTAGTCCACG	8	8		
g				24	0.91666667
g	GTAGTCCACG	12	12	32	1
f	GTAGTCCGCA	7	6	2	1
f	GTAGTCCACA	12	12	4	1
ATC	GTAGTCCACG	10	10		
CGA	GTAGTCTCAA	7	7		
g	GTAGTCCACG	12	12	589	0.99151104
GAG	GTAGTCCACG	11	11		
g	GTAGTCCACG	9	9	9	1
o	GTAGTCCTAG	12	12	2	1
GG	GTAGTCCACG	12	12		
p	CTAGTTCTGA	6	6	3	1
g	GTAGTCTTAA	8	8	17	1
f	GTAGTCCACA	12	12	10	1
GC	GTAGTCCGCA	11	11		
g	GTAGTCCACG	12	12	37	1
ACA	GTAGTCCCAG	7	7		
g				91	0.96703297
g	GTAGTCCACG	12	12	176	1
f	GTAGTCCACA	12	12	4	1

ATC	GTAGTCCACG	6	6		
f	GTAGTCCACG	12	12	59	0.94915254
TAAC	GTAGTCCTAA	8	8		
TGA	GTAGTCCAAA	12	12		
g				5	1
GAC	GTAGTCCACG	6	6		
o	GTAGTCCACG	12	12	5	1
CGT	GTAGTCCACG	11	11		
g	GTAGTCCACG	5	5	25	1
g	CTAGTCTTAA	6	6	36	1
g	GTAGTCCACG	12	12	86	1
g	GTAGTCCACG	12	12	12	1
f	GTAGTCCACA	6	6	2	1
ATC	GTAGTCCACG	12	12		
f	GTAGTCCACG	8	8	15	1
g	GTAGTCCACG	12	12	246	0.99593496
g				10	1
g	GTAGTCCACG	12	12	2	1
g	GTAGTCCACG	6	6	3395	0.99145803
f	GTAGTCCGCA	12	12	6	1
f				25	1
f	GTAGTCCACG	12	12	5	0.8
CA	GTAGTCCTAG	12	12		
TGA	GTAGTCTCAA	12	12		
GGG	GTAGTCCTAG	12	12		
TTT	GTAGTCCCAG	6	6		
CATG	GTAGTCTTAA	12	12		
g	GTAGTCCACG	12	12	24	1
GCC	GTAGTCCACG	9	9		
ACT	GTAGTCTTGA	12	12		
GG	GTAGTCCTAG	12	12		
c	GTAGTCTCAA	12	12	4	1
g				7000	0.95485714
TTG	GTAGTCCCAG	7	7		
TAG	GTAGTCCACG	12	12		
g	GTAGTCCACG	8	8	116	0.99137931
g	GTAGTCCACG	12	12	68	0.97058824
TCG					

f	GTAGTCCGCA	6	6	8	1
ATC	GTAGTCCACG	12	12		
o	GTAGTCCTGG	12	12	26	1
g	GTAGTCCACG	12	12	3	1
o	GTAGTCCACG	12	12	11	0.90909091
g				8	1
o	GTAGTCCACG	9	9	30	0.96666667
GC	GTAGTCCACG	7	7		
GG	GTAGTCCTAG	6	6		
TTT	GTAGTCCCAG	7	7		
p	GTAGTCTTAA	12	12	4	1
AATT	GTAGTCCCAG	6	6		
g				57	1
GG	GTAGTCCACG	6	6		
CGC	GTAGTCCACG	12	12		
g				547	0.99268739
CA	GTAGTCCACA	6	6		
f	GTAGTCCACG	12	12	8	1
ATA	GTAGTCTTAA	12	12		
g				49	1
g	GTAGTCCACG	6	6	96	1
CT	GTAGTCCACG	6	6		
AG	GTAGTCCACG	7	7		
g	GTAGTCCACG	12	12	110	1
g	GTAGTCCACG	12	12	126	0.93650794
g	GTAGTCCACG	9	9	4199	0.87639914
g	GTAGTCCACG	12	12	6	1
GTG	GTAGTCCATG	7	7		
GC	GTAGTCCACG	9	9		
TGA	GTAGTCTTAA	6	6		
g	GTAGTCCACG	12	12	896	1
g				11	1
ATAC	GTAGTCCCAG	6	6		
g	GTAGTCCACG	8	8	6	1
f	GTAGTCCACG	12	12	2	1
g	GTAGTCCACG	8	8	5	1
ATC	GTAGTCCCAG	6	6		
g	GTAGTCCACG	9	9	63	0.98412698

CCA	GTAGTCCACA	6	6		
g				599	0.99165275
f	GTAGTCCACG	12	12	16	0.9375
g	GTAGTCCACG	6	6	21	0.80952381
g	GTAGTCCACA	6	6	76	0.98684211
c				7	1
CGG	GTAGTCCACG	6	6		
CGG	GTAGTCCACG	12	12		
GGT	GTAGTCCTAG	12	12		
TGC	GTAGTCCTAG	6	6		
f	GTAGTCCACG	6	6	2	1
TAT					
g	GTAGTCCACG	12	12	564	0.99468085
AGAA	GTAGTCCCAG	6	6		
GCT	GTAGTCCCAA	11	11		
f	GTAGTCCACG	11	11	13	0.92307692
f	GTAGTCCACG	6	6	8	1
TCC	GTAGTCTTAA	6	6		
f				15	1
p	GTAGTCCATG	7	7	2	1
AC	GTAGTCCACG	6	6		
g				755	0.99337748
o	GTAGTCCACG	6	6	3	1
TA	GTAGTCCACG	12	12		
f	GTAGTCCACG	12	12	5	1
f	GTAGTCCACG	6	6	41	0.92682927
ATC	GTAGTCCACG	6	6		
g	GTAGTCCTGG	7	7	38	1
g	GTAGTCCACG	12	12	29	1
p	CTAGTTCAAA	12	12	3	1
o				49	0.95918367
AAA					
f	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	6	6	4	1
GTG	GTAGTCCACG	8	8		
CCG	GTAGTCCTAG	6	6		
CTC	GTAGTCCAAG	6	6		
GT	GTAGTCCACG	6	6		

f	GTAGTCCACG	12	12	3	1
g	GTAGTCCACG	12	12	115	1
o	GTAGTCCCAG	6	6	2	1
GTC	GTAGTCCACA	9	9		
f	GTAGTCCACG	9	9	3	1
f	GTAGTCCACG	6	6	2	1
g				32	1
CTG	GTAGTCCACG	7	7		
f	GTAGTCCGCA	6	6	3	1
f	GTAGTCCACG	12	12	11	1
f	GTAGTCCACA	6	6	2	1
g	GTAGTCCACG	6	6	59	0.98305085
TCG	GTAGTCCACG	6	6		
g				1184	0.80152027
c				20	1
g	GTAGTCCACG	12	12	1199	0.96747289
CTAT	GTAGTCTTAA	12	12		
GAG	GTAGTCCACG	6	6		
f	GTAGTCCACG	12	12	20	1
GTG	GTAGTCCACG	6	6		
f	GTAGTCCACG	12	12	4	1
f	GTAGTCCACA	12	12	2	1
f				111	0.99099099
o	GTAGTCCACG	6	6	34	0.97058824
AAT	GTAGTCTTAA	6	6		
ATC					
o	GTAGTCCTAG	6	6	8	1
GGT	GTAGTCCTAG	12	12		
o	GTAGTCCACG	12	12	3	1
g	GTAGTCCACG	12	12	2	1
o	GTAGTCCACG	12	12	2	1
CCTG	GTAGTCCACG	9	9		
g				13	1
g				73	1
TTC	GTAGTCCACG	6	6		
g	GTAGTCCACG	7	7	4	1
g	GTAGTCCACG	6	6	2	1
TG	GTAGTCCTTG	6	6		

GC	GTAGTCCACG	8	8		
g	GTAGTCCACG	12	12	225	1
TG	GTAGTCTTAA	12	12		
GG	GTAGTCCTAG	6	6		
c	GTAGTCCTAG	12	12	9	1
g	GTAGTCCACG	12	12	633	0.99842022
f	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	9	9	784	0.99617347
g	GTAGTCCACG	11	11	15	1
GC	GTAGTCCACA	6	6		
GG	GTAGTCCACG	11	11		
p	GTAGTCCTAG	6	6	2	1
f	GTAGTCCACG	6	6	14	1
g	GTAGTCCACG	12	12	23	0.91304348
TT	GTAGTCCACA	6	6		
g	GTAGTCCACG	11	11	3	1
g	GTAGTCCGCA	12	12	11	1
f	GTAGTCCACG	11	11	5	0.8
CTG	GTAGTCCACG	12	12		
g	GTAGTCCACG	7	6	47	1
g	GTAGTCCACG	6	6	11	1
GCC	GTAGTCCACG	6	6		
g	GTAGTCCACA	6	6	4	1
A	GTAGTCCTAG	12	12		
o	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	12	12	20	0.9
GTT	GTAGTCCATG	6	6		
CT	GTAGTCCTAG	6	6		
CAG	GTAGTCCATG	6	6		
GGT	GTAGTCCTAG	6	6		
CCT	GTAGTCCACA	6	6		
GTG	GTAGTCCACG	6	6		
g	GTAGTCCACG	11	11	19	1
g	GTAGTCCACG	6	6	104	0.97115385
g	GTAGTCCACG	12	12	19	1
g	GTAGTCCACG	12	12	3385	0.88094535
f	GTAGTCCACG	6	6	44	0.95454545
f	GTAGTCCACG	6	6	2	1

CGG	GTAGTCCACG	6	6		
GTA	GTAGTCCACG	11	11		
GGTG	GTAGTCCACG	6	6		
f	GTAGTCCACG	6	6	64	0.890625
g	GTAGTCCACG	6	6	37	1
GAC	GTAGTCCACG	6	6		
c				27	1
g	GTAGTCCACG	6	6	261	0.97318008
CAG	GTAGTCCACG	12	12		
f	GTAGTCCACG	12	12	5	0.8
g	GTAGTCCACG	6	6	38	1
c	GTAGTCCTGG	6	6	20	1
g	GTAGTCCACG	6	6	3	1
g				86	1
TT	GTAGTCTACA	6	6		
ATC	GTAGTCCACG	6	6		
AAAA	GTAGTCCCAG	6	6		
f	GTAGTCCACG	6	6	8	1
o	GTAGTCCTAG	6	6	8	1
g	GTAGTCCACG	6	6	29	1
TAA					
g	GTAGTCCACG	6	6	3	1
GGC	GTAGTCCACG	7	7		
g	GTAGTCCACG	12	12	294	0.9829932
f	GTAGTCCACG	6	6	4	1
ACG	GTAGTCTTAA	6	6		
GTA	GTAGTCCACG	12	12		
CCA					
f	GTAGTCCACG	6	6	7	1
g	GTAGTCCACA	7	6	41	0.97560976
g	GTAGTCCACG	12	12	35	0.94285714
g	GTAGTCCACG	12	12	3	1
ATGA	GTAGTCTTAT	12	12		
f	GTAGTCCACG	6	6	20	1
g	GTAGTCCACG	6	6	15	1
g				159	1
GGT	GTAGTCCACG	11	11		
c	GTAGTCCTAG	6	6	13	1

g	GTAGTCCACG	6	6	2	1
GTA	GTAGTCCACG	6	6		
TCG	GTAGTCCACG	12	12		
f	GTAGTCCACG	6	6	234	0.96153846
GGC	GTAGTCCACA	12	12		
GTA	GTAGTCCACG	12	12		
g	GTAGTCTTAA	11	11	44	1
ACC	GTAGTCCACG	12	12		
TT	GTAGTCTATT	6	6		
CGG	GTAGTCCACG	12	12		
GG	GTAGTCCAAG	6	6		
TCC	GTAGTCCACG	7	7		
CCG	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
c				15	1
ATT	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	3	1
g				174	0.92528736
f	GTAGTCCACG	10	10	2	1
GGTG	GTAGTCCACG	6	6		
c	GTAGTCCTAG	6	6	5	1
f	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	6	6	3	1
o	GTAGTCCACG	6	6	3	1
GC	GTAGTCCACG	12	12		
f	GTAGTCCACG	12	12	4	1
f	GTAGTCCACG	11	11	38	1
g				74	1
g	GTAGTCCATG	7	6	156	0.98717949
TGG	GTAGTCCACA	6	6		
f				16	0.8125
f	GTAGTCCACG	10	10	4	1
g	GTAGTCTTAA	6	6	8	1
g	GTAGTCCACG	11	11	51	0.98039216
GAC	GTAGTCCAAA	6	6		
o	GTAGTCCACG	6	6	2	1
ATT	GTAGTCCACG	12	12		
c	GTAGTCCTAG	6	6	375	0.99733333

TAT					
TAT	GTAGTCTTAA	7	7		
CCG	GTAGTCCACG	12	12		
ATC	GTAGTCCACG	12	12		
g	GTAATCCTAG	6	6	3	1
f	GTAGTCCAAG	11	11	4	1
g	GTAGTCCACG	6	6	6	1
f				8	1
TGG	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	9	1
GGT	GTAGTCCTAG	6	6		
g	GTAGTCCACG	12	12	452	0.80309735
TC	GTAGTCCACG	12	12		
CTG					
TAT					
g	GTAGTCCACG	6	6	5	1
g	GTAGTCCACG	5	5	211	0.94312796
TCA	GTAGTCCTAA	6	6		
g	GTAGTCCACG	12	12	3	1
f	GTAGTCCACG	11	11	25	1
f	GTAGTCCACG	6	6	27	0.96296296
f	GTAGTCCACG	6	6	2	1
TAG	GTAGTCCACG	12	12		
f	GTAGTCCACG	10	10	2	1
CT	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	56	0.96428571
f	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	12	12	820	0.9402439
ATC	GTAGTCCACG	10	10		
g				288	1
TA	GTAGTCCACG	12	12		
o	GTAGTCCACG	7	7	17	1
f	GTAGTCCACG	12	12	9	1
GTG	GTAGTCCACG	5	5		
g	GTAGTCCACG	7	7	349	0.99426934
f	GTAGTCCACG	6	6	19	1
g	GTAGTCCATG	9	9	155	0.9483871
c	GTAGTCCTAG	6	6	3	1

f	GTAGTCCACG	6	6	14	1
g				1378	0.99492017
f	GTAGTCCACG	11	11	3	1
f	GTAGTCCACG	6	6	13	1
AGT	GTAGTCCACG	12	12		
f	GTAGTCCACG	12	12	3	1
ATG	GTAGTCCATG	6	6		
TCCT	GTAGTCCTAG	6	6		
g	GTAGTCCACG	12	12	6	1
TG	GTAGTCCACG	6	6		
g	GTAGTCTCTA	12	12	8	1
o	GTAGTCCACG	12	12	3	1
o	GTAGTCCACG	6	6	82	0.96341463
f	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	5	5	5	1
g	GTAGTCCACG	6	6	315	0.98095238
GTG	GTAGTCCACG	7	7		
f	GTAGTCCACG	6	6	4	1
GC	GTAGTCCACG	6	6		
g	GTAGTCCACG	12	12	83	1
GG	GTAGTCTCAA	6	6		
TGA	GTAGTCTCTA	6	6		
CCG	GTAGTCCACG	7	7		
f	GTAGTCCGCA	12	12	4	1
GT	GTAGTCCACA	6	6		
g	GTAGTCCACG	6	6	53	1
TTC	GTAGTCCATG	6	6		
TCG	GTAGTCCACG	6	6		
f	GTAGTCCACG	6	6	7	1
g	GTAGTCCACG	6	6	6	1
TA	GTAGTCCACG	6	6		
GT	GTAGTCCACG	6	6		
GTG	GTAGTCCACA	6	6		
TCA	CTAGTCTTAA	6	6		
GTG	GTAGTCCACG	6	6		
GG	GTAGTCCACG	11	11		
g	GTAGTCCACG	12	12	12190	0.9973749
TAC	GTAGTCCATG	6	6		

TG	GTAGTCCACG	6	6		
g	GTAGTCCACG	12	12	7	0.85714286
GGTG	GTAGTCCACG	6	6		
CA	GTAGTCCACA	6	6		
f	GTAGTCCATG	6	6	2	1
f	GTAGTCCTGG	6	6	5	1
TCC	GTAGTCCTAG	12	12		
o	GTAGTCCACG	6	6	125	0.96
f	GTAGTCCATG	7	7	5	1
TC	GTAGTCCACG	6	6		
g	GTAGTCCTGG	6	6	16	1
c	GTAGTCCACG	6	6	3	1
GG	GTAATCCTAG	6	6		
o				22	0.95454545
GG	GTAGTCCACG	12	12		
f	GTAGTCCACG	12	12	3	1
CTG	GTAGTCCACG	12	12		
c	GTATTCCTGG	12	12	33	0.90909091
g	GTAGTCCACG	11	11	3	1
g	GTAGTCCACG	12	12	180	0.98888889
p	GTAGTCCACG	6	6	16	0.875
ATT	CTAGTCTTAA	6	6		
f	GTAGTCCACG	6	6	69	0.91304348
GTG	GTAGTCCATG	6	6		
AG	GTAGTCCACG	6	6		
TGG	GTAGTCCACG	6	6		
AG	GTAGTCCACG	10	10		
ATGA	GTAGTCTTAA	6	6		
f	GTAGTCCACG	6	6	43	0.90697674
g	GTAGTCCACG	12	12	7	1
g	GTAGTCCACG	6	6	2	1
GT	GTAGTCCACG	7	7		
TA	GTAGTCCACG	6	6		
g	GTAGTCCACA	6	6	310	0.99354839
GTC	GTAATCCACG	6	6		
GGT	GTAGTCCACG	6	6		
p	GTAGTCCACG	6	6	28	0.96428571
GTG	GTAGTCCACG	6	6		

o	GTAGTCCACG	6	6	2	1
f	GTAGTCCACG	12	12	4	1
CGG	GTAGTCCACG	6	6		
GG	GTAGTCCTAG	6	6		
g	GTAGTCCACG	12	12	2	1
o	GTAGTCCATG	7	7	2	1
c	GTAGTCCACG	12	12	3	1
g	GTAGTCCACG	12	12	23	0.95652174
TCT	GTAGTCCACG	8	8		
GG	GTAGTCCACG	12	12		
f	GTAGTCCACG	6	6	10	1
g	GTAGTCCACG	6	6	886	0.996614
g	GTAGTCCTAG	12	12	3	1
AA	GTAGTCTTAA	6	6		
CTG	GTAATCCACG	12	12		
ATC	GTAGTCCACG	8	8		
o	GTAGTCCTGG	6	6	14	1
f	GTAGTCCACG	7	7	2	1
g	GTAGTCCACG	6	6	196	1
TTC	GTAATCCTAG	6	6		
f	GTAGTCCACG	6	6	16	1
g	GTAGTCCACA	10	10	2	1
CGG	GTAGTCCACG	12	12		
c	GTAGTCCACG	12	12	21	1
GAC	GTAGTCCGCA	11	11		
p	GTAGTCCACG	6	6	3	1
o	GTAGTCCACG	6	6	73	0.91780822
g	GTAGTCCACG	6	6	106	0.94339623
AAG	GTAGTCTTAA	6	6		
TAT					
g	GTAGTCCACG	6	6	6924	0.99581167
f	GTAGTCCACG	6	6	2	1
f	GTAGTCCTGG	8	8	9	0.88888889
GCC	GTAGTCCATG	6	6		
GG	GTAGTCCACG	6	6		
GGT	GTAGTCCACG	6	6		
TC	GTAGTCCACG	7	7		
g	GTAGTCCACG	6	6	2	1

TGG	GTAGTCCACG	5	5		
f	GTAGTCCACG	7	7	56	1
TAT					
TAT					
c	GTAGTCCTGG	6	6	8	1
o	GTAGTCCACG	8	8	10	0.9
CAG	GTAGTCCACG	6	6		
g	GTAGTCCACG	10	10	248	0.99193548
GTT	GTAGTCCACA	6	6		
GG	GTAGTCCACG	6	6		
TAT					
g	GTAGTCCACG	7	7	159	0.97484277
g	GTAGTCCACG	9	9	3	1
g	GTAGTCCACG	7	7	8	0.875
TTC	GTAGTCCTAG	11	11		
g	GTAGTCCACG	7	6	12	0.91666667
g	GTAGTCTTAA	6	6	13	1
g	GTAGTCCACG	6	6	20	0.95
p	GTAGTCCACG	6	6	2	1
f	GTAGTCCACG	6	6	3	1
GTT	GTAGTCCACG	7	7		
g	GTAGTCCACG	6	6	1566	0.9559387
g	GTAGTCCACG	12	12	4	1
f	GTAGTCCACG	6	6	3	1
p				5	0.8
o	GTAGTCCACG	10	10	16	1
AG	GTAGTCCGCA	6	6		
TG	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
CGG	GTAGTCCACA	6	6		
AC	GTAGTCTTAA	5	5		
p	GTAGTCCATG	6	6	13	1
TAA	GTAGTCCTAA	12	12		
f	GTAGTCCACG	12	12	8	1
g	GTAGTCTTAA	5	5	11	1
TCCC	GTAGTCCTAG	11	11		

g	GTAGTCCACG	8	8	893	0.96976484
TCT	GTAGTCCTAG	6	6		
g	GTAGTCCACG	6	6	6	1
f	GTAGTCCACG	6	6	7	1
CCG	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
o	GTAGTCCACG	6	6	9	0.88888889
g	GTAGTCCACG	7	7	37	1
g				7	1
TTA	GTAGTCTTAA	6	6		
f	GTAGTCCACA	6	6	2	1
TAG	GTAGTCCACG	6	6		
f	GTAGTCCACG	6	6	14	1
f	GTAGTCCACG	6	6	2	1
TAG	GTAGTCCACA	4	4		
CA	GTAGTCCATG	6	6		
g	GTAGTCTCTA	8	8	23	1
CGG	GTAGTCCATG	6	6		
c	GTAGTCCTAG	12	12	15	1
g	GTAGTCCACG	6	6	441	0.98185941
g	GTAGTCCACG	6	6	5	0.8
g	GTAGTCCATG	5	5	6	1
CCC	GTAATCCTAG	6	6		
TCG					
TTA	GTAGTCTTAA	6	6		
f	GTAGTCCACG	6	6	4	1
GAG					
g				3	1
f	GTAGTCCACG	12	12	25	1
GG	GTAGTCCTAG	6	6		
ACG	GTAGTCCTAG	12	12		
ATT					
AGT	GTAGTCCACG	12	12		
TAT	GTAGTCTTAA	6	6		
g	GTAGTCCACG	6	6	4	1
CG	GTAGTCCACG	6	6		
c	GTAGTCCTAG	6	6	25	1
g	GTAGTCCACG	6	6	6	1

g	GTAGTCCACG	6	6	37	1
f				4	1
g	GTAGTCCACG	12	12	6	1
TGT	GTAGTCCACG	6	6		
CGG	GTAGTCCACG	6	6		
g	GTAGTCCTGG	12	12	44	1
GTT	GTAGTCCACG	5	5		
g	GTAGTCCACG	6	6	2	1
f	GTAGTCCACG	6	6	2	1
GACG	GTAGTCTTAA	6	6		
f	GTAGTCCACG	6	6	12	1
f				17	1
AGT	GTAGTCCACG	11	11		
ATC	GTAGTCCACG	6	6		
g				6	1
CCG	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	5	1
g				7	1
TCGG	GTAGTCCACG	7	7		
g	GTAGTCCACG	6	6	17	1
o	GTAGTCCTAG	6	6	3	1
AA	GTAGTCCACG	6	6		
GAA	GTAGTCCTAA	6	6		
GTG	GTAGTCCACG	6	6		
CTG	GTAGTCCTTG	7	7		
GTG	GTAGTCCACG	6	6		
CTG					
GG	GTAGTCCACG	7	7		
CTGG	GTAGTCCACG	6	6		
TCTG					
ACC	GTAGTCTTAA	5	5		
f	GTAGTCCACG	10	10	6	1
g	GTAGTCCACG	6	6	62	0.91935484
TTG	GTAGTCCACG	6	6		
g	GTAGTCCACG	7	7	397	0.94710327
CCG	GTAGTCCTAG	6	6		
f				7	1
g	GTAGTCCACG	6	6	73	0.98630137

g	GTAGTCCATG	6	6	6	1
GC	GTAGTCCACG	10	10		
g	GTAGTCCACG	7	6	5361	0.99981347
TAG					
TA	GTAGTCCACG	11	11		
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCTTG	8	8	2	1
TTA					
TA	GTAGTCCACG	6	6		
g	GTAGTCCACG	9	9	2144	0.99113806
g	GTAGTCCACG	11	11	2	1
c	GTAGTCCTAG	6	6	3	1
CG	GTAGTCCACG	6	6		
g	GTAGTCCACG	11	11	122	1
p				3	1
CGG	GTAGTCCCTA	6	6		
c	GTAGTCCACG	12	12	2	1
p	GTAATCCTAG	6	6	6	1
f	GTAGTCCACG	7	7	8	1
o	GTAGTCCACG	10	10	33	1
TGAG	GTAGTCTCAA	6	6		
TC	GTAGTCCACG	12	12		
TC	GTAGTCCTAG	6	6		
GC	GTAGTCCACG	9	9		
f	GTAGTCCACG	10	10	2	1
TAT	GTAGTCTTAA	5	5		
CGC	GTAGTCCACG	6	6		
g	GTAGTCCACG	12	12	6960	0.99813218
GAC	GTAGTCGCA	5	5		
g	GTAGTCCACG	6	6	62	0.98387097
g	GTAGTCCACG	6	6	6	1
f	GTAGTCCTAG	10	10	47	1
GC	GTAGTCCACG	5	5		
g	GTAGTCCACG	10	10	5	1
CTG	GTAGTCCACG	6	6		
g	GTAGTCCACG	9	9	2	1
g	GTAGTCCACG	12	12	10	1
f	GTAGTCCACG	6	6	3	1

GGT					
g	GTAGTCCATG	6	6	13	1
g	GTAGTCCACG	6	6	47	1
g	GTAGTCCACA	5	5	8	1
TAG	GTAGTCCACG	6	6		
TGT	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	5	0.8
o	GTAGTCCACA	6	6	6	1
GGT	GTAGTCCACG	6	6		
CGGG	GTAGTCCACG	6	6		
CGC	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	22	0.86363636
CTG	GTAGTCCTTG	6	6		
TG	GTAGTCCACG	6	6		
ACT	GTAGTCCTGG	7	7		
GG	GTAGTCCTAG	7	7		
TCA	GTAGTCCTAA	6	6		
f	GTAGTCCACG	5	5	2	1
g	GTAGTCCACA	6	6	5	1
g	GTAGTCCTGG	12	12	21	1
g	GTAGTCTTAA	7	6	53	1
TCC	GTAGTCCACG	6	6		
o	GTAGTCCACG	6	6	6	1
c	GTAGTCCTAG	6	6	6	1
TAG	GTAGTCCACG	12	12		
g				36	1
CGG	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	12	12	55	0.92727273
CGAG	GTAGTCCACG	6	6		
CAG					
TA	GTAGTCCACG	8	8		
g	GTAGTCCTGG	6	6	2	1
f	GTAGTCCTAG	7	7	2	1
TCG	GTAGTCCACG	6	6		
f	GTAGTCCTGG	7	7	142	0.98591549
GA	GTAGTCCACG	9	9		
ATC	GTAGTCCACG	6	6		

GTC	GTAGTCCATG	6	6		
g	GTAGTCCACG	6	6	2	1
g	GTAATCCTAG	12	12	2	1
p	CTAGTTCCAA	6	6	12	1
CAT	CTAGTCTTAA	6	6		
CCG	GTAGTCCACG	10	10		
TCGA	GTAGTCTCAA	6	6		
GGG	GTAGTCCTGG	6	6		
GGC	GTAGTCCGCA	6	6		
f	GTAGTCCACG	6	6	3	1
ATC	GTAGTCCACG	9	9		
GTCG	GTAGTCCACG	10	9		
GCGCT	GTAGTCTCGA	6	6		
CTG					
g	GTAGTCCACG	5	5	78	0.98717949
TA	GTAGTCCACG	6	6		
TCC	GTAGTCCTAG	10	10		
GG	GTAGTCCACG	6	6		
AA	GTAGTCCACG	6	6		
CTG	GTAGTCCTTG	7	7		
CTG					
CGG	GTAGTCCTGG	12	12		
f				20	1
CGG	GTAGTCCACG	6	6		
c	GTAGTCTACG	12	12	2	1
f				2	1
GAA	GTAGTCCTAA	10	10		
g	GTAGTCCCAA	5	5	44	1
g	GTAGTCCTAG	6	6	5	0.8
g	GTAGTCCACG	7	7	117	0.97435897
f	GTAGTCCACG	7	7	2	1
CAG	GTAGTCCACG	6	6		
CAT	CTAGTCTTAA	7	7		
GAA					
g	GTAGTCCACG	6	6	26	0.92307692
f	GTAGTCCACG	6	6	51	0.98039216
g				12	1
AC					

g	GTAGTCTTGG	6	6	3	1
GCC	GTAGTCCACG	6	6		
AG	GTAGTCCACG	5	5		
CC					
GC	GTAGTCCACG	6	6		
GTA	GTAGTCCACG	10	10		
CGG	GTAGTCCACG	6	6		
CGG	GTAGTCCATG	7	7		
g	CTAGTCTTAA	6	6	4	1
GTG	GTAGTCTTAA	6	6		
TAT	GTAGTCTTAA	6	6		
AGT	GTAGTCCACG	12	12		
CAT	CTAGTCTTAA	6	6		
CTG	GTAGTCCTAG	8	8		
f	GTAGTCCATG	6	6	4	1
ACC	GTAGTCCACG	7	7		
c	GTAGTCCACG	6	6	6	1
TG	GTAGTCCTAG	5	5		
AT	GTAGTCTTAA	6	6		
CAG	GTAGTCCACG	6	6		
TAT					
ATC	GTAGTCCACG	6	6		
f				2	1
g				553	0.99638336
g	GTAGTCCACG	6	6	28	0.89285714
c	GTAGTCTCAA	5	5	4	1
GGT	GTAGTCCACG	6	6		
GCG	GTAGTCCACG	6	6		
g	GTAGTCCACG	6	6	38	1
g	GTAGTCCACG	6	6	19	1
c	GTAGTCCACG	7	7	3	1
g	GTAGTCCACG	9	9	73	1
CAT	CTAGTCTTAA	6	6		
ACT	GTAGTCTTAA	5	5		
g	GTAGTCCACG	5	5	5	1
GTT	GTAGTCCACG	3	3		
TAT					
o	GTAGTCCACG	6	6	8	0.875

f	GTAGTCCACG	10	10	6	0.83333333
f	GTAATCCTAG	6	6	6	1
f	GTAGTCCACG	4	4	4	1
GGG	GTAGTCCATG	6	6		
g	GTAGTCTTAA	4	4	40	1
g	GTAGTCCACG	6	6	194	0.9742268
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	6	6	3	1
g	GTAGTCCTGG	7	7	4	1
g				3859	0.99559471
g				46	0.97826087
AGT	GTAGTCCACG	11	11		
AGT	GTAGTCCACG	10	10		
CCG	GTAGTCCTAG	6	6		
o	GTAGTCTTAA	5	5	3	1
TAG					
g	GTAGTCCACG	5	5	7	1
TGC	GTAGTCCACA	4	4		
g	GTAGTCTCAA	6	6	53	1
ATT	GTAGTCCACG	6	6		
f	GTAGTCCATG	10	10	4	1
GTA	GTAGTCCACG	6	6		
c	GTAGTCCACG	6	6	2	1
TGAG	GTAGTCCACG	6	6		
CAT	CTAGTCTTAA	7	7		
TAG	GTAGTCCACG	11	11		
CAC	GTAGTCCTAG	6	6		
TT					
TTT	GTAGTCCACG	6	6		
g	GTAGTCTTAA	6	6	3	1
AG	GTAGTCTACG	6	6		
g	GTAGTCCACG	6	6	30	1
AAC	GTAGTCCACG	6	6		
CAG	GTAGTCCTGG	9	9		
f				5	1
GCG	GTAGTCCACG	6	6		
CTG	GTAGTCCTCG	10	10		

c				34	0.97058824
f	GTAGTCCGCA	6	5	28	1
ACG	GTAGTCCACG	6	6		
f	GTAGTCCACG	10	10	4	1
g	GTAGTCCACG	9	8	2	1
AGTA	GTAGTCCACG	12	12		
GTG	GTAGTCCATG	6	6		
CGG	GTAGTCCACG	4	4		
CT	GTAGTCCACG	6	6		
TAT	CTAGTCTTAA	6	6		
g	GTAGTCCACG	6	6	6	1
g	GTAGTCCACG	7	7	4	1
g	GTAGTCCACG	7	7	2	1
TT					
TCTC	GTAGTCCTAG	11	11		
g	GTAGTCCACA	6	6	140	0.98571429
TAG	GTAGTCCACG	10	10		
GTG	GTAGTCCACG	6	6		
g	GTAGTCCTAG	7	7	12	1
c	GTAGTCCTGG	6	6	7	0.85714286
p	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	6	6	5	1
f	GTAGTCCACG	6	6	12	0.83333333
TAG	GTAGTCCACG	9	9		
o	GTAGTCCATG	6	6	4	1
TG	GTAGTCCTTG	9	9		
g	GTAGTCCACG	8	8	220	1
CAT	CTAGTCTTAA	6	6		
ACT					
CTT	GTAGTCCTAG	6	6		
g	GTAGTCCACG	6	6	3	1
g	GTAGTCCTGG	8	8	11	1
f	GTAGTCCACG	6	6	9	1
ATG					
g	GTAGTCCACG	6	6	2	1
GGG	GTAGTCCACG	6	6		
f	GTAGTCCACG	6	6	2	1

TAG	GTAGTCCACG	12	12		
ATT	GTAGTCCACG	6	6		
p				6	1
TT	GTAGTCTATT	6	6		
TGG	GTAGTCCACG	4	4		
GCT	GTAGTCCACG	8	8		
g	GTAGTCCTAG	12	11	12	1
g	GTAGTCCTGG	6	6	4	1
g	GTAGTCCACG	5	5	327	0.9969419
TA	GTAGTCCACG	5	5		
GTG	GTAGTCCACG	5	5		
TG	GTAGTCCTAG	5	5		
GGT	GTAGTCCACG	6	6		
CAG	GTAGTCCTGG	7	7		
g	GTAGTCTTAA	2	2	8	1
CTG	GTAGTCCACG	10	10		
g	GTAGTCCACG	6	6	3	1
TGG	GTAGTCCACG	6	6		
ATG					
g				2	1
f	GTAGTCCACG	6	6	8	1
g				12	1
f	GTAGTCCACG	6	6	4	1
CG	GTAGTCCACG	6	6		
g	GTAGTCCACG	3	3	135	1
TG	GTAGTCCACG	4	4		
ATC	GTAGTCCACG	6	6		
g	GTAGTCCACG	5	5	2	1
TGG	GTAGTCCGCG	5	5		
g	GTAGTCCACG	4	4	6	0.83333333
TGT	GTAGTCCACG	6	6		
TAT	GTAGTCTTAA	6	6		
g				2	1
g	GTAGTCCACG	6	6	24	1
o	GTAGTCCACG	7	7	14	1
g	GTAGTCCACG	4	4	33	1
TAT	GTAGTCTTAA	6	6		
AG	GTAGTCCATA	6	5		

GGC	GTAGTCCACG	7	6		
ACG	GTAGTCTCAA	4	4		
TGG	GTAGTCCACG	5	5		
GCT					
f	GTAGTCCACG	6	6	2	1
g	CTAGTCTTAA	3	3	17	1
g	GTAGTCCACG	6	6	2	1
AGC	GTAGTCCACG	6	6		
CGG	GTAGTCCACG	6	6		
g	GTAGTCCACG	4	4	91	0.98901099
CTCC	GTAGTCCACG	6	6		
GTA	GTAGTCCACG	5	5		
g	GTAGTCCACG	6	6	191	0.97905759
g	GTAGTCCACG	5	5	4	1
TAAC	GTAGTCCTAA	6	6		
g	GTAGTCCTAG	6	6	2	1
CGG	GTAGTCCACG	4	4		
GGT	GTAGTCCACG	6	6		
TA	GTAGTCCACG	6	6		
c				25	1
CCG	GTAGTCCACG	8	8		
g	GTAATCCTAG	6	6	4	1
AG	GTAGTCCACA	5	5		
g	GTAGTCCACG	5	5	2	1
p	CTAGTTCAAA	7	7	71	1
g				184	0.99456522
f	GTAGTCCACG	6	6	5	1
CTA	GTAGTCCACG	6	6		
TAG	GTAGTCCACG	6	6		
GGA	GTAGTCTTAA	5	5		
g				6	1
CGC	GTAGTCCACG	6	6		
f	GTAGTCCGCA	6	6	3	1
GGT	GTAGTCCACG	5	5		
AAG					
TTG					
o				37	1
f	GTAGTCCGCA	5	5	4	1

GTG					
CGT	GTAGTCCACG	6	6		
GCC	GTAGTCCATA	6	6		
TAG	GTAGTCCACG	9	9		
TAT	GTAGTCTTAA	6	6		
TAG	GTAGTCCACG	10	10		
g	GTAGTCCTAG	6	6	2	1
AGT	GTAGTCCACG	5	5		
TAT					
GTG	GTAGTCCATG	7	7		
ACT	GTAGTCTCAA	5	5		
o	GTAGTCCTGG	5	5	3	1
CAT	GTAGTCCTGG	5	5		
g	CTAGTCTCAA	6	6	679	0.99410898
g	GTAGTCTTAA	4	4	6	1
g				9	1
g	GTAGTCTTAA	4	4	63	0.98412698
g	GTAGTCCACG	5	5	217	0.80184332
CTG	GTAATCCCCA	4	4		
CCT					
o	GTAGTCCTAG	6	6	4	1
g	GTAGTCCACG	5	5	5	1
g	GTAGTCTCAA	6	6	4	1
AG	GTAGTCCACG	8	8		
g	GTAGTCTTAA	5	5	37	0.86486486
TGA	GTAGTCTCTT	8	8		
CTG	GTAGTCCTTG	9	9		
CGG	GTAGTCCATG	5	5		
g	GTAGTCCACG	6	6	8	1
TCC	GTAGTCCTAG	6	6		
GCG	GTAGTCCACG	5	5		
GTA	GTAGTCCACG	5	5		
g	GTAGTCCACG	8	8	3	1
f	GTAGTCTTAA	5	5	233	1
g				48	0.95833333
g				9	1
TAG	GTAGTCCACG	5	5		
g	GTAGTCCACG	6	6	4	1

f	GTAGTCCACG	7	6	2	1
TTG					
g	GTAGTCCACG	4	4	2	1
f	GTAGTCCACG	6	6	8	1
f	GTAGTCCACG	7	7	3	1
CCG					
TAA	GTAGTCCACG	5	5		
GTA	GTAGTCCACG	5	5		
AAA	GTAGTCTTAA	7	7		
GGTG	GTAGTCCACG	6	6		
TCG	GTAGTCCACG	6	6		
o	GTAGTCCACG	5	5	13	0.92307692
f				2	1
g	GTAGTCCTGG	6	6	3	1
GT	GTAGTCCATG	6	6		
g	GTAGTCCACC	6	6	368	0.99728261
GGCG	GTAGTCCACG	5	5		
o	GTAGTCCACG	5	5	2	1
o	GTAGTCCTAG	4	4	3	1
CGAC					
ATT	GTAGTCCACG	6	6		
g	GTAGTCCACG	5	5	3	1
CTG	GTAGTCCTAG	6	6		
o	GTAGTCCACG	6	6	46	0.93478261
CAT	CTAGTCTTAA	5	5		
CTCC					
CTG	GTAGTCCACG	5	5		
g	GTAGTCCACG	4	4	575	0.99304348
GTG	GTAGTCCATG	5	5		
CAT	CTAGTCTTAA	4	4		
g				227	0.99559471
CGCC	GTAGTCCACG	7	7		
TCGG	GTAGTCCCTA	8	8		
TG	GTAGTCCACG	6	6		
CCG	GTAGTCCACG	4	4		
GACC	GTAGTCTCGA	7	7		
g	GTAGTCCACG	5	5	3	1
o	GTAGTCCACG	5	5	2	1

GC	GTAGTCCACA	5	5		
f	GTAGTCCACG	6	6	6	0.83333333
g	GTAGTCCACG	4	4	2	1
TA	GTAGTCCACG	5	5		
g	GTAGTCCACG	6	6	4	1
TAAC	GTAGTCCTAA	4	4		
CT	GTAGTCTTAA	5	5		
ATG					
ATG					
g				278	1
g	GTAGTCCACG	7	7	2	1
o	GTAGTCCTAG	5	5	7	1
f	GTAGTCCACG	5	5	138	0.96376812
GTG	GTAGTCCACG	8	8		
g	GTAGTCCACG	4	4	110	0.99090909
TG	GTAGTCCACG	6	6		
o				423	0.99763593
g	GTAGTCCACG	6	6	9	0.88888889
f	GTAGTCCACG	4	4	2	1
TG					
AGT	GTAGTCCACG	6	6		
TA	GTAGTCCACG	4	4		
TG	GTAGTCCTTG	5	5		
GC	GTAGTCCACG	6	6		
TA	GTAGTCCACG	5	5		
AGC	GTAGTCCACG	5	5		
g	GTAGTCCACG	5	5	5	1
g				10	1
GC	GTAGTCCACA	5	5		
CAT	CTAGTCTTAA	5	5		
CGG	GTAGTCCACG	6	6		
g	GTAGTCCACG	4	4	3636	0.99779978
f	GTAGTCCACG	5	5	74	1
g	GTAATCCTAG	7	7	13	1
TAG	GTAGTCCACG	5	5		
AT					
g	GTAGTCCACG	9	9	2	1
g				2475	0.99313131

g	GTAGTCCACG	5	5	10	1
TAT	GTAGTCTTAA	6	6		
p	GTAGTCCACG	6	6	2	1
AG	GTAGTCCACG	4	4		
f	GTAGTCCACG	4	4	3	1
CGG	GTAGTCCATG	6	6		
GCG	GTAGTCCACA	3	3		
TCT					
g	GTAGTCCTGG	5	5	2	1
AG					
CAG	GTAGTCCTAG	5	5		
g	GTAGTCCTGG	4	4	4	1
GT	GTAGTCCACG	7	7		
o				3	1
o	GTAGTCCTAG	5	5	12	1
TAG	GTAGTCCACG	9	9		
AG	GTAGTCCGCA	8	8		
AG	GTAGTCCGCA	6	6		
TG	GTAGTCCTTG	7	7		
GTG	GTAGTCCACG	5	5		
CAT	CTAGTCTTAA	5	5		
TG					
g	GTAGTCCACG	5	5	2	1
AC	GTAGTCCACG	4	4		
GC	GTAGTCCACG	6	6		
AAG					
f	GTAGTCCACG	6	6	3	1
g	GTAGTCCACG	6	6	5	1
AG	GTAGTCCACG	6	6		
g				23	1
GTG	GTAGTCCACG	5	5		
TAG	GTAGTCCACG	7	7		
g	GTAGTCCACG	7	7	2	1
g	GTAGTCCACG	5	5	5	1
CT	GTAGTCCACG	7	7		
f	GTAGTCCATG	7	7	2	1
GC	GTAGTCTATG	5	5		
GG	GTAGTCCACG	6	6		

g	GTAGTCCACG	6	6	7	0.85714286
p	GTAGTCCACG	5	5	2	1
p	GTAGTCTTAA	4	4	2	1
TC	GTAGTCCACG	5	5		
A	GTAGTCTGAA	5	5		
TTC	GTAGTCCTAG	4	4		
CGT	GTAGTCCACG	6	6		
g				11	1
TGT	GTAGTCCACG	5	5		
GGC	GTAGTCTCAA	3	3		
GGG	GTAGTCCATG	5	5		
CT	GTAGTCTTAA	4	4		
g	GTAGTCTCAA	3	3	120	0.98333333
CAA	CTAGTCTTAA	5	5		
CA	GTAGTCCTAG	5	5		
GCC	CTAGTCTTAA	5	5		
AGT	GTAGTCCATG	5	5		
CTG	GTAGTCCTGG	6	6		
TA	GTAGTCCACG	5	5		
AA	GTAGTCCACG	6	6		
TAG	GTAGTCCACG	7	7		
g	GTAGTCCACG	4	4	4	1
g	GTAGTCCACG	1	1	14	1
f	GTAGTCCACG	5	5	9	1
f	GTAGTCCACG	5	5	2	1
TA	GTAGTCCACG	6	6		
g	GTAGTCCTTG	5	5	2	1
GTG	GTAGTCCACA	4	4		
g	GTAGTCCATG	7	7	10659	0.99924946
GC					
CAT	CTAGTCTTAA	5	5		
CT	GTAGTCTTAA	4	4		
GT	GTAGTCCACG	7	7		
g	GTAGTCCACG	6	6	26	1
f	GTAGTCCACG	6	6	36	0.97222222
TCC					
g				131	0.81679389
GT	GTAGTCCACG	6	6		

TC	GTAGTCCATG	4	4		
f				3	1
GGT	GTAGTCCACG	5	5		
f	GTAGTCCACA	5	5	15	1
g	GTAGTCCCGA	5	5	2	1
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCTAG	9	9	4	1
CAT	CTAGTCTTAA	6	6		
AC					
CAG					
CAT	CTAGTCTTAA	6	6		
GCGGC	GTAGTCTCGA	5	5		
CAG	GTAGTCCATG	6	6		
c	GTAGTCCACG	5	5	13	1
g	GTAGTCCACG	4	4	14	1
TGT	GTAGTCCACG	6	6		
TA	GTAGTCCACG	5	5		
GTG	GTAGTCCACG	3	3		
GCT	GTAGTCCACG	4	4		
TG	GTAGTCCACG	4	4		
AT	CTAGTCTTAA	6	6		
o	GTAGTCCACG	6	6	20	1
GA	GTAGTCCACG	4	4		
TA	GTAGTCCACG	6	6		
g	GTAGTCCACG	5	5	2	1
g	GTAGTCCACG	5	5	4	1
CG	GTAGTCCACG	5	5		
GG	GTAGTCCATG	4	4		
CAT	CTAGTCTTAA	4	4		
GG	GTAGTCCTAG	5	5		
AG					
f	GTAGTCCACG	5	5	4	1
f	GTAGTCCACG	6	6	24	0.91666667
TTC	GTAGTCCACG	5	5		
AG	GTAGTCCACG	4	4		
GTG					
TG	GTAGTCCTTG	5	5		
AG	GTAGTCCACG	8	8		

AG	GTAGTCCACG	4	4		
CTG	GTAGTCCACG	5	5		
GTG	GTAGTCCACG	4	4		
CAT	CTAGTCTTAA	4	4		
AC	GTAGTCCTGG	6	6		
f	GTAGTCCACA	5	5	9	1
GA	GTAGTTTTAA	4	4		
o	GTAGTCCACG	5	5	2	1
g	GTAGTCCTGG	4	4	3	1
ATC	GTAGTCCACG	7	7		
p	GTAGTCCTGG	5	5	2	1
TGG	GTAGTCCACG	4	4		
f	GTAGTCCACG	4	4	2	1
g	GTAGTCCACG	7	7	44	0.86363636
o	GTAGTCCACG	4	4	4	1
CCG					
g				2	1
CGG	GTAGTCCACG	4	4		
ATG	GTAGTCTTAA	4	4		
AGT	GTAGTCCACG	6	6		
AA	GTAGTCCACG	4	4		
g				24860	0.9928399
g	GTAGTCCACG	6	6	2	1
TGT	GTAGTCCACG	6	6		
TA	GTAGTCCACG	4	4		
g	GTAGTCCACG	4	4	24	1
AG	GTAGTCCACG	6	6		
GCC	CTAGTCTTAA	4	4		
f				7	1
CGG	GTAGTCCATG	4	4		
AA	GTAGTCCACG	6	6		
TTC	GTAGTCCACG	5	5		
TA	GTAGTCCACG	5	5		
f	GTAGTCCACG	7	7	3	1
TC					
TG					
CGG	GTAGTCCTGG	5	5		
GCC	CTAGTCTTAA	6	6		

g	GTAGTCCACG	5	5	2	1
GG	GTAGTCCACG	4	4		
ACT	GTAGTCTTGA	4	4		
GGC					
g	GTAGTCCTGG	4	4	12	1
GCG					
g	GTAGTCCACG	4	4	3	1
f	GTAGTCCACG	4	4	11	1
GGT	GTAGTCCACG	4	4		
c	GTAGTCCTAG	6	6	6	1
g	GTAGTCTTGG	4	4	5	1
TAA	GTAGTCCACG	5	5		
TCTT	GTAGTCCACG	6	6		
AGA	GTAGTCTCAA	5	5		
g	GTAGTCCTGG	5	5	6	1
g				7	1
CGG					
GTG	GTAGTCTTAA	4	4		
TAG	GTAGTCCACG	6	6		
o	GTAGTCCACG	5	5	5	1
TAG					
GAT	GTAGTCTCAA	5	5		
GGT	GTAGTCCACG	4	4		
GTG	GTAGTCCACG	4	4		
GG					
CAT	CTAGTCTTAA	4	4		
TGG	GTAGTCCACG	5	5		
TA	GTAGTCCACG	5	5		
g	GTAGTCCACG	3	3	2	1
TA	GTAGTCCACG	4	4		
TGT	GTAGTCCACG	3	3		
g				2	1
TCTC	GTAGTCCTGG	5	5		
ACT	GTAGTCTTAA	1	1		
TTA	GTAGTCCACG	4	4		
ATT	GTAGTCTCAA	3	3		
CGC	GTAGTCCTGG	6	6		
g	GTAGTCCACG	2	2	17	1

CCT	CTAGTCTTAA	5	5		
g	GTAGTCCACG	3	3	99	0.84848485
TTT	CTAGTCTTAA	6	6		
TAG	GTAGTCCACG	6	6		
GCC	CTAGTCTTAA	5	5		
g				404	0.88861386
f	GTAGTCCACG	4	4	2	1
CAT	CTAGTCTTAA	4	4		
g				3	1
TGC	GTAGTCCACA	4	4		
ATG					
TGC	GTAGTCTATG	4	4		
TG					
CAT	CTAGTCTTAA	6	6		
g	GTAGTCCACG	5	5	15	1
f	GTAGTCCACG	5	5	2	1
TTG	GTAGTCCACG	5	5		
g	GTAGTCCTAG	5	5	9	1
TGCC	GTAGTCCATG	5	5		
TA	GTAGTCCACG	5	5		
g	GTAGTCCACG	4	4	68	1
g	GTAGTCTTAA	2	2	4	1
g	GTAGTCCACG	6	6	27	1
TAG					
AG	GTAGTCCACG	7	7		
g	GTAGTCCACG	4	4	12	1
o				3	1
CTG	GTAGTCCTGG	6	6		
TCCC	GTAGTCCTGG	8	8		
CAG	GTAGTCCATG	5	5		
g				1819	0.99780099
CCT	CTAGTCTTAA	4	4		
ATGA	GTAGTCTTAA	6	6		
g	GTAGTCCACG	5	5	72	0.97222222
CAG	GTAGTCCACG	5	5		
g				54	1
TAG	GTAGTCCACG	6	6		
GCC	CTAGTCTTAA	5	5		

GCC	CTAGTCTTAA	4	4		
f				2	1
AGTA	GTAGTCCACG	5	5		
GTG	GTAGTCCACG	6	5		
CTG					
AGC					
GTA	GTAGTCCACG	5	5		
CAT	CTAGTCTTAA	3	3		
GGTG					
g	GTAGTCTTAA	5	5	33	0.87878788
f	GTAGTCCATG	4	4	13	1
TGC	GTAGTCTATG	4	4		
AGA	GTAGTCTCAA	5	5		
TGT	GTAGTCCACG	5	5		
TAG	GTAGTCCACG	5	5		
GAC					
g	GTAGTCCACG	3	3	50	1
ATC	GTAGTCCACG	4	4		
g				35	0.8
p	GTAGTCCACG	4	4	2	1
TAA	GTAGTCCACG	6	6		
GCC	CTAGTCTTAA	4	4		
f				30	1
CAT	CTAGTCTTAA	2	2		
GAG	GTAGTCCACG	6	6		
CGG					
g				300	0.96333333
g	GTAGTCCACG	6	6	2	1
g	GTAGTCCACG	5	5	88	0.93181818
AG	GTAGTCCACG	3	3		
TGC	GTAGTCTCAA	5	5		
f				196	0.98469388
GTG	GTAGTCCACG	4	4		
CAG	GTAGTCCACG	6	6		
CCG	GTAGTCCACG	4	4		
o				11	1
GATC	GTAGTCCACG	4	4		
TG	GTAGTCCACG	4	4		

g	GTAGTCCACG	4	4	23	1
p	GTAGTCCACG	6	6	5	1
TTT	GTAGTCCACG	4	4		
TAG	GTAGTCCACG	6	6		
g	GTAGTCCACG	4	4	5	1
CTCG	GTAGTCCACG	4	4		
CCG					
g				2	1
g	GTAGTCCACG	4	4	3	1
g				13	1
AG	GTAGTCCACG	2	2		
TTC	GTAGTCCACG	5	4		
f				3	1
GTA	GTAGTCCACG	5	5		
GAG					
CTC	GTAGTCCACG	4	4		
g	GTAGTCCACG	2	2	2	1
TAG					
TAT	GTAGTCCACG	3	3		
TCT	GTAGTCTTGA	3	3		
GGC	GTAGTCCGCA	3	3		
f				7	1
CCG	GTAGTCCTGG	2	2		
TAG	GTAGTCCACG	6	6		
CAT	CTAGTCTTAA	4	4		
g	GTAGTCTCTT	3	3	32	0.96875
f	GTAGTCCACG	4	4	2	1
g				7	1
g				2	1
TG					
TTT	GTAGTCCACG	3	3		
f				12	1
CAT	CTAGTCTTAA	3	3		
f	GTAGTCCACG	7	7	2	1
AAC	GTAGTCCACG	5	5		
g				65	1
GTC	GTAGTCCACG	2	2		
TC	GTAGTCCACG	5	5		

g				6	1
CAT	CTAGTCTTAA	4	4		
g	GTAGTCCACG	3	3	9	1
g				21	0.9047619
ATGA	GTAGTCTTAA	5	5		
g	GTAGTCCACG	3	3	3	1
CT	GTAGTCCACG	2	2		
GAC	GTAGTCCACG	3	3		
g				27	0.88888889
TACC	GTAGTCCACG	3	3		
TTG	GTAGTCCTAG	3	3		
AG	GTAGTCCACG	4	4		
CAT	CTAGTCTTAA	4	4		
CGG	GTAGTCCACG	5	5		
GTA	GTAGTCCACG	5	5		
AGT					
ACC	GTAGTCTTAA	4	4		
GCT					
GTG	GTAGTCCACA	3	3		
CGC	GTAGTCCACG	4	4		
CGG	GTAGTCCACG	3	3		
GTA	GTAGTCCACG	4	4		
CAG	GTAGTCCACG	4	4		
GAGA					
c	GTAGTCCTAG	5	5	2	1
GGT					
f				3	1
AG	GTAGTCCACG	2	2		
g	GTAGTCCTGG	4	4	5	1
GTA	GTAGTCCACG	4	4		
GAC					
ACC	GTAGTCTTAA	4	4		
g				8	1
AAGA	GTAGTCTTAA	3	3		
GCT	GTAGTCTTAA	5	5		
g				261	0.98467433
f	GTAGTCCACG	3	3	2	1
f	GTAGTCCATG	4	4	3	1

ACC	GTAGTCTTAA	3	3		
p				4	1
GC					
TA					
AA					
f	GTAGTCCACG	3	3	2	1
GAG	GTAGTCCACG	4	4		
CCG	GTAGTCCTAG	3	3		
GG					
GCC	CTAGTCTTAA	3	3		
GAG	GTAGTCCACG	5	5		
g				6	1
TA	GTAGTCCACG	3	3		
TAT					
GTG	GTAGTCCACG	5	5		
p	GTAGTCCTAG	4	4	8	0.875
GAG	GTAGTCCACG	4	4		
GTC	GTAGTCCACA	3	3		
GCC	GTAGTCCGCA	4	4		
f	GTAGTCCTAG	3	3	4	1
GTC					
GGT					
g	GTAGTCCACG	2	2	2	1
f				7	1
TAAC	GTAGTCCTAA	3	3		
TG	GTAGTCTACA	4	4		
CGG	GTAGTCCACG	4	4		
TA	GTAGTCCACG	3	3		
GCT	CTAGTCTTAA	4	4		
GAG	GTAGTCCACG	5	5		
TGG	GTAGTCCACG	4	4		
g	GTAGTCCACG	4	4	2	1
AG					
TAG	GTAGTCCACG	6	6		
CAG	GTAGTCCACG	6	6		
GT	GTAGTCCACG	4	4		
GAG					
AG					

AG	GTAGTCCACG	3	3		
TAG	GTAGTCCACG	3	3		
GGG	GTAGTCCACG	5	5		
ACT					
GTG					
ACG					
AGAG					
CTG	GTAGTCCACG	3	3		
g	CTAGTCTTAA	3	3	17	1
GTC					
f				29	0.93103448
CTG	GTAGTCCACG	3	3		
GGTG	GTAGTCCACG	5	4		
ATC					
CTG	GTAGTCCTTG	4	4		
GGT	GTAGTCCACG	3	3		
GCC	CTAGTCTTAA	3	3		
AT					
TTG	GTAGTCTTGA	4	4		
g	GTAGTCTTAA	1	1	2	1
f				2	1
TAG	GTAGTCCACG	7	7		
GTT	GTAGTCCACG	1	1		
g	GTAGTCCACG	2	2	64	1
GTA	GTAGTCCACG	2	2		
g				59	0.81355932
g	GTAGTCCACG	3	3	3	1
g	GTAGTCCTAG	3	3	14	1
CAT	CTAGTCTTAA	3	3		
CAG	GTAGTCCACG	3	3		
g	GTAGTCCACG	2	2	2	1
CTG	GTAGTCCACG	5	4		
GC					
AC	GTAGTCTTAA	2	2		
TAG	GTAGTCCACG	5	5		
TGT					
CGG	GTAGTCCACG	5	5		
CTG	GTAGTCCACG	4	4		

AG					
CGG	GTAGTCCACG	4	4		
TAG	GTAGTCCACG	5	5		
g	GTAGTCCACG	4	4	14	1
AGA	GTAGTCTCAA	3	3		
f				2	1
ATC	GTAGTCCACG	4	4		
ACT	GTAGTCTTAA	1	1		
f				4	1
TG					
TG	GTAGTCCACG	3	3		
AG					
AGT					
f	GTAGTCCACA	4	4	10	1
g	GTAGTCTTAA	4	4	7	1
p	GTAGTCCACG	3	3	6	1
g				130	0.99230769
CTG	GTAGTCCTAG	4	4		
GTGT	GTAGTCCACG	4	4		
GATT					
g	GTAGTCCACG	3	3	93	0.8172043
g	GTAGTCCATG	2	2	7	1
ACT					
f				4	1
AGA	GTAGTCTCAA	3	3		
CTG	GTAGTCCATG	3	3		
TGA	GTAGTCTTAA	4	4		
f	GTAGTCCACG	3	3	6	1
GTC	GTAGTCCACA	5	5		
TAG					
TA					
c	GTAGTCCACG	3	3	2	1
TAG					
g	GTAGTCCACG	3	3	20	1
TAA	GTAGTCCACG	3	3		
g	GTAGTCTCAA	2	2	10	1
TTA	GTAGTCTTGA	3	3		
f	GTAGTCCTAG	3	3	3	1

CAG					
GAG	GTAGTCCACG	5	5		
g	GTAGTCCACG	6	6	5	1
g	GTAGTCCACG	3	3	2	1
TAG	GTAGTCCACG	4	4		
g	GTAGTCCACG	2	2	4	1
o	GTAGTCCACG	3	3	18	1
g	GTAGTCCACG	3	3	47	1
g	GTAGTCCACG	3	3	23	0.95652174
CAT	CTAGTCTTAA	3	3		
GAG					
CCG					
c				81	0.95061728
f	GTAGTCCTGG	3	3	20	0.9
g	GTAATCCTAG	3	3	3	1
f				15	1
g				4	1
TGT					
GTA	GTAGTCCACG	3	3		
CAT	CTAGTCTTAA	4	4		
AA	GTAGTCCACG	4	4		
g	GTAGTCCACG	2	2	97	0.91752577
GAG					
GGTG					
g	GTAGTCCACG	2	2	109689	0.88585911
c	GTAGTCCACG	2	2	21	1
CAC	CTAGTCTTAA	2	2		
CAG					
TGG					
TGA					
GCC	CTAGTCTTAA	3	3		
CGG	GTAGTCCTAG	2	2		
GTA	GTAGTCCACG	3	3		
TAG	GTAGTCCACG	2	2		
TG	GTAGTCCACG	3	3		
GTG	GTAGTCCTAG	2	2		
CTAG					
g				6	1

f				3	1
p	GTAGTCTTAA	3	3	18	0.94444444
o	GTAGTCCTGG	3	3	1493	0.98861353
CCT	GTAGTCCACG	3	3		
GTG	GTAGTCCACG	3	3		
TAG	GTAGTCCACG	3	3		
g				72	0.94444444
g				21	1
TATA					
g				10	1
GAG	GTAGTCCACG	4	4		
GAG	GTAGTCCACG	4	4		
f	GTAGTCCACG	4	4	26	1
AA	GTAGTCCACG	3	3		
f				2	1
TGA	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	2	2		
TAG	GTAGTCCACG	4	4		
f				7	1
GTA					
CAG	GTAGTCCACG	2	2		
TT	GTAGTCCACG	2	2		
CCT	CTAGTCTTAA	4	4		
CAG					
AG					
CAG	GTAGTCCACG	2	2		
AT					
AC	GTAGTCTTAA	1	1		
TGC	GTAGTCTATG	5	5		
GTC	GTAGTCCACA	4	4		
CT	GTAGTCCACG	2	2		
AGC	GTAGTCTTAA	3	3		
CAT	CTAGTCTTAA	3	3		
GTG	GTAGTCCACG	3	3		
CAT					
TTG	GTAGTCCCAG	3	3		
TAT	GTAGTCTTAA	3	3		
g	GTAGTCTCAA	2	2	2	1

AAG					
TAG	GTAGTCCACG	4	4		
TGG	GTAGTCCACG	3	3		
CTG	GTAGTCCATG	4	4		
GTC					
GTG	GTAGTCCACG	3	3		
GCC	GTAGTCTATG	3	3		
f	GTAGTCCACG	3	3	16	1
GCC	CTAGTCTTAA	3	3		
TAG	GTAGTCCACG	5	5		
g	GTAGTCCACG	4	4	14	1
TTG	GTAGTCCACG	4	4		
CAT	CTAGTCTTAA	5	5		
CGT					
TCG	GTAGTCCTAG	3	3		
o	GTAGTCCACG	3	3	62	1
f	GTAGTCCACG	4	4	24	1
TAG					
TAT					
GTG	GTAGTCCTAG	5	5		
GAG					
GCC	CTAGTCTTAA	3	3		
GTG	GTAGTCCACG	3	3		
GTGC	GTAGTCCACG	3	3		
g				2	1
ATC	GTAGTCCACG	3	3		
g	GTAGTCCACG	3	3	3	1
TGC	GTAGTCTATG	4	4		
GGA					
TG					
TCTG					
f				7	1
g	GTAGTCCACG	3	3	46	1
g				157	0.97452229
CTAA	GTAGTCTCTA	2	2		
g				3899	0.98281611
g	GTAGTCCACG	3	3	2	1
GTC	GTAGTCCACA	3	3		

CAT	CTAGTCTTAA	3	3		
GTC					
ATC	GTAGTCCACG	2	2		
CGG					
ACG					
AC					
T	GTAGTCCACG	2	2		
GT	GTAGTCCACG	2	2		
k	GTAGTCTTAA	2	2	4	1
CGT	GTAGTCCACG	2	2		
AC	GTAGTCTTAA	2	2		
g				498	0.98995984
ACT	GTAGTCTTAA	3	3		
g	GTAGTCCACG	3	3	2	1
g	GTAGTCCACG	4	4	3	1
f	GTAGTCCACG	3	3	16	0.9375
GTC	GTAGTCCACG	5	5		
TAG	GTAGTCCACG	4	4		
GTC					
ACC	GTAGTCTTGA	1	1		
ATC	GTAGTCCACG	2	2		
TG	GTAGTCCACG	2	2		
AGT	GTAGTCCACG	3	3		
AGT	GTAGTCCACG	3	3		
g				7	1
TG					
AGT	GTAGTCCACG	3	3		
g				29	1
ACC	CTAGTCTTAA	3	3		
CAT	CTAGTCTTAA	3	3		
TCG	GTAGTCCTAG	2	2		
GT					
CAT	CTAGTCTTAA	5	5		
g	GTAGTCCACG	2	2	2	1
CCG	GTAGTCCTAG	4	4		
CGG	GTAGTCCACG	2	2		
AG					
GTC					

AGA	GTAGTCTCAA	2	2		
CAT	CTAGTCTTAA	3	3		
GT	GTAGTCCACG	3	3		
CC					
TTT	GTAGTCCACG	2	2		
AGT	GTAGTCCACG	2	2		
TAC					
CAT	CTAGTCTTAA	2	2		
TC	GTAGTCCACG	2	2		
ATT	CTAGTCTTAA	3	3		
g	GTAGTCCTAG	3	3	5	1
TCC	GTAGTCCTAG	3	3		
g	GTAGTCCACG	2	2	40	0.85
TGA	GTAGTCTCAA	3	3		
g	GTAGTCCACG	2	2	24	1
AGT	GTAGTCCACG	1	1		
GTC					
AC	GTAGTCTCAA	2	2		
GCC	CTAGTCTTAA	3	3		
AGT	GTAGTCCACG	2	2		
c				14	1
TAG	GTAGTCCACG	2	2		
GC					
ATC	GTAGTCCACG	3	3		
TGA					
g	GTAGTCCACG	2	2	11	1
CGA	GTAGTCTCAA	2	2		
GTC					
TAG	GTAGTCCACG	3	3		
g				183	0.84153005
g				9	1
TGA					
AT	GTAGTCCACG	1	1		
AC					
TC					
TAG	GTAGTCCACG	3	3		
ACA	GTAGTCTTAA	3	3		
CGA	GTAGTCCACG	3	3		

GTC	GTAGTCCACA	4	4		
TCC	GTAGTCCTGG	2	2		
g				5	1
GCT					
g	GTAGTCCACG	2	2	3	1
p	GTAGTCCACG	2	2	2	1
CAG					
TT	GTATTTGCTG	2	2		
TGA					
f	GTAGTCCACG	3	3	3	1
f	GTAGTCCACG	2	2	5	1
AC	GTAGTCCACG	4	4		
TAG	GTAGTCCACG	4	4		
TAG					
GGT					
g	GTAGTCCACG	1	1	2	1
CTG	GTAGTCCTGG	3	3		
TAA					
GAG	GTAGTCCACG	3	3		
AGC	GTAGTCTTAA	2	2		
GTC	GTAGTCCACA	2	2		
AG					
TG	GTAGTCCACG	3	3		
CAA					
AG	GTAGTCCACG	3	3		
GAG	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	4	4		
TCC	GTAGTCCACG	2	2		
GTA					
AG	GTAGTCCACG	2	2		
AG	GTAGTCCACG	3	3		
CAG					
g	GTAGTCCACG	3	3	23	0.95652174
AG	GTAGTCCACG	2	2		
TCT	GTAGTCTTTA	1	1		
CT					
TAGA	GTAGTCCATA	2	2		
TA	GTAGTCCACG	2	2		

CGG	GTAGTCCACG	2	2		
GCC					
GGG	GTAGTCCTAG	2	2		
ATC					
TCG	GTAGTCCTAG	2	2		
GCC	CTAGTCTTAA	3	3		
GCC	CTAGTCTTAA	2	2		
GCG	GTAGTCCTAG	3	3		
CCTT	GTAGTCCTAG	2	2		
TAAC	GTAGTCCTAA	2	2		
f	GTAGTCCGCA	2	2	2	1
TAG	GTAGTCCACG	2	2		
CAG	GTAGTCCACG	3	3		
CTG					
CAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	4	4		
g	CTAGTCTCAA	2	2	11	1
GTC	GTAGTCCACA	2	2		
ATT	CTAGTCTTAA	3	3		
CTG	GTAGTCCTGG	2	2		
TTA					
CGA	GTAGTCTCAA	2	2		
AGA	GTAGTCTCAA	2	2		
ATC	GTAGTCCACG	2	2		
ATC	GTAGTCCACG	3	3		
CG					
GTC	GTAGTCCACA	1	1		
TCT	GTAGTCTTAA	1	1		
g	GTAGTCCACG	1	1	9	0.88888889
CCA	GTAGTCCACA	2	2		
CGT	CTAGTCTTAA	4	4		
GCC	CTAGTCTTAA	2	2		
g	GTAGTCCATG	2	2	25	1
TGT					
GAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	3	3		
GGT	GTAGTCCACG	1	1		
ACG	GTAGTCTCAA	1	1		

g				81	1
g	GTAGTCCACG	3	3	2	1
g	GTAGTCCACG	2	2	30	0.93333333
CAG	GTAGTCCACG	2	2		
g	GTAGTCCACG	2	2	9	0.88888889
ATC	GTAGTCCACG	2	2		
GTC	GTAGTCCACA	3	3		
GTA	GTAGTCCACG	2	2		
f	GTAGTCCACA	3	3	2	1
GTA					
GGT	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	4	4		
g	GTAGTCCACG	3	3	4	1
o	GTAGTCCACG	2	2	2	1
f				6	1
CGA	GTAGTCTCAA	2	2		
GCG					
TGC	GTAGTCTATG	3	3		
GTA					
g	GTAGTCCACG	2	2	2579	0.99961225
GAG	GTAGTCCACG	2	2		
f	GTAGTCCACG	2	2	6	1
GGTG	GTAGTCCACG	2	2		
o				61	0.95081967
g				2	1
ATC	GTAGTCCACG	2	2		
AAC	GTAGTCCACG	2	2		
CAT	CTAGTCTTAA	3	3		
GTG	GTAGTCCACG	2	2		
CACT					
f				2	1
GTG	GTAGTCCACG	2	2		
f				2	1
CCA					
c				1962	0.99745158
g	GTAGTCCACG	2	2	7028	1
g	GTAGTCCACG	2	2	976	0.96721311
g	GTAGTCCACG	2	2	39	1

AAAG					
g	GTAGTCCACG	2	2	5	1
TGC	GTAGTCTATG	2	2		
g	GTAGTCCACG	2	2	112	0.96428571
GAG	GTAGTCCACG	3	3		
TGG					
g	GTAGTCCACG	3	3	2	1
GAG	GTAGTCCACG	3	3		
TAG	GTAGTCCACG	3	3		
TTG					
TGT	GTAGTCCACG	3	3		
GTG					
p				132	0.97727273
ATC					
g	GTAGTCTTAA	1	1	213	0.99061033
GTA	GTAGTCCACG	1	1		
CGT	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	3	3		
TAA					
TGA					
TGC	GTAGTCTATG	2	2		
CAT	GTAGTCCTGG	2	2		
g	GTAGTCCACG	4	4	131	0.99236641
GCG	GTAGTCCTAG	1	1		
ATT	CTAGTCTTAA	2	2		
TT	GTAGTCTATT	2	2		
g	GTAGTCCACG	2	2	3	1
ATCA	GTAGTCCCAG	2	2		
CAT	CTAGTCTTAA	2	2		
GGT	GTAGTCCGCA	2	2		
f	GTAGTCCTAG	2	2	2	1
g	GTAGTCCACG	2	2	4	1
TTAA	GTAGTCTTAA	3	3		
CCA					
CTA					
GAG					
CTA					
GTT	GTAGTCCACA	2	2		

TAG					
CAG	GTAGTCCACG	3	3		
GCTA	GTAGTCCACG	3	3		
ACT	GTAGTCTTAA	2	2		
g				5	1
TGT	GTAGTCTATG	3	3		
CATG	GTAGTCTTAA	1	1		
CGC	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	2	2		
f	GTAGTCCTGG	2	2	6	1
TGA	GTAGTCCACG	1	1		
CGT	GTAGTCCACG	1	1		
AGC	GTAGTCCTAA	1	1		
GAG	GTAGTCCACG	3	3		
CGT	GTAGTCCACG	2	2		
TCC	GTAGTCCACG	2	2		
TG	GTAGTCCTTG	2	2		
f	GTAGTCCTAG	2	2	7	1
o				19	1
GCC	CTAGTCTTAA	2	2		
AGA	GTAGTCTCAA	2	2		
ACA	GTAGTCTTAA	2	2		
TAG	GTAGTCCACG	2	2		
GTC					
TTC					
AG	GTAGTCCACG	2	2		
AGT	GTAGTCCACG	2	2		
g				3	1
ATC	GTAGTCCACG	3	3		
g	GTAGTCCACG	2	2	2	1
GTA					
GTG	GTAGTCCACG	2	2		
TAG	GTAGTCCACG	3	3		
CAG					
GTG					
AGA	GTAGTCTCAA	2	2		
CTC	GTAGTCTTTA	2	2		
CAG	GTAGTCCTGG	2	2		

GCC					
GTA					
ATG					
g	GTAGTCCACG	1	1	84	0.96428571
TAG	GTAGTCCACG	1	1		
TAAC	GTAGTCCTAA	1	1		
TTT	CTAGTCTTAA	3	3		
TAG	GTAGTCTTGA	3	3		
GTA	GTAGTCCACG	2	2		
g	GTAGTCTCAA	2	2	63	1
g				4	1
GAA					
TGA					
AACC	GTAGTCCTAA	2	2		
GAC					
CCG	GTAGTCCCGG	1	1		
AGA	GTAGTCTCAA	1	1		
AGA	GTAGTCTCAA	1	1		
CCCC	GTAGTCCTAA	1	1		
c				8	0.875
ATC	GTAGTCCACG	2	2		
ATC	GTAGTCCACG	2	2		
TTG	GTAGTCCTTG	2	2		
CA	GTAGTCCTAG	2	2		
CGA					
g	GTAGTCCACG	2	2	2	1
TGA					
CAG					
ATT	CTAGTCTTAA	1	1		
GGC	GTAGTCTCAA	1	1		
CGT	GTAGTCCACG	2	2		
AG	GTAGTCCACG	2	2		
GCA	GTAGTCCACG	4	4		
GC					
CTA	GTAGTCCACG	2	2		
CCG	GTAGTCCTGG	2	2		
ACA					
AG					

GT	GTAGTCCACG	2	2		
GCC	CTAGTCTTAA	2	2		
g	GTAGTCCACG	2	2	5	1
TAG	GTAGTCCACG	1	1		
TC	GTAGTCCACG	1	1		
p	GTAGTCCTAG	1	1	6	1
AGT	GTAGTCCACG	1	1		
TA					
ATT	GTAGTCCACG	2	2		
TGT	GTAGTCCACG	2	2		
TA	GTAGTCCACG	2	2		
CTA					
GG					
TC	GTAGTCCACG	3	3		
A	GTAGTCCTAG	2	2		
GCC	CTAGTCTTAA	2	2		
CTG	GTAGTCCACG	2	2		
TAG					
GGTG	GTAGTCCACG	2	2		
CGA	GTAGTCTCAA	2	2		
AC					
o				15	1
ATC	GTAGTCCACA	2	2		
A					
TGC	GTAGTCTATG	3	3		
TCA	GTAGTCCTAG	2	2		
TC	GTAGTCCACG	2	2		
o	GTAGTCCACG	2	2	5	1
GAG					
ATC	GTAGTCCACG	2	2		
TAG	GTAGTCCACG	2	2		
AGT	GTAGTCCACG	2	2		
TG	GTAGTCCACG	2	2		
AGA	GTAGTCTCAA	2	2		
ACT	GTAGTCTTGA	3	3		
g	GTAGTCCACA	1	1	18	1
TC					
g	GTAGTCCACG	1	1	23	0.95652174

CAT	CTAGTCTTAA	1	1		
TCA	GTAGTCCTCG	1	1		
GCC	CTAGTCTTAA	2	2		
GTC	GTAGTCCACA	2	2		
GTC	GTAGTCCACA	2	2		
GCG	GTAGTCCTAG	2	2		
GTG	GTAGTCCACG	2	2		
GTC	GTAGTCCACA	2	2		
ATA					
GGT	GTAGTCCTAG	2	2		
CTG	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	2	2		
p	GTAGTCCACG	1	1	2	1
ATT	CTAGTCTTAA	1	1		
TT	GTAGTCCACG	1	1		
ATG	GTAGTCTTAA	1	1		
AC	GTAGTCTTAA	1	1		
ACG	GTAGTCCTAG	1	1		
g	GTAGTCCACG	1	1	798	1
TA	GTAGTCTTGA	2	2		
TT	GTAGTCTCAA	2	2		
CA					
GTG	GTAGTCCTAG	2	2		
TA	GTAGTCCACG	2	2		
GT					
ACA					
GAG	GTAGTCCACG	2	2		
f				2	1
g				2	1
f	GTAGTCCACG	2	2	11	0.90909091
GCG	GTAGTCCTAG	2	2		
AA	GTAGTCCACG	2	2		
ATC	GTAGTCCACG	3	3		
TCA	GTAGTCCACG	2	2		
f	GTAGTCCTAG	2	2	27	1
CGG					
g				2	1
TCG	GTAGTCCACG	2	2		

GTC					
GGT	GTAGTCCACG	2	2		
AGT	GTAGTCCACG	2	2		
TCT					
GTC	GTAGTCCACG	2	2		
TGC	GTAGTCTATG	2	2		
CTA	GTAGTCCACG	3	3		
GAG	GTAGTCCACG	3	3		
GTC	GTAGTCCACA	3	3		
TGC	GTAGTCTATG	3	3		
GAG					
TAG	GTAGTCCACG	2	2		
CAG	GTAGTCCACG	2	2		
TTA	GTAGTCCACG	3	3		
TGA	GTAGTCTTAA	2	2		
TA	GTAGTCCACG	2	2		
AT					
GGT	GTAGTCCACG	2	2		
GTC					
GTG	GTAGTCCACG	2	2		
TTG	GTAGTCCTTG	2	2		
ATC	GTAGTCCACG	1	1		
TGC	GTAGTCTATG	2	2		
g	GTAGTCCACG	2	2	2	1
GTC	GTAGTCCACA	2	2		
TAG	GTAGTCCACG	3	3		
GTC	GTAGTCCACA	2	2		
AGT	GTAGTCCACG	2	2		
TGG					
GAC					
ATC	GTAGTCCACG	3	3		
GG					
GGC	GTAGTCCGCA	2	2		
TC	GTAGTCCACG	2	2		
GTC	GTAGTCCACG	2	2		
CGG	GTAGTCCACG	1	1		
AG	GTAGTCCACG	1	1		
AA					

GC	GTAGTCCACG	1	1		
AG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	7	1
AT	CTAGTCTTAA	1	1		
AG	GTAATCCTAG	1	1		
AC	CTAGTTCTAA	1	1		
CGCT	GTAGTCCTGG	1	1		
GTC	GTAGTCCACG	1	1		
AG	GTAGTCCACG	2	2		
TGT	GTAGTCCACG	2	2		
GCC	CTAGTCTTAA	2	2		
AG	GTAGTCCACG	2	2		
AG	GTAGTCCACG	2	2		
TA	GTAGTCCACG	2	2		
GCC	CTAGTCTTAA	1	1		
AG	GTAGTCCACG	1	1		
TG	GTAGTCCTTG	1	1		
ATC	GTAGTCCACG	1	1		
AG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	23	0.86956522
TGA	CTAGTTCTGA	1	1		
TG	GTAGTCTTAA	1	1		
CA	GTAGTCCACG	1	1		
g	GTAGTCCTGG	1	1	2	1
TGT					
CA	GTAGTCCACG	2	2		
TGT	GTAGTCCACG	2	2		
GTC	GTAGTCCACG	2	2		
GTG					
g	GTAGTCCACG	2	2	194	1
AT	CTAGTCTTAA	2	2		
AA	GTAGTCCACG	2	2		
GT	GTAGTCCGCA	2	2		
AG	GTAGTCCACG	2	2		
TA	GTAGTCCACG	2	2		
AT	CTAGTCTTAA	2	2		

CAT	CTAGTCTTAA	2	2		
GAG	GTAGTCCACG	3	3		
GTA	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	2	2		
CCG	GTAGTCCTAG	2	2		
GAG	GTAGTCCACG	2	2		
CAAA					
CTA					
TGA	GTAGTCTTAA	2	2		
g	GTAGTCCTAG	1	1	10	1
GTC	GTAGTCCACA	1	1		
CAG	GTAGTCCACG	2	2		
CAG					
CAT	CTAGTCTTAA	2	2		
GCC	CTAGTCTTAA	2	2		
ATC	GTAGTCCACG	1	1		
AACC	GTAGTCCTAA	1	1		
TGT	GTAGTCCAAA	1	1		
CTCC	GTAGTCCACG	1	1		
CCAGA					
TGT					
GTC	GTAGTCCACA	1	1		
GTA	GTAGTGCACG	1	1		
TCC	GTAGTCCTAG	1	1		
AGT	GTAGTCTCAA	1	1		
CGT	GTAGTCCACG	1	1		
TT	GTAGTCCACG	1	1		
CAG	GTAATCCTAG	1	1		
GCC	CTAGTCTTAA	2	2		
GCC	CTAGTCTTAA	2	2		
AGA	GTAGTCTCAA	1	1		
GTA	GTAGTCCACG	1	1		
TGA					
GGC					
f	GTAGTCCTAG	1	1	4	1
g	GTAGTCCCAG	1	1	8	1
GAG	GTAGTCCACG	1	1		

f	GTAGTCCACG	1	1	2	1
CGT	GTAGTCCTAG	1	1		
CCCC	GTAGTCCTGG	1	1		
GTC	GTAGTCCACA	1	1		
CAG					
GTT	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
g				530	0.88490566
CTA					
ATT	GTAGTCTCAA	1	1		
TCC	GTAGTCTTAA	1	1		
GAG	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	1	1		
GGT	GTAGTCCTAG	1	1		
GTC	GTAGTCCACA	1	1		
TGC	GTAGTCCTGG	1	1		
CA					
CAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	3	3		
TGG	GTAGTCCACG	2	2		
GCG					
GAG					
TTA	GTAGTCTTGA	2	2		
GAG					
GTC					
TGA	GTAGTCTTAA	1	1		
GCG	GTAGTCCTAG	1	1		
GGC	GTAGTCCGCA	1	1		
GTC	GTAGTCCACG	1	1		
CCG					
GAC	GTAGTCTCAA	1	1		
GAC					
g	GTAGTCCATG	1	1	481	0.997921
TCCC	GTAGTCCTGG	1	1		
GTT	GTAGTCCACG	1	1		
GTC					

ATC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	5	1
GTA	GTAGTCCACG	1	1		
GTGT	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
GTA	GTAGTCCACG	1	1		
CGA	GTAGTCTCAA	1	1		
GTA	GTAGTCCACG	1	1		
ACT	GTAGTCTCAA	1	1		
f	GTAGTCCTAG	1	1	2	1
o	GTAGTCCTAG	1	1	2	1
g	GTAGTCCACG	1	1	3	1
TGA	GTAGTCTTAA	1	1		
g	GTAGTCTTAA	1	1	39	1
TAA	GTAGTCCACG	1	1		
TAAC	GTAGTCCTAA	1	1		
GGT	GTAGTCCACG	2	2		
ATT	CTAGTCTTAA	2	2		
ACG					
g	GTAGTCTTAA	2	2	4	1
TCGA	GTAGTCTCAA	2	2		
GCC	CTAGTCTTAA	2	2		
AGA					
AAC	GTAGTCCACG	2	2		
AATG					
TTT					
GTA	GTAGTCCACG	3	3		
ATC	GTAGTCCACG	2	2		
ATA	GTAGTCTTAA	2	2		
TCA					
TGC	GTAGTCTATG	2	2		
GTC	CTAGTCTTAA	2	2		
TCAG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	2	2		
g	GTAGTCCACG	2	2	2	1
GTC	GTAGTCCACA	2	2		
ATC	GTAGTCCACG	2	2		
TTGA	GTAGTCTTAA	2	2		

TAA	GTAGTCTTAA	1	1		
GAG	GTAGTCCACG	2	2		
f	GTAGTCCACG	2	2	2	1
TG	GTAGTCCTTG	2	2		
g	GTAGTCCACG	2	2	40	0.925
g				88	1
CGG	GTAGTCCACG	2	2		
TGA	GTAGTCTCAA	2	2		
TA	GTAGTCCTTG	2	2		
GAG					
TAG					
TG					
TA	GTAGTCCACG	2	2		
GCC	CTAGTCTTAA	2	2		
GCC	CTAGTCTTAA	2	2		
ATGA	GTAGTCTTAA	3	3		
ATC	GTAGTCCACG	2	2		
g	GTAGTCCACG	2	2	3	1
GT	GTAGTCCACG	2	2		
GAC	GTAGTCTTAA	1	1		
GAC	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GAC					
c	GTAGTCCACG	1	1	3	1
g	GTAGTCCACG	1	1	11	1
g	GTAGTCCACG	1	1	6800	0.99602941
CAT	CTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
CT	GTAGTCTTAA	1	1		
g	GTAGTCCACG	1	1	156	0.98076923
CTG	GTAGTCTTAA	1	1		
GAC	GTAGTCTTAA	1	1		
AC	GTAGTCTTAA	1	1		
GT	GTAGTCCACG	1	1		
GCG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
G					
g	GTAGTCCACG	1	1	4	1

AT	CTAGTCTTAA	1	1		
TT					
AC	GTAGTCCACG	1	1		
o				140	0.96428571
CAG	GTAGTCCACG	1	1		
AT	GTAGTCTTAA	1	1		
TGG	GTAGTCCACG	1	1		
AC					
GGT	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	3	1
TG	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	1	1		
g				70	0.9
g	GTAGTCCACG	1	1	107	0.97196262
GTG					
CGA	GTAGTCTCAA	1	1		
ATC	GTAGTCCACG	1	1		
AC	GTAGTCTTAA	1	1		
CT	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	4	1
g				10	0.8
g	GTAGTCTTAA	1	1	3	1
CCC	GTAGTCCTAA	1	1		
TA					
ATC	GTAGTCCACG	3	3		
AG					
CT	GTAGTCCGCA	2	2		
GAG	GTAGTCCACG	2	2		
TC	GTAGTCCACG	2	2		
TG	GTAGTCCTTG	2	2		
TA	GTAGTCCACG	2	2		
CG	GTAGTCCTAG	2	2		
TGCC	GTAGTCCCAG	2	2		
CTA					
TT	GTAGTCCACG	2	2		
TGC	GTAGTCTATG	2	2		
TT					
ACA					

GT	GTAGTCCACG	2	2		
g	GTAGTCCACG	2	2	8	1
CAA	GTAGTCCACA	2	2		
g	GTAGTCCACG	2	2	9	1
GTG	GTAGTCCACG	2	2		
GTC					
TGC	GTAGTCTATG	2	2		
TAG	GTAGTCCACG	2	2		
CTA					
TG					
CAT	CTAGTCTTAA	2	2		
GCG	GTAGTCCTAG	2	2		
TA					
AG					
f	GTAGTCCACG	2	2	2	1
GCG	GTAGTCCTAG	1	1		
GG	GTAATCCTAG	1	1		
g	GTAGTCCACG	1	1	2939	0.98775094
GC	GTAGTCCGCA	1	1		
GTC	GTAGTCCACA	1	1		
TTA					
TG					
TGA	GTAGTCTCAA	1	1		
GTC	GTAGTCCACA	1	1		
TGA	GTAGTCTCAA	1	1		
GCG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
A					
g	GTAGTCCACG	1	1	70	0.9
TT	CTAGTCTTAA	1	1		
CTT	CTAGTCTTAA	1	1		
GG	GTAGTCCACG	1	1		
AG	GTAGTCCACG	2	2		
TA					
TG					
CTA					
GTC	GTAGTCCACA	2	2		
AT	CTAGTCTTAA	2	2		

CAT	CTAGTCTTAA	2	2		
TA	GTAGTCCACG	2	2		
CTA	GTAGTCCACG	2	2		
GTC	GTAGTCCACA	2	2		
CAT	CTAGTCTTAA	2	2		
GAG	GTAGTCCACG	2	2		
GTG	GTAGTCCACG	2	2		
AGTA					
GTG					
g				5	1
GGG	GTAGTCCACG	2	2		
TG					
GTG	GTAGTCCACG	2	2		
CG	GTAGTCCTTG	2	2		
TA	GTAGTCCACG	2	2		
c	GTAGTCCACG	1	1	2	1
AGT	GTAGTCCACG	1	1		
TG					
CTA					
TC	GTAGTCCACA	1	1		
GC	GTAGTCTATG	1	1		
g	GTAGTCCACG	1	1	125	1
f	GTAGTCCACA	1	1	2	1
GT	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	10	1
TA					
TC	GTAGTCCACG	1	1		
GT					
GC	GTAGTCCGCA	1	1		
GTC	GTAGTCCACA	1	1		
CGG	GTAGTCCACG	1	1		
AG					
CCT	GTAGTCCACG	1	1		
TGC	GTAGTCTATG	2	2		
CTC	GTAGTCCACG	2	2		
CCG	GTAGTCCTAG	1	1		
TTT					
TC	GTAGTCCACA	1	1		

GGTG	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	1	1		
AGC	GTAGTCTTAA	1	1		
TGC	GTAGTCTATG	1	1		
ATT	GTAGTCCACG	1	1		
GAT	GTAGTCTCAA	1	1		
GTC	GTAGTCCACA	1	1		
TCT	GTAGTCTTAA	1	1		
GTC	GTAGTCCACA	1	1		
TTT	GTAGTCCCAG	1	1		
GTC	GTAGTCCACA	1	1		
CTG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
AATT					
CGA	GTAGTCTTAA	1	1		
TGC	GTAGTCTATG	2	2		
TGC	GTAGTCTATG	2	2		
TGC					
CAT	CTAGTCTTAA	2	2		
TGC	GTAGTCTATG	2	2		
ATC	GTAGTCCACG	2	2		
TGC					
TGA					
CTG					
GTG	GTAGTCCACG	1	1		
ATT	CTAGTCTTAA	1	1		
GGG	GTAGTCCACG	1	1		
CGG	GTAGTCCACG	1	1		
TGA	GTAGTCCAAA	1	1		
CA	GTAGTCCTAG	1	1		
GTC					
CTG	GTAGTCCATG	1	1		
GGA					
f	GTAGTCTTGG	1	1	3	1
g	GTAGTCTTAA	1	1	17	1
AGT	GTAGTCCACG	1	1		
CTG					
CGG	GTAGTCCATG	1	1		

GT	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
ATGA	GTAGTCTTAA	1	1		
GTC	GTAGTCCACG	1	1		
g	GTAATCCTAG	1	1	4	1
GAC	GTAGTCCGCA	1	1		
GTAT	GTAGTCTTAA	1	1		
CGC	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
GG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
CTAG	GTAGTCCACG	1	1		
CGG	GTAATCCTAG	1	1		
ATG	GTAGTCTTAA	1	1		
ATTA					
CATG	GTAGTCTTAA	1	1		
TTGA					
GTG	GTAGTCCACG	1	1		
p	GTAGTCTTAA	1	1	3	1
CTC	GTAGTCTTAA	1	1		
TTA	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
o	GTAGTCCTAG	1	1	5	1
CAG	GTAGTCCACG	1	1		
ATG	GTAGTCCTGG	1	1		
CTG	GTAGTCCACG	1	1		
CGT	GTAGTCCACG	1	1		
f	GTAGTCTTAG	1	1	9	1
GAG	GTAGTCCACG	1	1		
CGGT	GTAGTCCACG	1	1		
CA	GTAGTCCACG	1	1		
AGT	GTAGTCCACG	1	1		
GGT	GTAGTCCTAG	1	1		
GTC	GTAGTCCACA	1	1		
TAG					
TATC	GTAGTCCACG	1	1		

CAA					
ATG	GTAGTCTTAA	1	1		
TA	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
g	GTAGTCCTGG	1	1	4	1
TAT					
g	GTAGTCCACG	1	1	2	1
GTG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
AC	GTAGTCTTAA	1	1		
TA	GTAGTCCACG	1	1		
g				2	1
GT	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
TC					
TC	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	13	1
g	GTAGTCCACG	1	1	11	0.81818182
GTC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	202	0.99009901
TCT	GTAGTCCATG	1	1		
TA	GTAGTCCACG	1	1		
GA	GTAGTCTCAA	1	1		
AC					
ACT	GTAGTCCTGG	1	1		
CCG	GTAGTCCACG	1	1		
GT	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
AAT	GTAGTCCTAA	1	1		
AG	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
AC	GTAGTCCACG	1	1		
TGAC	GTAGTTCAAA	1	1		
TA	GTAGTCCTAG	1	1		
GTT	GTAGTCCATG	1	1		
TA	GTAGTCCACG	1	1		

GG	GTAGTCCACG	1	1		
CTA	GTAGTCCACG	1	1		
TC					
TGA					
TG	GTAGTCCTGG	1	1		
GTG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
GC	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
TTG	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	27	0.96296296
ATA	GTAGTCTTAA	1	1		
GT	GTAGTCCACG	1	1		
TC	GTAGTCCACG	1	1		
TA					
TG	GTAGTCCTAA	1	1		
TGA	CTAGTTCTGA	1	1		
CGC	GTAGTCTTAA	1	1		
g				2	1
AG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
AC					
CTA					
ATG	GTAGTCTTAA	1	1		
GAC	GTAGTCTCAA	1	1		
TGA	CTAGTTCTGA	1	1		
ATC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
CTG	GTAGTCCTGG	1	1		
AG	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
TG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
CAG	GTAGTCCACG	1	1		
CC	CTAGTTCTGA	1	1		
TCG	GTAGTCCACG	1	1		
GC	GTAGTCCACG	1	1		
AAC	GTAGTCCTAA	1	1		

CTG					
CCG	GTAGTCCACG	1	1		
AGT	GTAGTCCACG	1	1		
CAC	CTAGTCTTAA	1	1		
CGG					
GTC	GTAGTCCACA	1	1		
CAG	GTAATCCTAG	1	1		
AC	GTAGTCCACG	1	1		
g				22	1
TGA					
GAG	GTAGTCCACG	1	1		
TCG	GTAGTCCTAG	1	1		
TAAC	GTAGTCCTAA	1	1		
CAG	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
TG					
TGA	CTAGTTCTGA	1	1		
AGA	GTAGTCTCAA	1	1		
GTA	GTAGTCCACG	1	1		
GGT	GTAGTCCACG	1	1		
CCG	GTAGTCCACG	1	1		
AG	GTAGTCCTAG	1	1		
TCGG					
g	GTAGTCCACG	1	1	3	1
GGG	GTAGTCCTAG	1	1		
GGT	GTAGTCCTAG	1	1		
GTC					
CGT	GTAGTCCACA	1	1		
AGTG	GTAGTCCACG	1	1		
GAC	GTAGTCCACG	1	1		
CA	GTAGTCCTAG	1	1		
AC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
g	GTAGTCTTAA	1	1	46	0.86956522
TAG	GTAGTCCACG	1	1		
AAC	GTAGTCCACG	1	1		
CTG	GTAGTCCACG	1	1		
TG	GTAGTCCTTG	1	1		

f	GTAGTCCGCG	1	1	2	1
CTA					
f				5	1
GC	GTAGTCCACA	1	1		
ATC					
TGC	GTAGTCTATG	2	2		
GAG	GTAGTCCACG	2	2		
CAG	GTAGTCCACG	2	2		
CAG	GTAGTCCACG	2	2		
CTA					
CTA					
TGC	GTAGTCTATG	2	2		
TTC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	3	1
GTC	GTAGTCCACA	1	1		
GAG	GTAGTCCACG	1	1		
GTT	GTAGTCTACG	1	1		
GAC	GTAGTCCGCA	1	1		
TAT					
GAG	GTAGTCCACG	1	1		
TG	GTAGTCCACG	1	1		
o	GTACTCCACG	1	1	170	0.94117647
GTA	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
TA	GTAGTCCACG	1	1		
ATGA	GTAGTCTTAA	1	1		
AGA	GTAGTCTCAA	1	1		
CACA					
GGT	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
o				13	0.92307692
TGA	GTAGTCCACG	1	1		
ATG	GTAGTCTTAA	1	1		
GTA	GTAGTCCACG	1	1		
GTA					
GC	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		

GCC	GTAGTCCATG	1	1		
g	GTAGTCCTGG	1	1	2	1
GAG	GTAGTCCACG	1	1		
CGC	GTAGTCCTGG	1	1		
g	GTAGTCCACG	1	1	826	0.98910412
ATA	GTAGTCCACG	1	1		
GAC	GTAGTCTTAA	1	1		
AGA	GTAGTCTCAA	1	1		
GAA	GTAGTCCACG	1	1		
TGAC	GTAGTCTTAA	1	1		
ACG	GTAGTCTTAA	1	1		
TGA					
GGG	GTAGTCTCAA	1	1		
GAC	GTAGTCTTAA	1	1		
ATGA	GTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
CCG	GTAGTCCTAG	1	1		
TAG					
TCGA	GTAGTCTCAA	1	1		
ATC	GTAGTCCACG	1	1		
GC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
TCG	GTAGTCCACG	1	1		
g				4	1
GAG					
TCG	GTAGTCCACG	1	1		
GG					
GTG	GTAGTCTTAA	1	1		
CCA	GTAGTCCTAG	1	1		
TAG					
AAG					
GTG	GTAGTCTACA	1	1		
ATC	GTAGTCCACG	1	1		
TAG					
GAA	GTAGTCCTAA	1	1		
GGT	GTAGTCCACG	1	1		
TCG	GTAGTCCACG	1	1		

TGG	GTAGTCCACG	1	1		
TAT	GTAGTCTTAA	1	1		
AAGA					
AGA	GTAGTCTCAA	1	1		
CGA	GTAGTCTCAA	1	1		
GAG	GTAGTCCACG	1	1		
ATG					
GGG	GTAGTCCTAG	1	1		
GTC	GTAGTCCACA	1	1		
TAAC	GTAGTCCTAA	1	1		
AGA	GTAGTCTCAA	1	1		
AGT	GTAATCCTAG	1	1		
GTA	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
GACG	GTAGTCTTAA	1	1		
GAC					
g	GTAGTCCACG	1	1	2	1
TAAC	GTAGTCCTAA	1	1		
CAG	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	1	1		
GAC	GTAGTCCACG	1	1		
TCGA	GTAGTCTCAA	1	1		
TGA	GTAGTCTCAA	1	1		
GAG					
CTG	GTAGTCCTTG	1	1		
TAG	GTAGTCCACG	1	1		
GGC	GTAGTCCACG	1	1		
AGA					
TAG	GTAGTCCACG	1	1		
AGT	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
AC	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
GTC					
GGT	GTAGTCCACG	1	1		
GGT	GTAGTCCACG	1	1		
CGC					

GCC	GTAGTCCATG	1	1		
AGA	GTAGTCTCAA	1	1		
AGG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	12	1
CGG	GTAGTCCTAG	1	1		
TCC	GTAGTCCACG	1	1		
AT	CTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
GG	GTAGTCCTAG	1	1		
TCG	GTAGTCTACG	1	1		
TG					
TAG	GTAGTCCACG	1	1		
f	GTAGTCCTAG	1	1	3	1
TAG	GTAGTCCACG	1	1		
CCT	CTAGTCTTAA	1	1		
ATC	GTAGTCCACG	1	1		
AG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
CGA	GTAGTCTCAA	1	1		
GAC	GTAGTCTCAA	1	1		
CAG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
CTG					
TA					
TAG	GTAGTCCACG	1	1		
TCG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	4258	0.97581024
ACT	GTAGTCTTAA	1	1		
CGA	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
TC	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	10	1
AT	CTAGTCTTAA	1	1		
GG	GTAGTCCTAG	1	1		
CAG	GTAGTCCACG	1	1		
AGG	GTAGTCCACG	1	1		

GAG					
CGA	GTAGTCTCAA	1	1		
GAG					
GTC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
TCC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
TA	GTAGTCCACG	1	1		
TTG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
GAA					
GG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	25	0.88
f	GTAGTCCACG	1	1	5	0.8
GAC	GTAGTCTCAA	1	1		
CCG	GTAGTCCTAG	1	1		
GTC	GTAGTCCACG	1	1		
ATG	GTAGTCTTAA	1	1		
GTC	GTAGTCCACA	1	1		
TA	GTAGTCCACG	1	1		
GCT	GTAGTCCACA	1	1		
TCG	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	2	1
CAG					
CGC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
TGA	GTAGTCCAAA	1	1		
GCG					
AGT					
GG	GTAGTCCAAG	1	1		
TAG					
GCC	CTAGTCTTAA	2	2		
GTC	GTAGTCCACG	2	2		
TAG	GTAGTCCACG	2	2		

CTA	GTAGTCCACG	2	2		
TG	GTAGTCCTTG	2	2		
CTA					
AGCC	GTAGTCCATG	1	1		
GTC	GTAGTCCACA	1	1		
TAG	GTAGTCCACG	1	1		
TGA	GTAGTCTCGA	1	1		
CAA	GTAGTCTCAA	1	1		
TG	GTAGTCCTTG	1	1		
TAAC	GTAGTCCTAA	1	1		
g	GTAGTCCACG	1	1	322	0.99068323
CGG					
TGC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
GGT					
TGA	GTAGTCCAAA	1	1		
GG	GTAGTCCTAG	1	1		
AGT	GTAGTCCACG	1	1		
TAT	GTAGTCTTAA	1	1		
CGA	GTAGTCTCAA	1	1		
AC	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		
CGT	GTAGTCCACG	1	1		
TAAT	GTAGTCCTAA	1	1		
TA	GTAGTCCACG	1	1		
TCG	GTAGTCCACG	1	1		
TA					
g	GTAGTCTTAA	1	1	41	0.82926829
GTC	GTAGTCCACA	1	1		
AC	GTAGTCCGCA	1	1		
GCC					
TAG	GTAGTCCACG	1	1		
CGT					
TGA					
AGA	GTAGTCTCAA	1	1		
GTC	GTAGTCCACG	1	1		
GGA	GTAGTCTCAA	1	1		
TGA					

TGT	GTAGTCCACG	1	1		
CGT	GTAGTCCCGG	1	1		
TA					
TAA	GTAGTCCACG	1	1		
A	GTAGTCCTAG	1	1		
CTG					
CGG	GTAGTCCACG	1	1		
TGA					
TCG					
ATC	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
ATG	GTAGTCCTGG	1	1		
GGT	GTAGTCCACG	1	1		
AG	GTAGTCCATG	1	1		
ATC	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
CC					
TG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
CAG	GTAATCCTAG	1	1		
GTC					
GG	GTAGTCCACG	1	1		
CTG	GTAGTCCTGG	1	1		
g	GTAGTCCTAT	1	1	2	1
A	GTAGTCCTAG	1	1		
TG	GTAGTCTACA	1	1		
AC	GTAGTCCGCA	1	1		
TC					
CGA	GTAGTCTCAA	1	1		
GTG	GTAGTCCACG	1	1		
TCCC	GTAGTCCTGG	1	1		
CTT	GTAGTCCCAA	1	1		
CGG	GTAGTCCACG	1	1		
g	GTAGTCCTGG	1	1	22	0.95454545
GA	GTAGTCTCAA	1	1		
ACT	GTAGTCCTGG	1	1		
TG	GTAGTCCACG	1	1		

AC	GTAGTCTTAA	1	1		
GCC	CTAGTCTTAA	1	1		
o	GTAGTCCACG	1	1	2	1
TA	GTAGTCCACG	1	1		
GCT	GTAGTCCCAA	1	1		
CGA	GTAGTCTCAA	1	1		
CGT	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
CGG	GTAGTCCACG	1	1		
TCC	GTAGTCCACG	1	1		
ATG	GTAGTCCTGG	1	1		
CGG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		
TAG	GTAGTCTCAA	1	1		
CAG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
AGT					
CTG	GTAGTCCTGG	1	1		
GG					
TA	GTAGTCCACG	1	1		
GGT	GTAGTCCACG	1	1		
GTG					
CGA	GTAGTCTCAA	1	1		
TAG	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
CGG	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
TGA					
GAG	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		
CTG	GTAGTCCTTG	1	1		
TCG					
GAG	GTAGTCCACG	1	1		
AAG					
TA					
GGG	GTAGTCCACG	2	2		
GAG	GTAGTCCACG	2	2		

TGA					
g	GTAGTCCACG	1	1	985	0.98883249
g	GTAGTCTTAA	1	1	14	1
GTC	GTAGTCCACA	1	1		
GTC	GTAGTCCACA	1	1		
GTC	GTAGTCCACA	1	1		
TGC	GTAGTCTATG	1	1		
GTC					
g	GTAGTCCACG	1	1	7	1
GCG	GTAGTCCTAG	1	1		
CGC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	38	1
g	CTAGTCTTAA	1	1	6	1
CGA	GTAGTCCACA	1	1		
ACG	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	2	2		
CTGA	GTAGTCTTAA	2	2		
TAG	GTAGTCCACG	1	1		
TCGA	GTAGTCTCAA	1	1		
TA	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
f	GTAGTCCACG	1	1	16	1
ATG	GTAGTCTTAA	1	1		
AGAG	GTAGTCCTAA	1	1		
GG					
GT	GTAGTCCTAG	1	1		
g	GTAGTCCACG	1	1	54	0.90740741
GGT	GTAGTCCTAG	1	1		
TA					
GTC	GTAGTCCACA	1	1		
AC	GTAGTCTTAA	1	1		
ATG	GTAGTCTTAA	1	1		
ATC	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
CACC	GTAGTCCTAG	1	1		
AT	CTAGTCTTAA	1	1		
TA					
CTC	GTAGTCCATG	1	1		

CGG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
TC	GTAGTCCACG	1	1		
TAT					
AG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
TGA	GTAGTCCAAA	1	1		
g	GTAGTCCACG	1	1	269	0.97769517
GT	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
AC	GTAGTCTTAA	1	1		
AG	GTAATCCTAG	1	1		
GTG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	556	0.98561151
GTG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
g				7	1
TGA	GTAGTCCAAA	1	1		
TAG	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
TG	GTAGTCCACG	1	1		
g	GTAGTCCACA	1	1	8	1
TG	GTAGTCCTAG	1	1		
GG	GTAGTCCTAG	1	1		
ATC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
A					
GT	GTAGTCCCAG	1	1		
AC	GTAGTCTTAA	1	1		
ATG	GTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
CT	GTAGTCCACG	1	1		
TC	GTAGTCCACG	1	1		

TGA					
AGA	GTAGTCTCAA	1	1		
GCC	GTAGTCCACG	1	1		
g				45	1
CAT	CTAGTCTTAA	1	1		
AC	GTAGTCTTAA	1	1		
TGC	GTAGTCCACG	1	1		
TT	GTAGTCCACG	1	1		
AGA	GTAGTCTCAA	1	1		
CAG	GTAGTCCACG	1	1		
AG	GTAGTCCACG	1	1		
GG	GTAGTCCACG	1	1		
TC					
AG	GTAGTCCACG	1	1		
GCC	GTAGTCCACG	1	1		
TA					
ATC	GTAGTCCACG	1	1		
GG	GTAGTCCTAG	1	1		
AG	GTAGTCCACG	1	1		
AC	GTAGTCTTAA	1	1		
GAG	GTAGTCCACG	1	1		
CCC	GTAGTCCTAG	1	1		
GAG	GTAGTCTTGA	1	1		
AGA	GTAGTCTCAA	1	1		
GAG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
CGA	GTAGTCTCAA	1	1		
TG	GTAGTCCACG	1	1		
GAC	GTAGTCTCAA	1	1		
CGA	GTAGTCTCAA	1	1		
CT	GTAGTCTTAA	1	1		
TGT	GTAGTCCACG	1	1		
CT	GTAGTCCTAG	1	1		
TGT	GTAGTCCACG	1	1		
CAG					
AG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
ATC	GTAGTCCACG	1	1		

ACC	GTAGTCCACG	1	1		
AC	GTAGTCCGCA	1	1		
GTC					
AC	GTAGTCTTAA	1	1		
AA					
ATG	GTAGTCTTAA	1	1		
g				3	1
TT	CTAGTCTTAA	1	1		
AC	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GCC	GTAGTCCATG	1	1		
GAC	GTAGTCTCAA	1	1		
CT	GTAGTCCTAG	1	1		
AC	GTAGTCTTAA	1	1		
TCC	GTAGTCCACG	1	1		
GGG	GTAGTCCAAG	1	1		
GA					
g	GTAGTCCACA	1	1	2	1
CAC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	3	1
AC	GTAGTCCACG	1	1		
AT	GTAATCCTAG	1	1		
GG	CTAGTCTTAA	1	1		
GT	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
TCT	GTAGTCCTAG	1	1		
CCG	GTAGTCCACA	1	1		
TG	GTAGTCCTTG	1	1		
o	GTAGTCCATG	1	1	9	1
GG	GTAGTCCTAG	1	1		
GAG	GTAGTCCACG	1	1		
TTC	GTAGTCCTGG	1	1		
AC	GTAGTCTTAA	1	1		
g	GTAGTCCACG	1	1	2	1
AGT	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GC	GTAGTCCACG	1	1		
TC	GTAGTCCACG	1	1		

TCC					
ATC	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
ATG	GTAGTCTTAA	1	1		
AC	GTAGTCCACG	1	1		
GGT	GTAGTCCTAG	1	1		
CAG					
AG	GTAGTCTCAA	1	1		
CAG	GTAATCCTAG	1	1		
TGA					
AC	GTAGTCCACG	1	1		
ATT	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	19	1
GC	GTAGTCCGCA	1	1		
AG	GTAGTCCACG	2	2		
AG					
ATC	GTAGTCCACG	2	2		
TGA	GTAGTCTTAA	2	2		
TAG	GTAGTCCACG	2	2		
ACA					
TGT	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
ACA	GTAGTCTTAA	1	1		
GTC	GTAGTCCACG	1	1		
TTG	GTAGTCCCAG	1	1		
CGT	GTAGTCCTAG	1	1		
CTC	GTAGTCTTGA	1	1		
TG	GTAGTCCTTG	1	1		
TA	GTAGTCCACG	1	1		
CTG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	512	0.93359375
TC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
ATC	GTAGTCCACG	1	1		
TC	GTAGTCCACA	1	1		
GG					
GTG	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		

ACT	GTAGTCTTGA	1	1		
TTG	GTAGTCCCAG	1	1		
GTC	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GGTG	GTAGTCCACG	1	1		
ACT	GTAGTCTTGA	1	1		
TC	GTAGTCCACG	1	1		
g	GTAGTCCTAG	1	1	3	1
CGG	GTAATCCTAG	1	1		
CACA					
TG					
CCC	GTAGTCCAAG	1	1		
TG	GTAGTCCTTG	1	1		
TTG	CTAGTCTTAA	1	1		
CTG					
TA					
g				3	1
GGTG	GTAGTCCACG	1	1		
GCGG	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
GGC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	269	0.89219331
TGG	GTAGTCCACG	1	1		
TGG	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
TTT					
TTC	GTAGTCCACG	1	1		
TGG					
CAT	GTAGTCCACG	1	1		
TTT	GTAGTCCCTA	1	1		
g	GTAGTCCACG	1	1	3	1
TG	GTAGTCCTTG	1	1		
GTC	GTAGTCCACA	1	1		
GATC					
GTG					

GAG	GTAGTCCACG	1	1		
CCG	GTAGTCCACA	1	1		
ACA					
GTC	GTAGTCCACG	1	1		
TGAC	GTAGTCTTAA	1	1		
TAG	GTAGTCCACG	1	1		
AGT	GTAGTCCACG	1	1		
CTA	GTAGTCCACG	1	1		
TG					
TG	GTAGTCCACA	1	1		
AGT	GTAGTCCACG	1	1		
TGC	GTAGTCTATG	1	1		
TCA	CTAGTCTTAA	1	1		
f				2	1
g				6	1
ATGA	GTAGTCTTAA	1	1		
GTG	GTAGTCCACA	1	1		
AGT	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
TTG					
GGT	GTAGTCCACG	1	1		
TCC	GTAGTCTTAA	1	1		
f	GTAGTCCATG	1	1	2	1
CAA	GTAGTCCATG	1	1		
CCA	GTAGTCCACA	1	1		
GTC	GTAGTCCACA	1	1		
CTA	GTAGTCCACG	1	1		
CGTC	GTAGTCCACG	1	1		
GC					
GTC	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GCC	GTAGTCCACG	1	1		
GTG	GTAGTCCTTG	1	1		
CGTC					
TGC	GTAGTCTATG	2	2		
ACC	GTAGTCCACG	2	2		
TACG	GTAGTCCACG	1	1		
TAA					

TGA	GTAGTCTCAA	1	1		
GT	GTAGTCCTTG	1	1		
AGT	GTAGTCCACG	1	1		
TGC	GTAGTCTATG	1	1		
GTC	GTAGTCCACA	1	1		
CTA	GTAGTCCACG	1	1		
CGG	GTAGTCCACG	1	1		
GTG					
TTGA	GTAGTCTTAA	1	1		
GAC	GTAGTCCACG	1	1		
TGA	GTAGTCTCAA	1	1		
GTC	GTAGTCCACA	1	1		
TGC					
CGG	GTAATCCTAG	1	1		
CTG	GTAGTCCTGG	1	1		
GCG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	5	1
GGTG	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
GCT	GTAGTCCACG	1	1		
f				2	1
CAA	GTAGTCCACA	1	1		
CTG					
GGG	GTAGTCCTAG	1	1		
TGGC	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	2	1
CGGT	GTAGTCCACG	1	1		
GTGT	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	3	1
CAT	CTAGTCTTAA	1	1		
GTG	GTAGTCCACG	1	1		
AGC	GTAGTCCCAG	1	1		
TGT	GTAGTCCACG	1	1		
g				7	1
TTC	GTAGTCCACG	1	1		
CGTC	GTAGTCCACA	1	1		
GCG	GTAGTCCTAG	1	1		
GTA	GTAGTCCACG	1	1		

GG	GTAATCCTAG	1	1		
TA	GTAGTCCACG	1	1		
TG	GTAGTCCACG	1	1		
GT	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
ACA					
GTG	GTAGTCCACG	1	1		
GC					
TCG	GTAGTCCACG	1	1		
TGT	GTAGTCCACG	1	1		
TC	GTAGTCCACA	1	1		
CG	GTAGTCCTAG	1	1		
GTC	GTAGTCCACA	1	1		
TA					
f	GTAGTCCACG	1	1	65	0.95384615
TC	GTAGTCCACA	1	1		
AG	GTAGTCCTTG	1	1		
TGTC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
CT	GTAGTCCACG	1	1		
GTT	GTAGTCCACG	1	1		
ATT	GTAGTCCACG	1	1		
TTT	GTAGTCTCAA	1	1		
ATC	GTAGTCCACG	1	1		
CA					
GTC					
ACT	GTAGTCCAAA	1	1		
f	GTAGTCCACG	1	1	15331	0.99902159
GTG					
CGT	GTAGTCCACG	1	1		
TCC	GTAGTCCACA	1	1		
g	CTAGTCTCAA	1	1	11	1
GTG	GTAGTCCACG	1	1		
TG	GTAGTCCTAG	1	1		
CA	GTAGTCCACA	1	1		
GTC					
TAG	GTAGTCCACG	1	1		
ATC					

ATA	GTAGTCTTAA	1	1		
ATC	GTAGTCCACG	1	1		
ACC	GTAGTCCACG	1	1		
GC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	15	1
CGG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GG	GTAGTCCTAG	1	1		
AGA	GTAGTCTCAA	1	1		
GGC	GTAGTCCGCA	1	1		
GGTG	GTAGTCCACG	1	1		
CCA	GTAGTCCACA	1	1		
TT					
GAG	GTAGTCCACG	2	2		
CAT	CTAGTCTTAA	2	2		
CTTT	GTAGTCCCAG	1	1		
TCCC	GTAGTCCTGG	1	1		
CAT	CTAGTCTTAA	1	1		
TCC	GTAGTCCACA	1	1		
GGT	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GGTG					
GGC	GTAGTCCGCA	1	1		
AAT	GTAGTCGCTC	1	1		
TCGG	GTAGTCCATG	1	1		
f	GTAGTCCTGG	1	1	3	1
ATT	GTAGTCCCAG	1	1		
CCA	GTAGTCCACA	1	1		
CTA					
GAG	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
GTG	GTAGTCCACG	1	1		
TCC	GTAGTCTTAA	1	1		
GA	GTAGTCCACA	1	1		
CGT	GTAGTCCACG	1	1		
TCT	GTAGTCCACG	1	1		
TGA	GTAGTCTCAA	1	1		

GTC	GTAGTCCACA	1	1		
AT					
CTA	GTAGTCCACG	1	1		
CTC	GTAGTCCACG	1	1		
CCG	GTAGTCCCGG	1	1		
GA	GTAGTCTTAA	1	1		
CAA	GTAGTCCACG	1	1		
TC	GTAGTCCACG	1	1		
AATA	GTAGTCCCAG	1	1		
GTC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GA					
TG	GTAGTCCTTG	1	1		
GCC	GTAGTCCACG	1	1		
CCT	GTAGTCCTAG	1	1		
CT	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
TG	GTAGTCCTTG	1	1		
TG	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
CGG	GTAGTCCACG	1	1		
CT	GTAGTCCACG	1	1		
CA					
AG	GTAGTCTTAA	1	1		
CGG	GTAGTCCATG	1	1		
TG	GTAGTCCACG	1	1		
TGA					
CA					
TC	GTAGTCCACA	1	1		
g	GTAGTCCACG	1	1	3	1
TCC	GTAGTCCATG	1	1		
GGC	GTAGTCCACA	1	1		
CGG	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
TG	GTAGTCCTAG	1	1		
GG	GTAATCCTAG	1	1		
CAG	GTAGTCCACG	1	1		
TTG					

GCT					
ATCA	GTAGTCCCAG	1	1		
TTT					
CGC	GTAGTCTATG	1	1		
GTG	GTAGTCCACG	1	1		
CGG	GTAGTCCACG	1	1		
GGC	GTAGTCCGCA	1	1		
TTC	GTAGTCTTAA	1	1		
CAG	GTAGTCCTGG	1	1		
GTC	GTAGTCCACG	1	1		
ATGA	GTAGTCTTAT	1	1		
ATC	GTAGTCCACG	1	1		
ATGC	GTAGTCCCAG	1	1		
GTC	GTAGTCCACA	1	1		
GTG	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
g	GTAGTCCTAG	1	1	127	0.98425197
f				5	1
GGC	GTAGTCCGCA	1	1		
GGTG	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	3	1
CCA	GTAGTCCACA	1	1		
TTG					
GGC	GTAGTCCGCA	1	1		
CTA	GTAGTCCACG	1	1		
ATT	CTAGTCTTAA	1	1		
GTC	GTAGTCCACA	1	1		
GTC					
GTA	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	6	1
GTG	GTAGTCCACG	1	1		
GGG	GTAGTCCTAG	1	1		
TAGA					
TGC	GTAGTCTATG	2	2		
CTA	GTAGTCCACG	2	2		

TA	GTAGTCCACG	1	1		
GG	GTAGTCCACG	1	1		
GTG	GTAGTCCACA	1	1		
GTG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GC	GTAGTCCGCA	1	1		
f				7	1
GC	GTAGTCCGCA	1	1		
ACA	GTAGTCCCAG	1	1		
CCG	GTAGTCCTAG	1	1		
TC	GTAGTCCACA	1	1		
ACA					
GCC	GTAGTCTATG	1	1		
CTC					
GC	GTAGTCCGCA	1	1		
c	GTAGTCCACG	1	1	245	1
TC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
GG					
GTC					
TTA	GTAGTCTTAA	1	1		
TTT	GTAGTCCCAG	1	1		
GTC	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
GC	GTAGTCCGCA	1	1		
TC	GTAGTCCACA	1	1		
TC	GTAGTCCACG	1	1		
TCA	GTAGTCTCAA	1	1		
GCC					
TG	GTAGTCCTTG	1	1		
TTG	GTAGTCCCAG	1	1		
TC	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
GG	GTAGTCCACG	1	1		
AG	GTAGTCCTAG	1	1		
CCG	GTAGTCCCGG	1	1		

ACA	GTAGTCCCAG	1	1
GC	GTAGTCCACG	1	1
GTG	GTAGTCCACG	1	1
AGA	GTAGTCTTAA	1	1
GTC	GTAGTCCACA	1	1
TG	GTAGTCCACG	1	1
GTG	GTAGTCCACG	1	1
TC	GTAGTCCACG	1	1
TGC	GTAGTCTATG	1	1
GTG	GTAGTCCACG	1	1
CG			
TGC	GTAGTCTATG	1	1
GTG	GTAGTCCATG	1	1
CCG	GTAGTCCCAA	1	1
TGA	GTAGTCTCAA	1	1
TTG	GTAGTCCCAG	1	1
GG	GTAGTCCACG	1	1
TG	GTAGTCCACG	1	1
ACT	GTAGTCTTGA	1	1
GGT	GTAGTCCACG	1	1
ATAC	GTAGTCCCAG	1	1
TTT	GTAGTCCCAG	1	1
ACT	GTAGTCTTGA	1	1
CT	GTAGTCTTGA	1	1
GTC	GTAGTCCACG	1	1
TCC	GTAGTCTTAA	1	1
TTG	GTAGTCCACG	1	1
GTC	GTAGTCCACA	1	1
GT	CTAGTCTTAA	1	1
TAG	GTAGTCCACG	1	1
TGA			
CGG	GTAGTCCACG	1	1
CTA	GTAGTCCACG	1	1
CTA			
TGC	GTAGTCTATG	2	2
GCC	GTAGTCCACA	2	2
AT	CTAGTCTTAA	2	2
TA	GTAGTCCACG	1	1

GT					
ATC	GTAGTCCACG	1	1		
AATT	GTAGTCCCAG	1	1		
TGA	GTAGTCTCAA	1	1		
GTG	GTAGTCCACG	1	1		
CAC	GTAGTCTTAA	1	1		
AACC					
g	GTAGTCCTGG	1	1	2	1
GTG	GTAGTCCTAG	1	1		
GTC					
CAA	GTAGTCCACA	1	1		
ATT	GTAGTCCACG	1	1		
f	GTAGTCCTAG	1	1	4	1
CT	GTAGTCCACG	1	1		
TGC	GTAGTCTATG	1	1		
CTA	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
GTC	GTAGTCCACA	1	1		
g	GTAGTCCACG	1	1	2	1
AGT	GTAGTCCACG	1	1		
CAG	GTAGTCCATG	1	1		
TAG	GTAGTCCACG	1	1		
CGT					
GGC	GTAGTCCACG	1	1		
GG	GTAGTCCACG	1	1		
GGT	GTAGTCCACG	1	1		
AGT	GTAGTCCACG	1	1		
g				21	0.80952381
GC	GTAGTCCGCA	1	1		
AGC	GTAGTCCACG	1	1		
ACT	GTAGTCTTGA	1	1		
CCA	GTAGTCCACA	1	1		
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CGC	GTAGTCCACA	1	1		
GTC					
CACA					
GTC	GTAGTCCACG	1	1		
ATT	CTAGTCTTAA	1	1		

GTC	GTAGTCCACA	1	1		
g				20	1
TG	GTAGTCCACG	1	1		
ATC	GTAGTCCACA	1	1		
GTG	GTAGTCCACG	1	1		
CA	GTAGTCCACA	1	1		
TA					
GC	GTAGTCCGCA	1	1		
TGC	GTAGTCTATG	1	1		
g				10	1
CTG	GTAGTCCACG	1	1		
TGC	GTAGTCCACG	1	1		
GTG	GTAGTCCACG	1	1		
f	GTAGTCCACG	1	1	49	1
GC	GTAGTCCGCA	1	1		
g	GTAGTCCACG	1	1	62	1
AA	GTAGTCCACA	1	1		
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GAG	GTAGTCCACG	1	1		
CA	GTAGTCCACA	1	1		
CTA	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
TAG					
TC	GTAGTCCACA	1	1		
GC					
TA	GTAGTCCACG	1	1		
GTC	GTAGTCCACG	1	1		
CAT	CTAGTCTTAA	1	1		
TTC	GTAGTCCATG	1	1		
TGA	GTAGTCTCAA	1	1		
CA	GTAGTCCACA	1	1		
TA	GTAGTCCACG	1	1		
TTC	GTAGTCCATG	1	1		
GC	GTAGTCCGCA	1	1		
GTG	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
GG	GTAGTCCTAG	1	1		
GCC	GTAGTCCACG	1	1		

GTG	GTAGTCCACG	1	1		
TG	GTAGTTTACG	1	1		
TTC	GTAGTCCACG	1	1		
GA	GTAGTCCATG	1	1		
f	GTAGTCCACG	1	1	2	1
TGA	GTAGTCTTAA	1	1		
CC	GTAGTCTTAA	1	1		
TGA	GTAGTCTCAA	1	1		
TGA	GTAGTCTTAA	1	1		
GTC					
GTG	GTAGTCCACG	1	1		
CT	GTAGTCCACG	1	1		
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CTA	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GAT					
AG					
GTC	GTAGTCCACA	1	1		
TC	GTAGTCCACG	1	1		
TTT					
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TT	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
AT	CTAGTCTTAA	1	1		
TC	GTAGTCCACA	1	1		
GTG	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
CG					
TG	GTAGTCCACG	1	1		
TG	GTAGTCCACA	1	1		
TAA	GTAGTCCACG	1	1		
TGT	GTAGTCCACG	1	1		
CCA	GTAGTCCTAG	1	1		
TG	GTAGTCCACG	1	1		
CTA					
ATT	GTAGTCCCAG	1	1		
AATT					
f	GTAGTCCATG	1	1	2	1

TAG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
GCC	GTAGTCCACG	1	1		
CAG	GTAATCCTAG	1	1		
TCC	GTAGTCTTAA	1	1		
TG	GTAGTCCTTG	1	1		
CTA	GTAGTCCACG	1	1		
GGTG	GTAGTCCACG	1	1		
CCA	GTAGTCCACA	1	1		
GGC	GTAGTCCGCA	1	1		
AATT					
ACT	GTAGTCTTGA	1	1		
f	GTAGTCCACG	1	1	9	0.88888889
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CGT	GTAGTCCTAG	1	1		
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GTC	GTAGTCCACG	1	1		
TTA	GTAGTCCCAG	1	1		
GTC	GTAGTCCACG	1	1		
AT					
CA	GTAGTCCTAG	1	1		
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TG	GTAGTCCTTG	1	1		
ATC	GTAGTCCACG	1	1		
CACA	GTAGTCCCAG	1	1		
GAG	GTAGTCCACG	1	1		
CCA	GTAGTCCTAG	1	1		
GTG	GTAGTCCACG	1	1		
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GA	CTAGTTCAAA	1	1		
TGA	GTAGTCTCAA	1	1		
g	GTAGTCCACG	1	1	36	1
TGA	GTAGTCTCAA	1	1		
TGA	GTAGTCTCAA	1	1		
TTT					

AGT	GTAGTCTTAA	1	1		
TTTA					
GT					
GTT					
GGG	GTAGTCCTAG	1	1		
TGG	GTAGTCCACG	1	1		
CG	GTAGTCCTAG	1	1		
TA	GTAGTCCACG	1	1		
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GCC	CTAGTCTTAA	1	1		
CAG					
CTA					
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GCC	CTAGTCTTAA	1	1		
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TA	GTAGTCCACG	1	1		
AGA					
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ATC	GTAGTCCACG	1	1		
AC					
AGA	GTAGTCTCAA	1	1		
g	GTAGTCCACG	1	1	16	1

GCC	CTAGTCTTAA	1	1		
g				2	1
GAG	GTAGTCCACG	1	1		
ATC	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
TAG					
TAG	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
AG	GTAGTCCACG	1	1		
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TAG	GTAGTCCACG	1	1		
TCC	CTAGTCTTAA	1	1		
GCC	CTAGTCTTAA	1	1		
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GCC	CTAGTCTTAA	1	1		
GAC	GTAGTCCGCA	1	1		
GCC	CTAGTCTTAA	1	1		
GTC					
TAG	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
CGG	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
TA	GTAGTCCACG	1	1		
GTA					
GAG	GTAATCCACG	1	1		
AAG	GTAGTCCACG	1	1		
GTA	GTAGTCCACG	1	1		
GAG					
GTA					
GAC	GTAGTCCGCA	1	1		
TGA	CTAGTTCTGA	1	1		
GCC	CTAGTCTTAA	1	1		
AC	GTAGTCTTAA	1	1		
TAA	GTAGTCCACG	1	1		
TAG	GTAGTCCACG	1	1		
GA	GTAGTCTCAA	1	1		

CAG	GTAGTCCACG	1	1		
CAG					
CGA	GTAGTCTCAA	1	1		
AC	GTAGTCTTAA	1	1		
GTA	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GAC	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
GAG	GTAGTCCACG	1	1		
TA	GTAGTCCACG	1	1		
GAG					
CAG					
TA	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
AC					
GCC	CTAGTCTTAA	1	1		
GCC					
TC	GTAGTCTTAA	1	1		
AC	GTAGTCTTAA	1	1		
CAG	GTAGTCCACG	1	1		
AC	GTAGTCCACG	1	1		
g	GTAGTCCACG	1	1	2	1
GCC	CTAGTCTTAA	1	1		
AC	GTAGTCCACG	1	1		
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GAG	GTAGTCCACG	1	1		
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AC	GTAGTCTTAA	1	1		
GCC	CTAGTCTTAA	1	1		
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TA	GTAGTCCACG	1	1		
CAG	GTAGTCCACG	1	1		
GCC	CTAGTCTTAA	1	1		
TA					
CTA	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		

CAG					
CTA	GTAGTCCACG	1	1		
CTA					
CTA	GTAGTCCACG	1	1		
CA					
CTA	GTAGTCCACG	1	1		
TGA	GTAGTCTTAA	1	1		
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AT	CTAGTCTTAA	1	1		
CTA					
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TTG	GTAGTCCTTG	1	1		
CTA					
GTC	GTAGTCCACA	1	1		
GTC	GTAGTCCACA	1	1		
GAT	CTAGTCTTAA	1	1		
TC	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
f	GTAGTCCACG	1	1	4	1
TC					
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GC	GTAGTCCGCA	1	1		
AT	CTAGTCTTAA	1	1		
TA					
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AA	GTAGTCCACG	1	1		
GTC	GTAGTCCACA	1	1		
TC	GTAGTCCACA	1	1		
g	GTAGTCCACA	1	1	5	0.8
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TC	GTAGTCCACG	1	1		
GAG	GTAGTCCACG	1	1		
GC	GTAGTCCGCA	1	1		
ATC	GTAGTCCACG	1	1		

ATC	GTAGTCCACG	1	1
TG	GTAGTCCTTG	1	1
TGA	GTAGTCTTAA	1	1
TTGA	GTAGTCTTAA	1	1
CAT	CTAGTCTTAA	1	1
TTGA	GTAGTCTTAA	1	1
GTT	GTAGTCCACA	1	1
ATC	GTAGTCCACG	1	1
TAC	GTAGTCTATG	1	1
TGA	GTAGTCTTAA	1	1
CTA	GTAGTCCACG	1	1
GCTA			
TGA			
GCG	GTAGTCCTAG	1	1
ATC	GTAGTCCACG	1	1
CATA			
TG	GTAGTCCTTG	1	1
ATC	GTAGTCCACG	1	1
GGC	GTAGTCCGCA	1	1
TTGG	GTAGTCTTAA	1	1
TGC	GTAGTCTATG	1	1
TGC	GTAGTCTATG	1	1
TGA			
ATC			
GAG	GTAGTCCACG	1	1
GTT	GTAGTCCACA	1	1
TGA	GTAGTCTATG	1	1
GAC	GTAGTCCACA	1	1
GTC	GTAGTCCACA	1	1
TGA	GTAGTCTTAA	1	1
TTG	GTAGTCCACG	1	1
AAG	GTAGTCCACG	1	1
GTG	GTAGTCCACG	1	1
CTA	GTAGTCCACG	1	1
TG	GTAGTCCTTG	1	1
TAG	GTAGTCCACG	1	1
GCTA	GTAGTCCACG	1	1
TTG			

CTA	GTAGTCCACG	1	1
CTA	GTAGTCCACG	1	1
TGA	GTAGTCTTAA	1	1
CTA			
GCC			
CTA	GTAGTCCACG	1	1
AGC	GTAGTCTATT	1	1
CTA	GTAGTCCACG	1	1

k	p	c	o	f	g
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Carchesium
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Gracilipodida				Filamoeba
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetace	Spirochaeta
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Thermomona
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Chryseolinea
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Pr
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 waste
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Eukaryota	Metazoa				
Eukaryota	Basidiomycot	Tremellomyc	Tremellales	Trichosporon	Trichosporon
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineac	Ornatilinea
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Elizabethkingi
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymenophorea	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166	
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Eukaryota	Cercozoa	Novel Clade Gran-3			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Aquabacteriu
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Betaproteobacteria			
Eukaryota	LKM74				
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiacea	Haliangium
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Eukaryota	Basidiomycot	Tremellomyce	Tremellales		
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Bosea
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisoma
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Stenotrophon
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Aquimonas
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Geothrix
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	CCU22	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	JG37-AG-20	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	OC31				
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacteraceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Eukaryota	Metazoa				
Bacteria	Acidobacteria	Holophagae	Subgroup 7		
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Elusimicrobia	Elusimicrobia	MVP-88		
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales		
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicro	Prosthecobac
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Planctomycet	BD7-11			
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiacea	Haliangium
Bacteria	Chloroflexi				
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacter	Labrys
Bacteria					Acidocella
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Turneriella
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Zymomonas
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bradyrhizobiu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	WCHB1-69	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	

Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Cloacibacteriu
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Chitinimonas
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Holophaga
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Cryomorphac	Crocinitomix
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Verrucomicro	OPB35 soil group			

Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Eukaryota	Ochrophyta	Chrysophycea	Chromulinales		
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Plasticicumula
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Sulfuritalea
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	JG35-K1-AG5	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyc	Pinnularia
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Cyanobacteri	Chloroplast			

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	B79	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteria	Mesorhizobiu
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Phaselicystida	Phaselicystis
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Pseudoxantho
Bacteria	Proteobacteria		Rhizobiales	Hyphomicrob	Rhodoplanes
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	F0723	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria					
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteria	Mesorhizobiu
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	KD3-93	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteria	Leucobacter
Bacteria	Acidobacteria	Subgroup 22			

Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomonad	Nitrosomonadaceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Echinamoeba
Bacteria	Chloroflexi	Thermomicro	JG30-KF-CM45		
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Nubsella
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Hirschia
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	DEV007	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Bacteroidetes	BD2-2			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Roseiflexacea	Roseiflexus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	MNG7	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Sandaracinaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Ferrovibrio
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Nocardioidac	Nocardioides
Bacteria	Armatimonadetes				

Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	mitochondria	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria					
Bacteria	Armatimonadetes				
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Polyangiacea	Sorangium
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	DS-100	
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Polyangiacea	Byssovorax

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Pseudoxantho
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Runella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Rhizobacter
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Sphaerotilus
Eukaryota	Ascomycota	Saccharomyce	Saccharomycetales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Armatimonadetes				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	mle1-27	
Eukaryota	Ascomycota	Sordariomyce	Microascales	Microascaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Brucellaceae	Ochrobactrun
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Nannocystace	Nannocystis
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Bacteria	Proteobacteri	Betaproteoba	Methylophila	Methylophilaceae	
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Vermamoeba
Bacteria	Chloroflexi	KD4-96			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Acidovorax
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Phaselicystid	Phaselicystis
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Xanthomonas
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangi	Tetrasphaera

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Azospira
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	AKIW659	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Actinobacteri	Actinobacteri	Kineosporiale	Kineosporiace	Kineosporia
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus Ca
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Hydrogenoph
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	

Bacteria	Actinobacteri	Actinobacteri	Micrococcales		
Bacteria	Proteobacteri	Gammaprote	Pseudomonadales		
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Caulobacter
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Candidatus Fr
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Delftia
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Sandaracinac	Sandaracinus
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Chloroflexi				
Bacteria	Chloroflexi	TK10			
Bacteria	Chloroflexi				
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Chloroflexi	Thermomicro	JG30-KF-CM45		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM2D12	
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Gammaprote	Chromatiales	Chromatiacea	Rheinheimera
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiaceae	Haliangium
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Sulfuritalea
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	CL500-29 mar
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	

Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Leptothrix
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Firmicutes				
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Ascomycota	Sordariomyce	Hypocreales	Hypocreaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Dokdonella
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicro	Brevifollis
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	RB41	
Bacteria	Verrucomicro	Spartobacteri	Chthoniobacterales		

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Metazoa				
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteri	Nitratireduct
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	0319-6G20	
Bacteria					
Bacteria	Proteobacteria				
Eukaryota	Heterolobose	Tetramitia			Naegleria
Bacteria	Cyanobacteri	Cyanobacteri	SubsectionIII	FamilyI	Leptolyngbya
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Candidatus R

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota		Intramacronu	Conthreep	Oligohymenophorea	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	SPOTSOCT00m83			
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM1B06	
Eukaryota	Ascomycota	Sordariomycetes			
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Rhodanobacte
Eukaryota	Cercozoa	Novel Clade Gran-5			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Actinobacteri	Actinobacteri	Kineosporiale	Kineosporiace	Quadrisphaer
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		

Bacteria	Bacteroidetes		Sphingobacte	Saprospiraceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Tetrahymena
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Methyloversa
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Micropruina
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Azovibrio
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacter	Amaricoccus
Eukaryota	Discosea	Flabellinia	Vannellida		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteri	Mesorhizobiu
Eukaryota		Chlorophyceae			Desmodesmu
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteria				
Eukaryota	Tubulinea	Euamoebida			Saccamoeba
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Cystobacter	Anaeromyxob
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Chloroflexi	TK10			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Stella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Roseiflexacea	Roseiflexus
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Porphyromonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria		OPB35 soil group			
Bacteria	Armatimonadetes				
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		

Bacteria	Armatimonadetes				
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyceae	
Bacteria					
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Neochlamydi
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Sphingobacte
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Cytophaga
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Shinella
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Acidiphilium
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiacea	Rickettsia
Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Novosphingol

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	PAUC26f	
Eukaryota	Ciliophora	Intramacronu	Conthreep	Colpodea	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineac	Anaerolinea
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Amaricoccus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Actinobacteri	Thermoleoph	Gaiellales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Eukaryota	Phragmoplast	Embryophyta			
Eukaryota	Ochrophyta	Chrysophycea	Ochromonadales		Paraphysomo
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Eukaryota	Ascomycota	Saccharomyc	Saccharomyc	Incertae Sedis	Candida
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	
Bacteria	Elusimicrobia	Elusimicrobia	Lineage IIc		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus O
Eukaryota	Cercozoa	Cercomonadidae			Eocercomona
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyc	Nitzschia
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Meganema
Eukaryota	Ascomycota	Saccharomyc	Saccharomycetales		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Dokdonella
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	PHOS-HE51	
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicro	Prosthecobac
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteria	Microbacteriu
Bacteria	Proteobacteri	Gammaprote	NKB5		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Ascomycota	Sordariomycetes			
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylosarcir
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		

Bacteria	Proteobacteria		Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Bauldia
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Elusimicrobia	Elusimicrobia	Lineage IIb		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadales Incertae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Iamiaceae	Iamia
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Candidatus Ac
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Proteobacteri	Gammaprote	Aeromonadal	Aeromonadac	Aeromonas
Bacteria	Firmicutes				
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Candidatus Ac
Bacteria	Firmicutes	Clostridia	Clostridiales	Peptostrepto	Incertae Sedis

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Actinobacteria				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Cloacibacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Ferrovibrio
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	TM6				
Eukaryota	LKM15				
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Eukaryota		Chlorophyceae			
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangi	Tetrasphaera
Bacteria	Proteobacteri	Gammaprote	Pseudomonadales		
Bacteria	Actinobacteri	Thermoleoph	Solirubrobact	480-2	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Simkania
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellacea	Acinetobacte
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Methylorosul
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	Chlorobiacea	Chlorobium

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Eukaryota	Tubulinea	Arcellinida	Arcellina		Arcella
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 wastev
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Bacteroidetes				
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	Candidatus M
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Chloroflexi	Thermomicro	JG30-KF-CM45		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	NPL-UPA2				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Propionivibrio
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Pr
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Inquilinus
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Propionicicella
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	BD7-11			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria	Proteobacteri	Betaproteoba	B1-7BS		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Haliangiaceae	Haliangium
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Hydrogenoph
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Eukaryota	Basidiomycot	Wallemiomyc	Geminibasidi	Geminibasidi	Geminibasidiu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Nordella
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria					
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Microbacteriu
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacter	Tropicimonas
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Eukaryota	Basidiomycot	Tremellomyc	Tremellales	Trichosporon	Trichosporon
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangiaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Taibaiella
Bacteria	Candidate division OD1				
Bacteria	Bacteroidetes				
Eukaryota	Discosea	Longamoebia	Centramoebida		Acanthamoeb
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiaceae	
Bacteria	Bacteroidetes				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		

Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylocaldu
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Holophaga
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Coxiella
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Eukaryota	Basidiomycot	Microbotryon	Sporidiobolal	Incertae Sedis	Rhodotorula
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Vorticella

Eukaryota	Gracilipodida				Filamoeba
Bacteria	Actinobacteri	Actinobacteri	Frankiales	Nakamurellac	Nakamurella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Lautropia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Planctomycet	Pla4 lineage			
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Nannocystaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	

Eukaryota	Metazoa				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Candidate division WS3				
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus

Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymenophorea	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Eukaryota	Ochrophyta	Chrysophycea	Chromulinales		Spumella
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	cvE6	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Methylobacte
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Proteobacteri	Deltaproteob	Bdellovibriona	Bdellovibriona	Bdellovibrio
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	Elev-16S-573	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	mle1-27	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Eukaryota	Basidiomycot	Tremellomyce	Tremellales	Tremellaceae	Cryptococcus
Bacteria	SHA-109				
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Fibrobacteres	Fibrobacteria	Fibrobacteral	Fibrobacterac	possible genu
Bacteria	Actinobacteri	Thermoleoph	Solirubrobact	480-2	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Eukaryota	Cercozoa	Glissomonadida			Amb-18S-112
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Sandaracina	Sandaracinus
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Porphyromon	Paludibacter
Bacteria	Bacteroidetes	BD2-2			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Eukaryota	Tubulinea	Euamoebida			BOLA868
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Afipia
Bacteria	Firmicutes	Bacilli	Bacillales	Staphylococc	Staphylococc
Bacteria	Bacteroidetes				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Eukaryota	LKM11				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Lysobacter
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Arenimonas
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibact
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Eukaryota	Cercozoa	Incertae Sedis			Gymnophrys

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	JG35-K1-AG5	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacteriaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	Xanthomonad	Candidatus Co
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Capnocytopha
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae	Clostridium se
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02

Eukaryota					
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenoph	Thiobacillus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Ancalomicrob
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiracea	Haliscomenob
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Aquabacteriu

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Solimonadace	Solimonas
Bacteria	Bacteroidetes	VC2.1 Bac22			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Nordella
Bacteria	Cyanobacteria	Cyanobacteria	SubsectionIII	FamilyI	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Rhizomicrobiu

Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Marinilutecoc
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Acidovorax
Bacteria	TM6				
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Janthinobacte
Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichacea	Thiothrix

Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Eukaryota		Trebouxiophyceae			Auxenochlore
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellacea	Perlucidibaca

Bacteria	Deinococcus-	Deinococci	Thermales	Thermaceae	Meiothermus
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Rhodanobact
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Aquabacteriu
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Actinobacteri	Actinobacteri	Corynebacter	Mycobacteria	Mycobacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	PHOS-HE51	
Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Thermomona
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Cloacibacteri
Bacteria	Proteobacteri	Betaproteoba	Methylophila	Methylophilaceae	
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiracea	Lewinella
Bacteria	Candidate division BRC1				
Eukaryota	Ascomycota	Eurotiomycet	Chaetothyriales		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteria	Mesorhizobiu
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Deltaproteob	Desulfobacte	Desulfobulba	Desulfobulbus

Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Runella
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Adhaeribacter
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Chitinophaga

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Eukaryota		Chlorophyceae			
Bacteria	Firmicutes	Clostridia	Clostridiales	Family XII	Acidaminobac
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Nordella

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Deltaproteob	Sh765B-TzT-29		
Bacteria	Deinococcus-	Deinococci	Deinococcale	Deinococcace	Deinococcus
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera

Bacteria	Candidate division OD1				
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacterа	Brevundimon
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces

Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 wastev

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Chitinophaga
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Sphingobacte
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Bacteroidetes				

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria	Verrucomicro	Spartobacteri	Chthoniobact	FukuN18 freshwater group	
Bacteria		Chthonomona	Chthonomona	Chthonomona	Chthonomona

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae
Archaea	Euryarchaeot	Methanomicr	Methanomicrobiales	
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	

Bacteria	Actinobacteri	Actinobacteri	Frankiales		Nakamurella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Ascomycota	Eurotiomycet	Eurotiales	Trichocomaceae	
Eukaryota	Basidiomycot	Tremellomyce	Tremellales	Trichosporona	Trichosporon
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	Xanthomonad	Thermomona

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingosinice
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Leptospira
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Aquicella
Bacteria	Bacteroidetes	vadinHA17			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Cupriavidus
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	
Bacteria	Bacteroidetes	Flavobacteiia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Bacteroidetes	Flavobacteiia	Flavobacteria	Flavobacteria	Chryseobacte
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyc	Placoneis

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Rhodoplanes
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Novispirillum
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Rhizobium
Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae 1	

Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	Candidatus M
Bacteria	Proteobacteri	TA18			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu

Archaea	Euryarchaeot	Halobacteria	Halobacterial	Deep Sea Hydrothermal Ver
Eukaryota	Ascomycota	Sordariomyce	Sordariales	Coniochaetaceae

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Schizoplasmodiida				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenacea	Achromobact
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Stenotrophon
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Afipia
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavisolibacte

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Eukaryota	Basidiomycot	Agaricomycet	Polyporales		

Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae
Bacteria	Actinobacteri	Acidimicrobiia	Acidimicrobiales	
Bacteria	Proteobacteri	Betaproteoba	SC-I-84	

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera
Bacteria	Actinobacteri	Actinobacteria			

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Thermomona

Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Propioniciclav
Bacteria					
Bacteria	Firmicutes	Bacilli	Lactobacillale	Enterococcac	Enterococcus
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM2D12	

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingobium
Eukaryota	Ascomycota	Eurotiomycet	Eurotiales	Trichocomace	Talaromyces

Eukaryota	Ciliophora	Intramacronu	Litostomatea	Haptoria	Amphileptus
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3

Bacteria	Actinobacteri	Actinobacteri	Micromonosp	Micromonosp	Micromonosp
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyc	Sellaphora
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus O
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymenophorea	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Lampropedia

Bacteria	Firmicutes	Bacilli	Lactobacillale	Streptococca	Lactococcus
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Micropruina
Bacteria	Firmicutes	Erysipelotrich	Erysipelotrich	Erysipelotrich	Turicibacter
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Haliangiaceae	Haliangium
Bacteria	Bacteroidetes				

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Chitinophaga

Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Ohtaekwangia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Cryomorphac	Crocinitomix

Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangiaceae
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Myxococcaceae

Bacteria	Cyanobacteri	Cyanobacteri	SubsectionIII	FamilyI	Leptolyngbya
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Rhizobium
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob

Bacteria	Proteobacteri	Deltaproteobacteria		mle1-27	
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Actinobacteri	Actinobacteria			

Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	F0723	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavitalea

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	DA111
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	ST-12K33
Eukaryota		Trebouxiophyceae		

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingopyxis
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicrobiaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Aquabacteriu

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichacea	Methylohalon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	KD3-93	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae
Bacteria	Bacteroidetes			

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Cyanobacteri	Cyanobacteri	SubsectionIII	FamilyI	
Bacteria	Firmicutes	Clostridia	Clostridiales	Ruminococcaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavisolibacte

Bacteria	Proteobacteri	Deltaproteob	Desulfobacte	Desulfobulba	Desulfobulbu
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	WCHB1-69	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Magnetospiril

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae

Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu

Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	Xanthomonadaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Rhodanobacte
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Pelomonas

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Sphingobacte

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tag	Flocs Control 1	Flocs Control 2
GTGTGCAGGTTCTCTTTCGAGCACCAAACCATC	0	8
GTGTTCAGGCTCCCTTGCGGGCACTCCCGAATC	14509	1545
CTAGACCAATCAAGAAAGAACTCTCAATCTGTC	17	309
CCCATAGAATCAAGAAAGGACCGTCAACCTGTC	2500	3072
CTCATGGAATCAAGAAAGAGCTATCAATCTGTC	9969	4296
GTGTCCAGGCTCTCTTTCGAGCACTCCTAAATC	2025	8811
CCCATCCGATCCTCTGAAGGGCCTTCTCGTCTG	0	0
CCCACCGAATCAAGAAAGAGCTCTCAATCTGTC	5813	2621
GTGCATGTTCCACCCTTGCGGGTGTGGCTCTGC	150	305
CCCATTTAATCAAGAAAGGGCTATCAACCTGTC	10	94
GTGCTTGTTCCACCCGAAGGGCGTGGCCTCTCT	3866	1922
GTGTCCAGGCTCCCTTTCGGGCACGAATCCATC	2395	2743
GTGTACAGACCCTTGCGGGCTAAACTATCTCTA	0	0
GTGTCCAGGCTCTCTTTCGAGCACCAAGCCATC	1222	876
GTGTACCGACCCTTGCGGGCGACGACATTTCTG	28	2
GTGTTCCGGCTCTCTTTCGAGCACTCCCAAATC	847	666
CCCATAGAATCAAGAAAGAGCTATCAATCTGTC	2712	2988
GTGTTCTGGTTCCCGAAGGCACTCCTCGATCTC	823	1483
TGTTTCGAGTCTCCGGTTTCCCTTCGACGACTC	3	0
GAGCACGCTGGTATTGCTACCTCGTCAGGCTTT	507	790
GTGTTCTGGCTCCCGAAGGCACCCTCGCCTCTC	791	390
GTGCTGGTTCCGGTCTTGCGACTGTGGCTCTAC	703	1109
GTGCAGCAGCCCCGAAGGGAAATACCATCTCTG	0	0
CCCATAGAATCAAGAAAGAGCTCTCAATCTGTC	632	299
GTGTTCAGGTTCTCTTGCGAGCACTCCCGAATC	490	391
GAGCACGCTGGTATTGCTACCTCGTTAGGCTTT	684	928
TGTAAACTGTCTTGCGAAAGACTAGTTTCCTAA	0	0
TCCAATAAATCGAGAAAGGTCTTTAACCTGTCA	694	777
GTGTTCAGGTTCTCTTGCGAGCACTCCCAGATC	430	453
CTCAATAAATCAAGAAAGATCTTCAATCTGTCA	738	539
GTGTCCAGGCTCCCTTTCGGGCACCAAGCCATC	573	597
GTGTTCAGGTTCTCTTGCGAGCACTCCCAAATC	51	136
AGTTTCGTGTCCTTGCGGAAAGCTCCCTTTCAG	624	577
GTGTCTTAATTCCCTTTCGGGCACTTTTGCATC	593	413
CCCACAGAATCAAGAAAGGCCTTAAGCCTGTCA	0	0
GTCTCGGGGCTCCTTTCGGCACCCCCCATCTCT	31	65
AGTTTCGTGCCCTTGCGGGAAGTCTCCTTTCAG	0	0

GTGCAAGTTTCACTCCGAAGAGCAACTTTCTGA	364	570
GTCTCGGGGCTCCTTGCGGCACCTCCCATCTCT	83	106
GTGTTCCGATTCCCGAAGGCACTCCCGCATCTC	405	1137
GTGTTGCAGCTCCCTTTCGGGCACTTCCTCATC	122	74
TTCAGGGGATCGAGAAAGAACACTCAATCTGTC	0	0
GTGACCGTTGTACCCTTGCGGGCCTACATCTAC	266	648
TCCACAAAATCAAGAAAGAGCTTTCAATCTGTC	12	10
TACTGGCAGTGTATTGCTACAAAGTGAGCTTTC	579	296
CCCACAGAAATTAAGAAAGAGCTATCAATCTGT	460	310
GTGTTCAAATTCTCTTTCGAGCACGATTCCATC	429	278
CGCATAGTGTCCCGAAGGAAGATCGGCTTTCAC	391	258
GTGTACGTTCCACCCAGAGGGTGTGGCTCCTCT	370	499
GTCTCGGGGTTCCTTGCGGCACTGCCCATCTCT	0	0
GTGCAAGCTCCCTTGCGGGTCGTTCACCTTTCA	35	36
GTCTCTGGATTCCCTTGCGGGCACGCCGACTTT	364	291
CCCATAGAATCAAGAAAGAGCTCTCAAATCTGT	452	81
CCCATAAAATCAAGAAAGAGCTCTCAATCTGTC	7	9
GTTCAGGCTCCCTTGCGGGTCGGTCACCTTTCG	183	247
GTGTACGTTCCACTCAGAATGAGTGTCAATTAC	0	0
GTGTGGACGCCAGCCGAACTGAAGGACCTCATC	0	0
GTGTCCTGGCTCCCGAAGGCACCCCCGCCTCTC	195	440
GTGTTCCGGCTCCCTTTCGGGCACACCCAAATC	289	306
GTGTACGTTCCACCCAGAATGGGTGTCAATCAC	10	739
TGTAATCTGTGTATTGCTACAAAAACCCCTTTC	338	330
GTGTGCAGGTTCTCTTTCGAGCACTCCCAGATC	46	1029
GAGCACGCTGGTATTGCTACCTCGTAAGGCTTT	168	314
TGCTCCTTGTTCTTGCGAAACGATCCATCTCTG	0	0
TGCAGGCAGGAACTGGTTACCCAGATCATCCTA	319	273
GTGCAGGTCACACCCGAAGGTAATCAGCCAGCT	80	66
TACTGCCTGTATATTGCTATAAAGACCCCTTTC	331	127
TCTCACTCGCTCCCCGAAGGGCACCAAGACATT	0	0
TGCAGGCAGGAGCCGGTTACCCGGATCATCCTA	254	247
AGTTTCGTGTCCTTGCGGAAGGCTCCCTTTCAG	0	0
GTGTCCAGGTTCCCTTTCGGGCACGAATCCATC	254	244
CCCATAGAATCAAGAAAGATCTTCAATCTGTCA	195	341
TGCTCTTTGTCCTTGCGGAAAAACCCATCTCTG	38	29
TTCAAGGGATCGAGAAAGAACACTCAATCTGTC	0	0
GTGTCCAGGCTCCCTTGCGGGCACCCTCTCGTT	126	200

TGCATCCGGCCCCGAAGGGCGATCAGCTTTCAC	0	0
GTTTAAACTCCCTTGCGGGTCGATCCAATTTCT	0	0
AGTTTCGGGTCATTGCTGACTAACTCCTTTCAG	234	164
GTCTCTGGATTCCCTTGCGGGCACATCAGCTTT	23	33
CGCACCCGGCCCCGAAGGGCTGTACAGTTTCCC	0	0
GTGTGGCGTCCGGCCGAACCGACTCCCCGCTCT	188	272
AGTTTCGTGTCCTTGCGGAAAGCTTCCTTTCAG	14	21
GTGTTGCAGCTCCCTTTCGGGCACTTTCTCATC	216	137
CTCTAGGAATTATGAAAGAACAATCAACCTGTC	0	0
GTGTCTTAATTCCCTTTCGGGCACTTTTACATT	20	8
GTGCACGTTCCGGTCTTGCGACTGTGGCCCCAC	0	0
TGCAGGCAGGAGCTGGTTACCCAGATCGTTCTA	85	218
TATCACGCGTATATTGCTATAAAACCAGCTTTC	146	116
GTCTCTGGATTCCCTTGCGGGCACGTCGACTTT	0	0
GTGTCCAGGCTCTCTTTCGAGCACGAATCCATC	203	195
GTCTGCGCTCTCCGAAGAGTCGTTCCCCTTTCA	148	196
GTGTTCCGATTCCCTTTCGGGCACCCCCACCTC	105	246
GTAATATTAAATTAAAAAAAATAATAAAAATTT	0	0
TGCTCCATGTCCTTGCGGAAGAGTCCATCTCTG	186	187
GTCTTTGGGCTCCTTGCGGCACCCCCATATCTC	107	227
CCCATGGAATCAAGAAAGAGCTATCAATCTGTC	2	243
TGCTCCTTGTTCTTGCGAAAAAATCCATCTCTG	15	16
TACTGGCAGTGTATTGCTACAAAGAGAGCTTTC	115	116
GTGCAGGTCACACCCGAAGGTAATCAGCCGACT	127	177
GTGACCGCTCCCCGAAGGGTCGTTCCGCTTTCA	155	145
GTGCAAGCTTCCCGAAGGATCGTTCCGCTTTCG	83	117
AACCACAGGTTCCCCGAAGGGCACCCCGAACTT	116	217
TGAAAAATGTCCGAAGAAAAGTCTATTTCTAAA	76	545
GTGCAAACTCTCCTTGCGGAGTCGTCACCCTTT	6	0
GTGCATGTTCCGGTCTTGCGACTGTGGCTCTAC	89	107
TACGATCTGTGTATTGCTACAAAATGAGCTTTC	62	61
GTGTCCAGGCTCCCTTTCGGGCACCTCCACCTC	85	218
CCCATAGAATCAAGAAAGATCCTTTTAATCTGT	98	155
GTGTTGCAGTTCTCTTTCGAGCACTTTCTCATC	100	127
GTGTGGACGCCAGCCGAACTGAAGAACGGGATC	4	9
TGAAAAATGTCCGAAGAAGGATCTATTTCTAAA	0	0
CGCACCCGGCCCCGAAGGGCTGCACAGTTTCCC	0	0
GTCTTCAGGTCCCCTTGCGGGGTACTCGGCTGT	84	202

GTGCACGGACTCCGAAGAGGGGCCGATGTTTCC	84	151
GTGTCTTAATTCCCTTTCGGGCACTTCTACATC	147	145
GTGCACCAGTCCCGAAGGAAAGGACCCTTTCAG	174	124
CCCACCTAATCAAGAAAGAGCTCTCAATCTGTC	31	23
GTGCAGCAGTCCCGAAGGAAAGACGCCTTTCAG	0	0
GTGCAAGCTCCCTTGCGGGTCGTTCACCTTTCG	17	7
GTGCAGGCTCCCCGAAGGGTCGTTCCACTTTCG	65	226
GTGTCTCAATTCCCTTTCGGGCACCTCTGCATC	196	153
GTGTTCTAGCCAGCCGAACTGAAGGAAGTCATC	125	95
TGCTTCGCGTCCCGAAGGAAACCCGGCTTTCAC	102	137
ATACTGCAGTCCCTTGCGGGAAGTCCCTGTTTC	123	109
CCCATTTAATCATGAAAGAGCTATCAATCTGTC	0	33
GTGTTCAGATTCTCTTTCGAGCACGATTTCATC	114	103
GTACCAAGTCCCCTCTTGCGAGGTTCCCTGAGG	64	151
GCTAAGAAATTAACTATCAAAAAAAAGGAAAAA	13	20
CCCACAGAATCAAGAAAGAGCTCTCAATCTGTC	68	84
CGACCAACAACCGGCTTTACGGTTCGCCCCCCT	29	189
TGAGAGCCGTCCGAAGAAAGGCCTGTTTCCAAG	0	0
GTGTTCCGGCCAGCCGAACTGAAGAAAGGCATC	62	48
GTGATAGTCCAGCCGAACTGACCGGCTAGTTTC	0	0
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TGTAAAAGGTCTTTGCAGACTGTATACTTTCAT	0	0
GTGTCCCGGTTCTCTTTCGAGCACTCCCGCATC	92	60
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TCTCACTCGTTCCCCGAAAGGCACCCCGGCATC	102	100
GTACAAGACCCCTTGCGGGTAAACGACTTTCAT	130	87
GTGATGGCTCGCCGAAGCGTCGTTCCCCTTTCG	0	0
GCTGCCATATCAAGAAAGTGCTATCAAGCTGTC	92	135
GTGCAGGCTCCCCGAAGGGTCGTTCCGCTTTCG	34	84
GTGCACGTTCCACTCTTGCGAGCGTGGCTCCTG	71	129
GTGTGGGATCCGGCCGAACCGACAGAAATAATC	0	0
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GTGTCCAGGTTCCCTTTCGGGCACCAAGCCATC	56	73
TATCCCGCGTGTATTGCTACAAGGGTAGCTTTC	61	117
TGCAGGCAGGAGCTGGTTACCCAGATCGCTCTA	74	98

AAGTAGCAGCCCCTTGCGGGGAAGGGCACTTTC	67	78
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GTGTGCAGGTTCTCTTTCGAGCACTTCCAAATC	21	237
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CGCATAGTGTCCCGAAGGAAGATTGGCTTTCAC	4	59
GTGCACGTTCCATTCTTGCGATTGTCATCGATG	2	0
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GTGTCTCGGTTCTCTTTCGAGCACCTCCGCATC	55	94
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GTGCTCAAATTCCCTTTCAGGCACACTTCCATC	61	75
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AAGTGGCAGCCCCTTGCGGGGAAGGGAACTTTC	28	76
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CGACTCTACTCCCTTGCGGGATAACGATGTTTC	38	48
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GTGCACGTTGTACCCTTGCGGGCCTGGCCGATG	52	50
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GTGCTTGTTCCACCCAGAGGGTGTGGCCTCTCT	44	41
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TACTACCCGTATATTGCTATAAAATACCCTTTC	28	42
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GCATCGGCTCCCCGAAGGGTCGTTCCGCTTTCA	7	16
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CGACTGGACCCCCTTGCGGAGTAACGATATTTC	43	29
AGTTTCGTGTCCTTGCGGAAAAATCCCTTTCAG	26	63
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TCCTACCTCCCCCGAAGGGAAACCTCATCTCTG	34	24
TGTAACCTGTGTATTGCTACAAAGCCCCCTTTC	5	37
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CCTACAGAATCAAGAAAGGCCTTAAGCCTGTCA	0	0
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TGCTCTTTGTCCTTGCGGAAAAACCCATCACTG	0	0
GTGCAAGTTACACTCCGAAGAGCAACTTTCTGA	0	0
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GTACAAGCTCCCGAAGGTCGTTCCCTTTTCAGC	0	0
GTGTTCCAGCCAGCCGAACTGAAGGAAACGATC	0	0
TCTCACTCGCTCCCCGGAGGGCACCAAGACATT	0	0
TGTTTCGGGTCTCCGGTTTCCCTTCGACGACTC	0	0
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TGTTTCGAGTCTCCGGTTTCCCTTCGATGACTC	0	0
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GCCATACACCCTCGAAGGCTTATCTGGTTTCCC	0	0
GTAACGGCTCCCGAAGGTCGGCCCCCTTTCGGT	0	0
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GTGTGCCGGTTCTCTTTCGAGCACCAAACCATC	0	0
GTGTGAAGGTTCTCTTTCGAGCACCAAACCATC	0	0
GTGTGCATGTTCTCTTTCGAGCACCAAACCATC	0	0
GTGTGCAGGTTGTCTTTCGAGCACCAAACCATC	0	0
	72764	64006

Flocs Control 3	Flocs Treated 1	Flocs Treated 2	Flocs Treated 3
3	0	0	0
3437	11789	6506	16243
121	68	268	25
2521	1904	2304	1389
5819	2592	3012	8217
10344	2254	2892	872
2	0	0	2
5302	3490	1724	4451
267	181	164	146
19	21	36	3
2298	2042	1149	2663
2231	1648	1416	1651
0	3	0	0
981	904	597	1026
580	2222	2157	3281
677	1242	856	884
1552	647	576	812
2829	1389	905	1160
4	12	5	11
657	328	459	484
459	403	289	574
1113	830	730	579
0	0	0	0
397	266	277	448
493	361	245	503
935	378	501	724
0	0	0	0
813	536	391	366
515	392	318	314
653	572	430	593
740	523	360	581
69	40	74	32
752	541	325	572
223	150	151	519
0	0	0	0
57	24	36	45
0	0	0	0

556	387	358	286
125	56	39	74
683	140	169	173
190	115	73	120
3	7	8	7
515	372	388	251
6	9	3	14
403	347	283	465
479	363	109	327
466	289	233	374
555	402	248	335
364	318	281	283
0	0	0	0
24	29	30	35
309	223	202	293
289	223	115	419
8	14	10	5
297	324	330	257
0	0	0	0
0	0	0	0
329	224	293	193
376	292	195	262
103	75	471	5
309	173	114	199
357	19	142	2
260	140	179	202
0	0	0	0
245	178	157	274
70	56	46	75
224	227	168	257
0	0	0	0
300	216	140	213
0	0	0	0
244	172	115	188
259	172	182	128
31	16	21	32
0	0	0	0
171	153	177	154

0	0	0	0
0	0	0	0
242	184	95	256
50	27	12	16
0	0	0	0
261	152	126	128
23	11	11	5
200	157	91	163
0	0	0	0
15	13	5	15
0	0	0	0
43	31	38	54
319	225	84	148
0	0	0	0
204	120	101	149
244	130	132	123
168	117	146	71
0	0	0	0
161	103	91	147
242	143	97	108
15	21	440	0
18	4	5	9
86	73	66	92
130	157	113	103
192	96	103	154
131	84	100	91
178	92	102	128
226	7	19	0
0	0	2	5
110	77	77	61
63	61	57	42
146	122	110	91
129	96	172	73
158	118	81	112
6	13	5	5
0	175	265	166
0	0	0	0
137	125	99	58

147	135	72	101
174	82	69	106
122	93	61	78
87	57	16	43
0	0	0	0
16	38	17	39
152	82	92	52
108	56	55	135
115	115	88	70
141	101	59	115
115	54	51	104
10	8	25	0
150	93	77	88
105	126	94	65
19	11	16	10
55	27	44	63
100	84	136	26
0	0	0	0
113	88	53	85
0	0	0	0
0	36	26	321
0	0	0	0
66	112	65	144
0	0	0	0
0	0	0	0
0	0	0	0
81	61	67	86
78	57	57	99
0	0	2	0
107	56	54	44
93	74	90	59
106	52	50	67
0	0	0	0
0	0	0	0
8	5	2	0
46	50	29	36
113	59	55	34
34	48	40	37

102	67	54	53
86	52	41	34
94	11	55	2
0	134	87	128
0	0	0	0
61	104	54	68
13	7	33	3
0	0	0	0
0	0	0	0
0	0	0	2
73	36	44	66
51	67	22	18
55	51	40	66
69	46	26	40
61	38	41	72
77	47	41	59
2	0	0	0
7	2	3	3
60	65	19	72
97	9	44	0
75	51	62	30
55	40	36	27
51	46	39	52
13	5	4	2
61	46	73	37
67	82	46	28
112	49	44	28
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64	39	25	40
0	0	0	0
69	45	39	77
8	19	4	45
58	33	40	46
78	28	31	45
0	0	0	0
0	0	0	0
0	0	0	0
99	88	17	28

75	29	25	48
0	0	0	0
75	47	31	45
58	43	30	47
59	57	30	36
62	30	33	51
69	47	39	40
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3	4	2	2
72	46	32	30
45	44	29	31
0	0	2	0
6	5	7	9
3	6	0	0
28	24	35	20
0	0	0	0
48	33	26	40
51	32	36	39
2	0	0	0
54	47	33	31
17	10	3	6
13	8	10	10
19	22	19	14
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13	9	14	22
37	34	24	44
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75	35	25	4
5	22	10	13
13	72	46	35
50	2	22	0
59	36	8	25
43	21	37	53
38	38	24	38
51	0	18	0
29	29	32	29
34	27	23	39
0	0	0	0

28	14	20	11
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46	45	28	22
0	0	0	0
25	15	32	17
57	24	21	15
20	19	20	25
47	29	18	39
45	15	19	37
31	26	37	27
46	36	20	22
47	14	26	20
21	30	29	47
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27	22	24	37
0	0	0	0
40	18	15	49
44	29	15	28
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20	26	24	44
33	24	39	9
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0	0	0	0
37	28	30	13
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23	18	15	16
22	16	21	12
32	32	18	21
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37	27	25	24
25	26	14	33
31	19	11	20
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24	21	6	42

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28	26	24	13
8	11	9	3
9	4	7	2
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33	23	20	27
25	15	12	24
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0	0	0	0
46	16	18	15
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7	0	4	8
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22	24	17	20
21	28	19	21
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26	20	15	21
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13	7	17	5
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14	11	18	21
19	8	22	6

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30	19	18	15
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16	13	9	15
13	5	9	9
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34	11	18	9
18	18	23	14
19	25	8	24
15	14	13	12
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26	6	14	29
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0	33	8	32
0	0	0	0
11	7	7	6
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24	12	14	16
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5	3	11	0
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3	0	0	0
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21	15	6	18
20	10	6	12

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13	11	17	13
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14	15	20	4
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18	12	13	3
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25	4	9	2
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12	14	7	8
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11	7	5	2

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2	4	12	4
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7	3	4	10
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7	5	0	5
5	6	4	5
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4	0	7	7
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69316	53429	43509	65205

Granules Control 1	Granules Control 2	Granules Control 3	Granules Treated 1
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12106	11557	16423	6795
7585	7215	6260	16195
4387	11205	6823	2410
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4283	7430	4393	3150
0	0	0	2
3971	3712	3160	2845
3100	3435	3082	2691
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0	0	0	0
2887	3294	1219	2353
654	1076	1019	587
3	0	0	23
901	915	570	670
0	0	2	11
0	0	0	0
2061	2053	1141	1666
1275	994	860	800
1521	864	1041	1037
411	470	143	333
980	1391	1603	572
589	557	580	470
780	389	430	435
115	105	88	81
615	936	1572	334
85	104	99	48
389	193	225	191
3	2	0	2
27	19	26	25
643	488	723	404
12	11	16	4
298	255	250	183
892	631	600	586
952	511	406	583
1113	725	72	829

86	82	71	58
756	432	295	488
45	16	0	4
418	415	428	306
475	279	131	1088
18	24	5	14
895	438	283	440
45	36	31	18
107	54	64	76
64	62	54	49
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488	404	442	347
267	400	531	169
33	29	70	22
94	72	81	50
548	574	147	328
31	22	33	11
343	406	311	259
502	443	345	214
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52	36	35	45
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58	27	28	35
479	352	159	281
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264	221	164	153
27	8	2	11
457	300	155	253
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279	274	167	355
23	17	12	16
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367	298	106	232
299	131	115	463
29	30	57	24

181	199	392	109
369	218	102	288
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124	310	202	101
195	318	231	162
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204	269	171	172
30	30	42	21
264	219	212	137
246	242	214	152
151	265	246	165
188	131	116	109
11	15	3	8
146	225	275	106
7	13	7	6
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3	6	26	7
197	191	182	145
27	13	8	8
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349	174	66	151
103	78	21	54
13	4	4	10
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52	56	45	30
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167	186	166	114
75	62	40	49
108	99	48	101
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0	0	10	0
8	17	14	8
275	122	106	93
0	0	0	3
106	182	162	101
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77	112	100	48
175	149	152	97
114	144	125	54
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162	135	72	95
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87	126	138	46
67	57	41	33
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24	126	236	20
53	43	34	13
87	86	107	129
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128	166	79	102
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166	104	73	134
126	85	147	76
180	112	79	94
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169	122	43	101
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106	120	147	29
103	94	112	49
105	120	72	72
34	28	31	40
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30	21	27	16

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26	16	11	13
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73	123	41	69
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40	57	78	25
113	89	58	79
138	27	6	203
114	88	105	40
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58	43	16	32
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31	21	20	18
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78	91	52	59
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6	14	14	3
46	42	101	33
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74	75	63	53
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127	55	8	43
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42	55	103	33
83	71	57	45
51	57	83	39
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79	88	31	36
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72	55	37	54
75	61	27	29
60	28	41	74
31	18	14	7
6	94	36	30
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66	35	71	35
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72179	77604	66971	60207

Granules Treated 2	Granules Treated 3	tag	use	taxon_level
0	0	GTGTGCAGG	long	g
10438	13175	GTGTTCAGG	long	g
10674	16952	CTAGACCAAT	long	f
8553	7164	CCCATAGAAT	long	g
12	6	CTCATGGAAT	long	o
0	0	GTGTCCAGG	long	f
3922	4622	CCCATCCGATCCTCTGAAGGGCCTTCTCGTC		
0	0	CCCACCGAAT	long	p
2332	2839	GTGCATGTTCCACCCTTGCGGGTGTGGCTC		
2826	3783	CCCATTTAAT	long	o
0	0	GTGCTTGTTCCACCCGAAGGGCGTGGCCTC		
0	0	GTGTCCAGGCTCCCTTTCGGGCACGAATCC		
1623	1038	GTGTACAGACCCTTGCGGGCTAAACTATCT		
584	970	GTGTCCAGG	long	g
21	23	GTGTACCGA	long	g
586	532	GTGTTCCGG	long	g
0	0	CCCATAGAAT	tag	k
0	0	GTGTTCTGGT	long	f
1362	1028	TGTTTCGAGTCTCCGGTTTCCCTTCGACGAC		
769	788	GAGCACGCT	tag	g
586	815	GTGTTCTGG	long	g
270	125	GTGCTGGTTCCGGTCTTGCGACTGTGGCTC		
941	1495	GTGCAGCAGCCCCGAAGGGAAATACCATCT		
463	790	CCCATAGAAT	tag	k
364	429	GTGTTCAGGT	long	g
92	90	GAGCACGCT	long	g
429	1234	TGTAAACTGTCTTGCGAAAGACTAGTTTCCT		
65	77	TCCAATAAATCGAGAAAGGTCTTTAACCTG		
143	125	GTGTTCAGGT	long	g
4	3	CTCAATAAAT	long	c
16	13	GTGTCCAGG	long	f
433	696	GTGTTCAGGT	long	g
9	11	AGTTTCGTGT	long	f
213	283	GTGTCTTAATTCCCTTTCGGGCACTTTTGCA		
413	510	CCCACAGAATCAAGAAAGGCCTTAAGCCTG		
427	395	GTCTCGGGG	long	g
444	61	AGTTTCGTGCCCTTGCGGGAAGTCTCCTTTC		

51	59	GTGCAAGTTTCACTCCGAAGAGCAACTTTCT		
293	367	GTCTCGGGG	tag	g
4	4	GTGTTCCGAT	long	c
265	359	GTGTTGCAGCTCCCTTTCGGGCACTTCCTCA		
409	382	TTCAGGGA	long	o
10	12	GTGACCGTTGTACCCTTGCGGGCCTACATCT		
402	361	TCCACAAAATCAAGAAAGAGCTTTCAATCT		
21	26	TACTGGCAGT	tag	f
41	68	CCCACAGAAATTAAGAAAGAGCTATCAATC		
45	38	GTGTTCAAAT	long	g
0	0	CGCATAGTGTCCCGAAGGAAGATCGGCTTT		
0	0	GTGTACGTTCCACCCAGAGGGTGTGGCTCC		
275	414	GTCTCGGGG	long	g
251	459	GTGCAAGCT	tag	f
21	66	GTCTCTGGAT	tag	o
35	71	CCCATAGAAT	long	k
327	123	CCCATAAAAT	tag	k
4	22	GTTCAGGCTC	long	g
284	378	GTGTACGTTCCACTCAGAATGAGTGTCAAT		
211	262	GTGTGGACG	long	g
0	0	GTGTCCTGGC	long	g
0	0	GTGTTCCGGC	long	g
6	20	GTGTACGTTC	long	c
25	39	TGTAATCTGT	tag	f
0	4	GTGTGCAGG	tag	g
45	43	GAGCACGCTGGTATTGCTACCTCGTAAGGC		
226	115	TGCTCCTTGT	tag	f
0	0	TGCAGGCAGGAACTGGTTACCCAGATCATC		
153	172	GTGCAGGTC	long	c
3	0	TACTGCCTGTATATTGCTATAAAGACCCCTT		
220	159	TCTCACTCGCTCCCCGAAGGGCACCAAGAC		
0	0	TGCAGGCAG	tag	o
223	130	AGTTTCGTGT	tag	f
20	25	GTGTCCAGG	long	c
0	0	CCCATAGAAT	long	f
163	68	TGCTCTTTGT	long	f
184	137	TTCAAGGGAT	long	o
20	57	GTGTCCAGG	long	o

158	320	TGCATCCGGCCCCGAAGGGCGATCAGCTTT		
167	144	GTTTAAACTCCCTTGCGGGTCGATCCAATTT		
0	0	AGTTTCGGGT	long	f
185	175	GTCTCTGGATTCCCTTGCGGGCACATCAGCT		
174	188	CGCACCCGG	long	g
3	0	GTGTGGCGT	long	g
155	192	AGTTTCGTGT	long	f
21	42	GTGTTGCAG	long	g
172	244	CTCTAGGAATTATGAAAGAACAATCAACCT		
115	192	GTGTCTTAATTCCCTTTCGGGCACTTTTACAT		
153	256	GTGCACGTTCCGGTCTTGCGACTGTGGCCC		
76	93	TGCAGGCAGGAGCTGGTTACCCAGATCGTT		
4	5	TATCACGCGTATATTGCTATAAAACCAGCTT		
147	261	GTCTCTGGATTCCCTTGCGGGCACGTCGACT		
6	10	GTGTCCAGG	long	g
0	0	GTCTGCGCTC	long	f
6	13	GTGTTCCGAT	long	c
161	165	GTAATATTAAATTAAAAAAAATAATAAAAAT		
10	8	TGCTCCATGT	long	f
0	0	GTCTTTGGGC	long	f
3	11	CCCATGGAAT	tag	k
101	66	TGCTCCTTGT	long	f
68	35	TACTGGCAGT	long	g
5	8	GTGCAGGTC	long	c
0	0	GTGACCGCTCCCCGAAGGGTCGTTCCGCTTT		
29	33	GTGCAAGCTT	tag	f
0	0	AACCACAGGT	tag	o
0	0	TGAAAAATGT	long	g
93	167	GTGCAAACTCTCCTTGCGGAGTCGTCACCCT		
38	43	GTGCATGTTC	tag	g
71	55	TACGATCTGT	long	f
0	0	GTGTCCAGG	long	c
0	0	CCCATAGAATCAAGAAAGATCCTTTTAATCT		
8	20	GTGTTGCAGT	tag	g
76	122	GTGTGGACG	long	f
0	0	TGAAAAATGT	tag	f
124	140	CGCACCCGGCCCCGAAGGGCTGCACAGTTT		
0	0	GTCTTCAGGTCCCCTTGCGGGGTACTCGGCT		

3	0	GTGCACGGA	long	f
0	0	GTGTCTTAATTCCCTTTCGGGCACTTCTACA		
9	15	GTGCACCAGT	long	g
73	103	CCCACCTAAT	long	p
90	134	GTGCAGCAGTCCCGAAGGAAAGACGCCTTT		
87	118	GTGCAAGCT	long	f
0	0	GTGCAGGCT	tag	f
0	0	GTGTCTCAATTCCCTTTCGGGCACCTCTGCA		
4	4	GTGTTCTAGC	long	g
0	0	TGCTTCGCGTCCCGAAGGAAACCCGGCTTT		
15	5	ATACTGCAGT	tag	o
79	80	CCCATTTAAT	long	g
2	0	GTGTTCAGAT	long	c
0	0	GTACCAAGTC	long	g
79	131	GCTAAGAAATTAACTATCAAAAAAAAGGAA		
44	61	CCCACAGAAT	long	g
0	0	CGACCAACAACCGGCTTTACGGTTCGCCCC		
56	224	TGAGAGCCGTCCGAAGAAAGGCCTGTTTCC		
8	17	GTGTTCCGGC	long	g
102	128	GTGATAGTCCAGCCGAACTGACCGGCTAGT		
37	7	TGTAAAGTGT	long	g
70	89	TGTAAAAGGTCTTTGCAGACTGTATACTTTC		
0	0	GTGTCCCGGT	tag	f
78	45	TGTTTCTCGCTCCGAAGAGAAGACACCTTTC		
60	111	GTGCACGTTCCAGTCTTTCGACCGTCATTCC		
49	60	GTGCACGTTC	tag	g
0	0	TCTCACTCGT	tag	g
0	0	GTACAAGAC	long	f
76	32	GTGATGGCTCGCCGAAGCGTCGTTCCCCTTT		
0	0	GCTGCCATAT	long	g
6	2	GTGCAGGCT	tag	p
0	0	GTGCACGTTCCACTCTTGCGAGCGTGGCTC		
56	74	GTGTGGGATCCGGCCGAACCGACAGAAAT		
61	104	GTGCACGTTCCACCCTTGCGGGTGTGGCTC		
51	67	GTGTCCACGT	long	g
18	20	GTGTCCAGGT	long	c
0	0	TATCCCGCGT	long	f
16	10	TGCAGGCAGGAGCTGGTTACCCAGATCGCT		

0	0	AAGTAGCAGCCCCTTGCGGGGAAGGGCAC		
6	15	GTACAGGCTT	long	p
0	0	GTGTGCAGG	tag	g
0	0	GTGTTCGCGT	long	f
90	54	AGTTTCGTGC	long	f
0	0	CTATATGGGT	long	o
41	64	CGCATAGTGTCCCGAAGGAAGATTGGCTTT		
57	42	GTGCACGTTCCATTCTTGCGATTGTCATCGA		
23	17	ACCACACAAT	long	g
21	71	GTGTTCTGAT	tag	g
4	6	GTGTCTCGGTTCTCTTTCGAGCACCTCCGCA		
13	8	GTGACCGGACTCCGAAGAGGGGCCAGGGT		
0	0	CGACTCCGGTCCCTTGCGGGAAGGCGATGT		
22	17	GTGTTGCAGCTCCCTTTCGGACACTTCCTCA		
3	3	ATACTGCAGT	long	o
0	0	GTGCTCAAATTCCCTTTCAGGCACACTTCCA		
36	43	GTGTGGAAG	tag	g
36	54	CGCACGCCG	tag	f
0	0	GTGTTACGGT	long	f
0	0	GTGTTCCGAT	long	g
0	0	AAGTGGCAGCCCCTTGCGGGGAAGGGAAC		
5	3	GTGTTCAGGCTCCCTTGCGGGCACTCCCAA		
10	9	CGACTCTACT	tag	o
19	84	GTCTCACGGT	long	f
0	0	TGTAACCTGT	tag	f
0	0	GTGTGGCGTCCAGCCGAACTGAAGAGACC		
3	0	GTGTCACGG	long	f
44	54	GTTCACGTTGTACCCTTGCGGGCCTCATAG		
0	0	GTGCACGTTCCGGTCTTGCGACTGTGGCTC		
39	105	GTGCAGCCGCCTTTCGGAAGGTGCATCTCT		
0	0	CTCATAGAATCAAGAAAGAGCTATCGATCT		
17	12	GTGTCCTAGT	long	g
0	0	GTGCACGTTC	long	c
0	0	GTGTTCCGGC	long	f
34	76	TGCTTTGTGT	long	f
48	34	GTAACGGCTC	long	f
43	62	GTGTGGACGCCAGCCGAACTGAAGGACCC		
0	0	TGTTTTGGACCAGTAACCTGGCTGTTGGCA		

0	0	GTGCCTGTTCCGGTCTTGCGACTGTGGCCC		
42	75	GTGTTCAGG	tag	g
0	0	GTCTTTGGGC	long	f
0	0	AAGTGACAGCTCCTTGCGGAGAGGGCGGC		
0	0	GTGCACGTTGTACCCTTGCGGGCCTGGCCG		
0	0	GTGTAGGCTCCCCGAAGGGTCGTTCTGCTT		
0	0	GTGCTTGTTCCACCCAGAGGGTGTGGCCTC		
43	21	TACGATCTGT	tag	g
43	12	GTGTTCCAGC	tag	g
0	0	GTCTTACCGTTCCCTTGCGGGCACCCCAGCT		
2	0	TACTACCCGT	long	f
35	43	CCCACAGAAT	tag	k
23	20	GTGAATGAG	tag	g
28	40	GTGTTCTGGC	tag	g
11	10	GTGCTCCACC	long	o
72	46	GTATATCGGCTGCAAGCAGCTGCAGTATCT		
0	0	GTATTGGACCCCTTGCGGGTAATCCTCTTTC		
0	0	TACTGGCGGT	long	f
21	52	GTGTGGTATC	long	f
0	0	TACTACCTGT	tag	f
20	34	GTGTTGTATC	long	f
23	35	AACTACAGGT	long	g
8	9	GTGCACGTTGTACTCTTGCGAGCCTCATTGA		
27	47	TACTGGCAGT	long	f
15	14	TGAAAGACG	tag	g
0	0	CGACTCCCGTCCCTTGCGGGAAACCCATATT		
33	58	GTATAAGCTC	long	f
0	0	GTGTCCAGG	long	g
31	28	GTGTTCAGGCTCCCTTGCGGGCACTCCCGA		
2	2	GTACAGGCTC	tag	f
0	0	GTGTGCAGG	tag	f
7	2	GTGTTGCAGCTCCCTTTCGGGCACTTCCACA		
0	0	GTGTTCTGGT	long	f
0	2	GTGCTTGTTCCACCCAGAGGGTGTGGCTCC		
0	0	GTGTGCAGG	long	f
0	0	GTGACCGAG	long	f
0	0	ATACTACCGT	long	p
23	74	GTCTCCTTGTGTATTGCTACAAAGCCCTATT		

5	16	GTCACCGGTC	long	f
26	38	GTGTCTTAATTCCCTTTCGGGCACTCTTACAT		
0	0	GTGCACGTTCCGGCCTTGCGGCTGTGGCAC		
31	42	GTGTGGGATCCGGCCGAACCGACAAAAAC		
0	3	GTCTCCGGTC	long	g
0	0	GTGTCACGGT	long	g
7	7	GGATCATGGTTCTCTTGCGAGCACCCCAAA		
0	0	GTGTTCAGATTCTCTTTCGAGCACGATTCCA		
0	0	GTGCGGACTC	long	g
0	0	TGTAAATTGT	long	g
0	0	AAGTGGCGGCTCCTTGCGGAGAGAGAGGC		
0	0	AACTATAGGTTCTCCGAAGAGCACCCCCAA		
0	0	TGTATGGAGCTCTTGCGAGCGTTCCCCTTTC		
24	35	GTTTGTACTCTACAAAAGGTCATAATTCAAA		
0	0	GTGTTCCCGT	tag	f
18	34	GTCTCGGGGT	long	g
0	0	AACCGTAGATTCTCCGAAGAGCACCCCGAT		
0	0	CGACTCGACTCCCTTGCGGGATAGCAATGT		
19	32	CCCACAGAATCACGAAAGAGCTCTCAGTCT		
0	0	GTGCACGTTC	tag	g
0	0	GTCTTTGGGCCGACTTGTGGTCGGGGACT		
29	30	GTCACGGCTCCTTGCGGTCCCTCACCTTTCG		
29	10	GTGTATTGGT	long	g
0	0	GTCTTCAGGCCTGCCTTGTGAGCAGGGGGC		
18	38	GAACAAAGTTTTTATATCCAAAAAATATAAT		
25	40	GTATAGGCTC	tag	f
10	14	GTGTCCCTGT	long	g
7	7	CGACTCCCGTCTCTTGCGAGAAGGCCATAT		
7	2	GTTCATGTTGTACCCTTGCGGGCCTCACAAA		
0	0	GTACAGCTTGCCGACTTGACGGCTCGTTCC		
25	27	TGTATGAAGCCCTTGCGGGCGATCACCTTT		
14	16	GCATCGGCTC	long	f
36	29	GTGCAGATGCCCCGAAGGGAGATACCATCT		
2	5	GTGACTGTTCCACCCTTGCGGGTGTGGCCC		
0	0	CGACTGGACCCCCTTGCGGAGTAACGATAT		
0	0	AGTTTCGTGT	long	f
29	15	GTCACTTGTC	long	f
0	0	GAACAAAGTTTTTTTAACCAAAAAACATAAT		

8	9	GTCACCGGTC	long	o
26	34	GTGTCCAGAT	long	f
0	3	TCCTACCTCC	tag	f
9	5	TGTAACCTGTGTATTGCTACAAAGCCCCCTT		
23	14	GTAATGGCTCCCCGAAGGGTCGTTCCGCTTT		
13	33	GTGTGGACG	long	g
14	20	GTGTTCCCAG	long	f
16	33	GTGCTCAAATTCCTTTTCAGGCACACCCCTA		
25	32	CGCACGTTGT	long	p
0	0	GTGCTTGTTTCACCCCGAAGGGTAGCTACG		
0	0	GTGTCCTGGC	long	f
13	5	GTGTCCAGG	long	g
19	31	GTGCAAGCTTCACTCCGAAGAGCAGACCTC		
15	27	GCACAGGATTTCTCTTGCGAGTTGGCCGAC		
0	0	GTTTTGGGGC	long	o
21	18	GTCTCGGGGCTCCTCGCGGCACCCCCCATCT		
16	12	CACCACAAGT	long	f
6	11	GTGTGTGACCCAGCCGAACTGAAGGAATCC		
0	8	GTCAAAGCTCCCCGAAGGGTCGTTCCACTTT		
2	0	GTGAACAGC	long	g
21	30	ATATAGCGGCCCGAAGGCGACCCTGTCTCC		
0	0	TACAAAATGTATATTGCTATAAAATGAGCTT		
0	0	GTATCAGCGCTCCTCTCGGCACTCCCCAATC		
20	10	CGCATAGTGCCCCGAAGGGAGATCGGCTTT		
0	0	GTGCAAGCTGGTATTGCTACCTCGTCTCCCT		
0	0	CTGCAGCAGTTCTTGCGAAAAACGACATCT		
0	0	CGACTCCGGT	tag	o
0	0	GTGTCCTGGTTCTCTTTCGAGCACCTCCGCA		
0	0	GTTTTGGGGC	tag	o
14	26	GTGTTCCGGC	long	k
0	0	GCTAGGAAATTAACTATCAAAAAAAAAGAA		
0	0	GTGCAGGCTCTCTTGCGAGTCGTTCCGCTTT		
10	10	GTGCACGTTG	tag	g
12	27	CCTGTAAAATCAAGAAAGAACTTCAATCTGT		
11	5	GTGTATACGT	long	c
0	0	GTCTTGTCGT	long	c
3	5	GTGCAAAGG	long	g
0	0	CTGCAGCAGT	long	g

8	18	GTGTGCAGG	long	g
26	17	GTATCCGGTCCAACTAAATGAAGGTCTCCA		
0	0	GTGCTCCGG	long	o
0	0	GTGTTCCAATTCCCTTTCGGGCACCCCCAAC		
0	0	GTGTTCCGG	tag	f
14	21	ATTCTGGCTT	tag	f
12	21	GTAAGGACGCTCTTGCGAGCCATTCCCGTTT		
5	19	GTGCACGTT	long	f
7	8	GTCTTAGCGT	long	p
7	9	TGCACGCGACTGGTTGCCCAGCTATAACAT		
0	0	GTGCTTGTTCCACCCGAAGGGCGTGGCTCT		
0	0	GTGTTCTGGC	long	f
0	0	CGATGGCGGCCTCCGAAGAGGAGACGATA		
0	0	GTGACTGTTC	long	g
8	7	GTGCACCAG	long	g
0	0	GTGCACGTTCCGGCCTTGCGGCTGTGGCTC		
0	0	CTCATGGAATCAAGAAAGAGCTATCGATCT		
22	25	GTGCTCCTCCCACCCGAAGTGAAGGAATGC		
0	0	TTAAGTCAATCAAGAAAGAGCTATCAATCT		
0	0	GTGTGCGAT	long	f
13	30	TGCAACCAGT	long	f
10	4	GTGTTCAGGCTCCCTTACGGGCACTCCCGA		
21	22	GCAAGGAAATCAGCCATAAAAGAAAAAAT		
4	18	GTGTTCCGGT	tag	c
18	14	CGTAGCCAGTCCGAAGAAGATCTGCTTTCA		
0	0	GTGTGCAGG	long	g
14	40	TGAGAACCGTCCGAAGAAAGGTCTGTTTCC		
10	22	GTATACCGAC	long	f
12	17	GTGTTCCAGTTCCCTTTCGGGCACACCTCAA		
15	36	GTCTTGTCGC	long	g
3	9	CCCACAAAAT	tag	p
15	16	ATGTACCGGTCTATTGCTAGAAATTCCGCTT		
16	8	GTGTGCAGG	long	g
19	25	GTCTTAGATCCGGATTGCTCCGAAAGTACA		
3	3	AGTTTCGTGTCATTGCTGAAAGGTGGCTTT		
0	0	CCACTCCGGTCCCCGAAGGGAGGACCTCAT		
0	0	CTGCATCAGTTCTTGCGAAAAACGACATCT		
8	4	GTGCACGTTC	tag	g

0	0	GTGTGGCGT	long	f
12	10	GTGTGAAAGCCAGCCGAACTGAAGGACCT		
0	0	GTGTCCCGG	long	c
0	0	GTTCAAGCTC	tag	f
0	0	GTGTTCCAGTTCCCTTTCGGGCACTCCCAGA		
0	0	ATCGAAATCA	long	f
0	0	GTGTTCGAGT	long	g
8	14	GTGCACCGGTCCCTTGCGGGAAAGACGCCT		
0	0	GTGTCCCGTCCGGCCGAACCGAAGACCCCG		
10	8	GTCACTGGTC	long	o
0	0	GTGTTCAGG	long	g
10	20	GTGCAAGAGCTCCCTTGCGGGCACCCCCAG		
11	14	GTGTGGGGCCCAGCCGAACTGAAGGGTCA		
20	4	CCCACATTATCAAGAAAGCTCTTCACTCTGT		
13	11	GTATAGGCTC	long	p
0	9	GTATTTTCATATAAAATTTGAAAATCATAGA		
28	11	GTGTTCAGGT	long	g
5	13	CCCATAGAAT	long	g
0	0	TGTAAATTGT	long	g
16	16	TACCGGCGACGTATTGCTACGCTATGAGCTT		
0	0	TACTGGCAGT	long	f
0	0	GTGTGCAGGTTCTCTTTCAAGCACCAAACCA		
5	2	CGCAAATTGT	tag	g
17	16	ACCAATAAATCAAGAAAGAACTTTAATCTGT		
0	0	CGACTCAAGT	tag	o
0	0	GTGCTAGCTC	long	c
14	19	GTCTTCTGGTCTACCTTGTGGGTAGAGGGC		
0	0	GTGTGTAGG	long	o
0	0	TGTATGGTGTCCTTGCGGCCGATCACCTTTC		
14	9	GTGCTGGTTCCACCTTGCGGCGTCAGCTCCC		
0	0	GTGTTGAGGTTCCCTTTCGGGCACCGCCACC		
0	0	AGTTTTGTGTCTTGCGAAAGCCACCTTTCGG		
0	0	GTGCGGGCGTTACCTTGCGGTACTGACCGA		
9	13	TGCTTTGTGTTCTATTGCTAGACCTACAGGC		
0	0	GTCTTTGTGCTTCTTGTGGAAGGGAGCCACT		
2	11	CGACTCTAGTCCCTTGCGGGAAGGCCATGTT		
0	0	CTGCACGAGTCCCGAAGGAAGACCTCATCT		
0	0	TGTTTCGGGTCCGGTTGCCCGGACGGACGC		

7	16	CTGCAAGCTCCCTTGCGGGTCGTTCCCCTTT		
8	11	TGTTTCGTGT	long	f
0	0	GTGTTATGGC	long	f
0	0	GTGTTCTAGC	tag	g
12	8	GTGCATGTTC	long	g
12	23	GTAGGTAAATAAATAATATAACAATGTCAC		
0	0	GTGTCCAGG	long	g
0	0	GTCTCACCATTCCCTTGCGGGCACGTCGAC		
6	0	AGTTTCGTGC	long	g
0	0	GTGACTGTTCCACCCTTGCGGGCGTAGCCC		
0	0	GTGTGCAGG	tag	o
13	19	GATTATATGTTATTTAATTAATTACTAAAAT		
0	0	GTGCAAACTCCCCTTGCGGGGTCGTCACCC		
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAACCA		
13	11	GTCTCCGCGC	long	g
0	0	GTGTTCCGGT	long	f
12	15	GACTCAAATAATTATAAAAATGCAAGCTAT		
4	5	GTCTCGGGG	long	g
0	0	GTGCTGGCTC	tag	p
0	0	GTGCTCCTCCCACCCGAAGTGAAGGATTCC		
0	0	GTGTCCTGGCTCTCTTGCGAGCACACCCAA		
0	0	GTGCACGTTC	long	c
0	0	GTGTACAGGTTCTCTTTCGAGCACCAAACC		
17	30	TTTATATACACTCAGTTCTATTGTTCAATAA		
0	0	GTGGAGCAC	long	g
0	13	CCCAAAGAATCAAGAAAGAGCGCTCAATCT		
6	4	GTGCATGTTCCACCCCAGAGGGGCGTGGC		
0	0	GTCCTGGCTCCCTTGCGGGTCGTCGGGCTT		
4	11	GTGTGGGAGCCAGCCGAACTGAAGGATCC		
0	0	TGTTTTGGGTTTGATTACTCAAACTATCACT		
13	12	GTGCACGTTCCACCCGAAGGGTGTGGCTCC		
12	16	CGCACCCGGCCCCGAAGGGCTGACACCTTT		
0	0	GTATGCAGGTTCTCTTTCGAGCACCAAACC		
0	0	GTCCGCGCTC	long	f
0	0	GTCTCGGGGCTCCTTTCGGCACCACTCATCT		
0	0	CCCAACGAATCATGAAAGAGCTATCAATCT		
9	7	GTGTTCCAGC	tag	f
0	0	TACTGGCAGT	long	g

0	3	GTGAATCTG	long	g
0	0	TGCCACTTGCCCCGAAGGGAAGGCACCTTT		
0	0	GTGATCGCTG	long	p
0	0	TTCAAACAATCATGAAAGATCTTTGAATTCT		
7	9	GTGTGGTGT	long	f
2	0	GTATAGAAG	tag	g
0	0	GTGCAAAGC	long	g
0	0	TGCTTTGTGT	tag	f
0	0	GTGTGGCGT	tag	g
9	13	GTGATGGTC	long	f
11	9	GTGTCCAGTCCAACTAAATGAAGAAAGCCA		
2	2	GTGACTGTTCCACTCTTGCGAGCGTCATTCC		
6	9	GTGTTAGCCTTCGATTGGATACGATCGGGA		
0	0	GTGTTGCAGCTCTCTTTCGAGCACTTTCTCA		
0	0	TGTATACTGT	long	f
0	0	AGTTTCGTGT	long	f
6	8	GTGTTTAGATTTCCTTTCGGACACAATTTCA		
0	0	GTCTCAGAGCTCCTCGCGGCACCCTCCATCT		
13	8	GTGCAGACTCCCCTTGCGGGGTCGTCACCC		
0	0	GTGTCCCGG	long	g
7	16	GTGTGGTAG	long	f
0	0	GTGATCGTTC	long	g
14	11	GTACGGGGACCTGTTGCCAGGCTGCGACAT		
0	0	GAATGCCGGCTCCCTTGCGGGCACCCCGAT		
11	4	GTCACTGATC	long	o
3	6	ATACAGGCA	tag	f
0	0	CCCAAACAATCAAGAAAGAGCTATCAATCT		
0	0	GTGCAAGAGTTCCCGAAGGCACCCCGCCCT		
5	0	GTGCATGTTC	tag	g
2	0	GTGCAAAGCGGGTATTGCTACCCTATCCGC		
0	0	AGTTTCGTGTCCTTGCGGAAAGACCCCTTTC		
0	0	GTGTCCACGC	long	g
0	0	GTGCAAGCT	long	c
5	5	GTGTCTTAAT	long	g
2	0	GTGATCAGGTCCCTTGCGGGACACCGACGT		
0	0	GTCACCGGTC	long	g
8	7	GTGCTCTCACCGGCCGAACCGAAGTAGTTT		
7	9	GTGCACGCTC	tag	f

0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACC		
0	6	TGTATAGAGCCCCGAAGGGCGATCAGCTTT		
0	0	GCTATCGGATCAAGAAAGCGCTATCAAGCT		
0	2	GTGTCCACGCCCCTTGCGGGGAGGAACCC		
0	0	TGCAATCGGT	long	o
5	0	GTGCACGTT	tag	g
4	8	GTGTTACGGT	long	f
0	0	GTGTCCAGG	tag	o
0	0	GCATAAAGTAAGCTATATTATAACATGTGT		
0	0	GTATAGGCT	long	p
0	0	GTGCGCAGG	long	g
0	0	GTGTTACGG	long	o
0	0	AGTTTTGTGC	long	f
0	0	CGACACCGACCCTTGCGGGCTTGTACATCT		
0	0	CTGTAGCAGT	long	g
0	0	GTGTCCTGGT	long	f
6	16	AGTTTCGTGCTCCGAAGAGAATCCTGCTTT		
0	0	GTCTCTCTGTAGTATTGCTACTAAAGTCGTA		
3	11	GTGCTCGCTC	tag	c
2	0	GTGCACGTTCCACCCTTGCGGGTGTCATCC		
0	0	GTATACCGAC	tag	f
3	5	CTGCAGAATTCCCTGACGGGAAGCCCGACT		
0	0	GTGCACGTTCCACCCGAAAGCGTCAGTGAC		
0	0	GTGGAGCACCCTCGAAGGCGACCGGCTTTC		
0	0	GAGCAGGAT	long	g
4	13	GTCTCTCTGTTGTATTGCTACAAAAGCCGTA		
0	0	GTGTTCGAG	long	f
0	0	TCTCACTGA	long	g
0	0	GTGCACGTTCCAACCTTGCGGCTGTGGCTC		
0	2	AGTTTCGTGT	long	o
0	0	GTGTTCCAGC	tag	f
0	0	GTGTGCAGATTCTCTTTCGAGCACCAAACC		
0	0	AACCACAAGTTCTCCGAAGAGCACCCCCAC		
0	13	GTGCACGAG	long	p
0	0	TGCAGGCAG	long	o
0	2	AGTTTCGGGT	tag	f
4	2	GTGCACGCTCTCCGAAGAGTCGTTCCGCTT		
0	0	GTGTTCCGGT	long	o

0	0	AGTTTTGTGC	tag	f
6	5	GTGTTCCGGC	long	g
0	0	GTGTGCAGGTTCTCTTTCGAACACCAAACC		
0	0	GTATACCGCCCTTGCGGACCCTACATCTCTG		
0	2	GTGCAAGTTTCACCCCGAAGGGCAACCTGG		
4	5	GTGTTACGGC	long	f
0	0	ATGTGCAGGTTCTCTTTCGAGCACCAAACC		
4	5	GTGCACGTTCCGGCCTTGCGGCTGTGGCTT		
0	0	GTCTGCGCTC	long	f
0	0	GTGTCCCGAT	tag	g
0	2	GTGCACGCTCCCTTGCGGGTCATCCTGGTTT		
7	15	GTCTTTGGGT	tag	p
0	0	GTGTCCAGGT	long	g
0	0	GTCTCCAGGTTCCCGAAGGCACTCCCGCAT		
3	5	GTGTTGTATCCAGCCGAACTGAAAGGACCG		
0	0	GTCTTCTGGTCATCCTTGTGGGATGAGGGC		
3	0	GTAACCGCTC	tag	f
0	0	GTGCACGTTC	tag	g
6	7	CTGCACGAGTTCTTGCGAAAAGGCACATCT		
0	0	CGATGGCGG	tag	f
0	0	GTGATAGCTT	tag	g
0	0	GTGCAACAG	tag	k
0	0	GATATAATAACAGTAATAATTATTTTTTCAA		
0	0	CGACTCCCGTCCCTTGCGGGAAACCTCTGTT		
10	6	CGATAGCACTCCCGAAGGACACAGCCTTTC		
7	8	GTCTCTCGGT	tag	c
3	3	TGCTTTGTGT	long	f
3	16	GTGTTACGGC	long	f
0	0	GTGCGAGCTTCCCTTGCGGGATCGTCAGGC		
0	0	TGCACTCGGCTTGGTTTTACCCAAGAGATCC		
8	11	GTGTGCAAG	long	g
2	5	TGCTCTTTGT	long	f
0	0	CGGCTGGTTCCTGACTTTACAGGTCGTTCCC		
6	9	GTGTGGGACCCAGCCGAACTGAAGGACAT		
0	0	CCCATCAAAT	tag	o
5	2	GTGTCTTGGTTCCTTTTTTCACAAAGGCAC		
0	0	CCCATAGAAT	tag	o
0	0	TGTTTTGGGTTTGATTACTCAAACTGTCATT		

4	2	GTCACTGATC	tag	c
2	3	GTCTCCAGGTCTCCGAAGAGAAAACCTACT		
0	0	TCTCACCAGCTTCCCGAAGGACACCCCCAC		
6	2	TCTCACTCGCTCCCCGAAAGGCACCAAGGC		
0	0	GTGGAAGTTTCACACCGAAGTGCAGCCTTC		
4	9	CCATCCGATCCTCTGAAGGGCCTTCTCGTCT		
5	9	GTGTGGGAGCCAGCCGAACTGAAGGGTCG		
0	0	CCCACTGAAT	long	g
0	0	GTGCACGGTCCAGCCAAACTGAAGAAAAG		
7	4	GTGTTGCAGTTCCCTTTCGGGCACTTTCTCA		
8	7	GTCTCTCTGTCTCTTGCGAGCCTACAATATC		
6	5	GTTGAGGCTC	long	f
0	0	GTGTGCAGG	long	g
2	2	CTACACGGTG	long	p
10	6	GTACACAATCATTAACTTAACATAATAAGCT		
0	0	TGAAAGACG	tag	g
2	5	GTGCAGGAGGTCCCTTGCGGGAAACGACC		
0	0	GTGCTGGAA	tag	f
0	0	GTGTTACGG	tag	g
0	0	GTGTTACGG	tag	g
0	6	GTGCAAAGG	long	g
0	0	GTGCTGGTTACACCCTTGCGGGCAATTTGC		
6	0	GTCACCGCG	long	f
8	5	GTGTACGTTCCATTCTTGCGATTGTCATTGA		
0	0	GCTGCCAAATCAAGAAAGTGCTATCAAGCT		
0	0	GTGCAGGCTTCACTCCGAAGAGCAGACCTC		
7	9	CTGCAGGCA	long	f
0	0	GTGTGCAGGTTCTCTTTCGAGGACCAAACC		
0	0	GTGTTCTCGCCAGCCGAACTGAAGAAAGTC		
0	2	GTGCACGTTCCACCCAAAGGGCGTGGCTCC		
5	0	GTAATGGCTC	tag	f
0	0	TACTGGCAGT	tag	f
0	0	TACTGGCGGTATATTGCTATAAAGAGAGCT		
0	0	GTGCACGTTCCGGTCTTGCGACTGTGGCTC		
0	0	GTCTTCACGT	tag	p
7	3	GTGTGGGAG	tag	g
3	7	GCACAGGTTC	long	g
0	0	GTGTCCTGGCTCCCTTGCGGGCACGCCGGC		

0	0	GTGCACCGGTCTCTTGCGAGAAGGACACCT		
0	2	GGATCACGGTTCCCTTGCGGGCACCCCAAC		
5	6	GTGGCACACCCTCGAAGGCGACCCACTTTC		
0	0	GTGCAGGTTCTCTTTCGAGCACCAAACCATC		
0	0	AACCACAAGTTCTCCGAAGAGCACCCCCGC		
0	4	GTGTTCTGGC	tag	f
0	0	CCCATAGAAT	long	f
4	5	GTATCCAAGC	long	o
5	6	GTGTTCCCGC	tag	g
0	0	GTGTTGTATC	long	f
0	0	TGCAGACAGGAGCCGGTTACCCGGATCATC		
0	0	CGACTCCTGTCTCTTGCGAGAAGGCGATAT		
6	3	GTGTCCCGGT	long	c
3	4	GTACTAGCTCTCTTGCGAGTCGTTCCCCTTT		
0	0	GTGTATGCTGATATTGCTATCTCGTCAGACT		
0	0	CGACTCCCGT	tag	o
0	0	TGCATCGTGC	long	f
0	0	GTGTTCCAGT	tag	c
6	11	GTACAAGCTCCCGAAGGTCGTTCCCTTTTCA		
0	0	GTGCACGTTCCACCCGAAGGCGTCAATGAC		
4	5	GGGGCGAGTTTTATTAATATTATTAATTTGT		
0	0	GTGTTCCGACCTATTGCTAGGAGGAGTCCA		
0	0	GTCTTCTGGTCTCCTTGTGGGAGAGGGCCC		
2	3	GTGTGGGAGCCAGCCGAACTGAAGGATCA		
0	0	TTGTCTATCTCATACTAATTCTCTAATAGACT		
0	0	GTGTGGCGTCCGGCCGAACCGACTCCCAGA		
0	0	GTGCGGAGT	long	g
3	4	GTGCATGTTCCACCCTTGCGGGTGTGGCCG		
0	0	TCTCACTAGC	tag	g
2	0	GTGCAGGTTC	long	g
7	6	GTAATAGCTC	long	f
0	0	GTGTGGAGGTTCTCTTTCGAGCACCAAACC		
0	0	AGTTTCGTGTCATTGCTGAAGGATCCTTTC		
0	0	GTGTGTAGGT	long	g
4	5	GCTAAGAAATTAACTATCAAAAAAAGGAAA		
4	0	GTGCACGTTTCACCCGAAGGCAGATTACTC		
0	0	GTGCACGTTC	long	f
0	0	GTGTCTGAGT	tag	o

0	0	GTGTGCAGG	long	g
0	0	GTCTCTCGGTTGTATTGCTACAAAGACTGTA		
7	7	CCCATCCGATCCTCTGAAGGGCCTTCTCGTC		
0	0	GTGTATCGG	long	c
4	3	GTCTCCAAGT	long	p
0	0	GTGTGGCGTCCAGCCGAACTGAAGGAGCA		
4	5	GTGTTCTAGC	tag	o
0	5	TGCTTCGTGTCCCTTGCGGGCCTGCCACCTT		
0	0	GTGTTCCGGCCTATTGCTAGGAGGAATCCA		
0	0	ATACAGAAGTCCTTTCGGACGATATCATTTC		
0	0	GTCTTCCGGTCGTATTGCTACGAAAGCCGT		
0	0	AGTTTCGCGCCCTTGCGGGAAGTCTGCTTT		
0	0	CCCATAGAATCAAGAAAGAGCTCTCAAATC		
0	0	GTAAACCGACTCTTGCGAGCTACGACATCT		
0	0	GTAAAGGCTCCCCGAAGGGTCGCTCAGCTT		
0	0	AAGTGACAG	long	o
0	0	GTGCCCAGG	tag	g
4	2	GTGCAGGAGGTCCCTTGCGGGAAGCGACC		
0	2	GTTTTCAGGT	long	f
4	6	GTGTTCAAAT	tag	g
6	0	GTGTTCGCGT	long	o
3	3	GTGTTACGG	tag	f
0	0	GTTTAGGCTCCCCGAAGGGTCGATCCGCTT		
2	6	GTGTTTAGATTTCCTTTCGGACACAATTCCA		
3	0	CCACTACGGCCCCGAAGGGAAGATGCATCT		
3	2	GTGTTCAGGCTCCCTTGCAGGCACTCCCGA		
4	3	GTGTTCGCGCTCCCGAAGGCACCTTCGACT		
0	4	CTGCATGTGTCCGAAGAATATGAGCTTTCA		
5	10	GTGCTCCTCC	tag	k
0	0	GTGTCACGG	long	g
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAACCC		
0	0	GTGTCCAGG	tag	c
0	0	GTGTTAGCGTTCTTGCGGACGTATTCCCTTT		
0	0	GTGCGGCCGCCTTTCGGAAGGTACATCTCT		
5	2	GTCTCCAGGTCCCCGAAGGGAAGACCTACT		
0	0	GTGCTAGAAGTTATTTTTTTAACTCAAAGAA		
0	0	CGACTGGAC	tag	c
0	3	GTCACCGATC	tag	o

0	4	GTGTCCTAGCTCCCTTGCGGGCACATCCAC		
0	0	CGACACCAGCCCTTGCGGGCCCCTACATCT		
3	0	GTGTGGGAG	long	o
0	2	GTGAGTGTGTCTTGCGAACCTCAGGCTTTC		
0	0	GTGTTCAGG	tag	g
0	0	TGTTTTGTGTCCTTACGGACTAATTCATCTC		
0	0	GTGCACTTGCCTTGCGGAGGGTGTATTTCT		
0	0	GTGCACAGACTCCGAAGAGCTATAACATCT		
0	0	GTCACTGGTCCAGCCGAACTGAAGGATACC		
1	0	GTATTCAGGCTCCCTTGCGGGCACTCCCGA		
6	3	GTGAATCTGCCCTTGCGGGAAGGAATATCT		
2	4	GTCACCGCGCCTCCGAAGAGGACCATCGAT		
0	0	GTGCACGTTGTACCCTTGCGGGCCTCATTCC		
0	0	GCACTAAGTATTTTATAATTAACGCTCTAAT		
0	0	GTAAACAAGCTCTTGCGAGAAGACCATTTC		
0	2	TGAAAATTGT	long	g
0	0	TGCAAGCGGCCATTGCTGGCTGCAAACTTT		
0	8	GTACTAGCTC	long	f
0	0	GCTAGGAAATTAACTATCAAAAAAAAGAAA		
0	0	GTGAGCAGGTTCTCTTTCGAGCACCAAACC		
3	6	GTGATCGCGCTCCGAAGAGGGAACGTGTTT		
0	0	GTGTGCAGGTTCTCTTCCGAGCACCAAACC		
0	0	GTATAGGGCCCAGCCGAACTGAAAGAATCC		
0	0	GTGTGGCGT	tag	g
0	0	GTCTCTGGGC	long	f
0	0	TGCAGGCAG	long	o
0	0	GTGTCTTGGT	tag	f
2	4	GTGCATGTTCCACCCAGAGGGTGTGGCTCC		
0	0	TGCAATCGGTCTCCGAAGAGAAGGCCACCT		
2	0	GTGCAGGAGCCGGCCGAACCGAAGGTCCA		
0	0	GTCTCCGGTC	tag	g
3	0	GTAGAAGGT	tag	f
0	0	CTCCAAGTGCCCTTGCGGGAAACCACTTTC		
0	7	GTGCACGTTC	long	g
0	0	GTGGTAGCTTCCGGACTGGATACCGTTGGG		
2	4	GTGCACGTTGTACTCTTGCGAGCCTCATTCC		
0	0	GTGTCCTGGC	long	f
0	0	GTGTCCAGG	long	f

7	0	GTCCCAGTGCCCCGGAGGGAAACCGACTTT		
0	0	GTGTCCTGGT	tag	f
0	0	GTGCTTGTTCCACTCTTGCGAGTGTGGCTCC		
0	0	TCCACGGAATCGAGAAAGAGCCTTCAGTCC		
0	2	GTGTGGACG	long	g
0	5	GTGTCCACTTTCCCTTTCGGGCACCTAATCC		
0	0	GTTATTAAATACTCTTTCAGTATATTATATAT		
0	0	GTGTGCAGGTTCTCTTTTGAGCACCAAACC		
0	0	CCCACTTAAT	tag	g
0	2	GTGCTCTCTCCGGCCGAACCGAAGGACTCC		
0	0	GTGCTCCACCCTCGAAGGCCTCCCGGTTTCC		
0	0	GTCTCTCTGTTGTATTGCTACAAAGACTGTA		
0	0	GTGTTCCGGC	tag	c
0	0	GTCACTGGTC	tag	o
0	0	GTATACCGAC	tag	c
3	3	GTGCAGGTTC	long	g
4	6	CGCACCCGGCCCCGAAGGGCTGACACCTTT		
0	0	GTCACTGATC	long	f
0	0	GTCTCTCGGT	tag	c
2	7	GTGCAAGCTC	tag	f
0	0	GTGCCCCGGTTCTCTTTCGAGCACTCCCACA		
0	2	GTAACGGCTCCCGAAGGTCGGTCCACTTTC		
0	0	GTGTGCAGGTTCTCTCTCGAGCACCAAACC		
0	2	TTGAGAGAA	long	g
0	0	GTGTGCAAGTTCTCTTTCGAGCACCAAACC		
0	5	GTGTCCAGG	tag	f
0	0	TGTAAATTGCTCCGAAGAGAGTTCCAGTTT		
0	0	TGTATCGAGTCCCGAAGGACGATCCCCTTT		
0	0	TGCACTCTGTTCTTGCGACCAACGAACTTTC		
2	1	CCCATAGAATCAAGAAAGGACCATCAACCT		
0	5	GTGCAGATTCCGACTCCGAAGAGCTGTCAC		
5	4	GTAGACAAGCTCTTGCGAGAAGACCATTTC		
0	0	TGTAACCTGT	tag	f
0	0	GCATGAGCTAAAAAAAATAATTTAATCTAA		
0	0	GTGTCCAGGTTCCCGAAGGCACCAATCCAT		
0	0	GTAGGAAACCCTTACGGACCCACCATCTCT		
0	4	GTGCAAACTC	long	c
0	0	GTGTTCCAGT	tag	f

0	0	GTGTCCCAGT	tag	g
0	0	GTGTTCAGG	long	g
0	0	GTGTCCAGGT	tag	c
2	3	ATGTAACAGTACCGAAGTAAAATACCCTTT		
3	2	TGGAATCAGCCCCAAAGGGCGATCACCTTT		
0	0	GTGGCGGCTCCCTTGCGGGTCGTCGGGCTT		
0	0	GTCAAAGAGTCCCGTGAGGGAAGGAATCC		
0	0	CGACTTCAGTCCCTTGCGGGAAATCCATGTT		
0	0	GTGTTCCGAGCTCCGAAGAGAAAGTTCCAT		
3	2	GTGTTCTCGCCAGCCGAACTGAAGGATCCC		
0	0	GTGTTCAGGCTCCCTTGCGGACACTCCCGA		
3	0	GTCACCGGTC	tag	g
0	3	GTACAGACTCCCGAAGGTCGTTCCGCTTTC		
0	0	GTCTCCGGGT	tag	o
3	4	CTAGACCAATCAAGAAAGAACTCTCAATCT		
0	0	GTCTCGGGG	tag	g
0	0	GTATCCGGTC	long	g
0	0	GTCCCACTGC	long	g
10	0	CCCAAAGAAT	long	g
0	0	TGAAAATTGT	tag	g
0	0	GTATAGAGGCCTTGCGGAAGCACCATCTCT		
0	3	GTGTCTGCTTCCGGATTGGATACCGTTCGG		
2	2	GTAATCGCTCCCCGAAGGGTCGTTCCACTTT		
0	0	GTGCAAACTCCCCTTGCGGGGTCATTACCCT		
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAGACC		
0	0	CGACTCCCGT	tag	o
0	7	GTACAGGCTCCCGAAGGTCGTTCGGCTTTC		
0	2	GTGTTCAGGCTCCCTTGTGGGCACTCCCGA		
0	0	GTGCATGTTC	tag	g
6	2	GTGCTCAAATTCCTTTTCAGGCACATCCCTA		
0	0	GTCTCAGCGCTCCCGAAGGCACCCCTTAATT		
0	11	GTGCATGTTCCATTCTTGCGATTGTCATTGA		
0	2	GTCTCTGCGC	tag	g
0	0	GTGTTCAGGCTCCCTTGCGGCACTCCCGAA		
2	3	GTATAAGCTCCCGAAGGTCGTTCCGCTTTC		
0	0	GTGCATGTTC	tag	g
0	0	GTCTTCACGTCTTCCTTGTGGGAAGAGGGC		
0	0	GTATACAGGCCCCGAAAGGCTATACCGTCT		

0	0	GTGTAGGTTCCACCCGAAAGCGTCAGCGAC		
0	0	GTGCATGTTC	long	g
0	0	GTGTACGTTCCATTCTTGCGATTGTCATTCCT		
0	0	GTGTGCAGGT	long	g
0	0	GTGATTGTTTCACCCGAAGGCAGAGTTATC		
0	0	GTGCCAGGTTCCGGATTGGATACCGTTCGTT		
0	0	CTATCGGCAACCGACTTTACGGTTCATCGCT		
0	0	ATACTAGCGT	tag	p
0	2	GTGCATGTTCCACCCTTGCGGGTGTGGCTCT		
0	0	GTGTCCCGTC	tag	g
2	0	GTGTGGAAGCCAGCCGAACTGAAGAAAGG		
4	2	GTGTATCTGCCTATTGCTAGGGGTCCAAACT		
0	3	GTCACCGGTC	long	f
0	0	GTGTTCCGGT	long	c
2	2	GTCTCTCGGT	tag	c
5	0	GTCTCAGAGT	tag	g
0	4	GTGCAGCAGT	tag	k
0	0	ATACAGAAGTCCTTTCGGACGAAGCCATTT		
0	0	GTCTCGGGGTTCCTCGCGGCACTGCCCATCT		
0	0	GTGGAGCACCCTCGAAGGCGACCGGCTTTC		
0	0	GTGTCCCGAT	tag	g
0	2	GTGCACGTTCCGGTCTTGCGACTGTGGCTT		
2	2	GTGCACCAG	long	g
0	4	TGTTTCGTGTCCCGAAGGAAAAACGGCTTT		
6	0	GTGCGGGAG	long	o
0	0	GTGTCCTCCGTCCCTTGCGGGTCTAGCCTGT		
3	0	GTGCACGCTCCCTTGCGGGTCATCACCCTTT		
0	0	GTGTGAGAC	tag	p
0	3	TCCATCAAATCAAGAAAGAGCTATCAATCT		
0	0	GTGTGTGATC	long	g
0	0	ACAAACGAATCATGAAAGATCTTTCAGTCT		
0	0	GTGCACGCTACCCTTGCGGGTTCGTTACGCT		
0	2	GTACGCGTTCCGGACTGGATACCGTTCGTA		
0	0	GTGCTTGTTCCGGTCTTGCGACTGTGGCTCT		
0	8	GTGTCAGTGT	long	g
5	5	ATATAACAGTCCTTGCGGAACTCTTCATTTCT		
0	0	GTGCATGTTCCACCCTTGCGGGTGTTACTCC		
0	0	CGACTACAGTCCCCGAAGGGAAAGCCATG		

0	3	GTGTAGAAC	tag	g
0	0	GTGTGCAGGTTCTCCTTCGAGCACCAAACC		
0	0	GTGTCTTAATTTCCTTTCGGACACTTTTACAT		
0	0	GTGCTGGGTTCCGGATTGGATACCGTTCGC		
0	0	GTGTCCTGGT	tag	g
0	0	GTAGTAGGTTCCGGATTGGATACCGTTCGC		
0	0	GTGTGCGGGTTCTCTTTCGAGCACCAAACC		
0	0	GAGTGCAGGTTCTCTTTCGAGCACCAAACC		
0	0	GTGTGCAGGTTCCCTTTCGAGCACCAAACC		
0	0	GTGCATGTTCCGGCCTTGCGGCTGTGGCCT		
0	0	GTGTCCAGGCTCTCTTTCGAGCACTCCTAAA		
0	0	AGTTTCGTGTCATTGCTGAAGGGTGGCTTT		
0	0	CTACTAGCAT	tag	f
0	0	GTCTCCAGGT	long	g
0	0	GTCACGGCTCCTTGCGGTCGGTCCGGTTTC		
4	0	GTTATACCCCACCCGAAGTGAGAGCTATGT		
0	1	GTGTTCAAGCTCCCTTGCGGGCACTCCCGA		
0	0	GTGTGGAAG	tag	f
0	0	GTCTTCGGGCCAGCCTTGTGGGCTGGGGG		
0	3	CTCCGAGTGTCCTTGCGGAAAACCACTTTCA		
2	3	GGTCTGGCGGCCTCGAAGGACTTCTTATTT		
0	0	GTGTGCAGGTTCTCTTTCGGGCACCAAACC		
0	0	CGACTGGAC	long	f
0	0	GTGTCAGAG	long	g
0	0	GTCACCGGTC	tag	o
0	0	GTGTTAGCG	long	f
0	3	GTCTCCGCGTCCCGAAGGACCTTCCGCTTTC		
0	0	GTGTGACACCCTCGAAGGCGACCGGCTTTC		
0	4	CGACAGCGGCCCCGAAGGGAAAGTACATC		
0	0	GTGTCCAGACTCCCTTTCGGGCACCAAGCC		
0	0	GTACCAAGTC	tag	g
0	0	GTGTTCAAATTCTCTTTCGAGCACGATTTCA		
0	2	GTGCTAGTTGTTCCCCTTGCGGGGCCTACTC		
2	0	GTCTCTGCGTTCCTTTCGGCACACCAGCCTC		
0	0	GTACCAAGTCCCCTCTTGCGAGGTTCCCCTG		
0	0	GTGTGCAGGTTCTCTTTCGAGCATCAAACC		
0	0	GTGCAAAGCGTATGTATTGCTACATACTAA		
0	0	GTCTCTGGATTCCCTTGCGGGCACGCCAACT		

0	0	CCCACAAAAT	tag	k
0	0	TACATTCTGTGTATTGCTACAAAAATCCCTT		
0	0	GTGATCAGG	tag	c
0	0	GTGTCCAGG	long	f
0	0	GTGACCGTTGTACCCTTGCGGGCCTACTCC		
0	0	GTCACCGGT	tag	o
0	0	GTGCCCAGGTTCCCGAAGGCACAATCCCAT		
0	0	CTACACGGG	tag	o
0	0	TGTTTTGGGCCAGTAAACTGGCGATCGGTA		
0	0	TGAAAGACGTCCTTGCGGAAAGAAACCTTT		
0	0	GTGCACCTCCCACCCGAAGTGAAGGAATCC		
0	13	TCCATAGGAT	long	g
4	4	GTCTTGGCGTCCTTTCGGAACTCCTGCTTTC		
0	0	GTGTTACGG	tag	g
3	3	GTGTTCCAGC	tag	f
0	0	GTGTTCTGGT	long	f
2	0	TGTTTCGTGTCCCGAAGGAAAGTCTCCTTTC		
0	0	GTCTCCGGTC	long	g
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACA		
0	2	CGCACGCAG	long	f
0	0	GTGTCCAGG	tag	f
3	3	CTAAACCAATCAAGAAAGAACTCTCAATCT		
0	0	GTCTATAGGTCTCTTACGAGAAGACCCGAT		
0	0	GTGTCCTGGCTCTCTTTCGAGCACCAAGCC		
0	0	CGATTGCCGT	tag	o
0	0	GTGTCCCAGT	long	g
0	2	GTGTTCAGACTCCCTTGCGGGCACTCCCGA		
0	0	GTGTTAGCGTCCTTGCGGACGTATTCCCTTT		
0	0	GTGCACGTTCCACCCAGAGGGCGTCATTGA		
0	0	GTGCACGGACTCCGAAGAGGGGCTCACGT		
0	0	GTGCAAGCT	tag	c
2	0	CCCACGAAAT	long	c
0	0	GTGTCCAGGCTCCCTTTCGAGCACCAAGCC		
0	0	GCACTAAGTATCTAATATTTAACTTTATAAA		
0	0	GTCTCATGGTTCCTTGCGGCACTCCCACATC		
0	0	GTGAAAAAG	tag	g
0	0	GTGCTCCTCCCACCCGAAGTGAAAGACCCC		
0	0	TGTTTTGAGTCCATTGCTGGAAAATCGGCTT		

0	0	GTGTGGGAGGTCTCTTGCGAGAAAGATCCA		
0	0	GTGCAAGAGCTCCCGAAGGCACCCCGCCCT		
0	0	TGCCAATTGC	tag	f
0	5	GTGCATCCGCCTTTCGGAGGGTGTATCTCTA		
0	0	GTGTCCAGGT	tag	o
0	0	GTGGATGCGCCTTGCGGACCTCAGGCTTTC		
0	0	GTGCCTGTTCCGGTCTTGCGACTGTGGCCCT		
0	5	GTGCAAGCTCCCGAAGGTCGTTCCCCTTTCG		
0	6	GTGCACGTTC	tag	g
0	6	GTGTCCCTTGTCTCTTGCGAGCCTATCCCTAT		
0	0	GTGTGACGTCCGGCCGAACCGACTCCCCGC		
4	0	GTGTTCCGACCTATTGCTAGGAGGATCCCAT		
5	0	GTCACGGCTC	tag	f
0	2	GTGTCCAGGC	tag	g
1	0	GTGTTCAGGCCCCCTTGCGGGCACTCCCGA		
0	0	GTCTCAATGT	long	g
0	0	GTGCAAAAGCTCCCCGAAGGGCACTCCCGC		
0	0	GTGTTCCGGTTCCCTTTCGGGCACTCCCGCA		
0	4	GAGTTCAGGCTCCCTTGCGGGCACTCCCGA		
6	0	CTAGACCAATCAAGAAGGAACTCTCAATCT		
0	3	GTGCACTAGTCCCGAAGGAAAGACACCTTT		
1	0	GTGTTCAGGCTCCCTTGCGGGGACTCCCGA		
0	0	GTGTTCCGGT	tag	o
0	0	GTGTTCGGGCTCCCTTGCGGGCACTCCCGA		
2	3	GTGCAGGCTCCCGAGGGTCGGTCCCCTTTC		
3	3	CCCAACCGATCCTCTGAAGGGCCTTCTCGTC		
4	0	GTGCTCTCCCCGGCCGAACCGAAGAACCTG		
0	0	GTGCAGAAGTCCTTGCGGAAAGCACTATCT		
0	3	GTGTTCAGGC	tag	g
0	0	CCACCGCGGTCCCCGAAGGGAGGACCTCAT		
0	0	GTACAGCGGCCCGAAGGCGACTACATCTCT		
0	0	GTGTCCCAGT	tag	g
0	2	GTGCATGTTCCACTCTTGCGAGCGTGGCCCA		
0	0	GTGACCGAGCTCCGAAGAGCTGACCAGGTT		
3	0	CGCACCCGGCCCCGAAGGGCTGGCACCTTT		
0	0	GTGCGATAGCCTTTCGGAGGATGCATCTCT		
0	0	GTGTGCAGGTTCTCTTTCGAGCACCTATGTA		
0	2	GTGAACAGACCCTCGCGGGCTCATGTATCT		

0	0	GTGTACACTGGTATTGCTACCTCGTCACCCT		
0	0	GTCCAACCGTTCTTGCGAACTGCTCACGTTT		
2	0	GTGTTCTGGCTCCCTTGCGGGCACTCCCGA		
0	0	GTGTTAGCGTCCTTGCGGACGCATGCCCTT		
0	0	GTCTCTGCGCTCCTTTGCAGGCACTCCCACC		
0	0	GTGCTAGCTCCGTATTTCTACGGTCGTCCCC		
0	0	GTCTTACGGTTCCCGAAGGCACTTCCGCAT		
0	0	GTGTAGGCTT	tag	f
0	0	GTGTTCAGGCTCCCTTGGGGGCACTCCCGA		
2	0	GTGACAGTCTCCGGACTGGATACCGGCCCC		
0	0	GTCATACTGCTGTATTGCTACAGAAAACTG		
0	2	GTCTCTGGATTCCCTTACGGGCACGCCGAC		
2	2	CCCATAGAATCAAGAAAGGACCGTCAACCT		
1	5	CCCATAGAATCAAGAAAAGACCGTCAACCT		
3	0	CCCATGGAATCAAGAAAGGACCGTCAACCT		
0	2	AACCACAGATTCCCCGAAGGGCACCCTCAT		
0	0	GTGTTCTCGC	long	o
0	0	GTGCAGGTT	long	g
0	0	GTGTTACGGT	long	f
0	0	GTGTCCCGAC	long	g
0	7	GCTATCGGATCAAGAAAGCGCTATCAAACT		
0	0	CGACTCGACTCCCTTGCGGGATAACCATGTT		
2	2	GTGTGTTAGCCAGCCGAACTGAAGGAAGG		
0	0	GTGTTCCGAC	long	g
2	2	GTATCCGGTC	tag	o
0	0	GTCTCACGGT	long	g
0	0	GTGCTACACCCTCGAAGGCGGCTCCGATTT		
0	1	GTGTTCAGGCTCCCTCGCGGGCACTCCCGA		
0	0	ATATAGCGGCCCGAAGGCGCAAACATCTCT		
0	0	CCCACAGAAATTAAGAAAGAGCTATCAATC		
2	2	CTGCAGATGT	long	o
2	3	GTCTCTTGGCTCCTTTCGGCACTTCCGCCTC		
0	0	GTCACCGGTC	tag	g
0	2	GTGTACCGGCCCTTGCGGGCGACGACATTT		
0	0	AGTTTCGTGT	tag	f
0	0	GTGTAGGCTCTCCGAAGAGTCGTTCCCCTTT		
0	0	GTGTCCAGGCTCTCTTTTGAGCACGAATCC		
0	0	TACTAGCGACGTATTGCTACGCTATAAGCTT		

0	0	TGCTTTGTGT	tag	f
0	4	GTAATATTAAATTAAAAAAATAATAAAATT		
0	3	GTGCATGTTCCACCCTTGCGGGCGTCATCC		
0	4	GTGTGGACGCCAGCCGAACTGAAGAACGG		
0	0	AGTTTCGCGT	tag	f
0	0	CCCACACAATCATGAAAGATCTATTAGTCTG		
0	0	GTGACGACCCCCTTGCGGGACTCCCGGCTC		
0	0	AACTACGAGTTCTCAAAAGAGCACCCCGAT		
0	0	GTGTTCCAGC	tag	g
2	0	GTGTACGTTC	long	k
0	0	GTGTTCGCGCTCCTTACGGCACTCCGACCTT		
0	0	TACTGGCGGTGTATTGCTACAAAAACCCCTT		
2	2	CTGGACCAATCAAGAAAGAACTCTCAATCT		
2	0	GTGCACGTTCCACCCGAAGGCGTCAGTGAC		
0	2	CCCATAAAAT	tag	c
0	0	GTGTGCAGGTTCTCTTTCGAGCACAAAACC		
0	0	GTGATTGTTACCCTCTTGCGAGGAATCAAT		
0	0	GTACTAGGCTCCTCCATTGCTGGAGTTCGTT		
0	0	GTGTTCAGGCTCCCTTGCGGGCACTCCCGA		
0	0	AGTTTCGTGT	tag	g
0	2	TGTTTCGTGTCCCGAAGGAATGCTCCCTTTC		
0	0	GTGTCCAGACTCTCTTTCGAGCACTCCTAAA		
7	0	GTGTATGTTGTACTCAAAGAGCCTCACTGA		
0	0	GTTCACGAGT	tag	f
0	0	GTGTTCCAGC	long	f
0	3	TGGAAGCAGCTATTGCTAGCTCATAAGTTT		
2	4	TGCTTTGTGT	long	k
0	0	CTCACTACATTTCCTTGCGGACACTCCGATA		
0	0	CTCATGGAGTCAAGAAAGAGCTATCAATCT		
0	0	GTCTCCGGTCCGGCCGAACCGAAGGTCCGG		
0	0	GTAGCAGGTTCCGGACTGGTTACCGTTGGC		
0	0	GTGTTCAGATTCTCTTTCGAGCACGATCTCA		
0	5	TGATACAGGCCCCGAAGGGATATCTGCTTT		
0	5	CTAGACCAATCAAGGAAGAACTCTCAATCT		
0	0	GTGCAGAGACTCTTACGAGAGACGCCGTTT		
0	0	GTGCAGCAGTCCCGAAGGAAGAGGCCATCT		
0	3	GTCTCTGGATTCCCTTACGGGCACGTCGACT		
0	0	CCCATCCAATCCTCTGAAGGGCCTTCTCGTC		

2	0	GTGCATGTTCCACCCTTGTGGGTGTGGCTC		
0	2	GTCTTCCTGTTCCGAAGAACGACATACTTTC		
0	0	CCCATCCGATCCTCTGAAAGGCCTTCTCGTC		
0	0	CTCATGGAATCAAGAAGGAGCTATCAATCT		
0	0	GTGCCAGGTTCCGGACTGGTTACCGTTCGC		
1	1	ATGTTCAGGCTCCCTTGCGGGCACTCCCGA		
4	3	GTTTAGCAGCCATTGCTGGAAATACTATTTC		
0	0	GTGTTCTAGC	long	g
0	0	TGCAGACAGGAGCCGGTTACCCGGATCGC		
3	0	GCGCATGTTCCACCCTTGCGGGTGTGGCTC		
0	0	CCCATCCGATCCTCTGAAGGCCTTCTCGTCT		
2	0	GTGTTTAGGCTCCCTTGCGGGCACTCCCGA		
0	0	GTGTGCAGGTTCTTTTTCGAGCACCAAACC		
0	0	GTCTCGGGG	tag	g
3	0	CCCATAGAATCAAGAAGGGACCGTCAACCT		
0	0	GTGCAAAAG	long	g
0	0	GTGCTTGTTCCACCCAAAGGGCGTGGCCTC		
0	0	CCCACCAAAT	tag	p
0	0	CCCATAGAAT	tag	f
0	0	GTGTTCAGGCTCCCTTGCGGGCGCTCCCGA		
0	0	GTGTCCCGGT	tag	g
0	0	GTGTGGTATC	long	f
0	0	GTGCAAAGGCCCCGAAGGGAGACGCTATT		
0	0	AACCACAGATTCTCCGAAGAGCACCCCGAG		
0	0	GTGCATGCTCCCCGAAGGGTCCATCAGCTT		
0	0	GTGCAAACTAATTACTCAAAAAGAGTATTT		
0	0	CCCACTAAAT	long	g
0	0	GTGAAGACCCGGCCGAACCGAAAAAGTAG		
0	0	GTGTTCCAGC	tag	g
0	2	GTGTCCAGGCTCTCTTTCGGGCACGAATCC		
0	0	GTGCTTGTTTCACTCTTGCGAGTAGTCTCCA		
0	0	GTCCACCAGCCATAAAGGAGAGTGTATCTC		
0	0	GTGTGACGTC	tag	g
0	0	CCCACCGAATCAAGGAAGAGCTCTCAATCT		
0	0	TGTTTCGTGTCTATTGCTAGAAAGACTCCTT		
0	0	GTGTGATATCCAGCCGAACTGAAAGCCCCA		
0	0	ACTGGATGTTATGTGCAAATACAATTAAAA		
0	3	GTGCAGCAGCCCCGAAGGGAAATACCATC		

0	3	GTATTAGAGT	tag	f
3	0	CCATTTAATCAAGAAAGGGCTATCAACCTGT		
0	2	GTGTTCAGGCTCCCTTGCGGGCACTCCCGG		
4	0	CTAGACCAATCAAGAAAGTACTCTCAATCTG		
0	0	GTAACCGCTCCCCGAAGGGTCGTTCCGCTTT		
0	0	GTCTATCAGCCTGAAAGGAAGGCGTATCTC		
0	0	TGAAAATTGT	long	g
0	0	GTGTAGGGC	tag	f
0	0	GTGTGGGAGCCAGCCGAACTGAAGGATCA		
0	0	TGGAATCAGCCCCGAAGGGCGATCACCTTT		
2	0	GTGTACAGACCCTTGCGGGCTAAACTGTCT		
0	0	CGCATCGTGCCCCGAAGGGAGATCGGCTTT		
3	0	GTGTGTGGTCCAGCCGAACTGACGGCTATA		
0	0	GTGAACCGACCCTTGCGGGCGGGGACATTT		
0	0	GTGTTCAGGCTCCCTTTCGGGCACCCCCACC		
0	0	GTCACCGCGT	tag	g
3	3	GTGCAAACCGGGTATTGCTACCCTAGCCTG		
1	3	CTAGACCAATCAAGAATGAACTCTCAATCTG		
0	3	CTAGACCAATCAAAAAAGAACTCTCAATCTG		
0	0	GTCTCAGAG	tag	o
2	0	GTGTTCAGGCTCCCTTGCGGGCACTCCTGA		
0	0	GTGTGCAGG	long	g
0	0	GTGCAGCAGTCCCGAAGGAAGGGTGCCTTT		
2	0	GTTACAGCTT	tag	g
0	0	GTGCAATAGCTCCCTTGCGGGCACCCCACC		
0	0	GTGTGCAGGATCTCTTTCGAGCACCAAACC		
2	2	GTGTACAGTCCCCGAAGGGCTCCAATATCT		
0	0	GTGTGGAAGCCAGCCGAACTGAAGAGGTC		
0	0	GTATACCGCC	tag	o
0	0	GTCTCGGGG	tag	g
0	0	CTCATGGAATCAAGAAAAAGCTATCAATCT		
0	0	GTGCACGTTCCGGTCTTGCGACTGTGGCCC		
0	0	GTACGCGTTCCGGACTGGTTACCGTTCGTA		
0	2	GTGTTCAGGTTCTCTTACGAGCACTCCCAAA		
0	0	GTCTCCGGTC	tag	g
0	2	CCCATAGAATCAAGAAAGAACCGTCAACCT		
0	0	GTGTGCAGGTTCTCTTTCGAGCTCCAAACCA		
0	0	AACCACAGATTCTCCGAAGAGCACCCTCAT		

0	0	GTATAAAGGCCCTTGCGGGAAGCTCTATCT		
0	0	CCCATCCGATCCTCTGAAGGGTCTTCTCGTC		
0	0	GTGTTCCGGTCCCCGAAGGGAACGCCTCAT		
0	4	GTCTTCGTGTTCCTTGTGGGAAGGAGCGGC		
0	4	GTGTGGAAG	tag	f
0	0	TACAGACTGTGTATTGCTACAAAACCCTCTT		
0	0	GTCTTTGGGTCCTCTTGTGGAGGAGGGCCT		
0	0	GTGCACGTTCCACTCTTGCGAGCGTCATCTC		
0	0	TACGATCTGT	long	f
0	0	GTGTCCCCG	long	c
0	0	GTGTCCAGGTTCCCTTTCGAGCACGAATCC		
0	0	CCCACCGAAT	tag	p
0	0	GTGCTCACGTCCCTTGCGGGAAAACTGCATT		
0	0	GTCTCGGGG	tag	g
3	0	ATATAACAGTCCTTGCGGAAATAACCATCTC		
0	0	GTTCTAGACCCGGCCGAACCGACGCGACCA		
0	0	GTGCTCCTCC	long	f
0	0	GTGTGTAGGTTCTCTTTCGAGCACCAAACC		
0	0	GTGCACGTTC	long	g
0	2	GTGCACGTTG	tag	f
0	3	GTCTCCAAGT	long	p
0	6	AGTTGAAACTGGTAAGGTTTTTCGCGGATC		
0	6	GTGCAGCAGTCCCGAAGGAAGACACTATCT		
0	2	GTCTCGGGGCTCCTTTCGGCACCCCCATCTC		
0	2	TGAGAACCGTCCGAAGAAAGATCTGTTTCC		
0	0	GTGCAAGCTC	long	f
0	0	GTGATCAGGCTCCCTTGCGGGCACTCCCGA		
2	0	CTAGACCAACCAAGAAAGAACTCTCAATCT		
2	0	CTAGACCAATCAAGAAAGAACTCTCAATCT		
0	1	GTGTTCAGGCTCCATTGCGGGCACTCCCGA		
0	0	GTGTGCAGG	tag	g
0	2	GTGCAACAG	tag	f
0	0	GTCTAGCCGTCCCGAAGGAAAATCCTGGTT		
0	0	GTCTCACGGT	long	f
0	0	GTGTCCTGTCCGGCCGAACCGACAGACCCG		
0	0	GTTACATCCATCTCGAATTTATTTTTAATTCA		
0	0	GTCTCACGGC	tag	f
0	0	GTGACACTGTCTTGCGAACCTCAGGCTTTCA		

0	0	GTACTGGGTTCCGGGTTGGATACCGTTCGT		
0	0	GTGATGGTTACACTCTTGCGAGTAATCGAT		
0	0	GAACCACCG	long	o
3	2	GTCTCCTGGCTCCCCCGAAGGGGCACCCAC		
0	0	ATGTCCAGGCTCTCTTTCGAGCACTCCTAAA		
0	0	GTGCACGTTC	tag	g
0	0	GTACAAATTAAAAAATAAACTAATTTAATA		
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0	0	GTGTACAGGCTCCCTTGCGGGCACTCCCGA		
0	0	GTGTTCAGGTTCTCTTGCGAGCACTCCCGA		
0	0	TGTTTTGTGCTCTTGCGAGAGAGTACATTTC		
3	0	CTAGACCAATCAAGAAAGAACTCCCAATCT		
0	0	GTGTTCTCGC	long	c
2	0	CCCATAGAATCAAGAAAGGATCGTCAACCT		
0	0	GTGCTTGTTCCACTCTTGCGAGTGTCATCAC		
0	0	GTCTCTCGATTCCTTCTTGCGAAGGCACCCC		
0	0	GTGTCCAGGCTCTCTTTCGAGCACCCCTAAA		
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0	0	GTGTTCAAGTTCCCGAAGGCACTTCTACATC		
0	0	GTGTGCAGGTTCTCTTTCGAGCACCGAACC		
0	0	TACTACCTGTATATTGCTATAAAATCCCCTTT		
0	0	GTGTCCAGGCTCTCTTTCAAGCACTCCTAAA		
0	3	CCCATCCGATCCTCTGAAGGGCCTTCTCGTT		
0	0	TGTAAATTGT	tag	g
0	0	GTGTGCAGG	tag	g
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0	0	GTGCTTGTTCCACCCGAAGGACGTGGCCTCT		
0	2	GTGTTCTGGCTCCCGAAGGCAACCTCGCCT		
0	0	CCCACCGAATCAAGAAGAGCTCTCAATCTG		
0	0	GTCTCTGCGT	tag	g
0	0	TACCAGCGG	tag	f
0	0	ATCGCAGGC	tag	g
0	2	GTCTCTCGGT	tag	f
0	2	GTGTACAGTCCCCGAAGGGCTCCGATATCT		
2	0	GTGGACCGGCCTTGCGGCTGCCCACGTCTC		
0	0	GTGCAAATG	tag	p
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0	0	GTGTGCAGGTTCTCTTTCGAGTACCAAACC		

0	0	GTGCAGCAGCCCTTGCGGGAGACACCATTT		
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0	0	GTGTCTAGGTTCCCTTTCGGGCACCCCCAC		
0	0	GTGTTCCAAT	tag	g
0	0	GTGTGCAGG	long	g
0	0	CCCATCCGATCCTCTGAAGGGCCTTCTCATC		
0	0	GTGTACGACC	tag	g
0	2	GTGTTCAGGCTCCCTTGCGGGCACTCCCGT		
0	0	GTGTTCCAGC	tag	c
0	0	GTTATACCCCACCCGAAGTGAAATCTACGTT		
0	0	GTCTCGGGG	long	g
0	0	TACTGGCAGT	long	f
0	0	GTATACGAGT	long	g
0	0	CCCACCGAAT	tag	p
0	0	GTATTCCGGCTCTCTTTCGAGCACTCCCAAA		
0	0	GTCTCCTCTGTCTCTTGCGAGCCCATCTCTA		
0	0	GTGTAAGCTG	tag	c
0	0	GTGGCCGGTTCCGGGCTGGATACCGTTCGC		
0	0	GTCACCGCGT	long	g
0	5	GTGCCCAGAT	tag	f
0	0	TCGCCGGCTCCCTTGCGGGTCGTCGGGCTT		
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2	0	GTGTTCAGGCTCCCTTGCGGGCACTTCCGA		
0	3	GTCTTTGGGC	tag	p
4	0	CCCATCCGATCCTCTGAAGGGCCATCGCTC		
0	0	GTTCACAGAC	long	g
0	0	GTGCTTGTTCCACTCGAAGGGCGTGGCCTC		
0	0	GTCTCTCGGT	tag	g
0	2	GTAATAGCTCCCCTTGCGGGACACGAACTT		
0	2	CCCATCCGATCCTCCGAAGGGCCTTCTCGTC		
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACC		
0	0	CCCACCGAATCAAGAAAGAGCTCCCAATCT		
0	0	TGTTTTGGGCCAGTAACCTGGCTGTTGGCA		
0	0	GTGTGCAGG	long	g
0	0	GTGTTCAGGCTCCCTTGCGGGCACTCCGAA		
0	1	CAAGACCAATCAAGAAAGAACTCTCAATCT		
0	0	GTGTGCAGGTTTTCTTTCGAGCACCAAACC		
2	0	CGCACCCGGCCCCGAAGGGCTGTACAGTTT		

0	0	ATACAGACG	long	o
0	0	GTCTCGGGG	tag	g
0	0	GTGCTGGTTCCGGACTTGCGACTGTGGCTC		
0	0	GTGCTGGTTCCGGTCTTGCGACTATGGCTC		
0	0	GTTACATCCATCTCGAATTTATTTTTAATTTA		
0	0	GTGTCACGG	long	f
0	0	GTGCCTATTCCGGTCTTGCGACTGTGGCCC		
0	0	GTTTAGCGCTTGTATTGCTACAATTATTACC		
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0	0	GTCTTGTCGTTCCCGAAGGCACCCCCTCATC		
0	0	GTGCACGTTCCACCCAAGGGCGTCAATGAC		
0	0	GTGCATGTTC	tag	c
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0	0	GTGTGCAGG	tag	g
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2	0	AACCGCAGGTTCTCCGAAGAGCACCCCCAA		
2	0	GTGCAGCAG	tag	g
2	2	GTGTTCAGGCTTCCTTGCGGGCACTCCCGA		
2	2	GAGCACGCTGGCATTGCTACCTCGTCAGGC		
2	2	GTGCACAGA	tag	g
0	2	GTGCAGGTCACACCCGAAGGTAATCAGCCA		
0	2	CTAGACCAATCAAGAAAAAACTCTCAATCT		
0	2	TGTTTCGAGTCTCCGGTTTCCCCTCGACGAC		
0	0	AACCACAAGTTCTCCGAAGAGCACCCCCAT		
0	0	AGTTTCGTGT	long	g
0	0	GTGATGGTG	long	f
0	0	GTGCAATTGTCCAAACCGAAGTTTGGAAAG		
0	0	GTATCCAGGCTCTCTTTCGAGCACTCCTAAA		
0	0	GTGTCCAGGCTCCCTTTCGGGCACGAGTCC		
2	1	CTAGACCAATCAAGAAAGAACTCTCAATCT		
0	0	GTATAACGGCCCTTGCGGGCGACGACATTT		
0	0	GTCACCGGTC	tag	f
0	0	GTTCACAGGCGTATTGCTACGCTACGACAT		
1	0	GTGTTCAGGCTCCCTTGCTGGCACTCCCGA		

2	0	CCCATAGAATCAAGGAAGGACCGTCAACCT		
2	0	GTGCAAATGTCTAAACCGAAGCTTAGAAAA		
2	0	GTGTACGTTGTACCCGAAGGCCTCATCAAT		
0	0	GTGTCCAGG	long	c
0	0	CCCAAAGAATCAAGAAAGGACCGTCAACCT		
0	0	GTGTGGACGCCAGCCGAACTGAAGAGCCT		
0	0	GTGTCCCTGG	long	f
0	0	GGGGATAGTTAAAACAGTTGTATTTTAAAT		
0	0	GTCTCCTGTC	tag	g
0	0	GTGCATGTTC	long	g
0	2	GTGCAGCAG	tag	g
0	2	CCCATAGAATCAAGAAAGGACTGTCAACCT		
0	0	GTGTTCAGGCTCCCTTGCGAGCACTCCCGA		
0	0	GTGTATGCTG	tag	c
0	0	GTGCTTATTCCACCCGAAGGGCGTGGCCTC		
0	0	GTGTTCTAGCCAGCCGAACTGAAAGAATCC		
0	0	GTGTCCAGGCTCCCTTTCGGGCACAAATCC		
0	0	TGTTTCAGGTCATTGCTGACTTACTCATCTC		
0	0	GTAGCAGGTTCCGGACTGGATACCGTTCGT		
0	0	CTCATGGAATCAAGGAAGAGCTATCAATCT		
0	0	GCGTGCAGG	tag	g
0	0	GAGTCCAGGCTCTCTTTCGAGCACTCCTAAA		
0	0	GTACCAGCTTCCGGATTGGATACCGTTCGT		
0	0	GTGCTTGTTCCACCCGAAGGGCGTGGCCTC		
0	0	GTGTCCAGGCTCTCTTTCGAGCACTCCTAAT		
0	0	GTATACCGAC	long	f
0	0	CCCATTTATTCAAGAAAGGGCTATCAACCT		
0	0	GTGTATGTTCCACCCTTGCGGGTGTGGCTCT		
1	3	GTGTTCAGGTTCCCTTGCGGGCACTCCCGA		
0	0	GTGTGCAGGTTCTCTTTCTAGCACCAAACCA		
0	2	TGTTTCGAGTCTCCAGTTTCCCTTCGACGAC		
0	2	GTCACCGGTC	long	g
0	0	GTGCGTGTTCCACCCTTGCGGGTGTGGCTC		
0	0	GTGCTCAGGCTCCCTTGCGGGCACTCCCGA		
0	0	CTCATGGAATCAAGAAAGAACTATCAATCT		
0	0	AGTTTTGTGCTCCGAAGAGAAATCCGCTTT		
0	0	CTCATGGAATCAAGAAAGAGCTATCAATCT		
0	0	TGTAAGCGG	tag	f

0	0	GTGTGAAGCTCAGGATTGGATACCTGTCGG		
0	0	GTGCCCAGATTCCCGAAGGCACAACCTAAT		
0	0	GTGTCACGGT	long	f
0	0	GTGCAGACTCCCCTTGCGGGGTCATCACCC		
0	0	GTGTCCTGGT	tag	f
0	0	AGTTTCGCGC	tag	o
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0	0	GTGTTCCAGG	long	f
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0	0	GTGCTCGGTT	tag	f
0	0	TCCATAGAAT	tag	k
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0	0	GTGCTGGTTCCGGTCTTGCAACTGTGGCTC		
0	0	GAGCAGGAT	long	g
0	0	GTGCTCTATG	long	f
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0	0	GTGCAAAGTT	long	c
0	0	GTGCAGGTT	tag	g
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0	0	GTGATCGTTC	long	g
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0	0	CCCATAGAAT	tag	k
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0	0	GTGCACGTTG	long	f
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0	0	GTGCTGGTTCCGGTCTTGCGACTGTGGCTCT		
0	0	ACCACCGAAT	tag	p
0	0	GTCTCAGAAT	long	g

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0	0	AGTTTCGTGT	long	k
0	0	GTGCTCCGG	long	g
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0	0	GTGTCCAGG	long	f
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0	0	TGTTTCGGGTCTCCGGTTTCCCTTCGACGAC		
0	0	CCCATCCGATCTTCTGAAGGGCCTTCTCGTC		
0	0	TGTTTCGAGTCTCCGGTTTCCCTTCGATGAC		
0	0	CCCGCAGAATCAAGAAAGGCCTTAAGCCTG		
0	0	GTGAACCGA	tag	g
0	0	TCTCACTCCCTCCCCGAAGGGCACCAAGAC		
0	0	GTGAAGACCCGGCCGAACCGAAGGGCACAT		
0	0	CCCACAGAATCGAGAAAGGCCTTAAGCCTG		
0	0	CCATAGAATCAAGAAAGGACCGTCAACCTG		
0	0	CTAGTCCAATCAAGAAAGAACTCTCAATCTG		
0	0	GTGCAGCAGT	tag	g
0	0	GTGCAGCAGCCCCGAAGGGAAATACCATCT		
0	0	CCCATAGAATCAAGAAAGGACCGTCAACCT		

0	0	GTTTCAGGCTCCCTTGCGGGCACTCCCGAA		
0	0	GTGTTGCAGCTACCTTTCGGGCACTTCCTCA		
0	0	TGTTTCAAGTCTCCGGTTTCCCTTCGACGAC		
0	0	CCCATTTAATCAAGAAAGGGCTATCAACCT		
0	0	CTTGACCAATCAAGAAAGAACTCTCAATCT		
0	0	GTATGGGATCCGGCCGAACCGACAGAAAT		
0	0	GCCATACACCCTCGAAGGCTTATCTGGTTTC		
0	0	GTAACGGCTCCCGAAGGTCGGCCCCCTTTC		
0	0	AACTGTAGATTCTCCGAAGAGCACCCCGAT		
0	0	GGATTACGATTCTCTTGCGAGCACATCAAT		
0	0	TACTGGCAGTGAATTGCTACAAAGAGAGCT		
0	0	TGTTCAGGCTCCCTTGCGGGCACTCCCGAA		
0	0	GTGTTCGCGC	tag	o
0	0	GTGTAAGTTTCACTCCGAAGAGCAACTTTC		
0	0	GTGCATGTTCCATTCTTGCGATTGTCATCGA		
0	0	GTGCTGCAGCCCCGAAGGGAAATACCATCT		
0	0	GTGCATGTTC	long	f
0	0	GTCTCGGGGCTCCTTGTGGCACCTCCCATCT		
0	0	CCCATACAATCAAGAAAGGACCGTCAACCT		
0	0	GTGCAGCAGCCCCGAAGAGAAATACCATCT		
0	0	GCAAGAGATAAAAAACTTTATGTTTTTTTCA		
0	0	GAGCACGCTGGTATTGCTACCTCGACAGGC		
0	0	GTGATCGTTCCAACCTTGCGGCTGTGGCTC		
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0	0	TGCATCCGGCCCCGAAGGGCAATCAGCTTT		
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0	0	GTGCACGTTCCGGTCTTACGACTGTGGCCCC		
0	0	GTACATGTTCCACCCTTGCGGGTGTGGCTC		
0	0	GTATCTGAGTTCCCTTTCGGGCACCGATCTA		
0	0	TGTTTCGAGTCTCCGGTTCCCCTTCGACGAC		
0	0	GTGTGGACGCCAGCCGAACTGAAGGACCA		
0	0	GTGCTAGTTGTTCCCCTTGCGGGCCTACTCT		
0	0	GTGTCCACGTCCCCAAAGGGAAGAAATCCA		
0	0	GTGTTCAGGTTCTCTTGCGAGCACTCCCAA		
0	0	GTGTCCCGG	tag	g
0	0	GTGTGGAAG	long	g
0	0	TGTTTTGTGTCCCTTGCGGGAAGAGTCCATT		
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0	0	GTGGACAGACCCTTGCGGGCTAAACTATCT		
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0	0	GTGTTCCGGCCCTCTTTCGAGCACTCCCAAA		
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0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACCT		
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1	0	CTCATAGAATCAAGAAAGGACCGTCAACCT		
1	0	GCCATAGAATCAAGAAAGGACCGTCAACCT		
0	0	CTAGACCAATCAAGAAAGAACTCTCATTCT		
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0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAATC		
0	0	GTGTGCAGGTTCTCTTTCGTGCACCAAACC		
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0	0	GTGTGCAGGTCGGAACTTACCCGACAAGG		
0	0	GTGTGCAGGTTCACTTTCGAGCACCAAACC		
0	0	GTGTGCACG	tag	g
0	0	CTCATAGAAT	tag	k
0	0	CACACCGAATCAAGAAAGAGCTCTCAATCT		
0	0	GTGTTCAGGCTCCCTTGCGGGCACGCCCGA		
0	0	CTCATGGAATCAAGAAAGAGCTATCAATCT		
0	0	CTCATGGAATCAAGAAAGAGCTACCAATCT		
0	0	CCCATAGGATCAAGAAAGGACCGTCAACCT		
0	0	GTGTTCAGGCTCCCCTGCGGGCACTCCCGA		
0	0	GTGTTCAGGCTCCCTTGCGGGCACTCCCGA		
0	0	CCCATAGAATCAAGAAAGGCCCGTCAACCT		
0	0	GCGTTCAGGCTCCCTTGCGGGCACTCCCGA		
0	0	CTAGACCAATCGAGAAAGAACTCTCAATCT		
0	0	GTGTTCAGGCTCCCTAGCGGGCACTCCCGA		
0	0	GTGTTAAGGCTCCCTTGCGGGCACTCCCGA		
0	0	CTCATGGAATCAAGAAAGAGCTATCAATCT		

0	0	CCCACCGAAT tag	p
0	0	CTCATGGAATCAAGAAAGGGCTATCAATCT	
0	0	CTCATGGAATCAAGAAAGAGCTAACAATCT	
0	0	GTGTTCAGGCTCCCTTGCGGGCACTCCCGA	
0	1	CTAGACCAATCAAGAGAGAACTCTCAATCT	
0	1	GTGTTCAGGCTCCCTTGCGGGCACTCCCCA	
0	1	CTAGACCAATCAAGAAAGAACTCTCAAACT	
0	1	CTAGACCAATCAAGAAAGAACTCTCAATCT	
0	1	CCCATCCGATCCTCTGAAGGGCCTTCTCGTC	
0	1	GTGTTCAGGCTACCTTGCGGGCACTCCCGA	
0	1	GTGTTCAGGCTCCCTTGCGGGCAGTCCCGA	
0	1	GTGTTCAGGCTCCCTTGCGGGCACTCCAGA	
0	0	GTGTTGAGGCTCCCTTGCGGGCACTCCCGA	
0	0	CCCATAGAATCAAGAAAGGACAGTCAACCT	
0	0	CACATCCGATCCTCTGAAGGGCCTTCTCGTC	
0	0	CTAGACCAATCATGAAAGAACTCTCAATCT	
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACT	
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAAAC	
0	0	GTGTGCAGGTTCTCTTTCGAGCACCAAACC	
0	0	GTGTGCCGGTTCTCTTTCGAGCACCAAACC	
0	0	GTGTGAAGGTTCTCTTTCGAGCACCAAACC	
0	0	GTGTGCATGTTCTCTTTCGAGCACCAAACCA	
0	0	GTGTGCAGGTTGTCTTTCGAGCACCAAACC	
60084	73386		

taxon_data	long	long_total	long_this	support	confidence
g	GACGACAGC	8	8	744	0.96774194
g	GACGACAGC	12	12	20	1
g	AAGAACGGC	12	12	181	1
g	AAGAACGAC	12	12	8	1
o	AAGAACGGC	12	12	3	1
f	GACGACGGC	6	6	7	1
TG	AAGAACGGC	7	7		
p	AAGAACGGC	7	7	14	1
TGC	GACGACAGC	12	12		
o	AAGAACGGC	12	12	5	1
TCT	GACGACAGC	8	8		
ATC	GACGACAGC	6	6		
CTA	GACGACAGC	7	7		
g	GACGACAGC	12	12	354	0.98022599
g	GACGACAGC	10	10	5	1
g	GACGACAGC	12	12	4	1
g				15962	1
g	GACGACAGC	6	6	10	0.9
TC	GACGACAGC	10	10		
g				74	0.98648649
g	GACGACAGC	12	12	270	0.92962963
TAC					
CTG	GACGACAGC	6	6		
f				13696	1
g	GACGACAGC	12	12	9	1
g	GACGACAGC	10	10	7	1
AA	GACGACAAC	6	6		
TCA	AAGAACGGC	12	12		
g	GACGACAGC	12	12	22	0.95454545
c	AAGAACGGC	11	11	4	1
g	GACGACAGC	12	12	218	0.87155963
g	GACGACAGC	12	12	100	0.97
f	GACGACAGC	11	11	8	1
TC	GACGACAGC	12	12		
TCA	AAGAACGGC	6	6		
g	GACGACAGC	12	12	20	1
AG	GACGACAGC	6	6		

GA	GACGACAGC	12	12		
g	GACGACAGC	12	12	2	1
g	GACGACAGC	11	11	620	0.97903226
TC	GACGACAGC	12	12		
g	AAAAGCGGC	10	10	422	1
AC	GACGACAGC	12	12		
TC	AAAAACGGC	12	12		
g				336	0.9702381
TGT	AAGAACGGC	12	12		
g	GACGACAGC	12	12	3	1
CAC	GACGACAGC	7	7		
TCT	GACGACAGC	6	6		
g	GACGACAGC	6	6	4	1
f				30	1
o	GACGACAGC	12	12	2	1
p	AAGAACGGC	12	12	4	1
f	AAGAACGGC	11	11	283	1
g	GACGACAGC	12	12	3	1
AC	GACGACAGC	6	6		
g	GACGACAGC	6	6	11	1
g	GACGACAGC	6	6	2	1
g	GACGACAGC	6	6	3	1
c	GACGACAGC	12	12	3	1
f				7	1
g				49	0.87755102
TTT	GACGACAGC	12	12		
f	GACGACAGC	6	6	3	1
CTA	GACGACAGC	7	7		
c	GACGACAGC	12	12	19	1
TC	GACGACAGC	11	11		
TT	GACGACAGC	6	6		
o				36	0.97222222
f	GACGACAGC	6	6	2	1
g	GACGACAGC	12	12	19	0.94736842
g	AAGAACGGC	6	6	76	0.90789474
f	GACGACAGC	12	12	10	0.9
g	AAAAGCGGC	6	6	49	1
o	GACGACAGC	12	12	6	1

CAC	GACGACAGC	6	6		
CT	GACGACAGC	6	6		
f	GACGACAGC	6	6	10	1
TT	GACGACAGC	12	12		
g	GACGACAAC	6	6	4	1
g	GACGACAGC	7	7	6	1
f	GACGACAGC	12	12	2	1
g	GACGACAGC	12	12	4	1
GTC	AAGAACGGC	6	6		
TT	GACGACAGC	12	12		
CAC	GACGACAGC	6	6		
CTA	GACGACAGC	12	12		
TC	GACGACAGC	11	11		
TT	GACGACAGC	6	6		
g	GACGACAGC	12	12	8	1
f	GACGACAGC	7	7	4	1
o	GACGACAGC	12	12	78	0.97435897
TT	GACAACAGC	6	6		
f	GACGACAGC	12	12	24	1
f	GACGACAGC	6	6	7	1
p	AAGAACGGC	9	9	23	1
f	GACGACAGC	12	12	31	0.96774194
g	GACGACAGC	12	12	11	1
c	GACGACAGC	12	12	12	1
TCA	GACGACAGC	6	6		
f				58	0.98275862
o	GACGACAGC	6	6	7	1
g	GACGACAAC	5	5	348	0.99712644
TT	GACGACAGC	9	9		
g	GACGACAGC	12	12	2	1
g	GACGACAGC	12	12	79	0.98734177
o	GACGACAGC	6	6	12	1
GT	AAGATCGGC	7	7		
g				3	1
f	GACGACAGC	12	12	3	1
g				322	1
CCC					
TGT	GACGACAGC	7	7		

f	GACGACAGC	10	10	202	0.97029703
TC	GACGACAGC	7	7		
g	GACGACAGC	12	12	5	1
p	ACGAACGAC	12	12	78	1
TCAG	GACGACAGC	6	6		
f	GACGACAGC	12	12	52	1
f	GACGACAGC	7	7	3	1
TC	GACGACAGC	6	6		
g	GACGACAGC	11	11	11	1
CAC	GACGACAGC	6	6		
o	GACGACAGC	12	12	6	1
g	AAGAACGGC	10	10	5	1
g	GACGACAGC	7	7	6	1
g	GACGACAGC	6	6	3	1
AAA	GACGACAGC	12	12		
g	AAGAACGGC	10	10	8	1
CCT	GACGACAGC	6	6		
AAG	GACGACAAC	6	6		
g	GACGACAGC	12	12	158	0.99367089
TTC	GACGACAGC	6	6		
g	GACGACAAC	5	5	10	0.9
AT	GACGACAGC	6	6		
f	GACGACGGC	6	6	2	1
CAG	GACGACAAC	6	6		
TG	GACGACAGC	6	6		
g	GACGACAGC	6	6	2	1
g	GACGACAGC	7	7	3	1
f	GACGACAGC	6	6	4	1
TCG	GACGACAAC	6	6		
g	AAGAACGGC	6	6	3	1
f	GACGACAGC	11	11	45	1
CTG	GACGACAGC	6	6		
AATC	GACGACAGC	6	6		
GAC	GACGACAGC	6	6		
g	GACGACAGC	10	10	49	0.97959184
g	GACGACAGC	12	12	114	0.98245614
f	GACGACAGC	6	6	4	1
CTA	GACGACAGC	12	12		

TTTC	GACGACAGC	6	6		
p	GACGACAGC	12	12	4	1
g	GACGACAGC	5	5	294	0.82653061
g	GACGACAGC	4	4	152	0.96052632
f	GACGACAGC	6	6	3	1
o	GACGACAGC	6	6	10	1
CAC	GACGACAGC	12	12		
TG	GACGACAGC	7	7		
g	GGAAACGGC	6	6	53	1
g				1789	0.92901062
TC	GACGACGGC	10	10		
TTCC					
TTC	GACGACAGC	7	7		
TC	GACGACAGC	12	12		
o	GACGACAGC	12	12	2	1
TC	GACGACAGC	5	5		
g				13	1
f				16	1
g	GACGACAGC	6	6	81	0.96296296
g	GACGACAGC	4	4	130	0.99230769
TTTC	GACGACAGC	6	6		
TC					
o				11	1
g	GACGACAGC	11	11	266	0.9887218
f	GACGACAAC	6	6	4	1
TCT	GACGACAGC	6	6		
g	GACGACAGC	10	10	704	0.98295455
TG	GACGACAGC	6	6		
TAC	GACGACAGC	6	6		
GCA	GACGACAAC	6	6		
GTC	AAGAACGGC	6	6		
g	GACGACAGC	10	10	824	0.99029126
c	GACGACAGC	6	6	2	1
g	GACGACAGC	6	6	4	1
f	GACGACAGC	6	6	3	1
f	GACGACAGC	7	7	4	1
CGTC	GACGACAGC	6	6		
TTA	GACGACAGC	6	6		

CAC	GACGACAGC	6	6		
g	GACGACAGC	6	6	48	0.97916667
f	GACGACAGC	6	6	4	1
TTTC					
ATG					
TCG	GACGACAGC	6	6		
TCT	GACGACAGC	6	6		
g	GACGACAGC	6	6	2	1
g				5	1
TT	GACGACAGC	6	6		
f	GACGACAGC	10	10	4	1
p	AACAACGGC	6	6	3	1
g				6	1
g				132	0.9469697
o	GACGACAGC	12	12	2	1
CTA	GACGACAGC	6	6		
AA					
g	GACGACAGC	6	6	15	0.93333333
g	GACGACAGC	6	6	108	0.9537037
f	GACGACAGC	6	6	2	1
g	GACGACAGC	12	12	94	0.93617021
g	GACGACAGC	12	12	12	1
ACG	GACGACAGC	12	12		
f	GACGACAGC	6	6	4	1
g				14	1
TC	GACGACAGC	6	6		
f	GACGACAGC	6	6	2	1
g	GACGACGGC	6	6	53	0.8490566
ATA					
f	GACGACAGC	11	11	44	0.95454545
g	GACGACAGC	4	4	4	1
TC	GACGACAGC	11	11		
g	GACGACGGC	6	6	8	1
TCT	GACGACAGC	8	8		
g	GACGACAGC	4	4	17	1
f	GACGACAGC	5	5	7	1
p	GACGACAGC	6	6	2	1
TC	GACGACAGC	6	6		

g	GACGACAGCC	12	12	650	0.85538462
TC	GACGACAGCC	7	7		
CAG	GACGACAGCC	6	6		
GATC	GACGACAGCC	6	6		
g	GACGACAGCC	10	10	1238	0.99434572
g	GACGACAGCC	6	6	17	1
CTT	GACGACAGCC	11	11		
TC	GACGACAGCC	6	6		
g	GACGACAGCC	7	7	29	1
g	GACGACAACC	6	6	53	1
TTTC	GACGACAGCC	6	6		
CTT	GACGACAGCC	6	6		
AG	GACGACAGCC	6	6		
AA	GACGACGGCC	6	6		
f				12	0.91666667
g	GACGACAGCC	6	6	2	1
ACT	GACGACAGCC	6	6		
TTC	GACGACAGCC	6	6		
GTC	AACAACGGCC	6	6		
g				10	1
CCT	GACGACAGCC	6	6		
GC	GACGACAGCC	7	7		
g	GACGACAGCC	6	6	27	0.92592593
CTA	GACGACAGCC	6	6		
TGG	GACGACAGCC	11	11		
f	GACGACAGCC	6	6	6	1
g	GACGACAGCC	12	12	22	1
TTC	GACGACAGCC	12	12		
ATG	GACGACAGCC	12	12		
CCT	GACGACAGCC	6	6		
CAG	GACGACAGCC	9	9		
f	GACGACAGCC	11	10	7	1
TCTG					
CTC	GACGACAGCC	9	9		
TTC	GACGACAGCC	6	6		
f	GACGACAGCC	6	6	5	1
f	GACGACAGCC	6	6	33	0.90909091
TGG	GACGACAGCC	6	6		

g	GACGACAGCC	8	8	40	0.975
f	GACGACAGCC	6	6	11	0.81818182
f				18	0.88888889
TC	GACGACAACC	12	12		
TCG					
g	GACGACAGCC	6	6	3	1
f	GACGACAGCC	6	6	5	1
TT	GACGACAGCC	6	6		
f	GACGACAGCC	6	6	4	1
CTG	GACGACAGCC	6	6		
g	GACGACGGCC	6	6	17	1
g	GACGACAGCC	9	9	150	0.84666667
TAA	GACGACAGCC	6	6		
GTT	GACGACAGCC	6	6		
o	GACGACAGCC	6	6	2	1
TCT	GACGACAGCC	6	6		
f	GACGACAGCC	10	10	3	1
CATC	GACGACAGCC	6	6		
TCG	GACGACAGCC	10	10		
g	GACGACAACC	7	7	4	1
AGG	GACGACAGCC	6	6		
TC	GACGACAGCC	6	6		
TC	GACGACAGCC	6	6		
CAC	GACGACAGCC	6	6		
TT	GACGACAGCC	6	6		
CTG	GACGACAGCC	6	6		
o	GACGACAGCC	6	6	5	1
TC	GACGACGGCC	8	8		
o	GACGACAGCC	6	6	15	1
f	GACGACAGCC	10	10	3	1
AAA	GACGACAGCC	6	6		
TCG	GACGACAGCC	6	6		
g				97	0.90721649
TCA	AAGAACGGCC	6	6		
c	GACGACAGCC	6	6	388	0.98969072
o	GACGACAGCC	6	6	7	1
g	GACGACAGCC	12	12	2	1
g	GACGACAGCC	6	6	12	1

g	GACGACAGC	6	6	43	1
TCT	GACGACAGC	6	6		
f	GACGACAGC	7	7	7	0.85714286
TT	GACGACAGC	6	6		
f	GACGACAGC	6	6	3	1
f	GACGACAGC	6	6	2	1
TCC	GACGACAGC	6	6		
f	GACGACAGC	12	12	27	0.96296296
c	GACGACAGC	11	11	6	1
CTC	GACGACAGC	11	11		
ACT	GACGACAGC	7	7		
g	GACGACGGC	5	5	334	0.99401198
TTTC	GACGACAGC	6	6		
g	GACGACAGC	6	6	2	1
g	GACGACAGC	11	11	25	1
CAG	GACGACAGC	6	6		
GTC	AAGAACGGC	6	6		
CTT	GACGACAGC	6	6		
GTC	AAGAACGGC	6	6		
g	GACGACAGC	6	6	168	0.99404762
f	GACGACAGC	6	6	4	1
ATC	GACGACAGC	10	10		
AATA	GACGACAGC	6	6		
o				36	0.97222222
CAG	GACGACAGC	6	6		
g	GACGACAGC	5	5	23	0.86956522
AGA	GACGACAAC	6	6		
g	GACGACAAC	6	6	81	0.98765432
TC	GACGACAGC	6	6		
g	GACGACAGC	6	6	3	1
g				5341	0.96498783
TC	GACGACAGC	6	6		
g	GACGACAGC	7	7	2404	0.92720466
TTT	GACGACAGC	5	5		
CAC	GACGACAGC	11	11		
CTC					
CTG	GACGACAGC	6	6		
g				10	1

g	GACGACAGC	6	6	3	1
CATC	GACGACAGC	6	6		
f	GACGACAGC	6	6	19	1
f	GACGACAGC	6	6	11	1
TC	GACGACAGC	6	6		
f	GACGACAGC	6	6	2	1
g	GACGACAGC	6	6	2564	0.96411856
TTC	GACGACAGC	12	12		
GTC	GACGACAGC	6	6		
g	GACGACAGC	8	8	100	0.96
g	GACGACGGC	6	6	3	1
CTT	GACGACAGC	11	11		
GATT	GACGACAGC	8	8		
CA	AAGAACGGC	11	11		
p	GACGACAGC	6	6	2	1
AA	TGCGACAGC	9	9		
g	GACGACAGC	5	5	15	0.93333333
g	AAGAACGGC	6	6	35	0.85714286
g	GACGACAAC	6	6	10	1
TTC	GACGACAGC	6	6		
f	GACGACAGC	6	6	12	1
ATC	GACGACAGC	6	6		
g				2	1
TCA	AAGAACGGC	7	7		
o	GACGACAGC	6	6	4	1
c	GACGACAGC	10	10	39	0.84615385
CCT	GACGACAGC	6	6		
o	GACGACAGC	6	6	7	1
AG	GACGACAGC	6	6		
CTT	GACGACAGC	6	6		
CTC	GACGACAGC	7	7		
GCA	GACGACAGC	6	6		
TCT	GACGACAGC	6	6		
TT	GACGACAGC	6	6		
TTT	GACGACAGC	6	6		
TTC					
CTG	GACGACAGC	6	6		
TGT	GACGACAGC	6	6		

CA	GACGACAGC	6	6		
f	GACGACAAC	7	7	41	0.97560976
g	GACGACAGC	6	6	41	1
g	GACGACAGC	6	6	3	1
g	GACGACAGC	6	6	17	0.94117647
AAT					
g	GACGACAGC	5	5	36	0.86111111
TT	GACGACAGC	6	6		
g	GACGACAGC	5	5	5	1
CAC	GACGACAGC	8	7		
f	GACGACAGC	8	8	2	1
TA	GACGACAGC	6	6		
TTT	GACGACAGC	5	5		
CT	GACGACAGC	5	5		
g	GACGACAGC	6	6	34	0.97058824
g	GACGACAGC	3	3	1039	0.99230029
CC	GACGACAAC	7	7		
g	GACGACAGC	10	10	9	0.88888889
c	GACGACAGC	6	6	12	0.91666667
TTT					
CTT	GACGACAGC	6	6		
c	GACGACAGC	6	6	3	1
ATC	GACGACAGC	6	6		
AT	GACGACAGC	5	5		
g	GACGACAGC	9	9	2	1
GTC	AAGAACGGC	9	9		
CTG	GACGACAGC	11	11		
TCA	GACGACAGC	8	8		
GATC	GACGACAGC	6	6		
AT	GACGACAGC	5	5		
TGT	GACGACAGC	7	6		
CGG	GACGACAAC	6	6		
ATC	GACGACAGC	6	6		
f	GACGACAGC	6	6	3	1
CT	GACGACAGC	5	5		
GTC	AAGAACGGC	6	6		
g				447	1
g	GACGACAGC	6	6	2	1

g	GACGACGAC	11	11	10	1
CGG	GACGACAGC	5	5		
p	GACGACAGC	5	5	36	0.94444444
GT	AAGAACGGC	5	5		
f	GACGACAGC	6	6	2	1
g				14	0.92857143
g	GACGACAGC	7	7	8	1
f	GACGACAGC	6	6	2	1
g	GACGACAGC	6	6	2	1
f	GACGACAGC	6	6	4	1
TCT	GACGACAGC	6	6		
TG	GACGACAGC	10	10		
GAA					
TC	GACGACAGC	6	6		
f	GACGACAGC	6	6	5	1
f	GACGACAGC	6	6	2	1
TC					
CT					
TTT	GACGACAGC	8	8		
g	GACGACGGC	6	6	3	1
f	GACGACAGC	6	6	3	1
g	GACGACAGC	6	6	3	1
CTC	GACGACAGC	6	6		
ATT	GACGACAGC	3	3		
f	GACGACAGC	6	6	7	0.85714286
f				11	1
GTC	AACAACGAC	6	6		
TTC	GACGACAGC	6	6		
g				87	0.8045977
CTT	GACGACAGC	9	9		
AG	GACGACAGC	5	5		
g	GACGACAGC	7	7	2	1
c	GACGACAGC	6	6	11	1
g	GACGACAGC	9	9	2	1
TTC	GACGACAGC	9	9		
g	GACGACAGC	5	5	380	0.95526316
GTC	GACGACAGC	4	4		
g				60	0.86666667

TA					
CAC	GACGACAGC	8	8		
GTC	AAGAACGGC	5	5		
TCT	GACGACAGC	9	9		
f	GACGACAGC	6	6	9	0.88888889
g				31	0.93548387
f	GACGACAGC	6	6	12	1
g				94	0.84042553
TA					
p	GACGACAGC	6	6	2	1
g	GACGACAGC	6	6	4	1
o	GACGACAGC	6	6	16	0.875
f	GACGACAGC	6	6	2	1
TG	GACGACAGC	6	6		
g	GACGACAGC	6	6	18	0.88888889
g	GACGACAGC	6	6	12	1
AC	GACGACAGC	6	6		
TT	GACGACAGC	5	5		
c	GACGACAGC	5	5	2	1
TG	GACGACAGC	10	10		
g				83	1
TTC	GACGACAGC	6	6		
CTT	GACGACAGC	6	6		
ACC	GACGACAGC	5	5		
g	GACGACAGC	6	6	59	1
TC	GACGACAGC	5	5		
f	GACGACAGC	5	5	6	1
g	GACGACAGC	4	4	3	1
TAC	GACGACAGC	6	6		
f	GACGACAGC	9	9	10	1
f	GACGACAGC	5	5	24	0.91666667
TC	GACGACAGC	6	6		
TT	GACGACAGC	4	4		
p	GACGACAGC	6	6	11	0.90909091
o	GACGACAGC	6	6	2	1
f				8	0.875
CG	GACGACAGC	9	9		
o	GACGACAGC	5	5	24	0.875

f				2	1
g	GACGACAGCC	6	6	3	1
ATC	GACGACAGCC	6	6		
CA	GACGACAACC	6	6		
CAA	GACGACAGCC	6	6		
g	GACGACAGCC	6	6	87	0.96551724
ATC	GACGACAGCC	5	5		
CCC	GACGACAGCC	6	6		
f	GACGACAGCC	6	6	3	1
g				22	0.90909091
TCC					
p	GACGACAGCC	6	6	2	1
g	GACGACAGCC	6	6	2	1
CGC	GACGACAGCC	6	6		
TCT	GACGACAGCC	6	6		
CCC	GACGACAGCC	5	5		
f	GACGACAGCC	8	8	7	1
g	GACGACAGCC	7	7	2	1
CTG	GACGACAGCC	7	7		
f	GACGACAGCC	5	5	3	1
g	GACGACAGCC	6	6	2	1
g	GACGACAGCC	5	5	6	1
AT					
TC					
AGC	GACGACAGCC	6	6		
o	GACGACAGCC	6	6	5	1
f	GACGACAGCC	6	6	9	1
g	GACGACAGCC	6	6	316	0.99050633
TTT	GACGACAGCC	6	6		
CCC					
g	GACGACGGCC	6	6	5	1
f	GACGACAGCC	6	6	10	1
CTC	GACGACAACC	6	6		
CATC	GACGACAGCC	5	5		
g	AAGAACGGCC	6	6	4	1
CT	GACGACAGCC	6	6		
o	AAGAACGGCC	4	4	181	0.94475138
AT					

f				187	0.98395722
TTC					
ATC	GACGACAGCC	5	5		
ATC	GACGACAGCC	6	6		
TGA	GACGACAGCC	5	5		
GT	AAGAACGGCC	6	6		
CGTC	GACGACAGCC	6	6		
g	AAGAACGGCC	5	5	23	1
CATT	GACGACAGCC	4	4		
TC					
TC	GACGACAGCC	5	5		
f	GACGACAGCC	6	6	2	1
g	GACGACAGCC	6	6	64	0.96875
p	GACGACAGCC	6	6	2	1
TGA	GTCGACAGCC	5	5		
g				23	1
ATCT	GACGACAGCC	6	6		
f				47	0.89361702
g				89	0.87640449
g				4851	0.85075242
g	GACGACAGCC	8	8	8	1
CAC	GACGACAGCC	6	6		
f	GACGACAGCC	5	5	5	0.8
TG	GACGACAGCC	6	6		
GTC	AAGAACGGCC	4	4		
CGA	GACGACAGCC	6	6		
f	GACGACAGCC	5	5	6	0.83333333
ATC	GACGACAGCC	6	6		
ATC	GACGACAGCC	5	5		
TCT	GACGACAGCC	7	7		
f				13	0.92307692
g				65	0.98461538
TTC	GACGACAGCC	6	6		
TCC	GACGACAGCC	5	5		
p	GACGACAGCC	5	5	3	1
g				5	1
g	GACGACAGCC	7	7	2	1
TTT					

TTC	GACGACAGC	7	7		
ATT	GACGACAGC	6	6		
GTG	GACGACAGC	5	5		
TC	GACGACAGC	6	6		
CTT					
g	GACGACGGC	5	5	2	1
f	AAGAACGGC	6	6	292	0.96232877
o	GACGACAGC	5	5	2	1
g				2	1
g	GACGACAGC	4	4	24	1
TCA	GACGACAGC	5	5		
TTC	GACGACAGC	6	6		
f	GACGACAGC	6	6	4	1
CG	GACGACAGC	5	5		
TT	GACGACAGC	5	5		
o	GACGACAGC	4	4	2	1
f	GACGACAGC	6	6	2	1
f				18	1
GT	GACGACAGC	4	4		
CTT	GACGACAGC	6	6		
TC					
TCT	GACGACAGC	4	4		
ACT					
CATC					
C					
TCT	GACGACAGC	5	5		
g	GACGACAGC	5	5	10	0.9
AAC					
g	GACGACAGC	4	4	2	1
g	GACGACAGC	10	9	29	0.96551724
f	GACGACAGC	5	5	22	0.95454545
ATC	GACGACAGC	6	6		
AG	GACGACAGC	5	5		
g	GACGACAGC	4	4	182	0.98351648
AAT					
AGG	GACGACAGC	7	7		
f	GACGACAGC	4	4	2	1
g				7314	0.97429587

g	GACGACAGC	5	5	2	1
TC	GACGACAGC	3	3		
TA					
g	GACGACAGC	4	4	3	1
p	GACGACAGC	5	5	2	1
GTC	GACGACAGC	5	5		
g				36	0.83333333
TC	GACGACAGC	4	4		
TTT	GACGACAGC	5	5		
TG	GACGACAGC	4	4		
TC					
AC	GACGACAGC	4	4		
TGA					
TG	GACGACAGC	4	4		
TCA					
o	GACGACAGC	4	4	6	0.83333333
g	GACGACGGC	4	4	4	1
TCT	GACGACAGC	6	6		
g	GACGACAGC	4	4	4	1
g				6	1
o	GACGACAGC	4	4	2	1
g				365	0.97534247
TCA	GACGACAGC	7	7		
TC					
CTG	GACGACAGC	4	4		
TC					
TTC	GACGACAGC	4	4		
CC					
f				4	1
g	GACGACAGC	4	4	11	1
TC	GACGACAGC	5	5		
g	GACGACAGC	5	5	3	1
CG	GACGACAGC	5	5		
CA	GACGACAAC	5	5		
TTC	GACGACAGC	4	4		
TA	GACGACAGC	4	4		
o	GACGACAGC	4	4	8	1
o				7	1

GTT					
CTG	GACGACAGC	5	5		
f	GACGACAGC	6	6	16	0.9375
ACC					
g				11	1
TG					
ACA	GACGACAGC	5	5		
CTG	GACGACAGC	4	4		
GTC	GACGACAGC	4	4		
ATC	GACGACAGC	6	6		
CTA	GACGACGAC	4	4		
CTC	GACGACAGC	6	6		
CTG	GACGACAGC	4	4		
TA	GACGACAGC	4	4		
TGG	GACGACAGC	5	5		
g	GACGACAAC	4	4	5	0.8
CAT	GACGACAGC	4	4		
f	GACGACAGC	5	5	3	1
AAA					
ATC	GACGACAGC	5	5		
TCCA					
ATC	GACGACAGC	5	5		
CATC	GACGACAGC	4	4		
g				2	1
f	GACGACAGC	4	4	9	0.88888889
o	GACGACAGC	5	5	3	1
f				7	1
TGT	GACGACAGC	6	6		
TTC	GACGACAGC	4	4		
TGTT					
g				11	1
f				2	1
ATG	GACGACAGC	4	4		
g	GACGACAGC	4	4	58	1
GTA	GACGACAGC	5	5		
TG	GACGACAGC	6	6		
g	GACGACGGC	5	5	8	1
g	GACGACGGC	5	5	131	0.99236641

CAC	GACGACAGC	4	4		
g				32	1
AC	GACGACAGC	5	5		
GTC					
g	GACGACAGC	5	5	3	1
AT					
A	GAGGACAAC	3	3		
ATC	GACGACAGC	4	4		
g	AAAAACGGC	3	3	2	1
ATC	GACGACAGC	6	6		
CG	GACGACAGC	4	4		
TC	GACGACAGC	4	4		
f				4	1
g				5	1
f				100	0.97
g	GACGACAGC	7	7	8	1
CAG	GACGACAAC	5	5		
g	GACGACAGC	4	4	134	0.92537313
o				160	0.9625
f				4	1
TC	GACGACGGC	4	4		
GTT	GACGACAGC	5	5		
ATC	GACGACAGC	4	4		
g	AAAAGCGGC	4	4	44	1
ATC	GACGACAGC	6	6		
f				4	1
CT	GACGACAGC	3	3		
AG	GACGACAGC	4	4		
AT					
GTC	AAGAACGAC	8	8		
CCC	GACGACAGC	4	4		
TGA	GACGACAGC	4	4		
f				4	1
AA					
CTC					
GAT					
c	GACGACAGC	4	4	2	1
g				130	0.96923077

g				170	0.82352941
g	GACGACAGC	3	3	58	0.98275862
g				113	1
CAG					
CAG	GACGACAGC	5	5		
TCA	GACGACAGC	5	5		
ATCT	GACGACAGC	3	3		
TC	GACGACAGC	4	4		
CTC	GACGACAGC	3	3		
GTC	GACGACAGC	5	5		
ATC					
g				10	1
ACT	GACGACAGC	4	4		
o	GACGACAGC	5	5	2	1
ATC	AAGAACGGC	5	5		
g				2	1
g	GACGACAGC	4	4	774	0.93023256
g	GACGACAGC	5	5	18	1
g	AAGAACGGC	3	3	82	0.85365854
g				308	1
GGT					
CCA	GACGACAGC	4	4		
TCG	GACGACAGC	4	4		
TT	GACGACAGC	3	3		
ATC	GACGACAGC	4	4		
f	GACGACAGC	4	4	35	0.91428571
ACC	GACGACAGC	4	4		
ATC	GACGACAGC	5	5		
g	GACGACAGC	4	4	2	1
TT					
TC	GACGACAGC	4	4		
TG					
g	GACGACAGC	5	5	2	1
TCT	GACGACAGC	5	5		
GCT	GACGACAGC	5	5		
g				12	1
CCA					
CTG					

CTT	GACGACAGC	5	4		
g	GACGACAGC	4	4	2	1
TG	GACGACAGC	4	4		
g	GACGACAGC	5	5	3	1
CCT	GACGACAGC	5	5		
TCC					
AC	GACGACAGC	3	3		
p				3	1
TGA					
g				5	1
CATC					
TT	GACGACAGC	5	5		
g	GACGACAGC	4	4	100	0.98
o	GACGACAGC	4	4	4	1
c				10	1
g				95	0.91578947
g	GACGACAGC	4	4	2	1
CTG	GACGACAGC	4	4		
TCT	GACGACAGC	4	4		
GCC	GACGACAGC	4	4		
g				29	0.93103448
CCC	GACGACAGC	4	4		
g	GACGACAGC	4	4	9	1
CAC	GACGACAAC	4	4		
f	GACGACAGC	4	4	10	1
TT	GACGACAGC	3	3		
CA					
o				4	1
GTC	AAAAACGGC	3	3		
g	GACGACAGC	2	2	20	1
GTC	AAAAACGGC	5	5		
TT					
CGT					
AC					
g	GACGACAGC	3	3	40	0.925
TG					
CC	GACGACAGC	5	5		
TTT					

g				11	1
ATC	GACGACAGC	4	4		
C					
TCC					
g				6	1
ACC					
ATC	GACGACAGC	5	5		
ATC	GACGACAGC	5	5		
ATC	GACGACAGC	3	3		
CCC	GACGACAGC	3	3		
TA					
CAC	GACGACAGC	4	4		
f				2	1
g	GACGACAGC	2	2	10	0.8
CCT	GACGACAGC	3	3		
TTC					
ATC					
f				3	1
CCTG					
ATG					
CTA	GACGACGAC	4	4		
ATC	GACGACAGC	5	5		
f	GACGACAGC	4	4	2	1
g	GACGACAGC	2	2	4279	0.99252162
g				8	1
f	GACGACAGC	2	2	2	1
AC	GACGACAGC	3	3		
ACC					
TCTG					
ATC	GACGACAGC	3	3		
g				2	1
TC					
CTA	GACGACAGC	3	3		
TC					
CG					
ATC	GACGACAGC	5	5		
CCG	GACGACAGC	4	4		
TTT	GACGACAGC	4	4		

p	AAGAACGGC	3	3	124	1
TC	GACGACAGC	2	2		
c				3	1
f	GACGACAGC	4	4	9	1
AC					
g				4	1
CTC					
o				27	1
TTA					
CGG					
ATT	GACGACAGC	3	3		
g	AAGAACGGC	1	1	2	1
AC					
g				4	1
f				26	1
g	GACGACGGC	2	2	33	1
AG					
g	GACGACAGC	4	4	2	1
TCT					
f	GACGACAGC	4	4	9	1
g				66	0.96969697
TC					
CTC					
TC					
o				9	0.88888889
g	GACGACAGC	3	3	28	0.92857143
TC					
CG	GACGACAGC	3	3		
CCT	GACGACAGC	5	5		
TCT					
c				15	1
f	AAGAACGGC	3	3	200	0.995
TC	GACGACAGC	3	3		
TA					
TC	GACGACAGC	3	3		
g				5	1
TTT	GACGACAGC	3	3		
TC					

TCT					
TTC					
f				3	1
CA					
o				111	0.93693694
GCC	GACGACAGC	3	3		
AC					
GT					
g				10	1
TC	GACGACAGC	2	2		
TCT	GACGACAGC	4	4		
TT					
f				2	1
g				213	0.82159624
ATC	GACGACAGC	4	4		
g	GACGACAGC	2	2	7331	0.99686264
CTT	GACGACAGC	3	3		
TC	GACGACAGC	3	3		
ATC	GACGACAGC	3	3		
GTC	AAGAACGGC	2	2		
CAA					
ATC	GACGACAGC	4	4		
o				4	1
ATC	GACGACAGC	4	4		
GGT					
TG					
ATC					
CTA					
g				2	1
CTC					
GCA					
g				139	0.92086331
AC	GACGACAGC	3	3		
TCC	GACGACAGC	2	2		
CAG					
GCA					
TT					
TA					

TT					
CC					
ATC	GACGACAGCC	4	4		
TCA					
TT	GACGACAGCC	1	1		
CT					
CTC	GACGACAGCC	2	2		
f				653	0.99846861
ATC	GACGACAGCC	4	4		
CCG	GACGACAGCC	3	3		
ATT					
TTT					
ATC	AAGAACGACC	4	4		
GTC					
GTC	AAGAACGACC	3	3		
CTT					
o	GACGACAGCC	3	3	4	1
g	GACGACAGCC	2	2	5	1
g	GACGACAGCC	3	3	473	0.98520085
g	GACGACAGCC	3	3	2	1
GTC	AAGAACGGCC	2	2		
TTC					
CATC					
g	GACGACAGCC	3	3	6	1
o				10	0.8
g	GACGACAGCC	2	2	27	0.85185185
CTC	GACGACAGCC	2	2		
ATC	GACGACAGCC	4	4		
GCT	GACGACAGCC	2	2		
TGA					
o	GACGACAGCC	3	3	19	1
TC	GACGACAGCC	4	4		
g				28	1
CTG	GACGACAGCC	3	3		
f				2	1
TCG	GACGACAGCC	4	4		
ATC					
TC	GACGACAGCC	2	2		

g				6	1
TT					
TG					
AATC	GACGACAGC	3	3		
f				12	1
TC	AAGAACGGC	1	1		
GCA					
GTT					
g				42	0.83333333
c	GACGACAGC	3	3	2	1
TC	GACGACAGC	2	2		
TC	GACGACAAC	3	3		
TC	AAGAACGGC	4	4		
CTT					
g	AAGAACGGC	3	3	15	0.93333333
TC	GACGACAGC	3	3		
GG	GACGACAGC	2	2		
AC					
CC					
g				8	1
AG					
TC					
GT	GACGACAGC	1	1		
g				303	0.99669967
f	GACGACAGC	2	2	11	0.90909091
CC	GACGACAAC	2	2		
f	GACGACAGC	3	3	8	1
TT	GACGACAGC	3	3		
GTC					
GTC	GACGACAGC	1	1		
CCC					
TC					
AC	GACGACAAC	2	2		
TC					
CTG					
CTG	GACGACAGC	2	2		
TT					
TG	AAGAACGGC	3	3		

TGC	GACGACAGCC	3	3		
AT	GACGACAGCC	3	3		
TG					
GTC	AAGAACGGCC	3	3		
CCC					
ATC					
CTA	GACGACAGCC	2	2		
g	GACGACAGCC	2	2	4	1
CTCA					
TGC					
GT					
ATC	GACGACAGCC	4	4		
ATC					
g				17	1
GTC					
g	GACGACAGCC	2	2	3	1
TCT	GACGACAGCC	3	3		
p	AAGAACGGCC	2	2	167	0.9760479
g				102	0.95098039
ATC	GACGACAGCC	4	4		
g				2	1
g	GACGACAGCC	2	2	31	0.93548387
TCTA	GACGACAGCC	3	3		
ACT	GACGACAGCC	2	2		
TCA					
AAA	GACGACAGCC	1	1		
g	AAAAACGGCC	2	2	3	1
ATCT	GACGACAGCC	2	2		
g				4	1
ATC					
CG	GACGACAGCC	2	2		
TAC					
g				11	1
GTC	AAGAACGGCC	2	2		
TC	GACGACAGCC	2	2		
TCT	GACGACAGCC	1	1		
TGA					
CTA					

f				2	1
TCA					
ATC	GACGACAGC	4	4		
GTC					
TCA					
TAC	GACGACGAC	2	2		
g	GACGACAAC	1	1	6	1
f				16	0.9375
CATT					
CAG					
CTA	GACGACAGC	3	3		
TCAC	GACGACAGC	1	1		
TCT	GACGACAGC	2	2		
TCTG	GACGACAGC	2	2		
CTT					
g				34	1
CTT	GACGACAGC	2	2		
GTC	AAGAACGGC	3	3		
GTC	AAGAACGGC	2	2		
g				9	1
ATC	GACGACAGC	4	4		
g	GACGACAGC	1	1	2	1
TCAG					
g				35	1
GTT					
ATC					
CTA	GACGACAGC	3	3		
AATC					
f				5	1
g	GACGACAGC	2	2	18	0.88888889
GTC	AAGAACGGC	2	2		
CGC					
CGT					
ATC	GACGACAGC	2	2		
g				8	1
GTC	AAGAACGAC	3	3		
ATC	GACGACAGC	3	3		
CTT	GACGACAGC	2	2		

CTA					
TG	AAGAACGGC	2	2		
CTC	GACGACAGC	2	2		
TTT	GACGACAGC	2	2		
f				3	1
TC	GACGACAAC	2	2		
GCT	GACGACAGC	2	2		
TG	GACGACAGC	2	2		
g	GACGACAGC	2	2	12	1
o	GACGACAGC	2	2	4	1
TC	GACGACAGC	2	2		
p	AAGAACGGC	2	2	2	1
TC					
g				7	1
TG					
ATC	GACGACAGC	1	1		
f	GACGACAGC	1	1	2	1
TC	GACGACAGC	2	2		
g	GACGACAGC	2	2	6	1
f	GACGACAGC	2	2	2	1
p	GACGACAGC	2	2	8	1
ATC	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
TG					
AGA	GACGACAAC	3	3		
g	GACGACAGC	2	2	3	1
ATC					
TC	AAGAACGGC	3	3		
CC					
ATC					
g				2	1
g	GACGACAGC	2	2	2	1
TCC	GACGACGGC	2	2		
g	GACGACAGC	1	1	13	1
GTC	GACGACAGC	1	1		
T	GACGACAAC	2	2		
g	GACGACAGC	2	2	7	1
CC	GACGACAGC	2	2		

TCC					
GG	GACGACAGC	2	2		
o	GACGACAGC	2	2	6	1
TCC	GACGACAGC	2	2		
TC	GACGACGGC	2	2		
g				73	0.87671233
TT	GACGACAGC	1	1		
CCC	GACGACAGC	2	2		
ATC					
TA					
TG					
TC	AAGAACGGC	2	2		
g	GACGACAGC	2	2	9	1
GTC					
TG	GACGACAGC	2	2		
AC					
TC	GACGACGGC	2	2		
TC					
TC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
C					
TC					
TG	AAGAACGGC	2	2		
g				106	0.90566038
g				3	1
TC	GACGACAGC	2	2		
TCT	GACGACAGC	2	2		
TC					
TCA					
g				6	1
g				8	0.875
g				57	1
f				5	1
TA	GACGACAGC	2	2		
TGC	GACGACAGC	2	2		
p				2	1
CTG	GACGACAGC	2	2		
TC	GACGACAGC	2	2		

CTG	GACGACAGC	2	2		
c	GACGACAGC	2	2	2	1
TC	GACGACAGC	2	2		
g				137	0.96350365
g	GACGACAGC	3	3	2	1
TG					
g				25	0.92
TC					
o				19	1
TC					
g	GACGACAGC	1	1	8	1
f	GACGACAGC	1	1	2	1
g	GACGACAAC	1	1	2	1
p	AAGAACGGC	1	1	5	1
TC					
C					
c	GACGACAGC	1	1	6	1
CCC	GACGACAGC	1	1		
g	GACGACAGC	2	2	20	1
f				30	0.93333333
CA	GACGACAGC	2	2		
CTC	GACGACAGC	2	2		
TC					
p	GACGACAGC	2	2	2	1
AC					
g	GACGACAGC	1	1	2	1
CT	GACGACAGC	2	2		
g	GACGACAGC	2	2	39	0.87179487
CA	GACGACAGC	2	2		
TG					
TT	GACGACAGC	2	2		
TC	AAGAACGGC	2	2		
TA	GACGACAGC	2	2		
g	GACGACAGC	3	3	2	1
CT					
TC	AAGAACGGC	2	2		
TC	GACGACAGC	2	2		
CCA					

o	GACGACAGC	2	2	5	1
g	GACGACAGC	1	1	11	1
TAC	GACGACAGC	1	1		
AC					
T	GAGGACAAC	1	1		
g	GACGACAGC	1	1	2	1
CAC	GACGACAGC	1	1		
AT	GACGACAGC	1	1		
TC	GACGACAGC	2	2		
TC	GACGACAGC	2	2		
CTT	GACGACAGC	2	2		
c				2	1
CTA					
CCT	GACGACAGC	2	2		
AGA					
g				1533	0.99086758
CTA					
TC					
GTC	AAGAACGAC	2	2		
TTT					
g				2	1
ATC					
TTT					
g	GACGACAGC	2	2	3	1
ACT	GACGACAGC	2	2		
GTC	AAGAACGGC	2	2		
TC	GACGACAGC	2	2		
CTT					
g	GACGACAGC	2	2	136	0.99264706
f	GACGACAGC	2	2	7	1
CTA					
TC					
ATC					
GAC					
CTG	GACGACAGC	1	1		
g				24	0.91666667
CGC	GACGACAGC	1	1		
ATC					

GTC	AAGAACGACC	2	2		
ATA					
GTT					
o	GACGACAGCC	2	2	2	1
GTC	AAGAACGACC	2	2		
CATC	GACGACAGCC	2	2		
f	GACGACAGCC	2	2	2	1
TAT	GACGACAGCC	2	2		
g				9	1
g	GACGACAGCC	2	2	5	1
g				5	1
GTC	AAGAACGACC	2	2		
ATC					
c				5	1
TCT					
ATC	GACGACAGCC	2	2		
ATC					
TG	GACGACAGCC	2	2		
TCC	GACGACAGCC	2	2		
GTC	AAGAACGGCC	2	2		
g				2	1
ATC	GACGACGGCC	1	1		
CAC	GACGACAGCC	1	1		
TAT	GACGACAGCC	1	1		
CT					
g	GACGACAACC	2	2	28	0.92857143
GTC					
TGC	GACGACAGCC	2	2		
ATC					
ATC	GACGACAGCC	2	2		
TC					
g	GACGACAGCC	2	2	7	0.85714286
TGC					
ATC					
GTC	AAGAACGGCC	2	2		
CAC	GACGACAGCC	2	2		
ATC	AAGAACGGCC	2	2		
f	GACGACAGCC	1	1	2	1

GCG	GACGACAGC	1	1		
CTC					
g	GACGACAGC	1	1	13	1
TTT					
f	GACGACGGC	1	1	2	1
f				3	1
TG	AAGAACGGC	2	2		
TTC	GACGACAGC	2	2		
ATC	GACGACAGC	1	1		
GTC	AAGAACGAC	1	1		
GTC	AAGAACGGC	2	2		
g				15	0.93333333
GCC	AAGAACGAC	2	2		
o	AAGAACGGC	1	1	533	1
CTC	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
AAG	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
CTG					
GTC					
AA					
CTT	GACGACAGC	2	2		
TCT	GACGACAGC	2	2		
CTA	GACGACAGC	2	2		
ATC	GACGACAGC	2	2		
ATC	GACGACAGC	2	2		
f	GACGACAGC	1	1	3	1
CTG					
ATT					
GTC	AAGAACGAC	1	1		
GTC	AAGAACGGG	1	1		
GTC	AAGAACGGC	1	1		
GTC	AAGAACGGC	1	1		
GTC					
g	GACGACAGC	1	1	7	1
GTC	AAGAACGGC	1	1		
ACC	GACGACAGC	1	1		

TC	AAGAACGGC	1	1		
TC	AAGAACGGC	1	1		
g	GACGACAGC	1	1	4	1
TC	GACGACAGC	2	2		
CT					
TC	GACGACAGC	2	2		
TTT	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
CTT	GACGACAGC	1	1		
g	AAGAACGGC	1	1	28	1
g	GACGACAGC	1	1	10	0.8
f	GACGACAGC	1	1	2	1
p	AAAAACGGC	1	1	30	1
f	GACGACAGC	1	1	11	1
CT					
AC					
g	GACGACAGC	1	1	22	0.95454545
g	GACGACAGC	1	1	13	1
TT	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
TAC	GACGACAGC	1	1		
TC	AAGAACGGC	2	2		
TC					
CAG	GACGACAAC	1	1		
CTG	GACGACAGC	1	1		
TCC	GACGACAGC	1	1		
TG					
TTT	GACGACAGC	1	1		
TCC					
TC	AAGAACGGC	1	1		
c	GACGACAGC	1	1	18	0.94444444
GG					
TC	GACGACAGC	1	1		
A					
GTC	AAGAACGGC	1	1		
ATT	GACGACAGC	1	1		
ATT	GACGACAGC	1	1		
TCA	AAGAACGGC	1	1		

TC	GACGACGGC	1	1		
o				6	1
o	GACGACAGC	1	1	3	1
CATT					
TA	GACGACAAC	1	1		
c	GACGACAGC	1	1	2	1
g	GACGACAGC	1	1	2	1
g	GACGACAGC	1	1	92	0.98913043
TA					
GG	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
ATC					
TC	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
TC					
f				14	0.85714286
TGC	GACGACAGC	1	1		
GGTC	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
GCC					
TC					
TA					
TC					
TC	GACGACAGC	1	1		
TCAG					
GTC	AAGAACGGC	1	1		
CTG	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
g	GACGACAGC	1	1	120	0.98333333
TC	GACGACAGC	1	1		
AAT					
CTT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
GTC	AAGAACGGC	1	1		
CCC	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		

GGC	GACGACAGCC	1	1		
ATC	GACGACAGCC	1	1		
CTC	GACGACAGCC	1	1		
ATC	GACGACAGCC	1	1		
f				2	1
AAA					
TCC	GACGACAGCC	1	1		
TTT					
CAC	GACGACAGCC	1	1		
f	GACGACAGCC	1	1	9	1
TTT	GACGACAGCC	1	1		
GTC	AAGAACGGCC	1	1		
TC					
ATC					
ATC					
GTC	AAGAACGGCC	1	1		
g	GACGACAGCC	1	1	31	0.93548387
TGC					
TGC	GACGACAGCC	1	1		
AAG	GACGACAACC	1	1		
CTG	GACGACAGCC	1	1		
GTC	AAGAACGGCC	2	2		
GTC	AAGAACGACC	2	2		
TA					
GTC	AAGAACGGCC	1	1		
ATC	GACGACAGCC	1	1		
CTC	GACGACAGCC	1	1		
TTT	GACGACAGCC	1	1		
AT	GACGACAGCC	1	1		
CA	GACGACAGCC	1	1		
c				3	1
p	AAGAACGGCC	1	1	4	1
p	AAGAACGGCC	1	1	3	1
GTC	AAGAACGGCC	1	1		
TTT	GACGACAGCC	1	1		
CTG	GACGACAGCC	1	1		
g				13380	0.99379671
ATC	GACGACAGCC	2	2		

ATC					
p				1026	0.99902534
GCT	GACGACAGCC	1	1		
GTC	AAGAACGACC	1	1		
GCA	GACGACAGCC	1	1		
g				2	1
TTT	GACGACAGCC	1	1		
CA	GACGACAGCC	1	1		
TGT	GACGACAGCC	1	1		
GTC	AAGAACGGCC	1	1		
TC	GACGACAGCC	1	1		
TT	GACGACAGCC	1	1		
TG	GACGACAGCC	1	1		
TA	AAGAACGGCC	1	1		
CTC	GACGACAGCC	1	1		
GTC	AAGAACGGCC	1	1		
p	AAGAACGGCC	1	1	3	1
f				3	1
ATC	GACGACAGCC	1	1		
o				4	1
GTT					
g				19	1
f				17	1
TTC	GACGACAGCC	1	1		
TG					
TCC					
GTT	AAGAACGGCC	1	1		
TCA	AAGAACGGCC	1	1		
CGT					
GTC	AAGAACGGCC	1	1		
AATC	GACGACAGCC	1	1		
TT	GACGACAGCC	1	1		
g	AAGAACGGCC	1	1	21	1
TC	GACGACAGCC	1	1		
f	GACGACAGCC	1	1	2	1
g	GACGACAGCC	1	1	8	1
GTC	AAGAACGACC	1	1		
g	GACGACAGCC	1	1	2	1

TG	AAGAACGGC	1	1		
TC	GACGACAGC	1	1		
TGC	GACGACAGC	1	1		
g				6	1
ATC					
TGT	AAGAACGGC	1	1		
CAC					
CTG					
TCC	GACGACAGC	1	1		
TCT					
CCC					
g				4	1
AAT					
TC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
GG	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
CTC	GACGACAGC	1	1		
TCG	GACGACAGC	1	1		
g	GACGACAAC	1	1	2	1
CTG	GACGACAGC	1	1		
CCT	GACGACAGC	1	1		
CTG					
TTT	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
TCT					
f	GACGACAGC	1	1	11	1
TTT	GACGACAGC	1	1		
TTC					
TCA					
CC	GACGACAGC	1	1		
TCA					
TGC					
TCT	GACGACAGC	1	1		
TTC	GACGACAGC	1	1		
GTC	GACGACAGC	1	1		
GTC	AAGAACGGC	1	1		

ATC	GACGACAGC	1	1		
TGT					
CTT					
ATC	GACGACAGC	1	1		
CCT					
g	AAGAACGGC	1	1	13	1
g	GACGACAGC	1	1	29	0.96551724
TCC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
CTG					
g	GACGACAGC	1	1	42	0.83333333
GACT	GACGACAGC	1	1		
GTC	AAGAACGGC	1	1		
TT	GACGACAGC	1	1		
TCTG	GACGACAGC	1	1		
TG	GACGACAAC	1	1		
GTT					
TT					
AG	GACGACAGC	1	1		
ATG					
TG	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
g	GACGACAGC	1	1	780	0.93076923
CAC					
GCT	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
AG	GACGACAGC	1	1		
AC					
CC					
CTA	GACGACAGC	1	1		
TTT					
GTC	ACGAACGAC	1	1		
GTC	AAGAACGAC	1	1		
TTA					
CTA	GACGACAGC	1	1		
TCTG	GACGACAGC	1	1		

TC	AAGAACGGC	1	1		
AT	GACGACAGC	1	1		
TC					
TT	GACGACAGC	1	1		
TG	AAGAACGGC	1	1		
TAC	GACGACAGC	1	1		
GA	GACAACAGC	1	1		
CT	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
GTG					
TG	GACGACAGC	1	1		
A	GACGACAGC	1	1		
GC	GACGACAGC	1	1		
CA	AAAAACGGC	1	1		
TC	GACGACAGC	1	1		
AA	GACGACGGC	1	1		
TC	GACGACAGC	1	1		
GAC	AAGAACGAC	1	1		
TC	AAGAACGGC	1	1		
CT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TC					
TG	GACGACAGC	1	1		
f	GACGACAGC	1	1	16	1
TT	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
TC					
CTT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TC	GACAACAGC	1	1		
TT	GACGACAGC	1	1		
TGC	GACGACAGC	1	1		
TG	GACGACAGC	1	1		

GTC					
TT	GACGACAGC	1	1		
TT					
AG	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TTA					
CCA					
TG					
AC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
AT					
TC	GACGACAGC	1	1		
g				66	0.98484848
TG					
TG	AAGAACGGC	1	1		
g				36	1
f				2	1
c	GACGACAGC	1	1	2	1
TG	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
TT	GACGACGGC	1	1		
CTA	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
TT					
TTC	GACGACAGC	1	1		
GC	GACGACAGC	1	1		
TC					
TC					
TC					
GC	GACGACAGC	1	1		
CTT					
f	GACGACAGC	1	1	2	1
TC	AAGAACGGC	1	1		
TG	GACGACAGC	1	1		
TG	AAGAACGGC	1	1		
TC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TA	GACGACAGC	1	1		

GCT	GACGACAGC	1	1		
CTC	GACGACAGC	1	1		
g				7454	0.92125034
TC	GACGACAGC	1	1		
GATC	GACGACAGC	1	1		
g	GACGACAGC	1	1	23	0.95652174
AA					
AG					
TC	GACGACAGC	1	1		
CTT	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
CTC					
ATC					
ATC	GACGACAGC	2	2		
ATC	GACGACAGC	2	2		
CAA					
GTT					
AAA	GACGACAAC	1	1		
AA					
CT	GACGACAGC	1	1		
TCG	GACGACAGC	1	1		
ATC					
ATC					
ATT					
TTT	GACGACAGC	1	1		
CGC	GACGACAGC	1	1		
CTC					
CTA	GACGACAGC	1	1		
TAC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
CTC					
g				7	1
ATC					
GTC	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
ACT					
CTA	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		

CT	GACGACAGC	1	1		
g	GACGACAGC	1	1	643	0.99222395
CTC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
g	GACGACAGC	1	1	4	1
TC					
ATC					
g	AAGAACGGC	1	1	9	1
g				163	0.98773006
TT	GACGACAGC	1	1		
TC					
ACC	GACGACAGC	1	1		
f	GACGACAGC	1	1	2	1
CTC	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
TCT					
TC	GACGACAGC	1	1		
g				3	1
CA	GACGACAGC	1	1		
g	GACGACAGC	1	1	6	1
ATC					
g	GACGACAGC	1	1	19	0.94736842
TCT					
g	GACGACAGC	1	1	12	1
CTC					
TC					
TC	GACGACAGC	1	1		
CG					
TCT	GACGACAGC	1	1		
f	GACGACAGC	1	1	2	1
CTA	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
TAC					
GT	AAGAACGGC	1	1		
f	GACGACAGC	1	1	4	1

CC	GACGACAGC	1	1		
g	GACGACAGC	1	1	369	0.97831978
g	GACGACAGC	1	1	3	1
CT					
CTT	GACGACAGC	1	1		
CT					
AT	GACGACAGC	1	1		
p				2	1
CA	GACGACAGC	1	1		
TC					
TA					
TC	GACGACGGC	1	1		
g	GACGACAGC	1	1	6	1
TA	GACGACAGC	1	1		
C					
AC	GACGACAGC	1	1		
TT	GACGACGGC	1	1		
TC	GACGACAGC	1	1		
TAC	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
CT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
GTC	AAGAACGGC	1	1		
TCT	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
TC					
TT	GACGACAGC	1	1		
AC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
CA	AAGAACGGC	1	1		
TGT	AAGAACGGC	1	1		
G	GACGACAGC	1	1		
GCT	GACGACAGC	1	1		
CAC					
TC	GACGACAGC	1	1		
p				75	1
g	GACGACAGC	1	1	4	1

g	GACGACAGC(	1	1	24	0.83333333
TTT TAC	GACGACAGC(	1	1		
.CC	GACGACGGC(	1	1		
'CG	GACGACAGC(	1	1		
CAC	GACGACAGC(	1	1		
GTT	AAGAACGGC(	1	1		
f	GACGACAGC(	1	1	2	1
g	GACGACAGC(	1	1	5	1
TCC	AAGAACGGC(	1	1		
TC	GACGACAGC(	1	1		
ATC	GACGACAGC(	1	1		
TCT	GACGACAGC(	1	1		
CTA	GACGACAGC(	1	1		
TCC	GACGACAGC(	1	1		
TCA	GACGACAGC(	1	1		
ATG	GACGACAGC(	1	1		
GTC	AAGAACGGC(	1	1		
TTT	GACGACAGC(	1	1		
CCC GCT	GACGACAGC(	1	1		
TAA CCC	GACGACAGC(	1	1		
ATC CAC	GACGACAGC(	1	1		
g	GACGACAGC(	1	1	2	1
'AC	GACGACAGC(	1	1		
CCC	GACGACAGC(	1	1		
TCT	GACGACAGC(	1	1		
g	GACGACAGC(	1	1	5	1
TCC	GACGACAGC(	1	1		
p	AAGAACGGC(	1	1	766	1
GA	GACGACAGC(	1	1		
GTC	AAGAACGGC(	1	1		
CTT	GACGACAGC(	1	1		
TT	GACGACAGC(	1	1		
g	GACGACAGC(	1	1	2	1
ATC					

CTC	GACGACAGC	1	1		
f	GACGACAGC	1	1	2	1
g	GACGACAGC	1	1	256	0.97265625
ATG	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
f	GACGACAGC	1	1	28	1
TC					
CA	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
ATC					
TT	GACGACAGC	1	1		
g	GACGACAGC	1	1	9	0.88888889
g				24	0.95833333
TTC	GACGACAGC	1	1		
f	GACGACAGC	1	1	24	0.83333333
GTC	AAGAACGGC	1	1		
CT	GACGACAGC	1	1		
ATC					
ATC	GACGACGGC	2	2		
TCT	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
ATT	GACGACAGC	1	1		
AAA					
AA					
CT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TGC	GACGACAGC	1	1		
TTT					
ATC	GACGACAGC	1	1		
AA	GACGACAAC	1	1		
CTA	GACGACAGC	1	1		
CTC					
ATC	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
CAC	GACGACAGC	1	1		
g				7	1

GTC	AAGAACGAC	1	1		
TTT					
AA					
TC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
GTC	AAGAACGAC	1	1		
GC	GACGACAGC	1	1		
AT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TC					
TC	GACGACAGC	1	1		
AA	GACGACAGC	1	1		
TC	GACGACAAC	1	1		
TT					
CTG	GACGACAGC	1	1		
ATC					
ATC	GACGACAGC	1	1		
CAT	GACGACAGC	1	1		
GTC					
G	GACGACAGC	1	1		
ATC	GACGACAGC	1	1		
G	AAGAACGGC	1	1		
C	GACGACAGC	1	1		
C	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
AT					
CTA	GACGACAGC	1	1		
AT	GACGACAGC	1	1		
GTC	GACGACAGC	1	1		
CG	GACGACGGC	1	1		
CA	GACGACAGC	1	1		
CC	GACGACAGC	1	1		
TC	GACGACAAC	1	1		
CA	GACGACAGC	1	1		
p	AAGAACGGC	1	1	2	1
f	GACGACAGC	1	1	8	1
GTC	AAGAACGGC	1	1		

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TCT	GACGACAGC	1	1		
CT	GACGACAGC	1	1		
g				137	0.95620438
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GTT	GACGACAGC	1	1		
g	GACGACAGC	1	1	2	1
CTT	GACGACGAC	1	1		
GAC	AAGAACGGC	1	1		
TC	GACGACAGC	1	1		
p	AAGAACGGC	1	1	5	1
TTT	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
ATC	GACGACGGC	1	1		
ATC	GACGACGGC	1	1		
CG	GACGACAGC	1	1		
AG					
CATC					
TAC					
ACT					
AGG	GACGACAGC	1	1		
CA	GACGACAAC	1	1		
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TC	GACGACAGC	1	1		
TGT	AAGAACGGC	1	1		
TC	GACGACAGC	1	1		
ATC					
TCG	GACGACAGC	1	1		
TC	GACGACAAC	1	1		
TCG	GACGACAGC	1	1		
TTC	GACGACAGC	1	1		
GTC					
g	GACGACAGC	1	1	5	1
TC					
TCT	GACGACAGC	1	1		
CTT					
TCT	GACGACAGC	1	1		
GTT	GACGACAGC	1	1		

ATC	GACGACAGC	1	1		
TC					
TCT					
TC					
g	GACGACAGC	1	1	2	1
TGC					
TCT	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
ATC					
TCT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TC	GACGACGGC	1	1		
TC	GACGACGGC	1	1		
TCA	GACGACAGC	1	1		
TTA					
TC	GACGACGGC	1	1		
GC	GACGACAGC	1	1		
TCA	AAGAACGGC	1	1		
TG	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
ACG	GACGACAGC	1	1		
GCC	GACGACAGC	1	1		
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TT	GACGACAGC	1	1		
f	GACGACAGC	1	1	4	1
TC					
TC					
TT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
g	GACGACAGC	1	1	18	1
TGA	GACGACAGC	1	1		
AAC	GACGACAGC	2	2		
AG					
TC	AAGAACGGC	1	1		
GCT	GACGACAGC	1	1		
AG	GACGACAGC	1	1		
TC					

CTG	GACGACAGC	1	1		
AG					
ACT	GACGACAGC	1	1		
TTT	GACGACAGC	1	1		
TTT					
TC	GACGACAGC	1	1		
CTC					
TTC					
TC					
TC	GACGACAGC	1	1		
ATT	GACAACAGC	1	1		
GTC	AAGAACGGC	1	1		
C	GACGACAGC	1	1		
GATA					
TCT					
ACC	GACGACAGC	1	1		
TG	AAGAACGGC	1	1		
GTT					
GTC					
ATC	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
GTC	AAGAACGAC	1	1		
g	AAGAACGGC	1	1	865	0.97572254
CT	GACGACAGC	1	1		
CAA	GACGACAGC	1	1		
CA	AAGAACGGC	1	1		
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TG					
GTC	GACGACAGC	1	1		
CC	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TG	GACGACAGC	1	1		
GTC					
AAA					
CTA	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
AAT	GACGACAGC	1	1		

TC					
AC	GACGACAGC	1	1		
TCA	AAGAACGGC	1	1		
CTC					
CTC	GACGACAGC	1	1		
GTC					
CTG					
g	GACGACAGC	1	1	21	1
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TA					
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ATA					
CTT	GACGACAGC	1	1		
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TTT	GACGACAGC	1	1		
ATC					
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TC					
GTC	AAGAACGGC	1	1		
TCT	GACGACAGC	1	1		
TC	GACGACAAC	1	1		
ATC	GACGACAGC	1	1		
g	GACGACAGC	1	1	26	1
TGC					
TGC	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
CA	GACGACAGC	1	1		
CTAC	AAAAAAGGC	1	1		
ACT	GACGACAGC	1	1		
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C	GACGACAGC	1	1		
GTC					
GTC	AAGAACGGC	1	1		
g	GACGACAGC	1	1	29	1
TCT	GACGACAGC	1	1		
GTC	AAAAACGGC	1	1		

ATC	GACGACAGCC	1	1		
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TCTA	GACGACAGCC	1	1		
CTA					
CCTA	GACGACAGCC	1	1		
GTC	AAGAACGGCC	1	1		
TCC					
CTA	GACGACAGCC	1	1		
g	GACGACAGCC	1	1	17	0.82352941
CTA	GACGACAGCC	1	1		
g	GACGACAGCC	1	1	189	1
TAC	GACGACAGCC	1	1		
TG					
g	GACGACAGCC	1	1	2	1
GAT					
f	GACGACAGCC	1	1	5	1
f	GACGACAGCC	1	1	3	1
p	AAGAACGGCC	1	1	3	1
GTC	AAGAACGGCC	1	1		
TC					
CTA	GACGACAGCC	1	1		
TTC	GACGACAGCC	1	1		
TCT	GACGACAGCC	1	1		
TTT	GACGACAGCC	1	1		
TAC	GACGACAGCC	1	1		
f				4	1
ACC	GACGACAGCC	1	1		
ATC					
GTC	AAGAACGGCC	1	1		
p	AAGAACGGCC	1	1	2	1
f	GACGACAGCC	1	1	4	1
g				6	1
g				3	1
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f	GACGACAGCC	1	1	7	1
TC					
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ATC					

CT	GACGACAGC	1	1		
GTC	AAGAACGGC	1	1		
GC	GACGACAGC	1	1		
CT	GACGACAGC	1	1		
TC					
TC					
TGT	AAGAACGGC	1	1		
GC	GACGACAGC	1	1		
c	AAGAACGGC	1	1	4	1
TC					
f	GACGACAGC	1	1	2	1
TC	AAGAACGGC	1	1		
TC					
AC	GACGACAAC	1	1		
g	AAGAACGAC	1	1	3	1
f	GACGACAGC	1	1	5	1
TC	GACGACAGC	1	1		
CTG					
TC					
CT					
TGT	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
GC	GACGACAGC	1	1		
T					
GG	GACGACAGC	1	1		
TC	GACGACAGC	1	1		
TG	AAGAACGGC	1	1		
GC					
CA					
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TC	GACGACAGC	1	1		
f	GACGACAGC	1	1	3	1
TC					
TC	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
TT					
CT	GACGACAGC	1	1		
CA	AAGAACGGC	1	1		

TCG	GACGACAGC	1	1		
CAC	GACGACAGC	1	1		
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CCA	GACGACGGC	1	1		
TT	GACGACAGC	1	1		
CTA	GACGACAGC	1	1		
CTC	GACGACAGC	1	1		
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CT					
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CAC	GACGACAGC	1	1		
o	GACGACAGC	1	1	5	1
ATC	GACGACAGC	1	1		
AGA	GACGACAGC	1	1		
TGT	AAGAACGGC	1	1		
TCA					
TC	GACGACAGC	1	1		
TG	GACGACAGC	1	1		
TGA	GACGACAGC	1	1		
p	AAGAACGGC	1	1	5	1
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TG	AAGAACGGC	1	1		
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TCA	AAGAACGAC	1	1		
GTC	AAGAACGGC	1	1		
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TGGT					
GTG	AAGAACGAC	1	1		

CT	GACGACAGC	1	1		
TC					
TC	GACGACAGC	1	1		
TC	AAGAACGGC	1	1		
TC					
ATC	GACGACAGC	1	1		
CC					
GT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TT	GACGACAGC	1	1		
TTC	GACGACAGC	1	1		
CT	GACGACAGC	1	1		
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CT					
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CTG	GACGACAGC	1	1		
TA	GACGACAGC	1	1		
TTT					
AC	GACGACAGC	1	1		
CTG	GACGACAGC	1	1		
CAC	GACGACAGC	1	1		
GG					
AC					
GC					
TC	GACGACAGC	1	1		
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AC	GACGACAGC	1	1		
TCT	GACGACAGC	1	1		
TA					
g				2	1
g	GACGACAGC	1	1	11	1
TC	GACGACAAC	1	1		
GT	AAGAACGGC	1	1		

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ATC					
TC					
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CT					
TC	GACGACAGC(	1	1		
CT					
TCT					
CT	GACGACAGC(	1	1		
TCT	GACGACAGC(	1	1		
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GTC	AAGAACGAC(	1	1		
GTC	AAGAACGGC(	1	1		
GTC	AAGAACGGC(	1	1		
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TC	GACGACAGC(	1	1		
CT					
TC	GACGACGGC(	1	1		
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TC	GACGACGGC(	1	1		
ATC	GACGACAGC(	1	1		
AATT					
ATC	GACGACAGC(	1	1		
g				65	1
f	AAGAACGGC(	1	1	4	1
GTC	AAGAACGGC(	1	1		
ATC	GACGACAGC(	1	1		
GAC	AAGAACGGC(	1	1		
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ATC	GACGACAGC(	1	1		
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GTC	AAGAACGAC(	1	1		
ATC	GACGACAGC(	1	1		
GTC					
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ATC					
GTA					

p	AAGAACGGC(	1	1	2202	0.99954587
GTC	AAGAACGGC(	1	1		
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ATC	GACGACAGC(	1	1		
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ATG	GACGACAGC(	1	1		
ATC					
ATC	GACGACAGC(	1	1		
TC					
ATC	GACGACAGC(	1	1		

k	p	c	o	f	g
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymenophorea	
Eukaryota	Gracilipodida				Filamoeba
Eukaryota	Discosea	Flabellinia	Dactylopodida		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Metazoa				
Eukaryota	Discosea	Flabellinia	Vannellida		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Proteobacteri	Betaproteobacteria			Thiobacillus
Eukaryota					
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Eukaryota					
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Eukaryota	Cercozoa	Novel Clade Gran-3			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Gammaproteobacteria			
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetoplastina		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Eukaryota					
Eukaryota					
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineac	Ornatilinea
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Azovibrio
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Dechloromon
Bacteria	Planctomycet	BD7-11			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	PHOS-HE51	
Bacteria	Proteobacteri	Betaproteobacteria			
Eukaryota	Cercozoa			Euglyphida	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetoplastina		
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 waste
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Eukaryota					
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Planctomycet	OM190			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteriaceae	

Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Eukaryota	Metazoa				
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Chloroflexi		Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Eukaryota	Discosea	Flabellinia	Vannellida		Vannella
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Echinamoeba
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	CL500-3
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiaceae	Haliangium
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	
Eukaryota	Ciliophora	Intramacronu	Conthreep	Phyllopharyng	Tokophrya
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Meganema
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	

Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Brachymonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Eukaryota	Heterolobose	Tetramitia			Naegleria
Bacteria	Proteobacteri	Gammaprote	Aeromonadal	Aeromonadac	Aeromonas
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Ferrovibrio
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Gammaprote	Pseudomonac	Pseudomonac	Pseudomonas
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacterac	Brevundimon
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	

Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Eukaryota					
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera
Bacteria	Chloroflexi	Thermomicro	JG30-KF-CM45		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Phaselicystida	Phaselicystis
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Pelomonas
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobacteraceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	OC31				

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bradyrhizobiu
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Thermomona
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Undibacteriu
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Phenylobacte
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	DS-100	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	JG35-K1-AG5	
Bacteria	Bacteroidetes				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale:	Rhodocyclace	Azospira
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	mle1-27	
Bacteria	Actinobacteri	Actinobacteri	Kineosporiale	Kineosporiace	Kineosporia
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Bacteria					
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaer
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagace	Geothrix

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Diaphorobact
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangiaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Plasticicumula
Eukaryota	Ascomycota				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Delftia
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	mitochondria	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Stenotrophon
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderia	Chitinimonas
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophy	Pinnularia
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Cryomorphac	Crocinitomix
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Nubsella
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Hirschia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Cc
Bacteria	Chloroflexi				
Bacteria	Planctomycet	OM190			
Bacteria	Chloroflexi	Chloroflexia	Chloroflexales	Roseiflexacea	Roseiflexus
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte

Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Turneriella
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale:	Microbacteria	Leucobacter
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicro	Prosthecobac
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	DEV007	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	B79	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteria		Rhizobiales	Hyphomicrob	Rhodoplanes
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteri	Mesorhizobiu
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaer
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Geothrix
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacteraceae	
Bacteria	Planctomycet	Pla4 lineage			
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonadaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Nannocystace	Nannocystis
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	MNG7	
Bacteria	SHA-109				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisoma
Bacteria	Armatimonadetes				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Lautropia
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria					
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Sphaerotilus
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Eukaryota	Discosea	Flabellinia	Vannellida		
Eukaryota	Metazoa	Silicispongia	Demospongiae		

Bacteria	Proteobacteri	Alphaproteobacteria			
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Vermamoeba
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Diaphorobact
Bacteria	Candidate division BRC1				
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Pandoraea
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Acidovorax
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	F0723	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Armatimonadetes				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Ferrovibrio
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Eukaryota	Phragmoplast	Embryophyta		Liliopsida	
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		Rhodoplanes
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillal	Reyranella
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiacea	Haliangium
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Gammaprote	Pseudomonadales		

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Acidobacteria	Holophagae	Subgroup 7		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Sphaerotilus
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria					
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Thermomona
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Acidobacteria	Acidobacteria			
Bacteria	Proteobacteri	Alphaproteob	DB1-14		

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Proteobacteri	Gammaprote	Xanthomonad	Xanthomonadaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacter	Labrys
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Dongia
Eukaryota	Tubulinea	Euamoebida			Saccamoeba
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Rhynchomona
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	

Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Bauldia
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Brucellaceae	Ochrobactru
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Tetrahymena
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Cloacibacteri
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Aquicella
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	OC31				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	SPOTSOCT00m83			
Bacteria	Proteobacteri	Gammaprote	Chromatiales	Chromatiacea	Rheinheimera
Bacteria					
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisoma
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Actinobacteria				
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiacea	Rickettsia
Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichacea	Thiothrix

Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Iamiaceae	Iamia
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Ideonella
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Steroidobacte
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM1B06	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata

Eukaryota					
Bacteria	Chloroflexi	KD4-96			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Eukaryota	Choanomona	Craspedida	Codonosigidae		Sphaeroeca
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Herbaspirillun
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Betaproteobacteria		Rhodocyclaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Verrucomicro	OPB35 soil group			
Eukaryota	Ascomycota	Sordariomycetes			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderial	Thiomonas
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacter	Caulobacter

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteri	Enterobacter
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Bauldia
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	PHOS-HE51	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Dechloromon
Bacteria					
Eukaryota	Phragmoplast	Embryophyta			
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Rikenella
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	MNG7	
Bacteria					

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Meganema
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Eukaryota	Metazoa				
Eukaryota				Thraustochytriaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenacea	MWH-UniP1 a
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Eukaryota	Tubulinea	Euamoebida			BOLA868
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Amaricoccus

Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Cloacibacteriu
Bacteria	Actinobacteri	Acidimicrobiia	Acidimicrobia	Sva0996 marine group	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Novosphingob
Bacteria	Proteobacteri	Gammaprote	Methylococcales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Chlorobi	Chlorobia	Chlorobiales	Chlorobiaceae	Chlorobium
Bacteria	Actinobacteri	Actinobacteri	Frankiales		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus

Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	TK34	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Candidate division BRC1				
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	

Bacteria	Proteobacteri	Deltaproteob	GR-WP33-30		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pir4 lineage
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Aquicella
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Actinobacteri	Acidimicrobiia	Acidimicrobia	Acidimicrobia	Candidatus M
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	
Bacteria	TM6				

Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenoph	Thiobacillus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	CL500-29 mar
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus C
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangi	Tetrasphaera
Eukaryota	Metazoa				
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Novosphingob
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Armatimonadetes				
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetac	Spirochaeta
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Cystobactera	Anaeromyxob
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas

Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus C
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Limnobacter
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Pr
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetace	Spirochaeta
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacte	Sphingobacte
Bacteria	Actinobacteri	Thermoleoph	Solirubrobact	480-2	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteriaceae	

Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Beijerinckiaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Amaricoccus
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Pr
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Intrasporangiaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Phyllobacteria	Mesorhizobiu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Steroidobacte
Eukaryota					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu

Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Eukaryota					
Bacteria	Proteobacteri	Gammaproteobacteria			Pseudomonas
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Eukaryota					
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobiaceae	
Bacteria	Verrucomicro	OPB35 soil group			

Eukaryota					
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Planctomycet	028H05-P-BN-P5			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Acidobacteria	Acidobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobiaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae
Bacteria				
Eukaryota	Metazoa			
Eukaryota	Metazoa			
Bacteria	Proteobacteri	Gammaproteobacteria		

Eukaryota	Metazoa				
Bacteria	Cyanobacteri	Cyanobacteri	SubsectionIII	FamilyI	Leptolyngbya
Eukaryota	Metazoa				
Eukaryota					
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rhodobacter	Rhodobacteraceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Eukaryota					
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospirace	Lewinella

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Roseomonas
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Leucobacter
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Eukaryota					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Sediminibacte
Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteri	Cronobacter

Bacteria	Proteobacteri	Betaproteoba	Hydrogenoph	Hydrogenophilaceae

Bacteria	Proteobacteri	Betaproteoba	Methylophila	Methylophila	Methylophilu
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Hyphomicrob
Bacteria	Proteobacteria			Nitrosomonadaceae	
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Proteobacteri	Gammaprote	Enterobacteri	Enterobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiaceae	Shinella
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Methylobacte
Eukaryota					
Archaea	Euryarchaeot	Methanomicr	Methanosarci	Methanosarci	Methanosarci
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobiaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota					
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellacea	Perlucidibaca

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylocysta	Methylocystis
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacter	Labrys

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Brucellaceae	Ochrobactrun
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclaceae	
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	

Eukaryota	Metazoa			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Xanthobacteraceae

Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Rhizobiales In	Nordella
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella

Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Paracoccus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	

Eukaryota	Ascomycota	Dothideomyc	Pleosporales

Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomonas
Bacteria	Verrucomicrobia				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiracea	Haliscomenob

Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		Novosphingob
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Haliangiaceae	Haliangium
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Eukaryota	Metazoa				
Bacteria	Chloroflexi		Anaerolineale	Anaerolineaceae	
Eukaryota	Metazoa				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	

Eukaryota	Gracilipodida	LEMD267			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Eukaryota	Heterolobose	Tetramitia			Vahlkampfia
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellaceae	
Bacteria	Bacteroidetes				

Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Deltaproteob	Bdellovibriona	Bdellovibriona	Bdellovibrio
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylocysta	Pleomorphom
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Ferrovibrio

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Methylobacte
Eukaryota					

Eukaryota Metazoa

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tag	Flocs Control 1	Flocs Control 2
TTGCCATTAGTTGCTACATTCAGTTGAGCACTC	15	18
TTGCCATTAGTTGCTACATTCAGTTGGGCACTC	2	5
TTGTCATTAATTGCCATCATTGAGTTGGGCACT	19417	3325
TAACCTGCTAACTAGTATTACTATCCCAAATAG	2	2
TTGTCATTAGTTGCTACGAAAGGGCACTCTAAT	4345	20967
TAGCCTACTAAATAGTTCGCCGACACCTCTTGT	6723	3139
TTACTGCTAGTTGCTAACAGGAAAGCTGAGAAC	23	16
TTGTCGTTAATTGCCATCATTTAGTTGGGCACT	1200	1078
TTGTCATTAGTTGCCAGCATTCAGTTGGGCACT	2658	2648
CTGCTTTCAGTTGCTACCGGGTCATGCCGAGCA	1022	1640
TTGTCGTTAATTGCCATCATTAAGTTGGGCACT	912	756
TTGTCCCTAGTTGCCAGCGGTTCGGCCGGGAAC	198	285
TTGTCATTAATTGCCATCATTTAGTTGGGCACT	1084	1106
TTGTCACTAGTTGCCATCATTTGGTTGGGCACT	934	426
CTGTTGTTAGTTGCCATCGAGTCAAGTCGGGAA	0	0
CGAGAGGGTGGTTGAGGTTATTATTGAGGGATG	2198	1109
TTGTCATTAATTGCCATCATTCAGTTGGGCACT	634	709
TTGTCACTAATTGCCATCATTTGGTTGGGCACT	785	1750
CAGTGGGAGGGACGCTCAATTCATCTCATAATG	0	0
TTGTCGTTAATTGCCATCATTTGGTTGGGCACT	961	1014
TTGTCCTTAGTTGCCAGCACGTAATGGTGGGAA	548	1200
CTCCTTATTAACTAGTGTGGCTCGCGGCCATAA	352	375
TAGCCTGCTAAATAGTCCGTGATCTTCCGAGAT	2004	941
CGACTTGTTAACTAGTCCGGCGCAGCCTGCAAG	953	806
CGAGAGGGTGGTTGAGGTTATTATTGAGGGGTG	1311	626
CAGTGGGAGGGACGCTCAATCAATAGTCTTATT	0	0
TTACCGTGAGTTACCATCATTCAGTTGGGGACT	515	722
TTGTCACTAATTGCCATCATTAAGTTGGGCACT	449	261
CTATCGTTAGTTGCCTGGCGCAAGCCGGTACTC	16	27
TTGTCATTAATTGCCATCCTTAAGTTGGGCACT	0	0
TCGTCCTGTGTTGCTAACCGAAAGGTGCACTCT	459	468
TTGTCATTAGTTGCCATCATTAAGTTGGGCACT	720	551
TCGCTGTATGTTACATGTGTCATACAGGACCGC	0	0
CTGTCGTTAGTTGCTCACAGGTTATGCTGAGTA	776	404
CTCCTTATTAACTAGTGTGGCTCGCGGCCGTAA	5	4
TCATTGCCAGTTACAAGTGTCTGGCGAGACTGC	0	0
CTACCATTAGTTGCCAACAGGTAAAGCTGGGGA	533	463

CAGCCTACTAAATAGCTATGCAGATTTGATTAT	47	65
CCATCACTAGTTGCCATCAGGTAACGCTGGGAA	514	309
CTATTGCCAGTTACCATCATTGAGTTGGGGACT	0	0
TAACCTGCTAAATATGTCACCGGTAGACTTCTG	576	143
TTGTCCCTAGTTGCCAGCATTTCGGATGGGAAC	4	6
CAGTGGGAGGGACACTCAATTCATCTCATAATG	0	0
CTATTCTTAGTTGCCAGCATGTAATGGTGGGGA	259	271
CAGTGGGAGGGACACTCAATTCATTGAAAGATG	0	0
TCGCCTTTAGTTGCCACGCAAGTGGATCTCTAG	279	193
CAGTGGGAGGGACACTCTTTTCATCACAAGATG	0	0
CTACCATTAGTTGCTAACATTTAGTTGAGGACT	0	0
CTATCACTAGTTGCCATCAGGTAATGCTGGGAA	260	331
TTGCCGTTAGTTACTAACGGGTAAAGCCGAGGA	277	427
TCGTCTTCAGTTGCCATCGGGTAGGGCCGGGCA	318	488
CTATTCTTAGTTGCCAGCATGTTATGGTGGGGA	0	0
CTATCTTTAGTTGCCAGCGAGTAATGTCGGGGA	138	193
CTGTCGTTAGTTGCTCGGCGAAAGCCAGTACTC	261	406
TTACCGTGAGTTACCATCATTTAGTTGGGTACT	365	387
TTGCCATTAGTTGCTACGAAAGGGCACTCTAAT	308	239
TTATCATTAGTTGCCAACATTTAAGGTGGGAAC	2	0
CTATCTTCAGTTGCCATCATTCAGTTGGGCACT	5	12
TTGTCACTAGTTGCCATCATTTAGTTGGGCACT	6	3
CTGTCGTTAGTTGCCAGCATTAAGTTGGGCACT	0	0
CGGCCTGCTAAATAGTGCTCTGAACTCTTCGGG	194	434
CTGTCACTAGTTGCTAACATTAAGTTGAGGACT	0	0
TGGTCTACTAACTAGTATTTATCATTTAGCAAC	131	458
TTATTTGTTAATTAGATGAAGCAACAGGATTGT	200	231
CGAGAGGGTGGTTGAGGTTATTAATGAGGGATG	389	202
CTATTCTTAGTTGCCAGCATGTCATGGTGGGGA	18	13
CTGTCCATAGTTGCCAGCAAGTTAGGTTGGGGA	191	266
CAGTGGGAGGGACGCATTGGAAAGAGTTTTTTC	0	0
TTACCCTATGTTGCCAGCATTTAGTTGGGCACT	232	165
TCACTTGCTAACTAGTCGCAGCTAAAACCTAGC	265	393
CTATCGCTAGTTGCCAGCGCGTCAAGGCGGGGA	0	0
CGGCTTACTAAATAGTCTAAAGTTCGCAGGGAC	46	42
TCGTCGCGTGTTATATGTGTCACGCGAGACCGC	150	146
TCGGTGTGCGTTACAAGTGTCGCACACAACTGC	0	3
CTGTCCTCAGTTACCACCGTTCAGTCGGGGACT	152	271

TTGTCGCTAGTTACAAGTGTCTAGCGAGACTGC	186	206
CTATCGTTAGTTGCTCGGAGCAATCCAGTACTC	111	331
TAACCTGCTAAATAGTCAGGCCGGCTTTGGCTG	53	944
CTACCATTAGTTGCTAGCAGGTCATGCTGAGGA	19	16
CTATTGCCAGTTACCATCATTTAGTTGGGGACT	0	0
CAGCCTACTAAATAGTAATGCAAACTTTACTAA	347	63
TTATCTTCTGTTACCAACGCGTAAAGGCGGGGA	0	0
CTGTCACTAGTTGCCATCATTAAGTTGGGGACT	111	742
CAGCCTGCTAAATAGTTATGCGAATTTTACTAC	151	231
TAACCTGCTAACTAGTACTTTGATTTTCAATCG	14	370
CCGTTGTTAGTTGCCATCAGGTAATGCTGGGCA	128	203
CTGTTGTTAGTTGCCAGCGAGTGATGTCGGGAA	37	66
CTGTCCTTAGTTGCCATCATTCAGTTGGGCACT	103	92
TCGTGTCCAATTGCCATCATTAAGTTGGGGACT	0	0
TTGCCATTAATTGCCATCATTTAGTTGGGCACT	140	250
CTATTGCCAGTTACAAGTGTCTGGCGAGACTGC	164	220
TAACCTGCTAAATAGACATGCCGGCTTTGGCTG	70	683
CCGTGTCCAGTTGCCAGCATTAAGTTGGGGACT	0	0
CTGTTGTTAGTTGCCAGCATTCAGTTGGGCACT	140	256
CTATCTTTAGTTGCCATCAGGTAATGCTGGGAA	141	230
CTATCGTTAGTTGCTCACGCAAGTAGTACTCTA	72	55
TTGTCCCTAGTTGCCAGCACTTCGGGTGGGAAC	0	7
TAACTTACTAAATAGTTACGAAAATATTGCTAT	301	8
CAGTGGGAGGGACGCTCATCACATGAATAATGA	0	0
TCGCCGTTAGTTGCTTCGCAAGAAGATCTCTAA	19	14
TCGCCGTATGTTACATGTGTCATACGGGACCGC	29	18
TTGCCCTGTGTTGCCACTCCGAAAGGAAGCACT	166	181
TTGTCACTAGTTGCCAGCATTAAGTTGGGCACT	97	76
TCGCCTCCTGTTGCCAACAGATAATGCTGGGCA	124	132
TCGTTCCATGTTGCCAGCACGTAGTGGTGGGGA	72	161
TTGTCCTCAGTTACCACCATTCAGTTGGGGACT	133	188
CAGTGGGAGGGACGCATTGAGAAGAATCACTTT	0	0
CTATTTTCAGTTGCCAGCACATAATGGTGGGAA	149	91
CTACCATTAGTTACCAACGGGTAAAGCCGGGCA	26	29
TTACCGTGAGTTACCATCATTTAGTTGGGGACT	75	230
CTATCTTTAGTTGCCACCAGGTAATGCTGAGCA	0	0
CCGCCTGCTAAATAGCGCAGCCTTGGCTCGTCC	2	0
CTGTTTCTAGTTGCCAGCGAGTAAAGTCGGGCA	78	215

CCGCCTGCTAAATAGCGCTGGCCTTGGCTTGTC	0	0
TCATCCTCAGTTGCCATCGGGTTCGGCCGGGCA	0	0
TCACGAGATAATAGGTCGAGAAAAGGAAACTTT	0	0
TTGTCCTGTGTTGCCATCATTCAGTTGGGCACT	90	103
CTATCTCTAGTTGCCAGCGGGTAATGCCGGGGA	0	0
CTATCGTTAGTTGCTCGGCGCAAGCCAGTACTC	49	82
CTGTCGTTAGTTGCCAGCATTCAGTTGGGCACT	133	146
TTGTCATTAGTTGCCATCATTTAGTTGGGCACT	87	58
CTGTGTCCTGTTGCCACCGGGATGAGAGTCCCG	0	0
TTGTCATTAGTTGCTACGAAAGAGCACTCTAAT	83	160
TTGCCCTTAGTTGCTACGCAAGAGCACTCTAGG	58	168
CAGTTAATAAATAGGGGACATAATTCATTGAAT	0	11
TCGTCGCTAGTTACACGTGTCTAGCGAGACCGC	22	40
CTATCTTCTGTTACCATCGCGTAAAGGCGGGGA	5	291
TTGTCATTAATTGCTACCATTTAGTTGGGCACT	108	75
TCGTCCTATGTTGCCAGCACGTGATGGTGGGAA	0	0
TCACGAGATAATAGGTCGGGAAAAGGAAACTTT	0	0
TAACCTGCTAAATAGTCCATGTTTGGTTCGCCC	42	5
TTGTCATTAGTTGCCAGCATTAAGTTGGGCACT	143	94
CTACCAATAGTTGCCAGCGGTTCGGCCGGGGAC	100	52
TAGCCTGCTAAATAGTACGCCGATCCTTAGTCG	41	219
TCGTCCTTAGTTGCCATCATTCAGTTGGGCACT	7	9
TAACATGCTAACTAGCCGACGCGCGTCTGCCCT	0	6
CAGTGGGAGGGACGCAATGATCATTTTTCTTAA	0	0
TTACTGCCAGTTACAAGTGTCTGGCGGGACTGC	13	24
TTGTCACTAATTGCCATCATTAGGTTGGGCACT	142	95
CTGTCCACAGTTGCCACCATTCAGTTGGGAACT	51	128
TCGTGGCTAGTTACAAGTGTCTAGCCAGACTGC	47	112
TTACCAGCTAAATAGTAATTATTTTGATTTATC	0	30
TCGCCCCTAGTTGCCATCATTCAGTTGGGAACT	52	47
TAGCCTATTAATTAGGGCTTTATAACTCGGCCG	0	0
TCGCCGCGTGTTATACGTGTCACGCGGGACCGC	35	90
CCATCTTCAGTTGCCAACGGGTCATGCCGGGAA	44	89
CTGTCGCTAGTTACCATCAGGTTATGCTGGGGA	67	124
TTGTCATTAATTGCCATCATTTGGTTGGGCACT	32	50
ACACTTTCAGTTGCCATCATTCAGTTGGGCACT	38	37
CTATCTTTAGTTGCCAGCATTAAGTTGGGCACT	0	0
CTGCCGTTAGTTGCCAACGGGTTATGCCGGGAA	0	0

TTATCGCCAGTTACAAGTGTCTGGCGAGACTGC	39	126
CTATTGATAGTTGCTAACATTAAGTTGAGAACT	69	49
TCGTCCTGTGTTGCTACCCGCAAGGGGCACTCT	37	83
TTGTCATTAGTTGCTACATTCAGTTGAGCACTC	0	7
TCGTTCTATGTTGCCAGCACGTAATGGTGGGAA	46	110
CCATCATTAGTTGCCATCAGGTAAAGCTGGGAA	87	59
CTATCTTTAGTTGCCATCAGGTTTGGCTGGGCA	0	0
TTGTCCTGTGTTGCAACCCGCAAGGGGCACTCT	67	77
CTATCCTATGTTGCCACCCGCGCAAGCGGCGCA	24	127
TCGGCGTTAGTTACAAGTGTCTAACGCGACTGC	0	0
CTATTGACATTTGCCATCATTAAGTTGGGGACT	0	0
CTATCGTATGTTGCTAACGGGTAATGCCGAGCA	0	0
TCGTCTCCAGTTGCCATCAGGTTAAGCTGGGCA	80	80
TCGCCTTTAGTTGCTCCGCAAGGAGATCTCTAG	69	68
TTGCCCCTAGTTGCCAGCACGTAATGGTGGGAA	42	81
TCGGCGTTAGTTACACGTGTCTAACGCAACTGC	0	0
TCGCTATTAGTTGCCATCAGGTTAAGCTGGGCA	70	62
TAATTTTTAAATAGTTTCCATCAAGGCAACTTG	0	2
CTATCGTTAGTTGCTCACGGGTCATGCCGAGTA	65	85
TCGTTCTATGTTGCCAGCGCGTTATGGCGGGGA	4	0
TAGCCTGCTAACTAGCTACGCGCGTCGTGCGGC	0	89
TTACCGTCAGTTACAAGTGTCTGGCGGGACTGC	30	57
TTACCAGCTAAATAGTGATTATTATGATTTATC	0	31
TCGCCTCTAGTTGCCATCATTTAGTTGGGCACT	5	5
CTGTCCTTAGTTGCCATCATTAAGTTGGGGACT	0	0
TAACCTGCTAACTAGTACACTTATTTTCCATAG	2	130
CAGTTAATAAATAGGGGATATAATCTTTACTGA	0	0
CAGTTAATAAATAGGGGACATAATCTTTTAGAT	0	0
TCGTCTTCAGTTGCCATCAGGTTTGGCTGGGCA	49	91
TCGCCCTTAGTTGCCATCATTCAGTTGGGCACT	15	57
CTATTGCTAGTTGCCATCAGTTCGGCTGGGCAC	15	143
TTACCATTAGTTGCCATCATTCAGTTGGGCACT	68	51
TCGTCTTATGTTGCCAGCGGGTCATGCCGGGAA	29	100
TTGTCCTGTGTTGCAACCCCGCGAGGGGGCACT	49	57
CTGTCGCTAGTTACTAACAGGTAATGCTGAGGA	55	76
TCGTGTTCAGTTGCCAGCAAGTAAAGTTGGGGA	9	10
TCATCCCTAGTTGCCATCATTCAGTTGGGCACT	0	0
CTATCGTTAGTTGCCAGCGGTCCGGCCGGGCAC	0	0

TAACCTGCTAACTAGTATTAGTATCCCAAATAC	3	122
TCGTCGCGTGTTATACGTGTCACGCGAGACCGC	19	18
TTGTCACTAGTTGCCAGCGGGTAATGCCGGGGA	34	72
TCGTCGTATGTTGCCAGCGGATAATGCCGGGGA	57	33
TTGTCCTCAGTTGCCATCATTCAGTTGGGCACT	20	48
TCGTCGGCAGTTACACGTGTCTGCCGAGACCGC	17	28
AAGCTGTCCAGTAGGAGTCTAAATTGTTTTTTT	0	0
CTACCATTAGTTGCTAACAGGTAATGCTGAGGA	37	72
CAGTTAATAAATAGGGGATACTAATAGTAATGT	0	0
TCTTGTTCAGTTGCCAACAGGTAATGCTGGGGA	61	36
CGACTTGTTAAGTAGGTGCGGCTATCCTGTGAA	50	40
TTGTCATTAGTTGCTACATTCAGTTGGGCACTC	28	27
CTACACTTAGTTGCCATCAGGTAATGCTGGGCA	67	58
CTAGTATTATTTATTTAATAGTTTAGATAATAC	35	46
TCATCTTCAGTTGCCATCATTTAGTTGGGCACT	2	9
TTACCAGCTAAATAGTAATTTTTATGACTTGTC	0	6
TTACCGTTAGTTGCTAACAGGAAAGCTGAGCAC	33	22
TTAGCGCCAGTTACAAGTGTCTGGCGCGACTGC	26	48
TTGCCCTGTTTTGCCATCATTAAGTTGGGAACT	53	45
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TCATCCTCTGTTGCTAACAGGTAATGCTGAGAA	0	0
TTGTCATTAATTGCTATCATTAAGTTGGGCACT	39	56
CTGCGGTTTGTTGCCAGCATTAAGTTGGGCACT	0	0
CTATCATTAGTTGCCATCAGGTAGTGCTGGGAA	0	0
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TTGTCCCTAGTTGCCAGCACGTAAAGGTGGGAA	40	55
CTATCTTCTGTTACCATCATTAAGTTGGGGACT	25	44
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TCGTCCCTAGTTACCAGCGGGTCATGCCGGGCA	37	39
AAGCTGCCCAGTAGAAACCAAAATCTCTAAACA	0	0
TTACCTCTAGTTGCCAGCGAGTCAAGTCGGGAA	30	29
TCGCCTTCAGTTGCCATCAGGTAAAGCTGGGCA	0	0
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TCGCCCTTAGTTGCCATCATTAAGTTGGGCACT	21	42
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CCGCCTGCTAAATAGCGCACGCCGGGCACGTCC	0	0
TCGTCGCTAGTTATACGTGTCTAGCGAGACCGC	28	34
CTACTGCTAGTTGCCAGCGGATAATGCCGGGGA	0	5
TTGTCATTAGTTGCTACCGCAAGGAGCACTCTA	41	36
TTGTCATTAGTTGCCAGCATTGAGTTGGGCACT	48	51
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CTGTCTTTAGTTGCCATCATTAAGTTGGGCACT	8	3
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TTGTCATTAGTTGCCATCATTTGGTTGGGCACT	36	30
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TTGTCACTAGTTGCCATCATTAAGTTGGGCACT	0	0
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CTGTCGTCAGTTACATGTGTCTGACGAGACTGC	10	28
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CCGCCTGCTAAATAGCGCTGGCCTTGGCTCGTC	0	5
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TCGTCTTATGTTGCCAGCGGGTAATGCCGGGAA	7	28
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CTGTCCTTAGTTGCCACCATTAAGTTGGGCACT	5	3
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	66930	68795

Flocs Control 3	Flocs Treated 1	Flocs Treated 2	Flocs Treated 3
11	17	15	3
2	0	0	3
6137	20399	13736	19414
10	4	3	5
22577	5378	5928	1772
6526	4466	2109	5067
20	27	44	30
1052	1847	1296	1120
2378	1815	1447	1711
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75629	60010	46605	56569

Granules Control 1	Granules Control 2	Granules Control 3	Granules Treated 1
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16280	16913	19170	10461
10478	9681	9153	24653
42	36	24	40
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4125	3782	2192	3460
1248	1167	688	976
39	42	35	33
1150	888	807	827
1066	1395	1421	919
2639	1544	1223	1823
985	827	836	664
1280	823	967	976
954	1392	2436	590
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740	441	408	360
10	12	19	9
888	1599	970	706
19	8	12	17
92	55	87	68
637	640	664	307
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597	1075	758	448
308	208	188	176
454	415	369	241
623	715	553	471
544	425	730	453
187	118	112	143
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375	585	801	284
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457	668	571	254
781	482	240	668
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556	510	408	323
64	38	33	34
591	611	250	605
98	82	79	55
471	441	514	346
346	681	412	261
435	247	83	220
337	615	338	256
148	184	274	118
348	597	381	222
798	447	33	635
147	147	59	140
60	51	62	56
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591	450	154	375
68	189	320	63
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71	58	63	61
260	348	435	155
527	338	242	238
468	202	304	368
517	322	166	260
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207	382	204	140
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191	283	234	147
156	153	220	101
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248	278	108	233
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217	239	146	155
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151	153	56	111
174	186	155	123
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106	176	136	74
124	133	118	81
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130	182	149	110
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143	148	88	96
47	37	28	30
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65730	63629	59403	63773

Granules Treated 2	Granules Treated 3	tag	use	taxon_level
0	0	TTGCCATTAG	long	g
0	0	TTGCCATTAG	long	c
13670	15571	TTGTCATTAA	long	c
16034	24834	TAACCTGCTAACTAGTATTACTATCCCAAAT		
17	13	TTGTCATTAG	long	o
0	0	TAGCCTACTAAATAGTTCGCCGACACCTCTT		
2990	2218	TTACTGCTAG	long	o
657	649	TTGTCGTTAA	long	f
20	22	TTGTCATTAG	long	c
673	726	CTGCTTTCAG	long	g
887	1338	TTGTCGTTAA	long	g
1138	1122	TTGTCCCTAG	long	g
526	661	TTGTCATTAA	long	f
561	714	TTGTCACTAG	long	g
759	1965	CTGTTGTTAG	long	f
6	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
384	532	TTGTCATTAA	tag	c
13	17	TTGTCACTAA	long	g
935	1038	CAGTGGGAGGGACGCTCAATTCATCTCATA		
13	18	TTGTCGTTAA	long	f
18	71	TTGTCCTTAG	tag	f
388	674	CTCCTTATTAACTAGTGTGGCTCGCGGCCAT		
0	0	TAGCCTGCTAAATAGTCCGTGATCTTCCGA		
0	0	CGACTTGTTAACTAGTCCGGCGCAGCCTGC		
4	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
681	692	CAGTGGGAGGGACGCTCAATCAATAGTCTT		
126	138	TTACCGTGAG	long	o
207	405	TTGTCACTAA	long	g
335	458	CTATCGTTAGTTGCCTGGCGCAAGCCGGTA		
388	584	TTGTCATTAA	long	g
91	102	TCGTCCTGTG	long	f
0	0	TTGTCATTAG	long	k
399	631	TCGCTGTATG	long	g
2	0	CTGTCGTTAGTTGCTCACAGGTTATGCTGA		
420	539	CTCCTTATTAACTAGTGTGGCTCGCGGCCGT		
400	288	TCATTGCCAGTTACAAGTGTCTGGCGAGAC		
0	0	CTACCATTAG	long	f

303	392	CAGCCTACTAAATAGCTATGCAGATTTGATT		
23	28	CCATCACTAG	long	f
329	208	CTATTGCCAGTTACCATCATTGAGTTGGGG		
46	69	TAACCTGCTAAATATGTCACCGGTAGACTTC		
277	472	TTGTCCCTAG	long	c
374	432	CAGTGGGAGGGACACTCAATTCATCTCATA		
149	68	CTATTCTTAG	tag	o
380	393	CAGTGGGAGGGACACTCAATTCATTGAAAG		
137	252	TCGCCTTTAG	long	o
361	348	CAGTGGGAGGGACACTCTTTTCATCACAAG		
300	44	CTACCATTAGTTGCTAACATTTAGTTGAGGA		
103	80	CTATCACTAG	tag	g
49	46	TTGCCGTTAGTTACTAACGGGTAAAGCCGA		
0	0	TCGTCTTCAG	long	g
284	133	CTATTCTTAG	long	f
95	294	CTATCTTTAG	tag	p
2	3	CTGTCGTTAG	tag	g
0	0	TTACCGTGAG	long	k
61	45	TTGCCATTAG	long	f
200	363	TTATCATTAG	tag	g
164	207	CTATCTTCAG	long	f
133	218	TTGTCACTAG	long	g
241	164	CTGTCGTTAG	long	g
0	0	CGGCCTGCTAAATAGTGCTCTGAACTCTTCG		
0	0	CTGTCACTAG	long	f
0	3	TGGTCTACTAACTAGTATTTATCATTTAGCA		
10	26	TTATTTGTTAATTAGATGAAGCAACAGGATT		
0	2	CGAGAGGGTGGTTGAGGTTATTAATGAGG		
209	121	CTATTCTTAG	long	f
0	2	CTGTCCATAGTTGCCAGCAAGTTAGGTTGG		
217	220	CAGTGGGAGGGACGCATTGGAAAGAGTTTT		
0	0	TTACCCTATGTTGCCAGCATTTAGTTGGGCA		
0	0	TCACTTGCTAACTAGTCGCAGCTAAAACCTA		
206	224	CTATCGCTAG	long	g
116	175	CGGCTTACTA	long	p
3	4	TCGTCGCGTG	long	f
133	98	TCGGTGTGCGTTACAAGTGTCGCACACAAC		
0	0	CTGTCCTCAG	long	o

0	0	TTGTCGCTAG	long	k
4	3	CTATCGTTAGTTGCTCGGAGCAATCCAGTA		
0	0	TAACCTGCTA	long	g
143	119	CTACCATTAG	long	f
143	104	CTATTGCCAG	long	g
33	63	CAGCCTACTAAATAGTAATGCAAACTTTACT		
185	218	TTATCTTCTGTTACCAACGCGTAAAGGCGG		
0	0	CTGTCACTAG	long	f
0	0	CAGCCTGCTAAATAGTTATGCGAATTTTACT		
0	0	TAACCTGCTA	long	g
20	42	CCGTTGTTAG	long	o
51	4	CTGTTGTTAG	tag	g
73	100	CTGTCCTTAG	long	g
149	130	TCGTGTCCAATTGCCATCATTAAGTTGGGG		
0	0	TTGCCATTAA	long	f
0	2	CTATTGCCAG	tag	f
0	0	TAACCTGCTA	long	g
115	251	CCGTGTCCAG	long	f
0	0	CTGTTGTTAG	long	o
5	6	CTATCTTTAG	tag	o
73	45	CTATCGTTAGTTGCTCACGCAAGTAGTACTC		
119	117	TTGTCCCTAG	long	g
0	0	TAACTTACTAAATAGTTACGAAAATATTGCT		
121	138	CAGTGGGAGGGACGCTCATCACATGAATA		
118	128	TCGCCGTTAGTTGCTTCGCAAGAAGATCTCT		
99	121	TCGCCGTATG	long	f
0	0	TTGCCCTGTG	long	f
16	17	TTGTCACTAG	tag	p
0	0	TCGCCTCCTG	long	o
0	0	TCGTTCCATG	long	f
0	0	TTGTCCTCAGTTACCACCATTCAGTTGGGGA		
115	142	CAGTGGGAGGGACGCATTGAGAAGAATCA		
0	0	CTATTTTCAGTTGCCAGCACATAATGGTGG		
78	85	CTACCATTAG	long	c
19	24	TTACCGTGAG	long	o
112	148	CTATCTTTAGTTGCCACCAGGTAATGCTGA		
156	224	CCGCCTGCTAAATAGCGCAGCCTTGGCTCG		
0	0	CTGTTTCTAGTTGCCAGCGAGTAAAGTCGG		

93	349	CCGCCTGCTAAATAGCGCTGGCCTTGGCTT		
98	116	TCATCCTCAGTTGCCATCGGGTTCGGCCGG		
89	96	TCACGAGATAATAGGTCGAGAAAGGAAA		
14	18	TTGTCCTGTG	long	f
98	67	CTATCTCTAG	long	f
43	56	CTATCGTTAG	long	g
2	0	CTGTCGTTAG	tag	g
25	39	TTGTCATTAG	long	c
54	112	CTGTGTCCTGTTGCCACCGGGATGAGAGTC		
6	2	TTGTCATTAG	long	g
0	0	TTGCCCTTAG	long	g
90	125	CAGTTAATAAATAGGGGACATAATTCATTG		
65	44	TCGTCGCTAG	tag	f
8	11	CTATCTTCTG	long	c
8	22	TTGTCATTAA	long	g
14	10	TCGTCCTATG	long	f
69	89	TCACGAGATAATAGGTCGGGAAAGGAAA		
56	80	TAACCTGCTA	long	g
0	4	TTGTCATTAG	long	g
3	2	CTACCAATAG	tag	f
0	0	TAGCCTGCTA	long	p
47	64	TCGTCCTTAG	tag	c
94	34	TAACATGCTAACTAGCCGACGCGCGTCTGC		
83	87	CAGTGGGAGGGACGCAATGATCATTTTTCT		
53	54	TTACTGCCAG	tag	f
0	0	TTGTCACTAATTGCCATCATTAGGTTGGGCA		
0	0	CTGTCCACAGTTGCCACCATTCAGTTGGGA		
12	12	TCGTGGCTAG	tag	c
51	46	TTACCAGCTAAATAGTAATTATTTTGATTTA		
3	6	TCGCCCCTAG	long	g
57	82	TAGCCTATTAATTAGGGCTTTATAACTCGGC		
12	16	TCGCCGCGTG	long	g
4	0	CCATCTTCAG	long	f
0	0	CTGTCGCTAGTTACCATCAGGTTATGCTGG		
19	37	TTGTCATTAA	tag	c
16	26	ACACTTTCAG	long	f
53	62	CTATCTTTAG	tag	c
38	94	CTGCCGTTAGTTGCCAACGGGTTATGCCGG		

0	0	TTATCGCCAG	tag	p
0	0	CTATTGATAG	tag	o
12	17	TCGTCCTGTGTTGCTACCCGCAAGGGGCAC		
61	26	TTGTCATTAG	tag	o
2	0	TCGTTCTATG	tag	g
3	0	CCATCATTAG	long	g
50	51	CTATCTTTAG	tag	f
0	0	TTGTCCTGTGTTGCAACCCGCAAGGGGCAC		
0	0	CTATCCTATG	long	o
48	81	TCGGCGTTAG	long	f
54	32	CTATTGACATTTGCCATCATTAAGTTGGGG		
30	110	CTATCGTATGTTGCTAACGGGTAATGCCGA		
0	2	TCGTCTCCAG	long	g
0	0	TCGCCTTTAG	long	o
0	0	TTGCCCCTAG	long	f
60	63	TCGGCGTTAGTTACACGTGTCTAACGCAAC		
4	2	TCGCTATTAG	long	g
51	57	TAATTTTTAAATAGTTTCCATCAAGGCAACT		
0	0	CTATCGTTAGTTGCTCACGGGTCATGCCGA		
36	45	TCGTTCTATG	long	g
3	3	TAGCCTGCTAACTAGCTACGCGCGTCGTGC		
15	10	TTACCGTCAGTTACAAGTGTCTGGCGGGAC		
40	41	TTACCAGCTAAATAGTGATTATTATGATTTA		
43	38	TCGCCTCTAG	long	o
35	68	CTGTCCTTAG	long	f
0	0	TAACCTGCTAACTAGTACACTTATTTTCCAT		
57	63	CAGTTAATAAATAGGGGATATAATCTTTACT		
45	71	CAGTTAATAAATAGGGGACATAATCTTTTA		
0	0	TCGTCTTCAG	long	g
15	11	TCGCCCTTAG	tag	o
0	0	CTATTGCTAGTTGCCATCAGTTCGGCTGGG		
0	0	TTACCATTAG	tag	o
0	0	TCGTCTTATGTTGCCAGCGGGTCATGCCGG		
0	0	TTGTCCTGTGTTGCAACCCCGCGAGGGGGC		
0	0	CTGTCGCTAGTTACTAACAGGTAATGCTGA		
39	28	TCGTGTTCAG	long	f
23	14	TCATCCCTAG	long	o
41	49	CTATCGTTAG	long	g

0	0	TAACCTGCTAACTAGTATTAGTATCCCAAAT		
0	0	TCGTCGCGTG	long	g
0	0	TTGTCACTAG	long	c
0	0	TCGTCGTATG	long	o
10	8	TTGTCCTCAGTTGCCATCATTCAGTTGGGCA		
19	25	TCGTCGGCAGTTACACGTGTCTGCCGAGAC		
32	63	AAGCTGTCCAGTAGGAGTCTAAATTGTTTTT		
0	0	CTACCATTAGTTGCTAACAGGTAATGCTGA		
45	53	CAGTTAATAAATAGGGGATACTAATAGTAA		
0	0	TCTTGTTCAGTTGCCAACAGGTAATGCTGG		
0	2	CGACTTGTTA	long	c
9	12	TTGTCATTAG	tag	f
0	0	CTACACTTAG	long	f
2	6	CTAGTATTATTTATTTAATAGTTTAGATAAT		
32	21	TCATCTTCAG	long	f
22	38	TTACCAGCTAAATAGTAATTTTTATGACTTG		
16	11	TTACCGTTAGTTGCTAACAGGAAAGCTGAG		
0	0	TTAGCGCCAGTTACAAGTGTCTGGCGCGAC		
0	3	TTGCCCTGTT	long	f
36	15	TCGCTACTAG	long	g
0	0	TCGCTACGTGTTACATGTGTCACGTAGGAC		
0	0	CTATTTTCAG	long	f
0	0	CTGTTGTTAG	long	o
40	35	CTATCTTTAG	tag	k
42	51	TCATCCTCTG	tag	f
0	0	TTGTCATTAATTGCTATCATTAAGTTGGGCA		
20	76	CTGCGGTTTGTTGCCAGCATTAAGTTGGGC		
26	22	CTATCATTAGTTGCCATCAGGTAGTGCTGG		
20	27	TTGTCATTAA	long	o
2	2	TTAATTATTAATTAGTTAAATATATAGTAAT		
0	0	TTGTCCCTAG	long	g
9	8	CTATCTTCTGTTACCATCATTAAGTTGGGGA		
18	43	ACACTTCCAG	long	f
0	0	TCGTCCCTAG	long	f
24	29	AAGCTGCCCA	tag	g
0	0	TTACCTCTAG	long	f
22	28	TCGCCTTCAG	tag	o
0	0	CTATCGTTAGTTGCCAGCGTAAAGTCGGGC		

0	0	CAACCTACTAACTAGTACGACGTGAACAAC		
0	0	TTGTTGTTAATTGCCATCATTTAGTTGGGCA		
0	0	TTGTCCTTAG	long	o
0	0	TTATCATTAG	long	c
4	6	TCGCCCTTAG	tag	o
13	15	TTACCAGCTAAATAGTGATTATTTTGATTTA		
29	52	CCGCCTGCTAAATAGCGCACGCCGGGCACG		
9	2	TCGTCGCTAG	tag	f
26	23	CTACTGCTAG	tag	f
0	0	TTGTCATTAG	long	g
0	2	TTGTCATTAG	long	g
0	0	ACACTCTTAG	tag	f
20	30	CTGTCCCTAGTTGCCAGCGCGTGAAGGCGG		
20	24	TCACCTTCAG	long	o
30	32	TCATCATTAG	tag	g
17	10	TCATTTTTAG	long	c
19	37	CTATCTTCAG	long	f
18	28	CTATCGTCTA	tag	f
5	3	CTGTCGTTAGTTACTAACAGGTAATGCTGA		
13	32	TTGTCACTAATTGCCAGCATTAGGTTGGGC		
18	26	TTACCAGCTAAATAGTAATTATTATGACTTG		
11	16	CTGTCTTTAG	tag	k
7	8	TTACCGTCAG	tag	g
0	0	TAGCCTACTAAATAGTTCGCCGACACCTCTC		
0	0	TAACCTATTAAATAGTCACGCTTATCCTTCC		
0	0	TTGCCCTGTT	long	f
10	24	TCACCTTCAG	long	f
21	12	CTATCTTTAG	long	f
18	18	TTGTCACTAA	long	f
0	0	CTATCATTAGTTACCAACGGATAAAGCCGG		
0	0	TTGTCGATAGTTGCCAGCATTTGGTTGGGC		
10	3	TCGTCCTTAG	long	f
0	0	TCGTCGTTAG	tag	c
0	0	CTATCATTAGTTACCAACGGGTAAAGCCGG		
23	16	CTGTCGTTAGTTGCTAACGCGTTATGGCGA		
21	16	CCGGGGTCA	tag	f
0	0	TCGTCGTCAG	long	f
22	16	TCGTCTTCAG	long	f

12	15	CCATCCTATGTTGCCATCATTCAGTTGGGCA		
30	31	AAGCTGCCCAGTAGGAACCAGGATTGTCCA		
0	0	TTAATTATTAATTAGTTAAATATATTTTTTAT		
0	0	TTGTCATTAG	long	c
0	0	TCGCTGCGTGTTATACGTGTCACGCAGGAC		
6	7	TCGGCGTTAG	long	f
11	7	TCGCCTTTAG	long	f
13	5	TTGTCACTAG	long	f
0	0	CCGTCCTTAG	long	g
14	8	TTACCTTATGTTGCCATCATTCAGTTGGGCA		
45	13	TTGTCCTTAG	long	g
0	0	TTGTCCTTAG	long	g
7	5	CTATTTTTAGTTGCCAGCGAGTCATGTCGG		
6	3	TCGCCCTTAG	long	o
29	44	CCGCCTGCTAAATAGCGCAGCCTTGGCCCG		
18	19	CTATCATTAG	long	g
17	14	CTATCTTTAGTTGCTACCGGGTCAAGCCGG		
0	0	CTATCGTTAGTTGCCTGGCGAAAGCCGGTA		
0	0	CTATCATTAG	long	g
22	24	TCACGAGATAATAGGTCGAGGAAAGGAAA		
0	0	TTGCCATTAG	long	f
21	19	CTATCTTTAG	long	f
0	0	TCATTCTCTGTTGCTACCAGGTTAAGCTGAG		
0	0	CTGTCGTCAG	tag	p
19	32	CAGTTAATAAATAGGGGGTATTATTCATTG		
8	17	TCGTGTTCAG	long	f
0	0	CTATTAACAG	long	o
0	0	TTGTACTTAGTTGCCATCAAGTGAAGTTGG		
15	18	TTGTCGTTAG	tag	f
5	3	TCGCCCTTAG	long	o
0	2	CTGTCGCCAG	long	f
0	0	CTATCCTTAG	long	f
14	23	TTGTCCTTAG	tag	f
19	8	AAGCTGCCC	long	g
8	9	CTGTGTCCTG	tag	c
0	0	CTGTTCTCAGTTACCACCGTTCAGTCGGGG		
0	0	TAACCTGCTAACTAGTACCCTGATCCTCAAT		
8	11	TCGCCCTTAG	long	o

16	9	TTACCAGCTAAATAGTGATTATTATGACTTG		
0	0	CTACCATTAG	tag	f
0	0	TCGTGTTCAA	long	f
0	4	CTATTGCTAGTTATACGTGTCTAGCGAGACT		
2	8	TTGTCATTAG	long	o
6	34	CTGTTGTTAGTTGCCAACGAGTCAAGTCGG		
7	7	CTGTTGTTAG	tag	f
10	10	TCGCCTTTAG	long	f
0	0	CCGCCTGCTAAATAGCGCTGGCCTTGGCTC		
0	6	TTGTCCCTAG	long	o
0	0	CTACACTTAGTTGCCATCAGGTTATGCTGG		
0	0	TTACCTCTAG	long	g
0	0	CCATGTTCAGTTGCCATCATTAAGTTGGGG		
12	10	TCGCCCCTAG	long	o
0	0	TTGTCACTAGTTACCAGCGGGTAATGCCGG		
0	0	CTATCCTTAG	long	f
4	8	CTGTTGTTAG	tag	f
0	0	CTGTCGCTAGTTGCTCGGCGCAAGCCAGTA		
10	12	CTGTTGCTAG	long	f
0	0	TTTTCCCATGTTGCAATTGCATCTAAACCGT		
0	0	TCGCCTCCTGTTGCCAACAGGTCAAGCTGG		
11	9	TCACCTTCAG	long	o
0	0	CTATTGACAG	long	o
10	24	CTATCTTCTGTTGCCAATATTAAGTTAGGCA		
12	17	TCACGAGATAATAGGTCGGAAAAAGGAAA		
8	3	TTGTCACTAG	long	g
2	2	CTACTGTGTG	tag	c
0	0	TCGTCCTATG	long	c
0	0	TTGCCAATAGTTGCCATCATTGAGTTGGGC		
0	0	CTGTCACTAG	long	g
12	19	CTGTCCTTAG	long	k
0	0	CTGCCCTTAG	tag	k
0	0	TTGTCGCTAG	tag	k
13	16	TCATCTTCAG	tag	g
0	0	CTGTCGCTAG	tag	g
0	0	TTGTCCTGTG	long	o
7	14	TCGCCTCTAG	long	o
0	0	TTGCCTCTAGTTGCCAGCGAGTCATGTCGG		

0	0	CTGTTGTTAG	long	g
0	0	TCGCCATTAG	long	g
11	18	CAGTTAATAAATAGGGGATACTATTCATTG		
10	12	TCGTCCTATG	tag	o
0	0	CTGTGTCCTG	long	c
3	0	TTATTTGTTAATTAGATGAATCAACATTATT		
17	15	CAGTTAATAAATAGGGGATACTATCTTTTA		
0	0	CTGTCTCCAG	long	g
7	12	CTATCTTTAG	long	g
13	22	CAGTTAATAAATAGGGGATATTAGTTTTTA		
16	13	CCTTGTTCAG	long	f
16	10	TCGCTTCTAG	long	g
10	17	TCGCCTTTAG	long	o
10	19	TTGTCCCTGG	long	f
10	30	CAGTTAATAAATAGGGGATATTATTCATTG		
13	16	CTGGGGTCAGTTACACGTGTCTGGCCCGAC		
0	0	CAACTTGCTAAATAGTCGCACTAGTCTTCTA		
7	8	CTGTCCTTAG	long	g
0	2	TCGCTTTTAGTTGTTTTTTAAAAGGACTGCC		
0	0	CTGTTGCCAG	long	p
0	0	TTGTCATTAG	long	g
16	16	CTATCGTATG	long	o
5	10	TTACCAGCTAAATAGTAATTATTATGATTTA		
0	0	CCGTTGTTAG	long	o
21	20	CTGCTGCCAGTTACCATCATTTAGTTGGGG		
7	2	TTGTCACTAG	long	f
10	12	CTGTCGTTAGTTGCTAACGCGTCATGGCGA		
0	0	TCGTCGTTAG	long	g
3	0	CTGTCTCCAG	tag	f
0	0	CTGTTGTCAGTTGCCACCAGGTCAAGCTGG		
0	0	TTACCGTGAG	long	o
12	8	TCACGAGATAATAGGCCGGGAAAAGGAAA		
8	6	CTGCCGTTAGTTGCTAACAGGTCATGCTGA		
0	0	TCGCCTTCAGTTGCCATCGGGTTAAGCTGG		
7	5	TTACCAGCTAAATAGTGATTGTTTTGATTTA		
7	4	CTGTGGGTAGTTAGATGATCTACCCAGACT		
0	0	CTATTTCCAGTTGCCAGCGAGTAATGTCGG		
17	7	TCGCCACTAGTTGCCAGCATTCAGTTGGGC		

11	12	CTATCACTAGTTACCAGCGGGTAAAGCCGG		
0	2	TCGCCATTAG	long	f
12	11	TTATCGCTAGTTGCCATCAGGTTGGGCTGG		
9	26	TTATCATTAG	tag	g
10	9	CCATTTCTAG	long	f
0	0	TTGTCACTAGTTGCCAGCGGGTTATGCCGG		
0	0	CAACCTATTAAATAGTGTAAATAGAAAATTT		
0	0	TCGTCTTATG	tag	p
0	0	CAACCTATTAAATAGTGTAAATAGAAAATTT		
2	3	TTTTTTTAAGTTACTAATTTAATGATTAAATG		
0	0	CTACTCTTAGTTGCCAGCATGTAATGGTGG		
4	13	CTTTCTTTAG	tag	f
4	20	CTATCTTCAG	tag	g
9	12	TCGGGAGTA	long	f
10	0	TTGCCGCTAA	tag	p
8	6	CTACTTACTAAATAGTTTAGTTAGTGATTTT		
4	3	CTGCCTGCTAAATAGTCTGGCGAGTGTTTTT		
3	3	CTATCTTTAGTTGCCATCGGGTAATGCCGG		
0	0	TTGTCATTAATTGCCACCATTTAGTTGGGCA		
9	16	TTGTCATCAG	long	f
8	9	TTGTCATTAG	long	o
8	13	CTATCTTTAG	tag	f
5	13	TTGCCGCTAGTTACCAGCGAGTAAAGTCGG		
11	14	CTGTCGTTAGTTGCTCACGGGTAATGCCGA		
7	0	TTGTCATTAATTGCCATCATTGAGTTGGCAC		
7	22	CAGTTAATAAATAGGGGGTAGTATCTTTAC		
5	10	TCGCCATTAG	long	f
0	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
4	0	TCGTCTGCTGTTGCCATCAGGTTAAGCTGG		
11	6	TTGCCCTTAG	long	g
8	5	CTACTACCAGTTACCAGCGGGAAAGCCGGG		
0	0	TTGCTATTAGTTGCTACATTCAGTTGAGCAC		
6	16	CAGTTAATAAATAGGGGACATAATCTTTAC		
13	10	CTATCTTTGGTTGCCATCATTAAGTTGGGCA		
4	12	TCGTTCTATG	tag	c
0	0	CTATCATTAG	long	k
5	16	TTGCCAATAA	long	g
0	0	TTGTCCTGTG	long	c

5	0	CTATGAATAG	long	f
0	0	TTGTCACTAA	tag	g
3	12	TTTCCTTATGTTGCTACCAGTTCGGCTGGGC		
0	0	TTGCCCTGTGTTGCCACCCCGAAAGGGAGC		
6	2	TCGCTGCCAG	long	c
5	5	TCGTTTCCAGTTGCCAGCGAGTAATGTCGG		
5	5	TAACCTGCTA	tag	c
2	0	TCGTCGTTAG	long	c
5	4	CTGTCCTTAG	tag	g
8	0	TCATCCTTAGTTGCCATCAGGTAATGCTGG		
0	0	CGGCCTGCTAACTAGTGCGTGGCGCGCCGC		
6	3	TCATTGCCAGTTATAAGTGTCTGGCGAGAC		
0	0	ACGCCTTTAG	long	g
7	12	CAGTTAATAAATAGGGGATACTAGTTTTT		
2	4	CAGCCTGCTAATTAGTTATATAAATTAATAC		
0	0	TTGTACTTAGTTGCCATCAAGTGAAGTTGG		
0	0	TTGTCCGTAG	long	o
6	4	CTGTCCTTAG	long	p
7	13	CACTTGGTGTTGTTATCGATTTTTTTATAAA		
10	11	TTATTCTATG	long	g
5	8	CTATCGTTAG	tag	k
6	0	AAGCTGCCCAGTAGAAGCCAGGATTGTCTT		
7	17	TCATCCTTATTTGCCATCAGGTTATGCTGGG		
0	0	CTGTTGTTAG	long	g
0	0	TTGTCCCTAG	tag	c
6	6	TTATCATTAGTTGCCAACGGGTAATGCCGG		
0	0	CTGTGATTTG	tag	k
0	2	CTGTCGGTAGTTACTAACGCGTCATGGCGA		
0	0	CTATCTTTAG	tag	f
7	4	CTATCTTTAG	long	f
11	5	TTACCTGTAG	long	g
0	0	TTGTCTTATGTTGCCAGCACGCCCTTCGGG		
0	0	CTGTGATTTG	long	f
2	4	TTGTCATTAATTGCCATTATTGAGTTGGGCA		
10	7	TCGGGGGTAGTTACAAGTGTCTACCGCGAC		
4	4	AAGCTGCCCAGTTAGGAACCAGGATTGTCC		
2	4	TCGCCTTTAG	tag	p
0	0	TCGCGTCCAA	long	f

4	8	TTGCCATTAA	tag	c
4	9	CCATCTCTAG	tag	f
0	0	TCGTTGTATAATACGAGGCGCTAGTTTTTGC		
0	12	TAACCTGCTAAATAGTCACTGGAAACTGCT		
4	6	TTGTCACTAG	tag	f
0	2	CTATCTTTAG	tag	k
6	7	CTGTGTCCTGTTGCCACTCGGATGAGAGTC		
0	0	CTATCTCTAG	long	f
9	10	TTGTCCTTATTTGCCAACAGGTAATGCTGGG		
0	0	TAACCTGCTAAATAGAAACTTCTATAACTTA		
3	0	CTACGGTCAGTTACCTGTGTCTGGCCGGAC		
5	3	TTGCCGCTAA	long	k
0	0	TTGCCATTAGTTGCTACATTCAGTTGGCACT		
0	0	TAACCTGCTAAATAGACACGCCGGCTTTGG		
10	9	CTGTTGTTAGTTGCCATCGAGTCAAGTCGG		
0	0	TTGTCCTTAG	tag	k
3	7	TCGCCTTTAGTTGCCACGTAAGTGGATCTCT		
3	0	TTGTCGCTAGTTGCCAACAGGTAATGCTGG		
0	0	TTGCTATTAGTTGCTACATTCAGTTGGGCAC		
0	0	TTGTCGCTAG	tag	f
0	0	TTGTTCTTAG	long	k
2	5	CTGCTTTCAGTTGCTACCGGGTCGTGCCGA		
7	4	TTATTGCCAG	long	p
0	0	TCGCTTCTAG	long	f
0	0	TTGTCTTTAGTTGCGACCATTTAGTTGAGCA		
6	9	CAGTTAATAAATAGGGGATATAATCTTTTA		
5	9	TTGTCCTTAG	tag	f
0	0	CTGCGTCCAG	long	c
0	0	TCGTCCCTAGTTACCAGCGGGCAAAGCCGG		
0	0	CTATCCTTAGTTGCCAGCGGATGATGCCGG		
0	0	TTTTCTCTAGTTGCTAACGGATTATGCCGAG		
0	0	CTGTCTTCAG	long	g
3	10	TTGTCCTATG	tag	p
0	0	TTACCGTGAGTTACTACCATTCAGTTGAGG		
4	11	CTATTGTTAG	tag	g
3	4	TTGTCATTAATTGCCATCATTGAGTTGGGCA		
5	7	CAGTTAATAAATAGGGGGTAATATCTTTTA		
2	5	AAGCTGCCC	long	g

0	0	TCATCCTTAGTTGCCAACACCTCGGGTGGG		
0	0	CTTTCTTTAG	tag	f
0	0	CAGCCTGCTA	long	c
0	0	TAACCTGCTAACTAGACTTGCTCACCTTGGT		
2	6	TCGCCTTCAGTTGCCATCACTTTCAGGTGGG		
2	8	TCATTCTCTGTTGCTAACAGGTTAGGCTGA		
3	4	TTGTCCCTAG	tag	f
3	2	CCGCCTGCTA	long	g
5	6	CTACCATTAG	tag	g
5	4	TTGCCGTTAGTTGCCAGCAGGTCAAGCTGG		
0	0	CTGTTGTTAG	tag	g
0	2	CTGTCCCTAG	tag	g
0	0	TCGTCCCTAG	long	f
0	7	TCGTCCTTTGTTGCCAGCGATTAAAGTCGG		
0	0	CTATTGTTAG	long	g
0	0	TTATCAACAG	long	o
0	6	TCGTCCTATG	long	f
4	5	TCGCCATTAG	tag	c
7	6	TCGTCTTCAG	long	f
4	6	CTGTTTCTAG	long	f
0	0	CTAGTGCCAG	tag	f
3	6	TTATCCTCAGTTGCCAATGGGTAGAGCCAG		
0	0	CTACCTTTAG	tag	o
0	0	TCGCCTCCAG	long	f
0	0	CTGTCGCTACTTGCTAACGAGTAATGTCGA		
0	0	TTGCCATTAG	tag	c
3	6	CTATTGCTAGTTACACGTGTCTAGCGATACT		
0	0	CAACCTGCTAAATAGGAAGTTTGATGGGGG		
6	2	TTGTTATTAATTGCCATCATTGAGTTGGGCA		
0	0	CTGTTCTTAGTTGCCAGCGAGTAAAGTCGG		
4	7	TTACCAGCTAAATAGTGATTGTTTTGATTTTT		
3	6	CTATCATCAGTTGCCAGCGGGTCATGCCGG		
0	0	TCGTCCTATGTTACCAGCGAGTAAAGTCGG		
4	2	TCGTCGTCAGTTGCCCCCATTAAGTTGAGCA		
0	0	TCGCCATTAG	long	g
2	7	CTGTGACTAGTTGCCAGCGCGTCAAGGCGG		
8	0	CTGCCTTTAAATAGAGATGATTATGAGAAA		
1	4	TTGTCATTAATTGTCATCATTGAGTTGGGCA		

5	0	CTGCCTTTAAATAGAGATGATTATAAGAAA		
0	0	CTATCTTTAG	long	g
6	9	TCACGAGATAATAGGCCGAGAAAGGAAA		
3	7	TTATACTTAG	long	f
2	0	TCGTTCTATG	tag	f
0	0	CTCCTTATTA	tag	g
0	3	CTGTCGTTAG	long	g
0	0	CCTTGTTCAGTTGCCAGCAAGTAAAGTTGG		
0	3	TTACCGTATGTTGCTAGCAGGTAATGCTGA		
3	5	CTGTCGTTAG	tag	g
2	5	CTATCGTCTG	tag	o
6	4	TCGTCGTCTG	tag	c
6	5	TCGTCTGCTGTTGCCATCAGGTTATGCTGG		
0	0	TCGCTACTAG	long	g
0	5	TTGTCTTTAG	long	f
0	0	CTATCATTAGTTGCCAGCGATTCGGTCGGG		
0	5	CTATGAACTG	long	f
0	0	TTGTTATTAG	tag	o
0	0	TAACCTGCTA	long	g
9	2	CTGCCTTTAA	tag	o
0	0	CTACTGTATGTTGCTAACGGATAATGCCGA		
3	5	TCATCCTCAGTTGCCATCGGGTTAAGCCGG		
0	0	TAACCTATTAATTAAGTTTTTTGAATTTTTAA		
0	0	TTGTCCTTAG	tag	g
2	6	TTGTCCCTAG	tag	c
6	7	CTATCTTTAG	tag	k
0	0	TCGCGTCCTGTTGCCACTCCGTCGCAAGAC		
3	7	TTGTCCTTAG	long	g
0	0	AAGCCTTTAA	long	g
0	0	ACACTTCTAG	tag	g
0	0	TTGCCATTAGTTGTTACATTCAGTTGAGCAC		
0	0	TCATTCTCTGTTGCTAACAGGTTAAGCTGAG		
6	0	CTACCATTAGTTGCTAGCAGGTAATGCTGA		
0	0	CCACGTCCAGTTGCCAGCATTAAGTTGGGG		
4	3	TCATCTTCAG	long	g
0	0	TCGCCTTTAG	tag	p
2	0	TTAATTATTAATTAGTTAAATATATTTTTATA		
7	0	ACGTCCTTAG	tag	k

0	0	CCATCCTGTGTTGCCAGCTCGCAAGAGCGC		
2	0	TCACCTTTAG	tag	f
0	0	TTACCGTATGTTGCTAACGGGTAATGCCGA		
0	0	TTACCATACTAACTAGTTATATGTATACTTC		
0	0	TAACCTGCTA	long	f
6	0	CAGCCTGCTAATTAGTTATATAAATTAATAC		
0	4	CGGCTTACTA	long	p
0	3	TCACGAGACAATAGGCCAGATAAAGGAAA		
2	6	TCGTCTTTAG	tag	p
2	0	TTGTCACTAG	tag	f
0	3	CTACCTTCAG	long	f
0	0	TTGTCCTCTGTTGCCACCCCGAAAGGGAGC		
0	0	TTGTCCTTAG	tag	f
0	0	TTGTCCTTAG	long	g
5	3	CTTTCCTATG	long	o
0	0	TTGCCATTAGTTGCTACATTCAGTTGGGCAC		
0	0	TCGTCCTATG	long	p
0	0	TTATCATTAG	tag	g
4	4	TTACCAGCTAAATAGTGATTGCTTTGATTTA		
4	10	TAATTTTTAAATAGTTTTCCTTTACTTTCGAG		
0	0	CTGTCCTTAG	tag	k
0	0	TCGTTATTTATTGCTTAATCTTTATAGTATAA		
0	0	TCGTTATTTATTGCTTAATCTTTAAAAAAGA		
0	0	CCATGGTCAGTTGCGGATGTTTCTGGCCAG		
4	5	TTGTCATTAATTGCCATCATTGAGTTGGGTA		
0	0	TCCTCTTCAG	long	g
4	2	CTATTCCTAG	long	o
2	0	TCGTCCTATG	tag	c
0	5	CTGTCGCGTGTTACACGTATCACGCGAGAC		
0	0	CTGTCTTCAG	long	g
0	0	TGCCATTAGTTGCTACATTCAGTTGGGCACT		
3	8	TCGTTCTATG	long	c
0	0	TTGCCATTAGTTGCTATATTCAGTTGGGCAC		
0	0	CTGTGTCTAGTTACCAGCGCGTCATGGCGG		
4	2	TCACGAGACAATAGGCCAGATAAAGGAGA		
0	0	TTGCCATTAGTTGCTATATTCAGTTGAGCAC		
6	8	TAACCTGCTAACTAGTATTACTATCCTAAAT		
0	0	TTGCCTTTAG	tag	g

2	7	CTGCATCCAGTTGCGACCGGGAAAGCCGAG		
0	0	TCGTTTTTTATTTTTTGTTTATTTCAAAAAAA		
2	2	CTGTCCTTAG	tag	p
0	0	TCGCCTTTAG	tag	g
0	0	CTATCGCCAG	long	g
4	3	CAGTTAATAAATAGGGGGTATTATCTTTTAG		
0	0	ACGTTGTTAG	long	f
0	0	TCGTCCATAGTTGCCAGCACGTAATGGTGG		
0	0	TTGCCATTAG	long	c
2	3	CTGCCTTTGGTTGCCATCATTAAGTTGGGCA		
4	0	TCATCCTCAG	long	g
0	0	TTGTCCTTAG	tag	c
0	0	TTGCCATTAG	long	f
0	0	CAGCCTGCCAAATAGCCATGCGGACGCCTC		
2	5	TTGTCTTCTG	long	o
0	0	CCATTCCTAGTTACCAGCACGTCATGGTGG		
3	4	TTGTCATTAG	tag	k
0	0	TTGCCCTTAG	tag	k
0	0	CTACTGTATGTTGCTAGCAGGTAATGCTGA		
0	0	CTGTCGTGTGTTTCACGTGTCACACGAGACT		
0	0	CTATCTTGTAGTTGCCAACAGGTAATGCTGG		
0	0	TTGCCTCCTG	tag	o
2	2	TTATCATTAATTGCCATCATTGAGTTGGGCA		
2	3	TTATCCTATG	tag	o
0	0	CTACCATTAGTTGCTACCAGGTAATGCTGA		
2	5	CTGTGTCTAG	tag	g
0	0	CTATCATTAG	tag	o
4	5	TTGTCCTTAG	tag	c
0	0	TTGTGTCCTGTTGCCACTCAAACGAGAGTTT		
2	0	TTGTCCTTAG	long	g
0	0	CAACCTGCTAAATAGGAAGTTTGATAGGGG		
4	0	TTGTCCTGTG	long	o
0	0	CTGTGTCCTG	long	c
0	0	TCATTTTTTATTACGTACGTGATTTGTTTTTG		
0	2	CTGTCGTCAG	long	g
0	7	CTTGGAGAA	tag	f
0	0	TTATCCTTAG	tag	k
0	0	TTGTCCTGTGTTGCTATCCGCAAGGAGCACT		

0	0	TTGCCATTAGTTGCTACATTCAGTTGAGTAC		
0	2	CTACTGCCAG	long	f
2	1	TTGTCATTAATTGCTATCATTGAGTTGGGCA		
5	0	CTGCCTTTAAATAGAGATAGTTATGAGAAA		
4	5	TTGTCATTAATTGCCATCATTGAGTTGGGCA		
0	0	TCGTCCTATG	long	f
0	0	CTATCATTAG	tag	o
3	2	CTACGGCCAG	tag	g
0	0	CTACCATTAG	long	f
2	0	TTGTCATTAATTACCATCATTGAGTTGGGCA		
3	4	TCGGTGCGTGTTACAAGTGTCACGCACAAC		
2	4	TTGTCCTTAG	tag	g
0	0	CTGTCGTTAG	long	g
0	15	CAAGAGAGTGTTTTGTGCTTCCTTGTCAAAG		
0	0	TCATCCCTAG	long	g
0	3	CAGTTAATAAATAGGGGACATAATCTATTA		
0	0	CTGTCTCCAGTTGCCAGCGAGTAAAGTCGG		
0	0	TTATCATTAG	tag	f
0	0	AAGCTGCCCAGTAGGGGTCTGAATTGTCTC		
0	0	CAGATTCTAGTTGTGGGTATTAGTGCCAAA		
0	2	TCGTCCTTAG	tag	g
0	0	TTGTCCTTAG	long	f
3	0	TTGCCAATAGTTGCCAGCGAGTCATGTCGG		
0	0	TTGCCATTAGTTGTTACATTCAGTTGGGCAC		
0	3	TTGTCACTAG	long	g
0	0	TCATCCTTATT	long	g
2	3	TTGTCCCTAG	long	g
2	0	TCGCCCTTAG	long	g
4	0	CTGCCTTTAAATAGAGATGACTATAAGAAA		
0	3	TTACCAGCTAAATAGTAATTATTATGATTTA		
0	0	CCATGGCCAGTTACTCGTGTCTGGCCAGAC		
0	0	TCGTCCCTAG	tag	g
4	3	TTGTCACTAG	tag	f
0	0	CTATGACCTGTTGCCACTCCGAGTAATCGGA		
2	0	TTGTCATTAATTGCCATCATTGTTGGGCACT		
4	0	CTGCCTTTAAATAGAGATGACTATGAGAAA		
0	0	TCATTCTCTGTTGCCATCATTAAGTTGGGCA		
2	1	TAACCTGCTAACTAGTATTACTATTCCAAATA		

2	2	TCGTTCCTAG	tag	g
0	0	TCGGGTCCAGTTACAAGTGTCTGGAGCGAC		
0	3	TCGTCCTTAG	tag	k
0	0	CCGTCCTTAG	long	f
0	0	TTGTCATTAATTGCCACATTGAGTTGGGCA		
3	0	TTATCCTTAG	tag	c
0	0	CCATCACTAG	long	g
0	0	TTGTCCCTGGTTGCCAGCCGTAAGAGGGGA		
4	3	TTACCAGCTAAATAGTAATTGCTTTGATTTA		
2	0	TTGTCTCTAG	tag	f
2	0	TTGCCTTTAG	tag	k
2	4	CTGCCTTTAG	long	g
0	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
0	0	CTATCTTCAG	long	f
0	0	TCGTCGCATAATAGAAGGCGTCATTGAATT		
0	0	TCGTTATTTATTGCTTAATCTTTCTTTAAAGA		
4	7	TAACCTGTTAACTAGTATTACTATCCCAAAT		
0	0	TCGTCTTTAGTTGCCATCACGTTATGGTGGG		
2	5	TCGGTGTTAG	long	f
0	0	TAACCTGCTAAATAGACATGCCGGCTTTGA		
0	2	CTATTCTTAG	tag	p
0	0	TCGCCACTAGTTGCCATCACGTTGGGGTGG		
3	4	TTGGCGTATGTTTCACGTGTCATGCGCAACT		
2	0	TCATCCCTTGTTGCTAACAGGTAATGCTGA		
0	0	CTGTCGCTAG	tag	g
3	2	CTACTTTTAG	tag	p
0	0	CTATTTTTAGTTACCAGCGCGTTATGGCGG		
0	0	TCGTCCTATGTTGCCAGCACTAACGGTGGG		
0	0	TCGTCTTCAGTTACCAGCGGTTTTGGCCGG		
1	1	TTGACATTAATTGCCATCATTGAGTTGGGCA		
0	0	CTGTCGCTAGTTGCTCGGCGCAAGCCTGTA		
0	0	CTGTCGCTAGTTGCTCGGTTCGCCAGTACTC		
0	0	TCGCGATTAG	long	g
0	0	CTATTATTAGTTGCCATCAGGTCATGCTGG		
0	0	TCGCCCTTAG	long	o
0	0	TTGCCCTGTG	long	f
0	0	TTGCCTTCAGTTGCCAACGGGTAAAGCCGG		
3	2	CTATTGCCAG	tag	k

0	0	CTGTCGTTAG	tag	g
0	3	CCGCCTGCTA	tag	g
0	0	CTACGGTCAG	tag	g
0	2	TCATCGCTAG	tag	f
0	0	TTGCCATTAGTTGCTACATTCAGTTGGGTAC		
0	0	TCGTTCTATG	long	f
0	0	TTGATTATTAATTAGTTTAACAGATATGTAT		
0	2	CTGTGTCTAG	tag	g
0	0	TCATCTTCAG	tag	g
10	0	TAACCTGCTA	tag	g
0	0	CTGTCGTCAGTTGCCAACACGTTATGGTGG		
0	3	CTCCTTATTAACTAGTGTGGCTCGCTGACCA		
0	0	TTGTCACTAG	long	g
0	2	TCGTCCTCTG	tag	o
5	4	TAACCTGCTAACTAGAATTACTATCCCAAAT		
4	4	TTACCTTATGTTGCTACCATTTAGTTGAGCA		
0	0	TTGCCATTAG	long	c
0	0	TCGCCTTTAG	tag	g
0	0	TTACCATTAG	tag	p
0	4	CTACTTTCAGTTGCTACCAGGTTAAGCTGGG		
0	2	CTGCGTCCAGTTGCCAACGGGTCAAGCCGG		
2	3	TAATCTGCTAACTAGTATTACTATCCCAAAT		
0	5	TTACCGTATGTTGCTATCAGGTAATGCTGAG		
2	1	TAACTTGCTAACTAGTATTACTATCCCAAAT		
0	11	TAACCTGCTAAATAGAAACATCTATAACTTA		
0	0	TTACCATTAG	tag	f
2	4	CAGTTAATAAATAGGGGGTATAATTCATTG		
0	0	TTGCCATTAGTTGCTACATTCAGTTGAGCAT		
0	0	CTGTCTCTAG	tag	g
0	0	CTGCCGTTAG	tag	g
0	0	TCGTTCTATG	tag	c
0	0	TCATTGTGTGTTATACGTGTCACACAAGACT		
0	0	TTGTCCCTAG	tag	f
2	0	TTGTCATTAATTGCCATCATTGAGTTGGGCG		
0	0	CTATCCTTAG	tag	f
0	0	TTGCCATTAGTTGCTACATTCGGTTGGGCAC		
4	2	CTATCTTTAGTTGCCAGCAAGTAATGTTGGG		
0	9	CTGGCTTTGGTTGCCATCATTCAGTTGGGCA		

0	0	TCGTTGCCAG	tag	k
0	0	TTGTCTCATG	tag	o
0	2	CTGTCGCCAGTTACCATCATTCAGTTGGGG		
0	0	TGCCATTAGTTGCTACATTCAGTTGAGCACT		
0	0	CTGGGAATA	long	g
0	0	CTGTGTCCAGTTGCCACTCGAACTTTGTTCG		
0	3	TTGATTTTAATTATTTAAAATCAAGGATTCG		
0	0	TTGTCATTAG	tag	f
2	5	TTATTGCCAGTTACACGTATCTGGCGAGAC		
0	0	CTGTCGCCAG	long	c
3	2	CTGTCGTCAG	tag	p
0	0	TCGCCATTAG	long	g
0	0	TTGTCATTAATTGCCATCATTGAGTTTGGCA		
0	0	TAACCTATTAAATAGTCACGCTTATCCTTTC		
0	0	TCGTCCTGTG	tag	p
0	0	TTGCCATTAGTTGCTACATTCAGTTGGGCAT		
0	0	CTGCCCCTAGTTGCCAGCGAGTAGAGTCGG		
0	3	TTATCCTTAGTTACCAACGAGTAGAGTCGG		
0	0	TCACTCTTAG	tag	f
2	3	CTGCCGCTAG	tag	c
0	0	TTGCCATTAGTCGCTACATTCAGTTGAGCAC		
0	0	CTATTGTTAG	long	c
0	0	TCGCCTTCAG	long	g
0	0	TTACCTTCAG	long	g
0	0	CTACCATTAG	tag	c
0	0	TTGTCATTTATTGCCATCATTGAGTTGGGCA		
0	2	CTGTCGTTAGTTGCTCACGGGTTATGCCGA		
1	4	TTGTCATTAA	tag	f
0	3	TTGTCGTTAA	long	g
0	0	TTACCATTAG	long	o
0	0	TTATTATTAGTTGCCCCAATTAAGTTTGGCA		
0	0	TTGCCATAGTTGCTACATTCAGTTGGGCACT		
5	0	TAACCTGCTAACTAGTCGCCTTTACATCATA		
0	0	CTATCAATAG	tag	f
0	2	TCGTCGCTAG	tag	c
0	0	TTTTCCTTATT	long	f
0	0	CTGTGTCCTGTTGCCACCCGGGAAACCGGA		
4	0	TCGTCTCCAG	long	g

2	0	TTGCCCTGTGTTGCTAGTCTGGTTTCGATCA		
0	0	TTACCCTATGTTGCCACGTCTGTAATGGACA		
0	2	CTATCGTTAGTTACCAGCACGTAAAGGTGG		
0	0	CCGGGGTCAGTTAGACTGTCTGGCCCGACT		
2	2	TAACCTGCCAACTAGTATTACTATCCCAAAT		
0	0	CTATCGTTAGTTGCCAGCGTAAAGACGGGC		
3	4	CAGTTAATAAATAGGGGGTAATATTCATTG		
0	3	CTATCTTCAG	tag	f
0	0	CTATCGTTAGTTGCTCAGCGCAAGCTAGTA		
0	0	TTGTCCTGTG	tag	o
4	0	TTGTCATTAATTGCCATCATTGAGTTGGACA		
0	0	CTATTCTTAGTTACCAGCGGTCAAGCCGG		
0	0	CTGTTGTTAG	tag	f
0	4	TCGCCGTTAGTTGCTTCGTAAGAAGATCTCT		
2	0	TTGTCATTAATTGCCAACATTGAGTTGGGCA		
0	0	TTGTCCTGTG	tag	o
0	0	CTGTGATCAG	long	g
0	0	TTGTCGCTAG	tag	k
0	0	TTGCCATAGTTGCTACATTCAGTTGAGCACT		
2	0	CTTTTATCAG	long	f
0	0	TCGCCATTAGTTGCTACATTCAGTTGGGCAC		
0	0	CTGTCGCTAGTTGCTAACGAGTAATGTCGA		
2	2	TAACCTGCTAACTAGTATTATTATCCCAAAT		
0	0	TTGTCATTAG	tag	o
0	0	CTGCTTTCAGTTGCTACCGCGTCATGCCGAG		
0	0	TTGTCCTTAG	long	f
0	0	CCTAACTTAATTATAAGTTTACTGCTTAGGA		
0	2	TCGCCTTCAGTTGCCATCAGGTAGAGCTGG		
0	2	CTGTCCCTAG	tag	c
0	0	TTATCCCTAGTTGCTACCGGGTAAAGCCGG		
0	3	TTGTCATTAATTGCCATCATTGTGTTGGGCA		
0	0	CTATCCTTAG	tag	g
0	3	CTGTCGTTAGTTGCTAACGGGTAATGCCGA		
0	0	TTGTTATTAG	long	o
0	0	TTACCATACTAACTAGTTATATATATACTTCT		
0	0	CTACCCTGAGTTGCAACCGCAAGGGCACTC		
0	1	TAACCTGCTAACTAGTATTACTATCCCAATT		
0	0	TTGTCGCTAGTTACTAACGAGTCAAGTCGA		

2	4	TCGCCATTAG	tag	c
0	0	TGGTCTACTAACTAGTATTTATCTTTAGCAA		
0	0	TTACCCTCAG	tag	g
0	0	TCGTCCTATG	long	g
0	4	TAACCTGCTAACTAGTATTACTATCCAAAAT		
0	0	TTACCTTTAG	long	g
0	0	CAGCCTGCTA	tag	k
0	5	TAACCTGCTAACTAGTATTACTATCCCAATA		
0	0	TTGCATTAGTTGCTACATTCAGTTGAGCACT		
2	2	CTGCCTTTAAATAGAGATGATTATGAGAAA		
0	0	TTATCATTAG	tag	g
0	0	CAGCCTTTAA	tag	g
0	0	TTGCCATTAG	long	g
0	0	TTATCTTTAG	tag	g
0	0	TTGTCATAAATTGCCATCATTGAGTTGGGC		
0	0	CTATCATTAG	long	f
0	0	TTGTTCCATG	tag	c
0	0	TTGCCATTAGTCGCTACATTCAGTTGGGCA		
0	0	TTGCCTTTAG	long	g
0	0	TTACCATACTAACTAGTTATATTTATACTTTT		
0	0	TAACCTGCTAACTAGTATTACTATCTCAAAT		
0	0	TTGCCATTAGATGCTACATTCAGTTGAGCA		
0	0	TCATCTTCAGTTACCATCGGTTCGGCCGGG		
0	0	TTGTTTTTTGTTACCACTCTTTCGAGAGAAC		
0	0	TTATTCTAATTTTATTCGACTAGTTGGTACG		
0	0	TTGCCTCTAACTAGAACAGTGTATGGGCAC		
2	2	TAACCTGCTAATTAGTATTACTATCCCAAAT		
0	0	TTACTACTAG	long	f
0	0	CTGTCGTCAGTTGCCAACGGGTCAAGCCGG		
0	3	CTATCTTCAG	tag	f
0	0	CTATCGTTAG	tag	p
0	0	TCGTCCTATG	tag	c
0	0	TTGTCATTAACTGCCATCATTGAGTTGGGC		
5	0	TTACCGTTAGTTACAAGTGTCTAACGGGAC		
0	0	CTGTTGTTAGTTGCCATCGAGTCAAGTCGG		
0	0	TTGCCATTAGTTGCTACACTCAGTTGGGCA		
0	0	TTGTCATTAG	long	o
0	4	TTGTCATTAATTGCCATCATTGAGCTGGGC		

0	0	TCACCCTTAGTTGCCAACAGGTTATGCTGG		
0	0	TTGTCTCTAG	long	f
0	0	TTGTCATTAATTGCCATCATAGAGTTGGGCA		
0	0	TTGTCATTAATTGCCATCATCGAGTTGGGCA		
0	0	TAGCCATTAGTTGCTACATTCAGTTGAGCAC		
0	4	TTGCCGTATGTTATATATGTCATGCGGAACT		
0	0	CTGTTGCTAGTTTCAGGTGTCTAGCAAGACT		
0	0	TTGCCTTCAG	tag	o
0	0	TTATTGCTAGTTACCAACGGGTAAAGCCGG		
3	0	TCGTCATTAATTGCCATCATTGAGTTGGGCA		
0	0	TCGTTATTTATTGCTTAATCTTTCTACGAAA		
0	0	TTGTCCTTAG	tag	o
0	0	CTGCCCTTAG	tag	f
0	0	TTGTCATTAATTGCCATCATTGGGCACTTTA		
0	0	ACACTTCCAG	long	g
3	0	TTGTCACTAG	tag	f
0	0	TTACCATACTAACTAGTTATATATATACTTAT		
0	0	TTATCCTTAG	long	g
0	0	TAGCCTACTAAATAGTTCGCCGACATCTCTT		
2	0	TTGTCATTAATTGCCACCATTGAGTTGGGCA		
0	0	TTGTCCCTAG	long	g
0	2	TTAATTATTAATTAGTTAAATATATAGCAAT		
2	0	TAGCCTGCTA	tag	p
0	0	CTGTCTTCAG	tag	c
0	0	CTATCTTCAGTTGCCATCATTAAGTTGGGGA		
2	0	TCATTGTCTG	tag	o
0	0	TTCCCATTAGTTGCTACATTCAGTTGAGCAC		
0	0	TTGCATTTTGTTGCCACCTTCGCGCGAGCGA		
0	0	TCGCCTCTAG	long	o
0	0	ACGTCGCGTG	tag	g
1	0	TAACCTGCTAACTAGTATTACTATCCCGAAT		
0	0	TTGTCCTTAGTTACCAGCACGTCATGGTGG		
0	0	TTATTCTTAG	long	g
0	0	TTGTCTCCAG	long	g
0	0	CTATTGCCAGTTACCATCGGGTAGAGCCGG		
0	0	TAGCCTACTAAATAGTTCGCTGACACCTCTT		
0	2	CTGTCGTTAG	long	c
2	0	CGGCCTGCTAAATAGCTACGCCGACCCCGC		

0	0	TTGTCATTAG	long	f
0	0	TTGCCATTTGTTGCTACATTCAGTTGAGCAC		
2	3	TTGCCATTAG	tag	p
0	0	TTGTCACTAATTGCCATCATTTGGTTGGGCA		
0	0	TAACCTCTAA	long	g
0	0	TTGTCGTTAG	long	g
0	0	CTATCTTCAGTTACCATCATTCAGTTGGGCA		
0	0	TAACCTGCTAAATAGCCCACGTTGCTTTGGC		
0	3	TTGTCATTAATTGCCTTCATTGAGTTGGGCA		
0	0	TCATCTCCAG	long	f
2	5	TAACCTGCTAACTAGTATTACTATCCAAATA		
0	0	CTGGGGATA	long	g
0	0	TTGCCATTGGTTGCTACATTCAGTTGGGCAC		
0	0	TTACCAGCTAAATAGTGATTGTTTTGAGTTT		
0	4	TAACCTGCTAACTAGTATTGCTATCCCAAAT		
0	0	CTGTCGTTAGTTGCCAGCGTAAAGACGGGC		
0	0	CTATCATTAG	long	f
0	0	TTGCCGTTAGTTGCTACATTCAGTTGGGCAC		
0	0	CTGTCGTCAGTTACCATCAGGTAAAGCTGG		
0	0	TTGTCATTAG	tag	o
0	0	CTGCCACTAGTTGCTAACGGGTGAAGCCGA		
4	0	CAACCTGCTAACTAGTATTACTATCCCAAAT		
0	0	TTGCCATTAGCTGCTACATTCAGTTGAGCAC		
0	0	TTCCCATTAGTTGCTACATTCAGTTGGGCAC		
2	0	TTACTGCTAGTTGCTAACAGGAGAGCTGAG		
0	3	TCATCCTCAGTTGCCATCGGGTTAAGCTGG		
0	0	TCGTCGCTAGTTACCAACATGTAATGATGG		
0	0	TTGCCATCAGTTGCTACATTCAGTTGGGCAC		
0	0	TAGCCATTAGTTGCTACATTCAGTTGGGCAC		
0	0	CTGTTGTTAGTTGCTAACGGTTCGGCCGAG		
3	1	TAACCTGCTAACTAGTATTACCATCCCAAAT		
2	0	CTACGGTCAGTTATCCGTATCTGGCCGGAC		
0	0	TCGCCCCTAG	tag	k
0	0	TTGTCATTAATTGCCGTCATTGAGTTGGGCA		
0	0	TTGCCATTAGTTGCTTCATTCAGTTGAGCAC		
0	0	TTGTCATCAG	tag	o
0	0	TCATCTTTAG	tag	k
2	1	TAACCTGCTGACTAGTATTACTATCCCAAAT		

2	2	TAGCCTGCTAACTAGTATTACTATCCCAAAT		
0	0	TTATCTCTAGTTGCCAACACGTAATGGTGG		
0	0	CTGTCGTTAGTTACTAACGGGTAAAGCCGA		
0	0	TCATCCTCAG	long	f
0	0	TTGCCATTGG	long	g
2	2	TAACCTGCTAACTAGTACTACTATCCCAAAT		
0	0	TAACCTGCTAACTAGTATTACAATCCCAAAT		
0	0	TTGTCATTAATTGCCATCATTGAGTTGGGCT		
0	0	TTGCCATTAGTTGCTACATTCAGCTGAGCAC		
0	0	CTATCTTCTGTTGCCATCATTCAGTTGGGCA		
0	0	CTATCATTAGTTGCCAACGAGTAAAGTCGG		
0	0	CTGCTGCCAGTTACCAGCATTCAGTTGGGG		
0	0	CTGCCATTAG	tag	c
0	0	CTGTGTCCTGTTGCCACCGGAATGCAAGTT		
0	2	CTATCCTTAGTTACCAGCGGGTCAAGCCGG		
0	2	TTATCGCTAG	tag	c
0	0	TTGCCATTAGTTGCTACATTCAGTTGACCAC		
1	3	TAACCTGCTAACCAGTATTACTATCCCAAAT		
0	0	TTGCCCTTAGTTACTAACGAGTAATGTCGA		
0	2	ACGTCCTTAG	tag	g
0	2	TTATTCTATG	tag	f
0	0	CAGTGAGAGGGACACTCATCACATGAATAA		
0	0	TTGTCCTTAG	tag	k
0	2	TGTCATTAATTGCCATCATTGAGTTGGGCA		
0	0	TTATCACTAGTTGCTAACAGGAAAGCTGAG		
0	1	TAACCTGCTAACTAGTATCACTATCCCAAAT		
0	2	TCATCCTTAG	tag	g
0	4	TTGTTGTCTGTTGCCATCAGGTTAAGCTGG		
0	2	TTGTCATTAATTGCCATCATTGAGATGGGCA		
0	0	CTGTTGCTAGTTGCCAACGAGTAAAGTCGG		
0	0	CTGTGTCCTG	tag	c
0	0	TTGCCATTAGTTGCTACATTCAGTTGGGCTC		
0	0	TTGCCATTAG	long	o
0	4	TAACCTGCTAACTAGTATTTCTATCCCAAAT		
0	0	TCGTCCATAGTTGCCAGCAAGTAATGTTGG		
2	0	TTGTCATTAATTGCCATCGTTGAGTTGGGCA		
0	0	TCGTCCTTAG	long	o
0	0	TTGTCCTATG	long	f

0	0	TTGCCATTAG	long	f
0	0	TTGCCATTAGTTGCTACATTCAGTGAGCACT		
0	0	TTGTCGTTAGTTACCAGCGTAATGGTGG		
0	0	TTACCATACTAACTAGTTATATATATACTTTT		
0	0	TCGCCCCTAG	tag	o
0	0	CTATTGCTAGTTACAAGTGTCTAGCGATACT		
0	0	TTGTCATTAG	long	o
0	0	TCATCCTTAT	tag	f
3	2	TCATCCTTATTTGCCAGCGGGTAATGCCGG		
0	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
0	0	CCGCCTGCTAAATAGCCCGACGTTCTGTGG		
0	0	TTACCTTTAGTTGCCAGCGAGTGAAGTTGG		
0	0	TTGTCATTAG	long	o
0	0	TTGCCATTAGTTGCTGCATTCAGTTGAGCAC		
2	0	TTGTCATTAATTGCCATCATTGAGTTAGGCA		
0	0	CTGTGGTCAG	long	g
0	0	TTGCCATTAGTTGCTACATTCAATTGGGCAC		
0	0	TTGCCATTAGTAGCTACATTCAGTTGGGCAC		
2	2	TAACCTGCTAACTAGTATTACTAACCCAAAT		
0	0	CTGCCATTAGTTGCTACATTCAGTTGGGCAC		
0	2	CCGGGGTTAGTTACAAGTGTCTAACCCGAC		
0	2	TTGTCACTAG	long	f
0	0	CTATCGTTAG	tag	k
0	0	CGGCACTCCGAATAGCGCGGCGGACGTCGG		
2	0	TCGCCTTTAGTTGTTATGTAAGTGGATTTTT		
0	0	TCGCCTTCAGTTGCCAGCAGGTAAAGCTGG		
0	0	CTATCATTAGTTACCAACGGGTAAAGCCGG		
0	0	TAACGTGCTAACTAGTATTACTATCCCAAAT		
0	0	CTGTTGCCTGTTACAAGTGTCAGGCAAGAC		
0	0	CTATTCTTAG	tag	p
1	3	TTGTCATTATTTGCCATCATTGAGTTGGGCA		
0	0	CTGTCTCCAGTTGCCAGCAAGTAATGTTGG		
0	0	CTACCATTAG	tag	o
0	3	TTGCCATTAG	long	c
0	3	TCGTTGCCTG	tag	p
0	0	TCATCTTCAG	tag	g
0	0	TTGCCATTAGTTGCTACTTTCAGTTGGGCAC		
0	0	CTGTGTCCTGTTGCCACTCAGGTGCAAACCT		

0	3	TACCTGCTAACTAGTATTACTATCCCAAATA		
0	0	CTGCATTTAGTTGCCAGCATTTAGTTGGGCA		
0	0	CTATCGTTAGTTGCTCACGGGTAAAGCCGA		
0	0	TTGTCATTAG	long	o
0	0	TTGTCGTTAATTGCCACCATTAAGTTGGGCA		
0	0	CTGCCATTAG	long	f
0	5	TAACCTACTAAATAGTTACGGTAATATTGCT		
0	0	TCGCCTTCAG	tag	g
0	0	TTGCCACTAG	long	f
0	0	GGGATTGATAAATAGGGCGGCCGCGGGCG		
0	0	TTGCCATTAGTTACTACATTCAGTTGAGCAC		
0	0	TAGTCTACTAAATAGTTCGCCGACACCTCTT		
0	0	CTGTTTTTGGTTGCCATCATTAAGTTGGGCA		
2	0	TCGCCTCCAGTTGCCATCATTTGGTTGGGCA		
0	0	CTACCCTCAGTTGCTAATTATAGGACTCTGG		
0	0	TTGCCATTAGTTGCTACATCCAGTTGGGCAC		
0	0	CTGTCGTCAGTTGCCAACAGGTCAAGCTGG		
0	0	TTGTCTCCAG	tag	f
2	0	CTATCATTAG	tag	o
0	0	CTATTGTTAG	long	f
0	0	CTGTTGTTAGTTGCCAGCGAGTGATGTCGG		
0	0	TTGTCGTTAATTGCCATCATTTAGTTGGGTA		
0	0	TCGTCCTATG	long	c
2	0	TCCTCTTCTGTTGCCAGCGAGTAATGTCGGG		
2	0	TAACCTGCTAACTAGTAATACTATCCCAAAT		
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0	0	TTGCCATTAGTTGCTGCATTCAGTTGGGCAC		
0	0	TTGCCATTAGTTGCTACATTCAGTAGGGCAC		
0	0	TCGCCTTTAG	tag	f
0	0	TTGTCGTTAATTGCCATTATTTAGTTGGGCA		
0	0	TCGTTCTATG	tag	g
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2	2	TCATCCTCAGTTGCCATCGGGTTCGGCCGG		
0	0	TTGTCATTAATCGCCATCATTGAGTTGGGCA		
0	0	CTATCACTAG	long	g
0	0	CAGTGGGAGGGACACTCAATTTATCTCATA		
0	0	CTGTCGCTAGTTGCTAACAGGTAATGCTGA		
0	0	CTGTTGTTAGTTGCCATCGAGTCAAGTCGG		

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0	0	TTGCCATTAGTTGCTACATTCAGTGGGCACT		
0	0	TTGTCCTTAG	long	g
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0	0	TTGTTCTCAGTTACCACCATTCAGTTGGGGA		
0	0	TTGCCTTTAG	long	g
0	0	TAGTCATTAATTGCCATCATTGAGTTGGGC		
0	0	TCATCTTCAG	long	f
0	2	CCGCCTGCTA	tag	g
0	2	TTGTCGTTAG	tag	o
0	0	TTGTCATTAATAGCCATCATTGAGTTGGGC		
0	0	CTTTTCTTAGTTGCCAGCGATTCGGTCGGG		
0	0	TTGCCTTTAGTTGCTACATTCAGTTGGGCAC		
0	1	TTGTCATTAG	tag	k
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0	0	TTGTCCCTAGTTGCTAGCGGTTCGGCCGGG		
0	0	TTGTCCTTAG	tag	p
0	0	CTACCATTAG	long	f
0	0	TTGCCATTAGTTGCTACTTTCAGTTGAGCAC		
0	0	TCGCCTTTAG	long	g
0	0	TCGCCTTTAG	long	g
0	0	CTATCTTTAG	tag	f
0	0	TCGTCCTGTG	long	f
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0	0	CTGTTGTTAGTTGCCATCGAGTCAAGTCGG		
0	0	TCGTGCCTAGTTGCTGATGTTTCTAGGCAG		
0	0	TTGTCCTTAG	long	p
0	0	TTACTGCTAGTTGCTAGCAGGAAAGCTGAG		
0	0	TCATTGTCAGTTGCTAACAGGTAATGCTGA		
0	0	TTATTGTCAGTTACCAGCATGTAATGATGG		

0	0	TCGTCCTCTG	long	f
0	2	CGACCTGCTA	tag	g
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0	0	TAGCCTGCTAAATAGTTCGTGATCTTCCGA		
0	0	TTACCCTTAG	tag	g
0	2	TTGTCTTTAG	long	p
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0	0	TTGTCATTAGATGCTACGAAAGGGCACTCT		
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0	0	TCGTTCCATG	tag	c
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0	0	TCGTCTTTAG	tag	f
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0	0	TCGTCCTGTGTTGCTAACCGCAAGGTGCAC		
0	0	TAGCCTGCTAAATAGTCCGTGATCTTCCAA		
0	0	TCGTCCTTAGTTGCTAACAGTTCAAGCTGA		
0	0	TAACCTACTA	long	o
0	0	CAACTTGCTAACTAGTCGCACTAGTCTTCT		
0	0	CCATCCATAGTTGCCAGCGGGTAATGCCGG		
0	0	TTATCGTTAATTGCCATCATTTAGTTGGGCA		
0	0	TAGCCTACTAAATAGTTCGCCGACACCTTTT		
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0	0	TTGTCATTAGTCGCCAGCATTCAGTTGGGC		
0	0	TCGTCCTGTGTTGCTAACCGAAAGGTGCAC		
0	0	CTGCTTTCAGTTGCTACCGGGTCATGCCAA		
0	0	CAACTTGTTAACTAGTCCGGCGCAGCCTGC		
0	0	TTATCCTTAG	long	g
0	0	TTGTCCTTGG	tag	c
0	0	CTACCTCTAGTTGCCAGCGGTTCGGCCGGG		
0	0	TAGCCTACTAAATAGTTCGCCGACACCTCTT		
0	0	TCGTTCTATG	long	g
0	0	TAGCCTGCTGAATAGTCCGTGATCTTCCGA		
0	0	TTGTCATTAATTGCCATCATTTAGTTGGGCA		
0	0	TTGTCCCTGGTTGCCAGCATTTTGGATGGG		
0	0	CGAGAGGGTGGTTGAGGTTATTAATGAGG		
0	0	CGAGAGGGTGGTTGAGGTTATTATTGAAG		
0	0	TTGATCTTAG	long	o
0	0	TCGCCTCCTGTTGCCAACAGATAATACTGG		
0	0	TTATTCTAATTTTATTGTTCTTTGAATTTGCT		
0	0	TTGTTATTTGTTACCAACAGGTAAAGCTGG		
0	0	TTGCCATTAGTTGTTATGAAAGGGCACTCT		
0	0	CTGTCGTCAG	tag	p
0	0	CTGTCGTTAGTTGCTCGGCGAAAGCCAGTA		

0	0	ACGCCAACA	tag	g
0	0	TTGTCATTAG	tag	o
0	0	TTGTGGTTAG	tag	g
0	0	TTGTCATTAG	long	g
0	0	TTGTCATTAGTTGCCAGCATCCAGTTGGGC		
0	0	TCGTTCCATGATGCCAGCACGTAGTGGTGG		
0	0	CTGCTTTCAGTTGCTACCGGGTCATGCCGA		
0	0	TCATCCCATG	tag	g
0	0	TCGCATTTATTTGCCGAGTAATGTCGGGAA		
0	0	TCGTCTTTAG	tag	c
0	0	CTGTCCGCAG	long	c
0	0	CTGCTTCCAGTTGCTACCGGGTCATGCCGA		
0	0	CGACTTGTTAACTAGTCCGGTGCAGCCTGC		
0	0	CTGTGGTTAGTTGCCAGCGAGTCAAGTCGG		
0	0	TCGTTCCATG	long	o
0	0	TTGCCATTAA	long	c
0	0	TAACCTACTAAATAGTTCGCCGACACCTCTT		
0	0	TAGCCTGCTAAATAGTCCGTGATCTTTCGA		
0	0	TTATTGTTAG	long	g
0	0	CTGCGACCAGTTGCACTTCTCTGGTCGGAC		
0	0	CTACCATTAGTTACCAACGGGTAAAGCCGG		
0	0	CTATTGTTAG	long	f
0	0	CCGGTGGTAGTTACACGGTGTCTACCGCTA		
0	0	CAGTTAATAAATAGGGGGTATAATCTTCTT		
0	0	TTGCCCTTAG	tag	f
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0	0	TCGTCCTATG	long	o
0	0	TTGTCACTAATTGCCATCATTTGGTTGGCAC		
0	0	TTGCCCCTAG	tag	p
0	0	TCGTTCTATG	tag	g
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0	0	TTGTCATTAT	tag	g
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0	0	TCGTCCTTAG	tag	g
0	0	TTGTCGTTAACTGCCATCATTAAGTTGGGCA		
0	0	ACACTTTCAG	long	g
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0	0	TTGTTGTTAATTGCCATCATTTGGTTGGGCA		
0	0	TTGTCATTAATTGCCATCATTTAGTTAGGCA		
0	0	TTACCGTGAG	long	o
0	0	TTGTCATTAGTTGCCAGCATTCAGTTGGCAC		
0	0	ACGTCCCCAG	long	g
0	0	CGAGAGGGTGGTTGAGGTTATTATTGAGG		
0	0	CTATCGTTAGTTGCTCGGAGCAATCCTGTA		
0	0	TTGCCCTATG	long	g
0	0	TCATCCTTAG	tag	g
0	0	ACGCTGTTAGTTGCTAGCAGGTAAAGCTGA		
0	0	TTATCGTTAGTTGCTCGGCGCAAGCCAGTA		
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0	0	TTGCCATTAA	tag	g
0	0	TAGCCTGCTAAATAGTCCGTGATCTTCCGG		
0	0	TTAGCCCCCGTTACAAGTGTCTGGGGCGAC		
0	0	TTGCCATTAATTGCTATCATTTAGTTGGGCA		
0	0	CTGTTGCTAG	long	f
0	0	TCGTGTCCAGTTGCCAGCAAGTAATGTTGG		
0	0	CTGTGTCTAG	tag	f
0	0	TTACTTTTAG	tag	p
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0	2	CAGTGTGAGGGACACTCTTTTCATCACAAG		
0	2	AACCTGCTAACTAGTATTACTATCCCAAATA		
0	2	TAACCTCCTAACTAGTATTACTATCCCAAAT		
0	2	TTGTCCTTAG	long	g
0	2	TAACCTGCTATCTAGTATTACTATCCCAAAT		
0	2	TTATCATTAG	long	g
0	2	TAACCTGCTACTAGTATTACTATCCCAAATA		
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0	2	CAGCCTATTAAATAGCTATGCAGATTTGATT		
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0	0	TTGCCATTAGTTGCTACATTCAGTTAAGCAC		
0	0	TTGTCATTAGTTGCTACGAAAGGGAACTCT		
0	0	TTGTCGTTAG	long	c
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0	0	TTATTGATAG	tag	o
0	0	TTGTCTCATG	long	g
0	0	TCATTTTTAGTTGCCAGCATTAAGTTGGGCA		
0	0	TTGTCGTTAG	tag	k
0	0	TTGTCATTAGTTGACAGCATTCAGTTGGGC		
0	0	TAACCTACTA	tag	o
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0	0	CGACTTGTTAACTACTCCGGCGCAGCCTGC		
0	0	TTGTCCTTAG	tag	c
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0	0	CTGTGATTAG	tag	f
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0	0	TTGTCCCTAG	long	g
0	0	CTGTCGCCAG	tag	p
0	0	TCGTTCCATG	long	f
0	0	TTATCATTAG	tag	f
0	0	CTGTCCTTAG	tag	f
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0	0	TTGTCCTTAG	tag	c
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0	0	TTGTCATTAG	long	o
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0	0	CAACCTGCTAAATAGGAAGTTTGATGGGG		
0	0	TTGTCCCTAG	long	f
0	0	CTATCCTTAG	tag	g
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0	0	TTGTCATTAG	long	o
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0	0	TTGCCCTGTG	long	f
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0	0	CTGTCTTTAGTTGCCACCAGGTAAAGCTGA		
0	0	CTATGTTTAG	long	f
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0	0	TTGTCATTAG	tag	o
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0	0	TAACCTGCTAACTTGTATTACTATCCCAAAT		
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0	0	TTGCCATTAG	long	g
0	0	TCACTGCTAGTTGCTAACAGGAAAGCTGAG		
0	0	TTGTCATTAATTGCCATGATTGAGTTGGGCA		
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0	0	TTGTCATTGG	long	o
0	0	TTGTCATTAGTTGCTACGAAAGTGCACTCTA		
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0	0	TTGTCATTAG	long	o
0	0	TTGTCATTAG	long	o
0	0	TTGTCACTAG	long	o
0	0	TTGTCATTAG	tag	o
0	0	TTATCATTAG	long	o
0	0	TTGTCATTAG	long	o
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0	0	TTGCCATTAGTTGCTACATTCAGTTGGCCAC		
54231	69280			

taxon_data	long	long_total	long_this	support	confidence
g	AAGTCCCGCA	12	12	789	0.95057034
g	AAGTCCCGCA	10	10	324	0.96296296
g	AAGTCCCGCA	12	12	194	1
AG	AATTCCGTTA	12	12		
g	AAGTCCCGCA	10	10	11244	0.98585912
GT	AATTCCGATA	6	6		
o	AAGTCCCGCA	12	12	2	1
g	AAGTCCCGCA	12	12	719	0.94019471
g	AAGTCCCGCA	12	12	32	1
g	AAGTCCCGCA	12	12	91	0.97802198
g	AAGTCCCGCA	12	12	387	0.96899225
g	AAGTCCCGCA	12	12	79	0.97468354
g	AAGTCCCGCA	12	12	274	0.8540146
g	AAGTCCCGCA	12	12	395	0.89620253
g	AAGTCCTATA	6	6	6	1
ATG					
f				881	0.99205448
g	AAGTCCCGCA	12	12	28	0.82142857
ATG	AATCCCGATA	6	6		
g	AAGTCCCGCA	12	12	116	0.95689655
g				8981	0.8558067
AA	AATTCCGCTA	12	12		
AT	AATTCCGTTA	6	6		
AAG	TATTCCGTTA	6	6		
GTG					
ATT	AATCCCGATA	6	6		
o	AAGTCCCGCA	12	12	64	1
g	AAGTCCCGCA	12	12	2	1
TC	AAGTCCCTTA	12	12		
g	AAGTCCCGCA	6	6	43	0.95348837
f	AAGTCCCGCA	12	12	2	1
g	AAGTCCCGCA	8	8	3387	1
g	AAGTCCGCTA	6	6	2	1
TA	AAGTCCCTTA	8	8		
AA					
GC	AAGTACGCTA	6	6		
f	AAGTCCCGCA	6	6	7	1

AT	AATTCCGTTA	12	12		
g	AAGTCCCGCA	12	12	666	0.96996997
ACT	AAGTCCCGCA	6	6		
TG	AATTCCGTTA	12	12		
o	AAGTCCCGCA	10	10	27	1
ATG	AATCCCGATA	6	6		
f				34	0.97058824
ATG	AATCCCGATA	6	6		
o	AAGTCCCGCA	12	12	5	1
ATG	AATCCCGATA	6	6		
CT	AAGTCCCGCA	6	6		
g				250	0.88
GGA	AAGTCCCTTA	12	12		
g	AAGTCCCGCA	6	6	35	0.97142857
f	AAGTCCCGCA	6	6	4	1
g				244	0.98360656
g				3	1
o	AAGTCCCGCA	7	7	3	1
g	AAGTCCCGCA	12	12	12177	0.98357559
g	AAGTCCCGCA	6	6	29	0.96551724
f	AAGTCCCGCA	11	11	43	0.93023256
g	AAGTCCCGCA	10	10	111	0.92792793
g	AAGTCCCGCA	6	6	15	0.93333333
GG	AATTCCGTTA	6	6		
g	AAGTCCTGCA	4	4	194	1
AC	AATTCCGATA	10	10		
GT	AATTGTGATA	12	12		
GATG					
g	AAGTCCCGCA	12	12	31	0.96774194
GGA	AAGTCCCGCA	7	7		
TTTC	AATCCCGATA	6	6		
CT	AAGTCCCGCA	6	6		
GC	AATTCCCTTA	6	6		
g	AAGTCCCATA	6	6	3	1
p	AATTTCGATA	12	12	16	1
f	AAGTCCGCTA	12	12	12	1
TGC	AAGTCCGAAA	7	7		
o	AAGTCCCGCA	6	6	2	1

f	AAGTCCCGCA	6	6	5	1
TC	AAGTCCTCTA	11	11		
g	AATTCCGATA	6	6	70	0.9
f	AAGTCCCGCA	12	12	4	1
g	AAGTCCCGCA	6	6	11	1
AA					
GA	AAGTCCTTTA	6	6		
g	AAGTCCTGCA	6	6	652	1
AC	AATTCCGTTA	5	5		
g	AATTCCGTTA	6	6	6	0.83333333
o	AAGTCCCGCA	12	12	29	1
g				230	0.86521739
g	AAGTCGCGCA	12	12	20	1
CT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	7	6	1328	0.90737952
f				15	0.8
g	AATTCCGATA	6	6	4	1
f	AAGTCCCGCA	6	6	2	1
o	AAGTCCCGCA	6	6	2	1
g				59	0.83050847
TA	AAGTCCTTTA	12	12		
g	AAGTCCCGCA	9	9	167	0.83832335
AT	AATTCCGTTA	6	6		
TGA	AATCCCGATA	6	6		
AA	AAGTCCCGCA	12	12		
f	AAGTCCGCTA	12	12	14	1
f	AAGTCCCGCA	7	7	3	1
c	AAGTCCCGCA	12	12	2	1
o	AAGTCCCGCA	6	6	22	0.90909091
g	AAGTCCCGCA	6	6	509	0.92534381
CT	AAGTCCCGCA	6	6		
CTTT	AATCCCGATA	6	6		
AA	AAGTCCCGCA	10	10		
c	AAGTCCCTTA	12	12	17	1
o	AAGTCCCGCA	12	12	32	0.9375
CA	AAGTCCCGCA	6	6		
TCC	AATTCCGATA	9	9		
GCA	AAGTCCCGCA	7	7		

GTC	AATTCCGATA	10	10		
GCA	AAGTCCCGCA	6	6		
CTTT					
f	AAGTCCCGCA	12	12	2	1
f	AAGTTCCATA	6	6	2	1
g	AAGTCCTTTA	12	12	2	1
g				16	0.875
g	AAGTCCCGCA	12	12	765	0.99084967
CCG					
g	AAGTCCCGCA	12	12	578	0.85986159
g	AAGTCCCATA	6	6	43	1
AAT					
f				9	1
c	AAGTCCTTTA	11	11	4	1
g	AAGTCCCGCA	12	12	2	1
g	AAGTCCGGCA	6	6	41	0.97560976
CTTT					
g	AATTCCGTTA	10	10	7	1
g	AAGTCCCGCA	9	9	919	0.8171926
f				4	1
p	AATTCCGATA	6	6	3	1
g				920	0.84673913
CCT	AATTCCGATA	7	7		
TAA	AATCCCGATA	6	6		
f				24	1
ACT	AAGTCCCGCA	6	6		
ACT	AAGTCCCGCA	6	6		
c	AAGTCCCGCA	12	12	5	1
TC	AATTCCGATA	10	10		
g	AAGTCCCGCA	12	12	294	0.98639456
CCG	AATTCAGATA	6	6		
g	AAGTCCGCTA	12	12	2	1
f	AAGTCCCGCA	11	11	3	1
GGA	AAGTCCTCTA	6	6		
g				300	0.98333333
g	AAGTCCGGCA	12	12	277	0.94584838
g	AAGTCCCGCA	6	6	452	0.98230088
GAA	AAGTCCCTTA	6	6		

p	AAGTCCACTA	6	6	4	1
o	AAGTCCCGCA	5	5	91	0.97802198
TCT	AAGTCCCGCA	12	12		
g				547	0.93235832
g				3087	0.81470684
g	AAGTCCCGCA	11	11	33	0.81818182
f	AAGTCCCGCA	6	6	8	1
TCT	AAGTCCCGCA	6	6		
o	AAGTCCCGCA	6	6	3	1
f	AAGTCCGCAA	6	6	3	1
ACT	AAGTCCCGCA	6	6		
GCA	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	8	8	52	0.98076923
o	AAGTCCCGCA	6	6	13	1
f	AAGTCCCGCA	6	6	19	0.94736842
TGC	AAGTCCGCAA	7	7		
g	AAGTCCCGCA	10	10	10	0.9
TG	AACTCCGATA	7	7		
GTA	AAGTCCTTTA	6	6		
g	AAGTCCCGCA	8	8	28	0.96428571
GGC					
TGC	AAGTCCGCTA	12	12		
TC	AATTCCGATA	9	9		
g	AAGTCCCGCA	10	10	10	1
f	AAGTCCCGCA	6	6	3	1
AG	AATTCCGTTA	5	5		
TGA					
GAT	AATTCCGATA	6	6		
g	AAGTCCCGCA	6	6	4	1
g				2152	0.96189591
CAC	AAGTCCCGCA	6	6		
o	AAGTCCCGCA	6	6	22	1
GAA	AAGTCCAGCA	6	6		
ACT	AAGTCCCGCA	6	6		
GGA	AAGTCCCTTA	6	6		
f	AAGTCCCGCA	12	12	3	1
f	AAGTCCCGCA	6	6	3	1
g	AAGTCCCGCA	6	6	4	1

AC					
g	AAGTCCGCTA	8	8	2	1
c	AAGTCCCGTA	6	6	6	1
o	AAGTCCCGCA	6	6	67	0.94029851
CT	AAGTCCCGCA	12	12		
CGC	AAGTCCCGCA	12	12		
TT	GATTCCGTCA	6	6		
GGA	AAGTCCCGCA	6	6		
TGT	AATTCCGATA	6	6		
GGA	AAGTCCCGCA	6	6		
c	TATTCCGTTA	11	11	2	1
g				3958	0.91207681
f	AAGTCCTGCA	6	6	14	1
AC	AATTCCTTTA	11	11		
g	AAGTCCCGCA	10	10	108	0.88888889
TC	AATTCCGATA	8	8		
CAC	AAGTCCCGCA	12	12		
TGC	AAGTCCACTA	6	6		
f	AAGTCCCGCA	8	8	30	0.93333333
g	AAGTCCCGCA	11	11	44	1
CGC	AAGTCCGCTA	7	7		
f	AAGTCCCGCA	6	6	3	1
o	AAGTCCCGCA	6	6	2	1
g	AAGTTCCATA	6	6	31	1
f				7	0.85714286
CT	AAGTCCCGCA	6	6		
ACT	AAGTCCCGCA	6	6		
GAA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	12	12	17	1
AT					
g	AAGTCCCGCA	6	6	35	0.97142857
CT	AAGTCCCGCA	11	11		
g	AAGTCCGGCA	6	6	28	0.92857143
f	AAGTCCCGCA	7	7	57	0.92982456
g				8	1
f	AAGTCCCGCA	6	6	2	1
f	AAGTCCCGCA	6	6	3	1
ACT	AAGTCCCGCA	6	6		

GTT	AATTCCGTTA	6	6		
CT	AAGTCCCGCA	6	6		
o	AAGTCCCGCA	6	6	86	0.87209302
g	AAGTCCCGCA	7	7	1975	0.98227848
g				605	0.95867769
TC	AATTCCGATA	8	8		
TCC	TATTCCGATA	6	6		
f	AAGTCCCGCA	11	11	2	1
f				9	1
g	AAGTCCCGCA	6	6	61	0.8852459
g	AAGTCCCGCA	7	7	7	0.85714286
g				677	0.98966027
GAA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	11	11	12	0.91666667
g	AAGTCCCGCA	6	6	10	0.9
c	AAGTCCCGCA	6	6	76	0.96052632
f	AAGTCCCGCA	6	6	40	0.925
f				5	1
GGA	AAGTCCCTTA	12	12		
ACT	AAGTCCCGCA	8	8		
TC	AATTCCGATA	9	9		
f				23	1
g	AAGTCCGCTA	12	11	14	1
GT	AATTCCGATA	6	6		
GG	AATTCCGTTA	6	6		
f	AAGTCCCGCA	6	6	4	1
f	AAGTCCCGCA	9	9	15	0.93333333
f	AAGTCCCGCA	8	8	7	1
g	AAGTCCCGCA	9	9	4	1
GCA	AAGTCCCTTA	6	6		
ACT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	11	10	381	0.8976378
c				177	0.84745763
GCA	AAGTCCCTTA	6	6		
GGA	AAGTCCCTCA	6	6		
f	AAGTCCGAAA	8	8	2	1
f	AAGTCCAGCA	6	6	2	1
f	AAGTCCCGCA	6	6	4	1

CT	AAGTCCCGCA	9	9		
TTA	GATTCCGTCA	6	6		
A					
g	AAGTCCCGCA	6	6	234	0.98290598
CGC	AAGTCCGCTA	6	6		
f	AAGTCCGCAA	12	12	16	1
f	AAGTCCCGCA	6	6	4	1
f	AAGTGACGC	6	6	28	0.85714286
g	AAGTCCCGCA	8	8	3895	0.84698331
CT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	6	6	19	0.89473684
g	AAGTCCCGTA	5	5	6800	0.98867647
GA	AAGTCCCGCA	12	12		
g	AAGTCCCGCA	11	11	935	0.99572193
TCC	AATTCCGATA	6	6		
g	AAGTCCCGCA	6	6	34	1
GCA	AAGTCCCGCA	6	6		
CTC	AAGTCCCTTA	7	7		
g	AAGTCCCGCA	6	6	19	1
CTTT	AATTACGATA	6	6		
f	AAGTCCCGCA	6	6	9	1
f	AAGTCCCGCA	7	7	7	1
CA	AAGTCCCGCA	6	6		
p	AAGTCCACTA	6	6	2	1
AT	AATTCCGATA	5	5		
f	AAGTCCCGCA	10	10	5	1
o	AAGTCCCGCA	6	6	26	1
GGA	AAGTCCCGTA	6	6		
g	AAGTCCATTA	6	6	9	0.88888889
g	AAGTCCCGCA	10	10	4693	0.99403367
f	AAGTCCCGCA	11	11	2	1
f	AAGTCCCGCA	6	6	11	0.90909091
g	AAGTCCCTTA	6	6	12	1
g	GATTCCGTCA	5	5	8	1
c				5	1
ACT	AAGTCCCGCA	6	6		
CG	AATTCCGTTA	5	5		
f	AAGTCCCGCA	10	10	270	0.92222222

TC	AATTCCGATA	8	8		
f				37	0.81081081
f	AAGTCCCGCA	6	6	3	1
'GC	AAGTCCCGCA	9	9		
g	AAGTCCCGCA	10	10	7713	0.97212498
GAA	AAGTCCTATA	6	6		
g				756	0.99338624
g	AAGTCCCGCA	7	7	47	0.91489362
GTC					
o	AAGTCCCGCA	11	11	438	0.84018265
GCA	AAGTCCTGCA	6	6		
g	AAGTCCCGCA	6	6	2	1
ACT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	6	6	29	0.89655172
GAA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	6	6	3	1
g				941	0.9946865
CTC	AAGTCCTCTA	6	6		
f	AAGTCCCGCA	6	6	17	1
AA	AAGTCCCGCA	6	6		
GCA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	12	12	7	0.85714286
o	AAGTCCCGCA	6	6	13	1
CT	AAGTCCCGCA	8	8		
CTTT	AATTACGATA	6	6		
g	AAGTCCCGCA	11	11	622	0.95176849
c				136	0.93382353
g	AAGTCCCGCA	6	6	161	0.93167702
ACT	AAGTCCCGCA	6	6		
g	AAGTCCTGCA	4	4	7440	0.93884409
f	AAGTCCCGCA	6	6	4	1
g	AAGTCCCGCA	6	6	30	1
f	AAGTCCCTTA	6	6	2	1
g				29	0.82758621
g	AAGTCCCTTA	6	6	132	0.97727273
f	AAGTCCCGCA	5	5	4	1
f	AAGTCCCGCA	5	5	3	1
GAA	AAGTCCCGCA	6	6		

g	AAGTCCCGCA	5	5	5	1
g	AAGTCCCGCA	7	7	1630	0.98588957
AAT	AATTCCGATA	5	5		
g				11	0.90909091
c	AAGTCCCGCA	6	6	8	1
GA	AATTGTGATA	9	9		
GAT					
g	AAGTCCTTCA	6	6	8	1
g	AAGTCCCGCA	6	6	6	0.83333333
CT	AATTCCGATA	5	5		
f	AAGTCCCGCA	6	6	3	1
g	AAGTCCCGCA	6	6	36	0.97222222
f	AAGTCCCGCA	6	6	130	0.95384615
g	AAGTCCCGCA	6	6	5	1
AAT					
TGC	AAGTCCGAAA	6	6		
AA	AATTCCGATA	5	5		
g	AAGTCGCGCA	10	10	61	1
TG					
p	AAGTCCCGCA	6	6	2	1
g	AAGTCCCGCA	6	6	2	1
o	AAGTCCCGCA	6	6	2	1
TC					
o	AAGTCCCGCA	5	5	10	0.9
ACT	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	11	11	6	1
GGA	AAGTCCCTTA	8	8		
g	AAGTCCCGCA	6	6	5	1
f				7	1
GCA	AAGTCCCGCA	6	6		
o	AAGTCCCGCA	6	6	7	0.85714286
CTTT	AATTACGATA	5	5		
GCA	AAGTCCCATA	6	6		
GCA	AAGTCCCGCA	6	6		
TC	AATTCCGATA	7	7		
GCC	AAGTCCCGCA	11	11		
GGA	AAGTCCCGCA	6	6		
ACT	AAGTCCCGCA	6	6		

GGA	AAGTCCTCTA	6	6		
g	AAGTCCCGCA	9	9	277	0.94945848
GCA	AAGTCCCGCA	6	6		
g	AAGTCCAGCA	6	6	2	1
f	AAGTCCCATA	6	6	11	0.90909091
GAA	AAGTCCCATA	6	6		
TCA					
p				5	0.8
TCT	AATTCCGATA	6	6		
GT	CAGTCCTATA	6	6		
GGA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	6	6	9	1
g	AAGTCCCGCA	6	6	2	1
f	AAGTCCGAAA	6	6	5	0.8
f				4	1
CA	AATTCCGTTA	5	5		
TCA					
GAA					
CT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	6	6	193	0.82901554
g	AAGTCCCGCA	8	8	94	0.88297872
f				14	0.85714286
GGA	AAGTCCCTTA	6	6		
GCA	AAGTCCTCTA	6	6		
TT	AAGTCCCGCA	9	9		
TGA					
g	AAGTCCCGCA	8	8	262	0.92748092
GGCG					
GCA					
g	AAGTCCCGCA	6	6	12	1
GAC	AAGTCCCGCA	6	6		
TC	AAGTCCCGCA	6	6		
TGA					
CT	AAGTCCCGCA	5	5		
g				1060	0.99056604
f	AAGTCCCGCA	6	6	4	1
g	AAGTCCCGCA	6	6	53	0.9245283
o	AAGTCCCGCA	6	6	6	1

g	AAGTCCCGCA	5	5	3	1
g				11	0.81818182
AC	AAGTCCCGCA	7	7		
ACT	AAGTCCCGCA	6	6		
c	AAGTCCCGCA	10	10	29	0.96551724
GGA	AAGTCCCGCA	6	6		
g				838	0.9928401
c	AAGTCCCGCA	7	7	2	1
g	AAGTCGCGCA	10	10	18	0.94444444
GCA	AAGTCCCGCA	5	5		
CGAG	TATTCCGTTA	6	6		
TGC	AAGTACGCTA	5	5		
g	AAGTCCCGCA	4	4	5	1
ACT	AATTCCGATA	6	6		
AC					
GAA					
o	AAGTCCCGCA	5	5	5	0.8
p	AAGTCCCGCA	6	6	3	1
AC	AATTCCTTTA	6	6		
g	AAGTCCCGCA	6	6	14	1
g				93	1
TTC	GATTCCGTCA	5	5		
GA	AAGTCCTTTA	5	5		
g	AAGTCCTATA	6	6	621	0.99194847
g				27	0.96296296
GGA	AAGTCCCGTA	6	6		
f	AAGTCCCGCA	7	7	2	1
GGA	AAGTCCTCTA	6	6		
f	AAGTCCCGCA	6	6	53	0.88679245
f	AAGTCCCGCA	9	9	6	1
g	AAGTCCCGCA	8	8	2	1
GTG	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	7	7	4	1
CT					
TGC	AAGTCCGCTA	6	6		
CAA	GATTCCGTCA	5	5		
g				211	0.98578199
f	AAGTCCCGCA	6	6	2	1

g				14	1
f	AAGTCCCATA	6	6	14	1
GT	GATTCCGTTA	5	5		
CA					
g	AAGTCCCTTA	9	9	27	0.96296296
g				19	1
GA	AAGTCCCGCA	6	6		
f	AAGTCCCGCA	6	6	3	1
AA	AAGTCCCGCA	6	6		
GA	AATTCCTTTA	5	5		
GC					
f	AAGTCCCGCA	9	9	2	1
CT	AAGTCCCGCA	6	6		
TG	AATTCCGATA	4	4		
AG					
c	AAGTCCCTTA	5	5	243	1
AG					
GA	AAGTCCATTA	9	9		
TC	AAGTCCCGCA	6	6		
f	AAGTCGCTTA	6	6	107	0.85046729
c	AAGTCCAGCA	6	6	2	1
CA	AAGTCCCGCA	10	10		
p	AAGTACGCTA	7	7	11	1
f	AAGTCCCGCA	6	6	65	0.87692308
CT	AAGTCCCGCA	5	5		
AT	AATTCCGATA	6	6		
g				91	0.96703297
c	AAGTCCCGCA	6	6	3	1
GCA	AAGTCCCGCA	6	6		
CA	AAGTCCCGCA	5	5		
AA	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	6	6	210	0.99047619
o				726	0.98209366
CT	AAGTCCCGCA	6	6		
g				54	0.98148148
CC	AAGTCCCGCA	10	10		
AT					
g	GATTCCGTCA	4	4	2	1

AAC					
f				12	1
f	AATTCCGTTA	5	5	80	1
GG	AATTCCGATA	6	6		
CA	AAGTCCCGCA	6	6		
CA					
g				132	0.96212121
g	AATTCCGTTA	4	4	6	0.83333333
g				2	1
GCA	AAGTCCCGCA	6	5		
g	AAGTCCCGCA	6	6	2	1
g				3	1
f	AAGTCCCGCA	6	6	125	0.928
AA	AAGTCCAGCA	5	5		
g	AAGTCCTATA	5	5	24	1
f	AAGTCCCGCA	5	5	311	0.96463023
g	AAGTCCGGCA	5	5	130	0.99230769
g				135	0.93333333
f	AAGTCCCGCA	5	5	3	1
f	AAGTCCCGCA	6	6	9	1
f				13	1
AA					
o				27	0.88888889
g	AAGTCCCGCA	6	6	3	1
GA	AAGTCCCTCA	5	5		
g	AAGTCCCGCA	6	6	3	1
GC					
AAT					
CT	AAGTCCCGCA	8	8		
GGA					
TC					
GGA	AAGTCCCGCA	6	6		
GGA	AAGTCCAGCA	6	6		
CT	AAGTCCAGCA	6	6		
g	AAGTCCCGCA	4	4	16	0.9375
GGA	AAGTCCCGTA	7	7		
TCA					
CT	AAGTCCCGCA	10	10		

TTA	AATTCCGATA	4	4		
g	AAGTCGCTAA	5	5	5	1
CTTT	AATTACGATA	6	6		
f	AAGTCCCGTA	4	4	4	1
g				389	0.97686375
g				2	1
g	AAGTCCTATA	5	5	3	1
GGA	AAGTCCCGCA	6	6		
GCA	AAGTCCCGCA	7	7		
g	AAGTCCCGCA	6	6	3	1
o	AAGTCCCGCA	6	6	2	1
o				2	1
GCA	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	7	7	31	1
f	AAGTCCCGCA	5	4	3	1
CAC	AAGTCCCGCA	2	2		
f	AAGTCCCGTA	4	4	28	1
g	AAGTCCCGCA	4	4	12	1
g	AATTCCGTTA	3	3	26	0.84615385
o	AATTCCGATA	6	6	2	1
GCA	AAGTCCCGCA	4	4		
GCA	AAGTCCCGCA	6	6		
AG					
g				130	0.95384615
g				917	0.98146129
f				8	1
GGA	AAGTCCCGCA	5	5		
g	AAGTCGCTTA	5	5	25	1
g	AATTCAGATA	2	2	15	1
g				48	0.91666667
TC	AAGTCCCGCA	6	6		
CA	AAGTCCCGCA	4	4		
GGA					
ACT	AAGTCCCGCA	5	5		
g	AAGTCCCGCA	5	5	4	1
o				142	0.85915493
T	AATTGCGTTA	7	6		
g				48	1

ACT					
f				3	1
GCA	AAGTCCCGCA	5	5		
G	AATTCCGATA	4	4		
g	AATTGCGATA	4	4	19	0.84210526
GC					
p	AATTTCGATA	7	7	54	1
TTT	AATTACGATA	5	5		
p	AAGTCCCGCA	5	5	2	1
g				174	0.98850575
f	AAGTCCCGCA	6	6	26	1
ACT	AAGTCCCGCA	4	4		
g	AAGTCCCGTA	5	5	1075	0.93767442
g	AAGTCCCGCA	4	4	4636	0.97433132
o	AAGTCCCGCA	5	5	3	1
TT	AAGTCCCGCA	6	6		
p	AAGTCCGCCA	5	5	15	1
g				2	1
TC					
T	AACTCCGATA	4	4		
c				39	1
A					
AG	AACTCCATTA	5	5		
ACT	AAGTCCCGCA	6	6		
CT	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	5	5	2	1
o	AAGTCCCGCA	5	5	2	1
g				30	1
CGC					
g	AAGTCCCGCA	5	5	33	0.96969697
CT					
g	AAGTCCCGCA	5	5	4	1
TC	AAGTCCCGCA	6	6		
GAA	AAGTCCCGTA	8	8		
CTTT					
TC	AAGTCCCGCA	6	6		
AG	AATTCCGTTA	4	4		
g				21	0.80952381

GCAC					
A					
g				453	0.81015453
g				823	0.98420413
g	AAGTCCCGCA	5	5	2	1
GAT	AATTCCGATA	6	5		
f	AAGTCCCGCA	7	7	3	1
GGA	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	6	6	203	0.97536946
ACT	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	5	5	2	1
g				697	0.84505022
g	AAGTCCCGCA	5	5	74	0.85135135
CGC					
o	AAGTCCCGCA	5	5	20	1
GGA	AAGTCCCGCA	4	4		
f				7	1
o				10	1
GTA					
TGC					
GGG	AAGTCCCATA	5	5		
o				6	0.83333333
CT	AAGTCCCGCA	5	5		
f				72	0.86111111
GGA	AAGTCCCGCA	6	6		
g	AAGTCCCGTA	6	6	2	1
g				27	0.96296296
g				348	0.92241379
TGA					
g	AAGTCCCGTA	6	6	11	1
GAAT					
o	AAGTCCCGCA	5	5	12	1
c	AAGTCCCGCA	6	6	18	0.88888889
A	AACTCCATTA	4	4		
g	AAGTCCTTTA	5	5	29	1
f				2	1
o				2	1
TCT	AAGTCCCGCA	5	5		

TC	AAGTCCCGCA	5	5		
f	AAGTCCCGCA	4	4	4	1
CT					
TCA	AATTCCGATA	4	4		
TT	AAGTCCCGCA	5	5		
g	AAGTCCGGCA	5	5	21	1
f				4	1
g	AAGTCCCGCA	5	5	4	1
f	AAGTCCCGCA	5	5	2	1
CT	AAGTCCCGCA	6	6		
TGC	AAGTCCGAAA	6	6		
g				157	0.99363057
g	AAGTCCCGCA	5	5	91	1
GGA	AATTCCGTTA	2	2		
g	AAGTCCCGCA	4	4	68	0.98529412
GAT	AATTCCGATA	4	4		
GGA	AAGTCCCATA	5	5		
g				3	1
TGA					
TTT					
g	AAGTCCCGCA	4	4	35	0.88571429
g	AAGTCCCGCA	4	4	356	0.96629213
GAA					
TC	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	5	5	67	0.86567164
g	AAGTCCCGCA	3	3	26	1
g	AAGTCCCGCA	4	4	5	1
g	AAGTCCCGCA	5	5	4	1
TTA					
TT	AATTCCGATA	4	4		
TGC	AAGTCCCGCA	4	4		
g				2	1
f	AAGTCCCTTA	5	5	7	1
AAG	AAGTCCGGTA	4	4		
TT	AAGTCCCGCA	4	4		
TCA					
CT	AAGTCCCGCA	4	4		
AG					

g				48	1
TGC	AAGTCCGAAA	5	5		
f				602	1
g	AAGTCCCGCA	3	3	53	1
TT	AAGTCCCGCA	2	2		
g				15	0.93333333
g	AAGTCCCGCA	6	6	65	0.84615385
ACT	AAGTCCCGCA	5	5		
TC	AATTCCGATA	4	4		
f				18	0.94444444
g				91	1
g	AAGTCCCGCA	4	4	3	1
ACG					
f	AAGTCCCGCA	3	3	3	1
AT					
A	AACTCCATTA	4	4		
AG	AATTCCGTTA	4	4		
CA					
f	AAGTCCGCAA	4	4	3	1
TG					
p				2	1
GCA					
GC	AAGTCCCGCA	4	4		
AA					
g	AAGTCCTCTA	5	5	5	1
p	AAGTCCCGCA	6	6	2	1
GA	AAGTCCCGCA	3	3		
AAC	AAGTCCGCCA	5	5		
TA					
CT	AAGTCCCGCA	4	4		
TC					
TA					
g	AAGTCCCGCA	4	4	103	0.96116505
GA	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	2	2	3031	0.99241175
f	AAGTCCCGCA	4	4	2	1
GGA	AAGTCCCATA	3	3		
f				3	1

g				3	1
g				12	0.91666667
g				25	1
f				384	0.99479167
TC	AAGTCCCGCA	6	6		
g	AAGTCCCGCA	4	4	57	0.96491228
AA					
g				15	1
g	AAGTCCCGCA	3	3	18	1
g				37	1
GCA	AAGTCCCGCA	5	5		
TA					
g	AAGTCCCTTA	4	4	2	1
o				43	0.97674419
AG					
CT	AAGTCCCGCA	4	4		
f	AAGTCCCGCA	4	4	2	1
g				244	0.91803279
o	AAGTCCCTTA	4	4	3	1
GCA					
GGA					
AG					
GCA	AAGTCCCGCA	2	2		
AG	AATTCCGTTA	4	4		
GA					
f	AAGTCCCGCA	5	5	2	1
AAT	AATTCCGATA	4	4		
TC	AAGTCCCGCA	5	5		
g				8	0.875
g				88	1
f				5	1
GC					
f				13	1
GCT	AAGTCCCGCA	5	5		
f	AAGTCCCGCA	2	2	2	1
TC	AAGTCCCGCA	6	6		
GGA	AAGTCCCGCA	5	5		
ACT	AAGTCCCGCA	2	2		

p				25	1
g				40	0.85
ACT	AAGTCCGGCA	5	5		
CT	AAGTCCCGCA	5	4		
g	AAGTCCCGCA	3	3	10	1
AA					
TT					
g				2854	0.90434478
GC	AAGTACCCTA	3	3		
c	AAGTCCCGCA	5	5	9	1
o	AAGTCCCGCA	4	4	6	0.83333333
g	AAGTCCCGCA	5	5	2	1
CT					
GG					
p	AAGTCCAGCA	2	2	3	1
TC	AAGTCCCGCA	6	6		
GGA	AAGTCCCGCA	4	4		
GGA	AAGTCCCGTA	2	2		
f				6	1
c	AAGTCCTATA	4	4	4	1
TC	AAGTCCCGCA	5	5		
c	AAGTCCCATA	2	2	9	1
g	AAGTCCCGCA	4	4	2	1
g	AAGTCCCGCA	4	4	6	1
c				8	0.875
CT	AAGTCCCGCA	5	5		
GTA					
g				4	1
g	AAGTCCCGCA	5	5	20	0.95
o	AAGTCCCGCA	5	5	7	1
CT	AAGTGACGC	3	3		
CT	AAGTCCCGCA	5	5		
GG	AATTCCGTTA	2	2		
g				10	0.9
c				261	0.96551724
g	AAGTCCCGCA	4	4	6760	0.99571006
GCA	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	3	3	170	0.97647059

GG	AAGTCCCGCA	3	3		
GC					
GGA					
GCC					
AG					
ACT	AAGTCCCGCA	3	3		
GAT					
f				4	1
CTC	AAGTCCTCTA	3	3		
o				9	1
CT	AAGTCCCGCA	3	3		
GCA					
g				30	1
AA					
CT					
o				45	0.91111111
g	AAGTCCCGTA	3	3	3	1
f	AAGTCCTCTA	4	4	2	1
CT	AAGTCCCGCA	4	4		
f	AAGTCCCGCA	3	3	10	1
TC					
GGA	AAGTCCATTA	3	3		
AG					
g				7	1
CA	AAGTCCCGCA	3	3		
f	AAGTCCCGCA	4	4	9	1
AA	AACTCCTTTA	1	1		
GCA					
g				39	0.97435897
GCA					
CT	AAGTCCCGCA	4	4		
g				725	0.91586207
GGA					
g	AAGTCCCGCA	3	3	3	1
G	AATTCCGATA	4	4		
TCG					
AG	AATTCCGTTA	4	4		
GGA					

g				307	0.83387622
CG					
g				21	1
g	AAGTCCCGCA	2	2	2	1
AG					
g	AAGTCCTATA	4	4	8	1
k	AATTCCGATA	1	1	4	1
GT	AATTCCGTTA	3	3		
CT	AAGTCCCGCA	5	5		
TA	AATTCCGATA	3	3		
g				3	1
g				50	0.98
g	AAGTCCCGCA	5	5	2	1
g				767	0.92959583
CT	AAGTCCCGCA	4	4		
f	AAGTCCCGCA	3	3	11	1
g				82	0.98780488
TC	AAGTCCCGCA	5	5		
g	AAGTCCCGCA	3	3	2435	0.97946612
G					
AG	AATTCCGTTA	2	2		
TC	AAGTCCCGCA	4	4		
GAC	AAGTCCCGCA	3	3		
TC					
TA					
TCT					
AG					
f	AAGTGACGCA	2	2	5	1
GCA	AAGTCCCGCA	3	3		
f				16	0.9375
p	AAGTCCGTCA	2	2	4	1
o				127	0.99212598
CT					
TGC					
GAC					
TC	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	3	3	20	1
CT					

GAA					
g	AAGTCCCTTA	3	3	37	1
ACT	AAGTCCCGCA	4	4		
ACT	AAGTCCCGCA	4	4		
CTC					
TGC					
TGC					
f				14	1
GGA					
ACT					
GA	AACTCCATTA	2	2		
g				5956	0.99764943
g	AAGTCCCGCA	2	2	53	0.9245283
AT					
g	AAGTCCGGCA	3	3	6	1
f				39	0.82051282
TG	AATTCCGATA	2	2		
g	AAGTCCCGCA	3	3	38	0.97368421
GT					
ACT	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	3	3	2	1
AT					
p				5	1
f				2	1
ACT					
o				8	1
TC	AAGTCCCGCA	4	4		
AAG					
f	AAGTCCCGCA	2	2	32	0.9375
g				3	1
AG					
GGA	AAGTCCCTTA	2	2		
g	AAGTCCCGTA	3	3	24	1
g	AAGTCCCGCA	2	2	3	1
GGA	AAGTCCCGCA	2	2		
GT					
c	AAGTCCCCTA	3	3	6	1
TAT					

f	AAGTCCCGCA	3	3	5	1
TC	AAGTCCCGCA	4	4		
g	AAGTCCCGCA	3	3	6	1
CC	AAGTCCCGCA	3	3		
g	AATTGCGATA	2	2	9	1
g	AAGTCCCTTA	2	2	5	1
CT					
AG					
CT	AAGTCCCGCA	3	3		
f	AAGTCCCGCA	3	3	6	0.83333333
GT					
g	AAGTCCCGCA	3	3	8	1
TC	AAGTCCCGCA	3	3		
TC					
AG	AATTCCGTTA	2	2		
ACT	AAGTCCCGCA	2	2		
g	AAGTCCCGCA	2	2	12	0.91666667
TC	AAGTCCCGCA	4	4		
GGA	AAGTCCCTTA	3	3		
g				19	1
GGA					
AG	AATTCCGTTA	2	2		
TC	AAGTCCCGCA	4	4		
TC	AAGTCCCGCA	3	3		
AAC	AAGTCCCGCA	2	2		
GCA	AAGTCCCGCA	2	2		
GGA					
TC	AAGTCCCGCA	3	3		
TC	AAGTCCCGCA	3	3		
CAC	AAGTCCCGCA	2	2		
AG					
TGC	AAGTCCCGCA	3	3		
g				39	1
CT	AAGTCCCGCA	5	5		
TC	AAGTCCCGCA	3	3		
g				7	1
f				3	1
AG	AATTCCGTTA	3	3		

AG					
GAA					
GGA					
f	AAGTCCCGCA	2	2	9	0.88888889
g	AAGTCCCGCA	4	4	2	1
AG					
AG	AATTCCGTTA	2	2		
CT	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	4	4		
CT					
GGA	AAGTCCCTTA	2	2		
ACT	AAGTCCGGCA	2	2		
c				5	0.8
CG	AAGTCCCGCA	2	2		
GAA	AAGTCCCGCA	3	3		
o				9	0.88888889
TC	AAGTCCCGCA	4	4		
AG					
GA	AAGTCCCTTA	2	2		
g				1830	0.9704918
f	AAGTCCCGCA	3	3	76	0.92105263
TGA	AATCCCGATA	2	2		
f				7	1
TT					
CAC	AAGTCCCGCA	2	2		
AG					
g				446	0.96188341
GA	AAGTCCCGCA	2	2		
CT	AAGTCCCGCA	3	3		
GGA	AAGTCCCTCA	2	2		
c				3	1
TC	AAGTCCCGCA	4	4		
o	AAGTCCCGCA	3	3	62	0.80645161
AG	AATTCCGTTA	2	2		
GA	AAGTCCCGCA	2	2		
CT	AAGTCCCGCA	3	3		
g	AAGTCCCGCA	1	1	4	1
f	AAGTCCCGCA	1	1	16	0.875

f	AAGTCCCGCA	3	3	44	0.90909091
CT					
GGA					
G	AATTCCGATA	2	2		
g				22	1
GC					
f	AAGTCCCGCA	2	2	23	1
f				10	1
GAA	AAGTCCCGCA	2	2		
GGAG					
AAC	AATTCCGATA	1	1		
GCA	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	2	2	10	1
TC					
CT	AAGTCCCGCA	3	3		
g	AAGTCCCGTA	2	2	5	1
TC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	3	3		
AG					
TC	AAGTCCCGCA	3	3		
TGC					
f	AAGTCCCGCA	2	2	8	1
g	AAGTCCCGCA	2	2	647	1
CGGC					
AG					
GCA					
GAA	AAGTCCCTTA	2	2		
AG	AATTCCGTTA	2	2		
TGT					
f				17	1
CT	AAGTCCCGCA	3	3		
GGA					
o	AAGTCCCGCA	2	2	12	1
o	AAGTCCCGCA	2	2	9	1
p				5	1
g				16	1
TC	AAGTCCCGCA	3	3		
GA					

GT					
CT	AAGTCCCGCA	2	2		
TA					
g	AAGTCCCGCA	2	2	4	1
CT	AAGTCCCGCA	2	2		
f	AAGTCCCGCA	4	4	5	0.8
AT	AATTCCGTT	1	1		
g				22	0.81818182
f	AAGTCCCGCA	3	3	4	1
CGAG	AATTCCGTT	2	2		
TC	AAGTCCCGCA	2	2		
GT	AATTCCGATA	2	2		
CT	AAGTCCCGCA	2	2		
CT					
GG	AAGTCCCATA	2	2		
TC	AAGTCCCGCA	3	3		
GCA					
f	AAGTCCCGTA	2	2	2	1
o				7	0.85714286
f	AAGTCCCGCA	1	1	25	1
GAG					
CT	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	2	2	114	0.97368421
CA					
AG					
TC	AAGTCCCGCA	3	3		
TC	AAGTCCCGCA	4	4		
TC	AAGTCCCGCA	2	2		
g				196	0.95918367
CT	AAGTCCCGCA	2	2		
g				30	0.83333333
AG					
CC	AAGTCCCGCA	2	2		
CT	AAGTCCCGCA	3	3		
g	AAGTCCCGCA	2	2	2	1
ATG	AATCCCGATA	2	2		
TA	AAGTCCCTCA	2	2		
AA					

AG					
ACT	AAGTCCCGCA	2	2		
AG					
CT	AAGTCCCGCA	3	3		
g	AAGTCCCGTA	2	2	4	1
TT					
TT					
TC	AAGTCCCGCA	2	2		
ATTC	AATCCCGATA	1	1		
TTTT	AATCCCGATA	1	1		
GGC					
GCC					
ACT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	31	0.96774194
ACT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	18	0.94444444
g				9	1
o				4	1
ACT	AAGTCCCGCA	2	2		
GAC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	4	4		
f				31	1
TTT	GATTCCGTCA	2	2		
AAC					
g				247	0.99595142
f	AAGTCCCGCA	2	2	4	1
TC	AAGTCCCGCA	3	3		
g	AAGTCCCGCA	2	2	18	0.83333333
g	AAGTCCCGCA	2	2	274	0.8649635
f				25	0.8
f	AAGTCCCGCA	2	2	2	1
GCA					
GAT					
ACT	AAGTCCCGCA	1	1		
g	AAGTCCCGTA	1	1	4	1
AAC	AAGTCCCGCA	1	1		
GAA	AAGTCCCGCA	1	1		
GGA					

f	AAGTCCCGCA	2	2	8	0.875
g				5	1
AG	AATTCCGTTA	2	2		
AG					
CAC	AAGTCCCGCA	1	1		
TG	AATTCCGATA	1	1		
GAT	AATTCCGTTA	1	1		
g				16	1
p	AAGTCCCGCA	2	2	6	0.83333333
ATG					
CTG					
CT					
GCA	AAGTCCCGCA	2	2		
CT	AAGTCCCGCA	2	2		
AAT	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	1	1	86	1
T	AATTCCGATA	1	1		
CT					
TC	AAGTCCCGCA	2	2		
GCA	AAGTCCCGCA	1	1		
AT	AAGTCCCGCA	2	2		
g				28	1
AG	AATTCCGTTA	1	1		
CT	AAGTCCCGCA	1	1		
GT					
CT	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	2	2		
o	AAGTCCCGCA	3	3	5	1
GAA					
g	AAGTCCCGCA	1	1	17	1
f	AAGTCCCGCA	1	1	16	1
ATG					
GAC	AAGTCCCGCA	1	1		
TC					
GT					
GGAT					
CT					

CT	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	2	2		
g	AAGTCCCGCA	1	1	5	1
AG					
CT					
TC	AAGTCCCGCA	2	2		
g	AAGTCCCGCA	1	1	70	1
GGT	AAGTCCGATA	1	1		
AG					
GC	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	9	1
AA	AAGTCCTATA	1	1		
GG					
AAC	AAGTCCCGCA	1	1		
AG	AATTCCGTT	1	1		
CT	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
ACT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
g	AATTCCGTT	1	1	121	0.99173554
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
T	GATTGTGATA	1	1		
AT	AATTCCGATA	1	1		
TC	AAGTCCCGCA	2	2		
CT	AAGTCCCGCA	2	2		
AG					
GA					
ATG					
g	AAGTCCCGCA	1	1	10	1
ATG	AATCCCGATA	1	1		
TCG	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
TA	AATTCCGATA	1	1		
AAC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	2	2		

CT					
TAG	AATTCCGTTA	1	1		
GT					
AG					
AG					
g	AAGTCCCGCA	2	2	4	1
GT					
o				2	1
CT	AAGTCCCGCA	1	1		
GC					
GGA					
CG					
g				7	1
g	AAGTCCTGCA	1	1	80	0.95
GCA	AAGTCCCGCA	1	1		
GC					
g	AAGTCCCTTA	1	1	4	1
g				9	1
AC	AAGTCCTCTA	1	1		
GAA	AAGTCCTTTA	1	1		
TT	AAGTCCCGCA	1	1		
TT	AATTGCGATA	1	1		
TAA	AATCCCGATA	1	1		
AAC	AAGTCCCGCA	1	1		
GAA	AAGTCCCGCA	1	1		
GT					
f				6	1
CT	AAGTCCTGCA	1	1		
GCA	AAGTCCCGTA	1	1		
GG					
g	AAGTCCCGTA	1	1	16	0.8125
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
TT					
g	AAGTCCCGCA	1	1	6	0.83333333
AA					
CT	AAGTCCCGCA	1	1		

g	AAGTCCCGCA	1	1	9	1
ACT					
AC					
CC	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	355	0.98309859
g	AATTGCGATA	1	1	26	0.80769231
CT	AAGTCCCGCA	1	1		
GCA					
CTC	AAGTCCCGCA	2	2		
TC					
ACT					
ACT	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	1	1		
GT	AATTCCGATA	1	1		
GT					
CAC					
f	AAGTCCCGCA	1	1	2	1
ACT	AAGTCCCGCA	1	1		
GAA					
f	AAGTCCCGCA	1	1	3	1
CT	AAGTCCCGCA	1	1		
ACT	AAGTCTCGCA	1	1		
GCA	AAGTCCCGCA	1	1		
o				100	0.98
CT	AAGTCCCGCA	2	2		
ACT					
CT					
CC	AAGTCCCGCA	2	2		
GAA	AATCCCGATA	1	1		
CA					
AA					
GGA	AAGTCCCGCA	1	1		
ATA					
GGA					
AG					
CCT	AAGTCCCGCA	1	1		
ATG	AATCCCGATA	1	1		
GATG	AATCCCGATA	1	1		

CT	AAGTCCCGCA	1	1		
CAC	AAGTCCCGCA	1	1		
AA					
CT	AAGTCCCGCA	1	1		
AA					
AG	AATTCCGTTA	1	1		
TGA	AATCCCGATA	1	1		
TC	AAGTCCTCTA	1	1		
TC					
ACT	AAGTCCCGCA	2	2		
CTC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	3	3		
CTC	AAGTCCCGCA	2	2		
g	AATTCCGTTA	1	1	2	1
o				157	0.96178344
p	AATTCCGTTA	1	1	2	1
TT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	36	1
AAG	TATTCCGTTA	1	1		
AAC	AAGTCCCGCA	1	1		
ACT	AAGTCCCGCA	1	1		
GCT					
CCG					
GT					
GTA	AAGTCCTCTA	1	1		
CT	AAGTCCCGCA	1	1		
GAT					
ACT	AAGTCCCGCA	1	1		
GT					
ATT	AAGTCCCGCA	1	1		
CAC					
CT	AAGTCCCGCA	1	1		
GAA	AAGTCCCGTA	1	1		
ACT					
GT	AATTCCGATA	1	1		
CTG	AATTCCGTTA	1	1		
g	AAGTCCCGCA	1	1	569	0.82073814
TA	AAGTCCCGCA	2	2		

o	AAGTCCCGCA	2	2	5	1
GAA	AAGTCCTATA	1	1		
g	AATTCCGTTA	1	1	2	1
ATT					
GGA	AAGTCCCTTA	1	1		
g	AAGTCCCGCA	1	1	567	1
TAC					
CT	AAGTCCCGCA	1	1		
TT					
GCA	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	127	0.99212598
c	AAGTCCTGTA	1	1	10	1
TAA	AATCCCGATA	1	1		
CT	AAGTCCCGCA	1	1		
ACC	AATCCCGATA	1	1		
CT	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	1	1	3	1
CC	AAGTCCGGTA	1	1		
ATG	AATCCCGATA	1	1		
CA	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
p				3	1
ATG	AATCCCGATA	1	1		
GCA	AAGTCCCGCA	1	1		
GAA	AAGTCCTATA	1	1		
CGA					
TC	AAGTCCCGCA	3	3		
o	AAGTCCCGTA	1	1	2	1
GCA	AAGTCCCGCA	1	1		
GT					
CT	AAGTCCCGCA	1	1		
g				2	1
f	AAGTCCCGCA	1	1	3	1
GA	AAGTCCCGCA	1	1		
AT					
c	AAGTCCCGCA	1	1	5	0.8
GT					
CT	AAGTCCCGCA	1	1		

TG	AATTCCGATA	1	1		
TGC					
TT					
CTT	AAGTCCCGCA	1	1		
AC	AATTCCGATA	1	1		
g				47	0.87234043
g	AAGTCCCGCA	1	1	9	0.88888889
ACT	AAGTCCGGCA	1	1		
ACT	AAGTCCCGCA	1	1		
f				26	0.80769231
ACT	AAGTCCCGCA	1	1		
o	AAGTCCCGCA	1	1	30	1
GT	AATTCCGATA	1	1		
GAA					
f	AAGTCCAGCA	1	1	3	1
CT					
g	AAGTCCCGCA	1	1	13	1
CT	AAGTCCCGCA	1	1		
ACT					
ATT	AATCCCGATA	1	1		
AT	AATTCCCTTA	1	1		
CT	AAGTCCCGCA	1	1		
ACT	AAGTCCCGCA	1	1		
CCG					
GA	AAGTCCCGCA	1	1		
AAC	AAGTCCTATA	1	1		
GG	AATTGCGCTA	1	1		
GA					
GCA					
TC	AATTCCGATA	1	1		
GAC	AATTTCGATA	1	1		
ACT					
GCA					
ATT	AATCCCGATA	1	1		
AAC	AAGTCCCGCA	1	1		
AT					
CT	AAGTCCCGCA	1	1		
AA	AAGTCCCGCA	1	1		

CT	AAGTCCCGCA	1	1		
GA	AAGTCCCGCA	1	1		
CA	AAGTCCCGCA	1	1		
AT	CAGTCCAAAA	1	1		
ATG	AATCCCGATA	1	1		
AAC	AAGTCCCGCA	1	1		
CCG	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	1	1	30	1
g	AATTCCGTTA	1	1	12	0.91666667
TCC					
CT					
AAC					
AGC	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
AAC					
CT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	24	1
TC					
TGC	AAGTCCGAAA	1	1		
f				2	1
TT	AAGTCCCGCA	1	1		
TTTC	AATCCCGATA	1	1		
TTTC	AATCCCGATA	1	1		
GGA	AAGTCCCATA	1	1		
CT					
AAC	AAGTCCCGCA	1	1		
g	AAGTCCCATA	1	1	2	1
TGA	AATCCCGATA	1	1		
g				4168	0.98872361
GCA	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	2	2		
TC					
CT					
CT					
AAC	AAGTCCCGCA	1	1		
AGC	CAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
AA					

ATC	AAGTCCCGCA	1	1		
TCT					
GGA					
GGG					
ATG	AATCCCGATA	1	1		
ACT	AAGTCCCGCA	1	1		
g				18	1
f	AAGTCCCGCA	1	1	4	1
TT	AATTCCGATA	1	1		
o	AAGTCCCGCA	1	1	2	1
ATG					
GGA	AAGTCCCGCA	1	1		
GGA	AAGTCCCGCA	1	1		
TT	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	2	1
AA	AATTCCCTTA	1	1		
GGA					
GCA					
CCT	AATTCCGATA	1	1		
TGA	AATCCCGATA	1	1		
GGG					
AAC	AAGTCCCGCA	1	1		
g				2	1
f	AAGTCCCGCA	1	1	8	1
A	AATTCCTTTA	1	1		
ATG	AATCCCGATA	1	1		
GCA	AAGTCCCGCA	1	1		
f				5	1
CTG	AAGTCCTGTA	1	1		
AG	AATTCCGTTA	1	1		
g	AAGTCCCGCA	1	1	24	0.95833333
AT	AAGTCCCGCA	1	1		
ACT	AAGTCCCGCA	1	1		
p	AAGTCCCGCA	1	1	3	1
GCA	AAGTCCCGCA	1	1		
AT					

TC	AATTCCGATA	1	1		
GT	AATTCCGATA	1	1		
GAA	AAGTCCCGCA	1	1		
CT					
TCG	AAGTCCCGCA	1	1		
GAT	AATTCCGTTA	1	1		
GAA	AAGTCCCGTA	1	1		
g	AATTGCGATA	1	1	291	1
AA					
GAA	AAGTCCCATA	1	1		
CT	AAGTCCCGCA	1	1		
GT					
GCA	AAGTCCCGCA	1	1		
GCA	AAGTCCCGCA	1	1		
GAA					
ACT	AAGTCCCGCA	1	1		
GGA	AAGTCCCGCA	1	1		
ACT	AAGTCCCGCA	1	1		
TCC	AAGTCCCGCA	1	1		
GCA					
AAG	TATTCCGTTA	1	1		
g	AAGTCGCTAA	1	1	2	1
f	AAGTCCCGCA	1	1	4	1
AAC					
AT					
g	AAGTCCCGCA	1	1	3	1
GAT	AATTCCGTTA	1	1		
CC	AAGTCCCGCA	1	1		
AAC	AAGTCCCGCA	1	1		
AATG	GATTCCGATA	1	1		
GGTG					
g	AAGTCCCGCA	1	1	1916	0.99843424
GCA					
T	AACTTCTGTA	1	1		
GGA	AAGTCCCGCA	1	1		
AAT	AAGTCCCGCA	1	1		
p	AAGTCCTCTA	1	1	2	1
CTT					

g				91	0.95604396
g				11	1
g	AAGTCCCGCA	1	1	2	1
g	AAGTCCCGCA	1	1	2	1
ACT	AAGTCCCGCA	1	1		
GGA	AAGTCCCGCA	1	1		
GCG	AAGTCCCGCA	1	1		
g				3	1
CTA	AAGTCCCGCA	1	1		
o				5	0.8
o	AAGTCCCGCA	1	1	3	1
GCA	AAGTCCCGCA	1	1		
AAG	TATTCCGTTA	1	1		
GCA	AAGTCCCGTA	1	1		
g	AAGTCCCGCA	1	1	439	0.92027335
g	AAGTCCCGCA	1	1	18	0.94444444
GT					
GAT	AATTCCGTTA	1	1		
g	AAGTCCCGCA	1	1	4726	0.98011003
CGC					
GCG					
f	AAGTCTCGCA	1	1	3	1
CTG	AAGTCCTGTA	1	1		
AGA					
f				128	0.9765625
G					
ACT					
CTT	AAGTCCCGCA	1	1		
CGC	AATTCCGATA	1	1		
o	AAGTCCCGCA	1	1	4	1
TT					
o	AAGTCCCATA	1	1	3	1
g	AAGTCCCGCA	1	1	5	1
CTG	AATTCCGATA	1	1		
AAG	TATTCCGTTA	1	1		
ATT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	2	1
CT	AAGTCCCGCA	1	1		

g	AAGTCCCGCA	1	1	94	0.96808511
CT					
g	AAGTCCGGC	1	1	7	0.85714286
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
CT					
o	AAGTCCCGCA	1	1	11	1
TC	AAGTCCCGCA	1	1		
g	AAGTCCGGC	1	1	202	1
GGG					
TC	AAGTCCTCTA	1	1		
g	AAGTCCCGCA	1	1	70	0.98571429
g	AAGTCCCGCA	1	1	5	0.8
GCA					
TC					
CT					
g	AAGTCCCGCA	1	1	2	1
AT	AATTCCGTTA	1	1		
TGC	AAGTCCACTA	1	1		
CT	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	1	1	3	1
GGA	AAGTCCCGCA	1	1		
g				2	1
p	AAGTCCCGCA	1	1	7	1
CT	AAGTCCCGCA	1	1		
AG	AATTCCGTTA	1	1		
GGA					
AG					
CT	AAGTCCCGCA	1	1		
AG	AATTCCGTTA	1	1		
ACT	AAGTCCCGCA	1	1		
AC	AAGTCCGCTA	1	1		
CA					
TT	AAGTCCCGCA	1	1		
AG	AATTCCGTTA	1	1		
CT	AAGTCCCGCA	1	1		
CT	AAGTCGGGT	1	1		
CT	AAGTCCCGCA	1	1		

GT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
ATT	AATCCCGATA	1	1		
GAA	AAGTCCTATA	1	1		
AG	AATTCCGTTA	1	1		
ATG	AATCCCGATA	1	1		
GT					
AG	AATTCCGTTA	1	1		
g	AAGTCCCGTA	1	1	4	1
AG					
g	AAGTCCAGCA	1	1	12	1
GT					
CT	AAGTCCCGCA	1	1		
GAA					
AT					
CT					
TTG					
TC	AAGTCCCGCA	2	2		
AT					
g	AAGTCCCGCA	2	2	9	1
TC	AAGTCCCGCA	1	1		
GAA					
GAA					
o				14	1
g	AAGTCCCGCA	1	1	670	0.96567164
CT	AAGTCCCGCA	1	1		
o				16	1
CT	AAGTCCCGCA	1	1		
o				5	0.8
TAT	ACGTCCTTCA	1	1		
AC	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
AG					
g				27	0.92592593
A					
f	AAGTCCCGTA	1	1	17	1
GAA	AAGTCCTTTA	1	1		
GA	AAGTCCCATA	1	1		

p	AAGTCCCTTA	1	1	21	0.80952381
g	AAGTCCCGTA	1	1	3	1
p	AAGTCCCGCA	1	1	3	1
g	AAGTCCCGCA	1	1	705	0.83262411
f				65	0.89230769
g				191	0.82722513
CT					
o	AAGTCCCGCA	1	1	2	1
g				19	0.89473684
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
g				2	1
g	AAGTCCCGCA	1	1	3	1
CA	AAGTCCCGCA	1	1		
AC					
AAA					
f	AAGTCCCTTA	1	1	40	1
g				21	0.9047619
CA	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	3	1
GG	AATTCCGTTA	1	1		
CT	AAGTCGCGCA	1	1		
CT					
AA					
g				19	0.94736842
AT	AAGTCCCGCA	1	1		
CT					
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
f	AAGTCCCGCA	1	1	17	0.94117647
AA					
CA					
g	AAGTCCCGCA	1	1	63	1
GTA					
CT	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	2	2		

g				84	0.9047619
g				9	1
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TG	AATTCCGTTA	1	1		
AG	AATTCCGTTA	1	1		
TC	AAGTCCCGCA	2	2		
TC	AAGTCCCGCA	1	1		
c	AAGTCCCGCA	1	1	498	0.99799197
TC					
CT					
CT	AAGTCCCGCA	1	1		
GT					
GT					
GA	AATTCCGATA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
GT					
CT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
GG					
AG	AATTCCGTTA	1	1		
AG					
AAC	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	2	1
AAC					
CT					
g				10	1
AT	AAGTCCCGCA	1	1		
g	AAGTCCCGCA	1	1	7	1
AT	AAGTCCCGCA	1	1		
CT	AAGTCCCGCA	1	1		
AG					
AG					
CT					

AG	AATTCCGTTA	1	1		
AG	AATTCCGTTA	1	1		
TC	AAGTCCCGCA	1	1		
CT					
g	AAGTCCCGCA	1	1	3	1
f	AAGTCCCGCA	1	1	6	1
f	AAGTCCCGCA	1	1	10	1
g				3	1
g	AAGTCCCGCA	1	1	23	1
g	AAGTCCCGCA	1	1	15	1
TC					
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TG					
TC					
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC					
f	AAGTCCCGCA	1	1	2	1
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		
TC	AAGTCCCGCA	1	1		

k	p	c	o	f	g
Bacteria	Proteobacteri	Betaproteobacteria			Comamonas
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Zoogloea
Bacteria	Proteobacteri	Gammaproteobacteria			Candidatus C
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Gallionellaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteriaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Denitratisom
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus A
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166	
Bacteria					
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolinea	Ornatilinea
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Bacteroidetes	Cytophagia	Cytophagales		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes				
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria					
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Pr
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Haliangiaceae	Haliangium
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteriaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 wastev
Eukaryota	Metazoa				
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Holophagae	Subgroup 7		

Bacteria					
Eukaryota	Basidiomycot	Tremellomyc	Tremellales	Trichosporon	Trichosporon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetac	Spirochaeta
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteriaceae	
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Epistylis
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Betaproteoba	Methylophila	Methylophilaceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Eukaryota	Basidiomycot	Tremellomyc	Tremellales	Trichosporon	Trichosporon
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Proteobacteri	Gammaprote	Order Incerta	Family Incerta	Marinicella
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	GOUTB8	
Bacteria	Proteobacteria				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Micrococcaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	NS9 marine group	
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiacea	Haliangium
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Oxalobactera	Massilia
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Planctomycet	BD7-11			
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomona	Nitrosomona
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Echinamoeba
Bacteria	Firmicutes	Bacilli	Lactobacillale	Lactobacillace	Lactobacillus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bosea
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineac	Ornatilinea
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Deltaproteobacteria			

Bacteria	Candidate division OP11				
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteria	Microbacteriu
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Niastella
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	AKIW1012	
Bacteria	Elusimicrobia	Elusimicrobia	MVP-88		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		Reyranella
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangi	Tetrasphaera
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Defluviicoccus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Deltaproteob	Sva0485		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Phaselicystida	Phaselicystis

Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineac	Ornatilinea
Bacteria	Planctomycet	OM190			
Bacteria	Actinobacteri	Actinobacteri	PeM15		
Eukaryota	Cercozoa	Novel Clade Gran-3			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteria	BSV26	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM2D12	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomonadales		
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Metallibacteri
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo
Bacteria	Acidobacteria			Holophagaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		

Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		Aquabacteriu
Bacteria					Lactobacillus
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus O
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	mle1-27	
Bacteria					
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Chloroflexale	Candidatus Ch
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Deltaproteob	Desulfuromo	GR-WP33-58	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	

Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobia	Bradyrhizobiu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Chitinimonas
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Segetibacter
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	Polyangiacea	Sorangium
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Chloroflexi				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaeraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Acidobacteria	Holophagae	Subgroup 10	ABS-19	
Bacteria	Planctomycetes			Planctomycetaceae	
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Eubodonida	Bodo
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		

Bacteria	Bacteroidetes		Sphingobacte	env.OPS 17	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	SC-I-84		
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagacea	Holophaga
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteriaceae	
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenacea	Parasutterella
Bacteria	Chloroflexi	KD4-96			
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Cloacibacteriu
Bacteria					
Bacteria					
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		Telmatospirill
Bacteria					Phycisphaera
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		

Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Polyangiacea	Byssovorax
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Brevundimon
Bacteria		Actinobacteri	Propionibacteriales		
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Sediminibacte
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Hirschia
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadales Incertae	
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales		
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiacea	Haliangium
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Neochlamydia
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Armatimonadetes				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Proteobacteria				Magnetococc
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Bacteroidetes		Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Actinobacteri	Actinobacteria			
Bacteria					
Bacteria	Proteobacteri	Betaproteoba	Methylophila	Methylophila	Methylobacill
Bacteria	Acidobacteria	Acidobacteria			

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	
Bacteria	Proteobacteri	Betaproteoba	Nitrosomonadales		Nitrosomona
Bacteria	Chloroflexi	TK10			
Eukaryota	Ascomycota	Sordariomycetes			
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Verrucomicro	Opitutae	Opitutales	Opitutaceae	Opitutus
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Caulobacter
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Candidate division BRC1				
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Acidimicrobia	CL500-29 mar
Bacteria					
Bacteria	Bacteroidetes	Flavobacterii	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria					
Bacteria		Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagace	Geothrix
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicrobiaceae	
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	

Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria					
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Bacteria					
Bacteria					
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	AKAU3564 sediment group	
Bacteria					
Bacteria	Chloroflexi				
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	MNG7	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Actinobacteria				
Bacteria	Bacteroidetes				Capnocytopha
Eukaryota	Euglenozoa	Kinetoplastea	Metakinetopl	Neobodonida	Neobodo

Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	NS11-12 marine group	
Eukaryota	Phragmoplast	Embryophyta			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Eukaryota	Ochrophyta	Chrysophycea	Chromulinales		Poterioochror
Bacteria	Bacteroidetes				Reichenbachi
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Prevotellacea	Prevotella
Bacteria				Planctomycet	Pirellula
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteriaceae	
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	SJA-28	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Proteobacteri	Deltaproteob	Sva0485		
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Pedomicrobiu

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Eukaryota	Gracilipodida				Filamoeba
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Flavobacteriu
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiaceae	Haliangium
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Woodsholea
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	0319-6G20	
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	DEV007	
Bacteria	Firmicutes	Bacilli	Lactobacillales		
Eukaryota	Tubulinea	Arcellinida	Echinamoebida		Vermamoeba
Eukaryota	Discosea	Flabellinia	Vannellida		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria					
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Eukaryota	Heterolobose	Tetramitia			Naegleria
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Defluviimonas
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus Ca
Bacteria	Proteobacteria				
Bacteria					

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Eukaryota	Ascomycota	Sordariomyce	Microascales	Microascaceae	
Eukaryota	Metazoa				
Bacteria	Candidate division BRC1				
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	I-10	
Bacteria	Proteobacteri	Gammaproteobacteria		Chromatiaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Burkholderia
Bacteria	Actinobacteri	Thermoleoph	Gaiellales		
Bacteria	Armatimonadetes				
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Candidatus Rh
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillac	Defluviicoccus
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Nitrospirae	Nitrospira	Nitrospirales	Nitrospiracea	Nitrospira
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Proteobacteria				Bdellovibrio

Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Nannocystac	Nannocystis
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiraceae	
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobactera	Stella
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria					
Bacteria					
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17		
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaer
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Aquicella
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria					

Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Spirochaetaceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Microbacteriaceae	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacteriales		
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale	Roseiflexacea	Roseiflexus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Pseudomona	Pseudomonas
Bacteria	Proteobacteri	Deltaproteob	Myxococcale	Haliangiaceae	Haliangium
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingopyxis
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydiaceae	
Bacteria	Cyanobacteri	Cyanobacteri	SubsectionI	FamilyI	Prochloron
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiacea	Rickettsia
Bacteria	Proteobacteri	Gammaprote	Xanthomona	Xanthomona	Candidatus Co
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Rhodoplanes
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrob	Devosia
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Bradyrhizobiaceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Flavitalea
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria					
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Candidate division BRC1				
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	SHA-109				
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Caulobacter
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria					

Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Eukaryota	Ochrophyta	Chrysophycea	Chromulinales		Poterioochror
Bacteria	Chloroflexi	Chloroflexia	Chloroflexale:	Roseiflexacea	Roseiflexus
Bacteria	Chloroflexi	Anaerolineae	Anaerolineale	Anaerolineaceae	
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaera
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirilla	Nisaea
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Tetrahymena
Bacteria					Planctomyces
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingomona
Bacteria	Planctomycetes				
Bacteria	Firmicutes	Clostridia	Clostridiales	Ruminococcaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Pirellula
Bacteria	Proteobacteri	Deltaproteob	Myxococcale:	Cystobactera	Anaeromyxob
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Chlorobi	Chlorobia	Chlorobiales	OPB56	

Bacteria					
Bacteria	Actinobacteri	Actinobacteri	Corynebacteriales		
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Runella
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Chloroflexi	TK10			
Bacteria	Proteobacteria				
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Armatimonadetes				
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Planctomycet	OM190			
Bacteria	Bacteroidetes	BD2-2			
Bacteria	Proteobacteri	Alphaproteo	Rhodospirillal	Rhodospirilla	Defluviicoccu
Bacteria	Proteobacteri	Alphaproteo	Rhodospirillal	Rhodospirillal	Candidatus Al
Bacteria	Planctomycet	OM190			
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclaceae	
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclale	Rhodocyclace	Propionivibri
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Proteobacteri	Gammaprote	Pseudomona	Moraxellaceae	
Bacteria	Proteobacteri	Alphaproteo	Rhodospirillal	Rhodospirillal	Reyranella

Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	TK34	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteriaceae	
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Proteobacteri	Gammaprote	Alteromonada	Pseudoaltero	Pseudoaltero
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		

Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Nocardioidac	Nocardioides
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Eukaryota					
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Parachlamydi	Neochlamydia
Eukaryota		Chlorophyceae			Desmodesmu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Firmicutes	Bacilli	Bacillales	Paenibacillace	Brevibacillus
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	KD3-93	
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Firmicutes	Clostridia	Clostridiales	Peptostrepto	Incertae Sedis
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Bacteria	Candidate division OD1				
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		

Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		
Bacteria	Proteobacteri	Gammaprote	Pseudomonadales		
Bacteria	Thermotogae	Thermotogae	Thermotogale	Thermotogaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Paracoccus
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Alcaligenaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Burkholderiac	Limnobacter
Bacteria	Proteobacteri	Gammaprote	Xanthomonadales		Candidatus C
Eukaryota	Metazoa				
Bacteria	Proteobacteri	Deltaproteobacteria			
Bacteria	Proteobacteri	Alphaproteob	DB1-14		
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria				Anaerolineac	Anaerolinea
Bacteria	Proteobacteri	Gammaprote	Legionellales	Legionellacea	Legionella
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Saprospiracea	Lewinella
Bacteria	Planctomycet	OM190			

Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	
Bacteria	Proteobacteria				
Eukaryota	Ascomycota	Saccharomyc	Saccharomyc	Metschnikow	Clavispora
Bacteria	Planctomycet	Phycisphaera	Phycisphaeral	Phycisphaera	SM1A02
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagacea	Runella
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria					
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria					

Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	DA111	
Bacteria	Proteobacteri	Betaproteobacteria			Comamonas
Bacteria	Proteobacteri	TA18			
Bacteria	Planctomycet	Phycisphaerae			
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Methylobacte	Methylobacte
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobia	Sva0996 marine group	
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Hyphomonad	Hyphomonas
Bacteria	Verrucomicro	OPB35 soil group			
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Proteobacteri	Alphaproteob	Sphingomonadales		
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacteriaceae	

Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	mitochondria	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Isosphaera
Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimonadaceae	
Bacteria					
Bacteria	Bacteroidetes				
Bacteria	Proteobacteri	Deltaproteob	Sh765B-TzT-29		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Candidate division OD1				
Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	Rickettsiales I	Candidatus Ca

Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillales		Defluviicoccu
Bacteria	Proteobacteri	Betaproteoba	Nitrosomona	Nitrosomonadaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Planctomycet	Phycisphaera	CCM11a		
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Intrasporangi	Tetrasphaera
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacte

Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Coxiella
Bacteria	Proteobacteri	Deltaproteob	Desulfobacte	Desulfobulba	Desulfobulbu
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Rhodospirillaceae	
Eukaryota	Ochrophyta	Chrysophycea	Ochromonadales		Paraphysomo
Bacteria	Proteobacteri	Deltaproteob	Myxococcales		
Bacteria					
Bacteria	Proteobacteria				
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	env.OPS 17	
Bacteria	Proteobacteri	Alphaproteob	Caulobacteral	Caulobactera	Phenylobacte
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomona	Sphingobium
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria	Acidobacteria	Acidobacteria		Elev-16S-1166	
Bacteria	Proteobacteria				

Bacteria	Proteobacteri	Alphaproteob	Rickettsiales	SM2D12	
Eukaryota	Cercozoa	Cercomonadidae			Eocercomona
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Gemmata
Bacteria	Candidate division WS3				
Bacteria					
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Proteobacteri	Betaproteoba	TRA3-20		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobacteraceae	

Bacteria	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon	Gemmatimon
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospirace	Leptospira
Bacteria	Proteobacteri	Gammaproteobacteria			
Eukaryota	Discosea	Longamoebia	Centramoebida		Acanthamoeb
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bdellovibrion	Bdellovibrio

Bacteria	Proteobacteri	Deltaproteob	Syntrophobac	Syntrophaceae	
Bacteria					
Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Sphingomonadaceae	
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Flavobacteria	Chryseobacte
Bacteria	Proteobacteria				
Eukaryota	Ciliophora	Intramacronu	Conthreep	Oligohymeno	Vorticella
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylocaldu
Bacteria	Proteobacteri	Betaproteoba	Rhodocyclales	Rhodocyclace	Thauera

Bacteria	Actinobacteri	Actinobacteri	Frankiales	Nakamurellac	Nakamurella
Bacteria	Actinobacteri	Actinobacteri	Propionibacte	Propionibacte	Propionibacte
Eukaryota	Ascomycota	Sordariomyce	Hypocreales		
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	NS9 marine group	
Bacteria	Actinobacteri	Actinobacteria			
Bacteria	Proteobacteria				

Eukaryota	Nucleariida	Nucleariidae			Nuclearia
Bacteria	Acidobacteria	Acidobacteria	Subgroup 6		
Eukaryota	LKM74				
Bacteria	Proteobacteri	Alphaproteob	Rhodospirillal	Acetobacteraceae	
Bacteria	Proteobacteri	Betaproteoba	Neisseriales	Neisseriaceae	Neisseria

Bacteria	Proteobacteri	Betaproteobacteria			
Eukaryota	Ochrophyta	Diatomea	Bacillariophyt	Bacillariophyceae	
Bacteria	Spirochaetae	Spirochaetes	Spirochaetale	Leptospiracea	Leptospira
Bacteria	Firmicutes	Bacilli	Lactobacillale	Carnobacteria	Dolosigranulu
Bacteria	Chloroflexi	Ardenticatenia			
Bacteria	Proteobacteria				
Eukaryota	Phragmoplastophyta				
Bacteria	Proteobacteri	Gammaprote	NKB5		
Bacteria	Bacteroidetes				Wandonia
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Bacteroidetes	BD2-2			

Eukaryota	Basidiomycot	Microbotryon	Sporidiobolal	Incertae Sedis
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales	
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	
Bacteria	Cyanobacteri	Melainabacte	Obscuribacterales	
Bacteria	Proteobacteri	Deltaproteob	Myxococcales	0319-6G20
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Chitinophagaceae

Bacteria	Proteobacteri	Gammaprote	Thiotrichales	Thiotrichaceae	
Eukaryota	Ochrophyta	Chrysophycea	Ochromonadales		Ochromonas
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonac	Candidatus Co
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Bacteroidetes	Bacteroidia	Bacteroidales	Rikenellaceae	
Bacteria	Proteobacteri	Gammaprote	Aeromonadal	Aeromonadac	Aeromonas

Bacteria	Deinococcus-	Deinococci	Deinococcale	Deinococcace	Deinococcus
Bacteria	Proteobacteri	Alphaproteob	Rhizobiales	Hyphomicrobiaceae	
Bacteria	Proteobacteri	Gammaprote	HOC36		
Bacteria	Verrucomicro	Verrucomicro	Verrucomicro	Verrucomicro	Brevifollis
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Simkania
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	
Bacteria					
Bacteria	Proteobacteri	Gammaprote	Chromatiales	Chromatiacea	Nitrosococcus
Bacteria					

Eukaryota	Ascomycota	Saccharomyc	Saccharomycetales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Schlesneria
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Actinobacteri	Actinobacteria		Propionibacte	Propionicicell
Bacteria	Firmicutes	Bacilli	Bacillales		
Bacteria	TM6				

Archaea	Euryarchaeot	Methanomicr	Methanomicr	Methanoregu	Methanolinea
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Firmicutes	Clostridia	Clostridiales	Eubacteriacea	Acetobacteriu
Bacteria	Firmicutes	Bacilli	Lactobacillale	Lactobacillace	Lactobacillus
Bacteria	Armatimonad	Chthonomona	Chthonomona	Chthonomona	Chthonomona
Bacteria	Proteobacteri	Alphaproteobacteria			
Bacteria	Acidobacteria	Holophagae			
Bacteria	Actinobacteri	Actinobacteri	Micrococcales		
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Firmicutes	Bacilli	Lactobacillale	Enterococcac	Enterococcus
Bacteria	Proteobacteri	Deltaproteob	Bdellovibrion	Bacteriovoracaceae	
Bacteria	Proteobacteri	Gammaprote	Xanthomonac	Xanthomonadales Incertae	
Bacteria	Actinobacteri	Acidimicrobii	Acidimicrobiales		
Bacteria	Planctomycetes				
Bacteria	Actinobacteri	Actinobacteri	Micrococcales	Microbacteria	Microbacteriu
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Inhella

Bacteria	Proteobacteri	Alphaproteob	Sphingomona	Erythrobacter	Altererythrob
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Rhodobacter
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Proteobacteri	Alphaproteob	Rhodobactera	Rhodobactera	Paracoccus
Bacteria	Actinobacteri	Actinobacteri	Actinomyceta	Actinomyceta	Actinomyces
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteria	Schleiferiacea	Schleiferia
Bacteria	Proteobacteri	Betaproteoba	Methylophilal	Methylophila	Methylotener
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	SHA-109				

Bacteria	Proteobacteri	Gammaprote	Legionellales	Coxiellaceae	Aquicella
Bacteria	Chlamydiae	Chlamydiae	Chlamydiales	Simkaniaceae	Candidatus Rh
Bacteria	Proteobacteri	Betaproteobacteria			
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4		
Bacteria	Actinobacteri	Actinobacteri	Corynebacter	Mycobacteria	Mycobacteriu
Bacteria					
Eukaryota	Choanomona	Craspedida	Salpingoecidae		
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	

Bacteria	Candidate division BRC1				
Bacteria	Proteobacteri	Gammaprote	Methylococca	Methylococca	Methylocaldu
Bacteria	Chloroflexi				
Bacteria	Actinobacteri	Actinobacteri	Micrococcale	Micrococcaceae	
Bacteria	Firmicutes	Clostridia	Clostridiales	Family XIII	
Bacteria	Proteobacteri	Gammaproteobacteria		Xanthomonadaceae	
Bacteria	Proteobacteri	Gammaproteobacteria			
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Planctomyces
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycet	Singulisphaer
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Planctomycet	Planctomycet	Planctomycet	Planctomycetaceae	
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirg	Ekhidna
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149	
Bacteria	Bacteroidetes	Sphingobacte	Sphingobacte	Sphingobacteriaceae	

Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonadaceae	
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Cyanobacteri	Chloroplast			
Bacteria	Proteobacteri	Betaproteoba	Burkholderial	Comamonada	Comamonas
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales		

Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteoba	Burkholderiales
Bacteria	Proteobacteri	Betaproteobacteria	

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TAG	Unique Sequence	ConSlu1	ConSlu2	ConSlu3
TAG 58	CATACTTGGTGTGAGCCATTCATTTGGTTCGTG	1067	1231	963
TAG 79	CAAACTTGGTGTAGGCAGTTCAGTCTGTCTGTG	835	954	711
TAG 117	AACACTTGGTGTGGAGGGAGTTGACCCCTTCC	397	400	438
TAG 143	GGTGCTTGGTGTCGGGGGTATCGACCCCTCCG	185	330	293
TAG 173	CATACTTGGTGTGGGCAGTTCATTCTGTCCGTG	166	232	223
TAG 137	CATACTTGGTGTGGGTGATTCATTTTATCCGTG	206	149	181
TAG 176	ATCGCTGGGTGTGGGGGGTTTTTACTCCCCCC	156	152	168
TAG 178	CATACTTGGTGTGAGTCCTTCATTGGATTCGTG	120	212	134
TAG 180	CGGACTTGGTGTGGGCAGTTCAGTCTGTCTGT	175	118	173
TAG 212	CACACTTGGTGTGAGCGATTCATTTCGTTCGTG	105	207	151
TAG 243	CAAACTTGGTGTGCGCCCTTCATTGGGTGCGT	187	143	94
TAG 244	AATACTTGGTGTCTGGAGGTTTAATACTCCGGG	98	53	210
TAG 255	AACACTTGGTGTGGTGGGAGTTGACCCCTGCC	142	81	111
TAG 339	GGCACTTGATGTCGCGGGTTTCTACCCCTGCG	46	99	66
TAG 292	GGAACTAGATGTAGGGACCATTCCACGGTTTCT	56	121	107
TAG 19	ATTACTCGTTGCTGGGAGGTAACTTTCAGTGAC	3854	3204	4453
TAG 20	ATGACTCGATGTTGGCGATATACAGCCAGCGT	3761	3492	3338
TAG 35	ATTACTCGACATACGCGATACACAGTGTGTGTC	1587	1640	2026
TAG 47	ATTACTCGACATACGCGATACACTGTGTGTGTC	1129	1770	2173
TAG 52	GATACTCGACATCAGCGATACACTGTTGGTGTC	1051	1037	1056
TAG 75	ATTACTCGCTGCTAGAGGGCAACTTTTAGTGGC	1082	363	870
TAG 30	ATTACTCGATGTGTGCGATACACGGCACGCGT	768	663	804
TAG 92	TAAACTCGACATTAGCGATATACAGTTAGTGTC	578	527	632
TAG 90	GATACTCGACATACGCGATACACTGTGTGTGTC	569	403	424
TAG 115	GATACTCGACATTTGCGATACACTGTAAGTGTC	388	351	473
TAG 112	GATACTCGACATACGCGATATACTGTGTGTGTC	357	483	350
TAG 18	GATACTAGCTGTTGGGAGTAATTTCAGTGGCTA	291	479	296
TAG 160	ATCACTAGATTTTGGTCGCAAGATCAGAGTCCA	186	448	227
TAG 158	ATTACTCGTTGCTGGGGAGCAATTTCCAGTGAC	198	344	250
TAG 56	ATTACTCGCTGCTGGGAGGTAACTTTCAGTGG	298	213	245
TAG 238	CTAACTCGTTTTTGGTATTTCGGTATCAGAGAC	18	377	276
TAG 207	GATACTCGACATACGCGATACACAGTGTGTGTC	265	126	87
TAG 183	GATACTCGACATTTGCGATACACAGTAAGTGTC	178	112	184
TAG 224	ATCACTCGATGTTGGCGATACACTGTCAGCGTC	112	167	181
TAG 221	GATACTAGCTGTTTGGAGCAATCTGAGTGGCTA	232	100	119
TAG 232	ATTACTCGATGTGTGCGATACACTGTACGCGTC	133	174	104
TAG 336	CTAACTCGTTTTTGGGTTTTCGGATTCAGAGAC	3	308	3
TAG 254	TAAACTCGACATTAGCGATATACTGTTAGTGTC	45	98	128
TAG 257	ATTACTCGTTCTCGGCGATATACGGTCGGGGA	60	71	129
TAG 355	GATACTAGCTGTTCGGAGCAATCTGAGTGGCTA	104	66	83
TAG 311	GATACTAGCTGTTGGGGGTAACTTCAGTGGCTA	83	85	69
TAG 29	CCGACTAGGGATCGGTCCACGTTATTTTTTGAC	658	10676	979
TAG 94	CCGACTAGGGATCGGTCCACGTTATTTTCTGAC	248	1988	475
TAG 68	CCAACTAGGGATACGTGGACGTTTGTTCGAAGA	1135	807	805
TAG 145	AATACTCGGTGTCGGGTCGCAAGATTCGGCGC	355	302	277
TAG 41	TGAACTTGGCGTTGGTGGGTTAAACTCCATCAG	1059	1470	1716
TAG 155	AGTACTAGGTGTAGGAGGAGTGAAATCCTTCTG	172	297	296
TAG 131	TGAACTTGGCGTCGGTGGCTTAAACACCATCG	259	128	175
TAG 194	AGTACTAGGTGTGGGTGGAGTCAAATCTATCCG	160	201	186
TAG 46	CCGACTCGGATTCAGATGAATATTAAAGTTCAT	120	2893	1188
TAG 3	CCGACTCGGATTCAGATGAATCAAAAAGTTCAT	77	764	211
TAG 77	GATACTAGGCGTATCGGGTATCGACCCCTGAT	545	919	663
TAG 153	CTCATTAGGTATGGGGGGTATCGACCCCTCCC	60	433	223
TAG 128	GGTACTAGGCGTCGGGGGGAGCGACCCCCTC	297	312	310

TAG 168	GGTACTAGGCGTCGGGGGGAGCGACCCTCCC	185	319	186
TAG 159	GGCACTAGGTCCTTGGGGGAGCGACCCCGTG	137	157	187
TAG 225	GGCACTAGGTCCTTGGGGGAGCGACCCCTTGA	131	159	121
TAG 342	GGTGCTAGGCGTCGGGGGGAGCGACCCCTTC	88	54	75
TAG 7	CCGACCAGGGATCGAGGACAGTCCCATGGTTG	2235	3346	3714
TAG 85	CCGACCAGCGATTGGGAGACGTTACATGGATG	859	324	577
TAG 28	CCGACTAGCGATCCGCCGGCGTGGTTTCGATG	3213	1640	3522
TAG 142	CCAACTGTCTTTTAGATGCGGTTACTCATATGA	68	62	207
TAG 132	AGGACTAGGTATTGGCTCGCAAGAGTCGGTGC	384	263	315
TAG 15	TACACTAGACTGGTGCGGTTTTGACGCCGTATC	248	450	472
TAG 140	AGAACTAGGTAGTGGGTCCGACCTGGGCACAC	191	371	320
TAG 186	TGTGCTGGATCACGGCGGCTCTGACGCCGTCG	141	223	232
TAG 192	TACATTGTATGGTGGGAATCTTGCATTTTCACT	6	457	53
TAG 264	TGTGCTGAATCACGGCAGCTCTGACGCTGTCG	121	83	138
TAG 284	GGCACTGGGCAGGGGGGATACCTATGGTCCTC	46	114	94
TAG 164	GGCACTAGCTTGGGGTCTCCCTGTGTGATCCC	85	66	84
TAG 261	GGCACTGGGTAGGGGGCTCGCCGATGGGCTC	57	62	90
TAG 2	TCAACTAGGTGTTGGGAGGGTTAAACCTTTTAG	52531	8590	19155
TAG 6	TCAACTGGTTGTTGGGAGGGTTTCTTCTCAGTA	5743	24589	27204
TAG 4	TCAACTAGTTGTTCGGTGAGGAGACTCATTGAG	12757	11258	11724
TAG 11	CGAACTGGATGTTGGGCTCAACTTGGAGCTCA	2991	5461	9262
TAG 8	TCAACTAGGTGTTGGGTGGGTAAAACCATTTAG	4968	4273	5434
TAG 23	CGAACTGGATGTTGGTCTCAACTCGGAGATCA	2578	7279	4565
TAG 10	TCAACTAGTTGTCGGATCTTAATAGATTTGGTA	3162	2244	4002
TAG 12	TCGACTAGTCGTTCGGAGCAGCAATGCACTGA	3190	1527	1643
TAG 55	TCTACTAGTTGTCGGGTCTTAATTGACTTGGTA	228	4008	1502
TAG 51	AGAACTGGACGTTGGGAGGAATTCGCCTCTTA	860	1551	1791
TAG 54	TCAACTAGTTGTCGGGTCTTATTGGGCTTGGTA	1306	765	1419
TAG 43	AGAACTAGGTGTCGTGGGTGTTGACCCCCGCG	1083	727	971
TAG 95	TCGACTAGCCGTTGGAATCCTTGAGATTTTAGT	34	1780	855
TAG 81	CCAACTAGTTGTTGGGGAAGGAGACTTCCTTAG	425	978	728
TAG 78	TCAACTAGTTGTCGGGCCTTAATAGGTTTGGTA	579	649	839
TAG 69	TCAACTGGTTGTTGGACGGCTTGCTGTTCAGTA	859	495	594
TAG 73	AGAGCTAGTTGTCGGCACGCATGCGTGTCGGT	623	544	564
TAG 101	TCAACTGGTTGTTGGAGGGGTTTCTCTTCAGTA	440	657	503
TAG 110	GGTGCTGGATGTCGGGGGGCTTGCCCTTCGGT	351	529	569
TAG 99	CGAACTAGGTGTTGGGGAAGGAGACTTCTTTA	344	654	438
TAG 114	AATGCCAGTCGTCGGCAAGCATGCTTGTCGGT	553	275	528
TAG 48	AGCACTAGACGTCGGGTGGGTGACCGTCCGGT	423	365	427
TAG 98	AATGCCAGCCGTTGGGGAGCTTGCTCTTCAGT	387	246	565
TAG 105	AATGCCAGACGTCGGGCAGCATGCTGTTCGGT	311	282	511
TAG 100	CGAACTGGATGTTGGGTGCAATTTGGCACGCA	162	304	599
TAG 134	AGTGCTAGTTGTCGGCATGCATGCATGTCGGT	146	467	404
TAG 32	AGCACTAGACGTCGGGCGGGTGACCGTCCGGT	184	393	382
TAG 135	GGTGCTAGGTGTCGCGGGCTTTGACCCTCGCG	228	336	343
TAG 146	TCAACTAGTTGTCGGGTCTTATTAGATTTGGTA	254	254	341
TAG 161	TCAACTGGTTGTTGGGAATTCATTTTCTCAGTA	442	125	245
TAG 185	AGTGCTGGATGTCGGGAAGCCTAGCTTTTCGG	112	270	201
TAG 230	TCAACTGGTTGTTGGGTTTTAATTAACTCAGTA	167	194	198
TAG 196	AGTGCTAGGTGCTGCGGGTATTGACCCCTGCG	180	195	162
TAG 172	GATGCTAGCCGTTGGACAGCTTGCTGTTCAGT	59	313	156
TAG 205	TGCGCTGGATGTTGGGTGACCTAGTCACTCAG	111	168	217
TAG 222	GGTGCTAGACGTTGGCGGGCTTGCTCGTCAGT	158	179	134
TAG 223	AATGCCAGCCGTTAGTGGGTTTACTCACTAGTG	69	258	114
TAG 250	TCGACTAGTTGTTGGGGAAGGAAACTTCCTTAG	72	181	123

TAG 267	TCGACTGGTTGTTGGGGGTTTGACACTCTCAGT	141	104	125
TAG 125	AATGCCAGACGTCGGCAAGCATGCTTGTCGGT	246	50	62
TAG 1	TCAACTGGTTGTTGGGTCTTAACTGACTCAGTA	88	152	97
TAG 286	TCGACTAGTTGTTCGGAGCAGCAATGCACTGAG	106	110	105
TAG 165	ATAACTAGCTGTCCGGGCACTTGGTGCTTGGGT	95	86	129
TAG 297	AGAGCTAGCCGTTGGAGGGTTTACCCTTCAGTG	53	135	114
TAG 260	TCAACTAGTTGTCGGGCCTTAATAGGCTTGGTA	127	77	92
TAG 327	GGTGCTAGGTGTCGCGGGCTTTGACCCCTGCG	22	150	97
TAG 179	TCAACTAGTTGTCGGATCTTAATAGGTTTGGTA	87	89	92
TAG 281	CGAACTAGGTGTTGGGGAAGGAGACTTTCTTAG	54	108	98
TAG 299	AGAACTAGACGTTGGGAGGGTCAGCCTCTCAGT	55	113	88
TAG 289	TCAACTGGTTGTTGGGGAAGGTAACTTCCTTAG	63	105	75
TAG 343	ATGACTAGTTGTTGGAGGAGTTAAATCCTTTAG	73	64	97
TAG 322	TCAACTAGTTGTCGGGGAAGCAATTCCTTGGTA	77	83	66
TAG 329	GAAGCTAGCCGTTGGCAAGTTTACTTGTCGGTG	56	52	104
TAG 320	GATGCTAGCCGTTGGCGAGCTTGCTCGTCAGT	56	81	68
TAG 369	GGTGCTAGATGTTGGGAGGCTTGCTTCTCGGT	46	83	76
TAG 204	TATACTAGTTGTTGGTGGTTTCAACGCCATCAG	87	123	142
TAG 5	CCGACTTGGGATTGGAGGCGTGCACTTTCCGC	28663	12547	13824
TAG 14	CCAACTAGGGATATGTGGACGTTTGTTTGAAGA	5231	4613	4892
TAG 22	CCGACTAGGGATGAGTGAACGTTGCATTATCGA	2077	4977	3605
TAG 21	CGCACTAGACCGGTGCGGTTTTGACGCCGTAT	4337	2411	3358
TAG 42	CTAACTCGTTTTTGGGGCGTAAGTTTCAGAGAC	833	6105	2336
TAG 24	TCGACTAGGTGTTCGGGAAGGAGACTTCTTGAG	1887	4012	3053
TAG 39	CCGACCGGGGATGGGGAGAGGTAATACCTTAA	3038	1278	2023
TAG 37	TATGCTAGACCGGTGCGGTTTTGACGCCGTATC	1496	2406	2261
TAG 40	CCGACCAAGGATAAGAGGTCGTAATTATCTTGA	1542	1911	2381
TAG 44	CTTACTCGACGTACGGCCCTGGCGGCTGTGCG	1330	1645	2094
TAG 27	TCAACTAGTTGTCGGGTCTGTTTAAGGATTTGG	2280	1262	1034
TAG 50	TACGCTAGATCGGTGCGGGTTTGACCCCGTAT	792	1879	1551
TAG 59	TTCACTAGTGTTGCGGGTATTTATTTATCTGCA	900	700	1320
TAG 71	AACACTAGATGTTACGGGTATTGACCCCTGTAG	544	1339	949
TAG 67	CTGACTTGGTGTTCCAGGTTTTAAATCTTGGGG	1020	991	768
TAG 74	TACGCTGAGTTAGAGCGGCTCTGACGCCGTTC	712	903	911
TAG 83	CCGACTTGGTGTTCCCGGTTTTAAGTCCGGGG	664	735	1004
TAG 88	TCAACTAGTTGTTGGATCCGTTTAAGGATTTGG	1014	613	719
TAG 61	CTGACTTGGTGCCCCCGGTTTAAAGTCCGGGG	549	1325	359
TAG 63	CCGACTAGGGATCGGTGGACGTTGCATAGCAT	13	2013	158
TAG 89	CGCACTAGGTGACGGGACCTCTCACGGTCTCG	362	722	652
TAG 133	CTAACTCGTTTTTGGGACGTAAGTTTCAGAGAC	135	1116	444
TAG 97	TCAACTAGTTGTTGGATCCATTTAAGGATTTAG	521	533	606
TAG 93	CCGACCAGGGATTGGAGACGTTAAATTTTATA	909	168	414
TAG 104	CCGACCAGGGATCGGAGAGTGTTACATGGATGA	373	523	590
TAG 122	AGCACTAGGTGTTGGTCCCTTTGGGGCCAGTG	235	478	420
TAG 76	TACGCTAGACTGGTGCGGTTTTGAAGCCGTATC	397	349	379
TAG 127	GCGACCGAGATTCAGGAAATGCCCAAGATGGCT	206	564	260
TAG 121	TCGACTGGGTGTCGGCGATTAAAAACCGTCGGT	213	435	333
TAG 139	TACACTAGACCGGTGCGGTTTTGACGCCGTATC	213	369	275
TAG 144	CCAACCAAAGATAAGAGGTTGTAAATACAAAAA	305	135	367
TAG 167	AACACTTGGTGTTCCGGGAGTTGACCCCCGGA	110	513	171
TAG 154	ATCACTCGATGTGTGCGATACACAGCACGCGTC	204	302	235
TAG 136	TCAACTAGTTGTTGGATCTTAATAGATTTGGTA	171	144	407
TAG 177	TCGACTAGGTGTCGGCGCCTAAAAACCGTCGGT	59	383	245
TAG 174	CCGACCAAGGATCATGAGATGTTAAATATAAAT	373	12	211
TAG 209	AATACTCGGTGTTGGTCCGCAAGGATCAGCGC	149	232	165

TAG 191	CCGACTTGGTGTCCCCGGTTTTAAGTCCGGGG	116	201	199
TAG 226	AGAACTAGGTATCGTGGGTGTTGACCCCCGCG	125	139	199
TAG 217	CTGACTAGGTGTCGGCGATTAAAAACCGCCGGT	71	236	149
TAG 228	GGTGCTGGATGTCGGGGGGCTTGCCCCTCGGT	106	175	175
TAG 188	TTTACTTGCTGTTTCTGGGCAACTGGGAGTGGC	93	173	156
TAG 240	AATATTAATTGTCGAATTTTCGGTAATTTAGTT	134	149	138
TAG 206	AATACTAGGCGTAGGGAGAGTCAAATCTTTCTG	71	235	111
TAG 227	TCAACTAGTTGTCGGACCTTAATAGGTTTGGTA	89	156	157
TAG 241	TGCACTAGACTGGTGCGGTTTTGACGCCGTATC	114	124	155
TAG 251	CCGACTAGGGATCGGTGGATGTTTTTATTGACG	186	68	107
TAG 252	TCAACTAGTTGTCGGGCCTTATTGGGCTTGGTA	91	78	165
TAG 275	CATACTAGATCCGGGAGACACTCATCGTAATCC	80	141	109
TAG 246	CCAACCAAAGATAAGAGGTTGTAAATATTATAA	106	68	155
TAG 266	TACGTTGAGTTAGAGCGGCTCTGACGCCGTTCC	86	120	123
TAG 276	TGCACTTGGCCTGGGAGGATTCGACCCCTTCC	137	94	95
TAG 277	TCAACTAGTTGTCGGACCTTATTGGGTTTGGTA	111	76	120
TAG 274	TCAACTAGCTGTCTGTAGATTAAGGTTTATAGG	142	71	81
TAG 248	TTTACTTGCTGTTTGGCTTTCGGGCCGAGTGGC	124	93	76
TAG 253	GGCACTAGCTTGGGGTCTCCCTGTGGGATCCC	68	125	100
TAG 269	TCAACTGGTTGTTGAGGGGGTTCCTCCTCAGTA	74	132	85
TAG 326	ATAACTCGCTGTTGGTGTTTTGCATCAGTGGCT	153	39	76
TAG 319	CCGACTAGGGATTGGGAGGTTACTTACCTCTCA	102	89	69
TAG 234	CACACTAGGTTTTGGAGGATTCGACCCCTTCAG	76	93	83
TAG 293	GATGCTAGCCGTTGGGGGGATACCCTTCAGTG	92	58	98
TAG 273	CACGCTTGATTACGACGGCTCTGACGCCGCCG	75	81	88
TAG 300	TACACTAGACCGGTGCGGCTCTGACGCCGTATT	53	93	79
TAG 402	TCAACTAGCCGTTGGGAGCTTTAAAGTTCTTAG	37	46	132
TAG 349	AATGCTAGTTGTCAGTAAGTATACTTATTGGTG	53	94	66
TAG 312	ATGACTGGGTGTCGGCGATTAAAAACCGTCGGT	49	85	75
TAG 335	GGTGCTAGATGTCGGGGAGCTTGCTCTTCGGT	68	73	67
TAG 268	ATTACTCGCTGCTGGGGGGCAACCTTCAGTGG	56	27	122
TAG 64	CACACTAGGTCTTGGCGGATTCGACCCCCCCA	683	628	511
TAG 182	CACGTTTGGTGTGGGCGCAATCGACCGCGTCC	204	146	151
TAG 237	CACGTTTGCTGTAAGAGGAATCGACCCCTTTTG	144	117	133
TAG 263	CACGTTTGCTGTAAAAGGAATCGACCCCTTTTG	112	102	120
TAG 239	CACACTAGGTCTTGGCGGATTCGACCCCACCA	56	66	113

TrSlu1	TrSlu2	TrSlu3	Sum	LOG10(T1/C1)	LOG10(T2/C2)	LOG10(T3/C3)
876	848	963	3261	-0.085660313	-0.161862201	0
587	525	714	2500	-0.153048374	-0.259389071	0.001828611
390	311	350	1235	-0.0077259	-0.109299602	-0.097406066
286	280	229	808	0.189194305	-0.071355909	-0.107032138
183	160	177	621	0.042343002	-0.161368002	-0.100331597
161	134	181	536	-0.107041344	-0.04608147	0
307	183	206	476	0.294013777	0.080607502	0.088557939
127	171	122	466	0.024622475	-0.093339751	-0.040744968
136	118	151	466	-0.10949914	0	-0.059069156
124	126	118	463	0.072232386	-0.2155998	-0.10709494
94	47	160	424	-0.298713753	-0.48323818	0.230992129
207	45	79	361	0.32474427	-0.071063356	-0.424592203
95	99	134	334	-0.174564739	0.087150176	0.08178182
69	63	51	211	0.176091259	-0.196294645	-0.111973759
61	93	59	284	0.037141808	-0.114302422	-0.258531766
3616	2355	3647	11511	-0.027683289	-0.133701596	-0.086716932
2511	2249	2942	10591	-0.175456621	-0.19108478	-0.054843664
2024	1790	1921	5253	0.105633581	0.038009183	-0.023112076
1456	1265	831	5072	0.110467433	-0.145882741	-0.417458703
873	954	768	3144	-0.080588472	-0.036230382	-0.138302698
786	435	1140	2315	-0.138804715	0.078582632	0.117385599
500	507	583	2235	-0.186391216	-0.116505569	-0.139587494
501	319	413	1737	-0.062090113	-0.218019932	-0.184767027
414	328	547	1396	-0.138111925	-0.089431202	0.11062147
299	315	388	1212	-0.113160537	-0.046996563	-0.086029415
451	404	344	1190	0.101508326	-0.077565766	-0.007509602
231	417	242	1066	-0.100281009	-0.060199458	-0.087476345
191	203	123	861	0.011520423	-0.343781976	-0.266120746
195	253	126	792	-0.006630579	-0.133437921	-0.297569464
159	151	241	756	-0.27281914	-0.149402656	-0.007149042
3	24	2	671	-0.77815125	-1.196130108	-2.139879086
105	130	173	478	-0.402056575	0.013572807	0.298526851
89	90	137	474	-0.301029996	-0.094975513	-0.128097256
102	115	119	460	-0.040617851	-0.162018631	-0.182131613
106	84	176	451	-0.34018212	-0.075720714	0.169965706
105	88	81	411	-0.102662342	-0.296066576	-0.10854832
0	10	0	314	-0.477121255	-1.488550717	-0.477121255
105	189	73	271	0.367976785	0.285235728	-0.24388711
101	87	66	260	0.226170123	0.088260904	-0.291045775
13	34	32	253	-0.903089987	-0.288065018	-0.413928114
70	97	79	237	-0.073980052	0.057352809	0.058778001
70	1429	47	12313	-0.973127854	-0.873376336	-1.318684834
61	544	33	2711	-0.609121846	-0.56281748	-1.15817967
770	668	970	2747	-0.168505136	-0.082097072	0.080975854
206	209	221	934	-0.236361133	-0.159860657	-0.098087495
1825	2429	1570	4245	0.236366909	0.21811018	-0.038617631
201	250	244	765	0.067667611	-0.074816441	-0.083901885
433	458	343	562	0.223188132	0.553655508	0.292256071
141	160	211	547	-0.05490087	-0.099076075	0.054769511
1286	3542	162	4201	1.030059723	0.087900123	-0.865301426
293	702	50	1052	0.580376895	-0.036756246	-0.625312451
507	755	574	2127	-0.031388543	-0.08536856	-0.062601636
258	413	105	716	0.633468456	-0.020537845	-0.327115564
359	287	293	919	0.082337999	-0.036272697	-0.024494073

261	186	144	690	0.149468779	-0.234277739	-0.111150452
267	127	110	481	0.289790694	-0.092095931	-0.230448921
143	122	106	411	0.038064742	-0.115037294	-0.057479505
66	32	56	217	-0.124938737	-0.227243782	-0.126873236
2822	2361	2529	9295	0.101279482	-0.15142995	-0.16689307
533	300	1001	1760	-0.207265955	-0.033423755	0.239258264
2687	1253	3333	8375	-0.077643059	-0.116892777	-0.023954038
113	62	125	337	0.220569531	0	-0.219060332
275	228	406	962	-0.144998531	-0.062020901	0.11021548
326	346	289	1170	0.118765919	-0.114136415	-0.213044156
283	326	164	882	0.170753068	-0.05615631	-0.29030613
181	179	138	596	0.108459462	-0.095451832	-0.225608898
48	360	8	516	0.903089987	-0.103613699	-0.821185883
102	63	119	342	-0.074185199	-0.119737543	-0.064332125
101	116	50	254	0.341563542	0.007553138	-0.274157849
114	69	88	235	0.127485926	0.019305155	0.020203386
47	56	70	209	-0.083776998	-0.044203662	-0.109144469
75167	71183	71594	80276	0.155611549	0.918383124	0.572594471
6862	9895	2696	57536	0.077311897	-0.395325068	-1.003912878
9881	10713	11809	35739	-0.110947656	-0.021550139	0.003137313
5503	3660	5435	17714	0.2647831	-0.173791091	-0.231505228
7349	6466	5886	14675	0.17004666	0.179902807	0.034700624
957	1398	1036	14422	-0.430370975	-0.716564548	-0.644081026
3073	2448	3307	9408	-0.012399305	0.037788561	-0.082842889
1469	1568	2677	6360	-0.336768887	0.011507021	0.212010808
92	840	24	5738	-0.39414702	-0.678648427	-1.796458691
1275	1296	1164	4202	0.171011734	-0.078006796	-0.187142606
1040	926	1279	3490	-0.098909838	0.082949552	-0.045111851
877	756	1037	2781	-0.091628863	0.016987385	0.028559526
36	552	20	2669	0.024823584	-0.508480925	-1.630936119
624	853	529	2131	0.16679566	-0.059389824	-0.138675707
669	680	621	2067	0.062747554	0.020264216	-0.130670361
1077	1129	1008	1948	0.098222539	0.358088743	0.229674087
481	496	335	1731	-0.11234297	-0.040117223	-0.226234297
372	484	515	1600	-0.072909737	-0.132720008	0.010239244
287	422	387	1449	-0.08742522	-0.098143221	-0.167401301
439	490	353	1436	0.105906078	-0.125381668	-0.093699405
385	210	338	1356	-0.157264402	-0.117113399	-0.193717222
264	270	360	1215	-0.204736441	-0.1309291	-0.074125374
526	218	382	1198	0.133274779	-0.052478613	-0.169985085
447	508	290	1104	0.157547134	0.255614604	-0.246022902
751	632	568	1065	0.666124922	0.317843495	-0.023078487
71	91	78	1017	-0.313094507	-0.710275488	-0.714286762
163	284	236	959	-0.052630219	-0.14107421	-0.20915136
275	237	260	907	0.081397847	-0.151590931	-0.120320772
252	257	258	849	-0.003433176	0.005099407	-0.121134673
209	105	228	812	-0.325275983	-0.075720714	-0.031231237
153	249	132	583	0.135473408	-0.035164417	-0.182622126
91	84	77	559	-0.263675079	-0.363522444	-0.410174465
124	157	161	537	-0.16185082	-0.094134959	-0.002689139
117	151	67	528	0.29733385	-0.31656739	-0.367049796
166	107	119	496	0.174785109	-0.195925504	-0.260912772
69	73	149	471	-0.359807996	-0.389530171	0.04608147
71	134	82	441	0.012409258	-0.284514908	-0.143090999
53	126	102	376	-0.133056627	-0.15730803	-0.08130494

94	66	84	370	-0.176091259	-0.197489404	-0.172630727
46	53	49	358	-0.728177275	0.025305865	-0.102195609
34	52	8	337	-0.413003755	-0.465840244	-1.083681747
38	86	80	321	-0.445522269	-0.106894234	-0.118099312
55	51	28	310	-0.237360916	-0.226928275	-0.663431679
69	64	32	302	0.114573221	-0.324153795	-0.551754873
119	86	136	296	-0.02825676	0.048007726	0.169751081
59	74	21	269	0.428429331	-0.306859539	-0.66455244
93	79	67	268	0.028963696	-0.051762915	-0.137713025
48	144	62	260	-0.051152522	0.124938737	-0.198834386
66	67	88	256	0.079181246	-0.227003641	0
78	68	86	243	0.092754053	-0.188680386	0.059437188
59	44	40	234	-0.092470848	-0.162727297	-0.384711743
74	38	85	226	-0.017259005	-0.339294496	0.10987499
46	40	54	212	-0.085430195	-0.113943352	-0.284639579
56	91	35	205	0	0.050556373	-0.288440868
20	69	49	205	-0.361727836	-0.080229002	-0.190617512
92	208	100	352	0.024268575	0.228158224	-0.152288344
8396	4115	9999	55034	-0.533249214	-0.484170058	-0.140677157
4655	3996	4708	14736	-0.050665035	-0.062357975	-0.016649994
2599	3196	2007	10659	0.097369783	-0.19236087	-0.254357897
2984	1971	3845	10106	-0.162390603	-0.087510586	0.058815652
113	275	13	9274	-0.867566558	-1.346352974	-2.254529486
2595	3771	2139	8952	0.138365462	-0.026904392	-0.15451602
1118	983	2561	6339	-0.434145966	-0.113977336	0.102413696
2202	1783	1467	6163	0.167885721	-0.13014428	-0.187870449
1678	1213	1332	5834	0.036707583	-0.197399886	-0.252255171
1349	1360	1613	5069	0.006160309	-0.082626994	-0.11334231
588	790	2170	4576	-0.588557521	-0.203432264	0.321939195
1237	1534	809	4222	0.193644518	-0.08810142	-0.282663276
1267	796	1132	2920	0.148534105	0.055815028	-0.066727504
845	1015	443	2832	0.191257809	-0.120314535	-0.330862486
739	692	1090	2779	-0.139955733	-0.15596756	0.152065278
701	746	684	2526	-0.006761976	-0.082948923	-0.124462275
715	571	683	2403	0.032137962	-0.109651231	-0.167313009
269	312	830	2346	-0.576285675	-0.29330588	0.062349202
341	506	554	2233	-0.206817965	-0.418065361	0.188415316
189	3582	7	2184	1.162518452	0.250281807	-1.353559047
465	627	403	1736	0.108744382	-0.061269657	-0.20894255
19	47	3	1695	-0.851580168	-1.375566337	-2.170261715
324	419	556	1660	-0.206292713	-0.104513186	-0.037397833
314	130	786	1491	-0.461634235	-0.111365929	0.278422205
415	470	397	1486	0.046339265	-0.046403831	-0.172061505
306	329	219	1133	0.114653564	-0.162231999	-0.282805176
343	255	321	1125	-0.063496387	-0.136285247	-0.072134178
304	344	115	1030	0.169006363	-0.214720661	-0.354275508
206	214	188	981	-0.014512383	-0.308075484	-0.248286384
255	279	227	857	0.078160577	-0.121422163	-0.083306837
301	125	343	807	-0.005733344	-0.033423755	-0.029371944
132	235	76	794	0.079181246	-0.339049503	-0.352182518
254	198	162	741	0.095203549	-0.183341753	-0.161552848
295	154	259	722	0.236825906	0.029158229	-0.196294645
146	217	120	687	0.393500844	-0.24673904	-0.309984838
170	2	492	596	-0.34125991	-0.77815125	0.367682647
123	170	94	546	-0.083281157	-0.135039064	-0.244356091

157	199	167	516	0.131441663	-0.004342981	-0.076136605
124	96	97	463	-0.003488328	-0.160743567	-0.312081342
89	149	86	456	0.098131658	-0.199725735	-0.238687817
114	115	108	456	0.031598986	-0.182340208	-0.209614293
256	243	111	422	0.439757017	0.14756017	-0.14780162
116	114	67	421	-0.062646809	-0.116281417	-0.313804284
110	148	82	417	0.190134336	-0.200806147	-0.131509126
127	99	123	402	0.154413714	-0.197489404	-0.105994541
95	111	151	393	-0.079181246	-0.048098706	-0.011354751
139	52	123	361	-0.126498144	-0.116505569	0.060521334
120	96	69	334	0.120139854	0.09017663	-0.378634853
69	86	69	330	-0.064240896	-0.214720661	-0.198577407
104	70	131	329	-0.008272526	0.012589127	-0.073060403
75	87	50	329	-0.059437188	-0.139661993	-0.390935107
69	68	120	326	-0.297871476	-0.140618941	0.101457641
57	78	78	307	-0.289448123	0.01128101	-0.187086643
78	65	147	294	-0.260193742	-0.038344992	0.258832316
127	127	148	293	0.010382036	0.135320772	0.289448123
180	127	89	293	0.422763592	0.006893708	-0.050609993
95	87	94	291	0.108491886	-0.181054679	0.043708928
80	37	78	268	-0.281601444	-0.022862883	0.01128101
20	62	80	260	-0.707570176	-0.156998317	0.064240896
84	49	86	252	0.043465694	-0.278286869	0.015420359
79	55	124	248	-0.066160736	-0.023065304	0.102195609
76	75	83	244	0.005752329	-0.033423755	-0.02540458
58	42	68	225	0.039152124	-0.345233658	-0.065118179
18	6	0	215	-0.312929219	-0.884606581	#NUM!
68	54	32	213	0.108233043	-0.240734094	-0.314393957
80	89	66	209	0.212893907	0.019971081	-0.055517328
45	63	72	208	-0.179296399	-0.063982311	0.031257694
60	19	55	205	0.029963223	-0.152610163	-0.345997141
481	395	422	1822	-0.152275627	-0.201362548	-0.083108449
140	139	169	501	-0.163502132	-0.021338056	0.048909757
113	97	163	394	-0.105284049	-0.081414127	0.088335963
102	93	111	334	-0.040617851	-0.040117223	-0.033858267
54	82	72	235	-0.015794267	0.094269917	-0.195745947

Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	unknown
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagaceae
Bacteria	Acidobacteria	Holophagae	Subgroup 7	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	Elev-16S-1166
Bacteria	Acidobacteria	Acidobacteria	Subgroup 17	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	unknown
Bacteria	Acidobacteria	Acidobacteria	Subgroup 3	SJA-149
Bacteria	Acidobacteria	Acidobacteria	Subgroup 4	unknown
Bacteria	Acidobacteria	Holophagae	Holophagales	Holophagaceae
Bacteria	Acidobacteria	Subgroup 22	unknown	unknown
Bacteria	Actinobacteria	Actinobacteria	Micrococcales	Microbacteriaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	env.OPS 17
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	env.OPS 17
Bacteria	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	NS9 marine group
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	env.OPS 17
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	env.OPS 17
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	WCHB1-69
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Bacteria	Bacteroidetes	unknown	unknown	unknown
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Bacteria	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Chitinophagaceae
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Cryomorphaceae
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Bacteria	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae
Eukaryota	Basidiomycota	Tremellomycetes	Tremellales	Trichosporonaceae
Eukaryota	Basidiomycota	Tremellomycetes	Tremellales	unknown
Eukaryota	Cercozoa	Novel Clade Gran-3	unknown	unknown
Bacteria	Chlorobi	Ignavibacteria	Ignavibacteriales	BSV26
Bacteria	Chloroflexi	Anaerolineae	Anaerolineales	Anaerolineaceae
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae
Bacteria	Chloroflexi	Anaerolineae	Anaerolineales	Anaerolineaceae
Bacteria	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae
Eukaryota	Ciliophora	Intramacronucleata	Conthreep	Oligohymenophorea
Eukaryota	Ciliophora	Intramacronucleata	Conthreep	Oligohymenophorea
Bacteria	Cyanobacteria	Melainabacteria	Obscuribacterales	unknown
Bacteria	Elusimicrobia	Elusimicrobia	MVP-88	unknown
Bacteria	Gemmatimonadetes	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae

Bacteria	Gemmatimonadetes	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae
Bacteria	Gemmatimonadetes	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae
Bacteria	Gemmatimonadetes	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae
Bacteria	Gemmatimonadetes	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae
Eukaryota	Gracilipodida	unknown	unknown	unknown
Eukaryota	LKM74	unknown	unknown	unknown
Eukaryota	Metazoa	unknown	unknown	unknown
Eukaryota	Metazoa	unknown	unknown	unknown
Bacteria	OC31	unknown	unknown	unknown
Bacteria	Planctomycetes	Phycisphaerae	Phycisphaerales	Phycisphaeraceae
Bacteria	Planctomycetes	Planctomycetacia	Planctomycetales	Planctomycetaceae
Bacteria	Planctomycetes	Phycisphaerae	Phycisphaerales	Phycisphaeraceae
Bacteria	Planctomycetes	BD7-11	unknown	unknown
Bacteria	Planctomycetes	Phycisphaerae	Phycisphaerales	Phycisphaeraceae
Bacteria	Planctomycetes	OM190	unknown	unknown
Bacteria	Planctomycetes	OM190	unknown	unknown
Bacteria	Planctomycetes	Planctomycetacia	Planctomycetales	Planctomycetaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Deltaproteobacteria	Myxococcales	unknown
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	unknown	unknown
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Hyphomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadales Incertae Sedi
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	unknown
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadales Incertae Sedi
Bacteria	Proteobacteria	Deltaproteobacteria	Myxococcales	unknown
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Deltaproteobacteria	Myxococcales	Haliangiaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	unknown
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillales Incertae Sedis
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Bradyrhizobiaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae

Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae
Bacteria	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Hyphomicrobiaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Deltaproteobacteria	Myxococcales	unknown
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	unknown
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Betaproteobacteria	Nitrosomonadales	Nitrosomonadaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae
Bacteria	Proteobacteria	unknown	Rhizobiales	Hyphomicrobiaceae
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae
Bacteria	Spirochaetae	Spirochaetes	Spirochaetales	Leptospiraceae
Eukaryota	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Eukaryota	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	unknown
Eukaryota	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Bacteria	Acidobacteria	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Bacteria	Acidobacteria	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Bacteria	Verrucomicrobia	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Eukaryota	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Eukaryota	unknown	unknown	unknown	unknown
unknown	unknown	unknown	unknown	unknown

Unculutred	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	Myxococcales
Unculutred	unknown	unknown	unknown	unknown
Bacteria	unknown	unknown	unknown	Rhodospirillaceae
Bacteria	unknown	unknown	unknown	Saprospiraceae
Unclassifie	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Bacteria	Proteobacteria	Betaproteobacteria	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unclassifie	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Unculutred	unknown	unknown	unknown	unknown
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhodobiaceae
Unculutred	unknown	unknown	unknown	unknown
Bacteria	Verrucomicrobia	Opitutae	Opitutales	Opitutaceae
Bacteria	Verrucomicrobia	Verrucomicrobiae	Verrucomicrobiales	Verrucomicrobiaceae
Bacteria	Verrucomicrobia	OPB35 soil group	unknown	unknown
Bacteria	Verrucomicrobia	OPB35 soil group	unknown	unknown
Bacteria	Verrucomicrobia	Opitutae	Opitutales	Opitutaceae

	NCBI nr assignment
unknown	N.A.
unknown	N.A.
Geothrix	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Holophaga	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Flavobacterium	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Cloacibacterium	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Flavobacterium	N.A.
unknown	N.A.
Chryseobacterium	N.A.
unknown	N.A.
Crocinitomix	N.A.
Flavobacterium	N.A.
Flavobacterium	N.A.
Trichosporon	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Ornatilinea	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Carchesium	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.

unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Filamoeba	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
SM1A02	N.A.
Gemmata	N.A.
SM1A02	N.A.
unknown	N.A.
SM1A02	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Candidatus Accumulibacte	N.A.
unknown	N.A.
Zoogloea	N.A.
Thermomonas	N.A.
unknown	N.A.
unknown	N.A.
Nitrosomonas	N.A.
Thauera	N.A.
unknown	N.A.
unknown	N.A.
Nitrosomonas	N.A.
unknown	N.A.
Pseudomonas	N.A.
unknown	N.A.
Nitrosomonas	N.A.
Aquabacterium	N.A.
Woodsholea	N.A.
Comamonas	N.A.
Defluviicoccus	N.A.
Denitratisoma	N.A.
unknown	N.A.
Candidatus Competibacter	N.A.
Bosea	N.A.
unknown	N.A.
Stenotrophomonas	N.A.
unknown	N.A.
Candidatus Competibacter	N.A.
unknown	N.A.
Nitrosomonas	N.A.
unknown	N.A.
Defluviicoccus	N.A.
unknown	N.A.
Haliangium	N.A.
unknown	N.A.
unknown	N.A.
Reyranella	N.A.
Bradyrhizobium	N.A.
unknown	N.A.

unknown	N.A.
unknown	N.A.
unknown	N.A.
Thauera	N.A.
unknown	N.A.
Devosia	N.A.
Nitrosomonas	N.A.
unknown	N.A.
Nitrosomonas	N.A.
Sulfuritalea	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
unknown	N.A.
Mesorhizobium	N.A.
Rhodoplanes	N.A.
Defluviicoccus	N.A.
Turneriella	N.A.
Rattus	*Rattus (Genus)*
unknown	*Unclassified*
unknown	*Eukaryota*
unknown	*Bacteria*
unknown	*Unclassified*
unknown	*Bacteria*
unknown	*Eukaryota*
unknown	*Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Acidobacteria (Phylum)*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Acidobacteria (Phylum)*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
Endosymbiont of Nilaparva	*Endosymbiont of Nilaparvata lugens*
unknown	*Bacteria*
unknown	*Unclassified*
unknown	*Unclassified*
unknown	*Verrucomicrobia (Phylum)*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
Vexillifera	*Vexillifera (Genus)*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
Mayorella	*Mayorella (Genus)*
unknown	*unknown*

unknown	*Unculutred Bacteria*
unknown	*Myxococcales (Order)*
unknown	*Unculutred Bacteria*
unknown	*Rhodospirillaceae (Order)*
unknown	*Saprospiraceae (Order)*
unknown	*Unclassified*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Fungus*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Eukaryote*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Proteobacteria (Phylum)*
unknown	*Unclassified*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
unknown	*Unclassified*
unknown	*Unculutred Bacteria*
unknown	*Unculutred Bacteria*
Parvibaculum	*Parvibaculum (Genus)*
unknown	*Unculutred Bacteria*
Opitutus	N.A.
Prosthecobacter	N.A.
unknown	N.A.
unknown	N.A.
Opitutus	N.A.

TAG	Unique Seque	ConSlu1	ConSlu2	ConSlu3	TrSlu1	TrSlu2
TAG 26	ATGACTTGG	3899	3159	2125	2576	2250
TAG 58	CATACTTGG	135	129	163	88	100
TAG 137	CATACTTGG	163	70	102	135	69
TAG 178	CATACTTGG	84	49	64	44	32
TAG 180	CGGACTTG	43	48	57	22	26
TAG 163	GGCGCTAG	310	195	245	146	117
TAG 13	ATGACTCGA	8017	5653	2770	4514	3966
TAG 18	GATACTAGC	2041	3756	7517	1073	2241
TAG 25	ATGGCTGG	2326	3602	3286	1724	2709
TAG 34	ATTACTCGA	4634	1789	540	2445	1169
TAG 36	ATCACTCGA	2981	2691	1018	1806	1632
TAG 30	ATTACTCGA	2666	2432	959	1717	1415
TAG 53	ATTACTCGA	1381	1531	1253	872	1192
TAG 49	ATCACTAGA	1442	1568	971	1663	1250
TAG 56	ATTACTCGC	891	1257	955	655	909
TAG 109	ATCACTCGA	617	564	295	313	334
TAG 52	GATACTCGA	407	457	144	218	290
TAG 141	GATACTCGA	462	308	181	207	204
TAG 20	ATGACTCGA	447	211	185	145	120
TAG 156	CTCACTCGA	231	230	363	100	166
TAG 170	TTTACTTGC	223	213	223	142	113
TAG 200	ATCACTCGT	212	135	188	144	175
TAG 90	GATACTCGA	229	161	97	186	135
TAG 35	ATTACTCGA	353	72	39	110	29
TAG 247	GATACTAGC	102	92	203	57	66
TAG 282	ATCACTCGA	96	62	93	34	61
TAG 92	TAAACTCGA	93	63	83	78	59
TAG 183	GATACTCGA	71	63	51	25	48
TAG 348	GATACTAGT	83	45	52	28	39
TAG 291	GATACTCGA	76	46	54	52	33
TAG 17	TATACTTGG	3455	4554	6254	1750	3224
TAG 171	TATGCTTGA	155	279	282	68	186
TAG 337	AATACTAGA	29	43	104	35	53
TAG 325	TATGCTTGG	70	37	40	47	28
TAG 57	TAAACTTGG	725	1163	1745	491	903
TAG 199	AATACTAGG	231	183	149	105	125
TAG 41	TGAACTTGG	77	93	125	69	63
TAG 328	AATACTAGG	114	86	85	48	57
TAG 345	AATACTAGG	75	45	50	58	51
TAG 3	CCGACTCG	46896	46473	49311	108462	88309
TAG 301	GATACTAGA	100	109	126	55	51
TAG 77	GATACTAGG	74	53	131	41	49
TAG 210	GCCCCCATG	371	145	22	174	101
TAG 159	GGCACTAG	170	95	30	74	52
TAG 7	CCGACCAG	4976	5700	6662	2160	3081
TAG 85	CCGACCAG	85	105	112	61	67
TAG 142	CCAACTGTC	174	138	252	86	135
TAG 270	CCGACTAG	155	82	163	39	37
TAG 296	CCGGTTAG	56	121	185	35	24
TAG 15	TACACTAGA	4852	4989	3874	3351	3238
TAG 164	GGCACTAG	176	155	169	130	103
TAG 388	AGCACTGG	50	45	52	54	40
TAG 2	TCAACTAGG	38516	42438	46622	23021	36309
TAG 12	TCGACTAGT	4167	2451	3434	2803	2111

TAG 10	TCAACTAGT	3286	2850	3565	2287	2319
TAG 4	TCAACTAGT	2264	3300	3819	1893	2359
TAG 32	AGCACTAGA	3362	1649	1772	1475	1535
TAG 38	AATGCTAGA	2566	1966	1984	1181	1314
TAG 8	TCAACTAGG	2114	1946	1408	1405	1331
TAG 48	AGCACTAGA	1702	973	705	775	836
TAG 43	AGAACTAGG	522	830	1078	411	676
TAG 80	AGCACTAGA	746	665	944	436	509
TAG 87	AGTGCTAGA	1164	758	355	508	580
TAG 108	ATTGCTAGT	1023	531	119	374	277
TAG 106	AGCACTAGA	473	493	467	275	381
TAG 116	CGAACTGGA	441	387	543	218	151
TAG 123	GATGCTGGA	328	357	405	216	301
TAG 138	ATAACTAGC	465	344	280	198	140
TAG 73	AGAGCTAGT	383	488	154	258	232
TAG 129	AGTGCTAGA	275	301	417	225	290
TAG 125	AATGCCAGA	270	256	374	128	117
TAG 151	TGTGCTAGA	287	285	273	184	191
TAG 152	ATAACTAGC	397	257	93	258	133
TAG 98	AATGCCAGC	294	149	181	85	52
TAG 193	AATGCCAGT	234	171	205	88	104
TAG 236	AGAGCTAGC	210	158	191	45	70
TAG 208	AATGCTAGA	285	162	100	99	85
TAG 233	TCTACTAGT	107	271	120	21	113
TAG 165	ATAACTAGC	281	130	61	171	78
TAG 213	ATAACTAGC	248	182	41	150	117
TAG 189	CGAACTGGA	91	79	289	72	58
TAG 229	TCAACTGGC	151	131	175	66	93
TAG 220	AGCACTAGA	175	128	129	142	93
TAG 259	AGTGCTAGT	201	118	100	101	71
TAG 201	AATGCCAGC	185	106	116	95	85
TAG 245	TCTACTAGT	118	162	107	34	174
TAG 54	TCAACTAGT	120	149	111	83	98
TAG 179	TCAACTAGT	115	117	120	57	86
TAG 256	GAAGCTAGC	125	103	96	28	42
TAG 285	GGTGCTAGC	112	150	61	45	72
TAG 308	AATGCCAGC	106	134	52	52	89
TAG 280	AGAACTAGA	90	85	111	67	51
TAG 235	TCGACTAGT	93	98	90	57	61
TAG 287	TGTGCTAGT	105	93	70	52	79
TAG 309	TGTGCTAGA	85	93	87	46	65
TAG 321	AATGCCAGC	87	55	112	57	39
TAG 105	AATGCCAGA	86	76	82	25	42
TAG 249	GATGCTAGC	131	46	56	63	31
TAG 317	GGTGCTAGC	79	56	95	49	55
TAG 172	GATGCTAGC	78	50	92	37	38
TAG 340	TTTACTTGC	68	77	59	47	45
TAG 134	AGTGCTAGT	73	82	47	137	50
TAG 353	TCAACTAGT	47	81	67	35	68
TAG 365	AGAGCTAGT	61	75	50	39	56
TAG 408	TGTGCTAGA	64	72	47	30	23
TAG 23	CGAACTGGA	146	22	12	15	2
TAG 99	CGAACTAGG	33	40	93	21	41
TAG 415	TGTGCTAGC	58	39	59	16	27
TAG 9	TGCACTTGG	6979	8246	3924	5983	5618

TAG 16	GATACTAGC	3097	4047	7988	1871	2854
TAG 31	ATTACTCGC	4267	2746	375	2725	2058
TAG 33	CTAACGATG	1664	2935	2312	1133	1851
TAG 27	TCAACTAGT	1597	1605	1676	850	1217
TAG 62	CTAACGATG	833	1520	1240	414	978
TAG 60	TCGACTAAG	1813	1102	604	812	836
TAG 65	ATTACTCGG	242	822	2039	148	633
TAG 70	CTAACGATG	755	1306	907	498	765
TAG 86	CTAACGATG	592	1105	735	370	558
TAG 84	CTAACGATG	554	1032	824	328	601
TAG 82	TTTACTTGC	728	833	643	570	666
TAG 91	ATCACTAGA	479	849	487	531	646
TAG 96	CATACTCGC	781	572	349	596	438
TAG 103	CTCACTTGC	393	445	849	205	340
TAG 102	CCGACTGG	774	571	301	481	448
TAG 76	TACGCTAGA	700	635	232	458	424
TAG 61	CTGACTTG	672	383	509	399	319
TAG 107	CTAACGATG	393	664	478	231	384
TAG 111	CTAACGATG	302	591	470	181	402
TAG 113	ATTACTAGA	328	626	291	287	515
TAG 119	TCGACCAG	138	262	811	92	265
TAG 130	CCAGTTAG	480	399	238	270	183
TAG 124	CCGACCAG	309	325	421	185	256
TAG 126	CTAACGATG	249	433	369	177	255
TAG 120	AGAGCTAG	181	467	386	153	262
TAG 66	CCGACTCA	247	268	466	794	1061
TAG 147	AATGCCAG	262	401	233	161	185
TAG 162	AGTGCTAG	180	348	366	84	171
TAG 149	AGTACTAG	230	199	430	203	193
TAG 148	GATGCTAG	400	251	184	296	208
TAG 157	CATACTAGG	50	197	555	29	150
TAG 169	AGTGCTAG	212	260	254	134	208
TAG 150	AGTGCTAG	187	241	255	242	257
TAG 166	CCGACCAG	248	194	233	143	110
TAG 40	CCGACCAA	180	229	262	87	139
TAG 181	CGCACTAG	283	197	175	128	140
TAG 184	CGCACTGG	201	183	257	105	119
TAG 202	ACCCCCAT	134	200	258	41	124
TAG 175	CGCACTAG	148	193	221	99	111
TAG 187	TATACTTGG	90	214	249	94	155
TAG 203	TGTGCTGG	219	138	196	121	111
TAG 198	TCAACTAGT	185	184	135	97	147
TAG 214	AGTGCTAGT	189	127	152	95	89
TAG 197	TGCACTAG	54	234	176	69	246
TAG 215	TACATTGTA	143	176	142	92	111
TAG 93	CCGACCAG	122	123	205	58	83
TAG 219	AACACTCGA	204	112	133	182	85
TAG 216	CCAACTAGA	148	165	128	110	131
TAG 231	CTTACTCGT	210	97	101	100	121
TAG 258	CCGACCAG	143	193	67	80	86
TAG 242	CTAACGATG	98	186	116	50	113
TAG 272	AATGTAAAA	97	163	118	59	77
TAG 262	CGTGCTGG	132	119	109	55	70
TAG 279	CACATTGGA	118	111	119	50	78
TAG 218	ACACCCAT	236	56	39	324	108

TAG 283	AGCACTAGA	158	71	83	70	70
TAG 190	CCGACCAG	72	118	103	32	75
TAG 211	TTCACTAGT	50	86	150	46	58
TAG 302	CCGACCAG	81	92	113	35	44
TAG 298	CCGACTCAG	63	70	150	36	43
TAG 271	TGCACTAGA	104	100	76	65	78
TAG 307	CAGACTCGG	101	93	71	58	55
TAG 316	CCGACCAG	87	87	89	55	55
TAG 323	TATGCTTGG	101	66	92	51	56
TAG 303	CCGACCAG	68	84	91	35	68
TAG 89	CGCACTAGG	77	91	70	54	64
TAG 305	TACACTGGA	93	83	58	63	61
TAG 310	GATGCTAGC	35	83	104	18	85
TAG 265	TCAACTGGC	22	81	118	101	129
TAG 304	AACACTTGG	80	80	61	41	69
TAG 330	CTAACTCGA	51	73	97	48	59
TAG 121	TCGACTGG	54	67	92	50	53
TAG 358	CTTACTTGC	55	59	96	29	34
TAG 346	CCAGCTGG	59	57	91	33	51
TAG 59	TTCACTAGT	79	93	29	54	71
TAG 368	TATGCTTGG	32	48	120	26	33
TAG 347	AGCACTGG	83	52	61	73	51
TAG 356	GGCACTGG	87	59	48	45	52
TAG 366	TGCACTAGG	80	57	54	31	43
TAG 370	GATACTAGC	95	44	39	63	27
TAG 364	TGTGCTAGT	58	63	56	45	49
TAG 377	AATGCTAGG	78	64	27	43	55
TAG 390	TAAACTTGG	40	54	71	15	33
TAG 344	TGCGCTAGA	63	67	28	53	37
TAG 387	ATTACTCGA	47	47	62	32	38
TAG 136	TCAACTAGT	55	56	36	43	45
TAG 234	CACACTAGG	32	55	57	26	29
TAG 64	CACACTAGG	431	498	559	334	390
TAG 118	CGCATTTGC	411	392	440	257	260
TAG 383	CACGCTTGG	65	55	45	54	34
TAG 239	CACACTAGG	50	40	64	30	56

TrSlu3	Sum	LOG10(T1/C1	LOG10(T2/C2	LOG10(T3/C3)		
1457	9183	-0.18000738	-0.14736711	-0.16389938	Bacteria	Acidobacteria
99	427	-0.1858511	-0.11058971	-0.21655241	Bacteria	Acidobacteria
64	335	-0.08185384	-0.00624895	-0.2024202	Bacteria	Acidobacteria
17	197	-0.28082661	-0.1850461	-0.57573105	Bacteria	Acidobacteria
27	148	-0.29104577	-0.26626789	-0.32451109	Bacteria	Acidobacteria
142	750	-0.32700884	-0.22184875	-0.23687774	Bacteria	Actinobacteri
1766	16440	-0.24945033	-0.15392628	-0.19548907	Bacteria	Bacteroidetes
4326	13314	-0.27924328	-0.22428373	-0.23995804	Bacteria	Bacteroidetes
2103	9214	-0.13007245	-0.1237347	-0.19382829	Bacteria	Bacteroidetes
315	6963	-0.27767717	-0.18479583	-0.23408321	Bacteria	Bacteroidetes
669	6690	-0.21764423	-0.21719354	-0.18232166	Bacteria	Bacteroidetes
617	6057	-0.19108985	-0.23520713	-0.19153344	Bacteria	Bacteroidetes
769	4165	-0.19967719	-0.10869894	-0.21202473	Bacteria	Bacteroidetes
480	3981	0.06192699	-0.09843605	-0.30597799	Bacteria	Bacteroidetes
645	3103	-0.1336364	-0.14077139	-0.17044366	Bacteria	Bacteroidetes
252	1476	-0.29474083	-0.22753264	-0.06842148	Bacteria	Bacteroidetes
137	1008	-0.27113792	-0.1975182	-0.02164192	Bacteria	Bacteroidetes
94	951	-0.34867163	-0.17892055	-0.28455072	Bacteria	Bacteroidetes
182	843	-0.48893952	-0.24510121	-0.00710034	Bacteria	Bacteroidetes
209	824	-0.36361198	-0.14161975	-0.23976034	Bacteria	Bacteroidetes
147	659	-0.19601652	-0.27530116	-0.18098753	Bacteria	Bacteroidetes
125	535	-0.16797337	0.11270428	-0.17724784	Bacteria	Bacteroidetes
58	487	-0.09032254	-0.07649211	-0.22334374	Bacteria	Bacteroidetes
20	464	-0.50638202	-0.3949345	-0.29003461	Bacteria	Bacteroidetes
124	397	-0.25272532	-0.14424389	-0.21407435	Bacteria	Bacteroidetes
130	251	-0.45079232	-0.00706185	0.1454604	Bacteria	Bacteroidetes
48	239	-0.07638835	-0.02848854	-0.23783686	Bacteria	Bacteroidetes
44	185	-0.45331834	-0.11809931	-0.0641175	Bacteria	Bacteroidetes
47	180	-0.47192006	-0.06214791	-0.04390549	Bacteria	Bacteroidetes
34	176	-0.16481025	-0.14424389	-0.20091484	Bacteria	Bacteroidetes
4570	14263	-0.29541	-0.14999799	-0.13624168	Bacteria	Chlamydiae
151	716	-0.35782279	-0.17609126	-0.27127216	Bacteria	Chlorobi
61	176	0.08167005	0.09080741	-0.2317035	Bacteria	Chlorobi
28	147	-0.17300018	-0.12104369	-0.15490196	Bacteria	Chlorobi
1066	3633	-0.16925651	-0.10989196	-0.21403823	Bacteria	Chloroflexi
112	563	-0.34242268	-0.16554108	-0.12396825	Bacteria	Chloroflexi
94	295	-0.04764163	-0.1691424	-0.12378216	Bacteria	Chloroflexi
30	285	-0.37566361	-0.1786236	-0.45229767	Bacteria	Chloroflexi
21	170	-0.11163327	0.05435766	-0.37675071	Bacteria	Chloroflexi
101682	142680	0.36414181	0.27880426	0.31430027	Eukaryota	Ciliophora
40	335	-0.25963731	-0.32985632	-0.49831055	Bacteria	Cyanobacteri
113	258	-0.25644786	-0.03407979	-0.06419285	Bacteria	Cyanobacteri
25	538	-0.32882466	-0.15704663	0.05551733	Eukaryota	Euglenozoa
19	295	-0.3612172	-0.26172026	-0.19836765	Bacteria	Gemmatimona
4152	17338	-0.36242662	-0.26718316	-0.20534728	Eukaryota	Gracilipodida
72	302	-0.14408909	-0.1951145	-0.19188553	Eukaryota	LKM74
157	564	-0.3060508	-0.00954532	-0.20550089	Eukaryota	Metazoa
47	400	-0.59926709	-0.34561213	-0.54008975	Eukaryota	Ochrophyta
19	362	-0.20411998	-0.70257413	-0.98841813	Eukaryota	Ochrophyta
2890	13715	-0.16074636	-0.18773666	-0.12726177	Bacteria	Planctomycet
76	500	-0.13156932	-0.17749447	-0.34707311	Bacteria	Planctomycet
27	147	0.03342376	-0.05115252	-0.28463958	Bacteria	Planctomycet
32669	127576	-0.22351699	-0.06774062	-0.15445506	Bacteria	Proteobacteri
2040	10052	-0.1722004	-0.06485508	-0.22617012	Bacteria	Proteobacteri

2429	9701	-0.15740139	-0.08954411	-0.16663202	Bacteria	Proteobacteria
2669	9383	-0.07772581	-0.145786	-0.15560108	Bacteria	Proteobacteria
1048	6783	-0.35780569	-0.03111228	-0.22810243	Bacteria	Proteobacteria
1175	6516	-0.33700675	-0.17498815	-0.2275038	Bacteria	Proteobacteria
1215	5468	-0.17742866	-0.16496478	-0.06402638	Bacteria	Proteobacteria
659	3380	-0.34165785	-0.06590656	-0.0293037	Bacteria	Proteobacteria
704	2430	-0.10382868	-0.0891314	-0.1850461	Bacteria	Proteobacteria
671	2355	-0.23325234	-0.11610386	-0.14824947	Bacteria	Proteobacteria
312	2277	-0.36008927	-0.11624121	-0.05607376	Bacteria	Proteobacteria
103	1673	-0.43700403	-0.28261475	-0.06270974	Bacteria	Proteobacteria
336	1433	-0.23552845	-0.11192194	-0.1429776	Bacteria	Proteobacteria
279	1371	-0.3059821	-0.40873402	-0.28919563	Bacteria	Proteobacteria
218	1090	-0.18142009	-0.07410172	-0.26899853	Bacteria	Proteobacteria
166	1089	-0.37078776	-0.39043041	-0.22704994	Bacteria	Proteobacteria
100	1025	-0.17157907	-0.32293184	-0.18752072	Bacteria	Proteobacteria
290	993	-0.08715018	-0.0161685	-0.15773806	Bacteria	Proteobacteria
256	900	-0.32415379	-0.3400541	-0.16463164	Bacteria	Proteobacteria
144	845	-0.19306407	-0.17381149	-0.27780015	Bacteria	Proteobacteria
64	747	-0.1871708	-0.28608148	-0.16230297	Bacteria	Proteobacteria
56	624	-0.5389284	-0.45718292	-0.50949055	Bacteria	Proteobacteria
90	610	-0.42473319	-0.21596277	-0.35751135	Bacteria	Proteobacteria
55	559	-0.66900678	-0.35355905	-0.54067068	Bacteria	Proteobacteria
89	547	-0.45920967	-0.28009609	-0.05060999	Bacteria	Proteobacteria
36	498	-0.70716448	-0.37989085	-0.52287875	Bacteria	Proteobacteria
49	472	-0.21571021	-0.22184875	-0.09513375	Bacteria	Proteobacteria
24	471	-0.21836042	-0.19188553	-0.23257262	Bacteria	Proteobacteria
242	459	-0.1017089	-0.1341991	-0.07708248	Bacteria	Proteobacteria
130	457	-0.35943301	-0.14878835	-0.1290947	Bacteria	Proteobacteria
115	432	-0.0907497	-0.13872702	-0.04989187	Bacteria	Proteobacteria
22	419	-0.29887468	-0.22062366	-0.65757732	Bacteria	Proteobacteria
80	407	-0.28944812	-0.09588694	-0.161368	Bacteria	Proteobacteria
51	387	-0.54040309	0.03103423	-0.3218136	Bacteria	Proteobacteria
85	380	-0.16010315	-0.18196019	-0.11590405	Bacteria	Proteobacteria
93	352	-0.30482298	-0.13368741	-0.1106983	Bacteria	Proteobacteria
33	324	-0.64975198	-0.38958793	-0.46375729	Bacteria	Proteobacteria
52	323	-0.39600551	-0.31875876	-0.06932649	Bacteria	Proteobacteria
38	292	-0.30930252	-0.17771479	-0.13621975	Bacteria	Proteobacteria
100	286	-0.12816771	-0.22184875	-0.04532298	Bacteria	Proteobacteria
78	281	-0.21260809	-0.20589624	-0.06214791	Bacteria	Proteobacteria
64	268	-0.30518596	-0.07085586	-0.03891807	Bacteria	Proteobacteria
54	265	-0.26666109	-0.15556959	-0.20712549	Bacteria	Proteobacteria
49	254	-0.1836444	-0.14929808	-0.35902194	Bacteria	Proteobacteria
28	244	-0.53655844	-0.2575643	-0.46665582	Bacteria	Proteobacteria
57	233	-0.31793075	-0.17139614	0.00768683	Bacteria	Proteobacteria
58	230	-0.20743101	-0.00782534	-0.21429561	Bacteria	Proteobacteria
43	220	-0.32389288	-0.11918641	-0.33031937	Bacteria	Proteobacteria
38	204	-0.16041105	-0.23327821	-0.19106842	Bacteria	Proteobacteria
35	202	0.27339771	-0.21484385	-0.12802981	Bacteria	Proteobacteria
47	195	-0.12802981	-0.07597611	-0.15397694	Bacteria	Proteobacteria
32	186	-0.19426523	-0.12687324	-0.19382003	Bacteria	Proteobacteria
32	183	-0.32905872	-0.49560466	-0.16694788	Bacteria	Proteobacteria
5	180	-0.9882616	-1.04139269	-0.38021124	Bacteria	Proteobacteria
62	166	-0.19629465	0.01072387	-0.17609126	Bacteria	Proteobacteria
28	156	-0.55930801	-0.15970084	-0.32369398	Bacteria	Proteobacteria
2750	19149	-0.0668742	-0.1666616	-0.1543963	Bacteria	Spirochaetae

4754	15132	-0.21886742	-0.15167924	-0.22537888	Uncultured Ba	unknown
264	7388	-0.19475614	-0.12525516	-0.15242734	Unclassified	unknown
1651	6911	-0.16692341	-0.20020169	-0.14624076	Unclassified	unknown
1250	4878	-0.27388599	-0.12018446	-0.127364	Uncultured Ba	unknown
768	3593	-0.30364466	-0.19150473	-0.20806047	Unclassified	unknown
537	3519	-0.34884177	-0.11997532	-0.05106265	Eukaryota	Amoebozoa
1417	3103	-0.21355365	-0.11346811	-0.15804738	Uncultured Ba	unknown
671	2968	-0.18071761	-0.23228174	-0.13088477	Unclassified	unknown
481	2432	-0.20411998	-0.29672808	-0.18414226	Unclassified	unknown
532	2410	-0.22763592	-0.23480523	-0.19001558	Unclassified	unknown
450	2204	-0.10625652	-0.09717077	-0.15499846	Unclassified	unknown
356	1815	0.04475901	-0.11867517	-0.13607896	Unclassified	unknown
212	1702	-0.11740477	-0.11592192	-0.21648957	Unclassified	unknown
612	1687	-0.28263869	-0.11688109	-0.14215627	Unclassified	unknown
200	1646	-0.20659588	-0.10535809	-0.1775365	Unclassified	unknown
143	1567	-0.18423256	-0.17540787	-0.21015195	Uncultured Ba	unknown
289	1564	-0.22639638	-0.07940809	-0.24581994	Bacteria	Acidobacteria
379	1535	-0.23078057	-0.23783686	-0.10078869	Unclassified	unknown
352	1363	-0.22232837	-0.16736143	-0.12555519	Unclassified	unknown
189	1245	-0.05799195	-0.0847671	-0.18743118	Bacteria	Bacteroidetes
509	1211	-0.17609126	0.00494458	-0.20230307	Unclassified	unknown
120	1117	-0.24987747	-0.33852181	-0.29739571	Eukaryota	unknown
301	1055	-0.22278675	-0.1036434	-0.1457156	Unclassified	unknown
229	1051	-0.14822608	-0.22994772	-0.20719088	Unclassified	unknown
198	1034	-0.07298714	-0.25101559	-0.28992211	Bacteria	unknown
1387	981	0.50712355	0.59758059	0.47369054	Unclassified	unknown
146	896	-0.21147542	-0.33597264	-0.20300307	Bacteria	unknown
169	894	-0.33099322	-0.30858313	-0.33559438	Bacteria	unknown
221	859	-0.0542318	-0.01329577	-0.28907618	Uncultured Ba	unknown
123	835	-0.13076828	-0.08161039	-0.17491271	Bacteria	Chloroflexi
344	802	-0.23657201	-0.11837497	-0.20773454	Uncultured Ba	unknown
174	726	-0.19923106	-0.09691001	-0.16428447	Uncultured Ba	unknown
261	683	0.11197376	0.02791608	0.01010033	Unclassified	unknown
138	675	-0.23911564	-0.24640904	-0.22747683	Unclassified	unknown
164	671	-0.31575325	-0.21682068	-0.20345744	Unclassified	unknown
108	655	-0.34457647	-0.14833819	-0.20961429	Uncultured Ba	unknown
153	641	-0.28200676	-0.18690413	-0.22524169	Unclassified	unknown
175	592	-0.51432094	-0.20760831	-0.16858166	Eukaryota	unknown
143	562	-0.17462652	-0.24023433	-0.18905624	Uncultured Ba	unknown
179	553	0.01888534	-0.14008208	-0.14334632	Uncultured Ba	unknown
97	553	-0.25765874	-0.09455611	-0.30548434	Bacteria	unknown
100	504	-0.28039999	-0.09750049	-0.13033377	Uncultured Ba	unknown
74	468	-0.2987382	-0.15441371	-0.31261187	Uncultured Ba	unknown
137	464	0.10645533	0.02171925	-0.1087921	Unclassified	unknown
103	461	-0.19154821	-0.20018969	-0.13945112	Unclassified	unknown
140	450	-0.32293184	-0.17082702	-0.16562583	Unclassified	unknown
55	449	-0.04955878	-0.1197991	-0.38348895	Bacteria	Bacteroidetes
92	441	-0.12886903	-0.10021265	-0.14342214	Unclassified	unknown
67	408	-0.32221929	0.09601364	-0.17824657	Unclassified	unknown
32	403	-0.25224605	-0.35105886	-0.32092482	Eukaryota	unknown
100	400	-0.29225607	-0.2164345	-0.06445799	Unclassified	unknown
79	378	-0.21591972	-0.32569688	-0.17425492	Unclassified	unknown
67	360	-0.38021124	-0.23044892	-0.2113517	Uncultured Ba	unknown
70	348	-0.372912	-0.15322838	-0.23044892	Unclassified	unknown
31	331	0.13763301	0.28523573	-0.09970291	Eukaryota	Euglenozoa

55	312	-0.35355905	-0.00616031	-0.1787154	Uncultured Ba	unknown
76	293	-0.35218252	-0.19682074	-0.13202363	Unclassified	unknown
112	286	-0.03621217	-0.17107046	-0.12687324	Uncultured Ba	unknown
98	286	-0.36441697	-0.32033515	-0.06185237	Uncultured Ba	unknown
80	283	-0.24303805	-0.21162958	-0.27300127	Uncultured Ba	unknown
56	280	-0.20411998	-0.1079054	-0.13262557	Uncultured Ba	unknown
65	265	-0.24089338	-0.22812026	-0.03834499	Uncultured Ba	unknown
69	263	-0.19915656	-0.19915656	-0.11054092	Uncultured Eu	unknown
49	259	-0.2967512	-0.07135591	-0.27359175	Bacteria	Chlorobi
95	243	-0.28844087	-0.09177037	0.01868221	Unclassified	unknown
35	238	-0.15409697	-0.15286142	-0.30103	Uncultured Ba	unknown
47	234	-0.1691424	-0.13374826	-0.09133014	Uncultured Ba	unknown
59	222	-0.28879554	0.01034083	-0.24618133	Uncultured Ba	unknown
91	221	0.66189869	0.20210469	-0.11284061	Bacteria	Proteobacteria
37	221	-0.29030613	-0.0642409	-0.21712811	Uncultured Ba	unknown
67	221	-0.02632894	-0.09247085	-0.16069693	Bacteria	Bacteroidetes
63	213	-0.03342376	-0.10179893	-0.16444728	Uncultured Ba	unknown
72	210	-0.27796469	-0.23937309	-0.12493874	Uncultured Ba	unknown
52	207	-0.25233807	-0.04830468	-0.24303805	Uncultured Ba	unknown
23	201	-0.16523333	-0.1172246	-0.10067016	Uncultured Ba	unknown
55	200	-0.09017663	-0.1627273	-0.33881856	Uncultured Ba	unknown
37	196	-0.05575523	-0.00843317	-0.21712811	Uncultured Ba	unknown
38	194	-0.28630674	-0.05484867	-0.10145764	Unclassified	unknown
35	191	-0.41172829	-0.1224064	-0.18832572	Uncultured Ba	unknown
30	178	-0.17838306	-0.21208891	-0.11394335	Unclassified	unknown
22	177	-0.11021548	-0.10914447	-0.40576535	Bacteria	Proteobacteria
18	169	-0.25862615	-0.06581728	-0.17609126	Uncultured Ba	unknown
60	165	-0.42596873	-0.21387982	-0.0731071	Uncultured Ba	unknown
20	158	-0.07506468	-0.25787308	-0.14612804	Unclassified	unknown
34	156	-0.16694788	-0.09231426	-0.26091277	Uncultured Ba	unknown
39	147	-0.10689423	-0.09497551	0.03476211	Unclassified	unknown
58	144	-0.09017663	-0.27796469	0.00755314	Bacteria	Verrucomicrob
350	1488	-0.1107308	-0.10616474	-0.20334376	Bacteria	Verrucomicrob
253	1243	-0.2039087	-0.17831272	-0.24033216	Bacteria	Verrucomicrob
37	165	-0.0805196	-0.20888377	-0.08501079	Bacteria	Verrucomicrob
31	154	-0.22184875	0.14612804	-0.31481828	Bacteria	Verrucomicrob

				NCBI nr assignment
Acidobacteria	Subgroup 4	unknown	unknown	N.A.
Acidobacteria	Subgroup 3	Elev-16S-116	unknown	N.A.
Acidobacteria	Subgroup 3	Elev-16S-116	unknown	N.A.
Acidobacteria	Subgroup 3	unknown	unknown	N.A.
Acidobacteria	Subgroup 3	unknown	unknown	N.A.
Actinobacteria	Micrococcales	unknown	unknown	N.A.
Cytophagia	Cytophagales	Cytophagacea	Chryseolinea	N.A.
Flavobacteriia	Flavobacterial	Flavobacteria	Flavobacterium	N.A.
Bacteroidia	Bacteroidales	Rikenellaceae	Blvii28 wastewater-sludge grou	N.A.
Cytophagia	Cytophagales	Cytophagacea	unknown	N.A.
Cytophagia	Cytophagales	Cytophagacea	unknown	N.A.
Cytophagia	Cytophagales	Cytophagacea	unknown	N.A.
Cytophagia	Cytophagales	Cytophagacea	unknown	N.A.
Flavobacteriia	Flavobacterial	NS9 marine g	unknown	N.A.
Sphingobacte	Sphingobacte	env.OPS 17	unknown	N.A.
Flavobacteriia	Flavobacterial	NS9 marine g	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	Ferruginibacter	N.A.
Cytophagia	Cytophagales	Cytophagacea	unknown	N.A.
Sphingobacte	Sphingobacte	Saprospiracea	unknown	N.A.
Sphingobacte	Sphingobacte	Saprospiracea	unknown	N.A.
Flavobacteriia	Flavobacterial	NS9 marine g	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Flavobacteriia	Flavobacterial	Flavobacteria	Flavobacterium	N.A.
Flavobacteriia	Flavobacterial	NS9 marine g	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Flavobacteriia	Flavobacterial	Flavobacteria	Flavobacterium	N.A.
Sphingobacte	Sphingobacte	Chitinophaga	unknown	N.A.
Chlamydiae	Chlamydiales	Parachlamydi	Candidatus Protochlamydia	N.A.
Chlorobia	Chlorobiales	OPB56	unknown	N.A.
Chlorobia	Chlorobiales	SJA-28	unknown	N.A.
Chlorobia	Chlorobiales	OPB56	unknown	N.A.
Anaerolineae	Anaerolineale	Anaerolineace	unknown	N.A.
unknown	unknown	unknown	unknown	N.A.
Anaerolineae	Anaerolineale	Anaerolineace	Ornatilinea	N.A.
Caldilineae	Caldilineales	Caldilineacea	unknown	N.A.
Caldilineae	Caldilineales	Caldilineacea	unknown	N.A.
Intramacronu	Conthreep	Oligohymeno	Carchesium	N.A.
Chloroplast	unknown	unknown	unknown	N.A.
Melainabacte	Obscuribacter	unknown	unknown	N.A.
Kinetoplastea	Metakinetopla	Neobodonida	Neobodo	N.A.
Gemmatimon	Gemmatimon	Gemmatimon	unknown	N.A.
unknown	unknown	unknown	Filamoeba	N.A.
unknown	unknown	unknown	unknown	N.A.
unknown	unknown	unknown	unknown	N.A.
Chrysophycea	Chromulinales	unknown	unknown	N.A.
Diatomea	Bacillariophyti	Bacillariophyc	Pinnularia	N.A.
Phycisphaera	Phycisphaera	Phycisphaera	SM1A02	N.A.
OM190	unknown	unknown	unknown	N.A.
Planctomycet	Planctomycet	Planctomycet	Planctomyces	N.A.
Betaproteoba	Rhodocyclale	Rhodocyclace	Candidatus Accumulibacter	N.A.
Betaproteoba	Rhodocyclale	Rhodocyclace	Thauera	N.A.

Betaproteoba	Nitrosomonad	Nitrosomonad	Nitrosomonas	N.A.
Betaproteoba	Rhodocyclales	Rhodocyclace	Zoogloea	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Candidatus Competibacter	N.A.
Alphaproteoba	Rhodospirillal	Rhodospirillac	unknown	N.A.
Betaproteoba	Rhodocyclales	Rhodocyclace	unknown	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Candidatus Competibacter	N.A.
Deltaproteoba	Myxococcales	unknown	unknown	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Candidatus Competibacter	N.A.
Deltaproteoba	Myxococcales	Haliangiaceae	Haliangium	N.A.
Alphaproteoba	Caulobacteral	Caulobactera	Brevundimonas	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Candidatus Competibacter	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Aquimonas	N.A.
Alphaproteoba	Rhodospirillal	CCU22	unknown	N.A.
Alphaproteoba	Sphingomona	Sphingomona	unknown	N.A.
Alphaproteoba	Caulobacteral	Hyphomonada	Woodsholea	N.A.
Alphaproteoba	Rhodospirillal	JG37-AG-20	unknown	N.A.
Alphaproteoba	Rhodobactera	Rhodobactera	unknown	N.A.
Alphaproteoba	Rhodospirillal	I-10	unknown	N.A.
Alphaproteoba	Sphingomona	unknown	unknown	N.A.
Alphaproteoba	Rhizobiales	unknown	Bosea	N.A.
Alphaproteoba	Rhodobactera	Rhodobactera	unknown	N.A.
Alphaproteoba	Rhizobiales	Hyphomicrobi	Devosia	N.A.
Alphaproteoba	Rhodospirillal	Rhodospirillac	Dongia	N.A.
Betaproteoba	Burkholderiale	Oxalobactera	unknown	N.A.
Alphaproteoba	Sphingomona	Sphingomona	unknown	N.A.
Alphaproteoba	Sphingomona	Sphingomona	Zymomonas	N.A.
Gammaprote	Xanthomonad	Xanthomonad	unknown	N.A.
Betaproteoba	Hydrogenophi	Hydrogenophi	unknown	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Candidatus Competibacter	N.A.
Alphaproteoba	Rhodospirillal	Rhodospirillac	unknown	N.A.
Alphaproteoba	Rhizobiales	Xanthobactera	Labrys	N.A.
Betaproteoba	Burkholderiale	Burkholderiac	Chitinimonas	N.A.
Betaproteoba	Nitrosomonad	Nitrosomonad	Nitrosomonas	N.A.
Betaproteoba	Nitrosomonad	Nitrosomonad	Nitrosomonas	N.A.
Alphaproteoba	Rhizobiales	Phyllobacteria	unknown	N.A.
Alphaproteoba	Rhizobiales	JG35-K1-AG5	unknown	N.A.
Alphaproteoba	Rhizobiales	unknown	unknown	N.A.
Gammaprote	Xanthomonad	Xanthomonad	Plasticicumulans	N.A.
Betaproteoba	Nitrosomonad	Nitrosomonad	unknown	N.A.
Alphaproteoba	DB1-14	unknown	unknown	N.A.
Alphaproteoba	Rhodospirillal	B79	unknown	N.A.
Alphaproteoba	Rhizobiales	F0723	unknown	N.A.
Alphaproteoba	Rhodobactera	Rhodobactera	unknown	N.A.
Alphaproteoba	Rhizobiales	Hyphomicrobi	unknown	N.A.
Deltaproteoba	Myxococcales	Phaselicystida	Phaselicystis	N.A.
Alphaproteoba	Rhizobiales	unknown	unknown	N.A.
Betaproteoba	Neisseriales	Neisseriaceae	unknown	N.A.
Alphaproteoba	Caulobacteral	Caulobactera	unknown	N.A.
Betaproteoba	Rhodocyclales	Rhodocyclace	unknown	N.A.
Alphaproteoba	Caulobacteral	Hyphomonada	Hirschia	N.A.
Alphaproteoba	Rhodospirillal	Rhodospirillac	Ferrovibrio	N.A.
Gammaprote	Xanthomonad	Xanthomonad	unknown	N.A.
Betaproteoba	Rhodocyclales	Rhodocyclace	Denitratisoma	N.A.
Alphaproteoba	DB1-14	unknown	unknown	N.A.
Spirochaetes	Spirochaetale	Spirochaetace	Spirochaeta	N.A.

unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
Tubulinea	unknown	Euamoebida	Saccamoeba	*Saccamoeba (Genus)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Acidobacteria (Phylum)*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Bacteroidetes (Phylum)*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	Pinnularia	*Pinnularia (Genus)*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	Cystobacterin	unknown	*Cystobacterineae (Family)*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Bacteria*
unknown	unknown	unknown	Candidatus Lariskella	*Candidatus Lariskella*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Chloroflexi (Phylum)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	Neobodo	*Neobodo (Genus)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	Acidocella	*Acidocella (Genus)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
Sphingobacte	Sphingobacte	unknown	unknown	*Sphingobacteriales (Order*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Eukaryota*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
Kinetoplastida	Bodonidae	Bodo	unknown	*Bodo (Family)*

unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Eukaryote*
unknown	unknown	unknown	unknown	*Chlorobi (Phylum)*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
Betaproteoba	Rhodocyclale	Rhodocyclace	Dechloromonas	*Dechloromonas (Genus)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
Sphingobacte	Sphingobacte	Saprospiracea	unknown	*Saprospiraceae (Family)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
Alphaproteoba	unknown	unknown	unknown	*Proteobacteria (Phylum)*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
unknown	unknown	unknown	unknown	*Uncultured Bacterium*
unknown	unknown	unknown	unknown	*Unclassified*
Opitutae	Opitutales	Opitutaceae	Opitutus	*Opitutus (Genus)*
Opitutae	Opitutales	Opitutaceae	Opitutus	N.A.
OPB35 soil gr	unknown	unknown	unknown	N.A.
Verrucomicrol	Verrucomicrol	DEV007	unknown	N.A.
Opitutae	Opitutales	Opitutaceae	Opitutus	N.A.

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