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Accepted Article

## Side effects of extra tRNA supplied in a typical bacterial protein production scenario

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**Abstract**

Recombinant protein production is at the core of biotechnology and numerous molecular tools and bacterial strains have been developed to make the process more efficient. One commonly used generic solution is to supply extra copies of low-abundance tRNAs to compensate for the presence of complementary rare codons in genes-of-interest. Here we show that such extra tRNA, supplied by the commonly used pLysSRARE2 plasmid, can cause two side effects: (1) growth and gene expression can be impaired, and (2) apparent positive effects can be caused by differential expression of the lysozyme gene encoded on the same plasmid and not the tRNAs per se. These phenomena seem to have been largely overlooked despite the huge popularity of the T7/pET-based systems for bacterial protein production.

## Introduction

The genetic code is degenerate and between one and six different codons can encode a single amino acid. The frequency for using a specific codon varies between different organisms - a phenomenon referred to as codon bias. This has long been recognized as a major challenge in heterologous gene expression, as the host might not transcribe and/or translate the foreign DNA sequence in an optimal manner. Partly, this may be caused by a parallel low abundance of tRNAs cognate to codons that are low in frequency – these codons are commonly referred to as rare codons.<sup>1</sup>

Numerous studies have shown that synonymous codon mutations can have drastic consequences for gene expression. Factors such as mRNA stability and structure can be affected, but also initiation and elongation of translation, as well as protein folding.<sup>2-5</sup> It is possible that the redundancy in the genetic code have evolved as an extra layer of information stored in DNA – e.g. as a method to preserve structural information of proteins within the nucleotide content.<sup>6</sup> In this context it is important to note that rare codons can be an advantage; for example the hypothesis that rare codons in the 5' end of genes may positively influence translation efficiency<sup>7</sup> was recently corroborated by assaying the expression of 14,000 synthetic reporter genes with codon usage variation in the 5' end.<sup>8</sup>

Several strategies have been developed to optimize genes for expression (for reviews on the topic see<sup>9-14</sup>), but the success rate is hard to gauge due to the inherent bias against negative results in scientific literature.<sup>15</sup> A seemingly attractive alternative to DNA re-coding is overexpression of low-abundance tRNA species. This way, the host, rather than the individual genes, is harmonized towards an ideal gene expression chassis. In one example, Brinckmann and co-workers coexpressed *dnaY* (now known as *argU*) with eukaryotic genes

known to express poorly in *E. coli*.<sup>16</sup> The genes had a high content of AGA and AGG codons, which are recognized by the tRNA<sub>AGG/AGA</sub> produced from *dnaY*. Upon supplying *dnaY* on a plasmid, improved production of the recombinant protein was observed (up to 30% of total cellular protein).<sup>16</sup> A variant of the approach was later used for expression of parasite genes, which are known to have a high AT-content, and addition of a plasmid supplying minor tRNAs cognate to rare arginine-, isoleucine-, and glycine-codons, improved the expression levels significantly.<sup>17</sup> The concept of tRNA overexpression has been further developed and commercialized, and several bacterial strains are available for "universal expression" of eukaryotic genes.<sup>18</sup> In a recent large-scale protein production project, the Human Protein Atlas Project, changing the bacterial expression strain from the traditionally applied BL21 to the tRNA-supplying Rosetta improved the overall yields of recombinant proteins.<sup>19</sup>

Following up on this work, the effect of different promoters in the two expression strains was tested, suggesting that Rosetta generally supported higher expression, regardless of promoter choice.<sup>20</sup>

As with codon optimization, bias in the way scientific results are published, makes it hard to evaluate the global success rate of an approach such as (rare) tRNA complementation.

We have searched for examples where there was direct proof a positive effect of tRNA supply on expression of a specific gene, but without success. For the record, here we report on different examples where a tRNA encoding plasmid has a negative effect on gene expression, and examples where other factors in the tRNA supplying plasmids are causing increased expression – giving the false impression that tRNA complementation works as intended.

## Results and Discussion

In searching for genes that could be influenced by tRNA complementation, we came across six synonymous codon variants of DasherGFP (which varied in nucleotide sequence but encoded the same protein). These variants were designed to explore the effect of rare codons on protein production (Claes Gustafsson and Mark Welch, DNA2.0, personal communication). We transformed DasherGFP constructs into *E. coli* strains, with either pLysS or pLysSRARE2, a rare tRNA-supplementing plasmid derived from pLysS [Fig. 1(A)], and assayed protein production by whole cell fluorescence in a 96 deep-well format. Whole cell fluorescence has previously been shown to correlate strongly with total protein produced with a similar fluorescent protein.<sup>2</sup> Both pLysS and pLysSRARE2 contain the T7 lysozyme encoding gene “3.5” included to counteract toxic effects of the T7 polymerase when this is present.<sup>21</sup> Contrary to our expectations, several of the tested DasherGFP variants showed a remarkable drop in production in the presence of pLysSRARE2 in different strains and under different growth conditions (data not shown).

To understand this phenomenon better we focused on the DasherGFP25 variant that contains a total of 13 rare codons evenly distributed in the coding sequence (out of 258 codons in total). In a representative experiment, we co-transformed the DasherGFP25 construct together with pLysSRARE2 or the pLysS control into BL21(DE3). By diluting an overnight culture, we started all expression cultures at OD<sub>600</sub> 0.05 and grew them at 37°C to exponential phase (OD 0.3 – 0.8) followed by induction with 2 mM L-rhamnose. Four hours later, protein production levels were estimated from whole cell GFP fluorescence in a plate reader. As observed in our pilot experiments, the presence of pLysSRARE2 had a major inhibitory effect on production of DasherGFP25, showing approximately 15-fold less production under these conditions [Fig. 1(B)]. Frequently, we also observed that the growth

rate of the expression strain was affected, suggesting a fitness cost caused by the presence of the pLysSRARE2 plasmid (data not shown).

Despite the overall similarity with pLysS [Fig. 1(A), 1(C)], apart from the tRNA genes, pLysSRARE2 contains DNA included in the tRNA-encoding region of the plasmid that could influence heterologous gene expression or bacterial physiology. As a control, we deleted all tRNA coding sequences from the plasmid, creating a pLysS-like plasmid (pLysSRARE2- $\Delta$ tRNA) that we co-transformed with the DasherGFP25 construct. In the absence of all tRNAs, no inhibitory effect on protein production was observed [Fig. 1(B)]. To test the effect of the 3.5 gene, we also deleted 3.5 from pLysSRARE2 and pLysS (pLysSRARE2- $\Delta$ 3.5 and pLysS- $\Delta$ 3.5), but no significant differences were observed [Fig. 1(B)]. We conclude that the presence of additional tRNA copies can have a negative effect on heterologous protein production.

We broadened our search for genes relying on pLysSRARE2 for proper expression and noticed that several plant cytochrome P450 genes and a human breast cancer-related gene fragment BRCA1 (Alex Toftgaard Nielsen and Ariane Zutz, personal communication) seemed to be positively affected in expression by the pLysSRARE2 plasmid compared to pLysS. Here, we focus on the P450 CYP720B4 from the plant *Pinus sitchensis* involved in the biosynthesis of resin acid, a secondary metabolite involved in the defense against insects<sup>22</sup> and a fragment of BRCA1, a protein that plays a role in maintaining genomic stability and acts as a tumor suppressor.<sup>23</sup>

Both expression constructs contain the common T7 promoter, and the CYP720B4 membrane protein is fused to GFP [Fig. 2(A)], whereas *BRCA1* translation can be followed by coupling with a red fluorescent protein [Fig. 2(B)]. Our initial experimental setup confirmed the

apparent positive effect of pLysSRARE2; *CYP720B4* and *BRCA1* expressed to 4- and 130-fold higher levels, respectively, compared to the pLysS-controls [Fig. 2(A), 2(B)]. However, with the pLysSRARE2- $\Delta$ tRNA, both *CYP720B4* and *BRCA1* still expressed to significantly higher levels than with pLysS. Thus, it appears that the positive effect of pLysSRARE2 could not solely be attributed to the extra tRNA copies. T7 lysozyme, encoded by the 3.5 gene on pLysSRARE2, pLysSRARE2- $\Delta$ tRNA and pLysS, inhibits T7 polymerase<sup>24</sup> and thus could be a contributing factor in the differential expression of genes controlled by the T7 promoter. To gain insight into the role of T7 lysozyme we monitored expression of *CYP720B4* and *BRCA1* with pLysSRARE2- $\Delta$ 3.5 and pLysS- $\Delta$ 3.5. We found that *CYP720B4* expressed at even higher levels than with pLysSRARE2 suggesting that the major difference between pLysSRARE2 and pLysS was related to the lysozyme encoding gene [Fig. 2(A)]. With *BRCA1*, the effect of 3.5 was also apparent as the expression increased more than 150-fold upon removing 3.5 from pLysS [Fig. 2(B)].

The pLysSRARE2 seems to be directly derived from pLysS (the exact design is not revealed by the commercial vendor), preserving the entire 3.5 gene and surrounding sequence, including the  $\Phi$ 3.8 promoter that drives expression of 3.5.<sup>25</sup> However the  $\Phi$ 3.8 promoter is placed unconventionally *downstream* from the 3.5 gene and thus T7 RNA polymerase will only transcribe 3.5 after having transcribed the entire plasmid sequence present upstream from 3.5.<sup>25</sup> In the case of pLysSRARE2, this includes all the tRNAs sequences [Fig. 1(A)] and a total of 2774 nucleotides in addition to those present in the corresponding region in pLysS. To confirm this potential difference in expression of 3.5 from pLysS and pLysSRARE2, we probed the presence of T7 lysozyme by western blotting and observed that it was nearly completely absent from cells harboring the pLysSRARE2 plasmid compared to pLysS [Fig. 2(C)]. Upon removal of the tRNAs from pLysSRARE2, expression of 3.5



increased slightly, but did not reach the same level as with pLysS. To probe the functionality and consequences of the pLysSRARE2 plasmid more broadly, we expressed a DasherGFP construct for 4 hours in BL21(*DE3*) with pLysSRARE2 or pLysS, and quantified the total RNA from these two strains with transcriptomics. Although many genes appeared to express differently with the two different plasmids, we were unable to identify clear trends of differentially expressed genes characteristic for a specific physiological responses such as stress or starvation (Table S1). Since T7 RNA polymerase needs to transcribe the majority of the pLysSRARE2 plasmid to reach the 3.5 gene, it could have a major impact on the way the tRNAs are transcribed from the plasmid too. Although our method for RNA extraction did not allow us to detect accurate tRNA concentrations, with pLysSRARE2, the RNA sequencing analysis identified very high levels of RNA originating from regions immediately downstream from the  $\Phi$ 3.8 promoter and the *cam* resistance gene (in *argX* and *argN5*, [Fig. 1(A)]). However, when analyzing the strand specificity of the sequencing, more than 99% of this RNA sequence originated from the antisense strand of *argX* and *argN5* and, thus, will not lead to functional tRNA molecules [Fig. 2(D), Table S2]. RNA sequence originating from regions downstream from *argX* and *argN5* were not at the same high levels and the strand specificity was not as prominent, although again a significant proportion of sequence from the antisense strand of several of the other tRNAs is worth noting [Fig. 2(D)]

### Conclusion

It has previously been noted that tRNAs are post-transcriptionally modified and amino-acetylated. These processes must be essential for complementation of low-abundance tRNAs and immature tRNA could have metabolic side affects in the cell.<sup>26</sup> Indeed, Fedyunin and co-

workers showed that when expression of specific tRNAs was upregulated between 5- and 27-fold, several proteins in the cell suffered from altered solubility, making them aggregation-prone.<sup>27</sup> It is likely that the apparent negative impact of pLysSRARE2 on cell growth and on expression of genes encoding DasherGFP is related to such metabolic side effects, although our RNAseq analysis gave no specific clues in this direction. Instead, our analysis seems to point to an apparent design flaw in the pLysSRARE plasmid: T7 RNA polymerase transcribes major parts of the plasmid from the  $\Phi$ 3.8 promoter, leading to antisense RNA of several of the encoded tRNAs. *ArgX* recognizes CGA and CGG – two of the most rarely occurring codons in *E. coli*<sup>28</sup> – and it seems likely that over expression of antisense RNA of this tRNA can only make the situation worse. As shown here, another consequence of the pLysSRARE2 design is that the 3.5 lysozyme-encoding gene is expressed at much lower levels than in pLysS. This is probably a direct consequence of the extra DNA added between the  $\Phi$ 3.8 promoter and 3.5 in pLysSRARE2. In line with this, we observe in the RNAseq data that the levels of identified RNA from these regions decrease with the distance from the  $\Phi$ 3.8 promoter. Given that T7 lysozyme directly inhibits T7 RNA polymerase, it is therefore no surprise that genes expressed from the T7 promoter express very differently when combined with either pLysS or pLysSRARE2 – as shown here for two very different genes and expression constructs. Given the huge popularity of the T7/pET-based expression systems, it is obviously important to know if the developed tools work as intended. There still seems to be very little direct proof available for the efficiency of tRNA overexpression in providing “universal expression”.

## Materials and methods

### *Bacterial strains*

*Escherichia coli* strain NEB 5-alpha (New England BioLabs, Ipswich, USA) was used for cloning of PCR products and propagation of plasmids. *E. coli* BL21(DE3) was used for gene expression.

### *DNA constructs*

The plasmid pLysSRARE2 was isolated from Rosetta<sup>TM</sup>2(DE3)pLysS and pLysS from BL21(DE3) pLysS (Novagen, Merck Millipore, Germany). pLysSRARE2- $\Delta tRNA$  was constructed in several steps: first the region containing argN5, argX, proL, leuW, metT and argW; and another region containing argU was deleted. This was accomplished by amplifying the backbone with the oligonucleotides 5'-

AGTCGGTGUCGTTGATACCGCAATGCGGTGTAATC-3'

and 5'-ATCGATGAUATTTTGAACCCCGCTTCGGCGGGGTTTTTTG-3'

and the product with a fragment containing the region encoding thrU, tyrU, glyT and thrT amplified with the oligonucleotides 5'-

ACACCGACUTTACAATTCAATCAGTTACGCCTTCTTTATATCCTC-3'

and 5'-ATCATCGAUCAATGCGGCATGAGTATACCCGCTAATG-3'. Next, glyT was removed using the oligonucleotides 5'-

AGTCGGTGUCATCCTGGAACCTCGGCTACCTGATTTTC-3'

and 5'-ACACCGACUAAGATGTGCTGATATAGCTCAGTTGGTAGAG-3'. In the third step, ileX was removed using the oligonucleotides 5'-

ATCGATUCCAGCGGCCGCAAAGGCT-3' and 5'-

AATCGAUTGGATTATAAAGTAACTCCGTGTC-3' and finally the region containing thrU, tyrU and thrT was deleted using the oligonucleotides 5'-

AGTGGAUCAAGTAGCGCGCACTCTA-3' and 5'-

ATCCACUTCTTTTCTCCTCCCTGTTTTTCC-3'. All deletions were made by PCR followed by assembly with uracil excision as previously described.<sup>29,30</sup>

### ***PCR and DNA assembly***

PCR products were amplified in 50  $\mu$ L reactions containing: 1  $\mu$ L PfuX7 DNA polymerase {Norholm:2010hs}, 0.2 mM dNTPs (Thermo Scientific, Waltham, USA), 1 mM MgCl<sub>2</sub>, 1 mM DMSO, 0.5  $\mu$ M forward oligonucleotide, 0.5  $\mu$ M reverse oligonucleotide, Phusion® HF Reaction Buffer (New England BioLabs, Ipswich, USA) and 50 ng plasmid template. A touch-down PCR program was used for amplification: Step 1: 2 min 98°C; step 2: 15 sec 98°C, 20 sec 65°C (-1°C per cycle), 45 sec per kb at 72°C (step 2 repeated 9 times until 55°C, then repeated 20 cycles at the annealing temperature 55°C); step 3: 5 min 72°C; step 4 hold at 10°C. PCR products were gel purified using NucleoSpin Gel and PCR Clean-up (Macherey-Nagel, Düren, Germany) and eluted in 10% TE buffer. A Nanodrop spectrophotometer 2000 (Thermo Scientific, Waltham, USA) was used for estimation of PCR product and vector concentration. Purified PCR products were incubated with 1  $\mu$ L USER™ enzyme (New England BioLabs, Ipswich, USA) for 30 min at 37°C and subsequently mixed with linearized vector backbone. 3  $\mu$ L of the assembled PCR product:vector solution was transformed into NEB 5-alpha chemically competent cells according to the manufacturer's protocol. Transformants were selected on Luria Bertoni (LB) agar plates supplemented with 25  $\mu$ g/mL kanamycin, 17  $\mu$ g/mL chloramphenicol. Colonies were screened for gene insert by

colony PCR using OneTaq 2X Master mix (New England BioLabs, Ipswich, USA). Vectors were extracted and purified using QIAprep Spin Kit (Qiagen) and verified by sequencing.

### ***Culture medium and expression conditions***

All experiments were performed with biological triplicates with BL21(DE3) as expression host. Overnight (ON) cultures in 96-deep well plates: 500 uL (DasherGFP variants BRCA1) or 800 uL (CYP720B4) terrific broth (TB) medium supplemented with 25 ug/mL kanamycin and 17 ug/mL chloramphenicol was inoculated with single colonies and grown overnight at 37°C (DasherGFP variants, BRCA1) or 30°C (CYP720B4), at 300 rpm in a 5cm orbital shaking incubator. ON cultures were diluted to a start OD<sub>600nm</sub> of 0.05 in fresh TB medium including antibiotics. The expression culture volume in 96-deep well plates was 500 uL (Dashers, BRCA1), in 24-deep well plates it was 5 mL (CYP720B4); all grown to an OD<sub>600nm</sub> of 0.3-0.5. After induction with 2 mM L- rhamnose (DasherGFP variants) or 0.4 mM IPTG (BRCA1, CYP720B4), growth was continued for 4 hours at 37°C, 300 rpm (DasherGFP variants) or overnight at 25°C, 300 rpm (BRCA1) or 3 hours 25°C, 150 rpm (CYP720B4).

### ***Whole cell fluorescence measurements***

Whole cell fluorescence was measured using 200 uL (Dashers and BRCA1) or 2 mL (CYP720B4) induced culture. CYP720B4 cultures were harvested (2,500xg, 20 min) and the pellets resuspended in a total volume of 100  $\mu$ L PBS buffer. The GFP fluorophore was allowed to form for 2 h at room temperature (RT). The cultures harboring the DasherGFP variants or BRCA1 were measured directly after culturing. Fluorescence was detected by using excitation/emission wave length depending on the construct: 505nm/525nm for the DasherGFP variants, 580nm/610nm for BRCA1-mCherry and 485nm/512nm for CYP720B4-

GFP with a window of +/- 9 nm, gain value 50 (CYP720B4) or 80 (BRCA1), using plate reader SynergyMx SMATLD (BioTek, Winooski, USA).

### ***SDS-page***

Cell pellets from 450 uL expression culture were resuspended in 20 mM Tris-HCL pH 8.0 including benzonase (0.5uL/mL) and adjusted to equal OD values. Cell lysis was done by freeze-thawing and the cell lysate was subsequently mixed 1:1 with SDS-sample buffer (125 mM Tris-HCl pH 6.8, 20% glycerol, 4% SDS, 100 mM DTT, bromphenol blue) and boiled at 99 °C for 5 minutes. For SDS-PAGE, equal volumes of cell lysate-sample buffer mixes were loaded and run in parallel with PageRuler™ Prestained Protein Ladder 10-170K (Thermo Scientific, Waltham, USA) on RunBlue 4-20% gradient SDS gels (Expedeon, USA) with RunBlue Rapid running buffer (Expedeon, USA) at 125 kV for 60 mins.

### ***Immunoblotting***

Proteins were transferred from SDS-PAGE onto nitrocellulose sheets (iBlot transfer stacks with Novex mini nitrocellulose membranes and iBlot Dry blotting system, ThermoFischer Scientific, USA). Blocking was done ON at 4°C with 5% (w/v) dried milk in TBS-T buffer, followed by 4x5mins washing with excessive TBS-T volumes. Incubation with the 1° antibody (anti-T7 lysozyme from rabbit, 1:5000 dilution) for 1 h at RT in TBS-T solution was followed by excessive washing with TBS-T, 1h incubation with 2° antibody (anti-rabbit from donkey, 1:2500 dilution) in TBS-T and again excessive washing. Detection was performed with Amersham ECL Prime Western Blotting Detection Reagent (GE Healthcare Life Sciences, UK).

### ***RNA isolation***

1 mL samples in triplicates were harvested after 4h induction and snapfrozen at -80°C after STOP solution (5% Phenol for RNA, 100% EtOH) treatment. Total RNA isolation was performed using Qiagen RNAeasy kit according to the manufacturers' instructions. The protocol includes DNase treatment.

### ***RNA library preparation and sequencing***

The sequencing libraries were prepared in triplicates using a TruSeq RNA Stranded Sample Preparation kit (Illumina Inc., San Diego CA) and pooled together prior to sequencing. An average cDNA library size was determined using the Agilent DNA 1000 kit on an Agilent 2100 Bioanalyzer. Libraries were normalized and pooled in 10 mM Tris-Cl, pH 8.0, plus 0.05% Tween 20 to the final concentration of 10 nM. Denaturated in 0.2N NaOH, 10 pm pool of 6 libraries in 600 ul ice-cold HT1 buffer was loaded onto the flow cell provided in the MiSeq Reagent kit v2 300 cycles and sequenced on a MiSeq® (Illumina Inc., San Diego CA) platform with a paired-end protocol and read lengths of 151 nt. On a regular basis, concentration and quality of the nucleic acids were determined by using a Qubit 2.0 fluorometer (Invitrogen) or an Agilent 2100 Bioanalyzer (Agilent Technologies).

### ***Analysis of RNA-sequencing data***

TopHat (2.1.0) and Cufflinks (2.2.1) suite was used for RNA-seq-based differential gene expression analysis as described by Trapnell et al.<sup>31</sup> Reference genome and annotations for BL21(DE3) strain were retrieved from NCBI Reference Sequence Database (Version NC\_012971.2). Features present on the pDR861-SR, pLysS and pRARE plasmids are added

to reference manually. Sense and anti-sense read counts for tRNAs present on pRARE are determined using HTSeq library described by Anders, S. *et al*<sup>32</sup> over reads mapped to plasmids alone.

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Accepted Article

## Figure legends

**Figure 1.** Different effects of the pLysSRARE2 and the pLysS plasmids on bacterial production of the fluorescent protein DasherGFP25. A: Illustration of the pLysSRARE2 plasmid (not drawn to scale). B: Whole cell fluorescence (arbitrary units)/OD<sub>600nm</sub> from *E. coli* BL21 (DE3) producing DasherGFP in the presence of pLysSRARE2, pLysS or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. C: Illustration of the pLysS plasmid (not drawn to scale).

**Figure 2.** Side effects of the pLysSRARE2 plasmid may lead to the false conclusion that the tRNA genes stimulate expression. A: Whole cell fluorescence (arbitrary units)/OD<sub>600nm</sub> from *E. coli* BL21 (DE3) expressing *CYP720B4* fused with *gfp* and B: *BRCA1* translationally coupled with the mCherry red fluorescent protein. In both cases expression is in the presence of pLysSRARE2, pLysS or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. C) Semi-quantitative immunoblot detection of T7 lysozyme from BL21 (DE3) harboring the pLysSRARE2 or the pLysS plasmids or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. D) Sense (dark grey) and anti-sense (white) read counts from RNA originating from the tRNA regions in the pLysSRARE2 plasmid isolated from BL21 (DE3) harboring the plasmid.

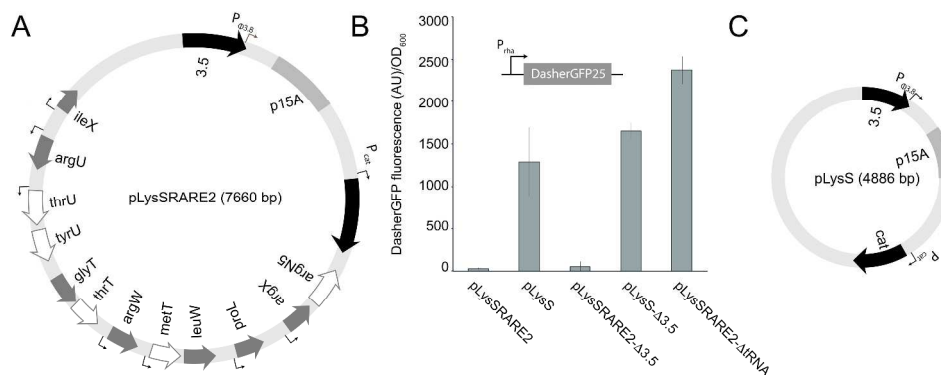


Figure 1. Different effects of the pLysSRARE2 and the pLysS plasmids on bacterial production of the fluorescent protein DasherGFP25. A: Illustration of the pLysSRARE2 plasmid (not drawn to scale). B: Whole cell fluorescence (arbitrary units)/OD<sub>600</sub> from *E. coli* BL21 (DE3) producing DasherGFP in the presence of pLysSRARE2, pLysS or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. C: Illustration of the pLysS plasmid (not drawn to scale).

Fig. 1

725x288mm (300 x 300 DPI)

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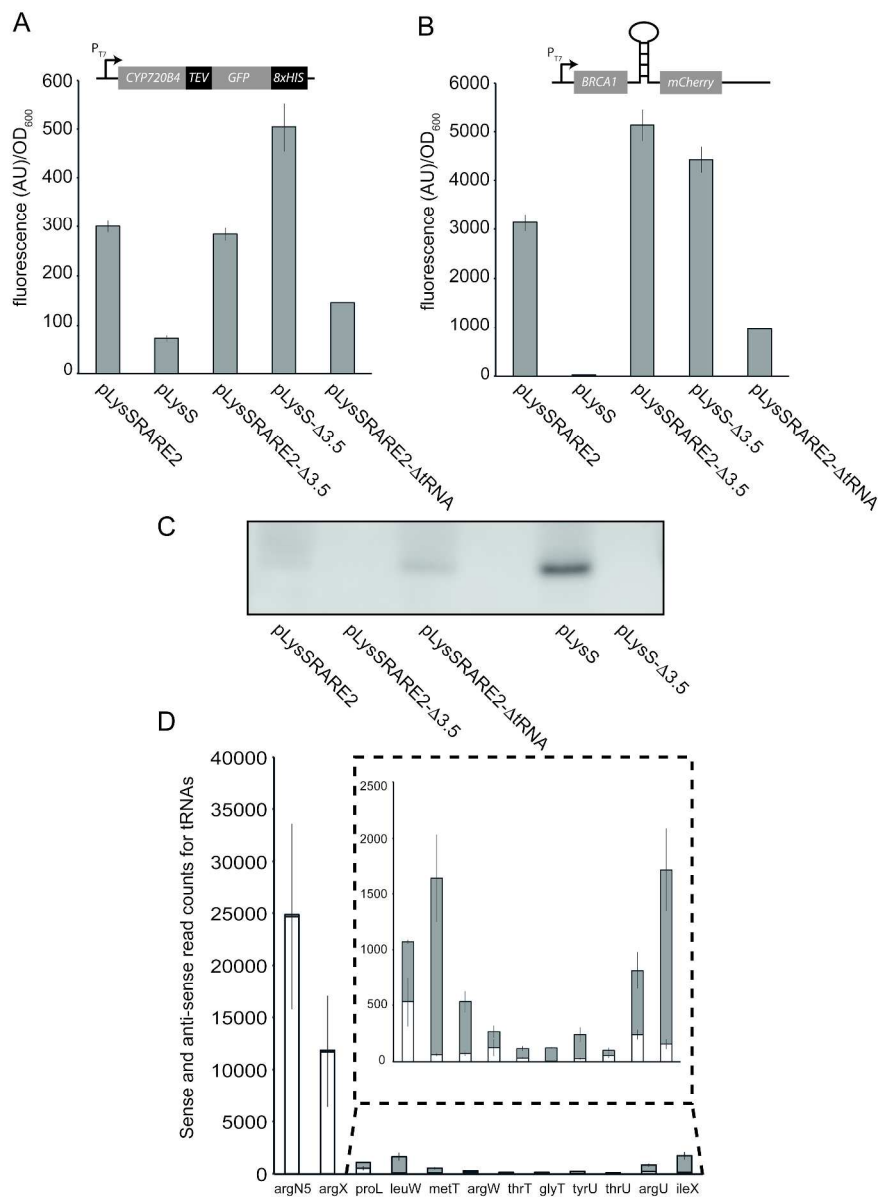


Figure 2. Side effects of the pLysSRARE2 plasmid may lead to the false conclusion that the tRNA genes stimulate expression. A: Whole cell fluorescence (arbitrary units)/OD<sub>600nm</sub> from E. coli BL21 (DE3) expressing CYP720B4 fused with *gfp* and B: BRCA1 translationally coupled with the mCherry red fluorescent protein. In both cases expression are in the presence of pLysSRARE2, pLysS or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. C) Semi-quantitative immunoblot detection of T7 lysozyme from BL21 (DE3) harboring the pLysSRARE2 or the pLysS plasmids or derivatives where either the 3.5 gene or the extra tRNA genes were deleted. D) Sense (dark grey) and anti-sense (white) read counts from RNA originating from the tRNA regions in the pLysSRARE2 plasmid isolated from BL21 (DE3) harboring the plasmid.

Fig. 2

333x432mm (300 x 300 DPI)

<i>test_id</i>	<i>gene_id</i>	<i>gene</i>	<i>locus</i>	<i>sample_1</i>	<i>sample_2</i>	<i>status</i>
XLOC_00000	XLOC_00000	thrL	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	insL-1	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00001	XLOC_00001	insA-1,insB-1	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	rrsH	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	ileV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	alaV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	rrlH	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	rrfH	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00009	XLOC_00009	aspU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00010	XLOC_00010	aspV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00010	XLOC_00010	insA-2,insB-2	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00012	XLOC_00012	insA-3,insB-3	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00024	XLOC_00024	argU	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	ybcD	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00026	XLOC_00026	insL-3	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00032	XLOC_00032	lysT	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00032	XLOC_00032	valT	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00033	XLOC_00033	lysW	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00033	XLOC_00033	valZ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00033	XLOC_00033	lysY	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00033	XLOC_00033	lysZ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00033	XLOC_00033	lysQ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00062	XLOC_00062	insE-2,insF-2	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00063	XLOC_00063	insA-12,insB-	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00068	XLOC_00068	ydfK	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00069	XLOC_00069	insE-4,insF-4	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00072	XLOC_00072	ydgT	NC_012971.2	pRARE	pLysS	OK
XLOC_00074	XLOC_00074	valV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00074	XLOC_00074	valW	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00080	XLOC_00080	insL-4	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00084	XLOC_00084	insA-13,insB-	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00084	XLOC_00084	asnT	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00085	XLOC_00085	asnU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00085	XLOC_00085	asnV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00087	XLOC_00087	insA-29,insB-	NC_012971.2	pRARE	pLysS	NOTEST

XLOC_00091(XLOC_00091( proL	NC_012971.2 pRARE	pLysS	OK
XLOC_00092(XLOC_00092( ECD_02199,E	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00094(XLOC_00094( argW	NC_012971.2 pRARE	pLysS	OK
XLOC_00095(XLOC_00095( valU	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00096(XLOC_00096( valX	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00096(XLOC_00096( valY	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00096(XLOC_00096( lysV	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00100(XLOC_00100( ECD_04289,E	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00107(XLOC_00107( insL-5	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00109(XLOC_00109( metZ	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00109(XLOC_00109( metW	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00109(XLOC_00109( metV	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00110(XLOC_00110( insJ-5,insK-5	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00110(XLOC_00110( insF-5	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00115(XLOC_00115( pheV	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00119(XLOC_00119( ileX	NC_012971.2 pRARE	pLysS	OK
XLOC_00137(XLOC_00137( insJ-4,insK-4	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00142(XLOC_00142( selC	NC_012971.2 pRARE	pLysS	OK
XLOC_00145(XLOC_00145( tnaL	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( rrsC	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( gltU	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( rrlC	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( rrfC	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( aspT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00147(XLOC_00147( trpT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00149(XLOC_00149( argX	NC_012971.2 pRARE	pLysS	OK
XLOC_00149(XLOC_00149( leuT	NC_012971.2 pRARE	pLysS	NOTEST
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XLOC_00152(XLOC_00152( rrsA	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00153(XLOC_00153( ileT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00153(XLOC_00153( alaT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00153(XLOC_00153( rrlA	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00153(XLOC_00153( rrfA	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00158(XLOC_00158( rrsB	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00158(XLOC_00158( gltT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00158(XLOC_00158( rrlB	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00158(XLOC_00158( rrfB	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00158(XLOC_00158( thrU	NC_012971.2 pRARE	pLysS	OK
XLOC_00159(XLOC_00159( thrT	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00160(XLOC_00160( rrsE	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00160(XLOC_00160( gltV	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00161(XLOC_00161( rrlE	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00161(XLOC_00161( rrfE	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00167(XLOC_00167( glyV	NC_012971.2 pRARE	pLysS	NOTEST



XLOC_00167:XLOC_00167:glyX	NC_012971.2 pRARE	pLysS	NOTEST
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XLOC_00212:XLOC_00212:serW	NC_012971.2 pRARE	pLysS	NOTEST
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XLOC_00267:XLOC_00267:insA-17,insB-	NC_012971.2 pRARE	pLysS	NOTEST
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XLOC_00285:XLOC_00285:rrfG	NC_012971.2 pRARE	pLysS	NOTEST
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XLOC_00285:XLOC_00285:gltW	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00286:XLOC_00286:rrsG	NC_012971.2 pRARE	pLysS	NOTEST

XLOC_00287	XLOC_00287	argQ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00288	XLOC_00288	argZ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00288	XLOC_00288	argY	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00288	XLOC_00288	argV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00300	XLOC_00300	insA-22,insB-	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00310	XLOC_00310	metZ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00310	XLOC_00310	leuU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00314	XLOC_00314	rrfF	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00314	XLOC_00314	rrfD	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00314	XLOC_00314	rrlD	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00315	XLOC_00315	alaU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00315	XLOC_00315	ileU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00315	XLOC_00315	rrsD	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00327	XLOC_00327	ldrD	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00327	XLOC_00327	ldrE	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00327	XLOC_00327	ldrF	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00328	XLOC_00328	proK	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00335	XLOC_00335	ivbL	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	pheU	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00360	XLOC_00360	insA-26,insB-	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00362	XLOC_00362	insA-27,insB-	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00365	XLOC_00365	leuV	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00365	XLOC_00365	leuQ	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00202	XLOC_00202	leuW	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	gntT	NC_012971.2	pRARE	pLysS	OK
XLOC_00323	XLOC_00323	gntK	NC_012971.2	pRARE	pLysS	OK
XLOC_00148	XLOC_00148	ilvC	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	dhaL	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	dhaK	NC_012971.2	pRARE	pLysS	OK
XLOC_00148	XLOC_00148	ilvE	NC_012971.2	pRARE	pLysS	OK
XLOC_00148	XLOC_00148	ilvD	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	dhaM	NC_012971.2	pRARE	pLysS	OK
XLOC_00323	XLOC_00323	gntU	NC_012971.2	pRARE	pLysS	OK
XLOC_00147	XLOC_00147	ilvG,ilvM	NC_012971.2	pRARE	pLysS	OK
XLOC_00148	XLOC_00148	ilvA	NC_012971.2	pRARE	pLysS	OK
XLOC_00334	XLOC_00334	ilvN	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	sodA	NC_012971.2	pRARE	pLysS	OK
XLOC_00250	XLOC_00250	yobF	NC_012971.2	pRARE	pLysS	OK
XLOC_00105	XLOC_00105	srlB	NC_012971.2	pRARE	pLysS	OK
XLOC_00357	XLOC_00357	treB	NC_012971.2	pRARE	pLysS	OK
XLOC_00250	XLOC_00250	cspC	NC_012971.2	pRARE	pLysS	OK
XLOC_00357	XLOC_00357	treC	NC_012971.2	pRARE	pLysS	OK
XLOC_00090	XLOC_00090	rplY	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	insA-6,insB-6	NC_012971.2	pRARE	pLysS	OK

XLOC_00312:XLOC_00312:nanA	NC_012971.2 pRARE	pLysS	OK
XLOC_00137:XLOC_00137:cspA	NC_012971.2 pRARE	pLysS	OK
XLOC_00156:XLOC_00156:rpmE	NC_012971.2 pRARE	pLysS	OK
XLOC_00081:XLOC_00081:manX	NC_012971.2 pRARE	pLysS	OK
XLOC_00262:XLOC_00262:gatB	NC_012971.2 pRARE	pLysS	OK
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XLOC_00262:XLOC_00262:gatA	NC_012971.2 pRARE	pLysS	OK
XLOC_00196:XLOC_00196:ybcU	NC_012971.2 pRARE	pLysS	OK
XLOC_00225:XLOC_00225:adhE	NC_012971.2 pRARE	pLysS	OK
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XLOC_00091:XLOC_00091:yfaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00317:XLOC_00317:rplP,rpmC,rps	NC_012971.2 pRARE	pLysS	OK
XLOC_00319:XLOC_00319:rpsL	NC_012971.2 pRARE	pLysS	OK
XLOC_00300:XLOC_00300:ECD_02826	NC_012971.2 pRARE	pLysS	OK
XLOC_00239:XLOC_00239:ECD_01533,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00147:XLOC_00147:yifE	NC_012971.2 pRARE	pLysS	OK
XLOC_00319:XLOC_00319:rpsG	NC_012971.2 pRARE	pLysS	OK
XLOC_00252:XLOC_00252:edd	NC_012971.2 pRARE	pLysS	OK
XLOC_00177:XLOC_00177:deoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00286:XLOC_00286:rplS	NC_012971.2 pRARE	pLysS	OK
XLOC_00334:XLOC_00334:ilvB	NC_012971.2 pRARE	pLysS	OK
XLOC_00050:XLOC_00050:ECD_01081	NC_012971.2 pRARE	pLysS	OK
XLOC_00226:XLOC_00226:ycil	NC_012971.2 pRARE	pLysS	OK
XLOC_00105:XLOC_00105:srlD	NC_012971.2 pRARE	pLysS	OK
XLOC_00109:XLOC_00109:fucU	NC_012971.2 pRARE	pLysS	OK
XLOC_00039:XLOC_00039:ECD_00830	NC_012971.2 pRARE	pLysS	OK
XLOC_00160:XLOC_00160:hupA	NC_012971.2 pRARE	pLysS	OK
XLOC_00081:XLOC_00081:manZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00039:XLOC_00039:ECD_00831	NC_012971.2 pRARE	pLysS	OK
XLOC_00266:XLOC_00266:fruB,fruK	NC_012971.2 pRARE	pLysS	OK
XLOC_00286:XLOC_00286:trmD	NC_012971.2 pRARE	pLysS	OK
XLOC_00159:XLOC_00159:rplJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00237:XLOC_00237:yneI	NC_012971.2 pRARE	pLysS	OK
XLOC_00298:XLOC_00298:epd	NC_012971.2 pRARE	pLysS	OK
XLOC_00132:XLOC_00132:malT	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:rpsO	NC_012971.2 pRARE	pLysS	OK
XLOC_00316:XLOC_00316:rpsD	NC_012971.2 pRARE	pLysS	OK
XLOC_00177:XLOC_00177:deoD	NC_012971.2 pRARE	pLysS	OK
XLOC_00184:XLOC_00184:dksA	NC_012971.2 pRARE	pLysS	OK
XLOC_00032:XLOC_00032:pal	NC_012971.2 pRARE	pLysS	OK
XLOC_00300:XLOC_00300:ECD_02825	NC_012971.2 pRARE	pLysS	OK
XLOC_00365:XLOC_00365:leuP	NC_012971.2 pRARE	pLysS	OK
XLOC_00317:XLOC_00317:rplR	NC_012971.2 pRARE	pLysS	OK

XLOC_00031: XLOC_00031: sucB	NC_012971.2 pRARE	pLysS	OK
XLOC_00224: XLOC_00224: ldrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00317: XLOC_00317: rpsC	NC_012971.2 pRARE	pLysS	OK
XLOC_00081: XLOC_00081: yobD	NC_012971.2 pRARE	pLysS	OK
XLOC_00317: XLOC_00317: rpsN	NC_012971.2 pRARE	pLysS	OK
XLOC_00084: XLOC_00084: yodB	NC_012971.2 pRARE	pLysS	OK
XLOC_00268: XLOC_00268: glpT	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: prlA	NC_012971.2 pRARE	pLysS	OK
XLOC_00177: XLOC_00177: deoB	NC_012971.2 pRARE	pLysS	OK
XLOC_00338: XLOC_00338: atpH	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: rplQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00213: XLOC_00213: ompF	NC_012971.2 pRARE	pLysS	OK
XLOC_00007: XLOC_00007: rpsB	NC_012971.2 pRARE	pLysS	OK
XLOC_00308: XLOC_00308: garL	NC_012971.2 pRARE	pLysS	OK
XLOC_00193: XLOC_00193: hha	NC_012971.2 pRARE	pLysS	OK
XLOC_00159: XLOC_00159: rplL	NC_012971.2 pRARE	pLysS	OK
XLOC_00317: XLOC_00317: rplV	NC_012971.2 pRARE	pLysS	OK
XLOC_00280: XLOC_00280: upp	NC_012971.2 pRARE	pLysS	OK
XLOC_00319: XLOC_00319: fusA	NC_012971.2 pRARE	pLysS	OK
XLOC_00171: XLOC_00171: cybC	NC_012971.2 pRARE	pLysS	OK
XLOC_00053: XLOC_00053: icdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00319: XLOC_00319: tufA	NC_012971.2 pRARE	pLysS	OK
XLOC_00287: XLOC_00287: ygaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00318: XLOC_00318: rpsS	NC_012971.2 pRARE	pLysS	OK
XLOC_00268: XLOC_00268: glpQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00259: XLOC_00259: vioA	NC_012971.2 pRARE	pLysS	OK
XLOC_00105: XLOC_00105: srlA, srlE	NC_012971.2 pRARE	pLysS	OK
XLOC_00153: XLOC_00153: yihD	NC_012971.2 pRARE	pLysS	OK
XLOC_00311: XLOC_00311: rpmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: rpsE	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: rpmD	NC_012971.2 pRARE	pLysS	OK
XLOC_00303: XLOC_00303: hybG	NC_012971.2 pRARE	pLysS	OK
XLOC_00357: XLOC_00357: ppa	NC_012971.2 pRARE	pLysS	OK
XLOC_00032: XLOC_00032: ybgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00286: XLOC_00286: rpsP	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: rpmJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00316: XLOC_00316: rpoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00311: XLOC_00311: rplU	NC_012971.2 pRARE	pLysS	OK
XLOC_00317: XLOC_00317: rplX	NC_012971.2 pRARE	pLysS	OK
XLOC_00261: XLOC_00261: gatD	NC_012971.2 pRARE	pLysS	OK
XLOC_00193: XLOC_00193: maa	NC_012971.2 pRARE	pLysS	OK
XLOC_00349: XLOC_00349: yjbD	NC_012971.2 pRARE	pLysS	OK
XLOC_00286: XLOC_00286: rimM	NC_012971.2 pRARE	pLysS	OK
XLOC_00112: XLOC_00112: ygfA	NC_012971.2 pRARE	pLysS	OK

XLOC_00156:XLOC_00156:yiiS	NC_012971.2 pRARE	pLysS	OK
XLOC_00328:XLOC_00328:yiaF	NC_012971.2 pRARE	pLysS	OK
XLOC_00317:XLOC_00317:rpsH	NC_012971.2 pRARE	pLysS	OK
XLOC_00159:XLOC_00159:rplK	NC_012971.2 pRARE	pLysS	OK
XLOC_00206:XLOC_00206:ECD_10032	NC_012971.2 pRARE	pLysS	OK
XLOC_00170:XLOC_00170:rpsR	NC_012971.2 pRARE	pLysS	OK
XLOC_00007:XLOC_00007:tsf	NC_012971.2 pRARE	pLysS	OK
XLOC_00159:XLOC_00159:tufB	NC_012971.2 pRARE	pLysS	OK
XLOC_00298:XLOC_00298:pgk	NC_012971.2 pRARE	pLysS	OK
XLOC_00316:XLOC_00316:rpsK	NC_012971.2 pRARE	pLysS	OK
XLOC_00297:XLOC_00297:rpiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00157:XLOC_00157:oxyR	NC_012971.2 pRARE	pLysS	OK
XLOC_00317:XLOC_00317:rplF	NC_012971.2 pRARE	pLysS	OK
XLOC_00317:XLOC_00317:rplN	NC_012971.2 pRARE	pLysS	OK
XLOC_00037:XLOC_00037:ompX	NC_012971.2 pRARE	pLysS	OK
XLOC_00126:XLOC_00126:yhcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00170:XLOC_00170:rplI	NC_012971.2 pRARE	pLysS	OK
XLOC_00318:XLOC_00318:rplB	NC_012971.2 pRARE	pLysS	OK
XLOC_00225:XLOC_00225(narL,narX	NC_012971.2 pRARE	pLysS	OK
XLOC_00331:XLOC_00331:kbl	NC_012971.2 pRARE	pLysS	OK
XLOC_00253:XLOC_00253:cutC	NC_012971.2 pRARE	pLysS	OK
XLOC_00141:XLOC_00141:gmk	NC_012971.2 pRARE	pLysS	OK
XLOC_00033:XLOC_00033:aroG	NC_012971.2 pRARE	pLysS	OK
XLOC_00167:XLOC_00167:hfq	NC_012971.2 pRARE	pLysS	OK
XLOC_00250:XLOC_00250:yobG	NC_012971.2 pRARE	pLysS	OK
XLOC_00312:XLOC_00312:sspB	NC_012971.2 pRARE	pLysS	OK
XLOC_00103:XLOC_00103:smpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00257:XLOC_00257:yeeX	NC_012971.2 pRARE	pLysS	OK
XLOC_00269:XLOC_00269:ais	NC_012971.2 pRARE	pLysS	OK
XLOC_00031:XLOC_00031(sucC,sucD	NC_012971.2 pRARE	pLysS	OK
XLOC_00046:XLOC_00046:gnsA,sfa	NC_012971.2 pRARE	pLysS	OK
XLOC_00137:XLOC_00137:yiaD	NC_012971.2 pRARE	pLysS	OK
XLOC_00185:XLOC_00185:metQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00063:XLOC_00063:cybB	NC_012971.2 pRARE	pLysS	OK
XLOC_00332:XLOC_00332:rpmG	NC_012971.2 pRARE	pLysS	OK
XLOC_00285:XLOC_00285(rseA,rseB,rse	NC_012971.2 pRARE	pLysS	OK
XLOC_00354:XLOC_00354:dcuA	NC_012971.2 pRARE	pLysS	OK
XLOC_00318:XLOC_00318:rpsJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00121:XLOC_00121:yqjE,yqjK	NC_012971.2 pRARE	pLysS	OK
XLOC_00159:XLOC_00159:rpoC	NC_012971.2 pRARE	pLysS	OK
XLOC_00245:XLOC_00245:rplT	NC_012971.2 pRARE	pLysS	OK
XLOC_00318:XLOC_00318:rplD,rplW	NC_012971.2 pRARE	pLysS	OK
XLOC_00191:XLOC_00191:tsx	NC_012971.2 pRARE	pLysS	OK
XLOC_00192:XLOC_00192:cyoE	NC_012971.2 pRARE	pLysS	OK

XLOC_00170(XLOC_00170(priB	NC_012971.2 pRARE	pLysS	OK
XLOC_00171(XLOC_00171(ytFP	NC_012971.2 pRARE	pLysS	OK
XLOC_00316(XLOC_00316(rpLO	NC_012971.2 pRARE	pLysS	OK
XLOC_00031(XLOC_00031(sucA	NC_012971.2 pRARE	pLysS	OK
XLOC_00134(XLOC_00134(dcrB	NC_012971.2 pRARE	pLysS	OK
XLOC_00110(XLOC_00110(ygdR	NC_012971.2 pRARE	pLysS	OK
XLOC_00179(XLOC_00179(rpsT	NC_012971.2 pRARE	pLysS	OK
XLOC_00177(XLOC_00177(deoC	NC_012971.2 pRARE	pLysS	OK
XLOC_00147(XLOC_00147(ilvL	NC_012971.2 pRARE	pLysS	OK
XLOC_00262(XLOC_00262(gatZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00131(XLOC_00131(pckA	NC_012971.2 pRARE	pLysS	OK
XLOC_00185(XLOC_00185(dapD	NC_012971.2 pRARE	pLysS	OK
XLOC_00340(XLOC_00340(hemY	NC_012971.2 pRARE	pLysS	OK
XLOC_00297(XLOC_00297(gcvH	NC_012971.2 pRARE	pLysS	OK
XLOC_00354(XLOC_00354(aspA	NC_012971.2 pRARE	pLysS	OK
XLOC_00214(XLOC_00214(ompA	NC_012971.2 pRARE	pLysS	OK
XLOC_00162(XLOC_00162(lamB	NC_012971.2 pRARE	pLysS	OK
XLOC_00128(XLOC_00128(yrdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00212(XLOC_00212(InfA	NC_012971.2 pRARE	pLysS	OK
XLOC_00096(XLOC_00096(ptsH	NC_012971.2 pRARE	pLysS	OK
XLOC_00245(XLOC_00245(rpml	NC_012971.2 pRARE	pLysS	OK
XLOC_00108(XLOC_00108(ygdH	NC_012971.2 pRARE	pLysS	OK
XLOC_00270(XLOC_00270(nuoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00129(XLOC_00129(fmt	NC_012971.2 pRARE	pLysS	OK
XLOC_00331(XLOC_00331(tdh	NC_012971.2 pRARE	pLysS	OK
XLOC_00201(XLOC_00201(rihA	NC_012971.2 pRARE	pLysS	OK
XLOC_00076(XLOC_00076(ydiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00115(XLOC_00115(ECD_02817,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00270(XLOC_00270(nuoB	NC_012971.2 pRARE	pLysS	OK
XLOC_00298(XLOC_00298(fbaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00313(XLOC_00313(mdh	NC_012971.2 pRARE	pLysS	OK
XLOC_00059(XLOC_00059(ospA	NC_012971.2 pRARE	pLysS	OK
XLOC_00303(XLOC_00303(yghW	NC_012971.2 pRARE	pLysS	OK
XLOC_00225(XLOC_00225(hns	NC_012971.2 pRARE	pLysS	OK
XLOC_00331(XLOC_00331(gpsA,secB	NC_012971.2 pRARE	pLysS	OK
XLOC_00332(XLOC_00332(rpmB	NC_012971.2 pRARE	pLysS	OK
XLOC_00252(XLOC_00252(eda	NC_012971.2 pRARE	pLysS	OK
XLOC_00156(XLOC_00156(yjiU	NC_012971.2 pRARE	pLysS	OK
XLOC_00159(XLOC_00159(rplA	NC_012971.2 pRARE	pLysS	OK
XLOC_00065(XLOC_00065(yncE	NC_012971.2 pRARE	pLysS	OK
XLOC_00114(XLOC_00114(yggX	NC_012971.2 pRARE	pLysS	OK
XLOC_00129(XLOC_00129(def	NC_012971.2 pRARE	pLysS	OK
XLOC_00156(XLOC_00156(yjiT	NC_012971.2 pRARE	pLysS	OK
XLOC_00019(XLOC_00019(tig	NC_012971.2 pRARE	pLysS	OK

XLOC_00185:XLOC_00185:map	NC_012971.2 pRARE	pLysS	OK
XLOC_00079(XLOC_00079(gapA	NC_012971.2 pRARE	pLysS	OK
XLOC_00096(XLOC_00096(ptsI	NC_012971.2 pRARE	pLysS	OK
XLOC_00051(XLOC_00051(fabG	NC_012971.2 pRARE	pLysS	OK
XLOC_00052:XLOC_00052:ycfF	NC_012971.2 pRARE	pLysS	OK
XLOC_00270:XLOC_00270:nuoM	NC_012971.2 pRARE	pLysS	OK
XLOC_00338(XLOC_00338(atpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00166:XLOC_00166:groES	NC_012971.2 pRARE	pLysS	OK
XLOC_00098(XLOC_00098(yffB	NC_012971.2 pRARE	pLysS	OK
XLOC_00291(XLOC_00291(pyrg	NC_012971.2 pRARE	pLysS	OK
XLOC_00161(XLOC_00161(pgi	NC_012971.2 pRARE	pLysS	OK
XLOC_00192(XLOC_00192(cyoB,cyoC,cy	NC_012971.2 pRARE	pLysS	OK
XLOC_00087:XLOC_00087:ECD_02034	NC_012971.2 pRARE	pLysS	OK
XLOC_00244(XLOC_00244(pheT	NC_012971.2 pRARE	pLysS	OK
XLOC_00318(XLOC_00318(bfd	NC_012971.2 pRARE	pLysS	OK
XLOC_00152:XLOC_00152:tatB	NC_012971.2 pRARE	pLysS	OK
XLOC_00018(XLOC_00018(yajD	NC_012971.2 pRARE	pLysS	OK
XLOC_00012(XLOC_00012(gpt	NC_012971.2 pRARE	pLysS	OK
XLOC_00316(XLOC_00316(rpsM	NC_012971.2 pRARE	pLysS	OK
XLOC_00303(XLOC_00303(hybO	NC_012971.2 pRARE	pLysS	OK
XLOC_00103(XLOC_00103(smpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00239:XLOC_00239:ECD_01542	NC_012971.2 pRARE	pLysS	OK
XLOC_00350:XLOC_00350:yjcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00113:XLOC_00113(galP	NC_012971.2 pRARE	pLysS	OK
XLOC_00150:XLOC_00150:cyaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00169(XLOC_00169(rpsF	NC_012971.2 pRARE	pLysS	OK
XLOC_00090:XLOC_00090:spr	NC_012971.2 pRARE	pLysS	OK
XLOC_00313:XLOC_00313:rpsI	NC_012971.2 pRARE	pLysS	OK
XLOC_00186(XLOC_00186(yafQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00166(XLOC_00166(sugE	NC_012971.2 pRARE	pLysS	OK
XLOC_00298:XLOC_00298:yggB	NC_012971.2 pRARE	pLysS	OK
XLOC_00159(XLOC_00159(rpoB	NC_012971.2 pRARE	pLysS	OK
XLOC_00331:XLOC_00331:grxC	NC_012971.2 pRARE	pLysS	OK
XLOC_00148(XLOC_00148(rho	NC_012971.2 pRARE	pLysS	OK
XLOC_00272:XLOC_00272:hisJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00082:XLOC_00082:holE	NC_012971.2 pRARE	pLysS	OK
XLOC_00244(XLOC_00244(himA	NC_012971.2 pRARE	pLysS	OK
XLOC_00091:XLOC_00091:eco	NC_012971.2 pRARE	pLysS	OK
XLOC_00319(XLOC_00319(fkpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00086(XLOC_00086(hisA,hisB,hisC	NC_012971.2 pRARE	pLysS	OK
XLOC_00055(XLOC_00055(hemA	NC_012971.2 pRARE	pLysS	OK
XLOC_00163(XLOC_00163(lexA	NC_012971.2 pRARE	pLysS	OK
XLOC_00287:XLOC_00287:yfjF,yfjG	NC_012971.2 pRARE	pLysS	OK
XLOC_00051(XLOC_00051(rpmF	NC_012971.2 pRARE	pLysS	OK

XLOC_00270:XLOC_00270:nuoN	NC_012971.2 pRARE	pLysS	OK
XLOC_00168:XLOC_00168:purA	NC_012971.2 pRARE	pLysS	OK
XLOC_00108:XLOC_00108:sdaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00192:XLOC_00192:cyoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00145:XLOC_00145:rpmH	NC_012971.2 pRARE	pLysS	OK
XLOC_00089:XLOC_00089:yeiG	NC_012971.2 pRARE	pLysS	OK
XLOC_00280:XLOC_00280:yfgJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00117:XLOC_00117:ygiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:rpsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00281:XLOC_00281:sseB	NC_012971.2 pRARE	pLysS	OK
XLOC_00319:XLOC_00319:slyD	NC_012971.2 pRARE	pLysS	OK
XLOC_00054:XLOC_00054:ycgL	NC_012971.2 pRARE	pLysS	OK
XLOC_00331:XLOC_00331:yibN	NC_012971.2 pRARE	pLysS	OK
XLOC_00276:XLOC_00276:glk	NC_012971.2 pRARE	pLysS	OK
XLOC_00200:XLOC_00200:ybeD	NC_012971.2 pRARE	pLysS	OK
XLOC_00105:XLOC_00105:emrR	NC_012971.2 pRARE	pLysS	OK
XLOC_00140:XLOC_00140:yibO	NC_012971.2 pRARE	pLysS	OK
XLOC_00340:XLOC_00340:hemC,hemD	NC_012971.2 pRARE	pLysS	OK
XLOC_00135:XLOC_00135:yhiR	NC_012971.2 pRARE	pLysS	OK
XLOC_00008:XLOC_00008:hlpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00096:XLOC_00096:crr	NC_012971.2 pRARE	pLysS	OK
XLOC_00245:XLOC_00245:thrS	NC_012971.2 pRARE	pLysS	OK
XLOC_00168:XLOC_00168:hflC	NC_012971.2 pRARE	pLysS	OK
XLOC_00242:XLOC_00242:ydhD	NC_012971.2 pRARE	pLysS	OK
XLOC_00051:XLOC_00051:acpP	NC_012971.2 pRARE	pLysS	OK
XLOC_00126:XLOC_00126:ECD_03080,y	NC_012971.2 pRARE	pLysS	OK
XLOC_00108:XLOC_00108:fucI	NC_012971.2 pRARE	pLysS	OK
XLOC_00151:XLOC_00151:udp	NC_012971.2 pRARE	pLysS	OK
XLOC_00287:XLOC_00287:grpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00008:XLOC_00008:lpxD	NC_012971.2 pRARE	pLysS	OK
XLOC_00158:XLOC_00158:glyT	NC_012971.2 pRARE	pLysS	OK
XLOC_00155:XLOC_00155:pfkA	NC_012971.2 pRARE	pLysS	OK
XLOC_00358:XLOC_00358:yjgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00183:XLOC_00183:panC	NC_012971.2 pRARE	pLysS	OK
XLOC_00032:XLOC_00032:tolB	NC_012971.2 pRARE	pLysS	OK
XLOC_00197:XLOC_00197:ybdJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00337:XLOC_00337:atpG	NC_012971.2 pRARE	pLysS	OK
XLOC_00292:XLOC_00292:yqcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00059:XLOC_00059:pspE	NC_012971.2 pRARE	pLysS	OK
XLOC_00109:XLOC_00109:fucR	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:moeA,moeB	NC_012971.2 pRARE	pLysS	OK
XLOC_00166:XLOC_00166:efp	NC_012971.2 pRARE	pLysS	OK
XLOC_00070:XLOC_00070:speG	NC_012971.2 pRARE	pLysS	OK
XLOC_00193:XLOC_00193:ylaC	NC_012971.2 pRARE	pLysS	OK



XLOC_00135: XLOC_00135: gor	NC_012971.2 pRARE	pLysS	OK
XLOC_00317: XLOC_00317: rplE	NC_012971.2 pRARE	pLysS	OK
XLOC_00288: XLOC_00288: csrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00059: XLOC_00059: pspB, pspC	NC_012971.2 pRARE	pLysS	OK
XLOC_00338: XLOC_00338: atpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00230: XLOC_00230: ECD_01336	NC_012971.2 pRARE	pLysS	OK
XLOC_00126: XLOC_00126: ptsN	NC_012971.2 pRARE	pLysS	OK
XLOC_00276: XLOC_00276: zipA	NC_012971.2 pRARE	pLysS	OK
XLOC_00040: XLOC_00040: nfsA, ybjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00222: XLOC_00222: minE	NC_012971.2 pRARE	pLysS	OK
XLOC_00195: XLOC_00195: ppiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00139: XLOC_00139: yibL	NC_012971.2 pRARE	pLysS	OK
XLOC_00212: XLOC_00212: cspD	NC_012971.2 pRARE	pLysS	OK
XLOC_00280: XLOC_00280: dapA	NC_012971.2 pRARE	pLysS	OK
XLOC_00209: XLOC_00209: ECD_00816	NC_012971.2 pRARE	pLysS	OK
XLOC_00145: XLOC_00145: yieF	NC_012971.2 pRARE	pLysS	OK
XLOC_00271: XLOC_00271: yfbU	NC_012971.2 pRARE	pLysS	OK
XLOC_00017: XLOC_00017: yaiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00183: XLOC_00183: panB	NC_012971.2 pRARE	pLysS	OK
XLOC_00251: XLOC_00251: yebY	NC_012971.2 pRARE	pLysS	OK
XLOC_00018: XLOC_00018: yajC	NC_012971.2 pRARE	pLysS	OK
XLOC_00310: XLOC_00310: hflB	NC_012971.2 pRARE	pLysS	OK
XLOC_00043: XLOC_00043: himD	NC_012971.2 pRARE	pLysS	OK
XLOC_00353: XLOC_00353: lysU	NC_012971.2 pRARE	pLysS	OK
XLOC_00168: XLOC_00168: rnr	NC_012971.2 pRARE	pLysS	OK
XLOC_00337: XLOC_00337: glmS	NC_012971.2 pRARE	pLysS	OK
XLOC_00266: XLOC_00266: fruA	NC_012971.2 pRARE	pLysS	OK
XLOC_00200: XLOC_00200: dacA	NC_012971.2 pRARE	pLysS	OK
XLOC_00340: XLOC_00340: hemX	NC_012971.2 pRARE	pLysS	OK
XLOC_00197: XLOC_00197: nfnB	NC_012971.2 pRARE	pLysS	OK
XLOC_00346: XLOC_00346: hslU	NC_012971.2 pRARE	pLysS	OK
XLOC_00104: XLOC_00104: ygaW	NC_012971.2 pRARE	pLysS	OK
XLOC_00056: XLOC_00056: oppA	NC_012971.2 pRARE	pLysS	OK
XLOC_00266: XLOC_00266: rsuA	NC_012971.2 pRARE	pLysS	OK
XLOC_00210: XLOC_00210: ECD_00828	NC_012971.2 pRARE	pLysS	OK
XLOC_00127: XLOC_00127: fis	NC_012971.2 pRARE	pLysS	OK
XLOC_00183: XLOC_00183: panD	NC_012971.2 pRARE	pLysS	OK
XLOC_00205: XLOC_00205: gpmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00019: XLOC_00019: yajQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00052: XLOC_00052: ycfL	NC_012971.2 pRARE	pLysS	OK
XLOC_00321: XLOC_00321: gph, rpe, trpS	NC_012971.2 pRARE	pLysS	OK
XLOC_00000: XLOC_00000: talB	NC_012971.2 pRARE	pLysS	OK
XLOC_00318: XLOC_00318: rplC	NC_012971.2 pRARE	pLysS	OK
XLOC_00203: XLOC_00203: fur	NC_012971.2 pRARE	pLysS	OK

XLOC_00007;XLOC_00007;frr	NC_012971.2 pRARE	pLysS	OK
XLOC_00339;XLOC_00339;ppiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00270;XLOC_00270;nuoE,nuoF	NC_012971.2 pRARE	pLysS	OK
XLOC_00162;XLOC_00162;dgkA	NC_012971.2 pRARE	pLysS	OK
XLOC_00252;XLOC_00252;zwf	NC_012971.2 pRARE	pLysS	OK
XLOC_00214;XLOC_00214;mgsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00145;XLOC_00145;rnpA,yidD	NC_012971.2 pRARE	pLysS	OK
XLOC_00018;XLOC_00018;ribH	NC_012971.2 pRARE	pLysS	OK
XLOC_00069;XLOC_00069;ECD_01541	NC_012971.2 pRARE	pLysS	OK
XLOC_00019;XLOC_00019;clpX	NC_012971.2 pRARE	pLysS	OK
XLOC_00338;XLOC_00338;atpI	NC_012971.2 pRARE	pLysS	OK
XLOC_00206;XLOC_00206;C2	NC_012971.2 pRARE	pLysS	OK
XLOC_00227;XLOC_00227;yciN	NC_012971.2 pRARE	pLysS	OK
XLOC_00337;XLOC_00337;atpD	NC_012971.2 pRARE	pLysS	OK
XLOC_00245;XLOC_00245;infC	NC_012971.2 pRARE	pLysS	OK
XLOC_00052;XLOC_00052;ndh	NC_012971.2 pRARE	pLysS	OK
XLOC_00149;XLOC_00149;wecD	NC_012971.2 pRARE	pLysS	OK
XLOC_00017;XLOC_00017;yaiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00080;XLOC_00080;yeaP	NC_012971.2 pRARE	pLysS	OK
XLOC_00271;XLOC_00271;yfbT	NC_012971.2 pRARE	pLysS	OK
XLOC_00029;XLOC_00029;nagE	NC_012971.2 pRARE	pLysS	OK
XLOC_00225;XLOC_00225;purU	NC_012971.2 pRARE	pLysS	OK
XLOC_00027;XLOC_00027;ahpC	NC_012971.2 pRARE	pLysS	OK
XLOC_00337;XLOC_00337;atpC	NC_012971.2 pRARE	pLysS	OK
XLOC_00258;XLOC_00258;gnd	NC_012971.2 pRARE	pLysS	OK
XLOC_00080;XLOC_00080;yoaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00052;XLOC_00052;ycfM,ycfN	NC_012971.2 pRARE	pLysS	OK
XLOC_00262;XLOC_00262;gatC	NC_012971.2 pRARE	pLysS	OK
XLOC_00194;XLOC_00194;ybbN	NC_012971.2 pRARE	pLysS	OK
XLOC_00166;XLOC_00166;groEL	NC_012971.2 pRARE	pLysS	OK
XLOC_00159;XLOC_00159;nusG	NC_012971.2 pRARE	pLysS	OK
XLOC_00248;XLOC_00248;mipA	NC_012971.2 pRARE	pLysS	OK
XLOC_00019;XLOC_00019;clpP	NC_012971.2 pRARE	pLysS	OK
XLOC_00018;XLOC_00018;nusB	NC_012971.2 pRARE	pLysS	OK
XLOC_00345;XLOC_00345;glpK	NC_012971.2 pRARE	pLysS	OK
XLOC_00064;XLOC_00064;rimL	NC_012971.2 pRARE	pLysS	OK
XLOC_00117;XLOC_00117;ygiN	NC_012971.2 pRARE	pLysS	OK
XLOC_00075;XLOC_00075;pykF	NC_012971.2 pRARE	pLysS	OK
XLOC_00096;XLOC_00096;cysK	NC_012971.2 pRARE	pLysS	OK
XLOC_00227;XLOC_00227;fabI	NC_012971.2 pRARE	pLysS	OK
XLOC_00310;XLOC_00310;yhbC	NC_012971.2 pRARE	pLysS	OK
XLOC_00110;XLOC_00110;galR	NC_012971.2 pRARE	pLysS	OK
XLOC_00000;XLOC_00000;mogA	NC_012971.2 pRARE	pLysS	OK
XLOC_00345;XLOC_00345;tpiA	NC_012971.2 pRARE	pLysS	OK

XLOC_00172:XLOC_00172:yjgD	NC_012971.2 pRARE	pLysS	OK
XLOC_00005:XLOC_00005:acnB	NC_012971.2 pRARE	pLysS	OK
XLOC_00167:XLOC_00167:miaA,mutL	NC_012971.2 pRARE	pLysS	OK
XLOC_00299:XLOC_00299:speB	NC_012971.2 pRARE	pLysS	OK
XLOC_00031:XLOC_00031:sdhB	NC_012971.2 pRARE	pLysS	OK
XLOC_00282:XLOC_00282:yfhQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00222:XLOC_00222:minD	NC_012971.2 pRARE	pLysS	OK
XLOC_00270:XLOC_00270:nuoC	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:nlpI	NC_012971.2 pRARE	pLysS	OK
XLOC_00158:XLOC_00158:yijC,yijD	NC_012971.2 pRARE	pLysS	OK
XLOC_00051:XLOC_00051:fabF	NC_012971.2 pRARE	pLysS	OK
XLOC_00312:XLOC_00312:mtgA,yhbL	NC_012971.2 pRARE	pLysS	OK
XLOC_00140:XLOC_00140:gumD	NC_012971.2 pRARE	pLysS	OK
XLOC_00349:XLOC_00349:malE	NC_012971.2 pRARE	pLysS	OK
XLOC_00273:XLOC_00273:fabB	NC_012971.2 pRARE	pLysS	OK
XLOC_00270:XLOC_00270:nuoJ,nuoK,nuoL	NC_012971.2 pRARE	pLysS	OK
XLOC_00227:XLOC_00227:ribA	NC_012971.2 pRARE	pLysS	OK
XLOC_00068:XLOC_00068:marB	NC_012971.2 pRARE	pLysS	OK
XLOC_00330:XLOC_00330:ECD_03457	NC_012971.2 pRARE	pLysS	OK
XLOC_00269:XLOC_00269:pmrD	NC_012971.2 pRARE	pLysS	OK
XLOC_00117:XLOC_00117:tolC,ygiA,ygiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00300:XLOC_00300:ECD_02820	NC_012971.2 pRARE	pLysS	OK
XLOC_00150:XLOC_00150:dapF,xerC,yigJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00291:XLOC_00291:eno	NC_012971.2 pRARE	pLysS	OK
XLOC_00045:XLOC_00045:ymbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00079:XLOC_00079:yeaK	NC_012971.2 pRARE	pLysS	OK
XLOC_00004:XLOC_00004:secA	NC_012971.2 pRARE	pLysS	OK
XLOC_00139:XLOC_00139:mtlA	NC_012971.2 pRARE	pLysS	OK
XLOC_00073:XLOC_00073:gloA	NC_012971.2 pRARE	pLysS	OK
XLOC_00338:XLOC_00338:atpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00173:XLOC_00173:insN	NC_012971.2 pRARE	pLysS	OK
XLOC_00183:XLOC_00183:yadF	NC_012971.2 pRARE	pLysS	OK
XLOC_00031:XLOC_00031:cydA	NC_012971.2 pRARE	pLysS	OK
XLOC_00155:XLOC_00155:fiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00184:XLOC_00184:yaeH	NC_012971.2 pRARE	pLysS	OK
XLOC_00149:XLOC_00149:wecE	NC_012971.2 pRARE	pLysS	OK
XLOC_00019:XLOC_00019:hupB	NC_012971.2 pRARE	pLysS	OK
XLOC_00261:XLOC_00261:gatR	NC_012971.2 pRARE	pLysS	OK
XLOC_00129:XLOC_00129:mscL	NC_012971.2 pRARE	pLysS	OK
XLOC_00182:XLOC_00182:speD	NC_012971.2 pRARE	pLysS	OK
XLOC_00190:XLOC_00190:ddlA	NC_012971.2 pRARE	pLysS	OK
XLOC_00154:XLOC_00154:hemN	NC_012971.2 pRARE	pLysS	OK
XLOC_00141:XLOC_00141:spoT	NC_012971.2 pRARE	pLysS	OK
XLOC_00135:XLOC_00135:yhiP	NC_012971.2 pRARE	pLysS	OK

XLOC_00270: XLOC_00270: nuoG, nuoH	NC_012971.2 pRARE	pLysS	OK
XLOC_00137: XLOC_00137: yiaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00346: XLOC_00346: menG	NC_012971.2 pRARE	pLysS	OK
XLOC_00313: XLOC_00313: rplM	NC_012971.2 pRARE	pLysS	OK
XLOC_00338: XLOC_00338: atpF	NC_012971.2 pRARE	pLysS	OK
XLOC_00167: XLOC_00167: hflX	NC_012971.2 pRARE	pLysS	OK
XLOC_00028: XLOC_00028: tatE	NC_012971.2 pRARE	pLysS	OK
XLOC_00259: XLOC_00259: rmlC	NC_012971.2 pRARE	pLysS	OK
XLOC_00167: XLOC_00167: hflK	NC_012971.2 pRARE	pLysS	OK
XLOC_00203: XLOC_00203: nagB	NC_012971.2 pRARE	pLysS	OK
XLOC_00286: XLOC_00286: clpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00152: XLOC_00152: pepQ, yigZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00247: XLOC_00247: topB	NC_012971.2 pRARE	pLysS	OK
XLOC_00296: XLOC_00296: gcvP	NC_012971.2 pRARE	pLysS	OK
XLOC_00030: XLOC_00030: ybfA	NC_012971.2 pRARE	pLysS	OK
XLOC_00337: XLOC_00337: phoU	NC_012971.2 pRARE	pLysS	OK
XLOC_00283: XLOC_00283: glyA	NC_012971.2 pRARE	pLysS	OK
XLOC_00083: XLOC_00083: ftn	NC_012971.2 pRARE	pLysS	OK
XLOC_00251: XLOC_00251: proQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00265: XLOC_00265: folE	NC_012971.2 pRARE	pLysS	OK
XLOC_00284: XLOC_00284: lepB	NC_012971.2 pRARE	pLysS	OK
XLOC_00312: XLOC_00312: nanT	NC_012971.2 pRARE	pLysS	OK
XLOC_00085: XLOC_00085: hisG	NC_012971.2 pRARE	pLysS	OK
XLOC_00313: XLOC_00313: sspA	NC_012971.2 pRARE	pLysS	OK
XLOC_00343: XLOC_00343: yihA	NC_012971.2 pRARE	pLysS	OK
XLOC_00313: XLOC_00313: tldD	NC_012971.2 pRARE	pLysS	OK
XLOC_00312: XLOC_00312: nanE, nanK, ynf	NC_012971.2 pRARE	pLysS	OK
XLOC_00157: XLOC_00157: katG	NC_012971.2 pRARE	pLysS	OK
XLOC_00251: XLOC_00251: yebF	NC_012971.2 pRARE	pLysS	OK
XLOC_00296: XLOC_00296: dsbC	NC_012971.2 pRARE	pLysS	OK
XLOC_00125: XLOC_00125: yhbN, yrbI, yrf	NC_012971.2 pRARE	pLysS	OK
XLOC_00328: XLOC_00328: glyQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00075: XLOC_00075: lpp	NC_012971.2 pRARE	pLysS	OK
XLOC_00054: XLOC_00054: fadR	NC_012971.2 pRARE	pLysS	OK
XLOC_00282: XLOC_00282: fdx	NC_012971.2 pRARE	pLysS	OK
XLOC_00097: XLOC_00097: amiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00013: XLOC_00013: ykgE	NC_012971.2 pRARE	pLysS	OK
XLOC_00139: XLOC_00139: mtlD, mtlR	NC_012971.2 pRARE	pLysS	OK
XLOC_00198: XLOC_00198: rnk	NC_012971.2 pRARE	pLysS	OK
XLOC_00179: XLOC_00179: ECD_00026	NC_012971.2 pRARE	pLysS	OK
XLOC_00310: XLOC_00310: infB	NC_012971.2 pRARE	pLysS	OK
XLOC_00056: XLOC_00056: galU	NC_012971.2 pRARE	pLysS	OK
XLOC_00142: XLOC_00142: ECD_03516	NC_012971.2 pRARE	pLysS	OK
XLOC_00310: XLOC_00310: nusA	NC_012971.2 pRARE	pLysS	OK

XLOC_00190:XLOC_00190:frmR	NC_012971.2 pRARE	pLysS	OK
XLOC_00331:XLOC_00331:yibD	NC_012971.2 pRARE	pLysS	OK
XLOC_00165:XLOC_00165:proP	NC_012971.2 pRARE	pLysS	OK
XLOC_00082:XLOC_00082:yebK	NC_012971.2 pRARE	pLysS	OK
XLOC_00336:XLOC_00336:yidA	NC_012971.2 pRARE	pLysS	OK
XLOC_00119:XLOC_00119:rpsU	NC_012971.2 pRARE	pLysS	OK
XLOC_00082:XLOC_00082:pykA	NC_012971.2 pRARE	pLysS	OK
XLOC_00165:XLOC_00165:melA	NC_012971.2 pRARE	pLysS	OK
XLOC_00048:XLOC_00048:ycdY	NC_012971.2 pRARE	pLysS	OK
XLOC_00310:XLOC_00310:secG	NC_012971.2 pRARE	pLysS	OK
XLOC_00099:XLOC_00099:yfgD	NC_012971.2 pRARE	pLysS	OK
XLOC_00324:XLOC_00324:yhhS	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:pnp	NC_012971.2 pRARE	pLysS	OK
XLOC_00305:XLOC_00305:yqiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00153:XLOC_00153:dsbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00281:XLOC_00281:ispG	NC_012971.2 pRARE	pLysS	OK
XLOC_00095:XLOC_00095:nupC	NC_012971.2 pRARE	pLysS	OK
XLOC_00214:XLOC_00214:fabA	NC_012971.2 pRARE	pLysS	OK
XLOC_00021:XLOC_00021:htpG	NC_012971.2 pRARE	pLysS	OK
XLOC_00352:XLOC_00352:melR	NC_012971.2 pRARE	pLysS	OK
XLOC_00130:XLOC_00130:crp	NC_012971.2 pRARE	pLysS	OK
XLOC_00064:XLOC_00064:ycdL	NC_012971.2 pRARE	pLysS	OK
XLOC_00284:XLOC_00284:acpS,pdxJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00245:XLOC_00245:pheS	NC_012971.2 pRARE	pLysS	OK
XLOC_00308:XLOC_00308:gark	NC_012971.2 pRARE	pLysS	OK
XLOC_00148:XLOC_00148:trxA	NC_012971.2 pRARE	pLysS	OK
XLOC_00337:XLOC_00337:glmU	NC_012971.2 pRARE	pLysS	OK
XLOC_00204:XLOC_00204:gltA	NC_012971.2 pRARE	pLysS	OK
XLOC_00094:XLOC_00094:evgA	NC_012971.2 pRARE	pLysS	OK
XLOC_00008:XLOC_00008:accA	NC_012971.2 pRARE	pLysS	OK
XLOC_00299:XLOC_00299:speA	NC_012971.2 pRARE	pLysS	OK
XLOC_00303:XLOC_00303:hybA,hybB,hybC	NC_012971.2 pRARE	pLysS	OK
XLOC_00125:XLOC_00125:yhbH	NC_012971.2 pRARE	pLysS	OK
XLOC_00055:XLOC_00055:kdsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00194:XLOC_00194:copA	NC_012971.2 pRARE	pLysS	OK
XLOC_00310:XLOC_00310:rbfA,truB	NC_012971.2 pRARE	pLysS	OK
XLOC_00152:XLOC_00152:fre	NC_012971.2 pRARE	pLysS	OK
XLOC_00126:XLOC_00126:ptsO,yhbJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:yliJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00210:XLOC_00210:ECD_00840	NC_012971.2 pRARE	pLysS	OK
XLOC_00250:XLOC_00250:yoaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00344:XLOC_00344:fdhE,fdoH,fdoH	NC_012971.2 pRARE	pLysS	OK
XLOC_00300:XLOC_00300:ECD_02822	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:deaD	NC_012971.2 pRARE	pLysS	OK

XLOC_00021	XLOC_00021	recR,ybaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00202	XLOC_00202	nagD	NC_012971.2	pRARE	pLysS	OK
XLOC_00180	XLOC_00180	ksgA,pdxA,su	NC_012971.2	pRARE	pLysS	OK
XLOC_00213	XLOC_00213	asnS	NC_012971.2	pRARE	pLysS	OK
XLOC_00031	XLOC_00031	sdhA,sdhC,sd	NC_012971.2	pRARE	pLysS	OK
XLOC_00224	XLOC_00224	ychN	NC_012971.2	pRARE	pLysS	OK
XLOC_00004	XLOC_00004	ftsZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00051	XLOC_00051	fabD	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	glnB	NC_012971.2	pRARE	pLysS	OK
XLOC_00323	XLOC_00323	asd	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	yhbG	NC_012971.2	pRARE	pLysS	OK
XLOC_00185	XLOC_00185	rof,yaeP	NC_012971.2	pRARE	pLysS	OK
XLOC_00279	XLOC_00279	nlpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00340	XLOC_00340	rhIB	NC_012971.2	pRARE	pLysS	OK
XLOC_00153	XLOC_00153	polA	NC_012971.2	pRARE	pLysS	OK
XLOC_00297	XLOC_00297	gcvT	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	ECD_02819	NC_012971.2	pRARE	pLysS	OK
XLOC_00321	XLOC_00321	envZ,ompR	NC_012971.2	pRARE	pLysS	OK
XLOC_00129	XLOC_00129	rrmB	NC_012971.2	pRARE	pLysS	OK
XLOC_00345	XLOC_00345	glpF	NC_012971.2	pRARE	pLysS	OK
XLOC_00152	XLOC_00152	tatC	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	yceD	NC_012971.2	pRARE	pLysS	OK
XLOC_00055	XLOC_00055	hemK,prfA,yc	NC_012971.2	pRARE	pLysS	OK
XLOC_00272	XLOC_00272	accD	NC_012971.2	pRARE	pLysS	OK
XLOC_00005	XLOC_00005	aceE	NC_012971.2	pRARE	pLysS	OK
XLOC_00115	XLOC_00115	ECD_02816	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	pepD	NC_012971.2	pRARE	pLysS	OK
XLOC_00092	XLOC_00092	arnT,yfbF,yfb	NC_012971.2	pRARE	pLysS	OK
XLOC_00012	XLOC_00012	proB	NC_012971.2	pRARE	pLysS	OK
XLOC_00241	XLOC_00241	hdhA	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	folD	NC_012971.2	pRARE	pLysS	OK
XLOC_00281	XLOC_00281	hisS	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	waaf	NC_012971.2	pRARE	pLysS	OK
XLOC_00008	XLOC_00008	yaeT	NC_012971.2	pRARE	pLysS	OK
XLOC_00282	XLOC_00282	yfhJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00095	XLOC_00095	yfeD	NC_012971.2	pRARE	pLysS	OK
XLOC_00217	XLOC_00217	putA	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	ribB	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	ispB	NC_012971.2	pRARE	pLysS	OK
XLOC_00058	XLOC_00058	yciX	NC_012971.2	pRARE	pLysS	OK
XLOC_00091	XLOC_00091	nrdB,yfaE	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	yfcB	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	potB,potC,po	NC_012971.2	pRARE	pLysS	OK
XLOC_00310	XLOC_00310	folP,glmM	NC_012971.2	pRARE	pLysS	OK

XLOC_00102:XLOC_00102:yfiO	NC_012971.2 pRARE	pLysS	OK
XLOC_00366:XLOC_00366:arcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00180:XLOC_00180:apaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00228:XLOC_00228:tpx	NC_012971.2 pRARE	pLysS	OK
XLOC_00203:XLOC_00203:fldA	NC_012971.2 pRARE	pLysS	OK
XLOC_00068:XLOC_00068:ydfG	NC_012971.2 pRARE	pLysS	OK
XLOC_00127:XLOC_00127:yhcN	NC_012971.2 pRARE	pLysS	OK
XLOC_00333(XLOC_00333(ECD_03510	NC_012971.2 pRARE	pLysS	OK
XLOC_00080(XLOC_00080(yoaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00132:XLOC_00132:feoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00357:XLOC_00357:fbp	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:kdsB,ycaR	NC_012971.2 pRARE	pLysS	OK
XLOC_00277:XLOC_00277:ucpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00112(XLOC_00112(ygfZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00047:XLOC_00047:putP	NC_012971.2 pRARE	pLysS	OK
XLOC_00098:XLOC_00098:ECD_02364	NC_012971.2 pRARE	pLysS	OK
XLOC_00004(XLOC_00004(ftsI,mraY,muI	NC_012971.2 pRARE	pLysS	OK
XLOC_00041(XLOC_00041(serS	NC_012971.2 pRARE	pLysS	OK
XLOC_00294:XLOC_00294:thyA	NC_012971.2 pRARE	pLysS	OK
XLOC_00159:XLOC_00159:secE	NC_012971.2 pRARE	pLysS	OK
XLOC_00357:XLOC_00357:nrdD	NC_012971.2 pRARE	pLysS	OK
XLOC_00042:XLOC_00042:dmsC	NC_012971.2 pRARE	pLysS	OK
XLOC_00359(XLOC_00359(pepA	NC_012971.2 pRARE	pLysS	OK
XLOC_00347:XLOC_00347:yijP	NC_012971.2 pRARE	pLysS	OK
XLOC_00088:XLOC_00088:dld	NC_012971.2 pRARE	pLysS	OK
XLOC_00328(XLOC_00328(glyS	NC_012971.2 pRARE	pLysS	OK
XLOC_00284:XLOC_00284:tadA	NC_012971.2 pRARE	pLysS	OK
XLOC_00158(XLOC_00158(tyrU	NC_012971.2 pRARE	pLysS	OK
XLOC_00070(XLOC_00070(ynfM	NC_012971.2 pRARE	pLysS	OK
XLOC_00244:XLOC_00244:nlpC	NC_012971.2 pRARE	pLysS	OK
XLOC_00093:XLOC_00093:yfbR	NC_012971.2 pRARE	pLysS	OK
XLOC_00069:XLOC_00069:ECD_01539	NC_012971.2 pRARE	pLysS	OK
XLOC_00127:XLOC_00127:accC	NC_012971.2 pRARE	pLysS	OK
XLOC_00141(XLOC_00141(rpoZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00152(XLOC_00152(tatA	NC_012971.2 pRARE	pLysS	OK
XLOC_00151(XLOC_00151(ubiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00294:XLOC_00294:ptsP	NC_012971.2 pRARE	pLysS	OK
XLOC_00300(XLOC_00300(ECD_02812	NC_012971.2 pRARE	pLysS	OK
XLOC_00203(XLOC_00203(nagA	NC_012971.2 pRARE	pLysS	OK
XLOC_00073:XLOC_00073:ydhI	NC_012971.2 pRARE	pLysS	OK
XLOC_00281:XLOC_00281:yfgA	NC_012971.2 pRARE	pLysS	OK
XLOC_00193(XLOC_00193(acrB	NC_012971.2 pRARE	pLysS	OK
XLOC_00137:XLOC_00137:tkrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00276:XLOC_00276:glxX	NC_012971.2 pRARE	pLysS	OK

XLOC_00088:XLOC_00088:cdd	NC_012971.2 pRARE	pLysS	OK
XLOC_00297:XLOC_00297:pepP,ubiH	NC_012971.2 pRARE	pLysS	OK
XLOC_00171:XLOC_00171:yjgK	NC_012971.2 pRARE	pLysS	OK
XLOC_00285:XLOC_00285:rpoE	NC_012971.2 pRARE	pLysS	OK
XLOC_00311(XLOC_00311(rrmJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00237:XLOC_00237:yneG,yneH	NC_012971.2 pRARE	pLysS	OK
XLOC_00020(XLOC_00020(ppiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00271(XLOC_00271(lrha	NC_012971.2 pRARE	pLysS	OK
XLOC_00281(XLOC_00281(yfgL	NC_012971.2 pRARE	pLysS	OK
XLOC_00222(XLOC_00222(minC	NC_012971.2 pRARE	pLysS	OK
XLOC_00220(XLOC_00220(rne	NC_012971.2 pRARE	pLysS	OK
XLOC_00291:XLOC_00291:chpA,chpR	NC_012971.2 pRARE	pLysS	OK
XLOC_00119:XLOC_00119:rpoD	NC_012971.2 pRARE	pLysS	OK
XLOC_00345:XLOC_00345:cpxA,cpxR	NC_012971.2 pRARE	pLysS	OK
XLOC_00241(XLOC_00241(pdxH	NC_012971.2 pRARE	pLysS	OK
XLOC_00049:XLOC_00049:yceK	NC_012971.2 pRARE	pLysS	OK
XLOC_00251:XLOC_00251:yebR	NC_012971.2 pRARE	pLysS	OK
XLOC_00206(XLOC_00206(ea59	NC_012971.2 pRARE	pLysS	OK
XLOC_00321(XLOC_00321(yrfE	NC_012971.2 pRARE	pLysS	OK
XLOC_00212:XLOC_00212:trxB	NC_012971.2 pRARE	pLysS	OK
XLOC_00160:XLOC_00160:nfi	NC_012971.2 pRARE	pLysS	OK
XLOC_00299(XLOC_00299(yggH,yggL	NC_012971.2 pRARE	pLysS	OK
XLOC_00356(XLOC_00356(ytfB	NC_012971.2 pRARE	pLysS	OK
XLOC_00282(XLOC_00282(pepB	NC_012971.2 pRARE	pLysS	OK
XLOC_00077(XLOC_00077(nadE	NC_012971.2 pRARE	pLysS	OK
XLOC_00087:XLOC_00087:ECD_02033	NC_012971.2 pRARE	pLysS	OK
XLOC_00182(XLOC_00182(speE	NC_012971.2 pRARE	pLysS	OK
XLOC_00037:XLOC_00037:ybiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00017:XLOC_00017:brnQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00227(XLOC_00227(yciT	NC_012971.2 pRARE	pLysS	OK
XLOC_00305(XLOC_00305(ygiW	NC_012971.2 pRARE	pLysS	OK
XLOC_00008:XLOC_00008:fabZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00101(XLOC_00101(hmpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00165(XLOC_00165(gltP	NC_012971.2 pRARE	pLysS	OK
XLOC_00010:XLOC_00010:yafE	NC_012971.2 pRARE	pLysS	OK
XLOC_00194(XLOC_00194:ybaK	NC_012971.2 pRARE	pLysS	OK
XLOC_00077:XLOC_00077:ydjQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00048:XLOC_00048:ycdZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00150:XLOC_00150:yzcX	NC_012971.2 pRARE	pLysS	OK
XLOC_00321:XLOC_00321:damX	NC_012971.2 pRARE	pLysS	OK
XLOC_00147(XLOC_00147(rbsR	NC_012971.2 pRARE	pLysS	OK
XLOC_00193(XLOC_00193:acrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00340(XLOC_00340:cyaY	NC_012971.2 pRARE	pLysS	OK
XLOC_00190(XLOC_00190:hemb	NC_012971.2 pRARE	pLysS	OK



XLOC_00040:XLOC_00040:rimK	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:pgm	NC_012971.2 pRARE	pLysS	OK
XLOC_00252:XLOC_00252:ruvC	NC_012971.2 pRARE	pLysS	OK
XLOC_00240:XLOC_00240:pntB	NC_012971.2 pRARE	pLysS	OK
XLOC_00274:XLOC_00274:yfcZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00068:XLOC_00068:marA	NC_012971.2 pRARE	pLysS	OK
XLOC_00004:XLOC_00004:ftsW,murD,m	NC_012971.2 pRARE	pLysS	OK
XLOC_00338:XLOC_00338:gidB	NC_012971.2 pRARE	pLysS	OK
XLOC_00185:XLOC_00185:proS	NC_012971.2 pRARE	pLysS	OK
XLOC_00170:XLOC_00170:ytfA	NC_012971.2 pRARE	pLysS	OK
XLOC_00095:XLOC_00095:ypeC	NC_012971.2 pRARE	pLysS	OK
XLOC_00002:XLOC_00002:carB	NC_012971.2 pRARE	pLysS	OK
XLOC_00241:XLOC_00241:slyA	NC_012971.2 pRARE	pLysS	OK
XLOC_00279:XLOC_00279:yffH	NC_012971.2 pRARE	pLysS	OK
XLOC_00318:XLOC_00318:bfr	NC_012971.2 pRARE	pLysS	OK
XLOC_00247:XLOC_00247:selD	NC_012971.2 pRARE	pLysS	OK
XLOC_00184:XLOC_00184:sfsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00102:XLOC_00102:yfiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00018:XLOC_00018:tgt	NC_012971.2 pRARE	pLysS	OK
XLOC_00177:XLOC_00177:trpR	NC_012971.2 pRARE	pLysS	OK
XLOC_00042:XLOC_00042:serC	NC_012971.2 pRARE	pLysS	OK
XLOC_00346:XLOC_00346:metJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:yhbS,yhbT	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:seqA	NC_012971.2 pRARE	pLysS	OK
XLOC_00018:XLOC_00018:secD	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:deoR	NC_012971.2 pRARE	pLysS	OK
XLOC_00017:XLOC_00017:ykiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00173:XLOC_00173:insA-25	NC_012971.2 pRARE	pLysS	OK
XLOC_00342:XLOC_00342:ysgA	NC_012971.2 pRARE	pLysS	OK
XLOC_00145:XLOC_00145:yidC	NC_012971.2 pRARE	pLysS	OK
XLOC_00044:XLOC_00044:ycbK	NC_012971.2 pRARE	pLysS	OK
XLOC_00311:XLOC_00311:yrbB,yrbC	NC_012971.2 pRARE	pLysS	OK
XLOC_00271:XLOC_00271:yfbV	NC_012971.2 pRARE	pLysS	OK
XLOC_00287:XLOC_00287:gshA	NC_012971.2 pRARE	pLysS	OK
XLOC_00258:XLOC_00258:vioB,wbbA,w	NC_012971.2 pRARE	pLysS	OK
XLOC_00231:XLOC_00231:hsJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263:mrp	NC_012971.2 pRARE	pLysS	OK
XLOC_00225:XLOC_00225:ygiU	NC_012971.2 pRARE	pLysS	OK
XLOC_00264:XLOC_00264:pbpG	NC_012971.2 pRARE	pLysS	OK
XLOC_00152:XLOC_00152:ubiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00322:XLOC_00322:glgP	NC_012971.2 pRARE	pLysS	OK
XLOC_00281:XLOC_00281:yfgM	NC_012971.2 pRARE	pLysS	OK
XLOC_00018:XLOC_00018:secF	NC_012971.2 pRARE	pLysS	OK
XLOC_00049:XLOC_00049:yceH	NC_012971.2 pRARE	pLysS	OK

XLOC_00281	XLOC_00281	ndk	NC_012971.2	pRARE	pLysS	OK
XLOC_00202	XLOC_00202	nagC	NC_012971.2	pRARE	pLysS	OK
XLOC_00298	XLOC_00298	tktA	NC_012971.2	pRARE	pLysS	OK
XLOC_00170	XLOC_00170	ytfK	NC_012971.2	pRARE	pLysS	OK
XLOC_00127	XLOC_00127	accB	NC_012971.2	pRARE	pLysS	OK
XLOC_00092	XLOC_00092	glpA,glpB,glp	NC_012971.2	pRARE	pLysS	OK
XLOC_00005	XLOC_00005	hpt	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	yghU	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yraP	NC_012971.2	pRARE	pLysS	OK
XLOC_00201	XLOC_00201	ybeX	NC_012971.2	pRARE	pLysS	OK
XLOC_00154	XLOC_00154	bipA	NC_012971.2	pRARE	pLysS	OK
XLOC_00004	XLOC_00004	ddlB,murC	NC_012971.2	pRARE	pLysS	OK
XLOC_00167	XLOC_00167	orn	NC_012971.2	pRARE	pLysS	OK
XLOC_00090	XLOC_00090	yejL	NC_012971.2	pRARE	pLysS	OK
XLOC_00079	XLOC_00079	yeaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00288	XLOC_00288	alaS	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	yhgI	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	dmsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	argE	NC_012971.2	pRARE	pLysS	OK
XLOC_00145	XLOC_00145	tnaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	yibK	NC_012971.2	pRARE	pLysS	OK
XLOC_00011	XLOC_00011	lpcA	NC_012971.2	pRARE	pLysS	OK
XLOC_00200	XLOC_00200	rlpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	yrbH	NC_012971.2	pRARE	pLysS	OK
XLOC_00028	XLOC_00028	cspE	NC_012971.2	pRARE	pLysS	OK
XLOC_00185	XLOC_00185	glnD	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	ispH	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	ECD_00487,ir	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	pntA	NC_012971.2	pRARE	pLysS	OK
XLOC_00121	XLOC_00121	yqjD	NC_012971.2	pRARE	pLysS	OK
XLOC_00261	XLOC_00261	dcd	NC_012971.2	pRARE	pLysS	OK
XLOC_00345	XLOC_00345	glpX	NC_012971.2	pRARE	pLysS	OK
XLOC_00019	XLOC_00019	bolA	NC_012971.2	pRARE	pLysS	OK
XLOC_00059	XLOC_00059	pspD	NC_012971.2	pRARE	pLysS	OK
XLOC_00352	XLOC_00352	basR,yjdB	NC_012971.2	pRARE	pLysS	OK
XLOC_00153	XLOC_00153	yihI	NC_012971.2	pRARE	pLysS	OK
XLOC_00346	XLOC_00346	cytR	NC_012971.2	pRARE	pLysS	OK
XLOC_00041	XLOC_00041	ycaJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00106	XLOC_00106	gutQ,srlR	NC_012971.2	pRARE	pLysS	OK
XLOC_00330	XLOC_00330	cysE	NC_012971.2	pRARE	pLysS	OK
XLOC_00031	XLOC_00031	ybgJ,ybgK,yb	NC_012971.2	pRARE	pLysS	OK
XLOC_00329	XLOC_00329	bax	NC_012971.2	pRARE	pLysS	OK
XLOC_00365	XLOC_00365	yjjA	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	ispD,ispF,pcr	NC_012971.2	pRARE	pLysS	OK

XLOC_00288: XLOC_00288: recA	NC_012971.2 pRARE	pLysS	OK
XLOC_00339: XLOC_00339: yieP	NC_012971.2 pRARE	pLysS	OK
XLOC_00105: XLOC_00105: proX	NC_012971.2 pRARE	pLysS	OK
XLOC_00258: XLOC_00258: ugd	NC_012971.2 pRARE	pLysS	OK
XLOC_00050: XLOC_00050: flgE	NC_012971.2 pRARE	pLysS	OK
XLOC_00037: XLOC_00037: ECD_00783	NC_012971.2 pRARE	pLysS	OK
XLOC_00150: XLOC_00150: yifL	NC_012971.2 pRARE	pLysS	OK
XLOC_00046: XLOC_00046: cspG	NC_012971.2 pRARE	pLysS	OK
XLOC_00041: XLOC_00041: lrp	NC_012971.2 pRARE	pLysS	OK
XLOC_00242: XLOC_00242: ribC	NC_012971.2 pRARE	pLysS	OK
XLOC_00208: XLOC_00208: dps	NC_012971.2 pRARE	pLysS	OK
XLOC_00197: XLOC_00197: fepA	NC_012971.2 pRARE	pLysS	OK
XLOC_00124: XLOC_00124: yhbW	NC_012971.2 pRARE	pLysS	OK
XLOC_00210: XLOC_00210: artI	NC_012971.2 pRARE	pLysS	OK
XLOC_00263: XLOC_00263: ECD_02036	NC_012971.2 pRARE	pLysS	OK
XLOC_00010: XLOC_00010: yafD	NC_012971.2 pRARE	pLysS	OK
XLOC_00110: XLOC_00110: tas	NC_012971.2 pRARE	pLysS	OK
XLOC_00346: XLOC_00346: hslV	NC_012971.2 pRARE	pLysS	OK
XLOC_00323: XLOC_00323: yhhX	NC_012971.2 pRARE	pLysS	OK
XLOC_00224: XLOC_00224: prsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00314: XLOC_00314: mreB	NC_012971.2 pRARE	pLysS	OK
XLOC_00160: XLOC_00160: yjaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00315: XLOC_00315: yrdD	NC_012971.2 pRARE	pLysS	OK
XLOC_00135: XLOC_00135: uspA	NC_012971.2 pRARE	pLysS	OK
XLOC_00192: XLOC_00192: yajG	NC_012971.2 pRARE	pLysS	OK
XLOC_00221: XLOC_00221: ycfC	NC_012971.2 pRARE	pLysS	OK
XLOC_00144: XLOC_00144: yidX	NC_012971.2 pRARE	pLysS	OK
XLOC_00192: XLOC_00192: apbA, thiJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00345: XLOC_00345: fpr	NC_012971.2 pRARE	pLysS	OK
XLOC_00045: XLOC_00045: ycbG	NC_012971.2 pRARE	pLysS	OK
XLOC_00164: XLOC_00164: soxR	NC_012971.2 pRARE	pLysS	OK
XLOC_00321: XLOC_00321: dam	NC_012971.2 pRARE	pLysS	OK
XLOC_00133: XLOC_00133: yhhK	NC_012971.2 pRARE	pLysS	OK
XLOC_00098: XLOC_00098: bcp, gcvR	NC_012971.2 pRARE	pLysS	OK
XLOC_00297: XLOC_00297: ygfB	NC_012971.2 pRARE	pLysS	OK
XLOC_00192: XLOC_00192: ybaX	NC_012971.2 pRARE	pLysS	OK
XLOC_00083: XLOC_00083: yecl	NC_012971.2 pRARE	pLysS	OK
XLOC_00006: XLOC_00006: fhuA	NC_012971.2 pRARE	pLysS	OK
XLOC_00125: XLOC_00125: yhbY	NC_012971.2 pRARE	pLysS	OK
XLOC_00363: XLOC_00363: yjiX	NC_012971.2 pRARE	pLysS	OK
XLOC_00191: XLOC_00191: ispA, xseB	NC_012971.2 pRARE	pLysS	OK
XLOC_00354: XLOC_00354: yjeK	NC_012971.2 pRARE	pLysS	OK
XLOC_00047: XLOC_00047: agp	NC_012971.2 pRARE	pLysS	OK
XLOC_00296: XLOC_00296: yqfA	NC_012971.2 pRARE	pLysS	OK

XLOC_00213:XLOC_00213:pflB	NC_012971.2 pRARE	pLysS	OK
XLOC_00272:XLOC_00272:dedA	NC_012971.2 pRARE	pLysS	OK
XLOC_00321:XLOC_00321:aroK	NC_012971.2 pRARE	pLysS	OK
XLOC_00099:XLOC_00099:yfgG	NC_012971.2 pRARE	pLysS	OK
XLOC_00270:XLOC_00270:nuoI	NC_012971.2 pRARE	pLysS	OK
XLOC_00280:XLOC_00280:guaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00012:XLOC_00012:yafA	NC_012971.2 pRARE	pLysS	OK
XLOC_00197:XLOC_00197:ybdG	NC_012971.2 pRARE	pLysS	OK
XLOC_00152:XLOC_00152:hemG	NC_012971.2 pRARE	pLysS	OK
XLOC_00121:XLOC_00121:yqjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00121:XLOC_00121:yqjA	NC_012971.2 pRARE	pLysS	OK
XLOC_00352:XLOC_00352:phnA	NC_012971.2 pRARE	pLysS	OK
XLOC_00036:XLOC_00036:ybhL	NC_012971.2 pRARE	pLysS	OK
XLOC_00218:XLOC_00218:yceE	NC_012971.2 pRARE	pLysS	OK
XLOC_00001:XLOC_00001:fkpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00311:XLOC_00311:yrbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00225:XLOC_00225:yehJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00054:XLOC_00054:ycgM	NC_012971.2 pRARE	pLysS	OK
XLOC_00125:XLOC_00125:rpoN	NC_012971.2 pRARE	pLysS	OK
XLOC_00296:XLOC_00296:ygfX,ygfY	NC_012971.2 pRARE	pLysS	OK
XLOC_00296:XLOC_00296:yqfB	NC_012971.2 pRARE	pLysS	OK
XLOC_00126:XLOC_00126:gltd	NC_012971.2 pRARE	pLysS	OK
XLOC_00100:XLOC_00100:sseA	NC_012971.2 pRARE	pLysS	OK
XLOC_00166:XLOC_00166:ecnB	NC_012971.2 pRARE	pLysS	OK
XLOC_00333:XLOC_00333:ECD_03524	NC_012971.2 pRARE	pLysS	OK
XLOC_00176:XLOC_00176:yjjG	NC_012971.2 pRARE	pLysS	OK
XLOC_00000:XLOC_00000:dnaK	NC_012971.2 pRARE	pLysS	OK
XLOC_00003:XLOC_00003:yabB	NC_012971.2 pRARE	pLysS	OK
XLOC_00215:XLOC_00215:yccA	NC_012971.2 pRARE	pLysS	OK
XLOC_00146:XLOC_00146:rbsB	NC_012971.2 pRARE	pLysS	OK
XLOC_00016:XLOC_00016:yail	NC_012971.2 pRARE	pLysS	OK
XLOC_00153:XLOC_00153:yihE	NC_012971.2 pRARE	pLysS	OK
XLOC_00079:XLOC_00079:yeaL	NC_012971.2 pRARE	pLysS	OK
XLOC_00082:XLOC_00082:znuB,znuC	NC_012971.2 pRARE	pLysS	OK
XLOC_00163:XLOC_00163:alr	NC_012971.2 pRARE	pLysS	OK
XLOC_00284:XLOC_00284:lepA	NC_012971.2 pRARE	pLysS	OK
XLOC_00201:XLOC_00201:gltd	NC_012971.2 pRARE	pLysS	OK
XLOC_00315:XLOC_00315:zntR	NC_012971.2 pRARE	pLysS	OK
XLOC_00140:XLOC_00140:yibQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00048:XLOC_00048:yedX	NC_012971.2 pRARE	pLysS	OK
XLOC_00269:XLOC_00269:menB,menC,I	NC_012971.2 pRARE	pLysS	OK
XLOC_00293:XLOC_00293(ECD_02650,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00273:XLOC_00273:yfcL	NC_012971.2 pRARE	pLysS	OK
XLOC_00166:XLOC_00166:yjel	NC_012971.2 pRARE	pLysS	OK

XLOC_00219	XLOC_00219	grxB	NC_012971.2	pRARE	pLysS	OK
XLOC_00028	XLOC_00028	ahpF	NC_012971.2	pRARE	pLysS	OK
XLOC_00108	XLOC_00108	sdaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00165	XLOC_00165	melB	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	yjhQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00012	XLOC_00012	crl	NC_012971.2	pRARE	pLysS	OK
XLOC_00241	XLOC_00241	tyrS	NC_012971.2	pRARE	pLysS	OK
XLOC_00322	XLOC_00322	glpR	NC_012971.2	pRARE	pLysS	OK
XLOC_00127	XLOC_00127	prmA	NC_012971.2	pRARE	pLysS	OK
XLOC_00109	XLOC_00109	csdA,ygdK	NC_012971.2	pRARE	pLysS	OK
XLOC_00041	XLOC_00041	lolA	NC_012971.2	pRARE	pLysS	OK
XLOC_00300	XLOC_00300	ECD_02827	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	osmE	NC_012971.2	pRARE	pLysS	OK
XLOC_00104	XLOC_00104	nrdE,nrdH,nrdI	NC_012971.2	pRARE	pLysS	OK
XLOC_00252	XLOC_00252	ruvA	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	ppc	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	cpXP	NC_012971.2	pRARE	pLysS	OK
XLOC_00168	XLOC_00168	yjFH	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	aroC	NC_012971.2	pRARE	pLysS	OK
XLOC_00210	XLOC_00210	ECD_00817	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	ileS,ispA	NC_012971.2	pRARE	pLysS	OK
XLOC_00251	XLOC_00251	yebE	NC_012971.2	pRARE	pLysS	OK
XLOC_00195	XLOC_00195	tesA,ybbO	NC_012971.2	pRARE	pLysS	OK
XLOC_00218	XLOC_00218	msyB	NC_012971.2	pRARE	pLysS	OK
XLOC_00234	XLOC_00234	sfcA	NC_012971.2	pRARE	pLysS	OK
XLOC_00115	XLOC_00115	ECD_02815	NC_012971.2	pRARE	pLysS	OK
XLOC_00193	XLOC_00193	tesB	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	ycgO	NC_012971.2	pRARE	pLysS	OK
XLOC_00081	XLOC_00081	sdaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	yaaH	NC_012971.2	pRARE	pLysS	OK
XLOC_00074	XLOC_00074	cfa	NC_012971.2	pRARE	pLysS	OK
XLOC_00251	XLOC_00251	yebZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00363	XLOC_00363	hsdR	NC_012971.2	pRARE	pLysS	OK
XLOC_00184	XLOC_00184	hemL	NC_012971.2	pRARE	pLysS	OK
XLOC_00109	XLOC_00109	fucK	NC_012971.2	pRARE	pLysS	OK
XLOC_00315	XLOC_00315	yrdC	NC_012971.2	pRARE	pLysS	OK
XLOC_00058	XLOC_00058	cysB	NC_012971.2	pRARE	pLysS	OK
XLOC_00164	XLOC_00164	ssb	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	ftsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00213	XLOC_00213	aspC	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	slyB	NC_012971.2	pRARE	pLysS	OK
XLOC_00325	XLOC_00325	prlC	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	fumC	NC_012971.2	pRARE	pLysS	OK
XLOC_00064	XLOC_00064	ycdQ	NC_012971.2	pRARE	pLysS	OK

XLOC_00242	XLOC_00242	ECD_01628	NC_012971.2	pRARE	pLysS	OK
XLOC_00044	XLOC_00044	pepN	NC_012971.2	pRARE	pLysS	OK
XLOC_00277	XLOC_00277	pdxK	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	yjjK	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	mlc	NC_012971.2	pRARE	pLysS	OK
XLOC_00032	XLOC_00032	tolR	NC_012971.2	pRARE	pLysS	OK
XLOC_00209	XLOC_00209	ECD_00814	NC_012971.2	pRARE	pLysS	OK
XLOC_00161	XLOC_00161	aceA	NC_012971.2	pRARE	pLysS	OK
XLOC_00052	XLOC_00052	ycfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00200	XLOC_00200	ybeB	NC_012971.2	pRARE	pLysS	OK
XLOC_00041	XLOC_00041	clpS	NC_012971.2	pRARE	pLysS	OK
XLOC_00247	XLOC_00247	ydjA	NC_012971.2	pRARE	pLysS	OK
XLOC_00002	XLOC_00002	dapB	NC_012971.2	pRARE	pLysS	OK
XLOC_00193	XLOC_00193	ybaJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	yqjI	NC_012971.2	pRARE	pLysS	OK
XLOC_00265	XLOC_00265	galS	NC_012971.2	pRARE	pLysS	OK
XLOC_00133	XLOC_00133	zntA	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	gpmB	NC_012971.2	pRARE	pLysS	OK
XLOC_00322	XLOC_00322	glgA,glgB,glgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	allR	NC_012971.2	pRARE	pLysS	OK
XLOC_00262	XLOC_00262	fbaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00297	XLOC_00297	yggE	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	rihC	NC_012971.2	pRARE	pLysS	OK
XLOC_00296	XLOC_00296	lysS	NC_012971.2	pRARE	pLysS	OK
XLOC_00286	XLOC_00286	ffh	NC_012971.2	pRARE	pLysS	OK
XLOC_00105	XLOC_00105	ygaH,ygaZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00352	XLOC_00352	basS	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	gst	NC_012971.2	pRARE	pLysS	OK
XLOC_00101	XLOC_00101	ung	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	coaE,yacF	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	feoB,yhgG	NC_012971.2	pRARE	pLysS	OK
XLOC_00000	XLOC_00000	dnaJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00104	XLOC_00104	ygaP	NC_012971.2	pRARE	pLysS	OK
XLOC_00151	XLOC_00151	ubiB,yigP	NC_012971.2	pRARE	pLysS	OK
XLOC_00149	XLOC_00149	rffG,wecB,we	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybiA	NC_012971.2	pRARE	pLysS	OK
XLOC_00079	XLOC_00079	yeaO	NC_012971.2	pRARE	pLysS	OK
XLOC_00218	XLOC_00218	ycel	NC_012971.2	pRARE	pLysS	OK
XLOC_00213	XLOC_00213	pflA	NC_012971.2	pRARE	pLysS	OK
XLOC_00259	XLOC_00259	wzx	NC_012971.2	pRARE	pLysS	OK
XLOC_00057	XLOC_00057	oppB	NC_012971.2	pRARE	pLysS	OK
XLOC_00093	XLOC_00093	yfch	NC_012971.2	pRARE	pLysS	OK
XLOC_00358	XLOC_00358	holC,valS	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	cpdA,yqiA	NC_012971.2	pRARE	pLysS	OK

XLOC_00133;XLOC_00133;yhha	NC_012971.2 pRARE	pLysS	OK
XLOC_00051;XLOC_00051;fabH	NC_012971.2 pRARE	pLysS	OK
XLOC_00180;XLOC_00180;apaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00018;XLOC_00018;ribD	NC_012971.2 pRARE	pLysS	OK
XLOC_00102;XLOC_00102;yfiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00041;XLOC_00041;clpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00215;XLOC_00215;yccK	NC_012971.2 pRARE	pLysS	OK
XLOC_00005;XLOC_00005;yacL	NC_012971.2 pRARE	pLysS	OK
XLOC_00126;XLOC_00126;gltB	NC_012971.2 pRARE	pLysS	OK
XLOC_00171;XLOC_00171;mpl	NC_012971.2 pRARE	pLysS	OK
XLOC_00231;XLOC_00231;ynaF	NC_012971.2 pRARE	pLysS	OK
XLOC_00332;XLOC_00332;waaO	NC_012971.2 pRARE	pLysS	OK
XLOC_00032;XLOC_00032;tolQ,ybgC	NC_012971.2 pRARE	pLysS	OK
XLOC_00311;XLOC_00311;yrbD	NC_012971.2 pRARE	pLysS	OK
XLOC_00274;XLOC_00274;vacJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00008;XLOC_00008;lpxA,lpxB,rnh	NC_012971.2 pRARE	pLysS	OK
XLOC_00093;XLOC_00093;yfbQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00312;XLOC_00312;arcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00022;XLOC_00022;ybaQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00163;XLOC_00163;dnaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00241;XLOC_00241;pdxY	NC_012971.2 pRARE	pLysS	OK
XLOC_00282;XLOC_00282;iscA	NC_012971.2 pRARE	pLysS	OK
XLOC_00180;XLOC_00180;imp	NC_012971.2 pRARE	pLysS	OK
XLOC_00003;XLOC_00003;ftsL,mraW	NC_012971.2 pRARE	pLysS	OK
XLOC_00219;XLOC_00219;solA	NC_012971.2 pRARE	pLysS	OK
XLOC_00224;XLOC_00224;ispE,lolB	NC_012971.2 pRARE	pLysS	OK
XLOC_00163;XLOC_00163;yjbO	NC_012971.2 pRARE	pLysS	OK
XLOC_00171;XLOC_00171;pmbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00019;XLOC_00019;pgpA,thiL	NC_012971.2 pRARE	pLysS	OK
XLOC_00339;XLOC_00339;ECD_03654	NC_012971.2 pRARE	pLysS	OK
XLOC_00052;XLOC_00052;ycfR	NC_012971.2 pRARE	pLysS	OK
XLOC_00244;XLOC_00244;ydiU	NC_012971.2 pRARE	pLysS	OK
XLOC_00205;XLOC_00205;ea8.5	NC_012971.2 pRARE	pLysS	OK
XLOC_00083;XLOC_00083;yecO,yecP	NC_012971.2 pRARE	pLysS	OK
XLOC_00126;XLOC_00126;yrbL	NC_012971.2 pRARE	pLysS	OK
XLOC_00056;XLOC_00056;yche	NC_012971.2 pRARE	pLysS	OK
XLOC_00266;XLOC_00266;bcr	NC_012971.2 pRARE	pLysS	OK
XLOC_00250;XLOC_00250;htpX	NC_012971.2 pRARE	pLysS	OK
XLOC_00037;XLOC_00037;ybiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00219;XLOC_00219;yceB	NC_012971.2 pRARE	pLysS	OK
XLOC_00007;XLOC_00007;yaeL	NC_012971.2 pRARE	pLysS	OK
XLOC_00115;XLOC_00115;ECD_02814	NC_012971.2 pRARE	pLysS	OK
XLOC_00312;XLOC_00312;nanR	NC_012971.2 pRARE	pLysS	OK
XLOC_00148;XLOC_00148;rhoL	NC_012971.2 pRARE	pLysS	OK

XLOC_00347	XLOC_00347	udhA	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	ybiS	NC_012971.2	pRARE	pLysS	OK
XLOC_00011	XLOC_00011	yafJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00112	XLOC_00112	ygfE	NC_012971.2	pRARE	pLysS	OK
XLOC_00097	XLOC_00097	hemF	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	yghB	NC_012971.2	pRARE	pLysS	OK
XLOC_00093	XLOC_00093	folX	NC_012971.2	pRARE	pLysS	OK
XLOC_00311	XLOC_00311	murA	NC_012971.2	pRARE	pLysS	OK
XLOC_00186	XLOC_00186	glob	NC_012971.2	pRARE	pLysS	OK
XLOC_00209	XLOC_00209	ybjG	NC_012971.2	pRARE	pLysS	OK
XLOC_00158	XLOC_00158	murl	NC_012971.2	pRARE	pLysS	OK
XLOC_00323	XLOC_00323	gntR	NC_012971.2	pRARE	pLysS	OK
XLOC_00252	XLOC_00252	yebC	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	mepA,yfcA,yf	NC_012971.2	pRARE	pLysS	OK
XLOC_00222	XLOC_00222	ycgK	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	cysH	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	nadC	NC_012971.2	pRARE	pLysS	OK
XLOC_00291	XLOC_00291	relA	NC_012971.2	pRARE	pLysS	OK
XLOC_00213	XLOC_00213	focA	NC_012971.2	pRARE	pLysS	OK
XLOC_00018	XLOC_00018	ybaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	yjjM	NC_012971.2	pRARE	pLysS	OK
XLOC_00145	XLOC_00145	yieE	NC_012971.2	pRARE	pLysS	OK
XLOC_00199	XLOC_00199	lipA	NC_012971.2	pRARE	pLysS	OK
XLOC_00304	XLOC_00304	exbB	NC_012971.2	pRARE	pLysS	OK
XLOC_00137	XLOC_00137	yhjS,yhjT,yhjL	NC_012971.2	pRARE	pLysS	OK
XLOC_00012	XLOC_00012	proA	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybhF,ybhG,yk	NC_012971.2	pRARE	pLysS	OK
XLOC_00120	XLOC_00120	ygjR	NC_012971.2	pRARE	pLysS	OK
XLOC_00282	XLOC_00282	hscA	NC_012971.2	pRARE	pLysS	OK
XLOC_00286	XLOC_00286	rldD,yfiH	NC_012971.2	pRARE	pLysS	OK
XLOC_00142	XLOC_00142	ECD_03521	NC_012971.2	pRARE	pLysS	OK
XLOC_00200	XLOC_00200	holA,rlpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	sixA	NC_012971.2	pRARE	pLysS	OK
XLOC_00188	XLOC_00188	betA	NC_012971.2	pRARE	pLysS	OK
XLOC_00016	XLOC_00016	yaiZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	cpdB	NC_012971.2	pRARE	pLysS	OK
XLOC_00146	XLOC_00146	rbsD	NC_012971.2	pRARE	pLysS	OK
XLOC_00212	XLOC_00212	aat	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	argH	NC_012971.2	pRARE	pLysS	OK
XLOC_00252	XLOC_00252	ruvB	NC_012971.2	pRARE	pLysS	OK
XLOC_00077	XLOC_00077	ydjN	NC_012971.2	pRARE	pLysS	OK
XLOC_00029	XLOC_00029	glnS	NC_012971.2	pRARE	pLysS	OK
XLOC_00006	XLOC_00006	yadR	NC_012971.2	pRARE	pLysS	OK
XLOC_00047	XLOC_00047	ycdC	NC_012971.2	pRARE	pLysS	OK



XLOC_00297	XLOC_00297	serA	NC_012971.2	pRARE	pLysS	OK
XLOC_00268	XLOC_00268	gyrA	NC_012971.2	pRARE	pLysS	OK
XLOC_00068	XLOC_00068	ydfH	NC_012971.2	pRARE	pLysS	OK
XLOC_00004	XLOC_00004	ftsA,ftsQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00282	XLOC_00282	hscB	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	manA	NC_012971.2	pRARE	pLysS	OK
XLOC_00287	XLOC_00287	ygaU	NC_012971.2	pRARE	pLysS	OK
XLOC_00026	XLOC_00026	cusC	NC_012971.2	pRARE	pLysS	OK
XLOC_00004	XLOC_00004	guaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	yjhP	NC_012971.2	pRARE	pLysS	OK
XLOC_00044	XLOC_00044	ycbL	NC_012971.2	pRARE	pLysS	OK
XLOC_00048	XLOC_00048	csgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00349	XLOC_00349	qor	NC_012971.2	pRARE	pLysS	OK
XLOC_00160	XLOC_00160	hemE	NC_012971.2	pRARE	pLysS	OK
XLOC_00057	XLOC_00057	oppC	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	fdoG	NC_012971.2	pRARE	pLysS	OK
XLOC_00357	XLOC_00357	yjgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00113	XLOC_00113	iciA	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	yqhD	NC_012971.2	pRARE	pLysS	OK
XLOC_00360	XLOC_00360	yis1	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	dnaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00333	XLOC_00333	gltS	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	avtA	NC_012971.2	pRARE	pLysS	OK
XLOC_00243	XLOC_00243	ydiH	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	yeaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	yceF	NC_012971.2	pRARE	pLysS	OK
XLOC_00121	XLOC_00121	yhaH	NC_012971.2	pRARE	pLysS	OK
XLOC_00063	XLOC_00063	hrpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00221	XLOC_00221	phoP,phoQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00164	XLOC_00164	yjbR	NC_012971.2	pRARE	pLysS	OK
XLOC_00160	XLOC_00160	yjaH	NC_012971.2	pRARE	pLysS	OK
XLOC_00349	XLOC_00349	zur	NC_012971.2	pRARE	pLysS	OK
XLOC_00058	XLOC_00058	acnA	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	glgS	NC_012971.2	pRARE	pLysS	OK
XLOC_00192	XLOC_00192	ECD_00377,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	cysD	NC_012971.2	pRARE	pLysS	OK
XLOC_00287	XLOC_00287	ygaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	yiaU	NC_012971.2	pRARE	pLysS	OK
XLOC_00065	XLOC_00065	ydcY	NC_012971.2	pRARE	pLysS	OK
XLOC_00193	XLOC_00193	ybaZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00184	XLOC_00184	pfs,yadT	NC_012971.2	pRARE	pLysS	OK
XLOC_00130	XLOC_00130	yheS,yheT,yh	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	yghZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00149	XLOC_00149	rffH	NC_012971.2	pRARE	pLysS	OK

XLOC_00069	XLOC_00069	ynfB	NC_012971.2	pRARE	pLysS	OK
XLOC_00186	XLOC_00186	rnhA	NC_012971.2	pRARE	pLysS	OK
XLOC_00085	XLOC_00085	amn	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	ybhQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	fumA	NC_012971.2	pRARE	pLysS	OK
XLOC_00185	XLOC_00185	rceF,yaeB	NC_012971.2	pRARE	pLysS	OK
XLOC_00048	XLOC_00048	ycdW	NC_012971.2	pRARE	pLysS	OK
XLOC_00026	XLOC_00026	ylcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybiJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	gyrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00085	XLOC_00085	sbcB	NC_012971.2	pRARE	pLysS	OK
XLOC_00251	XLOC_00251	yobA	NC_012971.2	pRARE	pLysS	OK
XLOC_00249	XLOC_00249	yeaY	NC_012971.2	pRARE	pLysS	OK
XLOC_00300	XLOC_00300	ECD_02821	NC_012971.2	pRARE	pLysS	OK
XLOC_00333	XLOC_00333	ECD_03526	NC_012971.2	pRARE	pLysS	OK
XLOC_00076	XLOC_00076	pfkB	NC_012971.2	pRARE	pLysS	OK
XLOC_00198	XLOC_00198	ybdQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	dkgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00255	XLOC_00255	yecA	NC_012971.2	pRARE	pLysS	OK
XLOC_00229	XLOC_00229	ydaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00113	XLOC_00113	yqgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00315	XLOC_00315	yhdL	NC_012971.2	pRARE	pLysS	OK
XLOC_00027	XLOC_00027	ybdD	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	pdxB	NC_012971.2	pRARE	pLysS	OK
XLOC_00255	XLOC_00255	pgsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00095	XLOC_00095	ypdB	NC_012971.2	pRARE	pLysS	OK
XLOC_00049	XLOC_00049	rimJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00005	XLOC_00005	lpdA	NC_012971.2	pRARE	pLysS	OK
XLOC_00357	XLOC_00357	ytfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	ygiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00133	XLOC_00133	yhgN	NC_012971.2	pRARE	pLysS	OK
XLOC_00003	XLOC_00003	fruR	NC_012971.2	pRARE	pLysS	OK
XLOC_00199	XLOC_00199	ccrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00052	XLOC_00052	nagZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	suhB	NC_012971.2	pRARE	pLysS	OK
XLOC_00002	XLOC_00002	carA	NC_012971.2	pRARE	pLysS	OK
XLOC_00279	XLOC_00279	maeB	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	ygjF	NC_012971.2	pRARE	pLysS	OK
XLOC_00030	XLOC_00030	ybgI	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	ibpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00258	XLOC_00258	wzzB	NC_012971.2	pRARE	pLysS	OK
XLOC_00089	XLOC_00089	yeiA,yeiT	NC_012971.2	pRARE	pLysS	OK
XLOC_00163	XLOC_00163	tyrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00049	XLOC_00049	mviM	NC_012971.2	pRARE	pLysS	OK

XLOC_00355†XLOC_00355†yjfO	NC_012971.2 pRARE	pLysS	OK
XLOC_00229†XLOC_00229†ynaI	NC_012971.2 pRARE	pLysS	OK
XLOC_00320†XLOC_00320†ppiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00272†XLOC_00272†truA,usg	NC_012971.2 pRARE	pLysS	OK
XLOC_00032†XLOC_00032†cydB	NC_012971.2 pRARE	pLysS	OK
XLOC_00141†XLOC_00141†yicG	NC_012971.2 pRARE	pLysS	OK
XLOC_00102†XLOC_00102†pheA	NC_012971.2 pRARE	pLysS	OK
XLOC_00210†XLOC_00210†artJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00294†XLOC_00294†ygdP	NC_012971.2 pRARE	pLysS	OK
XLOC_00154†XLOC_00154†yihW	NC_012971.2 pRARE	pLysS	OK
XLOC_00114†XLOC_00114†yggT,yggU	NC_012971.2 pRARE	pLysS	OK
XLOC_00212†XLOC_00212†cydC	NC_012971.2 pRARE	pLysS	OK
XLOC_00102†XLOC_00102†pssA	NC_012971.2 pRARE	pLysS	OK
XLOC_00130†XLOC_00130†slyX	NC_012971.2 pRARE	pLysS	OK
XLOC_00009†XLOC_00009†gmhB	NC_012971.2 pRARE	pLysS	OK
XLOC_00314†XLOC_00314†rng,yhdE	NC_012971.2 pRARE	pLysS	OK
XLOC_00098†XLOC_00098†dapE	NC_012971.2 pRARE	pLysS	OK
XLOC_00114†XLOC_00114†yggJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00115†XLOC_00115†ECD_02798	NC_012971.2 pRARE	pLysS	OK
XLOC_00221†XLOC_00221†ycfD	NC_012971.2 pRARE	pLysS	OK
XLOC_00221†XLOC_00221†trmU	NC_012971.2 pRARE	pLysS	OK
XLOC_00211†XLOC_00211†ybjP	NC_012971.2 pRARE	pLysS	OK
XLOC_00027†XLOC_00027†cstA	NC_012971.2 pRARE	pLysS	OK
XLOC_00112†XLOC_00112†bglA	NC_012971.2 pRARE	pLysS	OK
XLOC_00250†XLOC_00250†yoaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00060†XLOC_00060†ynaJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00224†XLOC_00224†pth	NC_012971.2 pRARE	pLysS	OK
XLOC_00346†XLOC_00346†ftsN	NC_012971.2 pRARE	pLysS	OK
XLOC_00057†XLOC_00057†yciO,yciV	NC_012971.2 pRARE	pLysS	OK
XLOC_00101†XLOC_00101†srmB	NC_012971.2 pRARE	pLysS	OK
XLOC_00261†XLOC_00261†udk	NC_012971.2 pRARE	pLysS	OK
XLOC_00005†XLOC_00005†aceF	NC_012971.2 pRARE	pLysS	OK
XLOC_00353†XLOC_00353†yjdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00064†XLOC_00064†ydcH	NC_012971.2 pRARE	pLysS	OK
XLOC_00072†XLOC_00072†add	NC_012971.2 pRARE	pLysS	OK
XLOC_00301†XLOC_00301†yghJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00117†XLOC_00117†mdaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00083†XLOC_00083†yecG	NC_012971.2 pRARE	pLysS	OK
XLOC_00088†XLOC_00088†yeiS	NC_012971.2 pRARE	pLysS	OK
XLOC_00342†XLOC_00342†rfaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00259†XLOC_00259†rfbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00186†XLOC_00186†mltD	NC_012971.2 pRARE	pLysS	OK
XLOC_00092†XLOC_00092†yfbE	NC_012971.2 pRARE	pLysS	OK
XLOC_00099†XLOC_00099†ppx	NC_012971.2 pRARE	pLysS	OK

XLOC_00094(XLOC_00094(yfcN	NC_012971.2 pRARE	pLysS	OK
XLOC_00284(XLOC_00284(era,rncS	NC_012971.2 pRARE	pLysS	OK
XLOC_00201(XLOC_00201(ybeY,ybeZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00357(XLOC_00357(msrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00303(XLOC_00303(gss	NC_012971.2 pRARE	pLysS	OK
XLOC_00049(XLOC_00049(mdoG,mdoH	NC_012971.2 pRARE	pLysS	OK
XLOC_00191(XLOC_00191(yajB	NC_012971.2 pRARE	pLysS	OK
XLOC_00114(XLOC_00114(yggV,yggW	NC_012971.2 pRARE	pLysS	OK
XLOC_00089(XLOC_00089(nfo	NC_012971.2 pRARE	pLysS	OK
XLOC_00272(XLOC_00272(argT	NC_012971.2 pRARE	pLysS	OK
XLOC_00264(XLOC_00264(mglB	NC_012971.2 pRARE	pLysS	OK
XLOC_00004(XLOC_00004(lpxC	NC_012971.2 pRARE	pLysS	OK
XLOC_00102(XLOC_00102(yfiQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00142(XLOC_00142(yicH	NC_012971.2 pRARE	pLysS	OK
XLOC_00099(XLOC_00099(ppk	NC_012971.2 pRARE	pLysS	OK
XLOC_00216(XLOC_00216(cbpA,yccD	NC_012971.2 pRARE	pLysS	OK
XLOC_00194(XLOC_00194(ybbJ,ybbK	NC_012971.2 pRARE	pLysS	OK
XLOC_00280(XLOC_00280(hda	NC_012971.2 pRARE	pLysS	OK
XLOC_00130(XLOC_00130(yhfL	NC_012971.2 pRARE	pLysS	OK
XLOC_00236(XLOC_00236(hipA,hipB	NC_012971.2 pRARE	pLysS	OK
XLOC_00162(XLOC_00162(ubiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00325(XLOC_00325(yhhJ,yhiH,yhi	NC_012971.2 pRARE	pLysS	OK
XLOC_00104(XLOC_00104(ygaM	NC_012971.2 pRARE	pLysS	OK
XLOC_00126(XLOC_00126(degQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00229(XLOC_00229(fnr	NC_012971.2 pRARE	pLysS	OK
XLOC_00336(XLOC_00336(dnaN,recF	NC_012971.2 pRARE	pLysS	OK
XLOC_00338(XLOC_00338(mioC	NC_012971.2 pRARE	pLysS	OK
XLOC_00237(XLOC_00237(marC	NC_012971.2 pRARE	pLysS	OK
XLOC_00131(XLOC_00131(hsLO	NC_012971.2 pRARE	pLysS	OK
XLOC_00021(XLOC_00021(dnaX	NC_012971.2 pRARE	pLysS	OK
XLOC_00282(XLOC_00282(iscU	NC_012971.2 pRARE	pLysS	OK
XLOC_00304(XLOC_00304(ygiU	NC_012971.2 pRARE	pLysS	OK
XLOC_00304(XLOC_00304(plsC	NC_012971.2 pRARE	pLysS	OK
XLOC_00212(XLOC_00212(ybjX	NC_012971.2 pRARE	pLysS	OK
XLOC_00114(XLOC_00114(yggS	NC_012971.2 pRARE	pLysS	OK
XLOC_00315(XLOC_00315(aroE,yrdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00293(XLOC_00293(ygdI	NC_012971.2 pRARE	pLysS	OK
XLOC_00177(XLOC_00177(nadR	NC_012971.2 pRARE	pLysS	OK
XLOC_00040(XLOC_00040(ybjN	NC_012971.2 pRARE	pLysS	OK
XLOC_00121(XLOC_00121(exuR	NC_012971.2 pRARE	pLysS	OK
XLOC_00350(XLOC_00350(uvrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00312(XLOC_00312(yrbE	NC_012971.2 pRARE	pLysS	OK
XLOC_00306(XLOC_00306(ygjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00058(XLOC_00058(pyrF,yciH	NC_012971.2 pRARE	pLysS	OK

XLOC_00175:XLOC_00175:uxuR	NC_012971.2 pRARE	pLysS	OK
XLOC_00057:XLOC_00057:sohB	NC_012971.2 pRARE	pLysS	OK
XLOC_00304:XLOC_00304:sufI	NC_012971.2 pRARE	pLysS	OK
XLOC_00005:XLOC_00005:cueO	NC_012971.2 pRARE	pLysS	OK
XLOC_00071:XLOC_00071:ydgA	NC_012971.2 pRARE	pLysS	OK
XLOC_00248:XLOC_00248:yeaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00198:XLOC_00198:rna	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263:yehS	NC_012971.2 pRARE	pLysS	OK
XLOC_00224:XLOC_00224:chaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00257:XLOC_00257:sbmC	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:mukB,mukE	NC_012971.2 pRARE	pLysS	OK
XLOC_00161:XLOC_00161:metH	NC_012971.2 pRARE	pLysS	OK
XLOC_00335:XLOC_00335:ibpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00256:XLOC_00256:yedV,yedW	NC_012971.2 pRARE	pLysS	OK
XLOC_00156:XLOC_00156:metL	NC_012971.2 pRARE	pLysS	OK
XLOC_00244:XLOC_00244:ppsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00290:XLOC_00290:ygbI	NC_012971.2 pRARE	pLysS	OK
XLOC_00226:XLOC_00226:trpA,trpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00112:XLOC_00112:fldB	NC_012971.2 pRARE	pLysS	OK
XLOC_00092:XLOC_00092:yfaO	NC_012971.2 pRARE	pLysS	OK
XLOC_00045:XLOC_00045:yccU	NC_012971.2 pRARE	pLysS	OK
XLOC_00034:XLOC_00034:D	NC_012971.2 pRARE	pLysS	OK
XLOC_00168:XLOC_00168:yjeB	NC_012971.2 pRARE	pLysS	OK
XLOC_00261:XLOC_00261:asmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00342:XLOC_00342:ECD_03719	NC_012971.2 pRARE	pLysS	OK
XLOC_00282:XLOC_00282:iscS	NC_012971.2 pRARE	pLysS	OK
XLOC_00200:XLOC_00200:ybeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00076:XLOC_00076:aroH	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:ycbB	NC_012971.2 pRARE	pLysS	OK
XLOC_00106:XLOC_00106:gutM	NC_012971.2 pRARE	pLysS	OK
XLOC_00291:XLOC_00291:rumA	NC_012971.2 pRARE	pLysS	OK
XLOC_00272:XLOC_00272:dedD,folC	NC_012971.2 pRARE	pLysS	OK
XLOC_00074:XLOC_00074:norM	NC_012971.2 pRARE	pLysS	OK
XLOC_00201:XLOC_00201:yleA	NC_012971.2 pRARE	pLysS	OK
XLOC_00048:XLOC_00048:ymdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00280:XLOC_00280:guaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00182:XLOC_00182:yacG	NC_012971.2 pRARE	pLysS	OK
XLOC_00035:XLOC_00035:ECD_10057	NC_012971.2 pRARE	pLysS	OK
XLOC_00332:XLOC_00332:(insA-24,insB-	NC_012971.2 pRARE	pLysS	OK
XLOC_00122:XLOC_00122:garD	NC_012971.2 pRARE	pLysS	OK
XLOC_00190:XLOC_00190:frmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00185:XLOC_00185:metI,metN	NC_012971.2 pRARE	pLysS	OK
XLOC_00057:XLOC_00057:oppD,oppF	NC_012971.2 pRARE	pLysS	OK
XLOC_00296:XLOC_00296:recJ	NC_012971.2 pRARE	pLysS	OK

XLOC_00201	XLOC_00201	leuS	NC_012971.2	pRARE	pLysS	OK
XLOC_00242	XLOC_00242	ydhF	NC_012971.2	pRARE	pLysS	OK
XLOC_00120	XLOC_00120	ygjU	NC_012971.2	pRARE	pLysS	OK
XLOC_00206	XLOC_00206	ECD_10019,r	NC_012971.2	pRARE	pLysS	OK
XLOC_00241	XLOC_00241	ydhA	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	uvrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00151	XLOC_00151	yigL	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	aroP	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	rsd	NC_012971.2	pRARE	pLysS	OK
XLOC_00324	XLOC_00324	yhhM	NC_012971.2	pRARE	pLysS	OK
XLOC_00319	XLOC_00319	yhfA	NC_012971.2	pRARE	pLysS	OK
XLOC_00049	XLOC_00049	flgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00195	XLOC_00195	yIbG	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	yeel	NC_012971.2	pRARE	pLysS	OK
XLOC_00321	XLOC_00321	aroB	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgG	NC_012971.2	pRARE	pLysS	OK
XLOC_00107	XLOC_00107	ycmM	NC_012971.2	pRARE	pLysS	OK
XLOC_00355	XLOC_00355	yjfN	NC_012971.2	pRARE	pLysS	OK
XLOC_00051	XLOC_00051	plsX	NC_012971.2	pRARE	pLysS	OK
XLOC_00235	XLOC_00235	ydeN	NC_012971.2	pRARE	pLysS	OK
XLOC_00170	XLOC_00170	cysQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00141	XLOC_00141	slmA	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	trmA	NC_012971.2	pRARE	pLysS	OK
XLOC_00355	XLOC_00355	yjeQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00142	XLOC_00142	trmH	NC_012971.2	pRARE	pLysS	OK
XLOC_00120	XLOC_00120	ygjP	NC_012971.2	pRARE	pLysS	OK
XLOC_00340	XLOC_00340	ECD_03690	NC_012971.2	pRARE	pLysS	OK
XLOC_00186	XLOC_00186	yafV	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	yodA	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	ydgH	NC_012971.2	pRARE	pLysS	OK
XLOC_00262	XLOC_00262	thiD,thiM	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	parE	NC_012971.2	pRARE	pLysS	OK
XLOC_00219	XLOC_00219	dinI	NC_012971.2	pRARE	pLysS	OK
XLOC_00127	XLOC_00127	argR	NC_012971.2	pRARE	pLysS	OK
XLOC_00300	XLOC_00300	ECD_02828	NC_012971.2	pRARE	pLysS	OK
XLOC_00039	XLOC_00039	ECD_00851	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	yidE	NC_012971.2	pRARE	pLysS	OK
XLOC_00040	XLOC_00040	ybjQ,ybjR	NC_012971.2	pRARE	pLysS	OK
XLOC_00186	XLOC_00186	yafK	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	aspS	NC_012971.2	pRARE	pLysS	OK
XLOC_00010	XLOC_00010	dnaQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	yfcO	NC_012971.2	pRARE	pLysS	OK
XLOC_00103	XLOC_00103	ppnK	NC_012971.2	pRARE	pLysS	OK
XLOC_00315	XLOC_00315	smf,smg	NC_012971.2	pRARE	pLysS	OK

XLOC_00005:XLOC_00005:pdhR	NC_012971.2 pRARE	pLysS	OK
XLOC_00176:XLOC_00176:prfC	NC_012971.2 pRARE	pLysS	OK
XLOC_00172:XLOC_00172:yjgP,yjgQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:dacC	NC_012971.2 pRARE	pLysS	OK
XLOC_00197:XLOC_00197:ybdF	NC_012971.2 pRARE	pLysS	OK
XLOC_00231:XLOC_00231:acpD	NC_012971.2 pRARE	pLysS	OK
XLOC_00141:XLOC_00141:dfp,dut	NC_012971.2 pRARE	pLysS	OK
XLOC_00233:XLOC_00233:yddE	NC_012971.2 pRARE	pLysS	OK
XLOC_00051:XLOC_00051:ycfH	NC_012971.2 pRARE	pLysS	OK
XLOC_00021(XLOC_00021(acrR	NC_012971.2 pRARE	pLysS	OK
XLOC_00149:XLOC_00149:hisR	NC_012971.2 pRARE	pLysS	OK
XLOC_00083:XLOC_00083:yecN	NC_012971.2 pRARE	pLysS	OK
XLOC_00329(XLOC_00329(yial	NC_012971.2 pRARE	pLysS	OK
XLOC_00024:XLOC_00024:cysS	NC_012971.2 pRARE	pLysS	OK
XLOC_00295:XLOC_00295:ygeR	NC_012971.2 pRARE	pLysS	OK
XLOC_00358(XLOC_00358(yjgl	NC_012971.2 pRARE	pLysS	OK
XLOC_00277:XLOC_00277:cysA,cysW	NC_012971.2 pRARE	pLysS	OK
XLOC_00265:XLOC_00265:yeiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00252:XLOC_00252:msbB	NC_012971.2 pRARE	pLysS	OK
XLOC_00130:XLOC_00130:yhfK	NC_012971.2 pRARE	pLysS	OK
XLOC_00311:XLOC_00311:greA	NC_012971.2 pRARE	pLysS	OK
XLOC_00262:XLOC_00262:ECD_02035	NC_012971.2 pRARE	pLysS	OK
XLOC_00271(XLOC_00271(yfcE	NC_012971.2 pRARE	pLysS	OK
XLOC_00007(XLOC_00007(degP	NC_012971.2 pRARE	pLysS	OK
XLOC_00095:XLOC_00095:yfeC	NC_012971.2 pRARE	pLysS	OK
XLOC_00220:XLOC_00220:ycfQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00034:XLOC_00034:ECD_10034	NC_012971.2 pRARE	pLysS	OK
XLOC_00114:XLOC_00114:yqgE,yqgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00055:XLOC_00055:yhcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00296:XLOC_00296:prfB	NC_012971.2 pRARE	pLysS	OK
XLOC_00312:XLOC_00312:yrbF	NC_012971.2 pRARE	pLysS	OK
XLOC_00077(XLOC_00077(ydiZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00295:XLOC_00295:ygeV	NC_012971.2 pRARE	pLysS	OK
XLOC_00184:XLOC_00184:ligT	NC_012971.2 pRARE	pLysS	OK
XLOC_00262:XLOC_00262:gatY	NC_012971.2 pRARE	pLysS	OK
XLOC_00361(XLOC_00361(sgcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00058:XLOC_00058:yciM	NC_012971.2 pRARE	pLysS	OK
XLOC_00022:XLOC_00022:cueR	NC_012971.2 pRARE	pLysS	OK
XLOC_00221:XLOC_00221:purB	NC_012971.2 pRARE	pLysS	OK
XLOC_00282:XLOC_00282:iscR	NC_012971.2 pRARE	pLysS	OK
XLOC_00102:XLOC_00102:ypjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00215:XLOC_00215:ymcD	NC_012971.2 pRARE	pLysS	OK
XLOC_00211:XLOC_00211:ltaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00227:XLOC_00227:btuR,yciK	NC_012971.2 pRARE	pLysS	OK

XLOC_00021:XLOC_00021:adk	NC_012971.2 pRARE	pLysS	OK
XLOC_00190:XLOC_00190:proC	NC_012971.2 pRARE	pLysS	OK
XLOC_00213:XLOC_00213:pncB	NC_012971.2 pRARE	pLysS	OK
XLOC_00313:XLOC_00313:yhcR	NC_012971.2 pRARE	pLysS	OK
XLOC_00308:XLOC_00308:agaR	NC_012971.2 pRARE	pLysS	OK
XLOC_00101:XLOC_00101:yfhL	NC_012971.2 pRARE	pLysS	OK
XLOC_00186:XLOC_00186:dinJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00064:XLOC_00064:ycdG	NC_012971.2 pRARE	pLysS	OK
XLOC_00285:XLOC_00285:yfiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00037:XLOC_00037:yliA	NC_012971.2 pRARE	pLysS	OK
XLOC_00003:XLOC_00003:araC	NC_012971.2 pRARE	pLysS	OK
XLOC_00182:XLOC_00182:yacC	NC_012971.2 pRARE	pLysS	OK
XLOC_00170:XLOC_00170:fkIB	NC_012971.2 pRARE	pLysS	OK
XLOC_00184:XLOC_00184:yadS	NC_012971.2 pRARE	pLysS	OK
XLOC_00250:XLOC_00250:prc	NC_012971.2 pRARE	pLysS	OK
XLOC_00347:XLOC_00347:gldA	NC_012971.2 pRARE	pLysS	OK
XLOC_00057:XLOC_00057:topA	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:ubiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00349:XLOC_00349:lysC	NC_012971.2 pRARE	pLysS	OK
XLOC_00339:XLOC_00339:hdfR	NC_012971.2 pRARE	pLysS	OK
XLOC_00082:XLOC_00082:yobB	NC_012971.2 pRARE	pLysS	OK
XLOC_00028:XLOC_00028:ybeL	NC_012971.2 pRARE	pLysS	OK
XLOC_00078:XLOC_00078:sppA	NC_012971.2 pRARE	pLysS	OK
XLOC_00127:XLOC_00127:yhdG	NC_012971.2 pRARE	pLysS	OK
XLOC_00290:XLOC_00290:nlpD	NC_012971.2 pRARE	pLysS	OK
XLOC_00127:XLOC_00127:panF,yhdT	NC_012971.2 pRARE	pLysS	OK
XLOC_00114:XLOC_00114:gshB	NC_012971.2 pRARE	pLysS	OK
XLOC_00151:XLOC_00151:pldB	NC_012971.2 pRARE	pLysS	OK
XLOC_00194:XLOC_00194:ybaP	NC_012971.2 pRARE	pLysS	OK
XLOC_00191:XLOC_00191:dxs	NC_012971.2 pRARE	pLysS	OK
XLOC_00078:XLOC_00078:pncA	NC_012971.2 pRARE	pLysS	OK
XLOC_00070:XLOC_00070:ynfD	NC_012971.2 pRARE	pLysS	OK
XLOC_00169:XLOC_00169:yjfp	NC_012971.2 pRARE	pLysS	OK
XLOC_00219:XLOC_00219:flgM	NC_012971.2 pRARE	pLysS	OK
XLOC_00090:XLOC_00090:yejM	NC_012971.2 pRARE	pLysS	OK
XLOC_00163:XLOC_00163:aphA	NC_012971.2 pRARE	pLysS	OK
XLOC_00118:XLOC_00118:yqiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00196:XLOC_00196:ybcJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00031:XLOC_00031:nei	NC_012971.2 pRARE	pLysS	OK
XLOC_00193:XLOC_00193:ylaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00323:XLOC_00323:yhhW	NC_012971.2 pRARE	pLysS	OK
XLOC_00280:XLOC_00280:yfgK	NC_012971.2 pRARE	pLysS	OK
XLOC_00256:XLOC_00256:uvrC	NC_012971.2 pRARE	pLysS	OK
XLOC_00354:XLOC_00354:frdD	NC_012971.2 pRARE	pLysS	OK



XLOC_00012:XLOC_00012:yagU	NC_012971.2 pRARE	pLysS	OK
XLOC_00007:XLOC_00007:pyrH	NC_012971.2 pRARE	pLysS	OK
XLOC_00003:XLOC_00003:djIA	NC_012971.2 pRARE	pLysS	OK
XLOC_00323:XLOC_00323:ugpC,ugpQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00108:XLOC_00108:yqcD	NC_012971.2 pRARE	pLysS	OK
XLOC_00201:XLOC_00201:lnr	NC_012971.2 pRARE	pLysS	OK
XLOC_00077:XLOC_00077:xthA	NC_012971.2 pRARE	pLysS	OK
XLOC_00044:XLOC_00044:ybcW	NC_012971.2 pRARE	pLysS	OK
XLOC_00055:XLOC_00055:chaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00350:XLOC_00350:soxS	NC_012971.2 pRARE	pLysS	OK
XLOC_00303:XLOC_00303:yqhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00366:XLOC_00366:rob	NC_012971.2 pRARE	pLysS	OK
XLOC_00315:XLOC_00315:yhdN	NC_012971.2 pRARE	pLysS	OK
XLOC_00060:XLOC_00060:tyrR	NC_012971.2 pRARE	pLysS	OK
XLOC_00264:XLOC_00264:bgIX	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238:hokD	NC_012971.2 pRARE	pLysS	OK
XLOC_00061:XLOC_00061:ydaN	NC_012971.2 pRARE	pLysS	OK
XLOC_00087:XLOC_00087:metG	NC_012971.2 pRARE	pLysS	OK
XLOC_00170:XLOC_00170:cycA	NC_012971.2 pRARE	pLysS	OK
XLOC_00133:XLOC_00133:yhhF,yhhL	NC_012971.2 pRARE	pLysS	OK
XLOC_00193:XLOC_00193:ybaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00366:XLOC_00366:lpIA	NC_012971.2 pRARE	pLysS	OK
XLOC_00215:XLOC_00215:yccV	NC_012971.2 pRARE	pLysS	OK
XLOC_00328:XLOC_00328:dppA	NC_012971.2 pRARE	pLysS	OK
XLOC_00278:XLOC_00278:eutL	NC_012971.2 pRARE	pLysS	OK
XLOC_00146:XLOC_00146:rbsK	NC_012971.2 pRARE	pLysS	OK
XLOC_00231:XLOC_00231:ydbK	NC_012971.2 pRARE	pLysS	OK
XLOC_00164:XLOC_00164:yjcE	NC_012971.2 pRARE	pLysS	OK
XLOC_00026:XLOC_00026:cusB	NC_012971.2 pRARE	pLysS	OK
XLOC_00243:XLOC_00243:ydhZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00116:XLOC_00116:metC	NC_012971.2 pRARE	pLysS	OK
XLOC_00041:XLOC_00041:ftsK	NC_012971.2 pRARE	pLysS	OK
XLOC_00324:XLOC_00324:sirA	NC_012971.2 pRARE	pLysS	OK
XLOC_00143:XLOC_00143:ECD_03528	NC_012971.2 pRARE	pLysS	OK
XLOC_00035:XLOC_00035:Fii	NC_012971.2 pRARE	pLysS	OK
XLOC_00277:XLOC_00277:yfeX	NC_012971.2 pRARE	pLysS	OK
XLOC_00005:XLOC_00005:ampD,ampE	NC_012971.2 pRARE	pLysS	OK
XLOC_00332:XLOC_00332:rph	NC_012971.2 pRARE	pLysS	OK
XLOC_00017:XLOC_00017:proY	NC_012971.2 pRARE	pLysS	OK
XLOC_00355:XLOC_00355:frdA,frdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00322:XLOC_00322:glpG	NC_012971.2 pRARE	pLysS	OK
XLOC_00099:XLOC_00099:yfgC	NC_012971.2 pRARE	pLysS	OK
XLOC_00194:XLOC_00194:ybaL	NC_012971.2 pRARE	pLysS	OK
XLOC_00014:XLOC_00014:yahO	NC_012971.2 pRARE	pLysS	OK

XLOC_00365: XLOC_00365: dnaT	NC_012971.2 pRARE	pLysS	OK
XLOC_00320: XLOC_00320: pabA	NC_012971.2 pRARE	pLysS	OK
XLOC_00032: XLOC_00032: ybgE, ybgT	NC_012971.2 pRARE	pLysS	OK
XLOC_00216: XLOC_00216: yccJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00074: XLOC_00074: purR	NC_012971.2 pRARE	pLysS	OK
XLOC_00320: XLOC_00320: argD	NC_012971.2 pRARE	pLysS	OK
XLOC_00163: XLOC_00163: yjbJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00281: XLOC_00281: yfgB	NC_012971.2 pRARE	pLysS	OK
XLOC_00258: XLOC_00258: yeeZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00164: XLOC_00164: yjbQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00354: XLOC_00354: cutA, dsbD	NC_012971.2 pRARE	pLysS	OK
XLOC_00038: XLOC_00038: ybjK	NC_012971.2 pRARE	pLysS	OK
XLOC_00293: XLOC_00293: mltA	NC_012971.2 pRARE	pLysS	OK
XLOC_00096: XLOC_00096: yfeH	NC_012971.2 pRARE	pLysS	OK
XLOC_00324: XLOC_00324: rpoH	NC_012971.2 pRARE	pLysS	OK
XLOC_00013: XLOC_00013: ykgF, ykgG	NC_012971.2 pRARE	pLysS	OK
XLOC_00056: XLOC_00056: chaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00133: XLOC_00133: yhhN	NC_012971.2 pRARE	pLysS	OK
XLOC_00298: XLOC_00298: yggC, yggD	NC_012971.2 pRARE	pLysS	OK
XLOC_00058: XLOC_00058: yciS	NC_012971.2 pRARE	pLysS	OK
XLOC_00001: XLOC_00001: ribF	NC_012971.2 pRARE	pLysS	OK
XLOC_00359: XLOC_00359: yjgX	NC_012971.2 pRARE	pLysS	OK
XLOC_00141: XLOC_00141: yicC	NC_012971.2 pRARE	pLysS	OK
XLOC_00358: XLOC_00358: pyrI	NC_012971.2 pRARE	pLysS	OK
XLOC_00078: XLOC_00078: gdhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00291: XLOC_00291: mazG	NC_012971.2 pRARE	pLysS	OK
XLOC_00093: XLOC_00093: yfcK	NC_012971.2 pRARE	pLysS	OK
XLOC_00151: XLOC_00151: rhtC	NC_012971.2 pRARE	pLysS	OK
XLOC_00064: XLOC_00064: ydcM	NC_012971.2 pRARE	pLysS	OK
XLOC_00124: XLOC_00124: argG	NC_012971.2 pRARE	pLysS	OK
XLOC_00045: XLOC_00045: pqiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00287: XLOC_00287: stpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00218: XLOC_00218: htrB	NC_012971.2 pRARE	pLysS	OK
XLOC_00129: XLOC_00129: trkA	NC_012971.2 pRARE	pLysS	OK
XLOC_00052: XLOC_00052: ycfP	NC_012971.2 pRARE	pLysS	OK
XLOC_00161: XLOC_00161: aceB	NC_012971.2 pRARE	pLysS	OK
XLOC_00090: XLOC_00090: yejF	NC_012971.2 pRARE	pLysS	OK
XLOC_00314: XLOC_00314: mreC, mreD	NC_012971.2 pRARE	pLysS	OK
XLOC_00189: XLOC_00189: frmB	NC_012971.2 pRARE	pLysS	OK
XLOC_00062: XLOC_00062: ydbJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00250: XLOC_00250: kdgR	NC_012971.2 pRARE	pLysS	OK
XLOC_00053: XLOC_00053: insA-10, insB-	NC_012971.2 pRARE	pLysS	OK
XLOC_00091: XLOC_00091: narP	NC_012971.2 pRARE	pLysS	OK
XLOC_00276: XLOC_00276: ligA	NC_012971.2 pRARE	pLysS	OK

XLOC_00278;XLOC_00278;cchA	NC_012971.2 pRARE	pLysS	OK
XLOC_00057;XLOC_00057;yciL	NC_012971.2 pRARE	pLysS	OK
XLOC_00054;XLOC_00054;dadX	NC_012971.2 pRARE	pLysS	OK
XLOC_00191;XLOC_00191;yajO	NC_012971.2 pRARE	pLysS	OK
XLOC_00003;XLOC_00003;yabl	NC_012971.2 pRARE	pLysS	OK
XLOC_00006;XLOC_00006;yadI	NC_012971.2 pRARE	pLysS	OK
XLOC_00104;XLOC_00104;nrdF	NC_012971.2 pRARE	pLysS	OK
XLOC_00334;XLOC_00334;yciN	NC_012971.2 pRARE	pLysS	OK
XLOC_00021;XLOC_00021;apt	NC_012971.2 pRARE	pLysS	OK
XLOC_00206;XLOC_00206;ECD_10033	NC_012971.2 pRARE	pLysS	OK
XLOC_00314;XLOC_00314;yhdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00124;XLOC_00124;yraM,yraN	NC_012971.2 pRARE	pLysS	OK
XLOC_00219;XLOC_00219;pyrC	NC_012971.2 pRARE	pLysS	OK
XLOC_00021;XLOC_00021;gsk	NC_012971.2 pRARE	pLysS	OK
XLOC_00151;XLOC_00151;yigM	NC_012971.2 pRARE	pLysS	OK
XLOC_00178;XLOC_00178;yaaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00005;XLOC_00005;yadG,yadH	NC_012971.2 pRARE	pLysS	OK
XLOC_00010;XLOC_00010;yafS	NC_012971.2 pRARE	pLysS	OK
XLOC_00330;XLOC_00330;selA,selB	NC_012971.2 pRARE	pLysS	OK
XLOC_00281;XLOC_00281;yfhM	NC_012971.2 pRARE	pLysS	OK
XLOC_00101;XLOC_00101;yfhH	NC_012971.2 pRARE	pLysS	OK
XLOC_00049;XLOC_00049;flgD	NC_012971.2 pRARE	pLysS	OK
XLOC_00083;XLOC_00083;yecD,yecE	NC_012971.2 pRARE	pLysS	OK
XLOC_00190;XLOC_00190;yaiO	NC_012971.2 pRARE	pLysS	OK
XLOC_00233;XLOC_00233;yddM	NC_012971.2 pRARE	pLysS	OK
XLOC_00197;XLOC_00197;entD	NC_012971.2 pRARE	pLysS	OK
XLOC_00224;XLOC_00224;ychF	NC_012971.2 pRARE	pLysS	OK
XLOC_00144;XLOC_00144;yidQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00175;XLOC_00175;kptA	NC_012971.2 pRARE	pLysS	OK
XLOC_00229;XLOC_00229;ymjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00177;XLOC_00177;slt	NC_012971.2 pRARE	pLysS	OK
XLOC_00350;XLOC_00350;yjcO	NC_012971.2 pRARE	pLysS	OK
XLOC_00276;XLOC_00276;mntH	NC_012971.2 pRARE	pLysS	OK
XLOC_00198;XLOC_00198;dsbG	NC_012971.2 pRARE	pLysS	OK
XLOC_00242;XLOC_00242;sodC	NC_012971.2 pRARE	pLysS	OK
XLOC_00081;XLOC_00081;yebS,yebT	NC_012971.2 pRARE	pLysS	OK
XLOC_00093;XLOC_00093;ackA	NC_012971.2 pRARE	pLysS	OK
XLOC_00279;XLOC_00279;ypfH	NC_012971.2 pRARE	pLysS	OK
XLOC_00076;XLOC_00076;ydiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00306;XLOC_00306;glnE	NC_012971.2 pRARE	pLysS	OK
XLOC_00245;XLOC_00245;yniB	NC_012971.2 pRARE	pLysS	OK
XLOC_00009;XLOC_00009;yaeJ,yaeQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00290;XLOC_00290;rpoS	NC_012971.2 pRARE	pLysS	OK
XLOC_00145;XLOC_00145;trmE	NC_012971.2 pRARE	pLysS	OK

XLOC_00258:XLOC_00258:yeeY	NC_012971.2 pRARE	pLysS	OK
XLOC_00339:XLOC_00339:gppA	NC_012971.2 pRARE	pLysS	OK
XLOC_00113:XLOC_00113:yggG	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:ybjH	NC_012971.2 pRARE	pLysS	OK
XLOC_00269:XLOC_00269:yfaY	NC_012971.2 pRARE	pLysS	OK
XLOC_00022:XLOC_00022:ybbL,ybbM	NC_012971.2 pRARE	pLysS	OK
XLOC_00221:XLOC_00221:ymfC	NC_012971.2 pRARE	pLysS	OK
XLOC_00085:XLOC_00085:yeeN	NC_012971.2 pRARE	pLysS	OK
XLOC_00335:XLOC_00335:yidR	NC_012971.2 pRARE	pLysS	OK
XLOC_00097:XLOC_00097:yfeS	NC_012971.2 pRARE	pLysS	OK
XLOC_00027:XLOC_00027:entA,entB	NC_012971.2 pRARE	pLysS	OK
XLOC_00090:XLOC_00090:yejH	NC_012971.2 pRARE	pLysS	OK
XLOC_00338:XLOC_00338:gidA	NC_012971.2 pRARE	pLysS	OK
XLOC_00155:XLOC_00155:yiiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00033:XLOC_00033:laci	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00011:XLOC_00011:yafN	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:yliB	NC_012971.2 pRARE	pLysS	OK
XLOC_00188:XLOC_00188:betB	NC_012971.2 pRARE	pLysS	OK
XLOC_00210:XLOC_00210:ybjL	NC_012971.2 pRARE	pLysS	OK
XLOC_00010:XLOC_00010:ykfe	NC_012971.2 pRARE	pLysS	OK
XLOC_00046:XLOC_00046:yccX	NC_012971.2 pRARE	pLysS	OK
XLOC_00091:XLOC_00091:nrdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00243:XLOC_00243:ynhG	NC_012971.2 pRARE	pLysS	OK
XLOC_00104:XLOC_00104:ygaV	NC_012971.2 pRARE	pLysS	OK
XLOC_00321:XLOC_00321:yhgE	NC_012971.2 pRARE	pLysS	OK
XLOC_00227:XLOC_00227:rnb	NC_012971.2 pRARE	pLysS	OK
XLOC_00114:XLOC_00114:nupG	NC_012971.2 pRARE	pLysS	OK
XLOC_00103:XLOC_00103:insA-20,insB-	NC_012971.2 pRARE	pLysS	OK
XLOC_00205:XLOC_00205:ECD_10006	NC_012971.2 pRARE	pLysS	OK
XLOC_00363:XLOC_00363:yjiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00112:XLOC_00112:idi	NC_012971.2 pRARE	pLysS	OK
XLOC_00251:XLOC_00251:yebG	NC_012971.2 pRARE	pLysS	OK
XLOC_00206:XLOC_00206:N	NC_012971.2 pRARE	pLysS	OK
XLOC_00178:XLOC_00178:lasT	NC_012971.2 pRARE	pLysS	OK
XLOC_00287:XLOC_00287:yqaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00162:XLOC_00162:yjbE	NC_012971.2 pRARE	pLysS	OK
XLOC_00244:XLOC_00244:ydiI,ydiJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00009:XLOC_00009:cutF	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263:yehE	NC_012971.2 pRARE	pLysS	OK
XLOC_00208:XLOC_00208:glnH	NC_012971.2 pRARE	pLysS	OK
XLOC_00004:XLOC_00004:yacA	NC_012971.2 pRARE	pLysS	OK
XLOC_00295:XLOC_00295:yqeF	NC_012971.2 pRARE	pLysS	OK
XLOC_00322:XLOC_00322:malP	NC_012971.2 pRARE	pLysS	OK
XLOC_00202:XLOC_00202:asnB	NC_012971.2 pRARE	pLysS	OK

XLOC_00266:XLOC_00266:vejG	NC_012971.2 pRARE	pLysS	OK
XLOC_00267:XLOC_00267:mqo	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:lpXK,msbA	NC_012971.2 pRARE	pLysS	OK
XLOC_00327:XLOC_00327:yhjN	NC_012971.2 pRARE	pLysS	OK
XLOC_00180:XLOC_00180:hepA	NC_012971.2 pRARE	pLysS	OK
XLOC_00152:XLOC_00152:tatD	NC_012971.2 pRARE	pLysS	OK
XLOC_00343:XLOC_00343:glnG	NC_012971.2 pRARE	pLysS	OK
XLOC_00105(XLOC_00105(proV,proW	NC_012971.2 pRARE	pLysS	OK
XLOC_00186(XLOC_00186(yafC	NC_012971.2 pRARE	pLysS	OK
XLOC_00206(XLOC_00206(ybhK	NC_012971.2 pRARE	pLysS	OK
XLOC_00287(XLOC_00287(yqaA,yqaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00047:XLOC_00047:ycdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00219:XLOC_00219:yceP	NC_012971.2 pRARE	pLysS	OK
XLOC_00203:XLOC_00203:ybfE	NC_012971.2 pRARE	pLysS	OK
XLOC_00105(XLOC_00105(emrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00052(XLOC_00052(ycfU,ycfV,ycfI	NC_012971.2 pRARE	pLysS	OK
XLOC_00331:XLOC_00331:waaV	NC_012971.2 pRARE	pLysS	OK
XLOC_00258:XLOC_00258:manC	NC_012971.2 pRARE	pLysS	OK
XLOC_00296:XLOC_00296:xerD	NC_012971.2 pRARE	pLysS	OK
XLOC_00142:XLOC_00142:recG	NC_012971.2 pRARE	pLysS	OK
XLOC_00363(XLOC_00363(hsdM,insA-3C	NC_012971.2 pRARE	pLysS	OK
XLOC_00074(XLOC_00074(ydhR	NC_012971.2 pRARE	pLysS	OK
XLOC_00194(XLOC_00194:fsr	NC_012971.2 pRARE	pLysS	OK
XLOC_00136(XLOC_00136(kdgK	NC_012971.2 pRARE	pLysS	OK
XLOC_00162:XLOC_00162:ubiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00089:XLOC_00089:yeiP	NC_012971.2 pRARE	pLysS	OK
XLOC_00290(XLOC_00290(cysI,cysJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00259(XLOC_00259(rfbB,rfbD	NC_012971.2 pRARE	pLysS	OK
XLOC_00072(XLOC_00072(malX	NC_012971.2 pRARE	pLysS	OK
XLOC_00237(XLOC_00237:dcp	NC_012971.2 pRARE	pLysS	OK
XLOC_00097(XLOC_00097:yfeV,yfeW	NC_012971.2 pRARE	pLysS	OK
XLOC_00167(XLOC_00167:amiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00279:XLOC_00279:ypfJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00022(XLOC_00022(ushA	NC_012971.2 pRARE	pLysS	OK
XLOC_00132:XLOC_00132:yhgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00225(XLOC_00225:cls	NC_012971.2 pRARE	pLysS	OK
XLOC_00268(XLOC_00268:inaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00239:XLOC_00239:ynfA	NC_012971.2 pRARE	pLysS	OK
XLOC_00360:XLOC_00360:yis2	NC_012971.2 pRARE	pLysS	OK
XLOC_00354(XLOC_00354:frdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00150:XLOC_00150:corA	NC_012971.2 pRARE	pLysS	OK
XLOC_00104(XLOC_00104(gabD	NC_012971.2 pRARE	pLysS	OK
XLOC_00355:XLOC_00355:yjfQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00275(XLOC_00275:yfdZ	NC_012971.2 pRARE	pLysS	OK

XLOC_00361	XLOC_00361	ECD_04174	NC_012971.2	pRARE	pLysS	OK
XLOC_00103	XLOC_00103	ECD_02510	NC_012971.2	pRARE	pLysS	OK
XLOC_00184	XLOC_00184	folk,pcnB	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	argB	NC_012971.2	pRARE	pLysS	OK
XLOC_00141	XLOC_00141	coaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	waaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	cysC,cysN	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	syd	NC_012971.2	pRARE	pLysS	OK
XLOC_00242	XLOC_00242	ydhQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00032	XLOC_00032	tolA	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	yoaF	NC_012971.2	pRARE	pLysS	OK
XLOC_00007	XLOC_00007	uppS	NC_012971.2	pRARE	pLysS	OK
XLOC_00284	XLOC_00284	yfhB	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	dnaG	NC_012971.2	pRARE	pLysS	OK
XLOC_00175	XLOC_00175	mrr	NC_012971.2	pRARE	pLysS	OK
XLOC_00360	XLOC_00360	ECD_04148	NC_012971.2	pRARE	pLysS	OK
XLOC_00308	XLOC_00308	garP	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	rsmC	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	helD	NC_012971.2	pRARE	pLysS	OK
XLOC_00146	XLOC_00146	yieJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00047	XLOC_00047	phoH	NC_012971.2	pRARE	pLysS	OK
XLOC_00342	XLOC_00342	ECD_03716	NC_012971.2	pRARE	pLysS	OK
XLOC_00229	XLOC_00229	ycjY	NC_012971.2	pRARE	pLysS	OK
XLOC_00156	XLOC_00156	metB	NC_012971.2	pRARE	pLysS	OK
XLOC_00089	XLOC_00089	yieH	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	creA	NC_012971.2	pRARE	pLysS	OK
XLOC_00077	XLOC_00077	yniA	NC_012971.2	pRARE	pLysS	OK
XLOC_00304	XLOC_00304	ygiV	NC_012971.2	pRARE	pLysS	OK
XLOC_00007	XLOC_00007	cdsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00180	XLOC_00180	caiA	NC_012971.2	pRARE	pLysS	OK
XLOC_00249	XLOC_00249	yeaQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00339	XLOC_00339	yieO	NC_012971.2	pRARE	pLysS	OK
XLOC_00267	XLOC_00267	rcsC	NC_012971.2	pRARE	pLysS	OK
XLOC_00334	XLOC_00334	nlpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00170	XLOC_00170	ytfM,ytfN	NC_012971.2	pRARE	pLysS	OK
XLOC_00021	XLOC_00021	hemH	NC_012971.2	pRARE	pLysS	OK
XLOC_00222	XLOC_00222	dsbB	NC_012971.2	pRARE	pLysS	OK
XLOC_00133	XLOC_00133	glpD	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	leuD	NC_012971.2	pRARE	pLysS	OK
XLOC_00297	XLOC_00297	visC	NC_012971.2	pRARE	pLysS	OK
XLOC_00264	XLOC_00264	mgIC	NC_012971.2	pRARE	pLysS	OK
XLOC_00214	XLOC_00214	sulA	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	yeaE	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	ybaO	NC_012971.2	pRARE	pLysS	OK

XLOC_00002:XLOC_00002:caiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00047:XLOC_00047:ycdO	NC_012971.2 pRARE	pLysS	OK
XLOC_00006:XLOC_00006:yadE	NC_012971.2 pRARE	pLysS	OK
XLOC_00062:XLOC_00062:ydbL	NC_012971.2 pRARE	pLysS	OK
XLOC_00324:XLOC_00324:ftsE,ftsX	NC_012971.2 pRARE	pLysS	OK
XLOC_00207:XLOC_00207:ybiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00363:XLOC_00363:hpaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00103:XLOC_00103:yfjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00241:XLOC_00241:ydhH	NC_012971.2 pRARE	pLysS	OK
XLOC_00205:XLOC_00205:ybgS	NC_012971.2 pRARE	pLysS	OK
XLOC_00002:XLOC_00002:foIA	NC_012971.2 pRARE	pLysS	OK
XLOC_00131:XLOC_00131:yrfG	NC_012971.2 pRARE	pLysS	OK
XLOC_00210:XLOC_00210:artM,artQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00326:XLOC_00326:gadX	NC_012971.2 pRARE	pLysS	OK
XLOC_00047:XLOC_00047:ymdF	NC_012971.2 pRARE	pLysS	OK
XLOC_00148:XLOC_00148:rfe	NC_012971.2 pRARE	pLysS	OK
XLOC_00042:XLOC_00042:aroA	NC_012971.2 pRARE	pLysS	OK
XLOC_00239:XLOC_00239:ynfK	NC_012971.2 pRARE	pLysS	OK
XLOC_00242:XLOC_00242:ydhB	NC_012971.2 pRARE	pLysS	OK
XLOC_00292:XLOC_00292:ECD_02649	NC_012971.2 pRARE	pLysS	OK
XLOC_00336:XLOC_00336:yieG	NC_012971.2 pRARE	pLysS	OK
XLOC_00354:XLOC_00354:yjeH	NC_012971.2 pRARE	pLysS	OK
XLOC_00026:XLOC_00026:pheP	NC_012971.2 pRARE	pLysS	OK
XLOC_00071:XLOC_00071:rstB	NC_012971.2 pRARE	pLysS	OK
XLOC_00148:XLOC_00148:wzzE	NC_012971.2 pRARE	pLysS	OK
XLOC_00037:XLOC_00037:ybiK	NC_012971.2 pRARE	pLysS	OK
XLOC_00006:XLOC_00006:mrcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263:ECD_02037	NC_012971.2 pRARE	pLysS	OK
XLOC_00103:XLOC_00103:recN	NC_012971.2 pRARE	pLysS	OK
XLOC_00254:XLOC_00254:flhC	NC_012971.2 pRARE	pLysS	OK
XLOC_00357:XLOC_00357:ytfL	NC_012971.2 pRARE	pLysS	OK
XLOC_00363:XLOC_00363:mcrB,mcrC	NC_012971.2 pRARE	pLysS	OK
XLOC_00065:XLOC_00065:yncB	NC_012971.2 pRARE	pLysS	OK
XLOC_00097:XLOC_00097:narQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00277:XLOC_00277:yfeY	NC_012971.2 pRARE	pLysS	OK
XLOC_00027:XLOC_00027:ybdL	NC_012971.2 pRARE	pLysS	OK
XLOC_00241:XLOC_00241:ydgJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00088:XLOC_00088:yohJ,yohK	NC_012971.2 pRARE	pLysS	OK
XLOC_00277:XLOC_00277:cysM	NC_012971.2 pRARE	pLysS	OK
XLOC_00115:XLOC_00115:ECD_02797	NC_012971.2 pRARE	pLysS	OK
XLOC_00200:XLOC_00200:mrdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00056:XLOC_00056:tdk	NC_012971.2 pRARE	pLysS	OK
XLOC_00198:XLOC_00198:ybdH	NC_012971.2 pRARE	pLysS	OK
XLOC_00156:XLOC_00156:cdh	NC_012971.2 pRARE	pLysS	OK

XLOC_00325	XLOC_00325	yhiQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00018	XLOC_00018	queA	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	rfaE	NC_012971.2	pRARE	pLysS	OK
XLOC_00299	XLOC_00299	yggN	NC_012971.2	pRARE	pLysS	OK
XLOC_00304	XLOC_00304	yqhC	NC_012971.2	pRARE	pLysS	OK
XLOC_00229	XLOC_00229	ogt	NC_012971.2	pRARE	pLysS	OK
XLOC_00243	XLOC_00243	sufC,sufD,suf	NC_012971.2	pRARE	pLysS	OK
XLOC_00354	XLOC_00354	blc	NC_012971.2	pRARE	pLysS	OK
XLOC_00320	XLOC_00320	yhfU	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	ycdE	NC_012971.2	pRARE	pLysS	OK
XLOC_00056	XLOC_00056	hnr	NC_012971.2	pRARE	pLysS	OK
XLOC_00349	XLOC_00349	plsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00063	XLOC_00063	ycdF	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	rnfG	NC_012971.2	pRARE	pLysS	OK
XLOC_00266	XLOC_00266	yejK	NC_012971.2	pRARE	pLysS	OK
XLOC_00130	XLOC_00130	prkB	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	ycjI	NC_012971.2	pRARE	pLysS	OK
XLOC_00244	XLOC_00244	btuC	NC_012971.2	pRARE	pLysS	OK
XLOC_00177	XLOC_00177	serB	NC_012971.2	pRARE	pLysS	OK
XLOC_00304	XLOC_00304	parC	NC_012971.2	pRARE	pLysS	OK
XLOC_00319	XLOC_00319	yheM,yheN,y	NC_012971.2	pRARE	pLysS	OK
XLOC_00082	XLOC_00082	yebW	NC_012971.2	pRARE	pLysS	OK
XLOC_00265	XLOC_00265	yeiB	NC_012971.2	pRARE	pLysS	OK
XLOC_00173	XLOC_00173	ECD_04146	NC_012971.2	pRARE	pLysS	OK
XLOC_00180	XLOC_00180	rIuA	NC_012971.2	pRARE	pLysS	OK
XLOC_00149	XLOC_00149	rffT,wecF,wz	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	nth,rnfE	NC_012971.2	pRARE	pLysS	OK
XLOC_00054	XLOC_00054	ycgJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ytfE	NC_012971.2	pRARE	pLysS	OK
XLOC_00214	XLOC_00214	yccS	NC_012971.2	pRARE	pLysS	OK
XLOC_00075	XLOC_00075	ydiK	NC_012971.2	pRARE	pLysS	OK
XLOC_00342	XLOC_00342	fadA	NC_012971.2	pRARE	pLysS	OK
XLOC_00257	XLOC_00257	yeeA	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	glnP,glnQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	uppP	NC_012971.2	pRARE	pLysS	OK
XLOC_00314	XLOC_00314	yhdP	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	ptr,recB,recD	NC_012971.2	pRARE	pLysS	OK
XLOC_00303	XLOC_00303	exbD	NC_012971.2	pRARE	pLysS	OK
XLOC_00194	XLOC_00194	priC	NC_012971.2	pRARE	pLysS	OK
XLOC_00113	XLOC_00113	metK	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	yccR	NC_012971.2	pRARE	pLysS	OK
XLOC_00241	XLOC_00241	uidR	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	ydgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	ybaY	NC_012971.2	pRARE	pLysS	OK



XLOC_00257	XLOC_00257	yeeD	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yraO	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	ybaV	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybil	NC_012971.2	pRARE	pLysS	OK
XLOC_00272	XLOC_00272	(hisM,hisQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	ygdD,ygdE	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	ydaL	NC_012971.2	pRARE	pLysS	OK
XLOC_00093	XLOC_00093	pta	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	dgoA,dgoD,d	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	malY	NC_012971.2	pRARE	pLysS	OK
XLOC_00146	XLOC_00146	(yieH	NC_012971.2	pRARE	pLysS	OK
XLOC_00349	XLOC_00349	malG	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	ydgB	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	yibP	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	hcaR	NC_012971.2	pRARE	pLysS	OK
XLOC_00299	XLOC_00299	speC	NC_012971.2	pRARE	pLysS	OK
XLOC_00102	XLOC_00102	yfiN,yfiR	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	yjjY	NC_012971.2	pRARE	pLysS	OK
XLOC_00245	XLOC_00245	cedA	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	yhgH	NC_012971.2	pRARE	pLysS	OK
XLOC_00051	XLOC_00051	(holB,tmk,yce	NC_012971.2	pRARE	pLysS	OK
XLOC_00267	XLOC_00267	(napC	NC_012971.2	pRARE	pLysS	OK
XLOC_00055	XLOC_00055	ychH	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	(emrE	NC_012971.2	pRARE	pLysS	OK
XLOC_00252	XLOC_00252	znuA	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	E	NC_012971.2	pRARE	pLysS	OK
XLOC_00177	XLOC_00177	(sms	NC_012971.2	pRARE	pLysS	OK
XLOC_00122	XLOC_00122	(sohA	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	sgcQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00227	XLOC_00227	osmB	NC_012971.2	pRARE	pLysS	OK
XLOC_00200	XLOC_00200	(nadD	NC_012971.2	pRARE	pLysS	OK
XLOC_00090	XLOC_00090	yejA	NC_012971.2	pRARE	pLysS	OK
XLOC_00055	XLOC_00055	(mltE	NC_012971.2	pRARE	pLysS	OK
XLOC_00328	XLOC_00328	yhjW	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	lgt	NC_012971.2	pRARE	pLysS	OK
XLOC_00205	XLOC_00205	xis	NC_012971.2	pRARE	pLysS	OK
XLOC_00166	XLOC_00166	(fxsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00088	XLOC_00088	yohD	NC_012971.2	pRARE	pLysS	OK
XLOC_00118	XLOC_00118	(cca	NC_012971.2	pRARE	pLysS	OK
XLOC_00275	XLOC_00275	yfdY	NC_012971.2	pRARE	pLysS	OK
XLOC_00212	XLOC_00212	(cydD	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	treA	NC_012971.2	pRARE	pLysS	OK
XLOC_00304	XLOC_00304	ygiQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00234	XLOC_00234	rpsV	NC_012971.2	pRARE	pLysS	OK

XLOC_00346	XLOC_00346	yiiX	NC_012971.2	pRARE	pLysS	OK
XLOC_00224	XLOC_00224	ldrC	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00077	XLOC_00077	ydjM	NC_012971.2	pRARE	pLysS	OK
XLOC_00350	XLOC_00350	acs	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	ybiV	NC_012971.2	pRARE	pLysS	OK
XLOC_00120	XLOC_00120	fadH	NC_012971.2	pRARE	pLysS	OK
XLOC_00104	XLOC_00104	gabT	NC_012971.2	pRARE	pLysS	OK
XLOC_00000	XLOC_00000	yaaX	NC_012971.2	pRARE	pLysS	OK
XLOC_00008	XLOC_00008	dnaE	NC_012971.2	pRARE	pLysS	OK
XLOC_00115	XLOC_00115	ECD_02813	NC_012971.2	pRARE	pLysS	OK
XLOC_00156	XLOC_00156	yiiR	NC_012971.2	pRARE	pLysS	OK
XLOC_00064	XLOC_00064	tehA,tehB	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	recC	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	rmf	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	ycdZ,yncA	NC_012971.2	pRARE	pLysS	OK
XLOC_00309	XLOC_00309	yraL	NC_012971.2	pRARE	pLysS	OK
XLOC_00091	XLOC_00091	atoC,atoS	NC_012971.2	pRARE	pLysS	OK
XLOC_00017	XLOC_00017	yajF	NC_012971.2	pRARE	pLysS	OK
XLOC_00206	XLOC_00206	ybhB	NC_012971.2	pRARE	pLysS	OK
XLOC_00033	XLOC_00033		1 NC_012971.2	pRARE	pLysS	OK
XLOC_00331	XLOC_00331	waaY	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	yijE	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	ycbY	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	osmY	NC_012971.2	pRARE	pLysS	OK
XLOC_00309	XLOC_00309	mtr	NC_012971.2	pRARE	pLysS	OK
XLOC_00158	XLOC_00158	birA,murB	NC_012971.2	pRARE	pLysS	OK
XLOC_00165	XLOC_00165	yjdP	NC_012971.2	pRARE	pLysS	OK
XLOC_00058	XLOC_00058	pgpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	ygiX,ygiY	NC_012971.2	pRARE	pLysS	OK
XLOC_00101	XLOC_00101	trxC	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	yjjX	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	rnfA,rnfB,rnfC	NC_012971.2	pRARE	pLysS	OK
XLOC_00041	XLOC_00041	dmsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00269	XLOC_00269	elaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00146	XLOC_00146	asnA	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	dacB	NC_012971.2	pRARE	pLysS	OK
XLOC_00000	XLOC_00000	thrC	NC_012971.2	pRARE	pLysS	OK
XLOC_00019	XLOC_00019	thil	NC_012971.2	pRARE	pLysS	OK
XLOC_00006	XLOC_00006	hrpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	yrbG	NC_012971.2	pRARE	pLysS	OK
XLOC_00277	XLOC_00277	cysP,cysU	NC_012971.2	pRARE	pLysS	OK
XLOC_00244	XLOC_00244	btuD,btuE	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	mfd	NC_012971.2	pRARE	pLysS	OK
XLOC_00320	XLOC_00320	fic,yhfG	NC_012971.2	pRARE	pLysS	OK

XLOC_00037	XLOC_00037	ybiT	NC_012971.2	pRARE	pLysS	OK
XLOC_00243	XLOC_00243	sufAB	NC_012971.2	pRARE	pLysS	OK
XLOC_00161	XLOC_00161	yjbC	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	asr	NC_012971.2	pRARE	pLysS	OK
XLOC_00258	XLOC_00258	yeeF	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	spy	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	ydgR	NC_012971.2	pRARE	pLysS	OK
XLOC_00286	XLOC_00286	tyrA	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	dcuR	NC_012971.2	pRARE	pLysS	OK
XLOC_00205	XLOC_00205	ECD_10009	NC_012971.2	pRARE	pLysS	OK
XLOC_00365	XLOC_00365	dnaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00237	XLOC_00237	ECD_01487	NC_012971.2	pRARE	pLysS	OK
XLOC_00363	XLOC_00363	yjiY	NC_012971.2	pRARE	pLysS	OK
XLOC_00259	XLOC_00259	galF	NC_012971.2	pRARE	pLysS	OK
XLOC_00214	XLOC_00214	ycbZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00152	XLOC_00152	trkH	NC_012971.2	pRARE	pLysS	OK
XLOC_00195	XLOC_00195	ybbF	NC_012971.2	pRARE	pLysS	OK
XLOC_00256	XLOC_00256	erfK	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	leuC	NC_012971.2	pRARE	pLysS	OK
XLOC_00043	XLOC_00043	ycbJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00343	XLOC_00343	glnL	NC_012971.2	pRARE	pLysS	OK
XLOC_00131	XLOC_00131	yrff	NC_012971.2	pRARE	pLysS	OK
XLOC_00090	XLOC_00090	yeiU	NC_012971.2	pRARE	pLysS	OK
XLOC_00088	XLOC_00088	sanA	NC_012971.2	pRARE	pLysS	OK
XLOC_00243	XLOC_00243	sufE	NC_012971.2	pRARE	pLysS	OK
XLOC_00279	XLOC_00279	purC	NC_012971.2	pRARE	pLysS	OK
XLOC_00128	XLOC_00128	yhdV	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	ytjA	NC_012971.2	pRARE	pLysS	OK
XLOC_00154	XLOC_00154	dtd,rbn,yihX,	NC_012971.2	pRARE	pLysS	OK
XLOC_00343	XLOC_00343	mobA,mobB	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	yahN	NC_012971.2	pRARE	pLysS	OK
XLOC_00216	XLOC_00216	torR	NC_012971.2	pRARE	pLysS	OK
XLOC_00276	XLOC_00276	ypeB	NC_012971.2	pRARE	pLysS	OK
XLOC_00077	XLOC_00077	yniC	NC_012971.2	pRARE	pLysS	OK
XLOC_00167	XLOC_00167	yjeE,yjeF	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	yedX	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	ydgD	NC_012971.2	pRARE	pLysS	OK
XLOC_00114	XLOC_00114	mltC	NC_012971.2	pRARE	pLysS	OK
XLOC_00252	XLOC_00252	yebA	NC_012971.2	pRARE	pLysS	OK
XLOC_00338	XLOC_00338	asnC	NC_012971.2	pRARE	pLysS	OK
XLOC_00008	XLOC_00008	tilS	NC_012971.2	pRARE	pLysS	OK
XLOC_00362	XLOC_00362	iadA	NC_012971.2	pRARE	pLysS	OK
XLOC_00037	XLOC_00037	mntR,ybiR	NC_012971.2	pRARE	pLysS	OK
XLOC_00328	XLOC_00328	bisC	NC_012971.2	pRARE	pLysS	OK

XLOC_00203	XLOC_00203	ybfF	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	dsdC	NC_012971.2	pRARE	pLysS	OK
XLOC_00205	XLOC_00205	cIII,gam,kil	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	sapF	NC_012971.2	pRARE	pLysS	OK
XLOC_00184	XLOC_00184	yadB	NC_012971.2	pRARE	pLysS	OK
XLOC_00150	XLOC_00150	uvrD	NC_012971.2	pRARE	pLysS	OK
XLOC_00095	XLOC_00095	yfeO	NC_012971.2	pRARE	pLysS	OK
XLOC_00049	XLOC_00049	yceA	NC_012971.2	pRARE	pLysS	OK
XLOC_00080	XLOC_00080	yeaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00094	XLOC_00094	ypdI	NC_012971.2	pRARE	pLysS	OK
XLOC_00206	XLOC_00206	ea10	NC_012971.2	pRARE	pLysS	OK
XLOC_00108	XLOC_00108	ECD_02621	NC_012971.2	pRARE	pLysS	OK
XLOC_00041	XLOC_00041	macA,macB	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	rstA	NC_012971.2	pRARE	pLysS	OK
XLOC_00149	XLOC_00149	wecG	NC_012971.2	pRARE	pLysS	OK
XLOC_00006	XLOC_00006	dgt	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	yncD	NC_012971.2	pRARE	pLysS	OK
XLOC_00127	XLOC_00127	yhcS	NC_012971.2	pRARE	pLysS	OK
XLOC_00201	XLOC_00201	gltJ,gltK	NC_012971.2	pRARE	pLysS	OK
XLOC_00064	XLOC_00064	ycdP	NC_012971.2	pRARE	pLysS	OK
XLOC_00229	XLOC_00229	ydaO	NC_012971.2	pRARE	pLysS	OK
XLOC_00355	XLOC_00355	yjeS	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	yail	NC_012971.2	pRARE	pLysS	OK
XLOC_00299	XLOC_00299	ansB	NC_012971.2	pRARE	pLysS	OK
XLOC_00057	XLOC_00057	tonB	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	xseA	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	creB,creC	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	ybgR	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	ynfI	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	ybaW	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	rpiR	NC_012971.2	pRARE	pLysS	OK
XLOC_00016	XLOC_00016	aroL	NC_012971.2	pRARE	pLysS	OK
XLOC_00097	XLOC_00097	yfeU	NC_012971.2	pRARE	pLysS	OK
XLOC_00082	XLOC_00082	yebV	NC_012971.2	pRARE	pLysS	OK
XLOC_00272	XLOC_00272	ubiX	NC_012971.2	pRARE	pLysS	OK
XLOC_00332	XLOC_00332	waaG,waaP,v	NC_012971.2	pRARE	pLysS	OK
XLOC_00195	XLOC_00195	ylbA	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	csiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00095	XLOC_00095	ypdA	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	yfcJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	rnt	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	amiC	NC_012971.2	pRARE	pLysS	OK
XLOC_00271	XLOC_00271	yfcD	NC_012971.2	pRARE	pLysS	OK
XLOC_00049	XLOC_00049	flgB	NC_012971.2	pRARE	pLysS	OK

XLOC_00187	XLOC_00187	ykgM	NC_012971.2	pRARE	pLysS	OK
XLOC_00221	XLOC_00221	yfmB	NC_012971.2	pRARE	pLysS	OK
XLOC_00334	XLOC_00334	uhpA,uhpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00067	XLOC_00067	tam	NC_012971.2	pRARE	pLysS	OK
XLOC_00327	XLOC_00327	bcsC,bcsZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00210	XLOC_00210	grxA	NC_012971.2	pRARE	pLysS	OK
XLOC_00007	XLOC_00007	ispC	NC_012971.2	pRARE	pLysS	OK
XLOC_00082	XLOC_00082	exoX	NC_012971.2	pRARE	pLysS	OK
XLOC_00067	XLOC_00067	osmC	NC_012971.2	pRARE	pLysS	OK
XLOC_00211	XLOC_00211	ybjS	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	yaiT	NC_012971.2	pRARE	pLysS	OK
XLOC_00162	XLOC_00162	yjbA	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	nemA	NC_012971.2	pRARE	pLysS	OK
XLOC_00083	XLOC_00083	argS	NC_012971.2	pRARE	pLysS	OK
XLOC_00325	XLOC_00325	yhiO	NC_012971.2	pRARE	pLysS	OK
XLOC_00326	XLOC_00326	yhjJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00175	XLOC_00175	hpaR	NC_012971.2	pRARE	pLysS	OK
XLOC_00060	XLOC_00060	ycjG	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	polB	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	lysA	NC_012971.2	pRARE	pLysS	OK
XLOC_00357	XLOC_00357	nrdG	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	ygfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00325	XLOC_00325	yhiN	NC_012971.2	pRARE	pLysS	OK
XLOC_00133	XLOC_00133	yhhY	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	rhIE	NC_012971.2	pRARE	pLysS	OK
XLOC_00162	XLOC_00162	malM	NC_012971.2	pRARE	pLysS	OK
XLOC_00135	XLOC_00135	pitA	NC_012971.2	pRARE	pLysS	OK
XLOC_00074	XLOC_00074	ydho	NC_012971.2	pRARE	pLysS	OK
XLOC_00199	XLOC_00199	lipB	NC_012971.2	pRARE	pLysS	OK
XLOC_00256	XLOC_00256	uvrY	NC_012971.2	pRARE	pLysS	OK
XLOC_00217	XLOC_00217	ycdP	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	pqiA	NC_012971.2	pRARE	pLysS	OK
XLOC_00223	XLOC_00223	nhaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	sapA,sapB,sapI	NC_012971.2	pRARE	pLysS	OK
XLOC_00305	XLOC_00305	yqiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00343	XLOC_00343	glnA	NC_012971.2	pRARE	pLysS	OK
XLOC_00110	XLOC_00110	insE-5	NC_012971.2	pRARE	pLysS	OK
XLOC_00121	XLOC_00121	yqjB	NC_012971.2	pRARE	pLysS	OK
XLOC_00086	XLOC_00086	yegH	NC_012971.2	pRARE	pLysS	OK
XLOC_00291	XLOC_00291	ygcF	NC_012971.2	pRARE	pLysS	OK
XLOC_00234	XLOC_00234	yddW	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybhR	NC_012971.2	pRARE	pLysS	OK
XLOC_00285	XLOC_00285	yfiD	NC_012971.2	pRARE	pLysS	OK
XLOC_00358	XLOC_00358	pyrB	NC_012971.2	pRARE	pLysS	OK

XLOC_00100	XLOC_00100	yphA	NC_012971.2	pRARE	pLysS	OK
XLOC_00224	XLOC_00224	yehM	NC_012971.2	pRARE	pLysS	OK
XLOC_00342	XLOC_00342	ECD_03724	NC_012971.2	pRARE	pLysS	OK
XLOC_00262	XLOC_00262	yegW	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	(tyrP	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	icIR	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	(argC	NC_012971.2	pRARE	pLysS	OK
XLOC_00171	XLOC_00171	(yjjJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00271	XLOC_00271	(hisP	NC_012971.2	pRARE	pLysS	OK
XLOC_00007	XLOC_00007	(cdaR	NC_012971.2	pRARE	pLysS	OK
XLOC_00265	XLOC_00265	(lysP	NC_012971.2	pRARE	pLysS	OK
XLOC_00105	XLOC_00105	(emrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00074	XLOC_00074	(sodB	NC_012971.2	pRARE	pLysS	OK
XLOC_00173	XLOC_00173	(yjhC	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	(hokB,mokB	NC_012971.2	pRARE	pLysS	OK
XLOC_00053	XLOC_00053	(pepT	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	(cII	NC_012971.2	pRARE	pLysS	OK
XLOC_00150	XLOC_00150	(pldA	NC_012971.2	pRARE	pLysS	OK
XLOC_00163	XLOC_00163	(dinF	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	(yijO	NC_012971.2	pRARE	pLysS	OK
XLOC_00350	XLOC_00350	(actP,yjch	NC_012971.2	pRARE	pLysS	OK
XLOC_00360	XLOC_00360	(fecI,fecR	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	(ntpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00289	XLOC_00289	(ygbA	NC_012971.2	pRARE	pLysS	OK
XLOC_00355	XLOC_00355	(psd	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	(lacZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00044	XLOC_00044	(pyrD	NC_012971.2	pRARE	pLysS	OK
XLOC_00021	XLOC_00021	(kefA	NC_012971.2	pRARE	pLysS	OK
XLOC_00226	XLOC_00226	(ispZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00247	XLOC_00247	(ydfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00068	XLOC_00068	(marR	NC_012971.2	pRARE	pLysS	OK
XLOC_00333	XLOC_00333	(ECD_03525	NC_012971.2	pRARE	pLysS	OK
XLOC_00033	XLOC_00033	(pnuC	NC_012971.2	pRARE	pLysS	OK
XLOC_00021	XLOC_00021	(ybaN	NC_012971.2	pRARE	pLysS	OK
XLOC_00175	XLOC_00175	(yjiPQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00088	XLOC_00088	(ECD_02057	NC_012971.2	pRARE	pLysS	OK
XLOC_00226	XLOC_00226	(kch	NC_012971.2	pRARE	pLysS	OK
XLOC_00321	XLOC_00321	(bioH	NC_012971.2	pRARE	pLysS	OK
XLOC_00045	XLOC_00045	(uup	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	(R,Rz,S	NC_012971.2	pRARE	pLysS	OK
XLOC_00144	XLOC_00144	(emrD	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	(ybcL	NC_012971.2	pRARE	pLysS	OK
XLOC_00346	XLOC_00346	(priA	NC_012971.2	pRARE	pLysS	OK
XLOC_00082	XLOC_00082	(purT	NC_012971.2	pRARE	pLysS	OK

XLOC_00288:XLOC_00288:serV	NC_012971.2 pRARE	pLysS	OK
XLOC_00075:XLOC_00075:aroD	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:ybjl,ybjJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00036:XLOC_00036:moaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00104:XLOC_00104:ygaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00328:XLOC_00328:yhjY	NC_012971.2 pRARE	pLysS	OK
XLOC_00054:XLOC_00054:dadA	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263:yehT,yehU	NC_012971.2 pRARE	pLysS	OK
XLOC_00095:XLOC_00095:ddg	NC_012971.2 pRARE	pLysS	OK
XLOC_00283:XLOC_00283:yphG	NC_012971.2 pRARE	pLysS	OK
XLOC_00054:XLOC_00054:ycgN	NC_012971.2 pRARE	pLysS	OK
XLOC_00298:XLOC_00298:yggA	NC_012971.2 pRARE	pLysS	OK
XLOC_00048:XLOC_00048:ymdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00280:XLOC_00280:perM	NC_012971.2 pRARE	pLysS	OK
XLOC_00355:XLOC_00355:yjeP	NC_012971.2 pRARE	pLysS	OK
XLOC_00087:XLOC_00087:yegT,yegU,ye	NC_012971.2 pRARE	pLysS	OK
XLOC_00341:XLOC_00341:rhtB	NC_012971.2 pRARE	pLysS	OK
XLOC_00255:XLOC_00255:araH	NC_012971.2 pRARE	pLysS	OK
XLOC_00036:XLOC_00036:moaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00327:XLOC_00327:dppC	NC_012971.2 pRARE	pLysS	OK
XLOC_00251:XLOC_00251:ptrB	NC_012971.2 pRARE	pLysS	OK
XLOC_00304:XLOC_00304:ygiT	NC_012971.2 pRARE	pLysS	OK
XLOC_00351:XLOC_00351:phnP	NC_012971.2 pRARE	pLysS	OK
XLOC_00091:XLOC_00091:ubiG	NC_012971.2 pRARE	pLysS	OK
XLOC_00309:XLOC_00309:yhbP	NC_012971.2 pRARE	pLysS	OK
XLOC_00107:XLOC_00107:ygbJ,ygbK,ygl	NC_012971.2 pRARE	pLysS	OK
XLOC_00188:XLOC_00188:betI	NC_012971.2 pRARE	pLysS	OK
XLOC_00006:XLOC_00006:yadQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00136:XLOC_00136:yhjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00348:XLOC_00348:coaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00195:XLOC_00195:purE,purK	NC_012971.2 pRARE	pLysS	OK
XLOC_00102:XLOC_00102:yfiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:yliC	NC_012971.2 pRARE	pLysS	OK
XLOC_00135:XLOC_00135:arsC	NC_012971.2 pRARE	pLysS	OK
XLOC_00161:XLOC_00161:yjbB	NC_012971.2 pRARE	pLysS	OK
XLOC_00151:XLOC_00151:metE	NC_012971.2 pRARE	pLysS	OK
XLOC_00329:XLOC_00329:yiaJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00219:XLOC_00219:yceL	NC_012971.2 pRARE	pLysS	OK
XLOC_00228:XLOC_00228:pspF	NC_012971.2 pRARE	pLysS	OK
XLOC_00065:XLOC_00065:ydcR	NC_012971.2 pRARE	pLysS	OK
XLOC_00322:XLOC_00322:malQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00163:XLOC_00163:yjbN	NC_012971.2 pRARE	pLysS	OK
XLOC_00306:XLOC_00306:yqjH	NC_012971.2 pRARE	pLysS	OK
XLOC_00358:XLOC_00358:yjgH	NC_012971.2 pRARE	pLysS	OK

XLOC_00200: XLOC_00200: mrdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00175: XLOC_00175: uxuA	NC_012971.2 pRARE	pLysS	OK
XLOC_00095: XLOC_00095: ypdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00285: XLOC_00285: kgtP	NC_012971.2 pRARE	pLysS	OK
XLOC_00070: XLOC_00070: ynfH	NC_012971.2 pRARE	pLysS	OK
XLOC_00008: XLOC_00008: yaeR	NC_012971.2 pRARE	pLysS	OK
XLOC_00000: XLOC_00000: thrA	NC_012971.2 pRARE	pLysS	OK
XLOC_00337: XLOC_00337: pstB	NC_012971.2 pRARE	pLysS	OK
XLOC_00188: XLOC_00188: yahB	NC_012971.2 pRARE	pLysS	OK
XLOC_00049: XLOC_00049: mviN	NC_012971.2 pRARE	pLysS	OK
XLOC_00276: XLOC_00276: yfeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00141: XLOC_00141: waaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00205: XLOC_00205: ybhC	NC_012971.2 pRARE	pLysS	OK
XLOC_00073: XLOC_00073: ydhJ, ydhK	NC_012971.2 pRARE	pLysS	OK
XLOC_00239: XLOC_00239: ynfC	NC_012971.2 pRARE	pLysS	OK
XLOC_00122: XLOC_00122: yhaL	NC_012971.2 pRARE	pLysS	OK
XLOC_00200: XLOC_00200: phpB	NC_012971.2 pRARE	pLysS	OK
XLOC_00215: XLOC_00215: yccW	NC_012971.2 pRARE	pLysS	OK
XLOC_00211: XLOC_00211: ybjT	NC_012971.2 pRARE	pLysS	OK
XLOC_00325: XLOC_00325: hdeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00284: XLOC_00284: yfhA, yfhG	NC_012971.2 pRARE	pLysS	OK
XLOC_00365: XLOC_00365: mdoB	NC_012971.2 pRARE	pLysS	OK
XLOC_00223: XLOC_00223: ycgB	NC_012971.2 pRARE	pLysS	OK
XLOC_00280: XLOC_00280: uraA	NC_012971.2 pRARE	pLysS	OK
XLOC_00320: XLOC_00320: yhfY	NC_012971.2 pRARE	pLysS	OK
XLOC_00181: XLOC_00181: yabN	NC_012971.2 pRARE	pLysS	OK
XLOC_00215: XLOC_00215: yccY, yccZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00250: XLOC_00250: rrmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00364: XLOC_00364: hpaF	NC_012971.2 pRARE	pLysS	OK
XLOC_00017: XLOC_00017: malZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00309: XLOC_00309: yraQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00056: XLOC_00056: ychK	NC_012971.2 pRARE	pLysS	OK
XLOC_00014: XLOC_00014: cynS	NC_012971.2 pRARE	pLysS	OK
XLOC_00269: XLOC_00269: menF	NC_012971.2 pRARE	pLysS	OK
XLOC_00364: XLOC_00364: hpaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00271: XLOC_00271: yfbS	NC_012971.2 pRARE	pLysS	OK
XLOC_00319: XLOC_00319: kefB, yheR	NC_012971.2 pRARE	pLysS	OK
XLOC_00232: XLOC_00232: ydcl	NC_012971.2 pRARE	pLysS	OK
XLOC_00126: XLOC_00126: degS	NC_012971.2 pRARE	pLysS	OK
XLOC_00136: XLOC_00136: yhjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00035: XLOC_00035: V	NC_012971.2 pRARE	pLysS	OK
XLOC_00072: XLOC_00072: rnfD	NC_012971.2 pRARE	pLysS	OK
XLOC_00257: XLOC_00257: cobT	NC_012971.2 pRARE	pLysS	OK
XLOC_00156: XLOC_00156: metF	NC_012971.2 pRARE	pLysS	OK



XLOC_00041	XLOC_00041	ybjD	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgF	NC_012971.2	pRARE	pLysS	OK
XLOC_00288	XLOC_00288	ygaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00110	XLOC_00110	lysR	NC_012971.2	pRARE	pLysS	OK
XLOC_00190	XLOC_00190	ampH	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	O,P,Q,ren	NC_012971.2	pRARE	pLysS	OK
XLOC_00151	XLOC_00151	recQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00295	XLOC_00295	kduI	NC_012971.2	pRARE	pLysS	OK
XLOC_00122	XLOC_00122	yhaK	NC_012971.2	pRARE	pLysS	OK
XLOC_00290	XLOC_00290	ygbE	NC_012971.2	pRARE	pLysS	OK
XLOC_00192	XLOC_00192	yajR	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	yhgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00094	XLOC_00094	dsdA	NC_012971.2	pRARE	pLysS	OK
XLOC_00242	XLOC_00242	ydhL	NC_012971.2	pRARE	pLysS	OK
XLOC_00326	XLOC_00326	dctA	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	ygeA	NC_012971.2	pRARE	pLysS	OK
XLOC_00132	XLOC_00132	greB	NC_012971.2	pRARE	pLysS	OK
XLOC_00089	XLOC_00089	yeiQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00026	XLOC_00026	insJ-1	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00360	XLOC_00360	sgcR	NC_012971.2	pRARE	pLysS	OK
XLOC_00039	XLOC_00039	ECD_00826,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00214	XLOC_00214	ycbX	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	ygiF	NC_012971.2	pRARE	pLysS	OK
XLOC_00352	XLOC_00352	yjdF	NC_012971.2	pRARE	pLysS	OK
XLOC_00192	XLOC_00192	ampG	NC_012971.2	pRARE	pLysS	OK
XLOC_00103	XLOC_00103	ECD_02509	NC_012971.2	pRARE	pLysS	OK
XLOC_00096	XLOC_00096	cysZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	celA	NC_012971.2	pRARE	pLysS	OK
XLOC_00349	XLOC_00349	pepE	NC_012971.2	pRARE	pLysS	OK
XLOC_00093	XLOC_00093	flk	NC_012971.2	pRARE	pLysS	OK
XLOC_00080	XLOC_00080	pabB	NC_012971.2	pRARE	pLysS	OK
XLOC_00257	XLOC_00257	yeeE	NC_012971.2	pRARE	pLysS	OK
XLOC_00063	XLOC_00063	ydcA	NC_012971.2	pRARE	pLysS	OK
XLOC_00012	XLOC_00012	thrW	NC_012971.2	pRARE	pLysS	OK
XLOC_00205	XLOC_00205	ea22	NC_012971.2	pRARE	pLysS	OK
XLOC_00107	XLOC_00107	ygcP	NC_012971.2	pRARE	pLysS	OK
XLOC_00154	XLOC_00154	yihM	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	yihT	NC_012971.2	pRARE	pLysS	OK
XLOC_00068	XLOC_00068	ydfZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	mdlA,mdlB	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	ebgR	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	ygdL	NC_012971.2	pRARE	pLysS	OK
XLOC_00255	XLOC_00255	yecJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00142	XLOC_00142	ECD_03520	NC_012971.2	pRARE	pLysS	OK

XLOC_00285: XLOC_00285: yfiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00034: XLOC_00034: Fi	NC_012971.2 pRARE	pLysS	OK
XLOC_00223: XLOC_00223: ldcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00122: XLOC_00122: yhaV	NC_012971.2 pRARE	pLysS	OK
XLOC_00085: XLOC_00085: yoeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00106: XLOC_00106: hypE	NC_012971.2 pRARE	pLysS	OK
XLOC_00141: XLOC_00141: dinD	NC_012971.2 pRARE	pLysS	OK
XLOC_00284: XLOC_00284: yfhK	NC_012971.2 pRARE	pLysS	OK
XLOC_00358: XLOC_00358: treR	NC_012971.2 pRARE	pLysS	OK
XLOC_00050: XLOC_00050: rluC	NC_012971.2 pRARE	pLysS	OK
XLOC_00003: XLOC_00003: setA	NC_012971.2 pRARE	pLysS	OK
XLOC_00067: XLOC_00067: fdnH,fdnI	NC_012971.2 pRARE	pLysS	OK
XLOC_00249: XLOC_00249: yeaT	NC_012971.2 pRARE	pLysS	OK
XLOC_00090: XLOC_00090: yejB,yejE	NC_012971.2 pRARE	pLysS	OK
XLOC_00189: XLOC_00189: mhpR	NC_012971.2 pRARE	pLysS	OK
XLOC_00107: XLOC_00107: iap	NC_012971.2 pRARE	pLysS	OK
XLOC_00106: XLOC_00106: mutS	NC_012971.2 pRARE	pLysS	OK
XLOC_00094: XLOC_00094: fadL	NC_012971.2 pRARE	pLysS	OK
XLOC_00109: XLOC_00109: ygdQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00302: XLOC_00302: glcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00337: XLOC_00337: pstS	NC_012971.2 pRARE	pLysS	OK
XLOC_00249: XLOC_00249: yeaR	NC_012971.2 pRARE	pLysS	OK
XLOC_00127: XLOC_00127: yhdH	NC_012971.2 pRARE	pLysS	OK
XLOC_00322: XLOC_00322: glpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00229: XLOC_00229: ydaM	NC_012971.2 pRARE	pLysS	OK
XLOC_00086: XLOC_00086: yegE	NC_012971.2 pRARE	pLysS	OK
XLOC_00205: XLOC_00205: galM	NC_012971.2 pRARE	pLysS	OK
XLOC_00042: XLOC_00042: cmk	NC_012971.2 pRARE	pLysS	OK
XLOC_00333: XLOC_00333: ECD_03519	NC_012971.2 pRARE	pLysS	OK
XLOC_00040: XLOC_00040: ybjO	NC_012971.2 pRARE	pLysS	OK
XLOC_00196: XLOC_00196: ECD_00488	NC_012971.2 pRARE	pLysS	OK
XLOC_00107: XLOC_00107: ygbM	NC_012971.2 pRARE	pLysS	OK
XLOC_00130: XLOC_00130: cysG	NC_012971.2 pRARE	pLysS	OK
XLOC_00339: XLOC_00339: ilvY	NC_012971.2 pRARE	pLysS	OK
XLOC_00289: XLOC_00289: ygaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00341: XLOC_00341: rarD	NC_012971.2 pRARE	pLysS	OK
XLOC_00053: XLOC_00053: ymgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00033: XLOC_00033: nadA	NC_012971.2 pRARE	pLysS	OK
XLOC_00074: XLOC_00074: ydhC	NC_012971.2 pRARE	pLysS	OK
XLOC_00078: XLOC_00078: nudG	NC_012971.2 pRARE	pLysS	OK
XLOC_00226: XLOC_00226: yciC	NC_012971.2 pRARE	pLysS	OK
XLOC_00089: XLOC_00089: yeil	NC_012971.2 pRARE	pLysS	OK
XLOC_00360: XLOC_00360: fecB,fecC,fecI	NC_012971.2 pRARE	pLysS	OK
XLOC_00097: XLOC_00097: tktB	NC_012971.2 pRARE	pLysS	OK

XLOC_00279	XLOC_00279	ypfl	NC_012971.2	pRARE	pLysS	OK
XLOC_00233	XLOC_00233	adhP	NC_012971.2	pRARE	pLysS	OK
XLOC_00062	XLOC_00062	ydbH,ynbE	NC_012971.2	pRARE	pLysS	OK
XLOC_00213	XLOC_00213	ycbC	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	trkG	NC_012971.2	pRARE	pLysS	OK
XLOC_00065	XLOC_00065	ycdX	NC_012971.2	pRARE	pLysS	OK
XLOC_00102	XLOC_00102	yfil	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yraK	NC_012971.2	pRARE	pLysS	OK
XLOC_00011	XLOC_00011	dinB	NC_012971.2	pRARE	pLysS	OK
XLOC_00175	XLOC_00175	uxuB	NC_012971.2	pRARE	pLysS	OK
XLOC_00311	XLOC_00311	yhbZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00186	XLOC_00186	fadE	NC_012971.2	pRARE	pLysS	OK
XLOC_00241	XLOC_00241	mall	NC_012971.2	pRARE	pLysS	OK
XLOC_00261	XLOC_00261	alkA	NC_012971.2	pRARE	pLysS	OK
XLOC_00341	XLOC_00341	metR	NC_012971.2	pRARE	pLysS	OK
XLOC_00014	XLOC_00014	yahM	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	ECD_02648	NC_012971.2	pRARE	pLysS	OK
XLOC_00250	XLOC_00250	yebO	NC_012971.2	pRARE	pLysS	OK
XLOC_00226	XLOC_00226	ycaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00328	XLOC_00328	hokA	NC_012971.2	pRARE	pLysS	OK
XLOC_00183	XLOC_00183	gcd	NC_012971.2	pRARE	pLysS	OK
XLOC_00346	XLOC_00346	ECD_03822	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	hpaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	ynfF	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	ymjA	NC_012971.2	pRARE	pLysS	OK
XLOC_00365	XLOC_00365	fhuF	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	ybiP	NC_012971.2	pRARE	pLysS	OK
XLOC_00146	XLOC_00146	yiel	NC_012971.2	pRARE	pLysS	OK
XLOC_00362	XLOC_00362	yjiL	NC_012971.2	pRARE	pLysS	OK
XLOC_00169	XLOC_00169	ptxA	NC_012971.2	pRARE	pLysS	OK
XLOC_00109	XLOC_00109	argA	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	tus	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	ynfG	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	ECD_00489,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00143	XLOC_00143	ECD_03523	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	fdhD	NC_012971.2	pRARE	pLysS	OK
XLOC_00216	XLOC_00216	wrbA	NC_012971.2	pRARE	pLysS	OK
XLOC_00142	XLOC_00142	ECD_03517	NC_012971.2	pRARE	pLysS	OK
XLOC_00198	XLOC_00198	fepC,fepD,fe	NC_012971.2	pRARE	pLysS	OK
XLOC_00212	XLOC_00212	ycaN	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	hpaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	moaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	smp	NC_012971.2	pRARE	pLysS	OK
XLOC_00286	XLOC_00286	aroF	NC_012971.2	pRARE	pLysS	OK

XLOC_00213	XLOC_00213	ycaO	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	ECD_10028	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	yncJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	ydgK	NC_012971.2	pRARE	pLysS	OK
XLOC_00342	XLOC_00342	ECD_03722	NC_012971.2	pRARE	pLysS	OK
XLOC_00352	XLOC_00352	adiY	NC_012971.2	pRARE	pLysS	OK
XLOC_00086	XLOC_00086	baeR,baeS,ye	NC_012971.2	pRARE	pLysS	OK
XLOC_00227	XLOC_00227	yciR	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	hofB,hofC	NC_012971.2	pRARE	pLysS	OK
XLOC_00034	XLOC_00034	cro	NC_012971.2	pRARE	pLysS	OK
XLOC_00038	XLOC_00038	yliH	NC_012971.2	pRARE	pLysS	OK
XLOC_00135	XLOC_00135	arsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00221	XLOC_00221	potA	NC_012971.2	pRARE	pLysS	OK
XLOC_00284	XLOC_00284	recO	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ytfG	NC_012971.2	pRARE	pLysS	OK
XLOC_00194	XLOC_00194	aes	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	ygiG	NC_012971.2	pRARE	pLysS	OK
XLOC_00272	XLOC_00272	purF	NC_012971.2	pRARE	pLysS	OK
XLOC_00313	XLOC_00313	yhcQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yhbQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	G,H,L,M,T	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	ynjF	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	yfcX,yfcY	NC_012971.2	pRARE	pLysS	OK
XLOC_00339	XLOC_00339	yifB	NC_012971.2	pRARE	pLysS	OK
XLOC_00319	XLOC_00319	yheL	NC_012971.2	pRARE	pLysS	OK
XLOC_00341	XLOC_00341	ECD_03709	NC_012971.2	pRARE	pLysS	OK
XLOC_00190	XLOC_00190	yaiY	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	sgcB,sgcX	NC_012971.2	pRARE	pLysS	OK
XLOC_00215	XLOC_00215	yccC	NC_012971.2	pRARE	pLysS	OK
XLOC_00258	XLOC_00258	manB	NC_012971.2	pRARE	pLysS	OK
XLOC_00043	XLOC_00043	mukF,smtA	NC_012971.2	pRARE	pLysS	OK
XLOC_00131	XLOC_00131	yhfR	NC_012971.2	pRARE	pLysS	OK
XLOC_00219	XLOC_00219	flgN	NC_012971.2	pRARE	pLysS	OK
XLOC_00331	XLOC_00331	waal	NC_012971.2	pRARE	pLysS	OK
XLOC_00099	XLOC_00099	focB	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	yqeA	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgL	NC_012971.2	pRARE	pLysS	OK
XLOC_00270	XLOC_00270	elaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yhbO	NC_012971.2	pRARE	pLysS	OK
XLOC_00131	XLOC_00131	mrcA	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgK	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	ynfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	kduD	NC_012971.2	pRARE	pLysS	OK
XLOC_00269	XLOC_00269	yfaX	NC_012971.2	pRARE	pLysS	OK

XLOC_00326	XLOC_00326	yhjK	NC_012971.2	pRARE	pLysS	OK
XLOC_00173	XLOC_00173	ECD_04152	NC_012971.2	pRARE	pLysS	OK
XLOC_00071	XLOC_00071	ydgG	NC_012971.2	pRARE	pLysS	OK
XLOC_00060	XLOC_00060	ycjF,ycjX	NC_012971.2	pRARE	pLysS	OK
XLOC_00092	XLOC_00092	elaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00307	XLOC_00307	ygiM,ygiN	NC_012971.2	pRARE	pLysS	OK
XLOC_00362	XLOC_00362	yjiM	NC_012971.2	pRARE	pLysS	OK
XLOC_00067	XLOC_00067	sotB	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	cheW	NC_012971.2	pRARE	pLysS	OK
XLOC_00006	XLOC_00006	fhuB,fhuC,fhu	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	moaC,moaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	lom	NC_012971.2	pRARE	pLysS	OK
XLOC_00044	XLOC_00044	ycbU	NC_012971.2	pRARE	pLysS	OK
XLOC_00118	XLOC_00118	ygiM	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	tauB,tauC,tau	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	yagZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00360	XLOC_00360	sgcE	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	yahA	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	ECD_04261	NC_012971.2	pRARE	pLysS	OK
XLOC_00237	XLOC_00237	eamA	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	gcvA	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	dinG	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	ycfS	NC_012971.2	pRARE	pLysS	OK
XLOC_00320	XLOC_00320	yhfZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	abrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00324	XLOC_00324	ftsY	NC_012971.2	pRARE	pLysS	OK
XLOC_00148	XLOC_00148	rep	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	hold,rimI	NC_012971.2	pRARE	pLysS	OK
XLOC_00226	XLOC_00226	trpC	NC_012971.2	pRARE	pLysS	OK
XLOC_00355	XLOC_00355	yjfY	NC_012971.2	pRARE	pLysS	OK
XLOC_00026	XLOC_00026	entF,ybdZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00108	XLOC_00108	xni	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	yahJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00004	XLOC_00004	mutT	NC_012971.2	pRARE	pLysS	OK
XLOC_00277	XLOC_00277	yfeG	NC_012971.2	pRARE	pLysS	OK
XLOC_00053	XLOC_00053	cobB	NC_012971.2	pRARE	pLysS	OK
XLOC_00072	XLOC_00072	blr	NC_012971.2	pRARE	pLysS	OK
XLOC_00263	XLOC_00263	ECD_02039	NC_012971.2	pRARE	pLysS	OK
XLOC_00039	XLOC_00039	ECD_00834,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00137	XLOC_00137	tag,yiaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00288	XLOC_00288	mItB	NC_012971.2	pRARE	pLysS	OK
XLOC_00293	XLOC_00293	ECD_02652	NC_012971.2	pRARE	pLysS	OK
XLOC_00171	XLOC_00171	ytfQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	yjaB	NC_012971.2	pRARE	pLysS	OK

XLOC_00143;XLOC_00143;ECD_03527	NC_012971.2 pRARE	pLysS	OK
XLOC_00038;XLOC_00038;cmr	NC_012971.2 pRARE	pLysS	OK
XLOC_00334;XLOC_00334;uhpC	NC_012971.2 pRARE	pLysS	OK
XLOC_00011;XLOC_00011;yafO	NC_012971.2 pRARE	pLysS	OK
XLOC_00165;XLOC_00165;yjdJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00267;XLOC_00267;yojI	NC_012971.2 pRARE	pLysS	OK
XLOC_00238;XLOC_00238;ECD_01505	NC_012971.2 pRARE	pLysS	OK
XLOC_00101;XLOC_00101;yfiP	NC_012971.2 pRARE	pLysS	OK
XLOC_00362;XLOC_00362;yjiK	NC_012971.2 pRARE	pLysS	OK
XLOC_00044;XLOC_00044;ycbF,ycbV	NC_012971.2 pRARE	pLysS	OK
XLOC_00203;XLOC_00203;kdpC,kdpD,kcpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00249;XLOC_00249;fadD	NC_012971.2 pRARE	pLysS	OK
XLOC_00278;XLOC_00278;yffI	NC_012971.2 pRARE	pLysS	OK
XLOC_00025;XLOC_00025;ybcR,ybcS,ybcV	NC_012971.2 pRARE	pLysS	OK
XLOC_00144;XLOC_00144;yidL	NC_012971.2 pRARE	pLysS	OK
XLOC_00358;XLOC_00358;yjgM	NC_012971.2 pRARE	pLysS	OK
XLOC_00267;XLOC_00267;napB,napG,napH	NC_012971.2 pRARE	pLysS	OK
XLOC_00348;XLOC_00348;thiC,thiE,thiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00191;XLOC_00191;rdgC	NC_012971.2 pRARE	pLysS	OK
XLOC_00099;XLOC_00099;purM,purN	NC_012971.2 pRARE	pLysS	OK
XLOC_00121;XLOC_00121;yqjF	NC_012971.2 pRARE	pLysS	OK
XLOC_00191;XLOC_00191;sbuC,subD	NC_012971.2 pRARE	pLysS	OK
XLOC_00173;XLOC_00173;ECD_04151	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00092;XLOC_00092;yfbM	NC_012971.2 pRARE	pLysS	OK
XLOC_00166;XLOC_00166;yjeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00001;XLOC_00001;nhaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00279;XLOC_00279;ypfE	NC_012971.2 pRARE	pLysS	OK
XLOC_00016;XLOC_00016;yaiW	NC_012971.2 pRARE	pLysS	OK
XLOC_00329;XLOC_00329;ECD_03436	NC_012971.2 pRARE	pLysS	OK
XLOC_00149;XLOC_00149;yifK	NC_012971.2 pRARE	pLysS	OK
XLOC_00255;XLOC_00255;yecH	NC_012971.2 pRARE	pLysS	OK
XLOC_00232;XLOC_00232;ECD_01382	NC_012971.2 pRARE	pLysS	OK
XLOC_00277;XLOC_00277;yfeZ,ypeA	NC_012971.2 pRARE	pLysS	OK
XLOC_00278;XLOC_00278;eutC	NC_012971.2 pRARE	pLysS	OK
XLOC_00022;XLOC_00022;ybbA,ybbP	NC_012971.2 pRARE	pLysS	OK
XLOC_00035;XLOC_00035;U,Z	NC_012971.2 pRARE	pLysS	OK
XLOC_00034;XLOC_00034;A,B,C,W,nu1	NC_012971.2 pRARE	pLysS	OK
XLOC_00345;XLOC_00345;yjiQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00337;XLOC_00337;pstA,pstC	NC_012971.2 pRARE	pLysS	OK
XLOC_00276;XLOC_00276;yfeR	NC_012971.2 pRARE	pLysS	OK
XLOC_00100;XLOC_00100;hcaD	NC_012971.2 pRARE	pLysS	OK
XLOC_00283;XLOC_00283;yphB	NC_012971.2 pRARE	pLysS	OK
XLOC_00307;XLOC_00307;yhaJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00359;XLOC_00359;idnT	NC_012971.2 pRARE	pLysS	OK

XLOC_00078	XLOC_00078	ansA	NC_012971.2	pRARE	pLysS	OK
XLOC_00000	XLOC_00000	thrB	NC_012971.2	pRARE	pLysS	OK
XLOC_00249	XLOC_00249	yoaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00016	XLOC_00016	yaiB	NC_012971.2	pRARE	pLysS	OK
XLOC_00313	XLOC_00313	yhcM	NC_012971.2	pRARE	pLysS	OK
XLOC_00271	XLOC_00271	yfcF	NC_012971.2	pRARE	pLysS	OK
XLOC_00339	XLOC_00339	(yieM,yieN	NC_012971.2	pRARE	pLysS	OK
XLOC_00211	XLOC_00211	(artP	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	frvB,frvR,frvX	NC_012971.2	pRARE	pLysS	OK
XLOC_00143	XLOC_00143	(ECD_03522	NC_012971.2	pRARE	pLysS	OK
XLOC_00136	XLOC_00136	yhjE	NC_012971.2	pRARE	pLysS	OK
XLOC_00284	XLOC_00284	purL	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	aas,ygeD	NC_012971.2	pRARE	pLysS	OK
XLOC_00209	XLOC_00209	yliG	NC_012971.2	pRARE	pLysS	OK
XLOC_00299	XLOC_00299	yqgB	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	yqcB,yqcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00161	XLOC_00161	metA	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	yihS	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	lacA	NC_012971.2	pRARE	pLysS	OK
XLOC_00109	XLOC_00109	mutH	NC_012971.2	pRARE	pLysS	OK
XLOC_00362	XLOC_00362	gntP	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	dbpA	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	(ECD_03460	NC_012971.2	pRARE	pLysS	OK
XLOC_00266	XLOC_00266	(ccmC,ccmD,c	NC_012971.2	pRARE	pLysS	OK
XLOC_00056	XLOC_00056	yehP	NC_012971.2	pRARE	pLysS	OK
XLOC_00247	XLOC_00247	(ynjH	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	yecM	NC_012971.2	pRARE	pLysS	OK
XLOC_00017	XLOC_00017	aroM	NC_012971.2	pRARE	pLysS	OK
XLOC_00363	XLOC_00363	yjiO	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	betT	NC_012971.2	pRARE	pLysS	OK
XLOC_00144	XLOC_00144	ade	NC_012971.2	pRARE	pLysS	OK
XLOC_00303	XLOC_00303	yghXY	NC_012971.2	pRARE	pLysS	OK
XLOC_00143	XLOC_00143	(ECD_03537,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00269	XLOC_00269	(yfaW	NC_012971.2	pRARE	pLysS	OK
XLOC_00219	XLOC_00219	flgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00059	XLOC_00059	(ordL	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	rhsE,ydcD	NC_012971.2	pRARE	pLysS	OK
XLOC_00172	XLOC_00172	yjhB	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	(ECD_00510	NC_012971.2	pRARE	pLysS	OK
XLOC_00341	XLOC_00341	yigl	NC_012971.2	pRARE	pLysS	OK
XLOC_00085	XLOC_00085	(yeeJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	yncK	NC_012971.2	pRARE	pLysS	OK
XLOC_00112	XLOC_00112	guaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00073	XLOC_00073	!lhr	NC_012971.2	pRARE	pLysS	OK

XLOC_00038;XLOC_00038;yliD	NC_012971.2 pRARE	pLysS	OK
XLOC_00181;XLOC_00181;araA	NC_012971.2 pRARE	pLysS	OK
XLOC_00362;XLOC_00362;yjiJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00313;XLOC_00313;yhcO	NC_012971.2 pRARE	pLysS	OK
XLOC_00119;XLOC_00119;ygjG	NC_012971.2 pRARE	pLysS	OK
XLOC_00173;XLOC_00173;insB-25	NC_012971.2 pRARE	pLysS	OK
XLOC_00231;XLOC_00231;ldhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00037;XLOC_00037;ybiN	NC_012971.2 pRARE	pLysS	OK
XLOC_00086;XLOC_00086;yegP	NC_012971.2 pRARE	pLysS	OK
XLOC_00308;XLOC_00308;tdcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00131;XLOC_00131;hsIR	NC_012971.2 pRARE	pLysS	OK
XLOC_00106;XLOC_00106;hypB,hypC,hy	NC_012971.2 pRARE	pLysS	OK
XLOC_00073;XLOC_00073;ydhM	NC_012971.2 pRARE	pLysS	OK
XLOC_00211;XLOC_00211;aqpZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00120;XLOC_00120;exuT	NC_012971.2 pRARE	pLysS	OK
XLOC_00079;XLOC_00079;yeaN	NC_012971.2 pRARE	pLysS	OK
XLOC_00170;XLOC_00170;ytfH	NC_012971.2 pRARE	pLysS	OK
XLOC_00333;XLOC_00333;ECD_03530	NC_012971.2 pRARE	pLysS	OK
XLOC_00058;XLOC_00058;ycjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00342;XLOC_00342;ECD_03715	NC_012971.2 pRARE	pLysS	OK
XLOC_00245;XLOC_00245;ydiY	NC_012971.2 pRARE	pLysS	OK
XLOC_00326;XLOC_00326;gadA	NC_012971.2 pRARE	pLysS	OK
XLOC_00020;XLOC_00020;cof	NC_012971.2 pRARE	pLysS	OK
XLOC_00264;XLOC_00264;yohC	NC_012971.2 pRARE	pLysS	OK
XLOC_00350;XLOC_00350;fdhF	NC_012971.2 pRARE	pLysS	OK
XLOC_00008;XLOC_00008;ldcC	NC_012971.2 pRARE	pLysS	OK
XLOC_00257;XLOC_00257;cobS,cobU	NC_012971.2 pRARE	pLysS	OK
XLOC_00177;XLOC_00177;yjiU,yjiV	NC_012971.2 pRARE	pLysS	OK
XLOC_00077;XLOC_00077;ydjX	NC_012971.2 pRARE	pLysS	OK
XLOC_00105;XLOC_00105;ygaX	NC_012971.2 pRARE	pLysS	OK
XLOC_00120;XLOC_00120;ygjT	NC_012971.2 pRARE	pLysS	OK
XLOC_00027;XLOC_00027;ybdB	NC_012971.2 pRARE	pLysS	OK
XLOC_00122;XLOC_00122;agaV	NC_012971.2 pRARE	pLysS	OK
XLOC_00097;XLOC_00097;talA	NC_012971.2 pRARE	pLysS	OK
XLOC_00134;XLOC_00134;nikR	NC_012971.2 pRARE	pLysS	OK
XLOC_00123;XLOC_00123;yraH	NC_012971.2 pRARE	pLysS	OK
XLOC_00349;XLOC_00349;xylE	NC_012971.2 pRARE	pLysS	OK
XLOC_00078;XLOC_00078;ynjE	NC_012971.2 pRARE	pLysS	OK
XLOC_00289;XLOC_00289;hycF,hycG,hy	NC_012971.2 pRARE	pLysS	OK
XLOC_00108;XLOC_00108;barA	NC_012971.2 pRARE	pLysS	OK
XLOC_00342;XLOC_00342;ECD_03721	NC_012971.2 pRARE	pLysS	OK
XLOC_00327;XLOC_00327;yhjO	NC_012971.2 pRARE	pLysS	OK
XLOC_00318;XLOC_00318;chiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00333;XLOC_00333;yicI	NC_012971.2 pRARE	pLysS	OK



XLOC_00301:XLOC_00301:ECD_02833,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00132:XLOC_00132:rtcR	NC_012971.2 pRARE	pLysS	OK
XLOC_00059:XLOC_00059:goaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00349:XLOC_00349:malF	NC_012971.2 pRARE	pLysS	OK
XLOC_00234:XLOC_00234:yddS	NC_012971.2 pRARE	pLysS	OK
XLOC_00301:XLOC_00301:pppA	NC_012971.2 pRARE	pLysS	OK
XLOC_00084:XLOC_00084:yedY	NC_012971.2 pRARE	pLysS	OK
XLOC_00228:XLOC_00228:ycjW	NC_012971.2 pRARE	pLysS	OK
XLOC_00249:XLOC_00249:yeaS	NC_012971.2 pRARE	pLysS	OK
XLOC_00089:XLOC_00089:yeiR	NC_012971.2 pRARE	pLysS	OK
XLOC_00044:XLOC_00044:ycbQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00253:XLOC_00253:cheZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00028:XLOC_00028:ybeM	NC_012971.2 pRARE	pLysS	OK
XLOC_00118:XLOC_00118:yqil	NC_012971.2 pRARE	pLysS	OK
XLOC_00356:XLOC_00356:ECD_04076	NC_012971.2 pRARE	pLysS	OK
XLOC_00104:XLOC_00104:gabP	NC_012971.2 pRARE	pLysS	OK
XLOC_00097:XLOC_00097:acrD	NC_012971.2 pRARE	pLysS	OK
XLOC_00179:XLOC_00179:mokC	NC_012971.2 pRARE	pLysS	OK
XLOC_00267:XLOC_00267:ada,alkB	NC_012971.2 pRARE	pLysS	OK
XLOC_00088:XLOC_00088:yehV	NC_012971.2 pRARE	pLysS	OK
XLOC_00107:XLOC_00107:ycgN,ycgO	NC_012971.2 pRARE	pLysS	OK
XLOC_00302:XLOC_00302:glcG	NC_012971.2 pRARE	pLysS	OK
XLOC_00272:XLOC_00272:cvpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00150:XLOC_00150:ECD_03695	NC_012971.2 pRARE	pLysS	OK
XLOC_00172:XLOC_00172:idnK	NC_012971.2 pRARE	pLysS	OK
XLOC_00175:XLOC_00175:yjiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00304:XLOC_00304:ygiS	NC_012971.2 pRARE	pLysS	OK
XLOC_00078:XLOC_00078:ynjC,ynjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00055:XLOC_00055:dhaR	NC_012971.2 pRARE	pLysS	OK
XLOC_00352:XLOC_00352:adiA	NC_012971.2 pRARE	pLysS	OK
XLOC_00214:XLOC_00214:yccF	NC_012971.2 pRARE	pLysS	OK
XLOC_00169:XLOC_00169:sgaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00264:XLOC_00264:mglA	NC_012971.2 pRARE	pLysS	OK
XLOC_00305:XLOC_00305:ygiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00347:XLOC_00347:talC	NC_012971.2 pRARE	pLysS	OK
XLOC_00113:XLOC_00113:sprT	NC_012971.2 pRARE	pLysS	OK
XLOC_00197:XLOC_00197:ybdK	NC_012971.2 pRARE	pLysS	OK
XLOC_00216:XLOC_00216:ycdH	NC_012971.2 pRARE	pLysS	OK
XLOC_00138:XLOC_00138:xyIR	NC_012971.2 pRARE	pLysS	OK
XLOC_00014:XLOC_00014:codA,codB	NC_012971.2 pRARE	pLysS	OK
XLOC_00025:XLOC_00025:ybcM	NC_012971.2 pRARE	pLysS	OK
XLOC_00113:XLOC_00113:endA	NC_012971.2 pRARE	pLysS	OK
XLOC_00237:XLOC_00237:ydfI	NC_012971.2 pRARE	pLysS	OK
XLOC_00268:XLOC_00268:yfaU	NC_012971.2 pRARE	pLysS	OK

XLOC_00359:XLOC_00359: idnR	NC_012971.2 pRARE	pLysS	OK
XLOC_00094:XLOC_00094: evgS	NC_012971.2 pRARE	pLysS	OK
XLOC_00051:XLOC_00051: pabC	NC_012971.2 pRARE	pLysS	OK
XLOC_00249:XLOC_00249: rnd	NC_012971.2 pRARE	pLysS	OK
XLOC_00146:XLOC_00146: kup	NC_012971.2 pRARE	pLysS	OK
XLOC_00228:XLOC_00228: ycjD	NC_012971.2 pRARE	pLysS	OK
XLOC_00009:XLOC_00009: dkgB	NC_012971.2 pRARE	pLysS	OK
XLOC_00235:XLOC_00235: ydeM	NC_012971.2 pRARE	pLysS	OK
XLOC_00359:XLOC_00359: yjgR	NC_012971.2 pRARE	pLysS	OK
XLOC_00281:XLOC_00281: pbpC	NC_012971.2 pRARE	pLysS	OK
XLOC_00142:XLOC_00142: yicE	NC_012971.2 pRARE	pLysS	OK
XLOC_00046:XLOC_00046: appA	NC_012971.2 pRARE	pLysS	OK
XLOC_00327:XLOC_00327: dppD,dppF	NC_012971.2 pRARE	pLysS	OK
XLOC_00124:XLOC_00124: yhbV	NC_012971.2 pRARE	pLysS	OK
XLOC_00188:XLOC_00188: ECD_00265	NC_012971.2 pRARE	pLysS	OK
XLOC_00103:XLOC_00103: ygaF	NC_012971.2 pRARE	pLysS	OK
XLOC_00110:XLOC_00110: yqeG	NC_012971.2 pRARE	pLysS	OK
XLOC_00363:XLOC_00363: yjiW	NC_012971.2 pRARE	pLysS	OK
XLOC_00227:XLOC_00227: yciW	NC_012971.2 pRARE	pLysS	OK
XLOC_00161:XLOC_00161: aceK	NC_012971.2 pRARE	pLysS	OK
XLOC_00016:XLOC_00016: sbmA	NC_012971.2 pRARE	pLysS	OK
XLOC_00144:XLOC_00144: yicL	NC_012971.2 pRARE	pLysS	OK
XLOC_00067:XLOC_00067: ydeZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00207:XLOC_00207: ybiX	NC_012971.2 pRARE	pLysS	OK
XLOC_00195:XLOC_00195: ybbB	NC_012971.2 pRARE	pLysS	OK
XLOC_00266:XLOC_00266: ccmA,ccmB	NC_012971.2 pRARE	pLysS	OK
XLOC_00011:XLOC_00011: yafM	NC_012971.2 pRARE	pLysS	OK
XLOC_00318:XLOC_00318: pioO	NC_012971.2 pRARE	pLysS	OK
XLOC_00348:XLOC_00348: purD	NC_012971.2 pRARE	pLysS	OK
XLOC_00118:XLOC_00118: ygiH	NC_012971.2 pRARE	pLysS	OK
XLOC_00360:XLOC_00360: fecA	NC_012971.2 pRARE	pLysS	OK
XLOC_00231:XLOC_00231: feaR	NC_012971.2 pRARE	pLysS	OK
XLOC_00165:XLOC_00165: rpiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00358:XLOC_00358: argI	NC_012971.2 pRARE	pLysS	OK
XLOC_00355:XLOC_00355: yjfR	NC_012971.2 pRARE	pLysS	OK
XLOC_00313:XLOC_00313: yhcP	NC_012971.2 pRARE	pLysS	OK
XLOC_00311:XLOC_00311: yhbE	NC_012971.2 pRARE	pLysS	OK
XLOC_00026:XLOC_00026: cusA	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238: ECD_01528	NC_012971.2 pRARE	pLysS	OK
XLOC_00222:XLOC_00222: ycgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00039:XLOC_00039: ECD_00818	NC_012971.2 pRARE	pLysS	OK
XLOC_00189:XLOC_00189: lacY	NC_012971.2 pRARE	pLysS	OK
XLOC_00003:XLOC_00003: ilvH	NC_012971.2 pRARE	pLysS	OK
XLOC_00151:XLOC_00151: yigN	NC_012971.2 pRARE	pLysS	OK

XLOC_00323	XLOC_00323	ugpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00088	XLOC_00088	yehR	NC_012971.2	pRARE	pLysS	OK
XLOC_00199	XLOC_00199	citC	NC_012971.2	pRARE	pLysS	OK
XLOC_00330	XLOC_00330	yibF	NC_012971.2	pRARE	pLysS	OK
XLOC_00064	XLOC_00064	ycdN	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	abgR	NC_012971.2	pRARE	pLysS	OK
XLOC_00118	XLOC_00118	yqjI	NC_012971.2	pRARE	pLysS	OK
XLOC_00030	XLOC_00030	rhcC,ybfB	NC_012971.2	pRARE	pLysS	OK
XLOC_00087	XLOC_00087	ECD_02038	NC_012971.2	pRARE	pLysS	OK
XLOC_00047	XLOC_00047	ycdT	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	ycaP	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgH	NC_012971.2	pRARE	pLysS	OK
XLOC_00265	XLOC_00265	cirA	NC_012971.2	pRARE	pLysS	OK
XLOC_00332	XLOC_00332	pyrE	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	ptsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	yagV,yagW,yagZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00251	XLOC_00251	pphA	NC_012971.2	pRARE	pLysS	OK
XLOC_00288	XLOC_00288	recX	NC_012971.2	pRARE	pLysS	OK
XLOC_00285	XLOC_00285	yfiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00143	XLOC_00143	ECD_03541	NC_012971.2	pRARE	pLysS	OK
XLOC_00016	XLOC_00016	psiF	NC_012971.2	pRARE	pLysS	OK
XLOC_00103	XLOC_00103	csiD	NC_012971.2	pRARE	pLysS	OK
XLOC_00198	XLOC_00198	ybdM,ybdN	NC_012971.2	pRARE	pLysS	OK
XLOC_00255	XLOC_00255	araF	NC_012971.2	pRARE	pLysS	OK
XLOC_00085	XLOC_00085	shiA	NC_012971.2	pRARE	pLysS	OK
XLOC_00271	XLOC_00271	yfcl	NC_012971.2	pRARE	pLysS	OK
XLOC_00362	XLOC_00362	yjiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00082	XLOC_00082	yebU	NC_012971.2	pRARE	pLysS	OK
XLOC_00363	XLOC_00363	yjiN	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	purH	NC_012971.2	pRARE	pLysS	OK
XLOC_00237	XLOC_00237	yneF	NC_012971.2	pRARE	pLysS	OK
XLOC_00297	XLOC_00297	yqfE	NC_012971.2	pRARE	pLysS	OK
XLOC_00096	XLOC_00096	ECD_02307	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	malS	NC_012971.2	pRARE	pLysS	OK
XLOC_00191	XLOC_00191	yajI	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	gudD	NC_012971.2	pRARE	pLysS	OK
XLOC_00134	XLOC_00134	yhhQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00231	XLOC_00231	gapC	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	alsE,alsK	NC_012971.2	pRARE	pLysS	OK
XLOC_00113	XLOC_00113	ygfH	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	ECD_10056	NC_012971.2	pRARE	pLysS	OK
XLOC_00050	XLOC_00050	flgI,flgJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	yibA	NC_012971.2	pRARE	pLysS	OK
XLOC_00197	XLOC_00197	cusR,cusS	NC_012971.2	pRARE	pLysS	OK

XLOC_00017	XLOC_00017	phoR	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	alsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00278	XLOC_00278	eutB	NC_012971.2	pRARE	pLysS	OK
XLOC_00196	XLOC_00196	ybcI	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	tbpA, thiP, yak	NC_012971.2	pRARE	pLysS	OK
XLOC_00154	XLOC_00154	yihV	NC_012971.2	pRARE	pLysS	OK
XLOC_00113	XLOC_00113	ygfG	NC_012971.2	pRARE	pLysS	OK
XLOC_00365	XLOC_00365	yjjB	NC_012971.2	pRARE	pLysS	OK
XLOC_00047	XLOC_00047	ycdN	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	yneL	NC_012971.2	pRARE	pLysS	OK
XLOC_00092	XLOC_00092	yfaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	otsA, otsB	NC_012971.2	pRARE	pLysS	OK
XLOC_00037	XLOC_00037	fsa	NC_012971.2	pRARE	pLysS	OK
XLOC_00160	XLOC_00160	nudC	NC_012971.2	pRARE	pLysS	OK
XLOC_00060	XLOC_00060	mppA	NC_012971.2	pRARE	pLysS	OK
XLOC_00068	XLOC_00068	ydeE	NC_012971.2	pRARE	pLysS	OK
XLOC_00346	XLOC_00346	menA	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	fumB	NC_012971.2	pRARE	pLysS	OK
XLOC_00054	XLOC_00054	umuC, umuD	NC_012971.2	pRARE	pLysS	OK
XLOC_00266	XLOC_00266	yeiW	NC_012971.2	pRARE	pLysS	OK
XLOC_00046	XLOC_00046	torT	NC_012971.2	pRARE	pLysS	OK
XLOC_00294	XLOC_00294	araE	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	yqhG	NC_012971.2	pRARE	pLysS	OK
XLOC_00235	XLOC_00235	gadB	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	gudX	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	hpaE, hpaG	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	yncH	NC_012971.2	pRARE	pLysS	OK
XLOC_00216	XLOC_00216	torS	NC_012971.2	pRARE	pLysS	OK
XLOC_00145	XLOC_00145	yidY, yidZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00309	XLOC_00309	yraR	NC_012971.2	pRARE	pLysS	OK
XLOC_00062	XLOC_00062	ydbC	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	nhaR	NC_012971.2	pRARE	pLysS	OK
XLOC_00083	XLOC_00083	yecR	NC_012971.2	pRARE	pLysS	OK
XLOC_00268	XLOC_00268	yfaV	NC_012971.2	pRARE	pLysS	OK
XLOC_00107	XLOC_00107	ygbN	NC_012971.2	pRARE	pLysS	OK
XLOC_00191	XLOC_00191	araJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	ycaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	tauA	NC_012971.2	pRARE	pLysS	OK
XLOC_00332	XLOC_00332	mutM	NC_012971.2	pRARE	pLysS	OK
XLOC_00160	XLOC_00160	zraR, zraS	NC_012971.2	pRARE	pLysS	OK
XLOC_00267	XLOC_00267	ompC	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	yedZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00074	XLOC_00074	ydhS	NC_012971.2	pRARE	pLysS	OK
XLOC_00296	XLOC_00296	ygfF	NC_012971.2	pRARE	pLysS	OK

XLOC_00106	XLOC_00106	ascF	NC_012971.2	pRARE	pLysS	OK
XLOC_00239	XLOC_00239	rspA	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	zraP	NC_012971.2	pRARE	pLysS	OK
XLOC_00115	XLOC_00115	yqgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	I,K	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	leuA,leuB	NC_012971.2	pRARE	pLysS	OK
XLOC_00144	XLOC_00144	yidS	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	ycaL	NC_012971.2	pRARE	pLysS	OK
XLOC_00090	XLOC_00090	rtn	NC_012971.2	pRARE	pLysS	OK
XLOC_00238	XLOC_00238	ECD_01526	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	bioB,bioC,bio	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	nohB	NC_012971.2	pRARE	pLysS	OK
XLOC_00137	XLOC_00137	yiaH	NC_012971.2	pRARE	pLysS	OK
XLOC_00216	XLOC_00216	yccM	NC_012971.2	pRARE	pLysS	OK
XLOC_00117	XLOC_00117	yqhH	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	yjjZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00154	XLOC_00154	yiiF	NC_012971.2	pRARE	pLysS	OK
XLOC_00249	XLOC_00249	yeaZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybiL	NC_012971.2	pRARE	pLysS	OK
XLOC_00107	XLOC_00107	pphB	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	xdhB,xdhC	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	ECD_03438	NC_012971.2	pRARE	pLysS	OK
XLOC_00244	XLOC_00244	ydiP	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	yidF,yidG,yidI	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	rhaR,rhaS	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	yjdL	NC_012971.2	pRARE	pLysS	OK
XLOC_00343	XLOC_00343	fadB	NC_012971.2	pRARE	pLysS	OK
XLOC_00022	XLOC_00022	ybaT	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	ybaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00307	XLOC_00307	uxaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00211	XLOC_00211	poxB	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	cheY	NC_012971.2	pRARE	pLysS	OK
XLOC_00332	XLOC_00332	radC	NC_012971.2	pRARE	pLysS	OK
XLOC_00188	XLOC_00188	ykgH	NC_012971.2	pRARE	pLysS	OK
XLOC_00348	XLOC_00348	thiG,thiH	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	ycjK	NC_012971.2	pRARE	pLysS	OK
XLOC_00030	XLOC_00030	phrB,ybgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ECD_04075	NC_012971.2	pRARE	pLysS	OK
XLOC_00185	XLOC_00185	yaeI	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	agaA,agaF	NC_012971.2	pRARE	pLysS	OK
XLOC_00233	XLOC_00233	narV,narW,narX	NC_012971.2	pRARE	pLysS	OK
XLOC_00006	XLOC_00006	yadD	NC_012971.2	pRARE	pLysS	OK
XLOC_00040	XLOC_00040	ybjF	NC_012971.2	pRARE	pLysS	OK
XLOC_00329	XLOC_00329	ECD_03412	NC_012971.2	pRARE	pLysS	OK

XLOC_00188	XLOC_00188	ykgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	cynR	NC_012971.2	pRARE	pLysS	OK
XLOC_00065	XLOC_00065	ydcW	NC_012971.2	pRARE	pLysS	OK
XLOC_00056	XLOC_00056	narG,narH,na	NC_012971.2	pRARE	pLysS	OK
XLOC_00003	XLOC_00003	ilvI	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	ansP	NC_012971.2	pRARE	pLysS	OK
XLOC_00106	XLOC_00106	ascB	NC_012971.2	pRARE	pLysS	OK
XLOC_00136	XLOC_00136	hdeD	NC_012971.2	pRARE	pLysS	OK
XLOC_00144	XLOC_00144	yidI	NC_012971.2	pRARE	pLysS	OK
XLOC_00354	XLOC_00354	yjeJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00171	XLOC_00171	mgtA	NC_012971.2	pRARE	pLysS	OK
XLOC_00199	XLOC_00199	ybeF	NC_012971.2	pRARE	pLysS	OK
XLOC_00043	XLOC_00043	ycal	NC_012971.2	pRARE	pLysS	OK
XLOC_00114	XLOC_00114	mutY	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	yjiZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	yphC	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	hcaT	NC_012971.2	pRARE	pLysS	OK
XLOC_00053	XLOC_00053	ymgA	NC_012971.2	pRARE	pLysS	OK
XLOC_00078	XLOC_00078	ynjB	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	yahD	NC_012971.2	pRARE	pLysS	OK
XLOC_00169	XLOC_00169	sgaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00162	XLOC_00162	malK	NC_012971.2	pRARE	pLysS	OK
XLOC_00067	XLOC_00067	yneC	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	yacH	NC_012971.2	pRARE	pLysS	OK
XLOC_00255	XLOC_00255	araG	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	ydcO	NC_012971.2	pRARE	pLysS	OK
XLOC_00169	XLOC_00169	sgaE,sgaU	NC_012971.2	pRARE	pLysS	OK
XLOC_00172	XLOC_00172	intB	NC_012971.2	pRARE	pLysS	OK
XLOC_00269	XLOC_00269	menD,yfbB	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	phnL,phnM,p	NC_012971.2	pRARE	pLysS	OK
XLOC_00218	XLOC_00218	yceJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00101	XLOC_00101	insA-19,insB-	NC_012971.2	pRARE	pLysS	OK
XLOC_00222	XLOC_00222	ycgE	NC_012971.2	pRARE	pLysS	OK
XLOC_00048	XLOC_00048	csgB	NC_012971.2	pRARE	pLysS	OK
XLOC_00330	XLOC_00330	yibI	NC_012971.2	pRARE	pLysS	OK
XLOC_00134	XLOC_00134	acpT	NC_012971.2	pRARE	pLysS	OK
XLOC_00131	XLOC_00131	friC,yhfQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00256	XLOC_00256	serU	NC_012971.2	pRARE	pLysS	OK
XLOC_00341	XLOC_00341	ECD_03710	NC_012971.2	pRARE	pLysS	OK
XLOC_00244	XLOC_00244	ydiV	NC_012971.2	pRARE	pLysS	OK
XLOC_00237	XLOC_00237	ydeH	NC_012971.2	pRARE	pLysS	OK
XLOC_00101	XLOC_00101	nadB	NC_012971.2	pRARE	pLysS	OK
XLOC_00232	XLOC_00232	ydcK	NC_012971.2	pRARE	pLysS	OK
XLOC_00360	XLOC_00360	fecE	NC_012971.2	pRARE	pLysS	OK

XLOC_00079	XLOC_00079	yeaJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	ECD_01335	NC_012971.2	pRARE	pLysS	OK
XLOC_00086	XLOC_00086	yegQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00097	XLOC_00097	yfeK	NC_012971.2	pRARE	pLysS	OK
XLOC_00359	XLOC_00359	yjhD	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	fhuE	NC_012971.2	pRARE	pLysS	OK
XLOC_00081	XLOC_00081	ECD_01797	NC_012971.2	pRARE	pLysS	OK
XLOC_00031	XLOC_00031	ybgG	NC_012971.2	pRARE	pLysS	OK
XLOC_00183	XLOC_00183	yadM	NC_012971.2	pRARE	pLysS	OK
XLOC_00046	XLOC_00046	torA,torC,torI	NC_012971.2	pRARE	pLysS	OK
XLOC_00359	XLOC_00359	yjgB	NC_012971.2	pRARE	pLysS	OK
XLOC_00160	XLOC_00160	htrC	NC_012971.2	pRARE	pLysS	OK
XLOC_00069	XLOC_00069	ECD_01527	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	yahK	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	celC	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	yidB	NC_012971.2	pRARE	pLysS	OK
XLOC_00070	XLOC_00070	ynfE	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	flhD	NC_012971.2	pRARE	pLysS	OK
XLOC_00166	XLOC_00166	ecnA	NC_012971.2	pRARE	pLysS	OK
XLOC_00035	XLOC_00035	J	NC_012971.2	pRARE	pLysS	OK
XLOC_00240	XLOC_00240	uidA,uidB	NC_012971.2	pRARE	pLysS	OK
XLOC_00295	XLOC_00295	ygfS	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	sgcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00135	XLOC_00135	slp	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	ydjR	NC_012971.2	pRARE	pLysS	OK
XLOC_00134	XLOC_00134	rhsB,yhhH	NC_012971.2	pRARE	pLysS	OK
XLOC_00308	XLOC_00308	tdcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00166	XLOC_00166	yjeM	NC_012971.2	pRARE	pLysS	OK
XLOC_00301	XLOC_00301	yghG	NC_012971.2	pRARE	pLysS	OK
XLOC_00307	XLOC_00307	yhaM	NC_012971.2	pRARE	pLysS	OK
XLOC_00058	XLOC_00058	ycjL	NC_012971.2	pRARE	pLysS	OK
XLOC_00264	XLOC_00264	yehZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	aer	NC_012971.2	pRARE	pLysS	OK
XLOC_00301	XLOC_00301	ECD_02836,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00268	XLOC_00268	yfaL	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	yneE	NC_012971.2	pRARE	pLysS	OK
XLOC_00081	XLOC_00081	yoaD	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ECD_04072,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	farR	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	ydjJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00131	XLOC_00131	yhfN	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	glcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00266	XLOC_00266	yejO	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	yphH	NC_012971.2	pRARE	pLysS	OK

XLOC_00112;XLOC_00112; ygfQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00198;XLOC_00198; fepB	NC_012971.2 pRARE	pLysS	OK
XLOC_00324;XLOC_00324; livF	NC_012971.2 pRARE	pLysS	OK
XLOC_00242;XLOC_00242; ydhP	NC_012971.2 pRARE	pLysS	OK
XLOC_00253;XLOC_00253; torZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00106;XLOC_00106; hypA	NC_012971.2 pRARE	pLysS	OK
XLOC_00263;XLOC_00263; yehW	NC_012971.2 pRARE	pLysS	OK
XLOC_00245;XLOC_00245; ydjC	NC_012971.2 pRARE	pLysS	OK
XLOC_00343;XLOC_00343; yihG	NC_012971.2 pRARE	pLysS	OK
XLOC_00016;XLOC_00016; yaiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00194;XLOC_00194; ybaM	NC_012971.2 pRARE	pLysS	OK
XLOC_00185;XLOC_00185; yaeF	NC_012971.2 pRARE	pLysS	OK
XLOC_00111;XLOC_00111; xdhD,ygfM	NC_012971.2 pRARE	pLysS	OK
XLOC_00039;XLOC_00039; ECD_00841,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00063;XLOC_00063; aldA	NC_012971.2 pRARE	pLysS	OK
XLOC_00173;XLOC_00173; ECD_04162	NC_012971.2 pRARE	pLysS	OK
XLOC_00116;XLOC_00116; yghA	NC_012971.2 pRARE	pLysS	OK
XLOC_00279;XLOC_00279; aegA	NC_012971.2 pRARE	pLysS	OK
XLOC_00233;XLOC_00233; yddG	NC_012971.2 pRARE	pLysS	OK
XLOC_00130;XLOC_00130; yhfC	NC_012971.2 pRARE	pLysS	OK
XLOC_00289;XLOC_00289; ascG	NC_012971.2 pRARE	pLysS	OK
XLOC_00211;XLOC_00211; ybjE	NC_012971.2 pRARE	pLysS	OK
XLOC_00256;XLOC_00256; nac	NC_012971.2 pRARE	pLysS	OK
XLOC_00223;XLOC_00223; ycgV	NC_012971.2 pRARE	pLysS	OK
XLOC_00171;XLOC_00171; ytfR	NC_012971.2 pRARE	pLysS	OK
XLOC_00020;XLOC_00020; amtB	NC_012971.2 pRARE	pLysS	OK
XLOC_00028;XLOC_00028; citA,citB	NC_012971.2 pRARE	pLysS	OK
XLOC_00212;XLOC_00212; ycaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00078;XLOC_00078; ydjZ,ynjA	NC_012971.2 pRARE	pLysS	OK
XLOC_00216;XLOC_00216; ycdG	NC_012971.2 pRARE	pLysS	OK
XLOC_00295;XLOC_00295; yqeB	NC_012971.2 pRARE	pLysS	OK
XLOC_00154;XLOC_00154; yihL	NC_012971.2 pRARE	pLysS	OK
XLOC_00129;XLOC_00129; gspL,gspM,gs	NC_012971.2 pRARE	pLysS	OK
XLOC_00121;XLOC_00121; yqjG	NC_012971.2 pRARE	pLysS	OK
XLOC_00174;XLOC_00174; fimB	NC_012971.2 pRARE	pLysS	OK
XLOC_00123;XLOC_00123; yraJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00116;XLOC_00116; ECD_02853,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00324;XLOC_00324; livJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00322;XLOC_00322; rtcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00178;XLOC_00178; yaaJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00330;XLOC_00330; yibH	NC_012971.2 pRARE	pLysS	OK
XLOC_00256;XLOC_00256; cbl	NC_012971.2 pRARE	pLysS	OK
XLOC_00027;XLOC_00027; entE	NC_012971.2 pRARE	pLysS	OK
XLOC_00206;XLOC_00206; bioA	NC_012971.2 pRARE	pLysS	OK



XLOC_00134:XLOC_00134:yhhT	NC_012971.2 pRARE	pLysS	OK
XLOC_00136:XLOC_00136:yhiV	NC_012971.2 pRARE	pLysS	OK
XLOC_00171:XLOC_00171:yjfF,ytff	NC_012971.2 pRARE	pLysS	OK
XLOC_00099:XLOC_00099:hyfR	NC_012971.2 pRARE	pLysS	OK
XLOC_00080:XLOC_00080:yeaU	NC_012971.2 pRARE	pLysS	OK
XLOC_00335:XLOC_00335:dgoT	NC_012971.2 pRARE	pLysS	OK
XLOC_00327:XLOC_00327:dppB	NC_012971.2 pRARE	pLysS	OK
XLOC_00076:XLOC_00076:ydiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00043:XLOC_00043:ycaQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00128:XLOC_00128:yhdU	NC_012971.2 pRARE	pLysS	OK
XLOC_00359:XLOC_00359:idnO	NC_012971.2 pRARE	pLysS	OK
XLOC_00002:XLOC_00002:kefC,yabF	NC_012971.2 pRARE	pLysS	OK
XLOC_00015:XLOC_00015:mhpT	NC_012971.2 pRARE	pLysS	OK
XLOC_00128:XLOC_00128:acrF	NC_012971.2 pRARE	pLysS	OK
XLOC_00249:XLOC_00249:yoaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00209:XLOC_00209:ECD_00815	NC_012971.2 pRARE	pLysS	OK
XLOC_00240:XLOC_00240:ynfL	NC_012971.2 pRARE	pLysS	OK
XLOC_00235:XLOC_00235:pqqL	NC_012971.2 pRARE	pLysS	OK
XLOC_00242:XLOC_00242:ydhT	NC_012971.2 pRARE	pLysS	OK
XLOC_00067:XLOC_00067:yneB	NC_012971.2 pRARE	pLysS	OK
XLOC_00301:XLOC_00301:ECD_02835	NC_012971.2 pRARE	pLysS	OK
XLOC_00062:XLOC_00062:feaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00227:XLOC_00227:trpD,trpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00216:XLOC_00216:ycdJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00076:XLOC_00076:ECD_01690	NC_012971.2 pRARE	pLysS	OK
XLOC_00128:XLOC_00128:yhdZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00174:XLOC_00174:fimH	NC_012971.2 pRARE	pLysS	OK
XLOC_00075:XLOC_00075:ydiB	NC_012971.2 pRARE	pLysS	OK
XLOC_00027:XLOC_00027:ybdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00057:XLOC_00057:yciD	NC_012971.2 pRARE	pLysS	OK
XLOC_00320:XLOC_00320:yhft	NC_012971.2 pRARE	pLysS	OK
XLOC_00101:XLOC_00101:yfiK	NC_012971.2 pRARE	pLysS	OK
XLOC_00362:XLOC_00362:yjiG,yjiH	NC_012971.2 pRARE	pLysS	OK
XLOC_00017:XLOC_00017:phoB	NC_012971.2 pRARE	pLysS	OK
XLOC_00058:XLOC_00058:aldH	NC_012971.2 pRARE	pLysS	OK
XLOC_00063:XLOC_00063:yndB	NC_012971.2 pRARE	pLysS	OK
XLOC_00247:XLOC_00247:ydjI	NC_012971.2 pRARE	pLysS	OK
XLOC_00154:XLOC_00154:yihN	NC_012971.2 pRARE	pLysS	OK
XLOC_00110:XLOC_00110:xdhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00289:XLOC_00289:hypF	NC_012971.2 pRARE	pLysS	OK
XLOC_00359:XLOC_00359:insG	NC_012971.2 pRARE	pLysS	OK
XLOC_00065:XLOC_00065:ydcS	NC_012971.2 pRARE	pLysS	OK
XLOC_00354:XLOC_00354:ampC	NC_012971.2 pRARE	pLysS	OK
XLOC_00187:XLOC_00187:ykgJ	NC_012971.2 pRARE	pLysS	OK

XLOC_00143;XLOC_00143;ECD_03531	NC_012971.2 pRARE	pLysS	OK
XLOC_00040;XLOC_00040;ybjM	NC_012971.2 pRARE	pLysS	OK
XLOC_00067;XLOC_00067;yneJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00195;XLOC_00195;allC	NC_012971.2 pRARE	pLysS	OK
XLOC_00265;XLOC_00265;yeiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00262;XLOC_00262;yegX	NC_012971.2 pRARE	pLysS	OK
XLOC_00106;XLOC_00106;fhIA	NC_012971.2 pRARE	pLysS	OK
XLOC_00203;XLOC_00203;potE,speF	NC_012971.2 pRARE	pLysS	OK
XLOC_00334;XLOC_00334;yicM	NC_012971.2 pRARE	pLysS	OK
XLOC_00294;XLOC_00294;ppdA,ppdB,ppdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00331;XLOC_00331;waaW	NC_012971.2 pRARE	pLysS	OK
XLOC_00324;XLOC_00324;livK	NC_012971.2 pRARE	pLysS	OK
XLOC_00243;XLOC_00243;ydhU,ydhX	NC_012971.2 pRARE	pLysS	OK
XLOC_00046;XLOC_00046;appC	NC_012971.2 pRARE	pLysS	OK
XLOC_00361;XLOC_00361;yjhT	NC_012971.2 pRARE	pLysS	OK
XLOC_00108;XLOC_00108;ygcE	NC_012971.2 pRARE	pLysS	OK
XLOC_00248;XLOC_00248;yeaM	NC_012971.2 pRARE	pLysS	OK
XLOC_00178;XLOC_00178;creD	NC_012971.2 pRARE	pLysS	OK
XLOC_00076;XLOC_00076;ydiQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00234;XLOC_00234;yddO,yddP,yddQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00137;XLOC_00137;yhjV	NC_012971.2 pRARE	pLysS	OK
XLOC_00327;XLOC_00327;yhjR	NC_012971.2 pRARE	pLysS	OK
XLOC_00307;XLOC_00307;tdcG	NC_012971.2 pRARE	pLysS	OK
XLOC_00144;XLOC_00144;ECD_03545	NC_012971.2 pRARE	pLysS	OK
XLOC_00229;XLOC_00229;abgA,abgB	NC_012971.2 pRARE	pLysS	OK
XLOC_00257;XLOC_00257;dacD	NC_012971.2 pRARE	pLysS	OK
XLOC_00231;XLOC_00231;tynA	NC_012971.2 pRARE	pLysS	OK
XLOC_00080;XLOC_00080;yeaX	NC_012971.2 pRARE	pLysS	OK
XLOC_00229;XLOC_00229;abgT	NC_012971.2 pRARE	pLysS	OK
XLOC_00093;XLOC_00093;yfcC	NC_012971.2 pRARE	pLysS	OK
XLOC_00046;XLOC_00046;hyaC,hyaD,hyaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00098;XLOC_00098;hyfF,hyfG	NC_012971.2 pRARE	pLysS	OK
XLOC_00257;XLOC_00257;ECD_01906,ECD_01907	NC_012971.2 pRARE	pLysS	OK
XLOC_00094;XLOC_00094;yfdC	NC_012971.2 pRARE	pLysS	OK
XLOC_00016;XLOC_00016;phoA	NC_012971.2 pRARE	pLysS	OK
XLOC_00168;XLOC_00168;yjeT	NC_012971.2 pRARE	pLysS	OK
XLOC_00071;XLOC_00071;ydgl	NC_012971.2 pRARE	pLysS	OK
XLOC_00267;XLOC_00267;napA,napD,napE	NC_012971.2 pRARE	pLysS	OK
XLOC_00142;XLOC_00142;ECD_03518	NC_012971.2 pRARE	pLysS	OK
XLOC_00307;XLOC_00307;uxaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00329;XLOC_00329;xylA	NC_012971.2 pRARE	pLysS	OK
XLOC_00307;XLOC_00307;ygjO	NC_012971.2 pRARE	pLysS	OK
XLOC_00130;XLOC_00130;nirB,nirD	NC_012971.2 pRARE	pLysS	OK
XLOC_00164;XLOC_00164;yjcD	NC_012971.2 pRARE	pLysS	OK

XLOC_00169;XLOC_00169;aidB	NC_012971.2 pRARE	pLysS	OK
XLOC_00014;XLOC_00014;cynT	NC_012971.2 pRARE	pLysS	OK
XLOC_00221;XLOC_00221;ycgW	NC_012971.2 pRARE	pLysS	OK
XLOC_00235;XLOC_00235;yddB	NC_012971.2 pRARE	pLysS	OK
XLOC_00312;XLOC_00312;yhcC	NC_012971.2 pRARE	pLysS	OK
XLOC_00011;XLOC_00011;yafP	NC_012971.2 pRARE	pLysS	OK
XLOC_00279;XLOC_00279;ypfG	NC_012971.2 pRARE	pLysS	OK
XLOC_00326;XLOC_00326;yhjB	NC_012971.2 pRARE	pLysS	OK
XLOC_00173;XLOC_00173;ECD_04147	NC_012971.2 pRARE	pLysS	OK
XLOC_00222;XLOC_00222;ymgD	NC_012971.2 pRARE	pLysS	OK
XLOC_00236;XLOC_00236;uxaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00085;XLOC_00085;ECD_01908	NC_012971.2 pRARE	pLysS	OK
XLOC_00054;XLOC_00054;ycgH	NC_012971.2 pRARE	pLysS	OK
XLOC_00089;XLOC_00089;setB	NC_012971.2 pRARE	pLysS	OK
XLOC_00057;XLOC_00057;insA-11,insB-	NC_012971.2 pRARE	pLysS	OK
XLOC_00332;XLOC_00332;yicF	NC_012971.2 pRARE	pLysS	OK
XLOC_00217;XLOC_00217;ycdK	NC_012971.2 pRARE	pLysS	OK
XLOC_00040;XLOC_00040;potH,potI	NC_012971.2 pRARE	pLysS	OK
XLOC_00060;XLOC_00060;ycjZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00025;XLOC_00025;ECD_00512	NC_012971.2 pRARE	pLysS	OK
XLOC_00063;XLOC_00063;trg	NC_012971.2 pRARE	pLysS	OK
XLOC_00015;XLOC_00015;mhpD,mhpE,	NC_012971.2 pRARE	pLysS	OK
XLOC_00030;XLOC_00030;ECD_00662	NC_012971.2 pRARE	pLysS	OK
XLOC_00187;XLOC_00187;yagP,yagQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00246;XLOC_00246;celD	NC_012971.2 pRARE	pLysS	OK
XLOC_00022;XLOC_00022;allA	NC_012971.2 pRARE	pLysS	OK
XLOC_00013;XLOC_00013;yahl	NC_012971.2 pRARE	pLysS	OK
XLOC_00140;XLOC_00140;lldD,lldP,lldR	NC_012971.2 pRARE	pLysS	OK
XLOC_00086;XLOC_00086;yegM,yegN	NC_012971.2 pRARE	pLysS	OK
XLOC_00199;XLOC_00199;citD,citE	NC_012971.2 pRARE	pLysS	OK
XLOC_00128;XLOC_00128;yhdJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00256;XLOC_00256;yeeO	NC_012971.2 pRARE	pLysS	OK
XLOC_00305;XLOC_00305;ygiZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00019;XLOC_00019;lon	NC_012971.2 pRARE	pLysS	OK
XLOC_00240;XLOC_00240;ydgE,ydgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00055;XLOC_00055;ycgY	NC_012971.2 pRARE	pLysS	OK
XLOC_00307;XLOC_00307;tdcF	NC_012971.2 pRARE	pLysS	OK
XLOC_00292;XLOC_00292;fucO	NC_012971.2 pRARE	pLysS	OK
XLOC_00208;XLOC_00208;ybiU	NC_012971.2 pRARE	pLysS	OK
XLOC_00065;XLOC_00065;yncC	NC_012971.2 pRARE	pLysS	OK
XLOC_00239;XLOC_00239;rspB	NC_012971.2 pRARE	pLysS	OK
XLOC_00077;XLOC_00077;katE	NC_012971.2 pRARE	pLysS	OK
XLOC_00278;XLOC_00278;eutE	NC_012971.2 pRARE	pLysS	OK
XLOC_00199;XLOC_00199;dcuC	NC_012971.2 pRARE	pLysS	OK

XLOC_00086	XLOC_00086	yegD	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	hpaI	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	insA-21,insB-	NC_012971.2	pRARE	pLysS	OK
XLOC_00308	XLOC_00308	tdcE	NC_012971.2	pRARE	pLysS	OK
XLOC_00297	XLOC_00297	ygfl	NC_012971.2	pRARE	pLysS	OK
XLOC_00164	XLOC_00164	nrfA	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	agaE,agaW	NC_012971.2	pRARE	pLysS	OK
XLOC_00028	XLOC_00028	ybdR	NC_012971.2	pRARE	pLysS	OK
XLOC_00125	XLOC_00125	nlp	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	agaY	NC_012971.2	pRARE	pLysS	OK
XLOC_00198	XLOC_00198	citT	NC_012971.2	pRARE	pLysS	OK
XLOC_00076	XLOC_00076	ydiS,ydiT	NC_012971.2	pRARE	pLysS	OK
XLOC_00359	XLOC_00359	idnD	NC_012971.2	pRARE	pLysS	OK
XLOC_00347	XLOC_00347	yijF	NC_012971.2	pRARE	pLysS	OK
XLOC_00233	XLOC_00233	yddH	NC_012971.2	pRARE	pLysS	OK
XLOC_00150	XLOC_00150	aslB	NC_012971.2	pRARE	pLysS	OK
XLOC_00129	XLOC_00129	gspH,gspl,gsp	NC_012971.2	pRARE	pLysS	OK
XLOC_00302	XLOC_00302	ECD_02855,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00289	XLOC_00289	hydN	NC_012971.2	pRARE	pLysS	OK
XLOC_00036	XLOC_00036	ybhM	NC_012971.2	pRARE	pLysS	OK
XLOC_00175	XLOC_00175	yjiV	NC_012971.2	pRARE	pLysS	OK
XLOC_00269	XLOC_00269	yfaZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00257	XLOC_00257	yoeD	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	pflC,pflD	NC_012971.2	pRARE	pLysS	OK
XLOC_00265	XLOC_00265	yeiJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00129	XLOC_00129	gspG	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	lyxK,sgbE,sgb	NC_012971.2	pRARE	pLysS	OK
XLOC_00310	XLOC_00310	yhbX	NC_012971.2	pRARE	pLysS	OK
XLOC_00301	XLOC_00301	ECD_02832	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	ydjL	NC_012971.2	pRARE	pLysS	OK
XLOC_00068	XLOC_00068	ydeJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	mhpC	NC_012971.2	pRARE	pLysS	OK
XLOC_00307	XLOC_00307	ygjV	NC_012971.2	pRARE	pLysS	OK
XLOC_00122	XLOC_00122	agaZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00230	XLOC_00230	ydaF	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	yfhR	NC_012971.2	pRARE	pLysS	OK
XLOC_00366	XLOC_00366	yjiI,yjiW	NC_012971.2	pRARE	pLysS	OK
XLOC_00180	XLOC_00180	caiC	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	celF	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	yidJ,yidK	NC_012971.2	pRARE	pLysS	OK
XLOC_00098	XLOC_00098	hyfH,hyfI,hyfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00136	XLOC_00136	treF	NC_012971.2	pRARE	pLysS	OK
XLOC_00081	XLOC_00081	yebN	NC_012971.2	pRARE	pLysS	OK
XLOC_00027	XLOC_00027	entC	NC_012971.2	pRARE	pLysS	OK

XLOC_00012	XLOC_00012	ykgL	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	dcuB	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	nhoA	NC_012971.2	pRARE	pLysS	OK
XLOC_00302	XLOC_00302	glcF	NC_012971.2	pRARE	pLysS	OK
XLOC_00273	XLOC_00273	yfcP,yfcQ,yfcI	NC_012971.2	pRARE	pLysS	OK
XLOC_00179	XLOC_00179	yaal	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	tsr	NC_012971.2	pRARE	pLysS	OK
XLOC_00228	XLOC_00228	ycjJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	ECD_03786	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	prpR	NC_012971.2	pRARE	pLysS	OK
XLOC_00261	XLOC_00261	ECD_02013,y	NC_012971.2	pRARE	pLysS	OK
XLOC_00029	XLOC_00029	ECD_00624	NC_012971.2	pRARE	pLysS	OK
XLOC_00063	XLOC_00063	ynbC	NC_012971.2	pRARE	pLysS	OK
XLOC_00292	XLOC_00292	gudP	NC_012971.2	pRARE	pLysS	OK
XLOC_00106	XLOC_00106	norV,ygbD	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	ycaK	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	ybgH	NC_012971.2	pRARE	pLysS	OK
XLOC_00098	XLOC_00098	hyfC	NC_012971.2	pRARE	pLysS	OK
XLOC_00289	XLOC_00289	hycB,hycC	NC_012971.2	pRARE	pLysS	OK
XLOC_00022	XLOC_00022	ybbC,ybbD,yI	NC_012971.2	pRARE	pLysS	OK
XLOC_00295	XLOC_00295	yqeC	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	alsA,alsC	NC_012971.2	pRARE	pLysS	OK
XLOC_00053	XLOC_00053	ymgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00268	XLOC_00268	yfaA,yfaS,yfa	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	ybiW	NC_012971.2	pRARE	pLysS	OK
XLOC_00014	XLOC_00014	prpC	NC_012971.2	pRARE	pLysS	OK
XLOC_00002	XLOC_00002	fixB	NC_012971.2	pRARE	pLysS	OK
XLOC_00246	XLOC_00246	astA,astB,astI	NC_012971.2	pRARE	pLysS	OK
XLOC_00089	XLOC_00089	yeiL	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	agaS	NC_012971.2	pRARE	pLysS	OK
XLOC_00060	XLOC_00060	ycjV	NC_012971.2	pRARE	pLysS	OK
XLOC_00267	XLOC_00267	yojL	NC_012971.2	pRARE	pLysS	OK
XLOC_00001	XLOC_00001	yaaY	NC_012971.2	pRARE	pLysS	OK
XLOC_00330	XLOC_00330	yiaY	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ytfF	NC_012971.2	pRARE	pLysS	OK
XLOC_00180	XLOC_00180	caiB	NC_012971.2	pRARE	pLysS	OK
XLOC_00201	XLOC_00201	ybeQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	ygeX	NC_012971.2	pRARE	pLysS	OK
XLOC_00261	XLOC_00261	yegI,yegK,yeg	NC_012971.2	pRARE	pLysS	OK
XLOC_00079	XLOC_00079	yeaG	NC_012971.2	pRARE	pLysS	OK
XLOC_00087	XLOC_00087	yehI	NC_012971.2	pRARE	pLysS	OK
XLOC_00211	XLOC_00211	hcr	NC_012971.2	pRARE	pLysS	OK
XLOC_00115	XLOC_00115	ECD_02811	NC_012971.2	pRARE	pLysS	OK
XLOC_00207	XLOC_00207	ybhN,ybhO,yI	NC_012971.2	pRARE	pLysS	OK

XLOC_00239:XLOC_00239:ECD_01536,y	NC_012971.2 pRARE	pLysS	OK
XLOC_00214:XLOC_00214:yccT	NC_012971.2 pRARE	pLysS	OK
XLOC_00330:XLOC_00330:aldB	NC_012971.2 pRARE	pLysS	OK
XLOC_00213:XLOC_00213:ssuB,ssuC	NC_012971.2 pRARE	pLysS	OK
XLOC_00217:XLOC_00217:csgG	NC_012971.2 pRARE	pLysS	OK
XLOC_00268:XLOC_00268:yfaP	NC_012971.2 pRARE	pLysS	OK
XLOC_00264:XLOC_00264:yohF	NC_012971.2 pRARE	pLysS	OK
XLOC_00341:XLOC_00341:yigF	NC_012971.2 pRARE	pLysS	OK
XLOC_00065:XLOC_00065:ydcU,ydcV	NC_012971.2 pRARE	pLysS	OK
XLOC_00130:XLOC_00130:nirC	NC_012971.2 pRARE	pLysS	OK
XLOC_00113:XLOC_00113:argK,sbm	NC_012971.2 pRARE	pLysS	OK
XLOC_00195:XLOC_00195:ybbS	NC_012971.2 pRARE	pLysS	OK
XLOC_00341:XLOC_00341:ECD_03712,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00243:XLOC_00243:ydhW	NC_012971.2 pRARE	pLysS	OK
XLOC_00169:XLOC_00169:ulaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00028:XLOC_00028:crcA	NC_012971.2 pRARE	pLysS	OK
XLOC_00207:XLOC_00207:ybiO	NC_012971.2 pRARE	pLysS	OK
XLOC_00181:XLOC_00181:araB	NC_012971.2 pRARE	pLysS	OK
XLOC_00356:XLOC_00356:ECD_04074	NC_012971.2 pRARE	pLysS	OK
XLOC_00088:XLOC_00088:yehM,yehP,y	NC_012971.2 pRARE	pLysS	OK
XLOC_00295:XLOC_00295:ygfT	NC_012971.2 pRARE	pLysS	OK
XLOC_00174:XLOC_00174:fimG	NC_012971.2 pRARE	pLysS	OK
XLOC_00003:XLOC_00003:leuO	NC_012971.2 pRARE	pLysS	OK
XLOC_00015:XLOC_00015:cynX	NC_012971.2 pRARE	pLysS	OK
XLOC_00040:XLOC_00040:potF	NC_012971.2 pRARE	pLysS	OK
XLOC_00352:XLOC_00352:phnB	NC_012971.2 pRARE	pLysS	OK
XLOC_00324:XLOC_00324:livG,livH,livM	NC_012971.2 pRARE	pLysS	OK
XLOC_00275:XLOC_00275:ypdD	NC_012971.2 pRARE	pLysS	OK
XLOC_00030:XLOC_00030:ECD_00664	NC_012971.2 pRARE	pLysS	OK
XLOC_00143:XLOC_00143:ECD_03532	NC_012971.2 pRARE	pLysS	OK
XLOC_00156:XLOC_00156:sbp	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238:rem	NC_012971.2 pRARE	pLysS	OK
XLOC_00169:XLOC_00169:yjfc	NC_012971.2 pRARE	pLysS	OK
XLOC_00111:XLOC_00111:ygeY	NC_012971.2 pRARE	pLysS	OK
XLOC_00234:XLOC_00234:bdm	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:ybfM	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:ybfN	NC_012971.2 pRARE	pLysS	OK
XLOC_00069:XLOC_00069:intQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00086:XLOC_00086:yegO	NC_012971.2 pRARE	pLysS	OK
XLOC_00234:XLOC_00234:xasA	NC_012971.2 pRARE	pLysS	OK
XLOC_00365:XLOC_00365:yjjP	NC_012971.2 pRARE	pLysS	OK
XLOC_00218:XLOC_00218:mdoC	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:yliI	NC_012971.2 pRARE	pLysS	OK
XLOC_00065:XLOC_00065:ydcT	NC_012971.2 pRARE	pLysS	OK

XLOC_00094	XLOC_00094	dsdX	NC_012971.2	pRARE	pLysS	OK
XLOC_00299	XLOC_00299	yqgD	NC_012971.2	pRARE	pLysS	OK
XLOC_00260	XLOC_00260	wcaB,wcaC,w	NC_012971.2	pRARE	pLysS	OK
XLOC_00128	XLOC_00128	yhdX	NC_012971.2	pRARE	pLysS	OK
XLOC_00055	XLOC_00055	ymgE	NC_012971.2	pRARE	pLysS	OK
XLOC_00080	XLOC_00080	yeaW	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	yieK	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	yfcTU	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	frwD	NC_012971.2	pRARE	pLysS	OK
XLOC_00129	XLOC_00129	gspE,gspF	NC_012971.2	pRARE	pLysS	OK
XLOC_00099	XLOC_00099	yfgI	NC_012971.2	pRARE	pLysS	OK
XLOC_00064	XLOC_00064	ydcJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00028	XLOC_00028	ybeV	NC_012971.2	pRARE	pLysS	OK
XLOC_00214	XLOC_00214	ssuA,ssuD,ssu	NC_012971.2	pRARE	pLysS	OK
XLOC_00120	XLOC_00120	ygjQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00062	XLOC_00062	ECD_01344	NC_012971.2	pRARE	pLysS	OK
XLOC_00364	XLOC_00364	hpaX	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	xyIH	NC_012971.2	pRARE	pLysS	OK
XLOC_00280	XLOC_00280	yfgF	NC_012971.2	pRARE	pLysS	OK
XLOC_00278	XLOC_00278	eutG,eutJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00235	XLOC_00235	ydeP	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	flhA,flhB	NC_012971.2	pRARE	pLysS	OK
XLOC_00321	XLOC_00321	hofQ,yrfA,yrf	NC_012971.2	pRARE	pLysS	OK
XLOC_00046	XLOC_00046	appB	NC_012971.2	pRARE	pLysS	OK
XLOC_00182	XLOC_00182	ppdD	NC_012971.2	pRARE	pLysS	OK
XLOC_00333	XLOC_00333	yicJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00143	XLOC_00143	ECD_03540	NC_012971.2	pRARE	pLysS	OK
XLOC_00069	XLOC_00069	ECD_01540	NC_012971.2	pRARE	pLysS	OK
XLOC_00155	XLOC_00155	kdgT	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	yihU	NC_012971.2	pRARE	pLysS	OK
XLOC_00040	XLOC_00040	potG	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	cadA	NC_012971.2	pRARE	pLysS	OK
XLOC_00172	XLOC_00172	yjgL	NC_012971.2	pRARE	pLysS	OK
XLOC_00087	XLOC_00087	molR	NC_012971.2	pRARE	pLysS	OK
XLOC_00134	XLOC_00134	yrhC	NC_012971.2	pRARE	pLysS	OK
XLOC_00084	XLOC_00084	yedU	NC_012971.2	pRARE	pLysS	OK
XLOC_00335	XLOC_00335	glvBC,glvG	NC_012971.2	pRARE	pLysS	OK
XLOC_00100	XLOC_00100	hcaB,hcaC,hc	NC_012971.2	pRARE	pLysS	OK
XLOC_00112	XLOC_00112	ygfO	NC_012971.2	pRARE	pLysS	OK
XLOC_00048	XLOC_00048	ymdA	NC_012971.2	pRARE	pLysS	OK
XLOC_00247	XLOC_00247	ydjG	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	yieC,yieL	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	allB	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	ygjE	NC_012971.2	pRARE	pLysS	OK

XLOC_00186	XLOC_00186	fhiA	NC_012971.2	pRARE	pLysS	OK
XLOC_00124	XLOC_00124	yhbU	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	ygeZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00326	XLOC_00326	yhjG	NC_012971.2	pRARE	pLysS	OK
XLOC_00248	XLOC_00248	ydjK	NC_012971.2	pRARE	pLysS	OK
XLOC_00044	XLOC_00044	ycbR	NC_012971.2	pRARE	pLysS	OK
XLOC_00172	XLOC_00172	yjgZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00216	XLOC_00216	ycdI	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	ydeU	NC_012971.2	pRARE	pLysS	OK
XLOC_00325	XLOC_00325	hdeB	NC_012971.2	pRARE	pLysS	OK
XLOC_00322	XLOC_00322	rtcB	NC_012971.2	pRARE	pLysS	OK
XLOC_00118	XLOC_00118	yqiK	NC_012971.2	pRARE	pLysS	OK
XLOC_00210	XLOC_00210	ECD_00848,tl	NC_012971.2	pRARE	pLysS	OK
XLOC_00345	XLOC_00345	rhaT	NC_012971.2	pRARE	pLysS	OK
XLOC_00277	XLOC_00277	yfeT	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	ECD_02851,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	renD	NC_012971.2	pRARE	pLysS	OK
XLOC_00181	XLOC_00181	araD	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	motA,motB	NC_012971.2	pRARE	pLysS	OK
XLOC_00334	XLOC_00334	uhpT	NC_012971.2	pRARE	pLysS	OK
XLOC_00164	XLOC_00164	nrfE,nrfF,nrfG	NC_012971.2	pRARE	pLysS	OK
XLOC_00238	XLOC_00238	ydfJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00230	XLOC_00230	ydaG	NC_012971.2	pRARE	pLysS	OK
XLOC_00278	XLOC_00278	eutA,eutH	NC_012971.2	pRARE	pLysS	OK
XLOC_00061	XLOC_00061	rzpR	NC_012971.2	pRARE	pLysS	OK
XLOC_00039	XLOC_00039	ECD_00849,E	NC_012971.2	pRARE	pLysS	OK
XLOC_00259	XLOC_00259	wcaK,wcaL	NC_012971.2	pRARE	pLysS	OK
XLOC_00356	XLOC_00356	ECD_04071	NC_012971.2	pRARE	pLysS	OK
XLOC_00326	XLOC_00326	yhjH	NC_012971.2	pRARE	pLysS	OK
XLOC_00201	XLOC_00201	hscC	NC_012971.2	pRARE	pLysS	OK
XLOC_00081	XLOC_00081	yebQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00323	XLOC_00323	ggt	NC_012971.2	pRARE	pLysS	OK
XLOC_00320	XLOC_00320	insA-23,insB-	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	yphD	NC_012971.2	pRARE	pLysS	OK
XLOC_00260	XLOC_00260	wzc	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	frwB	NC_012971.2	pRARE	pLysS	OK
XLOC_00275	XLOC_00275	ydpE,ydpF	NC_012971.2	pRARE	pLysS	OK
XLOC_00137	XLOC_00137	xylF	NC_012971.2	pRARE	pLysS	OK
XLOC_00145	XLOC_00145	tnaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00289	XLOC_00289	hycD	NC_012971.2	pRARE	pLysS	OK
XLOC_00135	XLOC_00135	arsR	NC_012971.2	pRARE	pLysS	OK
XLOC_00260	XLOC_00260	cpsG	NC_012971.2	pRARE	pLysS	OK
XLOC_00053	XLOC_00053	ycgZ	NC_012971.2	pRARE	pLysS	OK
XLOC_00350	XLOC_00350	yjcP,yjcQ,yjcF	NC_012971.2	pRARE	pLysS	OK



XLOC_00329:XLOC_00329: xylB	NC_012971.2 pRARE	pLysS	OK
XLOC_00165:XLOC_00165: yjdl	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238: ECD_01530	NC_012971.2 pRARE	pLysS	OK
XLOC_00134:XLOC_00134: yhhI	NC_012971.2 pRARE	pLysS	OK
XLOC_00230:XLOC_00230: lar,ydaC	NC_012971.2 pRARE	pLysS	OK
XLOC_00264:XLOC_00264: yohl	NC_012971.2 pRARE	pLysS	OK
XLOC_00139:XLOC_00139: yibG	NC_012971.2 pRARE	pLysS	OK
XLOC_00164:XLOC_00164: yjcC	NC_012971.2 pRARE	pLysS	OK
XLOC_00218:XLOC_00218: csgF	NC_012971.2 pRARE	pLysS	OK
XLOC_00011:XLOC_00011: prfH,ykfJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00278:XLOC_00278: cchB	NC_012971.2 pRARE	pLysS	OK
XLOC_00343:XLOC_00343: yihP	NC_012971.2 pRARE	pLysS	OK
XLOC_00344:XLOC_00344: frvA	NC_012971.2 pRARE	pLysS	OK
XLOC_00091:XLOC_00091: atoA,atoD,atc	NC_012971.2 pRARE	pLysS	OK
XLOC_00030:XLOC_00030: ybfC,ybfO	NC_012971.2 pRARE	pLysS	OK
XLOC_00307:XLOC_00307: yhaO	NC_012971.2 pRARE	pLysS	OK
XLOC_00060:XLOC_00060: ycjR	NC_012971.2 pRARE	pLysS	OK
XLOC_00129:XLOC_00129: gspC,gspD	NC_012971.2 pRARE	pLysS	OK
XLOC_00079:XLOC_00079: yeaH	NC_012971.2 pRARE	pLysS	OK
XLOC_00059:XLOC_00059: ycjQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00044:XLOC_00044: ycbS,ycbT	NC_012971.2 pRARE	pLysS	OK
XLOC_00076:XLOC_00076: ydiR	NC_012971.2 pRARE	pLysS	OK
XLOC_00083:XLOC_00083: yebB	NC_012971.2 pRARE	pLysS	OK
XLOC_00263:XLOC_00263: yehX,yehY	NC_012971.2 pRARE	pLysS	OK
XLOC_00164:XLOC_00164: nrfB,nrfC,nrfI	NC_012971.2 pRARE	pLysS	OK
XLOC_00111:XLOC_00111: ygfK	NC_012971.2 pRARE	pLysS	OK
XLOC_00352:XLOC_00352: yjdE	NC_012971.2 pRARE	pLysS	OK
XLOC_00098:XLOC_00098: hyfE	NC_012971.2 pRARE	pLysS	OK
XLOC_00133:XLOC_00133: yrhB	NC_012971.2 pRARE	pLysS	OK
XLOC_00023:XLOC_00023: ylbE	NC_012971.2 pRARE	pLysS	OK
XLOC_00308:XLOC_00308: tdcD	NC_012971.2 pRARE	pLysS	OK
XLOC_00078:XLOC_00078: ydjY	NC_012971.2 pRARE	pLysS	OK
XLOC_00340:XLOC_00340: aslA	NC_012971.2 pRARE	pLysS	OK
XLOC_00260:XLOC_00260: wcaA	NC_012971.2 pRARE	pLysS	OK
XLOC_00110:XLOC_00110: yqeH	NC_012971.2 pRARE	pLysS	OK
XLOC_00247:XLOC_00247: ynjI	NC_012971.2 pRARE	pLysS	OK
XLOC_00211:XLOC_00211: hcp	NC_012971.2 pRARE	pLysS	OK
XLOC_00215:XLOC_00215: ymcA,ymcB,y	NC_012971.2 pRARE	pLysS	OK
XLOC_00128:XLOC_00128: yhdY	NC_012971.2 pRARE	pLysS	OK
XLOC_00187:XLOC_00187: yagY	NC_012971.2 pRARE	pLysS	OK
XLOC_00326:XLOC_00326: yhjA	NC_012971.2 pRARE	pLysS	OK
XLOC_00283:XLOC_00283: yphE	NC_012971.2 pRARE	pLysS	OK
XLOC_00300:XLOC_00300: yghD	NC_012971.2 pRARE	pLysS	OK
XLOC_00199:XLOC_00199: citF	NC_012971.2 pRARE	pLysS	OK

XLOC_00330	XLOC_00330	viaV	NC_012971.2	pRARE	pLysS	OK
XLOC_00203	XLOC_00203	kdpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00342	XLOC_00342	ECD_03720	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	ygjH	NC_012971.2	pRARE	pLysS	OK
XLOC_00301	XLOC_00301	ECD_02831	NC_012971.2	pRARE	pLysS	OK
XLOC_00098	XLOC_00098	hyfA,hyfB	NC_012971.2	pRARE	pLysS	OK
XLOC_00345	XLOC_00345	rhaA,rhaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	ybgO,ybgP	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	cheR	NC_012971.2	pRARE	pLysS	OK
XLOC_00136	XLOC_00136	yhiU	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	cheA	NC_012971.2	pRARE	pLysS	OK
XLOC_00353	XLOC_00353	cadC	NC_012971.2	pRARE	pLysS	OK
XLOC_00093	XLOC_00093	yfcG	NC_012971.2	pRARE	pLysS	OK
XLOC_00019	XLOC_00019	ECD_00376	NC_012971.2	pRARE	pLysS	OK
XLOC_00128	XLOC_00128	yhdW	NC_012971.2	pRARE	pLysS	OK
XLOC_00134	XLOC_00134	nikA,nikB,nikI	NC_012971.2	pRARE	pLysS	OK
XLOC_00268	XLOC_00268	yfaQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00301	XLOC_00301	yghE	NC_012971.2	pRARE	pLysS	OK
XLOC_00069	XLOC_00069	dicB,ydfD	NC_012971.2	pRARE	pLysS	OK
XLOC_00173	XLOC_00173	yjhE	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	yagR,yagS,yagT	NC_012971.2	pRARE	pLysS	OK
XLOC_00333	XLOC_00333	ECD_03533	NC_012971.2	pRARE	pLysS	OK
XLOC_00172	XLOC_00172	yjgW	NC_012971.2	pRARE	pLysS	OK
XLOC_00283	XLOC_00283	yphF	NC_012971.2	pRARE	pLysS	OK
XLOC_00162	XLOC_00162	yjbF,yjbG,yjbI	NC_012971.2	pRARE	pLysS	OK
XLOC_00179	XLOC_00179	caiD	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	yibJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00340	XLOC_00340	yigE	NC_012971.2	pRARE	pLysS	OK
XLOC_00325	XLOC_00325	yhiJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00067	XLOC_00067	yneA	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	rhsA	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	viaK	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	arcC,ylbF	NC_012971.2	pRARE	pLysS	OK
XLOC_00326	XLOC_00326	yhiW	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	ykgK	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	glxK	NC_012971.2	pRARE	pLysS	OK
XLOC_00289	XLOC_00289	hycA	NC_012971.2	pRARE	pLysS	OK
XLOC_00091	XLOC_00091	atoB	NC_012971.2	pRARE	pLysS	OK
XLOC_00174	XLOC_00174	fimF	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	ebgA,ebgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00136	XLOC_00136	yhiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00245	XLOC_00245	ydjO	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	ycfT	NC_012971.2	pRARE	pLysS	OK
XLOC_00188	XLOC_00188	ykgI	NC_012971.2	pRARE	pLysS	OK

XLOC_00320:XLOC_00320:yhfV,yhfW,yh	NC_012971.2 pRARE	pLysS	OK
XLOC_00246:XLOC_00246:celB	NC_012971.2 pRARE	pLysS	OK
XLOC_00026:XLOC_00026:fes	NC_012971.2 pRARE	pLysS	OK
XLOC_00153:XLOC_00153:yihF	NC_012971.2 pRARE	pLysS	OK
XLOC_00350:XLOC_00350:yjcS	NC_012971.2 pRARE	pLysS	OK
XLOC_00134:XLOC_00134:yhiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00146:XLOC_00146:rbsC	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238:ECD_01507,s	NC_012971.2 pRARE	pLysS	OK
XLOC_00301:XLOC_00301:yghF	NC_012971.2 pRARE	pLysS	OK
XLOC_00230:XLOC_00230:pinR	NC_012971.2 pRARE	pLysS	OK
XLOC_00260:XLOC_00260:cpsB	NC_012971.2 pRARE	pLysS	OK
XLOC_00351:XLOC_00351:phnG,phnH,p	NC_012971.2 pRARE	pLysS	OK
XLOC_00146:XLOC_00146:rbsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00029:XLOC_00029:ybfP	NC_012971.2 pRARE	pLysS	OK
XLOC_00120:XLOC_00120:ygjJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00260:XLOC_00260:wcaH,wcaI	NC_012971.2 pRARE	pLysS	OK
XLOC_00254:XLOC_00254:tar	NC_012971.2 pRARE	pLysS	OK
XLOC_00299:XLOC_00299:yggM	NC_012971.2 pRARE	pLysS	OK
XLOC_00253:XLOC_00253:flhE	NC_012971.2 pRARE	pLysS	OK
XLOC_00016:XLOC_00016:yaiV	NC_012971.2 pRARE	pLysS	OK
XLOC_00046:XLOC_00046:hyaA,hyaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00340:XLOC_00340:ECD_03693	NC_012971.2 pRARE	pLysS	OK
XLOC_00068:XLOC_00068:pinQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00217:XLOC_00217:ycdS	NC_012971.2 pRARE	pLysS	OK
XLOC_00265:XLOC_00265:rihB	NC_012971.2 pRARE	pLysS	OK
XLOC_00083:XLOC_00083:yecT	NC_012971.2 pRARE	pLysS	OK
XLOC_00039:XLOC_00039:ECD_00819	NC_012971.2 pRARE	pLysS	OK
XLOC_00123:XLOC_00123:agaC,agaD	NC_012971.2 pRARE	pLysS	OK
XLOC_00061:XLOC_00061:sieB	NC_012971.2 pRARE	pLysS	OK
XLOC_00002:XLOC_00002:fixC,fixX	NC_012971.2 pRARE	pLysS	OK
XLOC_00174:XLOC_00174:fimE	NC_012971.2 pRARE	pLysS	OK
XLOC_00328:XLOC_00328:yhjX	NC_012971.2 pRARE	pLysS	OK
XLOC_00013:XLOC_00013:yahE,yahF,yaI	NC_012971.2 pRARE	pLysS	OK
XLOC_00023:XLOC_00023:gcl	NC_012971.2 pRARE	pLysS	OK
XLOC_00133:XLOC_00133:yhhZ,yrhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00014:XLOC_00014:prpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00165:XLOC_00165:yjzZ,yjdA	NC_012971.2 pRARE	pLysS	OK
XLOC_00345:XLOC_00345:rhaD	NC_012971.2 pRARE	pLysS	OK
XLOC_00144:XLOC_00144:yidP	NC_012971.2 pRARE	pLysS	OK
XLOC_00204:XLOC_00204:ybgQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00289:XLOC_00289:hycE	NC_012971.2 pRARE	pLysS	OK
XLOC_00330:XLOC_00330:yiaW	NC_012971.2 pRARE	pLysS	OK
XLOC_00298:XLOC_00298:cmtB	NC_012971.2 pRARE	pLysS	OK
XLOC_00183:XLOC_00183:yadC,yadK	NC_012971.2 pRARE	pLysS	OK

XLOC_00208:XLOC_00208:ybiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00107:XLOC_00107:yqcE	NC_012971.2 pRARE	pLysS	OK
XLOC_00291:XLOC_00291:ygcW	NC_012971.2 pRARE	pLysS	OK
XLOC_00302:XLOC_00302:ECD_02858,y	NC_012971.2 pRARE	pLysS	OK
XLOC_00014:XLOC_00014:prpD	NC_012971.2 pRARE	pLysS	OK
XLOC_00344:XLOC_00344:yihR	NC_012971.2 pRARE	pLysS	OK
XLOC_00231:XLOC_00231:ompN	NC_012971.2 pRARE	pLysS	OK
XLOC_00223:XLOC_00223:ygcR	NC_012971.2 pRARE	pLysS	OK
XLOC_00247:XLOC_00247:ydjH	NC_012971.2 pRARE	pLysS	OK
XLOC_00126:XLOC_00126:dcuD	NC_012971.2 pRARE	pLysS	OK
XLOC_00128:XLOC_00128:acrE	NC_012971.2 pRARE	pLysS	OK
XLOC_00022:XLOC_00022:ybaS	NC_012971.2 pRARE	pLysS	OK
XLOC_00066:XLOC_00066:fdnG	NC_012971.2 pRARE	pLysS	OK
XLOC_00226:XLOC_00226:yciE	NC_012971.2 pRARE	pLysS	OK
XLOC_00022:XLOC_00022:rhsD	NC_012971.2 pRARE	pLysS	OK
XLOC_00031:XLOC_00031:hrsA	NC_012971.2 pRARE	pLysS	OK
XLOC_00275:XLOC_00275:yfdW	NC_012971.2 pRARE	pLysS	OK
XLOC_00259:XLOC_00259:wzxC	NC_012971.2 pRARE	pLysS	OK
XLOC_00260:XLOC_00260:wcaG	NC_012971.2 pRARE	pLysS	OK
XLOC_00329:XLOC_00329:yiaT	NC_012971.2 pRARE	pLysS	OK
XLOC_00302:XLOC_00302:glcD,glcE	NC_012971.2 pRARE	pLysS	OK
XLOC_00199(XLOC_00199(citG,citX	NC_012971.2 pRARE	pLysS	OK
XLOC_00274(XLOC_00274(emrK,emrY	NC_012971.2 pRARE	pLysS	OK
XLOC_00362:XLOC_00362:yjiC	NC_012971.2 pRARE	pLysS	OK
XLOC_00308:XLOC_00308:tdcB	NC_012971.2 pRARE	pLysS	OK
XLOC_00344:XLOC_00344:yjiL	NC_012971.2 pRARE	pLysS	OK
XLOC_00240(XLOC_00240(uidC	NC_012971.2 pRARE	pLysS	OK
XLOC_00131(XLOC_00131(yhfM	NC_012971.2 pRARE	pLysS	OK
XLOC_00273:XLOC_00273:yfcS	NC_012971.2 pRARE	pLysS	OK
XLOC_00012:XLOC_00012:eaeH	NC_012971.2 pRARE	pLysS	OK
XLOC_00302:XLOC_00302:ECD_02857	NC_012971.2 pRARE	pLysS	OK
XLOC_00233:XLOC_00233:narU	NC_012971.2 pRARE	pLysS	OK
XLOC_00030:XLOC_00030:ybfD	NC_012971.2 pRARE	pLysS	OK
XLOC_00291:XLOC_00291:ygcU	NC_012971.2 pRARE	pLysS	OK
XLOC_00323(XLOC_00323(ugpA,ugpE	NC_012971.2 pRARE	pLysS	OK
XLOC_00204:XLOC_00204:ECD_00663	NC_012971.2 pRARE	pLysS	OK
XLOC_00234(XLOC_00234(dos	NC_012971.2 pRARE	pLysS	OK
XLOC_00120:XLOC_00120:ygjK	NC_012971.2 pRARE	pLysS	OK
XLOC_00238:XLOC_00238:ECD_01506	NC_012971.2 pRARE	pLysS	OK
XLOC_00062:XLOC_00062:ECD_01342,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00364(XLOC_00364(hpaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00261(XLOC_00261(wzb	NC_012971.2 pRARE	pLysS	OK
XLOC_00060:XLOC_00060:ycjS,ycjT,ycjU	NC_012971.2 pRARE	pLysS	OK
XLOC_00230:XLOC_00230:xisR	NC_012971.2 pRARE	pLysS	OK

XLOC_00075	XLOC_00075	ydiO	NC_012971.2	pRARE	pLysS	OK
XLOC_00238	XLOC_00238	ydfU	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	agaB	NC_012971.2	pRARE	pLysS	OK
XLOC_00042	XLOC_00042	ycaM	NC_012971.2	pRARE	pLysS	OK
XLOC_00056	XLOC_00056	narK	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	phnE	NC_012971.2	pRARE	pLysS	OK
XLOC_00218	XLOC_00218	csgE	NC_012971.2	pRARE	pLysS	OK
XLOC_00208	XLOC_00208	ybiY	NC_012971.2	pRARE	pLysS	OK
XLOC_00087	XLOC_00087	yehK	NC_012971.2	pRARE	pLysS	OK
XLOC_00264	XLOC_00264	yohGH	NC_012971.2	pRARE	pLysS	OK
XLOC_00259	XLOC_00259	wcaM	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	tap	NC_012971.2	pRARE	pLysS	OK
XLOC_00340	XLOC_00340	ECD_03694	NC_012971.2	pRARE	pLysS	OK
XLOC_00094	XLOC_00094	yfdF	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	bgIB	NC_012971.2	pRARE	pLysS	OK
XLOC_00204	XLOC_00204	ybgD	NC_012971.2	pRARE	pLysS	OK
XLOC_00014	XLOC_00014	prpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00278	XLOC_00278	eutI,eutP,eut	NC_012971.2	pRARE	pLysS	OK
XLOC_00295	XLOC_00295	ygeQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00183	XLOC_00183	yadL	NC_012971.2	pRARE	pLysS	OK
XLOC_00322	XLOC_00322	ECD_03279	NC_012971.2	pRARE	pLysS	OK
XLOC_00350	XLOC_00350	yjcF	NC_012971.2	pRARE	pLysS	OK
XLOC_00179	XLOC_00179	caiE	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	yncG	NC_012971.2	pRARE	pLysS	OK
XLOC_00184	XLOC_00184	yadN	NC_012971.2	pRARE	pLysS	OK
XLOC_00361	XLOC_00361	yjhS	NC_012971.2	pRARE	pLysS	OK
XLOC_00261	XLOC_00261	wza	NC_012971.2	pRARE	pLysS	OK
XLOC_00275	XLOC_00275	yfdU	NC_012971.2	pRARE	pLysS	OK
XLOC_00234	XLOC_00234	yddV	NC_012971.2	pRARE	pLysS	OK
XLOC_00119	XLOC_00119	ttdA,ttdB	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	ECD_01416	NC_012971.2	pRARE	pLysS	OK
XLOC_00302	XLOC_00302	yghO	NC_012971.2	pRARE	pLysS	OK
XLOC_00344	XLOC_00344	yihQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00187	XLOC_00187	phoE	NC_012971.2	pRARE	pLysS	OK
XLOC_00030	XLOC_00030	yhhI-3	NC_012971.2	pRARE	pLysS	OK
XLOC_00178	XLOC_00178	yaaW	NC_012971.2	pRARE	pLysS	OK
XLOC_00303	XLOC_00303	yghS	NC_012971.2	pRARE	pLysS	OK
XLOC_00217	XLOC_00217	ycdQ,ycdR	NC_012971.2	pRARE	pLysS	OK
XLOC_00233	XLOC_00233	yddL	NC_012971.2	pRARE	pLysS	OK
XLOC_00298	XLOC_00298	yggF,yggP	NC_012971.2	pRARE	pLysS	OK
XLOC_00341	XLOC_00341	ECD_03711	NC_012971.2	pRARE	pLysS	OK
XLOC_00329	XLOC_00329	yiaA	NC_012971.2	pRARE	pLysS	OK
XLOC_00002	XLOC_00002	fixA	NC_012971.2	pRARE	pLysS	OK
XLOC_00179	XLOC_00179	ECD_00025	NC_012971.2	pRARE	pLysS	OK

XLOC_00343	XLOC_00343	yihO	NC_012971.2	pRARE	pLysS	OK
XLOC_00247	XLOC_00247	ydjE	NC_012971.2	pRARE	pLysS	OK
XLOC_00243	XLOC_00243	ydhV	NC_012971.2	pRARE	pLysS	OK
XLOC_00059	XLOC_00059	ycjN	NC_012971.2	pRARE	pLysS	OK
XLOC_00174	XLOC_00174	yjhR	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	fdrA	NC_012971.2	pRARE	pLysS	OK
XLOC_00291	XLOC_00291	ygcQ,ygcR,yg	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	sfmD	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	sfmA	NC_012971.2	pRARE	pLysS	OK
XLOC_00336	XLOC_00336	bgfF	NC_012971.2	pRARE	pLysS	OK
XLOC_00174	XLOC_00174	fimD	NC_012971.2	pRARE	pLysS	OK
XLOC_00239	XLOC_00239	dicC	NC_012971.2	pRARE	pLysS	OK
XLOC_00165	XLOC_00165	yjdK	NC_012971.2	pRARE	pLysS	OK
XLOC_00013	XLOC_00013	ykgD	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	sfmF	NC_012971.2	pRARE	pLysS	OK
XLOC_00168	XLOC_00168	yjfl	NC_012971.2	pRARE	pLysS	OK
XLOC_00358	XLOC_00358	pyrL	NC_012971.2	pRARE	pLysS	OK
XLOC_00098	XLOC_00098	hyfD	NC_012971.2	pRARE	pLysS	OK
XLOC_00011	XLOC_00011	yafL	NC_012971.2	pRARE	pLysS	OK
XLOC_00259	XLOC_00259	wcaJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00217	XLOC_00217	ycdL,ycdM	NC_012971.2	pRARE	pLysS	OK
XLOC_00253	XLOC_00253	torY	NC_012971.2	pRARE	pLysS	OK
XLOC_00254	XLOC_00254	cheB	NC_012971.2	pRARE	pLysS	OK
XLOC_00306	XLOC_00306	ygiP	NC_012971.2	pRARE	pLysS	OK
XLOC_00139	XLOC_00139	ECD_03437	NC_012971.2	pRARE	pLysS	OK
XLOC_00230	XLOC_00230	recT	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	yfdE	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	ybbY	NC_012971.2	pRARE	pLysS	OK
XLOC_00111	XLOC_00111	ssnA	NC_012971.2	pRARE	pLysS	OK
XLOC_00062	XLOC_00062	ydbD	NC_012971.2	pRARE	pLysS	OK
XLOC_00010	XLOC_00010	yhhI-1	NC_012971.2	pRARE	pLysS	OK
XLOC_00218	XLOC_00218	csgD	NC_012971.2	pRARE	pLysS	OK
XLOC_00015	XLOC_00015	mhpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00230	XLOC_00230	intR	NC_012971.2	pRARE	pLysS	OK
XLOC_00087	XLOC_00087	yehL	NC_012971.2	pRARE	pLysS	OK
XLOC_00157	XLOC_00157	frwC	NC_012971.2	pRARE	pLysS	OK
XLOC_00226	XLOC_00226	yciF	NC_012971.2	pRARE	pLysS	OK
XLOC_00351	XLOC_00351	phnF	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	glxR	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	yjjQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	ydeR	NC_012971.2	pRARE	pLysS	OK
XLOC_00059	XLOC_00059	ycjO,ycjP	NC_012971.2	pRARE	pLysS	OK
XLOC_00002	XLOC_00002	yaaU	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	ybcQ	NC_012971.2	pRARE	pLysS	OK

XLOC_00275:XLOC_00275:yfdX	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:yliE	NC_012971.2 pRARE	pLysS	OK
XLOC_00047(XLOC_00047(yccE	NC_012971.2 pRARE	pLysS	OK
XLOC_00204(XLOC_00204(kdpA,kdpF	NC_012971.2 pRARE	pLysS	OK
XLOC_00023:XLOC_00023:hyi	NC_012971.2 pRARE	pLysS	OK
XLOC_00086:XLOC_00086:yegS	NC_012971.2 pRARE	pLysS	OK
XLOC_00174:XLOC_00174:fimA	NC_012971.2 pRARE	pLysS	OK
XLOC_00234:XLOC_00234:ddpX	NC_012971.2 pRARE	pLysS	OK
XLOC_00243:XLOC_00243:ydhY	NC_012971.2 pRARE	pLysS	OK
XLOC_00011:XLOC_00011:mbhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00299:XLOC_00299:yggR	NC_012971.2 pRARE	pLysS	OK
XLOC_00155:XLOC_00155:yiiG	NC_012971.2 pRARE	pLysS	OK
XLOC_00120(XLOC_00120(ygjl	NC_012971.2 pRARE	pLysS	OK
XLOC_00188:XLOC_00188:ykgC	NC_012971.2 pRARE	pLysS	OK
XLOC_00237:XLOC_00237:ydeI	NC_012971.2 pRARE	pLysS	OK
XLOC_00351:XLOC_00351:phnD	NC_012971.2 pRARE	pLysS	OK
XLOC_00138(XLOC_00138(yiaO	NC_012971.2 pRARE	pLysS	OK
XLOC_00302(XLOC_00302(yghR	NC_012971.2 pRARE	pLysS	OK
XLOC_00348(XLOC_00348(arpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00179:XLOC_00179:ECD_00021	NC_012971.2 pRARE	pLysS	OK
XLOC_00111:XLOC_00111:ygeW	NC_012971.2 pRARE	pLysS	OK
XLOC_00235(XLOC_00235(ydeO	NC_012971.2 pRARE	pLysS	OK
XLOC_00138(XLOC_00138(yiaL	NC_012971.2 pRARE	pLysS	OK
XLOC_00122:XLOC_00122:yhaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00112:XLOC_00112:ygfU	NC_012971.2 pRARE	pLysS	OK
XLOC_00075(XLOC_00075(ydiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00210:XLOC_00210:ECD_00832,E	NC_012971.2 pRARE	pLysS	OK
XLOC_00168(XLOC_00168(yjfk	NC_012971.2 pRARE	pLysS	OK
XLOC_00318(XLOC_00318(gspA	NC_012971.2 pRARE	pLysS	OK
XLOC_00256:XLOC_00256:yeeL	NC_012971.2 pRARE	pLysS	OK
XLOC_00162(XLOC_00162(yjbl	NC_012971.2 pRARE	pLysS	OK
XLOC_00061:XLOC_00061:ydfQ	NC_012971.2 pRARE	pLysS	OK
XLOC_00062(XLOC_00062(ynaK	NC_012971.2 pRARE	pLysS	OK
XLOC_00222(XLOC_00222(hlyE	NC_012971.2 pRARE	pLysS	OK
XLOC_00014(XLOC_00014(yahL	NC_012971.2 pRARE	pLysS	OK
XLOC_00154(XLOC_00154:yiiE	NC_012971.2 pRARE	pLysS	OK
XLOC_00015:XLOC_00015:mhpA	NC_012971.2 pRARE	pLysS	OK
XLOC_00179:XLOC_00179:ECD_00022	NC_012971.2 pRARE	pLysS	OK
XLOC_00038:XLOC_00038:yliF	NC_012971.2 pRARE	pLysS	OK
XLOC_00092(XLOC_00092(elaD	NC_012971.2 pRARE	pLysS	OK
XLOC_00302(XLOC_00302(yghK	NC_012971.2 pRARE	pLysS	OK
XLOC_00260:XLOC_00260:gmd	NC_012971.2 pRARE	pLysS	OK
XLOC_00024:XLOC_00024:sfmC	NC_012971.2 pRARE	pLysS	OK
XLOC_00352(XLOC_00352(phnC	NC_012971.2 pRARE	pLysS	OK

XLOC_00222;XLOC_00222;ECD_01147	NC_012971.2 pRARE	pLysS	OK
XLOC_00138;XLOC_00138;viaN	NC_012971.2 pRARE	pLysS	OK
XLOC_00275;XLOC_00275;ypdH	NC_012971.2 pRARE	pLysS	OK
XLOC_00183;XLOC_00183;htrE	NC_012971.2 pRARE	pLysS	OK
XLOC_00169;XLOC_00169;yjfM	NC_012971.2 pRARE	pLysS	OK
XLOC_00010;XLOC_00010;ECD_00212	NC_012971.2 pRARE	pLysS	OK
XLOC_00136;XLOC_00136;yhiF	NC_012971.2 pRARE	pLysS	OK
XLOC_00143;XLOC_00143;yicK	NC_012971.2 pRARE	pLysS	OK
XLOC_00298;XLOC_00298;cmtA	NC_012971.2 pRARE	pLysS	OK
XLOC_00265;XLOC_00265;yeiC,yeiN	NC_012971.2 pRARE	pLysS	OK
XLOC_00080;XLOC_00080;yeaV	NC_012971.2 pRARE	pLysS	OK
XLOC_00334;XLOC_00334;yicO	NC_012971.2 pRARE	pLysS	OK
XLOC_00118;XLOC_00118;ygiL	NC_012971.2 pRARE	pLysS	OK
XLOC_00275;XLOC_00275;ypdG	NC_012971.2 pRARE	pLysS	OK
XLOC_00176;XLOC_00176;yjjN	NC_012971.2 pRARE	pLysS	OK
XLOC_00060;XLOC_00060;ompG	NC_012971.2 pRARE	pLysS	OK
XLOC_00118;XLOC_00118;yqiG	NC_012971.2 pRARE	pLysS	OK
XLOC_00067;XLOC_00067;yneK	NC_012971.2 pRARE	pLysS	OK
XLOC_00233;XLOC_00233;yddK	NC_012971.2 pRARE	pLysS	OK
XLOC_00314;XLOC_00314;envR	NC_012971.2 pRARE	pLysS	OK
XLOC_00163;XLOC_00163;yjbL,yjbM	NC_012971.2 pRARE	pLysS	OK
XLOC_00099;XLOC_00099;yfgH	NC_012971.2 pRARE	pLysS	OK
XLOC_00353;XLOC_00353;cadB	NC_012971.2 pRARE	pLysS	OK
XLOC_00303;XLOC_00303;pitB	NC_012971.2 pRARE	pLysS	OK
XLOC_00180;XLOC_00180;caiT	NC_012971.2 pRARE	pLysS	OK
XLOC_00179;XLOC_00179;ECD_00020	NC_012971.2 pRARE	pLysS	OK
XLOC_00325;XLOC_00325;yhiKL	NC_012971.2 pRARE	pLysS	OK
XLOC_00054;XLOC_00054;ycgl	NC_012971.2 pRARE	pLysS	OK
XLOC_00053;XLOC_00053;ycgG	NC_012971.2 pRARE	pLysS	OK
XLOC_00108;XLOC_00108;ycgC	NC_012971.2 pRARE	pLysS	OK
XLOC_00168;XLOC_00168;yjfJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00168;XLOC_00168;yjfL	NC_012971.2 pRARE	pLysS	OK
XLOC_00059;XLOC_00059;ycjM	NC_012971.2 pRARE	pLysS	OK
XLOC_00196;XLOC_00196;fimZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00236;XLOC_00236;ydeT	NC_012971.2 pRARE	pLysS	OK
XLOC_00123;XLOC_00123;agal	NC_012971.2 pRARE	pLysS	OK
XLOC_00172;XLOC_00172;yjgN	NC_012971.2 pRARE	pLysS	OK
XLOC_00361;XLOC_00361;yjhA	NC_012971.2 pRARE	pLysS	OK
XLOC_00069;XLOC_00069;ydfE	NC_012971.2 pRARE	pLysS	OK
XLOC_00075;XLOC_00075;ydiM	NC_012971.2 pRARE	pLysS	OK
XLOC_00195;XLOC_00195;allD	NC_012971.2 pRARE	pLysS	OK
XLOC_00220;XLOC_00220;ycfZ	NC_012971.2 pRARE	pLysS	OK
XLOC_00027;XLOC_00027;fepE	NC_012971.2 pRARE	pLysS	OK
XLOC_00063;XLOC_00063;ynbA,ynbB	NC_012971.2 pRARE	pLysS	OK



XLOC_00025	XLOC_00025	ECD_00513	NC_012971.2	pRARE	pLysS	OK
XLOC_00220	XLOC_00220	ymfA	NC_012971.2	pRARE	pLysS	OK
XLOC_00174	XLOC_00174	fimC	NC_012971.2	pRARE	pLysS	OK
XLOC_00028	XLOC_00028	ybeR	NC_012971.2	pRARE	pLysS	OK
XLOC_00135	XLOC_00135	yhiS	NC_012971.2	pRARE	pLysS	OK
XLOC_00189	XLOC_00189	yahC	NC_012971.2	pRARE	pLysS	OK
XLOC_00075	XLOC_00075	ydiL	NC_012971.2	pRARE	pLysS	OK
XLOC_00020	XLOC_00020	glnK	NC_012971.2	pRARE	pLysS	OK
XLOC_00010	XLOC_00010	yafT	NC_012971.2	pRARE	pLysS	OK
XLOC_00235	XLOC_00235	yddA	NC_012971.2	pRARE	pLysS	OK
XLOC_00079	XLOC_00079	yeal	NC_012971.2	pRARE	pLysS	OK
XLOC_00274	XLOC_00274	yfcV	NC_012971.2	pRARE	pLysS	OK
XLOC_00122	XLOC_00122	yhaC	NC_012971.2	pRARE	pLysS	OK
XLOC_00048	XLOC_00048	csgC	NC_012971.2	pRARE	pLysS	OK
XLOC_00203	XLOC_00203	ybfGH	NC_012971.2	pRARE	pLysS	OK
XLOC_00118	XLOC_00118	yqiH	NC_012971.2	pRARE	pLysS	OK
XLOC_00275	XLOC_00275	yfdV	NC_012971.2	pRARE	pLysS	OK
XLOC_00221	XLOC_00221	ycgX	NC_012971.2	pRARE	pLysS	OK
XLOC_00075	XLOC_00075	ydiN	NC_012971.2	pRARE	pLysS	OK
XLOC_00140	XLOC_00140	ECD_03459	NC_012971.2	pRARE	pLysS	OK
XLOC_00176	XLOC_00176	bgIJ	NC_012971.2	pRARE	pLysS	OK
XLOC_00183	XLOC_00183	ecpD	NC_012971.2	pRARE	pLysS	OK
XLOC_00260	XLOC_00260	wcaE	NC_012971.2	pRARE	pLysS	OK
XLOC_00116	XLOC_00116	yghT	NC_012971.2	pRARE	pLysS	OK
XLOC_00260	XLOC_00260	wcaF	NC_012971.2	pRARE	pLysS	OK
XLOC_00235	XLOC_00235	ydeQ	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	ECD_01466	NC_012971.2	pRARE	pLysS	OK
XLOC_00174	XLOC_00174	fimI	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	ninE,rus,ybcM	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	ECD_01413	NC_012971.2	pRARE	pLysS	OK
XLOC_00138	XLOC_00138	yiaM	NC_012971.2	pRARE	pLysS	OK
XLOC_00236	XLOC_00236	ECD_01464	NC_012971.2	pRARE	pLysS	OK
XLOC_00337	XLOC_00337	bgIG	NC_012971.2	pRARE	pLysS	OK
XLOC_00121	XLOC_00121	yhaI	NC_012971.2	pRARE	pLysS	OK
XLOC_00025	XLOC_00025	ybcK	NC_012971.2	pRARE	pLysS	OK
XLOC_00076	XLOC_00076	arpB	NC_012971.2	pRARE	pLysS	OK
XLOC_00023	XLOC_00023	allP,ybbV	NC_012971.2	pRARE	pLysS	OK
XLOC_00123	XLOC_00123	yral	NC_012971.2	pRARE	pLysS	OK
XLOC_00066	XLOC_00066	ydcC	NC_012971.2	pRARE	pLysS	OK
XLOC_00024	XLOC_00024	sfmH	NC_012971.2	pRARE	pLysS	OK
XLOC_00188	XLOC_00188	ykgB	NC_012971.2	pRARE	pLysS	OK
XLOC_00026	XLOC_00026	hokE	NC_012971.2	pRARE	pLysS	OK
XLOC_00029	XLOC_00029	insJ-2,insK-2	NC_012971.2	pRARE	pLysS	NOTEST
XLOC_00030	XLOC_00030	ECD_00650	NC_012971.2	pRARE	pLysS	OK

XLOC_00039;XLOC_00039;ECD_00829	NC_012971.2 pRARE	pLysS	OK
XLOC_00053;XLOC_00053;ymgB	NC_012971.2 pRARE	pLysS	OK
XLOC_00061;XLOC_00061;ECD_01334	NC_012971.2 pRARE	pLysS	OK
XLOC_00066;XLOC_00066;ECD_01417	NC_012971.2 pRARE	pLysS	OK
XLOC_00069;XLOC_00069;ECD_01546	NC_012971.2 pRARE	pLysS	OK
XLOC_00092;XLOC_00092;yfbL	NC_012971.2 pRARE	pLysS	OK
XLOC_00122;XLOC_00122;tdcR	NC_012971.2 pRARE	pLysS	OK
XLOC_00190;XLOC_00190;ECD_00320	NC_012971.2 pRARE	pLysS	OK
XLOC_00215;XLOC_00215;cspH	NC_012971.2 pRARE	pLysS	OK
XLOC_00218;XLOC_00218;yceO	NC_012971.2 pRARE	pLysS	OK
XLOC_00225;XLOC_00225;tpr	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00226;XLOC_00226;yciG	NC_012971.2 pRARE	pLysS	OK
XLOC_00230;XLOC_00230;racC	NC_012971.2 pRARE	pLysS	OK
XLOC_00230;XLOC_00230;kil,ydaE	NC_012971.2 pRARE	pLysS	OK
XLOC_00233;XLOC_00233;yddJ	NC_012971.2 pRARE	pLysS	OK
XLOC_00235;XLOC_00235;ECD_01458	NC_012971.2 pRARE	pLysS	OK
XLOC_00236;XLOC_00236;ydeS	NC_012971.2 pRARE	pLysS	OK
XLOC_00295;XLOC_00295;glyU	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00314;XLOC_00314;thrV	NC_012971.2 pRARE	pLysS	OK
XLOC_00325;XLOC_00325;yhiD	NC_012971.2 pRARE	pLysS	OK
XLOC_00329;XLOC_00329;yiaB	NC_012971.2 pRARE	pLysS	OK
XLOC_00334;XLOC_00334;ECD_03534	NC_012971.2 pRARE	pLysS	OK
XLOC_00339;XLOC_00339;insJ-6,insK-6	NC_012971.2 pRARE	pLysS	NOTEST
XLOC_00341;XLOC_00341;yigG	NC_012971.2 pRARE	pLysS	OK
XLOC_00343;XLOC_00343;yshA	NC_012971.2 pRARE	pLysS	OK



33356.9	0	#NAME?	#NAME?	5.00E-05	0.00039685	yes
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31266.9	0	#NAME?	#NAME?	5.00E-05	0.00039685	yes
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10299.4	0	#NAME?	#NAME?	0.0003	0.00186127	yes
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611.096	0	#NAME?	#NAME?	0.02785	0.0780314	no
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656836	0	#NAME?	#NAME?	5.00E-05	0.00039685	yes
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4026.4	0	#NAME?	#NAME?	0.01865	0.0567553	no
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486.279	0	#NAME?	0	1	1	no
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62.8595	0	#NAME?	0	1	1	no
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61.1592	0	#NAME?	0	1	1	no
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989.042	0	#NAME?	#NAME?	0.0006	0.00335087	yes
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116549	1440.08	-6.33864	-4.17168	0.0316	0.0859247	no
2927.15	84.6723	-5.11146	-3.76336	0.0001	0.00072361	yes
7987.51	317.2	-4.65428	-3.44101	5.00E-05	0.00039685	yes
8190.51	374.305	-4.45167	-2.41517	0.0002	0.00133233	yes
4574.11	241.787	-4.24168	-2.82516	0.00025	0.00161651	yes
6043.93	320.245	-4.23824	-2.29746	0.00065	0.00361864	yes
5451.08	326.562	-4.06111	-2.72209	0.0001	0.00072361	yes
3785.79	231.536	-4.03129	-2.11307	0.00095	0.00489444	yes
3866.08	239.704	-4.01154	-2.53611	0.00015	0.00102641	yes
1507.53	100.979	-3.90005	-2.55385	0.00245	0.0108738	yes
5439.47	373.784	-3.86319	-1.4111	0.0003	0.00186127	yes
2273.86	161.875	-3.81219	-2.3022	0.0005	0.00286971	yes
2786.92	230.827	-3.59379	-2.89003	5.00E-05	0.00039685	yes
2075.88	173.028	-3.58464	-2.6443	0.0009	0.00469867	yes
3631.49	312.507	-3.5386	-3.05952	5.00E-05	0.00039685	yes
463.981	43.2326	-3.42387	-3.4446	5.00E-05	0.00039685	yes
1005.61	107.289	-3.2285	-2.02379	0.2453	0.393642	no
3722.64	406.032	-3.19666	-3.19567	5.00E-05	0.00039685	yes
787.551	87.3453	-3.17257	-2.15052	0.0003	0.00186127	yes
4401.86	499.165	-3.14052	-2.43946	5.00E-05	0.00039685	yes
727.243	82.6466	-3.13741	-1.91607	0.0088	0.0311357	yes

602.545	73.9901	-3.02566	-2.69211	0.0002	0.00133233	yes
6683.55	863.09	-2.95303	-2.1127	0.0026	0.0113677	yes
5831.83	847.377	-2.78287	-2.47135	5.00E-05	0.00039685	yes
3469.56	526.627	-2.7199	-1.3418	0.0053	0.0204346	yes
11306.3	1749.91	-2.69177	-1.71448	0.0075	0.0271914	yes
4583.75	716.488	-2.67751	-1.4749	0.0105	0.0360292	yes
6242.06	979.111	-2.67248	-1.488	0.0163	0.0510588	no
1818.43	288.584	-2.65563	-2.94372	5.00E-05	0.00039685	yes
7800.02	1243.08	-2.64955	-1.29469	0.28905	0.433821	no
453.446	74.228	-2.6109	-2.41809	0.00075	0.00405368	yes
842.224	139.4	-2.59498	-1.80235	0.00505	0.0197516	yes
133.219	22.3698	-2.57417	-2.67936	0.02175	0.0641935	no
35950.8	6072.56	-2.56565	-0.956442	0.02945	0.0811429	no
2554.19	435.932	-2.55069	-1.64665	0.00215	0.00985254	yes
872.27	154.029	-2.50157	-2.13817	0.0003	0.00186127	yes
299.448	53.9246	-2.47329	-3.84303	5.00E-05	0.00039685	yes
2156.11	393.687	-2.45331	-2.10428	0.0001	0.00072361	yes
3201.08	586.101	-2.44934	-1.45257	0.0177	0.0544283	no
582.648	107.173	-2.44269	-1.80737	0.0091	0.0319089	yes
1088.32	200.651	-2.43934	-1.17448	0.0516	0.126364	no
2663.52	493.939	-2.43093	-1.72537	0.00615	0.0228855	yes
1107.29	208.716	-2.40743	-1.17155	0.04715	0.118177	no
392.392	76.3472	-2.36165	-2.57986	0.0001	0.00072361	yes
651.428	128.034	-2.34708	-2.3508	0.00015	0.00102641	yes
541.59	106.647	-2.34436	-2.10695	0.00085	0.00449085	yes
748.985	147.983	-2.3395	-2.3287	0.0004	0.00236908	yes
428.401	86.0037	-2.31649	-2.64831	5.00E-05	0.00039685	yes
9987.58	2008.98	-2.31367	-1.37353	0.0118	0.039378	yes
3205.8	649.137	-2.30409	-1.14473	0.1975	0.336878	no
295.888	60.767	-2.28369	-2.60488	0.0001	0.00072361	yes
576.926	118.858	-2.27914	-1.54225	0.13735	0.261069	no
2200.9	456.83	-2.26836	-1.23178	0.0473	0.118216	no
6552.41	1361	-2.26736	-1.05442	0.2352	0.382485	no
668.174	139.401	-2.26099	-1.57623	0.01125	0.038047	yes
827.078	173.076	-2.25662	-1.48106	0.0178	0.0545454	no
633.93	132.952	-2.25341	-1.11034	0.0604	0.14314	no
4558.42	983.616	-2.21236	-1.13716	0.05015	0.123328	no
6480.63	1451.69	-2.1584	-0.96622	0.3318	0.476667	no
1745.63	392.755	-2.15204	-1.21838	0.03435	0.0922633	no
1623.41	366.879	-2.14565	-1.5659	0.01345	0.0436444	yes
5651.64	1285.76	-2.13605	-1.0339	0.03985	0.103334	no
5307.31	1226.69	-2.11321	-1.17243	0.03555	0.0948257	no
26781.6	6206.3	-2.10944	-1.86161	0.00705	0.0257186	yes
9276.87	2150.83	-2.10874	-0.89346	0.322	0.466199	no

4460.25	1035.69	-2.10654	-0.925782	0.3182	0.46248	no
531.825	124.125	-2.09916	-17.1951	0.22	0.365353	no
7805.43	1829.35	-2.09314	-0.919619	0.32495	0.469457	no
211.526	49.9952	-2.08098	-2.39355	5.00E-05	0.00039685	yes
11959.1	2902.32	-2.04283	-0.901293	0.27485	0.420022	no
1099.74	267.316	-2.04054	-1.89713	0.0025	0.0110678	yes
1786.26	439.176	-2.02407	-1.05559	0.03625	0.0958813	no
8815.68	2168.64	-2.02328	-0.903165	0.31115	0.456492	no
1267.73	313.81	-2.01429	-1.08048	0.07175	0.161667	no
1944.25	483.854	-2.00657	-1.25081	0.0331	0.0894512	no
6255.14	1560.2	-2.00331	-0.885642	0.23565	0.382849	no
92352.1	23068.3	-2.00123	-2.21837	5.00E-05	0.00039685	yes
3541.84	887.981	-1.9959	-0.982613	0.04255	0.10929	no
268.927	67.4547	-1.99523	-2.18606	0.0003	0.00186127	yes
1974.34	495.818	-1.99349	-2.13404	0.00075	0.00405368	yes
8251.77	2076.63	-1.99046	-0.971848	0.2803	0.425216	no
7096.07	1789.76	-1.98726	-1.05156	0.0624	0.146209	no
394.434	99.6883	-1.98429	-2.40819	5.00E-05	0.00039685	yes
5011.78	1269.27	-1.98133	-0.869193	0.32885	0.473272	no
1395.76	353.702	-1.98044	-2.0593	0.0007	0.00384836	yes
4514.18	1144.11	-1.98024	-0.958855	0.3171	0.461951	no
6784.48	1728.25	-1.97292	-0.868519	0.3348	0.479608	no
1138.22	290.694	-1.9692	-1.75839	0.00325	0.0135699	yes
6458.17	1649.55	-1.96905	-1.35937	0.0274	0.0773079	no
2649.14	677.768	-1.96666	-0.926937	0.33805	0.482694	no
654.537	167.516	-1.96617	-1.53272	0.0154	0.0487597	yes
850.748	218.348	-1.9621	-1.51886	0.0357	0.0949485	no
1706.19	438.207	-1.9611	-1.94348	0.0012	0.00596446	yes
2371.37	611.348	-1.95566	-1.48317	0.0099	0.0342707	yes
11458.9	2958.82	-1.95338	-0.891631	0.34685	0.490489	no
11865.5	3064.04	-1.95327	-1.17694	0.05785	0.138212	no
315.976	81.6492	-1.95231	-2.30091	0.0001	0.00072361	yes
1075.99	278.554	-1.94964	-1.32586	0.0208	0.0621707	no
1266.76	328.63	-1.94661	-1.09174	0.0511	0.125314	no
1831.64	476.151	-1.94364	-1.9137	0.0004	0.00236908	yes
20474.3	5340.4	-1.93879	-1.8083	0.0023	0.0104448	yes
6584.66	1727.97	-1.93003	-0.91113	0.3481	0.491862	no
1449.28	381.76	-1.9246	-1.75172	0.0026	0.0113677	yes
5181.02	1365.55	-1.92376	-1.13003	0.02225	0.0655046	no
7212.15	1910.59	-1.91641	-0.902826	0.3351	0.479843	no
238.063	63.1546	-1.91439	-2.32161	0.0001	0.00072361	yes
639.515	169.692	-1.91406	-1.83352	0.00365	0.0149739	yes
2527	670.889	-1.91328	-1.03416	0.0926	0.197532	no
875.594	232.727	-1.91162	-1.90183	0.0034	0.0139972	yes



528.886	140.76	-1.90972	-2.34746	0.0005	0.00286971	yes
695.246	185.408	-1.90682	-1.58998	0.00685	0.0250669	yes
3596.74	961.775	-1.90292	-1.19431	0.0301	0.0826753	no
3327.51	901.229	-1.88448	-1.10079	0.0362	0.0958813	no
556.341	150.975	-1.88166	-2.24551	0.0002	0.00133233	yes
6713.31	1833.64	-1.87231	-1.16467	0.06235	0.146189	no
2529.57	690.929	-1.87229	-0.870251	0.18025	0.3143	no
3319.98	907.574	-1.87109	-0.860546	0.3497	0.492937	no
2575.12	708.916	-1.86095	-0.878291	0.24985	0.397225	no
5289.36	1458.14	-1.85896	-0.836008	0.2523	0.399418	no
951.532	262.784	-1.85638	-1.453	0.01185	0.0394701	yes
989.231	273.661	-1.85392	-0.67458	0.46895	0.597373	no
8851.8	2449.63	-1.85341	-0.841956	0.35685	0.499618	no
4006.54	1112.39	-1.84869	-1.06159	0.0279	0.0780314	no
7229.47	2007.33	-1.84861	-0.858968	0.3442	0.48831	no
1517.19	423.869	-1.83971	-1.70365	0.0021	0.0096485	yes
3471.38	972.738	-1.83538	-0.960125	0.02435	0.0703933	no
4391.91	1230.78	-1.83527	-0.780228	0.35995	0.501567	no
678.266	190.077	-1.83527	-1.65096	0.00575	0.0216949	yes
2361.08	665.591	-1.82674	-0.974079	0.07555	0.168085	no
168.005	47.4185	-1.82498	-1.97723	0.00165	0.00780483	yes
764.797	216.232	-1.8225	-1.40063	0.01245	0.0410803	yes
838.47	237.555	-1.8195	-1.09893	0.0672	0.154175	no
3583.32	1025.17	-1.80544	-1.11312	0.05575	0.134472	no
618.356	177.164	-1.80335	-1.63965	0.0178	0.0545454	no
670.255	192.299	-1.80135	-1.69285	0.005	0.0195778	yes
1160.75	333.056	-1.80122	-1.73054	0.0051	0.0198371	yes
3501.4	1006.11	-1.79914	-0.941988	0.1205	0.240318	no
912.495	262.292	-1.79864	-1.04062	0.09245	0.197331	no
9161.05	2635.28	-1.79756	-0.7968	0.36905	0.509813	no
932.181	268.538	-1.79548	-2.15385	0.0006	0.00335087	yes
296.684	85.6428	-1.79252	-2.12395	0.0002	0.00133233	yes
1239.51	358.957	-1.78789	-1.00324	0.0885	0.191334	no
626.659	182.503	-1.77976	-1.80623	0.00245	0.0108738	yes
4202.67	1227.26	-1.77587	-1.74707	0.00325	0.0135699	yes
2598.57	761.697	-1.77043	-0.935703	0.2112	0.353404	no
2039.75	598.19	-1.76971	-0.975927	0.0741	0.165376	no
3348.07	983.584	-1.76721	-0.87645	0.0991	0.20837	no
1269.58	373.91	-1.76359	-1.77513	0.0014	0.00676763	yes
3201.21	943.578	-1.7624	-0.757161	0.35925	0.501058	no
11411	3365.63	-1.76148	-0.757062	0.38025	0.518978	no
6821.05	2023.39	-1.75322	-0.808358	0.19095	0.328088	no
652.434	195.083	-1.74175	-1.3633	0.02485	0.0714285	no
2738.66	819.81	-1.74011	-0.906201	0.09735	0.205426	no

6106.88	1829.84	-1.73871	-0.982233	0.03635	0.0958813	no
480.576	144.879	-1.72991	-1.69301	0.0024	0.0107466	yes
13373.5	4037.8	-1.72774	-0.757652	0.36285	0.504222	no
1756.7	531.961	-1.72348	-0.775903	0.3627	0.504222	no
829.554	251.553	-1.72147	-1.48863	0.0131	0.0427844	yes
605.852	185.006	-1.7114	-1.78298	0.00385	0.0156306	yes
1743.7	533.395	-1.70888	-1.36112	0.0238	0.0690867	no
1995.51	610.534	-1.70862	-0.849476	0.0938	0.199729	no
2010.4	618.062	-1.70166	-2.0492	0.13415	0.257494	no
13586.4	4180.16	-1.70054	-0.762573	0.3791	0.517677	no
4046.07	1245.32	-1.7	-0.784463	0.36275	0.504222	no
1066.56	328.281	-1.69996	-0.818041	0.1642	0.293577	no
361.203	111.249	-1.69901	-1.53951	0.0056	0.0212885	yes
2483.72	770.309	-1.68899	-1.0391	0.0738	0.16502	no
2135.89	662.63	-1.68856	-0.746569	0.371	0.511304	no
26803.8	8318.93	-1.68797	-0.907609	0.3101	0.455783	no
233.406	72.5098	-1.6866	-1.43372	0.02795	0.0781093	no
817.052	254.272	-1.68406	-1.11701	0.0826	0.180797	no
1029.6	320.484	-1.68376	-1.72365	0.00265	0.0115149	yes
5279.36	1644.73	-1.68251	-1.05834	0.06605	0.15253	no
16051.3	5000.86	-1.68244	-1.08048	0.0593	0.141008	no
992.541	309.251	-1.68235	-0.870948	0.13765	0.261216	no
1000.35	311.967	-1.68104	-1.41629	0.01225	0.0404583	yes
482.098	150.999	-1.67479	-1.27915	0.0357	0.0949485	no
3381.48	1063.95	-1.66823	-0.844965	0.2425	0.391287	no
496.33	156.375	-1.66628	-1.43918	0.0111	0.0376481	yes
92.0032	29.0128	-1.665	-1.3388	0.0472	0.118216	no
1410.17	444.742	-1.66483	-1.04133	0.09235	0.197237	no
1366.17	431.522	-1.66263	-0.992696	0.0842	0.183728	no
3578.42	1133.1	-1.65905	-0.768765	0.3523	0.495369	no
5192.53	1647.23	-1.6564	-0.723934	0.38385	0.522273	no
860.073	272.858	-1.65631	-1.61636	0.00375	0.0153129	yes
2301.31	730.779	-1.65495	-1.34314	0.0201	0.0604372	no
13268.9	4214.1	-1.65475	-0.750361	0.385	0.523636	no
1782.17	566.477	-1.65355	-1.07178	0.0365	0.0962049	no
3206.5	1019.51	-1.65313	-1.1407	0.0284	0.0789287	no
776.076	247.309	-1.64988	-1.41387	0.0266	0.0754738	no
4368.21	1392.86	-1.64899	-1.42016	0.0226	0.0662032	no
4542.95	1453.17	-1.64443	-0.7476	0.3589	0.501058	no
149.738	47.942	-1.64308	-1.90778	0.0009	0.00469867	yes
255.129	81.7078	-1.64268	-1.99924	0.001	0.00509986	yes
1028.34	329.79	-1.6407	-1.18694	0.03965	0.102967	no
950.478	305.53	-1.63734	-1.68859	0.00445	0.0176995	yes
610.223	196.186	-1.63711	-1.17798	0.03155	0.0859213	no

392.996	126.488	-1.63552	-1.47248	0.00545	0.0208306	yes
9441	3044.28	-1.63284	-0.721811	0.39125	0.529683	no
2038.72	658.941	-1.62944	-0.791007	0.3298	0.47418	no
1454.29	470.474	-1.62813	-1.01972	0.0814	0.178501	no
848.945	275.523	-1.6235	-1.50608	0.0118	0.039378	yes
1638.45	534.696	-1.61554	-0.775698	0.25345	0.399702	no
638.073	209.257	-1.60845	-1.18838	0.0419	0.108093	no
2066.75	678.471	-1.607	-1.42112	0.00745	0.0270658	yes
285.005	93.8262	-1.60293	-1.63802	0.00685	0.0250669	yes
796.148	262.199	-1.60238	-0.827208	0.1609	0.290153	no
1315.27	433.207	-1.60223	-0.849638	0.10205	0.212921	no
7016.16	2313.14	-1.60083	-0.465852	0.12275	0.242745	no
307.688	101.489	-1.60014	-1.75722	0.00465	0.0183912	yes
887.19	292.832	-1.59917	-0.829419	0.1243	0.244711	no
991.361	328.007	-1.59568	-1.48613	0.01485	0.0473587	yes
900.106	298.629	-1.59174	-1.21566	0.03855	0.100555	no
502.237	167.021	-1.58834	-1.58728	0.00805	0.0289176	yes
232.158	77.2239	-1.58799	-1.74551	0.0016	0.00759892	yes
6192.49	2066.03	-1.58366	-0.7135	0.3446	0.48839	no
514.166	171.771	-1.58175	-1.20105	0.0345	0.0925956	no
492.039	164.401	-1.58155	-1.70036	0.00295	0.012465	yes
262.703	87.8435	-1.58043	-1.34862	0.0307	0.083996	no
159.533	53.4385	-1.5779	-1.62116	0.0052	0.0201593	yes
3754.56	1259.42	-1.57588	-0.722302	0.3962	0.534397	no
770.03	258.527	-1.5746	-0.842936	0.12115	0.241069	no
4692.75	1575.99	-1.57418	-0.743155	0.1477	0.274687	no
537.238	181.133	-1.56851	-1.65333	0.00405	0.0163111	yes
1863.1	628.867	-1.56688	-0.933081	0.0777	0.171778	no
268.656	90.6834	-1.56685	-1.84236	0.00325	0.0135699	yes
495.037	167.542	-1.56301	-1.07501	0.1702	0.301097	no
666.117	226.442	-1.55664	-1.46509	0.0132	0.0429915	yes
1708.67	582.599	-1.5523	-0.732678	0.36735	0.508261	no
1260.23	430.236	-1.55049	-1.73424	0.00295	0.012465	yes
3026.85	1034.35	-1.54909	-0.765304	0.31935	0.463631	no
766.123	262.027	-1.54786	-1.18362	0.0249	0.0715139	no
696.256	238.183	-1.54755	-1.87356	0.0024	0.0107466	yes
4278.95	1464.02	-1.54732	-1.01486	0.07375	0.165013	no
443.487	151.811	-1.54662	-1.9013	0.00165	0.00780483	yes
668.804	229.232	-1.54477	-1.35934	0.0128	0.0420776	yes
3165.69	1087.73	-1.5412	-0.886744	0.01155	0.0387271	yes
286.379	98.46	-1.54032	-1.27638	0.0275	0.0774042	no
1068.11	367.787	-1.53812	-1.10907	0.05935	0.141031	no
729.444	251.45	-1.53653	-1.44807	0.0207	0.0620296	no
8810.79	3039.5	-1.53544	-0.737638	0.09295	0.198039	no

1964.95	680.976	-1.52882	-0.724949	0.2765	0.421265	no
1426.91	495.752	-1.5252	-0.766876	0.1364	0.259964	no
221.126	76.9909	-1.52211	-1.71275	0.0054	0.0206843	yes
1942.96	676.761	-1.52154	-0.786131	0.14595	0.27275	no
2785.14	970.812	-1.52049	-1.09381	0.03865	0.100667	no
396.799	138.565	-1.51785	-1.50063	0.0105	0.0360292	yes
210.565	73.6153	-1.51619	-0.360968	0.49315	0.617138	no
426.131	149.661	-1.5096	-1.27102	0.04475	0.113453	no
2579.91	906.215	-1.50939	-0.676362	0.4053	0.542041	no
273.693	96.2368	-1.5079	-1.66959	0.0056	0.0212885	yes
1497.35	526.844	-1.50696	-0.84838	0.11985	0.239564	no
262.721	92.4515	-1.50676	-1.82961	0.00195	0.0090657	yes
266.427	93.9728	-1.50342	-1.7816	0.0035	0.0143921	yes
512.36	180.976	-1.50136	-1.29476	0.0317	0.0859975	no
415.876	146.999	-1.50035	-1.49153	0.0064	0.0236411	yes
653.711	231.132	-1.49994	-1.74324	0.0029	0.0123276	yes
327.695	115.927	-1.49913	-0.998776	0.0953	0.202524	no
949.56	336.083	-1.49844	-1.06636	0.1251	0.245698	no
273.755	96.9432	-1.49768	-1.52667	0.0085	0.030226	yes
2557.85	906.798	-1.49608	-0.826407	0.0721	0.162248	no
2480.03	880.571	-1.49385	-0.902525	0.0972	0.205338	no
2730.08	970.608	-1.49198	-0.743137	0.26255	0.409392	no
979.003	348.24	-1.49123	-0.907082	0.09535	0.202524	no
1043.11	371.844	-1.48812	-1.1512	0.04235	0.108935	no
12709.3	4534.05	-1.48701	-0.701363	0.3046	0.451013	no
1007.99	360.374	-1.48391	-1.51774	0.01585	0.0499155	yes
284.757	101.874	-1.48294	-1.29334	0.01925	0.0582792	no
3033	1086.08	-1.48162	-0.712159	0.27705	0.421891	no
1036.03	371.121	-1.48111	-1.17621	0.0371	0.0974221	no
775.637	278.658	-1.47689	-0.90453	0.1124	0.229091	no
13184.5	4746.36	-1.47394	-1.51568	0.19885	0.338525	no
967.101	350.635	-1.4637	-0.739168	0.19845	0.338008	no
3553.78	1288.49	-1.46367	-0.775773	0.071	0.161006	no
656.613	238.23	-1.46269	-0.809599	0.15715	0.285609	no
995.737	361.406	-1.46214	-0.697478	0.1782	0.311188	no
149.089	54.2089	-1.45957	-1.49217	0.0152	0.0483001	yes
2707.52	985.892	-1.45747	-0.715839	0.1497	0.276622	no
419.822	154.313	-1.44392	-1.74369	0.00195	0.0090657	yes
417.44	153.699	-1.44147	-1.66564	0.0053	0.0204346	yes
176.825	65.2128	-1.4391	-1.78051	0.002	0.00924934	yes
466.514	172.479	-1.4355	-1.21754	0.0371	0.0974221	no
524.398	194.275	-1.43256	-1.33343	0.0209	0.0624166	no
316.919	117.44	-1.43219	-1.76762	0.00265	0.0115149	yes
1032.39	382.577	-1.43217	-1.1648	0.0449	0.113751	no

528.866	196.854	-1.42578	-1.03512	0.08335	0.182212	no
7429.57	2768.66	-1.42409	-0.611702	0.42465	0.560684	no
3131.11	1167.28	-1.42352	-1.22518	0.04845	0.120407	no
630.723	236.046	-1.41794	-1.29697	0.03305	0.0893847	no
3711.79	1389.79	-1.41724	-0.597036	0.4227	0.559577	no
605.302	226.928	-1.41542	-1.23293	0.0897	0.193099	no
746.22	279.899	-1.41469	-1.28438	0.0138	0.0446978	yes
412.153	154.727	-1.41346	-1.07194	0.046	0.115954	no
638.198	239.872	-1.41174	-1.15408	0.0446	0.113154	no
664.583	249.821	-1.41156	-1.46337	0.01185	0.0394701	yes
955.892	359.375	-1.41136	-1.04934	0.0662	0.152676	no
505.328	190.045	-1.41088	-1.60505	0.01025	0.0354127	yes
5776.78	2173.14	-1.41049	-0.954157	0.1436	0.269985	no
772.499	290.753	-1.40974	-1.03004	0.0823	0.180252	no
985.639	371.382	-1.40816	-1.55882	0.01215	0.040279	yes
373.188	140.801	-1.40625	-1.6913	0.00315	0.0131993	yes
991.126	373.986	-1.40609	-0.990888	0.0997	0.209257	no
337.618	127.426	-1.40573	-1.43618	0.0171	0.0530461	no
536.217	202.412	-1.40552	-1.08152	0.0619	0.145618	no
399.631	150.91	-1.40498	-1.593	0.0077	0.0278306	yes
716.821	270.766	-1.40456	-1.53469	0.0092	0.0322274	yes
1689.83	638.857	-1.40332	-0.685993	0.32265	0.466948	no
1552.27	589.101	-1.39779	-1.40566	0.0172	0.0532158	no
1330.61	505.625	-1.39595	-0.722513	0.2664	0.41188	no
1061.93	404.268	-1.3933	-0.698361	0.15125	0.278225	no
1048.28	399.875	-1.39041	-0.707408	0.1733	0.305009	no
303.085	115.618	-1.39035	-0.932215	0.1168	0.234532	no
159.034	60.7391	-1.38864	-1.52841	0.00845	0.030109	yes
380.31	145.413	-1.38702	-1.19464	0.0244	0.0704223	no
637.381	243.881	-1.38598	-1.26082	0.029	0.0802797	no
782.858	299.816	-1.38467	-0.709419	0.2142	0.357406	no
816.966	312.972	-1.38424	-1.26415	0.01965	0.0593373	no
591.946	226.862	-1.38365	-0.796274	0.1763	0.308788	no
249.896	96.0828	-1.37898	-1.60662	0.00755	0.0273445	yes
317.312	122.233	-1.37628	-1.72014	0.00445	0.0176995	yes
319.006	122.993	-1.37501	-1.42204	0.01495	0.0476345	yes
802.508	310.29	-1.3709	-1.27118	0.0293	0.0808561	no
3659.02	1415.88	-1.36976	-0.653409	0.3908	0.529481	no
1069.43	414.409	-1.36772	-1.18253	0.0311	0.0848926	no
400.167	155.247	-1.36604	-1.58274	0.00735	0.02673	yes
1505.82	584.553	-1.36514	-0.918766	0.2656	0.411314	no
3680.71	1432.66	-1.36128	-0.619508	0.43565	0.568183	no
2894.68	1128.51	-1.35899	-0.648726	0.35675	0.499618	no
705.899	275.45	-1.35767	-1.28895	0.0263	0.0746827	no

979.659	384.039	-1.35103	-0.812598	0.13425	0.257494	no
445.417	174.66	-1.35061	-1.64797	0.0054	0.0206843	yes
3202.34	1257	-1.34914	-0.579805	0.30565	0.451619	no
619.024	243.298	-1.34727	-1.32841	0.0255	0.0728808	no
374.643	147.464	-1.34515	-1.12515	0.0437	0.111674	no
1104.59	434.966	-1.34453	-0.761221	0.15305	0.280764	no
1088.97	430.008	-1.34054	-1.32029	0.0187	0.0568093	no
747.825	295.508	-1.3395	-1.0827	0.0645	0.149735	no
145.387	57.4985	-1.3383	-1.12304	0.0593	0.141008	no
962.505	380.957	-1.33717	-0.64124	0.2138	0.356907	no
344.803	136.501	-1.33686	-1.43283	0.01385	0.0447364	yes
362.421	143.603	-1.33558	-1.58914	0.00625	0.0232086	yes
1180.19	468.504	-1.33289	-1.32293	0.02885	0.0800531	no
3480.16	1381.89	-1.33251	-0.568076	0.43245	0.565265	no
7455.49	2963.02	-1.33124	-0.693256	0.4297	0.563525	no
877.845	349.148	-1.33013	-0.714422	0.2175	0.361884	no
163.994	65.2505	-1.32958	-1.67359	0.00415	0.0166757	yes
1569.03	624.848	-1.32829	-1.08635	0.06455	0.149753	no
387.35	154.369	-1.32726	-1.24811	0.0274	0.0773079	no
645.298	257.217	-1.32698	-1.00467	0.0765	0.169764	no
637.391	254.095	-1.32681	-0.663121	0.27175	0.417094	no
438.625	175.103	-1.32479	-1.16073	0.0498	0.12281	no
6359.34	2540.01	-1.32404	-0.619682	0.4346	0.567444	no
3407.07	1363.14	-1.3216	-0.592017	0.2756	0.420439	no
578.071	231.531	-1.32004	-0.773462	0.1815	0.315855	no
309.04	123.836	-1.31936	-1.63287	0.0048	0.0189632	yes
877.207	351.782	-1.31824	-1.00954	0.10395	0.216245	no
12441.5	5000.83	-1.31492	-0.657877	0.39625	0.534397	no
411.028	165.656	-1.31105	-1.15577	0.02835	0.0788519	no
4457.13	1800.35	-1.30784	-0.56211	0.43055	0.563827	no
670.512	271.568	-1.30395	-1.00923	0.07345	0.16476	no
409.775	166.392	-1.30024	-1.21049	0.0335	0.0903244	no
1506.83	613.076	-1.29737	-0.768182	0.12405	0.244356	no
940.96	383.991	-1.29306	-1.03267	0.0514	0.125962	no
4347.14	1775.06	-1.2922	-0.547561	0.4222	0.559125	no
578.897	236.393	-1.29212	-1.00498	0.13545	0.259101	no
1716.93	703.999	-1.28619	-1.03119	0.0608	0.143702	no
355.71	146.346	-1.28132	-0.944011	0.0965	0.204104	no
1342.63	552.479	-1.28107	-0.666473	0.19965	0.339232	no
847.434	348.829	-1.28058	-0.90335	0.1123	0.229019	no
382.987	157.724	-1.27989	-1.55684	0.0084	0.0300219	yes
336.561	138.761	-1.27827	-1.24342	0.0351	0.0939198	no
677.329	279.943	-1.27473	-1.06593	0.07065	0.160626	no
748.527	309.4	-1.27458	-0.697644	0.2022	0.341916	no

2099.11	868.94	-1.27245	-0.831144	0.1664	0.29586	no
3662.67	1520.12	-1.26871	-0.555799	0.4603	0.590068	no
1952.81	810.75	-1.26822	-0.652091	0.3855	0.523911	no
279.4	116.121	-1.2667	-1.47543	0.01155	0.0387271	yes
2093.86	870.831	-1.2657	-0.643747	0.201	0.34054	no
390.911	162.619	-1.26535	-1.16472	0.02825	0.078775	no
563.762	234.898	-1.26305	-1.14698	0.05395	0.130937	no
804.821	335.551	-1.26213	-0.610202	0.22805	0.375537	no
3553.49	1481.56	-1.26212	-0.61593	0.4423	0.574306	no
1714.2	714.712	-1.2621	-0.911687	0.09965	0.209257	no
1479.52	616.917	-1.26198	-0.590461	0.32525	0.469554	no
1174.73	490.201	-1.26089	-0.826434	0.38185	0.520154	no
573.786	240.053	-1.25716	-0.989353	0.0766	0.169879	no
173.725	72.7381	-1.25602	-1.35934	0.02435	0.0703933	no
1042.28	437.646	-1.25191	-0.687768	0.1218	0.24168	no
3174.31	1338.87	-1.24543	-0.424337	0.1906	0.327818	no
486.921	205.446	-1.24492	-1.16147	0.04955	0.122536	no
199.447	84.1688	-1.24465	-0.982411	0.07385	0.165027	no
3812.16	1614.9	-1.23916	-1.1855	0.04965	0.122611	no
292.206	123.811	-1.23884	-0.0598169	0.3659	0.506852	no
1476.87	625.932	-1.23846	-0.593614	0.146	0.27275	no
306.824	130.171	-1.237	-1.3909	0.02235	0.0657441	no
1489.02	633.42	-1.23313	-0.972384	0.2457	0.393906	no
3970.24	1693.69	-1.22906	-0.540764	0.4576	0.587462	no
268.33	114.493	-1.22875	-1.30781	0.0242	0.0700746	no
187.219	79.8915	-1.22861	-1.50952	0.0093	0.0324487	yes
338.584	144.673	-1.22671	-0.88533	0.1143	0.230959	no
468.552	200.214	-1.22667	-0.795067	0.1813	0.315663	no
924.286	395.002	-1.22648	-1.07716	0.0529	0.129279	no
5259.32	2248.35	-1.22601	-0.717642	0.1975	0.336878	no
203.064	86.8236	-1.22577	-1.42884	0.0168	0.0522996	no
524.151	224.532	-1.22306	-1.22074	0.03015	0.0827481	no
5960.46	2556.02	-1.22152	-0.567986	0.46365	0.593715	no
321.364	138.144	-1.21804	-1.31972	0.02605	0.074212	no
1914.72	823.968	-1.21647	-0.804243	0.16525	0.294796	no
206.914	89.1582	-1.21459	-1.32362	0.0267	0.0756965	no
7909.98	3409.93	-1.21393	-0.652111	0.24415	0.392511	no
275.061	118.591	-1.21376	-0.872184	0.1297	0.251687	no
655.033	282.465	-1.2135	-1.30726	0.0212	0.0628862	no
388.852	168.058	-1.21026	-1.25015	0.0283	0.078775	no
160.728	69.4847	-1.20986	-1.46346	0.01085	0.0369068	yes
318.262	137.986	-1.2057	-1.19455	0.0443	0.112555	no
252.299	109.41	-1.20539	-1.04899	0.05475	0.132331	no
555.045	240.756	-1.20504	-0.896615	0.1309	0.25304	no

2919.76	1267.25	-1.20415	-0.454978	0.2562	0.402238	no
111.723	48.5542	-1.20226	-1.32505	0.03025	0.082958	no
1033.7	449.273	-1.20215	-1.08249	0.0623	0.146169	no
1337.7	582.326	-1.19986	-0.717553	0.1535	0.281151	no
2919.55	1271.71	-1.19898	-0.627894	0.13285	0.255827	no
522.168	227.554	-1.19831	-0.868898	0.12545	0.246013	no
1439.69	627.569	-1.19791	-1.29942	0.02745	0.0773252	no
214.883	93.7382	-1.19684	-1.55171	0.00925	0.0323704	yes
1073.7	468.906	-1.19522	-0.607926	0.2839	0.429989	no
269.173	117.573	-1.19498	-1.296	0.02195	0.0646754	no
4250.82	1858.15	-1.19388	-0.522343	0.46905	0.597373	no
570.789	250.214	-1.1898	-0.901172	0.1014	0.212067	no
201.234	88.3698	-1.18725	-1.09787	0.0575	0.13775	no
728.662	320.222	-1.18618	-0.550146	0.3179	0.462352	no
7624.1	3359.84	-1.18218	-0.690811	0.17455	0.306332	no
151.195	66.7738	-1.17906	-1.4335	0.01135	0.0383117	yes
671.102	296.458	-1.1787	-0.706833	0.20665	0.34744	no
879.026	389.029	-1.17603	-1.01101	0.0793	0.174658	no
545.674	241.595	-1.17545	-0.89795	0.1074	0.221461	no
609.058	269.715	-1.17515	-0.941913	0.08415	0.183728	no
265.365	117.658	-1.17337	-1.18809	0.03865	0.100667	no
154.461	68.4983	-1.17311	-1.30166	0.0279	0.0780314	no
216.116	96.004	-1.17064	-1.30942	0.03	0.0824649	no
897.306	398.699	-1.1703	-0.882857	0.08645	0.187477	no
293.357	130.708	-1.16631	-1.31652	0.0154	0.0487597	yes
360.73	160.733	-1.16625	-1.00761	0.07	0.15956	no
430.725	192.113	-1.16481	-1.19863	0.042	0.108193	no
774.14	346.703	-1.15889	-0.569045	0.2401	0.388919	no
398.925	178.679	-1.15875	-1.22028	0.03635	0.0958813	no
285.533	127.915	-1.15847	-1.33609	0.01725	0.0533237	no
1049.59	470.538	-1.15744	-0.922216	0.23235	0.379954	no
322.427	144.851	-1.1544	-1.06586	0.0647	0.150002	no
86687.2	38947.6	-1.15429	-0.49849	0.4738	0.60125	no
144.573	64.9959	-1.15338	-1.37373	0.02115	0.0627907	no
591.481	266.019	-1.1528	-1.3088	0.021	0.0625465	no
135.731	61.0623	-1.15239	-1.31987	0.02375	0.0689984	no
162.96	73.352	-1.15161	-1.35211	0.0225	0.066075	no
962.741	433.949	-1.14962	-0.72735	0.2494	0.396967	no
205.979	92.9239	-1.14838	-1.1551	0.0354	0.0945073	no
47.0097	21.229	-1.14692	-0.791351	0.3208	0.464843	no
1243.81	562.351	-1.14522	-0.568501	0.24355	0.392343	no
232.341	105.09	-1.14462	-1.3599	0.0131	0.0427844	yes
252.647	114.281	-1.14454	-1.22965	0.02305	0.0672419	no
612.806	277.295	-1.14401	-0.629637	0.2439	0.392467	no



148.282	67.1107	-1.14373	-1.36765	0.0208	0.0621707	no
543.871	246.328	-1.14268	-0.698112	0.2174	0.361884	no
572.883	259.502	-1.1425	-0.841289	0.12085	0.240744	no
192.171	87.0564	-1.14237	-1.27359	0.0309	0.0844776	no
586.845	266.487	-1.13892	-0.982246	0.0859	0.186744	no
1357.7	618.116	-1.13521	-1.04716	0.06345	0.147784	no
600.585	273.48	-1.13494	-0.694663	0.18995	0.327167	no
1595.07	729.004	-1.12962	-0.515457	0.41395	0.551099	no
353.875	161.859	-1.1285	-1.2152	0.03325	0.0897877	no
983.871	450.846	-1.12583	-1.09375	0.044	0.112116	no
435.562	199.656	-1.12536	-1.2792	0.03265	0.0883707	no
207.169	95.0055	-1.12472	-1.28361	0.0283	0.078775	no
1165.89	534.852	-1.12422	-0.558633	0.25755	0.403739	no
212.344	97.4776	-1.12326	-1.26606	0.0244	0.0704223	no
400.732	184.024	-1.12275	-1.30636	0.0218	0.0642872	no
799.053	366.961	-1.12266	-0.670948	0.19705	0.336599	no
413.85	190.165	-1.12185	-1.16566	0.0495	0.122536	no
335.911	154.368	-1.12171	-1.0816	0.06225	0.146169	no
702.021	323.203	-1.11907	-0.608109	0.2922	0.437245	no
442.941	204.172	-1.11733	-0.989971	0.0891	0.192395	no
1851.07	853.945	-1.11614	-0.613652	0.17005	0.300983	no
146.013	67.3843	-1.11561	-1.34127	0.0206	0.0617825	no
433.331	200.199	-1.11403	-1.03143	0.0701	0.159685	no
308.168	142.503	-1.11273	-1.15866	0.0466	0.117299	no
221.509	102.455	-1.11238	-1.13957	0.05945	0.141174	no
2824.21	1308.24	-1.11022	-0.611033	0.19825	0.33783	no
346.704	160.837	-1.1081	-0.9281	0.0698	0.159207	no
2269.82	1053.41	-1.10751	-0.520208	0.43675	0.568986	no
126.536	58.7669	-1.10647	-1.3539	0.01635	0.05117	no
396.815	184.296	-1.10644	-0.878701	0.12005	0.239792	no
360.127	167.668	-1.1029	-0.815514	0.1584	0.286846	no
1971.43	918.071	-1.10256	-0.56024	0.1553	0.28327	no
5127.27	2388.3	-1.10221	-0.709809	0.2024	0.34209	no
422.948	197.043	-1.10197	-0.892236	0.1143	0.230959	no
456.607	212.752	-1.10178	-0.654694	0.21055	0.352484	no
878.67	409.548	-1.10129	-0.723028	0.25085	0.397838	no
555.697	259.126	-1.10064	-1.02635	0.07265	0.163277	no
691.008	322.38	-1.09994	-0.780842	0.069	0.157587	no
230.776	107.793	-1.09823	-0.662042	0.1881	0.324615	no
141.329	66.0519	-1.09739	-0.379099	0.37015	0.510532	no
298.091	139.389	-1.09663	-1.15478	0.047	0.117885	no
1861.31	870.821	-1.09587	-0.620261	0.28305	0.429019	no
191.242	89.4971	-1.09549	-1.30454	0.04135	0.106753	no
241.499	113.183	-1.09336	-0.825635	0.13985	0.264536	no

1915.31	898.72	-1.09164	-0.69406	0.22665	0.373755	no
259.103	121.663	-1.09063	-1.24656	0.0253	0.0724855	no
1184.38	556.216	-1.09041	-0.696384	0.27925	0.423988	no
727.282	341.704	-1.08977	-0.621273	0.18075	0.315016	no
4239.13	1997.81	-1.08535	-0.312668	0.18335	0.318132	no
895.403	422.241	-1.08447	-1.02214	0.07555	0.168085	no
1767.74	834.605	-1.08274	-0.504509	0.4161	0.552691	no
602.7	284.633	-1.08234	-0.624333	0.22165	0.367401	no
382.236	180.71	-1.08078	-1.19847	0.0334	0.0901237	no
806.511	381.347	-1.08059	-0.683735	0.21155	0.353821	no
275.462	130.326	-1.07972	-1.11329	0.03385	0.0911983	no
2736.49	1295.49	-1.07883	-0.962857	0.13115	0.253245	no
557.443	263.966	-1.07847	-0.59296	0.2688	0.414371	no
486.095	230.288	-1.0778	-0.757019	0.1574	0.285622	no
559.281	264.983	-1.07768	-0.563093	0.3449	0.48839	no
956.201	454.537	-1.07291	-0.638818	0.2331	0.380474	no
217.899	103.744	-1.07063	-1.19366	0.04265	0.109467	no
1026.12	488.558	-1.0706	-0.639616	0.4194	0.556044	no
204.405	97.3476	-1.07022	-1.22917	0.02745	0.0773252	no
2922.54	1392.39	-1.06966	-0.528116	0.26405	0.410874	no
292.447	139.371	-1.06925	-1.36533	0.01745	0.0537533	no
1010.02	481.774	-1.06796	-0.633017	0.20765	0.348622	no
706.734	338.833	-1.06059	-0.701604	0.178	0.310993	no
645.005	309.469	-1.05952	-0.821807	0.1536	0.281188	no
3059.8	1469.01	-1.05859	-0.492649	0.4968	0.620824	no
238.893	114.903	-1.05595	-0.983065	0.0756	0.168085	no
999.332	481.106	-1.05461	-0.53479	0.2969	0.442849	no
4546.63	2190.57	-1.05349	-0.379684	0.14175	0.26727	no
182.642	88.0334	-1.0529	-1.12526	0.03495	0.0935895	no
363.095	175.239	-1.05103	-1.0981	0.04955	0.122536	no
212.657	102.805	-1.04861	-1.08621	0.05535	0.133598	no
384.153	186.286	-1.04416	-0.822982	0.1563	0.284358	no
313.636	152.267	-1.04249	-1.14345	0.045	0.113841	no
440.253	214.097	-1.04007	-0.646281	0.2234	0.369087	no
962.956	468.298	-1.04004	-1.06917	0.0451	0.114012	no
129.411	62.9604	-1.03945	-1.21687	0.0406	0.105047	no
464.158	226.245	-1.03673	-0.531307	0.26255	0.409392	no
412.267	201.158	-1.03525	-1.07076	0.0618	0.145577	no
351.936	171.812	-1.03448	-1.01332	0.0591	0.140817	no
127.387	62.2416	-1.03326	-1.18537	0.045	0.113841	no
648.554	317.22	-1.03174	-0.550951	0.21365	0.356826	no
198.101	96.9348	-1.03115	-1.16466	0.044	0.112116	no
560.688	274.961	-1.02797	-0.837249	0.1544	0.282011	no
645.679	317.281	-1.02505	-0.816898	0.17075	0.301616	no

350.186	172.132	-1.02461	-1.14028	0.04815	0.119831	no
794.513	390.765	-1.02377	-0.624067	0.20515	0.345083	no
390.671	192.353	-1.0222	-1.21451	0.03655	0.0962647	no
4033.72	1988.19	-1.02065	-0.435394	0.52595	0.644005	no
302.558	149.193	-1.02003	-1.1988	0.03985	0.103334	no
707.965	349.123	-1.01995	-0.610866	0.2493	0.396967	no
1378	679.802	-1.01939	-0.903158	0.1009	0.211398	no
1914.23	946.191	-1.01656	-0.477284	0.4562	0.586091	no
251.713	124.442	-1.01631	-1.14445	0.04665	0.117341	no
253.44	125.441	-1.01464	-1.03626	0.07305	0.164072	no
658.898	326.284	-1.01393	-0.619369	0.28845	0.433475	no
922.564	456.891	-1.0138	-0.525226	0.2508	0.397838	no
1442.96	714.946	-1.01312	-0.569669	0.203	0.342775	no
467.554	231.959	-1.01126	-0.771504	0.1413	0.266564	no
160.214	79.602	-1.00913	-0.993576	0.0898	0.193196	no
461.775	229.869	-1.00638	-1.24286	0.04585	0.115742	no
1469.76	732.499	-1.00469	-0.571867	0.29275	0.437882	no
1291.85	643.88	-1.00457	-0.470187	0.4153	0.552262	no
302.204	150.695	-1.00389	-1.03319	0.07265	0.163277	no
758.417	378.331	-1.00334	-0.927882	0.0644	0.149602	no
197.61	98.66	-1.00212	-0.874195	0.13575	0.259101	no
196.263	98.0648	-1.00098	-1.25025	0.02555	0.0729645	no
656.983	328.696	-0.999101	-0.580764	0.23285	0.380419	no
504.491	252.601	-0.997966	-0.569419	0.2872	0.432888	no
351.211	176.008	-0.996701	-0.742205	0.20785	0.348792	no
467.459	234.305	-0.996455	-0.561195	0.2644	0.411004	no
157.625	79.0129	-0.996333	-0.4684	0.3775	0.516963	no
1403.2	703.446	-0.996212	-28.168	0.6104	0.714872	no
317.083	159.122	-0.994725	-1.0047	0.0857	0.186424	no
340.675	171.108	-0.993491	-1.01827	0.0577	0.138041	no
175.827	88.3465	-0.992909	-1.15929	0.04365	0.111627	no
177.789	89.4411	-0.991159	-1.08458	0.0606	0.143421	no
420.757	211.72	-0.990832	-0.719258	0.22105	0.366752	no
889.093	447.553	-0.990275	-0.955391	0.09575	0.203128	no
3181.51	1604.18	-0.987878	-0.825893	0.14875	0.275457	no
333.187	168.044	-0.987497	-1.10203	0.05365	0.130568	no
380.292	191.808	-0.987441	-0.739242	0.18935	0.326453	no
202.71	102.267	-0.987066	-1.0656	0.05445	0.131696	no
196.163	99.0082	-0.98643	-1.14737	0.04245	0.109113	no
128.383	64.9287	-0.983523	-0.999832	0.0801	0.17598	no
424.455	214.682	-0.983409	-0.584802	0.27535	0.420439	no
457.892	231.689	-0.982818	-0.52585	0.3538	0.49673	no
278.72	141.223	-0.980846	-1.07715	0.057	0.137018	no
374.613	190.279	-0.977286	-0.776275	0.1573	0.285622	no

1192.59	606.349	-0.975874	-0.499242	0.31965	0.463631	no
1116.94	567.909	-0.975813	-0.523009	0.4486	0.579838	no
124.037	63.0849	-0.975408	-1.18404	0.0454	0.114688	no
464.78	236.46	-0.97495	-0.944136	0.11	0.226161	no
999.6	509.126	-0.973328	-0.598859	0.3042	0.450799	no
257.448	131.133	-0.973256	-0.885062	0.0861	0.186948	no
312.799	159.403	-0.972551	-0.695797	0.2308	0.378637	no
426.822	217.538	-0.972367	-0.897369	0.1003	0.210371	no
408.69	208.479	-0.971104	-0.777917	0.17045	0.301388	no
312.258	159.289	-0.971093	-1.11568	0.04325	0.110765	no
362.395	184.952	-0.970413	-0.548377	0.28765	0.433196	no
751.75	384.933	-0.965644	-1.0617	0.05655	0.136122	no
741.915	380.131	-0.964758	-0.487625	0.35585	0.498813	no
1179.28	604.24	-0.964709	-0.653263	0.2651	0.411314	no
212.039	108.796	-0.962695	-0.999059	0.0662	0.152676	no
264.532	135.768	-0.962294	-1.02356	0.0736	0.164886	no
251.161	128.97	-0.961578	-1.027	0.08095	0.177737	no
205.282	105.577	-0.959315	-1.08294	0.0716	0.161667	no
442.998	227.96	-0.95852	-1.07283	0.05625	0.135492	no
324.295	167.043	-0.957082	-0.883942	0.11085	0.226923	no
185.329	95.5375	-0.955952	-1.22113	0.029	0.0802797	no
497.801	257.421	-0.951437	-1.09294	0.0605	0.143281	no
783.379	405.434	-0.950242	-0.662027	0.2486	0.396849	no
550.461	285.072	-0.949314	-0.523396	0.3439	0.488277	no
242.728	125.716	-0.949172	-1.05227	0.06415	0.149119	no
1253.46	650.322	-0.946689	-0.780849	0.16205	0.291152	no
427.267	221.697	-0.946552	-0.845105	0.1227	0.242745	no
675.624	350.706	-0.945959	-0.55137	0.3326	0.477427	no
187.679	97.604	-0.943254	-0.992449	0.06765	0.154804	no
170.773	88.8547	-0.942557	-1.11676	0.0577	0.138041	no
1215.01	632.382	-0.942104	-0.570858	0.23535	0.382552	no
608.415	317.102	-0.940107	-1.05786	0.06335	0.147747	no
346.224	180.519	-0.939554	-0.671675	0.25135	0.398451	no
402.653	209.976	-0.939311	-0.941864	0.10115	0.211796	no
156.874	81.8657	-0.938276	-1.15413	0.04015	0.104036	no
174.478	91.1928	-0.936051	-1.18937	0.0361	0.0957955	no
129.264	67.6319	-0.93454	-0.857322	0.1266	0.24758	no
383.717	201.139	-0.93185	-1.17118	0.04795	0.119502	no
858.023	450.23	-0.930353	-0.825653	0.1456	0.272488	no
673.273	353.299	-0.930301	-0.542515	0.2646	0.411133	no
123.31	64.721	-0.929988	-0.553058	0.2897	0.434612	no
278.457	146.19	-0.929606	-0.850029	0.1261	0.246974	no
160.687	84.52	-0.926885	-0.545209	0.32025	0.464237	no
347.36	182.727	-0.926744	-0.831461	0.1163	0.233661	no

169.842	89.3483	-0.926683	-1.14978	0.0473	0.118216	no
439.088	231.004	-0.926594	-0.560819	0.3062	0.452001	no
151.963	80.1001	-0.923844	-1.10561	0.0439	0.112104	no
464.921	245.215	-0.922938	-0.668289	0.2213	0.366994	no
389.091	205.237	-0.922814	-0.966655	0.0791	0.174327	no
239.376	126.353	-0.921821	-1.11724	0.04395	0.112116	no
1134.06	599.293	-0.920162	-0.604631	0.5231	0.642077	no
166.672	88.0847	-0.920049	-1.18377	0.03875	0.100779	no
353.851	187.189	-0.918641	-0.629256	0.22245	0.368208	no
408.543	216.187	-0.918208	-0.3273	0.7306	0.804573	no
198.698	105.287	-0.916244	-1.08423	0.06325	0.147709	no
259.364	137.482	-0.915739	-0.643979	0.22545	0.37195	no
818.39	433.952	-0.915252	-0.73725	0.15445	0.282011	no
135.812	72.0266	-0.915008	-1.12263	0.0479	0.119462	no
281.008	149.126	-0.914074	-1.13732	0.0443	0.112555	no
1064.26	565.001	-0.913525	-0.495864	0.235	0.382336	no
304.753	161.863	-0.912867	-0.935622	0.0961	0.203519	no
90775.6	48232.8	-0.91229	-0.803682	0.1503	0.277162	no
245.56	130.483	-0.912215	-1.01061	0.09115	0.195504	no
172.147	91.4755	-0.912182	-1.056	0.06755	0.154676	no
470.98	250.558	-0.910519	-0.732752	0.18985	0.327155	no
744.846	396.48	-0.909695	-0.783351	0.1638	0.293309	no
1366.63	728.26	-0.908091	-0.558416	0.37775	0.516967	no
266.183	142.027	-0.906247	-1.05254	0.0587	0.140053	no
254.077	135.661	-0.905258	-0.77581	0.14795	0.274687	no
200.557	107.115	-0.904853	-1.11886	0.04765	0.119007	no
65.5097	35.0099	-0.903944	-0.898662	0.1365	0.260014	no
166.898	89.1998	-0.903854	-0.866173	0.1141	0.230959	no
203.132	108.614	-0.90321	-1.14063	0.04775	0.119172	no
416.588	222.816	-0.90277	-0.677708	0.2436	0.392343	no
259.264	138.85	-0.900894	-0.963146	0.09185	0.196527	no
1127.36	603.763	-0.900888	-0.603265	0.27715	0.421891	no
559.635	299.747	-0.900739	-0.846162	0.0987	0.208007	no
281.904	151.22	-0.89856	-0.818758	0.14265	0.268536	no
1552.29	835.302	-0.894026	-0.671428	0.2546	0.400362	no
198.157	106.654	-0.893698	-0.78403	0.194	0.332518	no
434.405	233.88	-0.893272	-0.645634	0.25915	0.405346	no
176.536	95.0631	-0.893003	-1.00819	0.0735	0.164767	no
153.615	82.8069	-0.891492	-0.997912	0.0623	0.146169	no
637.678	343.831	-0.891128	-0.565298	0.3061	0.452001	no
303.216	163.957	-0.887026	-0.673575	0.2464	0.394688	no
335.275	181.32	-0.886806	-1.01766	0.0717	0.161667	no
324.215	175.492	-0.885545	-0.877353	0.11915	0.238435	no
666.649	360.859	-0.885492	-0.674867	0.20085	0.34054	no

272.496	147.518	-0.885344	-0.993749	0.08145	0.178501	no
218.342	118.282	-0.884365	-0.803953	0.1649	0.294381	no
941.797	510.773	-0.882733	-0.416651	0.37875	0.517677	no
606.084	328.871	-0.881996	-1.05547	0.06535	0.15121	no
521.238	283.052	-0.880873	-0.820349	0.1204	0.240255	no
2905.24	1578.44	-0.880161	-0.358526	0.38215	0.520362	no
234.427	127.622	-0.877261	-1.04696	0.06565	0.151705	no
260.861	142.227	-0.875092	-0.912368	0.08455	0.184378	no
404.247	220.522	-0.874313	-0.79476	0.1126	0.229233	no
546.093	297.985	-0.873905	-0.667778	0.1826	0.317143	no
439.127	239.813	-0.872726	-0.521212	0.32925	0.473582	no
976.913	534.397	-0.870319	-0.545667	0.58135	0.688168	no
237.983	130.251	-0.869562	-1.02266	0.07375	0.165013	no
234.953	128.672	-0.868669	-0.943181	0.0927	0.197625	no
279.754	153.236	-0.86841	-0.897933	0.1233	0.243559	no
573.249	314.167	-0.86763	-0.463247	0.4051	0.541979	no
542.869	297.703	-0.866732	-0.847704	0.12135	0.24133	no
116.244	63.7626	-0.866377	-1.0839	0.0536	0.130568	no
191.681	105.2	-0.86557	-0.949007	0.09655	0.204104	no
128.511	70.6207	-0.863725	-0.90515	0.10765	0.221847	no
185.716	102.166	-0.862181	-1.04701	0.06635	0.152822	no
574.471	316.636	-0.85941	-0.863077	0.1319	0.254554	no
253.842	140.013	-0.858367	-0.824961	0.1251	0.245698	no
318.65	175.917	-0.857081	-0.785186	0.181	0.315296	no
131.359	72.544	-0.856583	-0.937551	0.1373	0.261069	no
171.475	94.8709	-0.853962	-0.750387	0.2032	0.342784	no
241.148	133.452	-0.8536	-0.982367	0.0762	0.169205	no
496.308	275.003	-0.851788	-0.632486	0.1975	0.336878	no
272.229	150.954	-0.850717	-0.790203	0.14395	0.270405	no
823.99	456.925	-0.850668	-1.03588	0.0713	0.161479	no
302.549	167.799	-0.850432	-0.898628	0.1054	0.21836	no
281.016	155.898	-0.850051	-0.775457	0.14805	0.274687	no
700.564	388.744	-0.849697	-0.987509	0.11545	0.232717	no
138.274	76.7362	-0.849547	-0.90976	0.11405	0.230959	no
890.643	494.301	-0.849458	-0.594942	0.248	0.39653	no
433.751	240.752	-0.849319	-0.823643	0.1302	0.25224	no
212.801	118.292	-0.84715	-0.998705	0.09005	0.193498	no
126.035	70.1419	-0.845472	-0.968601	0.09425	0.200566	no
321.757	179.414	-0.842676	-0.61434	0.49155	0.616669	no
374.894	209.084	-0.842399	-0.794965	0.1657	0.294913	no
1082.76	604.001	-0.842097	-0.588023	0.4894	0.615348	no
204.859	114.345	-0.841233	-0.9938	0.06725	0.154189	no
198.815	111.016	-0.840657	-1.06874	0.0609	0.143842	no
1334.84	745.588	-0.840218	-0.605095	0.3658	0.506852	no

889.692	497.117	-0.83972	-0.493007	0.30635	0.452001	no
378.735	211.645	-0.839541	-0.796744	0.1646	0.293994	no
310.992	173.79	-0.839532	-0.889378	0.11095	0.226923	no
279.448	156.169	-0.839473	-0.937219	0.10345	0.215587	no
66.0387	36.938	-0.838205	-1.00672	0.07535	0.167953	no
789.024	441.63	-0.837231	-0.942357	0.10725	0.221282	no
1991.9	1114.92	-0.8372	-0.787167	0.1286	0.250379	no
29.6582	16.6044	-0.836861	-0.551519	0.3374	0.481961	no
456.173	255.76	-0.834792	-0.868289	0.12515	0.245698	no
285.347	160.024	-0.834429	-0.899546	0.1238	0.244098	no
2172.25	1218.46	-0.834125	-0.485879	0.3122	0.45727	no
124.676	69.9741	-0.83329	-0.840456	0.14735	0.274451	no
274.4	154.074	-0.832654	-0.936332	0.11495	0.232007	no
235.208	132.156	-0.831691	-0.909867	0.1156	0.232785	no
190.774	107.261	-0.830739	-0.907833	0.1111	0.227098	no
862.548	485.428	-0.829347	-0.525583	0.2756	0.420439	no
397.809	223.974	-0.828743	-0.73253	0.1442	0.27063	no
292.239	164.601	-0.828173	-0.983635	0.09005	0.193498	no
509.703	287.114	-0.82803	-0.669999	0.235	0.382336	no
566.466	319.195	-0.827552	-0.498809	0.3089	0.454515	no
321.265	181.266	-0.825651	-0.657306	0.22315	0.368846	no
296.895	167.553	-0.825335	-1.00266	0.08325	0.182106	no
379.13	213.98	-0.825217	-0.84239	0.12235	0.242362	no
5076.94	2865.46	-0.825194	-0.414956	0.40595	0.542498	no
268.983	151.894	-0.824453	-0.976347	0.0961	0.203519	no
186.58	105.416	-0.823702	-0.829597	0.1333	0.256413	no
65.6688	37.1136	-0.82326	-0.979087	0.07955	0.174881	no
546.486	308.968	-0.822726	-0.685729	0.2017	0.341398	no
523.296	296	-0.82203	-0.627393	0.2557	0.401912	no
253.913	143.962	-0.818641	-0.855704	0.10505	0.217891	no
123.615	70.0917	-0.818541	-1.01651	0.07735	0.171219	no
139.837	79.3155	-0.818069	-1.00964	0.0748	0.166832	no
140.525	79.7905	-0.816535	-0.983045	0.08635	0.187375	no
955.039	543.486	-0.813316	-0.769838	0.17435	0.306133	no
657.128	374.503	-0.811198	-0.635212	0.2674	0.412573	no
149.988	85.4909	-0.811005	-0.848974	0.1376	0.261216	no
229.825	131.049	-0.810429	-0.874507	0.1134	0.230431	no
117.395	66.9699	-0.809787	-0.823928	0.15975	0.288549	no
655.646	374.086	-0.809545	-0.863436	0.138	0.26174	no
323.379	184.901	-0.806472	-0.872297	0.16105	0.290153	no
631.349	361.218	-0.805567	-0.605282	0.2862	0.431935	no
141.076	80.8143	-0.803794	-1.01253	0.0794	0.174769	no
780.507	447.449	-0.802687	-0.421871	0.42785	0.563221	no
587.844	337.057	-0.80244	-0.767311	0.1779	0.310972	no

2109.97	1210.98	-0.801049	-0.367961	0.55515	0.669753	no
188.36	108.243	-0.799217	-0.923488	0.09895	0.208303	no
307.864	176.93	-0.799112	-0.94722	0.0915	0.196016	no
437.094	251.303	-0.798518	-0.897596	0.112	0.22854	no
931.162	535.444	-0.798296	-0.48987	0.34025	0.484265	no
292.268	168.305	-0.796211	-0.628343	0.2735	0.41858	no
462.266	266.349	-0.795409	-0.513784	0.3167	0.461851	no
132.471	76.3729	-0.794547	-0.999792	0.07895	0.174105	no
191.365	110.436	-0.793115	-1.01313	0.0732	0.164304	no
333.402	192.426	-0.792958	-0.928033	0.1247	0.245362	no
251.715	145.489	-0.790882	-0.889874	0.10695	0.220921	no
244.696	141.472	-0.790477	-0.893079	0.12085	0.240744	no
1318.3	764.068	-0.786909	-0.441574	0.3371	0.481871	no
178.598	103.522	-0.786779	-0.889655	0.1256	0.24617	no
348.415	202.003	-0.786428	-0.938077	0.10245	0.213629	no
141.585	82.2401	-0.783759	-0.912163	0.11955	0.2391	no
215.801	125.391	-0.783263	-0.865126	0.1037	0.21598	no
373.978	217.361	-0.782862	-0.873797	0.13575	0.259101	no
601.807	349.809	-0.782734	-0.566285	0.2846	0.430258	no
2292.55	1333.36	-0.781889	-0.55684	0.3197	0.463631	no
760.452	442.32	-0.781768	-0.836007	0.1253	0.245856	no
368.261	214.426	-0.780252	-0.581084	0.23235	0.379954	no
885.871	515.966	-0.77982	-0.447124	0.42215	0.559125	no
448.525	261.399	-0.778934	-0.709639	0.2149	0.358318	no
246.581	143.759	-0.778408	-0.335578	0.55275	0.668014	no
118.297	69.016	-0.777412	-0.976865	0.0776	0.171665	no
3330.66	1944.09	-0.776711	-0.328143	0.60845	0.713062	no
424.674	247.938	-0.776377	-0.798458	0.1351	0.258605	no
485.998	283.773	-0.776214	-0.765456	0.1858	0.321591	no
217.433	127.023	-0.775474	-0.757841	0.19485	0.33365	no
61.3813	35.881	-0.774578	-0.900877	0.1265	0.247521	no
135.166	79.0421	-0.774037	-0.967671	0.0954	0.202524	no
62.3167	36.4584	-0.773367	-0.256892	0.49735	0.620848	no
382.817	223.971	-0.773339	-0.817335	0.1482	0.274727	no
306.429	179.314	-0.773068	-0.768708	0.18405	0.318875	no
262.289	153.503	-0.772889	-0.681162	0.2275	0.374981	no
427.464	250.184	-0.772813	-0.468576	0.34475	0.48839	no
282.072	165.178	-0.772043	-0.887927	0.1281	0.249682	no
287.896	168.59	-0.772027	-0.360999	0.5906	0.696311	no
370.677	217.4	-0.769812	-0.899001	0.11185	0.228366	no
598.825	351.584	-0.768264	-0.71885	0.302	0.448482	no
301.899	177.354	-0.767436	-0.72686	0.20315	0.342784	no
380.447	223.501	-0.767415	-0.885105	0.1293	0.251326	no
761.504	448.019	-0.765292	-0.750446	0.1564	0.284393	no



639.301	377.227	-0.761062	-0.618599	0.2527	0.399429	no
450.871	266.044	-0.76105	-0.455279	0.36415	0.505292	no
112.079	66.1901	-0.759832	-0.900012	0.11345	0.230431	no
670.301	395.891	-0.759704	-0.47734	0.39985	0.536789	no
125.591	74.1883	-0.759467	-0.972007	0.0895	0.192894	no
1924.68	1137	-0.759388	-0.540339	0.31825	0.46248	no
297.888	176.178	-0.757738	-0.642953	0.23165	0.379514	no
161.159	95.3414	-0.757313	-0.461842	0.3487	0.492118	no
122.727	72.6086	-0.757234	-0.938636	0.0946	0.201189	no
648.089	383.593	-0.756616	-0.541464	0.42965	0.563525	no
246.958	146.344	-0.754901	-0.862541	0.1358	0.259101	no
678.913	402.455	-0.754399	-0.728122	0.2039	0.343308	no
316.916	187.898	-0.754149	-0.844066	0.14195	0.267504	no
288.294	171.373	-0.750398	-0.481941	0.44445	0.575824	no
302.674	179.963	-0.750061	-0.851913	0.1235	0.243817	no
622.737	370.291	-0.749963	-0.38445	0.46785	0.596708	no
331.354	197.458	-0.746824	-0.68321	0.20095	0.34054	no
209.761	125.005	-0.746764	-0.935241	0.09235	0.197237	no
275.794	164.439	-0.746036	-0.675222	0.22795	0.375537	no
55.3337	32.9988	-0.745747	-0.880564	0.11375	0.230844	no
1207.42	721.394	-0.743074	-0.237117	0.4805	0.607346	no
139.165	83.1622	-0.742799	-0.911364	0.1104	0.226455	no
298.358	178.42	-0.741773	-0.419991	0.45345	0.583196	no
375.351	224.51	-0.741461	-0.93533	0.12245	0.242423	no
247.495	148.083	-0.740992	-0.654517	0.257	0.403236	no
157.542	94.2625	-0.740982	-0.887881	0.1116	0.227987	no
109.621	65.5932	-0.740901	-0.94064	0.1152	0.232378	no
195.304	116.912	-0.740298	-0.808422	0.1498	0.276622	no
323.952	194.149	-0.738613	-0.572924	0.2729	0.418465	no
312.472	187.272	-0.738595	-0.830438	0.1506	0.277425	no
1903.91	1142.37	-0.736937	-0.365098	0.6062	0.711135	no
362.466	217.968	-0.733729	-0.83539	0.158	0.286416	no
269.981	162.413	-0.733189	-0.529516	0.3384	0.482874	no
775.456	466.823	-0.732169	-0.393737	0.358	0.500433	no
232.931	140.33	-0.731075	-0.637538	0.2581	0.404242	no
208.081	125.393	-0.730688	-0.908427	0.12225	0.2423	no
182.833	110.204	-0.730354	-0.848712	0.13915	0.263354	no
210.741	127.298	-0.727267	-0.855936	0.125	0.245698	no
170.328	102.947	-0.726411	-0.843866	0.12955	0.251673	no
1386.97	838.839	-0.725471	-0.325339	0.5594	0.67343	no
2275.23	1376.3	-0.725213	-0.455989	0.38695	0.525208	no
285.408	172.716	-0.724624	-0.563325	0.3002	0.446562	no
206.079	124.736	-0.724317	-0.585274	0.31015	0.455783	no
175.742	106.517	-0.722372	-0.846444	0.1653	0.294796	no

35839.6	21733.5	-0.721631	-0.609695	0.3523	0.495369	no
408.008	247.612	-0.720519	-0.438171	0.3916	0.52975	no
134.603	81.7246	-0.719872	-0.899519	0.1079	0.222232	no
230.852	140.175	-0.719743	-0.63795	0.26535	0.411314	no
254.707	154.694	-0.719421	-0.713893	0.21795	0.36229	no
124.416	75.5943	-0.71882	-0.898376	0.1155	0.232717	no
341.105	207.334	-0.718261	-0.922349	0.1132	0.230189	no
261.754	159.17	-0.717647	-0.617309	0.2695	0.414905	no
88.1143	53.5924	-0.717347	-0.866274	0.13465	0.258024	no
176.185	107.159	-0.717342	-0.839285	0.14245	0.268302	no
787.651	479.196	-0.716939	-0.797212	0.1559	0.283777	no
1053.78	641.667	-0.715683	-0.450553	0.37215	0.512225	no
183.003	111.544	-0.714252	-0.87255	0.1311	0.253245	no
846.908	516.255	-0.714122	-0.5349	0.2693	0.414778	no
493.886	301.187	-0.713517	-0.642995	0.2663	0.41188	no
189.567	115.671	-0.71268	-0.726538	0.16975	0.300905	no
251.963	153.895	-0.711266	-0.604528	0.24205	0.390982	no
229.796	140.362	-0.711204	-0.113765	0.64715	0.744793	no
1625.17	994.072	-0.709173	-0.397725	0.46585	0.595146	no
338.931	207.353	-0.708906	-0.800504	0.15375	0.281316	no
112.865	69.054	-0.708807	-0.853625	0.11025	0.226382	no
205.869	125.971	-0.708632	-0.847139	0.1443	0.27063	no
168.275	102.974	-0.708541	-0.892318	0.11885	0.238105	no
306.137	187.467	-0.707536	-0.545193	0.29305	0.438145	no
408.402	250.099	-0.707489	-0.46132	0.3586	0.501058	no
835.75	512.69	-0.704985	-0.559146	0.2842	0.429989	no
322.94	198.142	-0.704728	-0.703351	0.2226	0.368283	no
1179.03	723.75	-0.704032	-0.437572	0.43	0.563525	no
128.699	79.0611	-0.702965	-0.884128	0.135	0.258554	no
233.335	143.394	-0.702418	-0.802403	0.16555	0.294913	no
307.266	189.2	-0.699577	-0.252598	0.27225	0.417679	no
772.895	475.916	-0.699567	-0.391078	0.3751	0.515141	no
156.217	96.3612	-0.697023	-0.847161	0.1375	0.261213	no
449.166	277.122	-0.69673	-0.581401	0.31735	0.462125	no
542.552	334.74	-0.69672	-0.616249	0.3521	0.495369	no
68.3841	42.2093	-0.6961	-0.833198	0.1534	0.281114	no
176.406	108.911	-0.695747	-0.799261	0.15935	0.287974	no
123.682	76.3657	-0.695635	-0.884482	0.1146	0.231433	no
530.068	327.34	-0.695389	-0.554011	0.3106	0.456064	no
222.52	137.667	-0.692754	-0.723228	0.25735	0.403605	no
105.303	65.1751	-0.692158	-0.861612	0.1299	0.251797	no
439.812	272.252	-0.691947	-0.410925	0.43055	0.563827	no
554.779	343.546	-0.69141	-0.272239	0.43525	0.567872	no
654.814	405.913	-0.689914	-0.525255	0.42985	0.563525	no

248.064	153.83	-0.689378	-0.342585	0.6295	0.730684	no
232.572	144.242	-0.689186	-0.64167	0.24985	0.397225	no
198.365	123.095	-0.688386	-0.862439	0.1299	0.251797	no
317.517	197.185	-0.687286	-0.561615	0.28735	0.432929	no
108.27	67.2695	-0.686613	-0.859901	0.1466	0.273343	no
2579.06	1602.67	-0.686372	-0.317254	0.634	0.733906	no
141.981	88.2604	-0.685862	-0.690545	0.2334	0.380788	no
1260.11	784.059	-0.684517	-0.599682	0.2735	0.41858	no
247.537	154.083	-0.683933	-0.385213	0.4475	0.579137	no
233.091	145.215	-0.682703	-0.690309	0.22235	0.368208	no
916.426	571.129	-0.682202	-0.458754	0.4253	0.561122	no
158.85	99.1747	-0.679622	-0.843853	0.15755	0.285747	no
354.105	221.108	-0.679422	-0.803378	0.16105	0.290153	no
230.459	143.928	-0.679164	-0.850034	0.1404	0.26515	no
158.933	99.4241	-0.676755	-0.874362	0.1174	0.235602	no
769.473	481.75	-0.675584	-0.506147	0.47265	0.600223	no
250.62	157.079	-0.674008	-0.672692	0.24815	0.39659	no
385.261	241.633	-0.673017	-0.494909	0.34665	0.490403	no
892.149	560.496	-0.670581	-0.612865	0.2528	0.399429	no
138.806	87.217	-0.670386	-0.813543	0.15235	0.279771	no
110.872	69.6768	-0.670141	-0.813572	0.1368	0.260445	no
832.997	523.673	-0.669644	-0.53481	0.2865	0.432203	no
283.135	178.107	-0.66874	-0.507298	0.38805	0.526362	no
583.049	366.803	-0.66861	-0.528398	0.3648	0.505925	no
138.464	87.4417	-0.663114	-0.825599	0.1342	0.257494	no
286.337	180.988	-0.661819	-0.682843	0.22415	0.370061	no
99.3667	62.8742	-0.660293	-0.678428	0.2422	0.390982	no
387.807	245.833	-0.657659	-0.491799	0.31565	0.460982	no
1539.59	976.488	-0.656869	-0.416334	0.53015	0.647349	no
270.939	171.845	-0.656855	-0.730051	0.19945	0.339219	no
316.739	200.959	-0.656395	-0.705786	0.19685	0.336421	no
95.5815	60.6755	-0.655618	-0.824897	0.1408	0.265763	no
659.57	418.749	-0.65544	-0.773544	0.25225	0.399418	no
226.152	144.214	-0.649086	-0.728932	0.20855	0.349634	no
136.692	87.1926	-0.648646	-0.176741	0.7358	0.808783	no
100.796	64.3529	-0.647359	-0.778687	0.1907	0.327818	no
193.234	123.43	-0.646656	-0.787083	0.1657	0.294913	no
608.376	388.96	-0.64534	-0.403005	0.4233	0.560005	no
534.71	341.97	-0.644889	-0.424914	0.43155	0.564834	no
195.439	124.999	-0.644804	-0.77627	0.18605	0.321866	no
209.413	134.107	-0.642964	-0.595817	0.30775	0.453201	no
193.995	124.358	-0.641519	-0.762175	0.1758	0.308065	no
493.003	316.146	-0.641003	-0.509909	0.34475	0.48839	no
400.525	256.893	-0.640722	-0.487788	0.58695	0.693168	no

613.7	393.649	-0.640624	-0.292814	0.5068	0.628197	no
185.04	118.738	-0.640055	-0.621696	0.2299	0.377525	no
215.212	138.107	-0.639976	-0.527384	0.35465	0.497527	no
554.642	356.056	-0.639455	-0.717267	0.1835	0.318235	no
134.058	86.0672	-0.639318	-0.790643	0.15565	0.28365	no
278.533	178.843	-0.639157	-0.776613	0.17325	0.305009	no
263.59	169.27	-0.638969	-0.815847	0.1502	0.277123	no
218.509	140.377	-0.638385	-0.67266	0.23495	0.382336	no
193.834	124.646	-0.636991	-0.771647	0.18755	0.323825	no
288.868	185.781	-0.636813	-0.731161	0.21165	0.353821	no
277.388	178.402	-0.636774	-0.604118	0.2862	0.431935	no
193.699	124.64	-0.636054	-0.734328	0.1958	0.334789	no
482.948	310.832	-0.63573	-0.566689	0.27055	0.415872	no
383.773	247.438	-0.633187	-0.737736	0.19485	0.33365	no
1695.42	1093.29	-0.632965	-0.423225	0.44105	0.572894	no
241.352	155.715	-0.632236	-0.589869	0.2331	0.380474	no
159.69	103.037	-0.63211	-0.723043	0.2101	0.351898	no
272.288	175.736	-0.631722	-0.468112	0.42645	0.562008	no
132.85	85.7932	-0.630865	-0.785912	0.1873	0.32371	no
375.699	242.685	-0.630493	-0.593126	0.24115	0.389822	no
340.066	219.711	-0.630206	-0.586813	0.3106	0.456064	no
256.124	165.539	-0.629672	-0.798152	0.1621	0.291152	no
484.687	313.43	-0.628911	-0.362454	0.5207	0.640331	no
88.2068	57.0555	-0.628524	-0.793326	0.16055	0.289697	no
366.789	237.298	-0.628253	-0.225577	0.31175	0.456991	no
260.897	168.939	-0.626978	-0.5519	0.27355	0.41858	no
764.755	495.872	-0.625029	-0.445994	0.5212	0.640415	no
368.279	238.958	-0.624041	-0.515682	0.3193	0.463631	no
182.402	118.484	-0.622427	-0.568904	0.2887	0.433665	no
251.065	163.123	-0.622105	-0.669433	0.24315	0.391976	no
94.3119	61.3075	-0.621376	-0.629827	0.2588	0.404978	no
711.098	462.593	-0.620305	-0.519085	0.35775	0.500282	no
298.666	194.313	-0.620153	-0.750778	0.19525	0.33401	no
216.277	140.752	-0.619717	-0.571642	0.29005	0.434952	no
285.917	186.118	-0.619376	-0.622181	0.2663	0.41188	no
168.995	110.063	-0.618648	-0.604306	0.27905	0.423988	no
1043.64	680.113	-0.617784	-0.309556	0.5857	0.692332	no
165.747	108.12	-0.616342	-0.778132	0.1478	0.274687	no
295.092	192.622	-0.615397	-0.5333	0.31755	0.462225	no
210.759	137.621	-0.614891	-0.717199	0.19965	0.339232	no
293.472	191.694	-0.614414	-0.507235	0.35755	0.500271	no
224.865	146.976	-0.613485	-0.530749	0.3353	0.479934	no
932.598	609.777	-0.612975	-0.349675	0.4318	0.564834	no
119.946	78.4724	-0.612126	-0.782859	0.17005	0.300983	no

292.158	191.508	-0.609344	-0.5285	0.3525	0.495369	no
211.77	138.921	-0.608235	-0.448843	0.42885	0.563485	no
145.301	95.3318	-0.60801	-0.768504	0.19235	0.33001	no
612.629	402.305	-0.606724	-0.436721	0.46485	0.594387	no
146.39	96.3278	-0.603795	-0.681077	0.21795	0.36229	no
235.996	155.386	-0.60291	-0.629177	0.26175	0.408868	no
269.367	177.733	-0.599862	-0.719362	0.20015	0.339754	no
313.675	207.04	-0.599364	-0.358182	0.4907	0.616229	no
251.835	166.235	-0.599251	-0.667773	0.2409	0.389822	no
123.156	81.3455	-0.598349	-0.743929	0.19975	0.339238	no
351.438	232.663	-0.595027	-0.636078	0.2458	0.393906	no
108.307	71.7734	-0.593607	-0.73933	0.2038	0.343304	no
534.156	354.114	-0.593048	-0.455512	0.3776	0.516963	no
185.262	123.038	-0.590466	-0.716962	0.20405	0.343396	no
178.272	118.629	-0.587627	-0.713099	0.2165	0.36056	no
2413.24	1607.52	-0.586136	-0.256915	0.6872	0.775066	no
338.703	225.649	-0.585944	-0.645928	0.2672	0.412445	no
329.373	219.794	-0.58357	-0.561629	0.3045	0.451013	no
464.391	309.961	-0.583254	-0.327799	0.48225	0.608903	no
108.679	72.5394	-0.583233	-0.662342	0.2606	0.407433	no
156.058	104.333	-0.580885	-0.670261	0.23165	0.379514	no
5375.74	3597.15	-0.579608	-0.241442	0.6919	0.778001	no
311.746	208.643	-0.579333	-0.573196	0.29995	0.446378	no
504.349	337.671	-0.578803	-0.665129	0.2501	0.397364	no
876.268	587.77	-0.576121	-0.540473	0.288	0.433353	no
229.092	153.809	-0.574789	-0.647214	0.238	0.386325	no
196.64	132.078	-0.574173	-0.653597	0.2712	0.416612	no
122.181	82.0734	-0.574027	-0.492769	0.3756	0.515363	no
537.947	361.585	-0.573131	-0.425215	0.5006	0.622325	no
824.979	554.736	-0.572557	-0.583107	0.29145	0.436308	no
132.716	89.2664	-0.572151	-0.695204	0.1991	0.338787	no
213.41	143.647	-0.571103	-0.70885	0.20365	0.343215	no
399.223	268.811	-0.570603	-0.350655	0.48035	0.607346	no
16991.4	11455.4	-0.568773	-0.267103	0.62795	0.729366	no
449.771	303.309	-0.568402	-0.566504	0.3263	0.470684	no
143.251	96.7621	-0.566035	-0.664024	0.2309	0.378637	no
90.6435	61.2711	-0.564998	-0.68207	0.2328	0.380419	no
72.8737	49.2613	-0.564943	-0.411578	0.3764	0.516122	no
910.775	616.821	-0.562242	-0.676021	0.2282	0.375608	no
102.206	69.2268	-0.562082	-0.659899	0.2714	0.416738	no
634.127	430.141	-0.559963	-0.549881	0.31475	0.460049	no
455.586	309.047	-0.559895	-0.268742	0.4107	0.547393	no
230.013	156.167	-0.558628	-0.65541	0.2642	0.410874	no
251.083	170.527	-0.558163	-0.645479	0.2439	0.392467	no

632.939	430.683	-0.555439	-0.589247	0.273	0.418465	no
79.7679	54.2876	-0.555185	-0.302338	0.56975	0.679228	no
342.136	232.999	-0.554247	-0.437849	0.4531	0.583023	no
435.484	296.576	-0.554217	-0.381274	0.5299	0.647268	no
473.488	322.549	-0.553808	-0.338994	0.49085	0.616229	no
469.502	319.88	-0.553599	-0.595294	0.28895	0.433821	no
266.021	181.33	-0.55292	-0.644086	0.2702	0.415774	no
356.282	242.955	-0.552329	-0.65966	0.24845	0.396849	no
379.261	258.65	-0.552191	-0.547487	0.30255	0.448921	no
310.168	211.68	-0.551165	-0.406853	0.46025	0.590068	no
221.866	152.058	-0.545063	-0.512468	0.36715	0.508184	no
893.673	613.042	-0.543762	-0.553551	0.29415	0.439417	no
157.768	108.241	-0.543553	-0.581415	0.298	0.443851	no
163.902	112.493	-0.542993	-0.708565	0.2456	0.393906	no
4969.95	3412.77	-0.542289	-0.414764	0.38065	0.519258	no
500.796	344.29	-0.540601	-0.341486	0.47605	0.603453	no
3070.77	2113.36	-0.53906	-0.265273	0.5224	0.641442	no
204.636	140.839	-0.539014	-0.622847	0.29075	0.435631	no
747.086	514.343	-0.538544	-0.431746	0.40945	0.545933	no
1043.69	718.553	-0.538522	-0.288665	0.37135	0.511586	no
624.451	430.257	-0.537391	-0.650473	0.2499	0.397225	no
215.985	148.844	-0.537129	-0.198192	0.76455	0.830797	no
126.498	87.1756	-0.537121	-0.565285	0.3332	0.478093	no
110.119	75.9174	-0.536566	-0.655614	0.26415	0.410874	no
702.291	484.388	-0.535907	-0.327493	0.452	0.582607	no
93.4125	64.437	-0.535725	-0.648823	0.2479	0.39653	no
304.468	210.077	-0.535373	-0.590034	0.29695	0.442849	no
2404.13	1658.84	-0.535345	-0.236223	0.7025	0.785414	no
331.358	228.679	-0.535066	-0.263513	0.60935	0.713879	no
325.442	224.641	-0.534778	-0.521287	0.35925	0.501058	no
140.217	96.9172	-0.532839	-0.660631	0.2535	0.399702	no
536.515	371.115	-0.531753	-0.334115	0.4948	0.618763	no
191.604	132.618	-0.530846	-0.62417	0.2783	0.423093	no
243.966	168.899	-0.53052	-0.564014	0.3346	0.479608	no
88.9426	61.7362	-0.526757	-0.605377	0.2676	0.412701	no
166.286	115.505	-0.525707	-0.637353	0.2625	0.409392	no
239.763	166.55	-0.525655	-0.402039	0.4515	0.582389	no
865.209	601.589	-0.52427	-0.320769	0.4977	0.620848	no
430.819	299.739	-0.523375	-0.488903	0.4034	0.540525	no
6187.86	4307.19	-0.522695	-0.230737	0.7028	0.785414	no
190.453	132.687	-0.521405	-0.636516	0.2541	0.400362	no
381.173	265.899	-0.519566	-0.44496	0.43235	0.565265	no
235.984	164.623	-0.519527	-0.562342	0.30805	0.453454	no
282.403	197.233	-0.517855	-0.476686	0.35505	0.497889	no

751.558	525.177	-0.51708	-0.412833	0.42405	0.560312	no
52.3783	36.6304	-0.515928	-0.623546	0.2761	0.420838	no
404.938	283.328	-0.515227	-0.476339	0.39345	0.532048	no
946.373	662.275	-0.51498	-0.264639	0.6758	0.766995	no
7121.3	4986.64	-0.514072	-0.229598	0.6981	0.782781	no
80.3849	56.3089	-0.513563	-0.214666	0.63015	0.730957	no
431.017	302.185	-0.512312	-0.439923	0.3977	0.534847	no
60.0447	42.1055	-0.512027	-0.637641	0.26565	0.411314	no
1003.2	704.496	-0.509952	-0.307414	0.5149	0.634887	no
142.768	100.497	-0.50652	-0.634805	0.26505	0.411314	no
333.104	234.532	-0.506191	-0.595786	0.2971	0.442885	no
338.115	238.351	-0.504428	-0.38983	0.4487	0.579838	no
175.193	123.599	-0.503276	-0.591326	0.2905	0.435441	no
255.366	180.285	-0.502284	-0.58514	0.3069	0.452139	no
296.225	209.413	-0.500342	-0.560154	0.33215	0.476975	no
297.447	210.284	-0.500299	-0.460288	0.4039	0.540784	no
150.682	106.643	-0.498716	-0.6105	0.2758	0.420562	no
131.788	93.3234	-0.497907	-0.630185	0.27745	0.422165	no
120.711	85.4891	-0.497745	-0.6029	0.2792	0.423988	no
306.237	217.077	-0.496442	-0.32105	0.50755	0.628649	no
144.968	102.789	-0.496053	-0.601272	0.28665	0.432244	no
272.127	192.958	-0.495996	-0.552545	0.31465	0.460049	no
178.109	126.316	-0.495729	-0.45799	0.3946	0.53299	no
256.358	181.922	-0.494843	-0.43671	0.45025	0.581202	no
131.36	93.2247	-0.494746	-0.549416	0.34855	0.492103	no
1867.98	1327.24	-0.49305	-0.338094	0.49725	0.620848	no
45.1587	32.107	-0.492119	-0.591166	0.3053	0.451586	no
190.563	135.513	-0.491843	-0.559645	0.30645	0.452001	no
302.943	215.62	-0.490556	-0.544659	0.34775	0.491565	no
173.73	123.667	-0.490386	-0.510013	0.3695	0.510234	no
93.2309	66.3965	-0.489702	-0.619962	0.27425	0.419287	no
2117.96	1511.25	-0.486936	-0.217766	0.7215	0.796793	no
322.619	230.831	-0.482995	-0.556853	0.31215	0.457271	no
6796.07	4870.35	-0.480674	-0.285817	0.5077	0.628649	no
219.301	157.175	-0.480538	-0.490089	0.387	0.525208	no
89.1026	63.9354	-0.478851	-0.436965	0.4458	0.577149	no
99.3685	71.3828	-0.477211	-0.584373	0.32315	0.46748	no
384.368	276.176	-0.476899	-0.47774	0.38325	0.521658	no
85.7842	61.6704	-0.476134	-0.478835	0.3975	0.534847	no
111.773	80.4067	-0.475186	-0.294557	0.5778	0.685578	no
155.263	111.878	-0.472791	-0.554706	0.33925	0.483819	no
133.14	96.0037	-0.471782	-0.555254	0.33475	0.479608	no
950.994	685.958	-0.471315	-0.280626	0.56355	0.675493	no
184.745	133.3	-0.470858	-0.474257	0.4126	0.54951	no

296.812	214.273	-0.4701	-0.499814	0.367	0.508176	no
427.895	309.059	-0.469373	-0.452524	0.47915	0.60651	no
987.985	713.826	-0.468916	-0.285787	0.7019	0.785414	no
779.298	563.336	-0.468179	-0.37704	0.5068	0.628197	no
257.175	186.171	-0.466124	-0.380437	0.51395	0.634221	no
418.972	303.326	-0.465983	-0.33562	0.56115	0.673992	no
82.2185	59.5829	-0.464564	-0.583522	0.30655	0.452001	no
261.161	189.327	-0.464054	-0.525864	0.37065	0.511021	no
130.044	94.3303	-0.463202	-0.603724	0.28845	0.433475	no
202.022	146.594	-0.462682	-0.458013	0.42755	0.563037	no
416.2	302.166	-0.461935	-0.28831	0.5961	0.701856	no
3507.22	2546.49	-0.461819	-0.199085	0.75075	0.820209	no
148.473	107.936	-0.460027	-0.430159	0.45975	0.589792	no
264.509	192.431	-0.458981	-0.407049	0.47105	0.598686	no
240.555	175.129	-0.457945	-0.360594	0.50065	0.622325	no
746.093	543.23	-0.457793	-0.287544	0.6183	0.720294	no
878.959	640.455	-0.456697	-0.289145	0.6192	0.720628	no
302.339	220.462	-0.455639	-0.495283	0.37225	0.512225	no
17.6656	12.891	-0.454576	-0.382467	0.41625	0.552691	no
460.129	335.77	-0.454565	-0.24477	0.5901	0.695955	no
370.504	270.805	-0.452233	-0.384792	0.46835	0.596913	no
795.185	581.755	-0.450878	-0.26581	0.7775	0.840205	no
101.906	74.5747	-0.450476	-0.540796	0.34385	0.488277	no
118.052	86.4541	-0.44942	-0.546031	0.33975	0.48414	no
1046.12	767.138	-0.44749	-0.244595	0.3676	0.508408	no
375.924	275.906	-0.446263	-0.366786	0.5222	0.64142	no
320.512	235.547	-0.444363	-0.542544	0.3593	0.501058	no
165.747	121.869	-0.443649	-0.54732	0.3289	0.473272	no
178.118	131.072	-0.442477	-0.511988	0.3754	0.515352	no
107.262	79.0047	-0.441129	-0.467579	0.38695	0.525208	no
816.247	601.359	-0.44078	-0.38198	0.4713	0.598724	no
284.388	209.63	-0.440015	-0.492483	0.40035	0.537051	no
103.832	76.5678	-0.439444	-0.567386	0.31685	0.461851	no
311.036	229.513	-0.438509	-0.263354	0.71065	0.790259	no
99.9525	73.8423	-0.436796	-0.541126	0.35375	0.49673	no
566.276	418.671	-0.435687	-0.192073	0.7118	0.791288	no
253.985	187.817	-0.435414	-0.46606	0.40645	0.542755	no
186.193	137.766	-0.434582	-0.490972	0.39785	0.534847	no
199.977	148.045	-0.433795	-0.537965	0.35135	0.494669	no
391.686	290.08	-0.43325	-0.347243	0.50085	0.622354	no
142.7	105.702	-0.43298	-0.3751	0.48045	0.607346	no
190.955	141.571	-0.431703	-0.537284	0.3441	0.48831	no
135.887	100.753	-0.431578	-0.507029	0.36105	0.502901	no
217.578	161.378	-0.431088	-0.453685	0.4297	0.563525	no



148.925	110.463	-0.431028	-0.5368	0.349	0.492344	no
217.082	161.139	-0.429928	-0.441312	0.4243	0.560432	no
153.769	114.252	-0.428545	-0.496211	0.37655	0.516127	no
135.171	100.605	-0.426087	-0.503178	0.3811	0.519534	no
162.876	121.252	-0.425763	-0.448278	0.4235	0.560005	no
624.188	464.74	-0.425557	-0.367803	0.43855	0.570487	no
208.294	155.273	-0.423814	-0.444014	0.43175	0.564834	no
110.07	82.0575	-0.423712	-0.545847	0.34965	0.492937	no
84.5297	63.0547	-0.422853	-0.536483	0.3546	0.497527	no
359.393	268.13	-0.422629	-0.496201	0.37915	0.517677	no
344.716	257.363	-0.421605	-0.187396	0.648	0.745041	no
227.268	169.79	-0.420649	-0.308951	0.5691	0.679228	no
3536.78	2642.5	-0.420533	-0.213924	0.7385	0.81074	no
94.8444	70.905	-0.419676	-0.464004	0.41785	0.554406	no
139.842	104.573	-0.419288	-0.361405	0.527	0.645067	no
842.11	629.904	-0.418878	-0.194744	0.65035	0.746097	no
201.023	150.712	-0.415564	-0.503168	0.3636	0.504857	no
311.12	233.448	-0.414368	-0.458	0.41445	0.551557	no
657.39	493.751	-0.412968	-0.293067	0.5824	0.688717	no
184.17	138.423	-0.411957	-0.442383	0.44845	0.579838	no
426.305	320.526	-0.411445	-0.447945	0.43635	0.568885	no
270.946	203.734	-0.41132	-0.406464	0.40335	0.540525	no
234.997	176.787	-0.410634	-0.437622	0.41625	0.552691	no
152.847	115.054	-0.409777	-0.414825	0.4593	0.589429	no
115.27	86.9059	-0.407494	-0.49918	0.38705	0.525208	no
387.084	292.914	-0.402171	-0.260387	0.61735	0.719425	no
103.932	78.681	-0.401555	-0.513325	0.3725	0.512369	no
101.76	77.0735	-0.40087	-0.516772	0.34855	0.492103	no
180.984	137.137	-0.400241	-0.324684	0.5203	0.640331	no
127.73	96.809	-0.399882	-0.486357	0.4253	0.561122	no
93.8274	71.1962	-0.398209	-0.489829	0.3653	0.506419	no
317.967	241.336	-0.397833	-0.332528	0.541	0.657635	no
86.1109	65.3797	-0.397352	-0.50434	0.35255	0.495369	no
140.006	106.32	-0.397078	-0.411612	0.46595	0.595146	no
189.798	144.447	-0.393919	-0.412496	0.41505	0.552147	no
169.694	129.214	-0.393177	-0.390679	0.4926	0.616888	no
521.22	396.918	-0.393052	-0.495091	0.379	0.517677	no
39.8773	30.3781	-0.392538	-0.0813387	0.82165	0.874244	no
105.726	80.5515	-0.392352	-0.478386	0.40005	0.536853	no
113.047	86.2183	-0.390857	-0.417335	0.4606	0.590238	no
90.6174	69.1756	-0.389527	-0.499972	0.35635	0.499315	no
288.925	221.021	-0.386507	-0.344721	0.52095	0.640331	no
520.261	398.2	-0.385742	-0.285738	0.6426	0.741009	no
139.278	106.838	-0.38255	-0.453682	0.4399	0.571821	no

284.061	218.064	-0.381448	-0.228584	0.6696	0.762414	no
183.682	141.116	-0.380333	-0.470592	0.3779	0.516972	no
177.787	136.715	-0.378976	-0.441409	0.4518	0.582562	no
856.617	658.903	-0.378584	-0.563866	0.48795	0.61412	no
61.6972	47.4786	-0.377927	-0.402748	0.484	0.61002	no
287.759	221.587	-0.376987	-0.276299	0.61405	0.716765	no
166.911	128.576	-0.376452	-0.461739	0.42395	0.560312	no
220.017	169.592	-0.375551	-0.368206	0.5055	0.627247	no
286.424	221.029	-0.373916	-0.365671	0.4931	0.617138	no
190.581	147.1	-0.373603	-0.467686	0.405	0.541979	no
318.568	245.909	-0.373479	-0.468702	0.40945	0.545933	no
40.0431	30.962	-0.371057	-0.415364	0.50825	0.628888	no
113.724	87.9757	-0.370365	-0.431272	0.4431	0.574498	no
230.949	178.823	-0.369042	-0.434628	0.4641	0.593859	no
310.295	240.338	-0.368578	-0.365078	0.5032	0.625054	no
54.3684	42.1205	-0.368245	-0.453066	0.4384	0.570487	no
60.0838	46.5548	-0.368048	-0.408936	0.4778	0.605019	no
172.233	133.468	-0.367863	-0.316169	0.51935	0.639479	no
107.104	83.0161	-0.367554	-0.461891	0.40735	0.543545	no
91.6762	71.1632	-0.365417	-0.414977	0.48525	0.61094	no
495.018	384.378	-0.364955	-0.240995	0.6736	0.765731	no
129.852	101.002	-0.362477	-0.444835	0.4402	0.572	no
109.114	84.9054	-0.361911	-0.468483	0.39685	0.534799	no
114.511	89.3299	-0.358266	-0.435851	0.45095	0.581892	no
127.927	99.8315	-0.357751	-0.440491	0.43425	0.567407	no
79.4496	62.0093	-0.357556	-0.430441	0.46385	0.593755	no
128.57	100.352	-0.357475	-0.429656	0.47035	0.598596	no
137.547	107.39	-0.357067	-0.42167	0.4529	0.583023	no
39.8903	31.1508	-0.356769	-0.395091	0.4701	0.598494	no
184.985	144.47	-0.356637	-0.428011	0.43725	0.569427	no
231.434	180.975	-0.354816	-0.389855	0.47285	0.600261	no
191.938	150.206	-0.3537	-0.341134	0.53295	0.650317	no
118.758	92.9997	-0.352732	-0.355235	0.5294	0.647268	no
476.965	373.796	-0.351632	-0.319673	0.55995	0.67343	no
199.28	156.372	-0.349815	-0.426024	0.47075	0.598686	no
219.841	172.667	-0.348465	-0.422361	0.47505	0.602466	no
100.77	79.3455	-0.344848	-0.273889	0.5667	0.678116	no
1304.1	1027.08	-0.344507	-0.173124	0.83025	0.88047	no
151.318	119.446	-0.341234	-0.19233	0.72355	0.798167	no
262.528	207.512	-0.339275	-0.268371	0.63635	0.735486	no
331.636	262.275	-0.338519	-0.2922	0.59235	0.698141	no
74.3604	58.9047	-0.336152	-0.424521	0.45245	0.582974	no
172.325	136.589	-0.335298	-0.387963	0.48365	0.609923	no
895.36	710.996	-0.332627	-0.259031	0.6906	0.777035	no

618.707	491.397	-0.332368	-0.192654	0.66235	0.756587	no
112.273	89.1938	-0.331994	-0.393928	0.4976	0.620848	no
308.981	245.755	-0.330298	-0.326137	0.5619	0.674433	no
176.633	140.516	-0.330019	-0.372593	0.50915	0.62956	no
125.893	100.183	-0.329552	-0.398116	0.50535	0.627247	no
90.4726	72.0057	-0.32937	-0.368002	0.49065	0.616229	no
301.877	240.435	-0.328314	-0.309034	0.5897	0.695949	no
180.641	144.085	-0.326207	-0.345741	0.51935	0.639479	no
227.275	181.392	-0.325326	-0.394726	0.4809	0.607416	no
124.751	99.6739	-0.323759	-0.395418	0.47675	0.604123	no
8124.84	6494.09	-0.323212	-0.281595	0.7506	0.820209	no
156.477	125.072	-0.323185	-0.391415	0.499	0.621652	no
134.144	107.232	-0.323054	-0.398208	0.48815	0.614152	no
108.26	86.7141	-0.320157	-0.352389	0.537	0.653735	no
132.599	106.253	-0.31956	-0.393273	0.4678	0.596708	no
65.2777	52.322	-0.319171	-0.385772	0.51195	0.632196	no
596.777	478.553	-0.318513	-0.181972	0.6875	0.775066	no
239.016	191.711	-0.318177	-0.346552	0.5343	0.651063	no
140.951	113.152	-0.316922	-0.394608	0.49215	0.616731	no
109.071	87.7824	-0.313262	-0.364959	0.524	0.642511	no
52.8257	42.5195	-0.313115	-0.382304	0.514	0.634221	no
163.721	131.91	-0.311686	-0.402247	0.4708	0.598686	no
180.212	145.25	-0.311153	-0.383432	0.5045	0.626447	no
171.214	138.078	-0.310316	-0.265077	0.6395	0.738389	no
190.054	153.365	-0.309442	-0.355874	0.52855	0.646515	no
222.92	180.243	-0.306584	-0.369415	0.50805	0.628861	no
115.961	93.7636	-0.306538	-0.300045	0.6005	0.706093	no
360.13	291.224	-0.306387	-0.358385	0.53815	0.654848	no
123.438	99.8835	-0.305469	-0.384868	0.4923	0.616731	no
205.471	166.266	-0.305439	-0.334266	0.5579	0.67238	no
174.42	141.283	-0.303972	-0.366522	0.52525	0.643596	no
674.069	546.124	-0.303666	-0.358223	0.53985	0.656464	no
156.49	126.969	-0.301598	-0.328353	0.57065	0.680071	no
94.1449	76.4101	-0.301121	-0.355036	0.5192	0.639479	no
3643.07	2957.41	-0.300822	-0.133234	0.82635	0.877549	no
76.5926	62.2541	-0.299036	-0.328418	0.55475	0.6695	no
118.597	96.3984	-0.298992	-0.343199	0.54775	0.664008	no
403.341	328.105	-0.297844	-0.346972	0.5433	0.659748	no
181.845	147.994	-0.297177	-0.320714	0.5783	0.68594	no
218.589	178.117	-0.295396	-0.30523	0.56835	0.679168	no
83.7351	68.2487	-0.295031	-0.385172	0.5148	0.634887	no
109.902	89.5955	-0.294719	-0.310752	0.57135	0.680445	no
106.227	86.6345	-0.294142	-0.349944	0.54305	0.659672	no
420.99	343.427	-0.293785	-0.30108	0.56255	0.674754	no

577.625	471.948	-0.291506	-0.272246	0.63015	0.730957	no
212.149	173.355	-0.29135	-0.359961	0.5324	0.649871	no
144.83	118.409	-0.290584	-0.356219	0.5282	0.646311	no
123.123	100.669	-0.290483	-0.268952	0.61865	0.720464	no
177.708	145.323	-0.290249	-0.350187	0.53415	0.651063	no
43.0359	35.2182	-0.289219	-0.273313	0.634	0.733906	no
563.094	460.845	-0.289094	-0.237873	0.6326	0.733075	no
74.1568	60.6963	-0.288969	-0.351118	0.55295	0.668014	no
183.347	150.228	-0.28742	-0.348403	0.52045	0.640331	no
167.56	137.385	-0.28645	-0.289169	0.60645	0.711191	no
265.195	217.821	-0.283915	-0.31514	0.5734	0.682425	no
87.7626	72.1213	-0.283182	-0.334402	0.5625	0.674754	no
154.656	127.127	-0.282792	-0.368452	0.512	0.632196	no
51.3538	42.274	-0.280699	-0.348706	0.5498	0.665349	no
184.127	151.923	-0.277357	-0.241642	0.66255	0.756587	no
144.128	119.053	-0.275754	-0.328743	0.5556	0.670067	no
156.419	129.387	-0.273725	-0.230074	0.6453	0.742907	no
282.135	233.44	-0.273336	-0.223385	0.6857	0.774738	no
134.483	111.351	-0.272316	-0.317646	0.57885	0.686131	no
183.479	151.985	-0.271684	-0.333345	0.56015	0.67343	no
87.1279	72.1866	-0.271404	-0.33788	0.54155	0.658077	no
851.209	706.035	-0.269774	-0.220903	0.69595	0.781309	no
109.723	91.0232	-0.269565	-0.297361	0.6112	0.715024	no
158.358	131.466	-0.268495	-0.32572	0.56545	0.677089	no
287.657	238.842	-0.268292	-0.201797	0.71775	0.79506	no
107.181	89.0683	-0.267063	-0.181296	0.6618	0.75622	no
276.453	229.745	-0.267001	-0.295734	0.58775	0.69388	no
125.71	104.523	-0.26628	-0.335616	0.5586	0.672994	no
199.031	165.495	-0.266203	-0.332294	0.54595	0.662054	no
170.473	141.821	-0.265469	-0.282875	0.60275	0.708266	no
82.2974	68.4701	-0.265373	-0.333441	0.5504	0.665846	no
286.682	238.87	-0.263222	-0.310205	0.56445	0.676342	no
174.345	145.283	-0.26308	-0.149371	0.783	0.844854	no
81.4947	67.9991	-0.26119	-0.254298	0.61515	0.717811	no
109.822	91.7129	-0.259969	-0.294152	0.57745	0.685394	no
110.423	92.2294	-0.259741	-0.338596	0.5452	0.661372	no
417.5	348.818	-0.259302	-0.30177	0.59595	0.701856	no
116.766	97.6638	-0.257724	-0.274836	0.6397	0.738389	no
188.221	157.677	-0.255456	-0.228001	0.6914	0.777687	no
96.8419	81.1562	-0.25493	-0.311407	0.594	0.699852	no
123.964	103.908	-0.254611	-0.321049	0.57915	0.686256	no
212.362	178.019	-0.254493	-0.258599	0.65185	0.747274	no
108.449	90.9158	-0.254415	-0.296366	0.6109	0.715024	no
271.929	228.387	-0.251752	-0.25798	0.6413	0.739752	no

253.66	213.197	-0.250709	-0.277943	0.63995	0.738436	no
302.145	254.021	-0.250298	-0.239127	0.6706	0.763059	no
120.162	101.139	-0.248637	-0.324917	0.56315	0.675243	no
186.488	157.001	-0.248302	-0.200782	0.7267	0.80128	no
95.9837	80.8217	-0.248048	-0.318599	0.56135	0.674003	no
126.707	106.715	-0.247731	-0.295109	0.5823	0.688717	no
84.3667	71.0843	-0.247142	-0.315042	0.56795	0.67892	no
92.7958	78.2266	-0.246399	-0.112491	0.83415	0.883011	no
47.8423	40.3428	-0.245975	-0.227111	0.6939	0.779752	no
203.708	171.796	-0.245809	-0.309678	0.581	0.687985	no
234.672	197.92	-0.245732	-0.315204	0.56725	0.678313	no
1390.25	1172.74	-0.245466	-0.111133	0.80485	0.861523	no
197.077	166.245	-0.245445	-0.293925	0.61165	0.715024	no
231.924	195.824	-0.244095	-0.198622	0.69725	0.782519	no
106.682	90.1741	-0.242535	-0.260146	0.64835	0.745201	no
3706.48	3134.44	-0.241842	-0.226479	0.67035	0.763021	no
137.529	116.464	-0.239857	-0.294894	0.6118	0.715024	no
216.249	183.132	-0.239806	-0.163791	0.75275	0.821775	no
277.815	235.54	-0.238152	-0.243135	0.66685	0.760133	no
268.347	227.527	-0.238062	-0.234949	0.67615	0.767145	no
281.89	239.456	-0.235373	-0.137439	0.80505	0.861523	no
204.265	173.674	-0.234058	-0.276009	0.63415	0.733906	no
2083.56	1774.88	-0.231325	-0.136511	0.39735	0.534847	no
138.08	117.643	-0.231081	-0.245674	0.6788	0.769904	no
71.1846	60.6498	-0.231062	-0.298361	0.6124	0.715134	no
100.728	85.8225	-0.231035	-0.290674	0.61175	0.715024	no
101.994	86.9022	-0.23102	-0.217858	0.7056	0.786878	no
185.852	158.354	-0.231	-0.25081	0.67455	0.765993	no
78.6405	67.0511	-0.230011	-0.262259	0.63715	0.736169	no
139.576	119.182	-0.227895	-0.253024	0.6695	0.762414	no
116.463	99.4513	-0.227808	-0.248653	0.6565	0.75131	no
146.177	124.845	-0.227573	-0.162064	0.7817	0.843871	no
327.275	280.301	-0.223526	-0.244638	0.6504	0.746097	no
221.91	190.116	-0.223095	-0.249545	0.65	0.746097	no
99.3614	85.2009	-0.221816	-0.241321	0.64925	0.745992	no
221.657	190.26	-0.220359	-0.259281	0.64505	0.742907	no
451.751	388.205	-0.218711	-0.23534	0.6852	0.774738	no
71.2479	61.2661	-0.217757	-0.276297	0.6307	0.731355	no
98.2499	84.4985	-0.217531	-0.278587	0.61245	0.715134	no
387.992	334.043	-0.215993	-0.13391	0.8188	0.872001	no
140.079	120.607	-0.215935	-0.278741	0.6167	0.719143	no
102.779	88.5253	-0.215378	-0.266018	0.64985	0.746097	no
156.982	135.292	-0.214527	-0.24552	0.6654	0.758857	no
201.699	173.967	-0.213392	-0.267199	0.6435	0.741804	no

99.4545	85.8686	-0.211907	-0.267834	0.62895	0.730287	no
83.4053	72.0769	-0.210602	-0.269551	0.6447	0.742907	no
18114.3	15657.3	-0.210298	-0.0590743	0.8684	0.907545	no
767.032	663.062	-0.210142	-0.200476	0.70375	0.785865	no
86.4767	74.7758	-0.209741	-0.207951	0.71405	0.793039	no
139.046	120.335	-0.208506	-0.241353	0.67955	0.770259	no
369.261	319.592	-0.208408	-0.251397	0.6866	0.775066	no
103.61	89.7627	-0.206971	-0.251359	0.65665	0.75131	no
404.094	350.275	-0.206202	-0.134811	0.7873	0.847936	no
1134.64	983.584	-0.206114	-0.12171	0.78345	0.84508	no
313.301	271.923	-0.204355	-0.164017	0.81295	0.867869	no
69.1106	59.9862	-0.204277	-0.255507	0.6635	0.757426	no
142.246	123.548	-0.203314	-0.244121	0.65625	0.75131	no
178.009	154.629	-0.203139	-0.217348	0.7074	0.787888	no
747.682	649.605	-0.202862	-0.115726	0.8095	0.865234	no
435.907	379.178	-0.201146	-0.177804	0.76445	0.830797	no
199.079	173.547	-0.198017	-0.21464	0.6997	0.784269	no
383.543	334.568	-0.197086	-0.206849	0.69495	0.780491	no
339.336	296.456	-0.194896	-0.230426	0.6792	0.77011	no
317.16	277.232	-0.194117	-0.240437	0.67325	0.76558	no
232.78	204.074	-0.189876	-0.217995	0.68775	0.775066	no
112.174	98.3845	-0.18923	-0.219686	0.7071	0.787803	no
152.513	133.783	-0.189032	-0.236425	0.6677	0.760742	no
124.661	109.372	-0.188771	-0.215117	0.7038	0.785865	no
190.322	167.551	-0.183845	-0.168345	0.7595	0.827606	no
430.17	379.065	-0.18246	-0.196662	0.7291	0.803172	no
108.737	95.8211	-0.182433	-0.214756	0.70295	0.785414	no
93.1659	82.1708	-0.181177	-0.228199	0.6874	0.775066	no
102.62	90.5129	-0.181122	-0.221813	0.7017	0.785414	no
181.344	159.959	-0.181025	-0.188825	0.73195	0.805556	no
107.775	95.0956	-0.180571	-0.209509	0.72035	0.796464	no
91.9111	81.2311	-0.178207	-0.21369	0.7127	0.792011	no
202.465	179.472	-0.17391	-0.161219	0.76675	0.832674	no
112.4	99.6564	-0.173603	-0.213897	0.7166	0.794619	no
431.35	382.489	-0.17344	-0.19627	0.7421	0.813931	no
125.953	111.753	-0.172577	-0.189909	0.73475	0.807881	no
107.869	95.7375	-0.172128	-0.211978	0.71695	0.794757	no
209.273	185.875	-0.171052	-0.170038	0.78185	0.843871	no
115.113	102.363	-0.169356	-0.200974	0.71465	0.793455	no
245.638	218.51	-0.168833	-0.120995	0.82805	0.878666	no
193.144	172.052	-0.166829	-0.200234	0.71645	0.794619	no
57.7792	51.4814	-0.166498	-0.195356	0.72695	0.801305	no
83.9833	74.8547	-0.166009	-0.20589	0.72015	0.796464	no
121.999	108.82	-0.164929	-0.192115	0.72325	0.798167	no

50.0686	44.7084	-0.163359	-0.168027	0.77675	0.840085	no
97.1847	86.8256	-0.162609	-0.207239	0.70225	0.785414	no
200.322	179.1	-0.161555	-0.133806	0.7977	0.856519	no
173.155	154.903	-0.160699	-0.186056	0.7418	0.813855	no
124.516	111.401	-0.160561	-0.198331	0.71935	0.796415	no
179.546	160.678	-0.160177	-0.202828	0.71535	0.793982	no
75.3869	67.4995	-0.159437	-0.189017	0.7322	0.80558	no
86.2764	77.4549	-0.155609	-0.18789	0.7496	0.81986	no
98.6535	88.5918	-0.155196	-0.162018	0.76125	0.829	no
57.3287	51.4857	-0.155086	-0.17012	0.7532	0.822012	no
65.9649	59.2468	-0.154961	-0.187195	0.74935	0.819841	no
282.187	253.647	-0.15383	-0.102697	0.8434	0.888904	no
71.277	64.0733	-0.153714	-0.174815	0.75085	0.820209	no
99.1173	89.1438	-0.153002	-0.193208	0.734	0.807308	no
67.1362	60.3817	-0.152979	-0.0601603	0.9212	0.945068	no
106.056	95.605	-0.149671	-0.184608	0.73145	0.805258	no
410.894	370.501	-0.14929	-0.147151	0.80485	0.861523	no
215.372	194.371	-0.148014	-0.164353	0.77065	0.835284	no
210.786	190.28	-0.147655	-0.142934	0.80585	0.862118	no
131.965	119.234	-0.146359	-0.105738	0.86465	0.905237	no
74.4892	67.3402	-0.145564	-0.168419	0.778	0.840488	no
60.8945	55.0594	-0.145323	-0.176145	0.77605	0.840085	no
179.915	162.781	-0.144385	-0.170731	0.76855	0.833858	no
81.6081	73.9119	-0.142906	-0.173423	0.7572	0.825355	no
383.312	347.803	-0.140249	-0.123353	0.805	0.861523	no
38.3299	34.7828	-0.140097	-0.149601	0.79015	0.849707	no
142.566	129.479	-0.138903	-0.1601	0.767	0.832689	no
303.814	275.996	-0.138537	-0.16493	0.7631	0.830043	no
142.365	129.412	-0.137625	-0.173171	0.7618	0.829343	no
99.4675	90.4249	-0.137505	-0.127709	0.82295	0.875098	no
145.762	132.577	-0.136784	-0.144266	0.79755	0.856519	no
332.039	302.427	-0.134766	-0.142619	0.8015	0.85929	no
286.647	261.335	-0.133375	-0.114886	0.8387	0.885965	no
92.7828	84.7688	-0.130325	-0.163979	0.77655	0.840085	no
112.776	103.219	-0.127756	-0.156858	0.7771	0.840085	no
196.759	180.507	-0.124369	-0.109858	0.84125	0.88786	no
253.831	233.043	-0.123273	-0.0754183	0.86525	0.905379	no
211.776	194.434	-0.123261	-0.145242	0.8024	0.859993	no
146.466	134.604	-0.121844	-0.156353	0.77665	0.840085	no
192.889	177.37	-0.121012	-0.0934759	0.86375	0.904563	no
254.563	234.097	-0.120916	-0.15095	0.7991	0.857761	no
160.371	147.597	-0.119753	-0.135117	0.80905	0.865016	no
463.272	426.664	-0.11876	-0.0777067	0.8807	0.917136	no
135.696	125.328	-0.114672	-0.134603	0.8162	0.870184	no

194.309	179.775	-0.112159	-0.130923	0.8138	0.868513	no
248.391	229.918	-0.111493	-0.11341	0.8435	0.888904	no
432.026	399.946	-0.111311	-0.106822	0.85495	0.897748	no
73.3148	67.8817	-0.11108	-0.122735	0.8262	0.877549	no
105.875	98.099	-0.11005	-0.13046	0.8192	0.87206	no
210.198	194.802	-0.109741	-0.135105	0.8159	0.870184	no
37.583	34.8809	-0.107642	-0.119257	0.8378	0.88528	no
67.2799	62.4566	-0.107322	-0.121146	0.8358	0.883961	no
128.363	119.237	-0.1064	-0.125	0.8298	0.880257	no
106.183	98.7257	-0.105057	-0.12631	0.81645	0.870184	no
116.768	108.604	-0.104577	-0.110736	0.8486	0.89321	no
79.1582	73.6341	-0.104365	-0.127703	0.8279	0.878666	no
166.74	155.162	-0.103825	-0.10325	0.85125	0.895193	no
204.865	190.744	-0.10303	-0.126685	0.82505	0.877067	no
0.183668	0.171113	-0.102148	0	1	1	no
58.8786	54.934	-0.100045	-0.0974682	0.8653	0.905379	no
218.077	203.685	-0.0985	-0.0845222	0.8789	0.915532	no
207.483	193.861	-0.0979686	-0.0604945	0.89875	0.929341	no
82.1063	76.7803	-0.0967565	-0.11977	0.8426	0.888487	no
149.549	139.88	-0.0964324	-0.12194	0.8225	0.874884	no
110.882	103.852	-0.094506	-0.0674722	0.9094	0.936063	no
113.979	106.789	-0.0940104	-0.0938999	0.86815	0.907545	no
170.571	159.813	-0.0939875	-0.0916606	0.8609	0.902383	no
84.853	79.5069	-0.0938858	-0.108265	0.8527	0.896187	no
78.1739	73.3276	-0.0923323	-0.114926	0.83545	0.883856	no
118.852	111.489	-0.0922711	-0.102277	0.8515	0.895193	no
130.554	122.551	-0.0912651	-0.115056	0.8407	0.887545	no
33.4058	31.4059	-0.0890629	-0.0748076	0.8882	0.923037	no
349.467	328.676	-0.0884916	-0.105105	0.8626	0.903889	no
226.153	212.717	-0.0883659	-0.0983961	0.8593	0.901242	no
163.655	154.045	-0.0872997	-0.108305	0.84615	0.890897	no
1252.47	1179.63	-0.0864339	-0.0620927	0.8986	0.929341	no
401.06	378.641	-0.0829891	-0.0933954	0.8756	0.913174	no
79.0534	74.6689	-0.0823202	-0.105359	0.8565	0.899108	no
194.902	184.122	-0.082083	-0.0801853	0.89645	0.928325	no
40.9251	38.6782	-0.0814672	-0.0667676	0.9051	0.933716	no
340.614	322.072	-0.0807537	-0.0465832	0.94155	0.961188	no
146.894	138.919	-0.0805279	-0.103019	0.8508	0.894991	no
66.4034	62.8397	-0.0795793	-0.0640854	0.92565	0.948529	no
570.337	539.876	-0.0791859	-0.0534159	0.9161	0.941206	no
264.3	250.606	-0.0767549	-0.089134	0.8785	0.915386	no
111.947	106.147	-0.0767513	-0.0916561	0.86955	0.908477	no
104.3	98.9015	-0.0766717	-0.0795879	0.8899	0.924233	no
161.55	153.203	-0.0765344	-0.0700807	0.8952	0.927576	no



321.224	304.861	-0.0754309	-0.0792385	0.8843	0.920069	no
174.428	165.575	-0.0751439	-0.0751215	0.8919	0.925517	no
222.356	211.184	-0.0743688	-0.0706038	0.89835	0.929341	no
56.2847	53.6211	-0.0699442	-0.0864628	0.8904	0.924233	no
67.2061	64.0615	-0.0691348	-0.0805655	0.88735	0.92297	no
158.969	151.632	-0.0681686	-0.0682254	0.90485	0.933716	no
159.073	152.061	-0.0650406	-0.0673838	0.90655	0.934664	no
202.899	194.095	-0.0640047	-0.0675627	0.9069	0.934752	no
216.003	206.758	-0.0631094	-0.055844	0.9223	0.945921	no
57.8954	55.4657	-0.0618539	-0.0789805	0.88765	0.923009	no
242.831	232.89	-0.0603057	-0.0734518	0.8951	0.927576	no
123.058	118.124	-0.0590343	-0.0736099	0.8971	0.928504	no
554.094	531.945	-0.058854	-0.0697161	0.901	0.931055	no
76.1258	73.0907	-0.0586985	-0.0667985	0.9108	0.93658	no
60.5398	58.2053	-0.0567331	-0.0717639	0.8927	0.926074	no
280.459	269.688	-0.0564988	-0.0533061	0.925	0.948138	no
40.0612	38.5339	-0.0560795	-0.0613615	0.9039	0.933024	no
48.6912	46.8751	-0.0548395	-0.0626765	0.9103	0.936339	no
150.097	144.524	-0.0545831	-0.0664696	0.9095	0.936063	no
124.721	120.198	-0.0532976	-0.0179761	0.96895	0.97867	no
179.13	172.705	-0.0526951	-0.0517112	0.92815	0.950814	no
4364.97	4225.82	-0.0467396	-0.0281533	0.95335	0.969024	no
119.953	116.146	-0.0465329	-0.0591701	0.9207	0.94483	no
147.204	142.573	-0.0461229	-0.056934	0.92	0.944387	no
379.705	367.78	-0.0460364	-0.0440622	0.936	0.956682	no
77.541	75.1715	-0.0447728	-0.0571203	0.92415	0.947543	no
312.304	302.886	-0.0441742	-0.0319783	0.961	0.973633	no
174.393	169.436	-0.0416064	-0.0480216	0.9333	0.954425	no
75.9685	73.8815	-0.0401885	-0.0512201	0.93235	0.95373	no
116.353	113.318	-0.0381284	-0.0433806	0.93845	0.958579	no
309.546	301.603	-0.0375031	-0.0210165	0.9701	0.97927	no
127.351	124.372	-0.034148	-0.0426239	0.93825	0.958579	no
183.922	179.673	-0.0337165	-0.0337127	0.94965	0.966378	no
167.314	163.493	-0.0333255	-0.0338757	0.95285	0.968795	no
112.791	110.269	-0.0326275	-0.0354322	0.95235	0.968769	no
78.6077	76.939	-0.0309551	-0.0389181	0.94315	0.961986	no
116.144	113.694	-0.0307593	-0.038979	0.94525	0.963849	no
39.4243	38.6145	-0.0299422	-0.0305364	0.968	0.977991	no
78.7091	77.1058	-0.0296909	-0.0382158	0.9462	0.964184	no
179.21	175.658	-0.0288816	-0.0311964	0.95435	0.969481	no
121.843	119.522	-0.0277425	-0.0345397	0.95435	0.969481	no
82.1789	80.6691	-0.0267511	-0.0338486	0.95255	0.968769	no
193.672	190.492	-0.0238835	-0.016838	0.97745	0.983871	no
193.263	190.11	-0.0237348	-0.0227472	0.96695	0.977771	no

130.398	128.324	-0.02313	-0.0237741	0.963	0.974616	no
142.854	140.597	-0.0229713	-0.0250096	0.9653	0.976663	no
275.294	271.152	-0.0218749	-0.0164371	0.9726	0.980872	no
164.095	161.64	-0.021753	-0.0266525	0.9624	0.974339	no
192.51	189.874	-0.019896	-0.0230573	0.96635	0.977445	no
116.133	114.633	-0.0187528	-0.0226919	0.9697	0.979147	no
331.785	327.857	-0.0171815	-0.012785	0.9838	0.988851	no
125.16	123.713	-0.0167765	-0.0207134	0.97085	0.979466	no
168.396	166.495	-0.01638	-0.0184013	0.97625	0.982944	no
140.723	139.225	-0.0154395	-0.0171908	0.9756	0.982822	no
334.487	330.999	-0.0151241	-0.0138726	0.97775	0.983892	no
108.933	107.854	-0.0143606	-0.0183851	0.97355	0.981347	no
229.447	227.513	-0.0122136	-0.0147508	0.9795	0.985372	no
97.6357	96.9872	-0.0096149	-0.0110948	0.98285	0.988379	no
201.498	200.222	-0.0091669	-0.0107889	0.98515	0.989643	no
104.562	103.933	-0.0087014	-0.0099787	0.98505	0.989643	no
119.18	118.482	-0.0084772	-0.0086761	0.98825	0.991627	no
90.8241	90.4428	-0.0060691	-0.0078224	0.98985	0.992667	no
196.992	196.44	-0.0040435	-0.0034488	0.99415	0.995663	no
106.538	106.313	-0.0030467	-0.0039161	0.99555	0.996681	no
332.075	331.394	-0.0029611	-0.0020267	0.9973	0.9973	no
75.4562	75.3566	-0.0019052	-0.0024404	0.99425	0.995663	no
50.1498	50.1104	-0.0011352	-0.0014531	0.9939	0.995663	no
100.252	100.262	0.00014198	0.00018047	0.9969	0.9973	no
84.4595	84.4932	0.00057635	0.00071621	0.99715	0.9973	no
175.729	175.869	0.00114428	0.00147831	0.99645	0.997299	no
1531	1534.99	0.00375716	0.00166098	0.9306	0.953026	no
93.9107	94.2573	0.00531405	0.00666328	0.9925	0.994758	no
205.626	206.445	0.00573089	0.00679979	0.99135	0.993888	no
67.02	67.3435	0.00694726	0.00872839	0.9879	0.991558	no
180.454	181.713	0.0100348	0.012359	0.9887	0.991796	no
124.596	125.489	0.0103027	0.00954301	0.98695	0.991037	no
108.718	109.691	0.0128535	0.0131737	0.98305	0.988379	no
88.6556	89.5381	0.0142893	0.0165334	0.97585	0.982822	no
260.913	263.663	0.0151256	0.00908154	0.9871	0.991037	no
147.142	148.769	0.0158639	0.0152264	0.97555	0.982822	no
151.385	153.105	0.0162997	0.0203298	0.97065	0.979466	no
4440.29	4490.95	0.0163672	0.00684651	0.95555	0.970141	no
129.394	131.001	0.0178085	0.0220692	0.96755	0.977817	no
183.37	185.856	0.0194271	0.0214875	0.9728	0.980872	no
106.018	107.682	0.0224628	0.0244789	0.9674	0.977817	no
331.145	336.394	0.0226866	0.0234931	0.96245	0.974339	no
97.2978	98.9087	0.0236909	0.03055	0.95655	0.970597	no
152.287	154.815	0.0237503	0.0292676	0.96055	0.973534	no

147.298	149.749	0.0238075	0.0313535	0.95615	0.97047	no
126.406	128.526	0.0239928	0.0295221	0.9591	0.972624	no
105.279	107.185	0.0258764	0.0318147	0.95485	0.969709	no
92.0823	93.8189	0.0269556	0.030323	0.95965	0.972902	no
345.218	351.826	0.0273548	0.0276406	0.9586	0.972397	no
41.1673	42.0015	0.028944	0.0274152	0.9612	0.973633	no
83.0669	84.7889	0.0296029	0.0372982	0.947	0.964517	no
120.848	123.423	0.0304184	0.0370858	0.94765	0.9649	no
98.7097	100.942	0.032258	0.0398975	0.94195	0.961318	no
133.692	136.765	0.0327901	0.0345899	0.9464	0.964184	no
71.4172	73.0859	0.033321	0.0414154	0.9426	0.961703	no
96.6956	99.034	0.0344738	0.0445456	0.93605	0.956682	no
172.744	177.032	0.0353752	0.043848	0.93985	0.959731	no
62.4041	64.3123	0.0434541	0.0490582	0.93085	0.953026	no
137.266	141.708	0.0459488	0.0411104	0.94595	0.964184	no
147.251	152.466	0.0502069	0.0616466	0.91935	0.943995	no
86.3157	89.4775	0.0519027	0.0641658	0.9102	0.936339	no
108.368	112.345	0.051992	0.0507453	0.93195	0.953598	no
51.9775	53.9537	0.053835	0.0367189	0.9489	0.965894	no
72.0467	74.7901	0.0539165	0.0591891	0.91465	0.93999	no
137.337	142.618	0.0544385	0.0673881	0.9038	0.933024	no
71.52	74.4302	0.0575408	0.075193	0.8962	0.928325	no
94.3169	98.1845	0.0579792	0.0703738	0.9033	0.932951	no
79.0578	82.4494	0.0606015	0.0751448	0.8941	0.926981	no
129.719	135.32	0.0609863	0.0753987	0.8992	0.929534	no
249.735	260.629	0.0616014	0.0598748	0.91205	0.937592	no
116.975	122.172	0.0627156	0.0576877	0.91905	0.943962	no
98.7928	103.293	0.0642657	0.0644139	0.909	0.936063	no
111.527	116.691	0.0652936	0.0750161	0.88815	0.923037	no
101.778	106.638	0.0673066	0.0865209	0.8815	0.917697	no
126.269	132.578	0.0703378	0.0849105	0.874	0.911879	no
100.095	105.147	0.0710303	0.0657647	0.9064	0.934664	no
85.5912	89.9305	0.0713488	0.0885306	0.8741	0.911879	no
102.051	107.248	0.071661	0.0890939	0.87745	0.914832	no
44.5875	46.8655	0.0718848	0.0894593	0.87355	0.911845	no
184.538	194.361	0.0748208	0.0610744	0.9088	0.936063	no
106.182	111.999	0.0769447	0.0932158	0.8701	0.908783	no
483.956	510.523	0.0770999	0.0540305	0.93115	0.953056	no
192.068	203.592	0.0840637	0.0895626	0.86285	0.903889	no
164.522	174.664	0.0863044	0.105175	0.8568	0.899155	no
95.3005	101.296	0.0880272	0.112847	0.8406	0.887545	no
25.8988	27.5588	0.0896292	0.105128	0.8572	0.899307	no
121.874	129.689	0.0896698	0.0906294	0.86565	0.905477	no
72.2624	76.904	0.0898131	0.112971	0.8426	0.888487	no

75.3073	80.1831	0.0905068	0.115769	0.8449	0.889847	no
53.9748	57.5002	0.0912796	0.119899	0.83735	0.885069	no
162.979	173.723	0.0921015	0.0965958	0.8599	0.901603	no
89.4819	95.5808	0.095125	0.12628	0.8265	0.877549	no
55.7304	59.6268	0.0974977	0.118379	0.83285	0.88243	no
86.9286	93.0675	0.0984468	0.120649	0.83395	0.883011	no
238.039	255.177	0.100298	0.104566	0.85405	0.897338	no
150.708	161.625	0.100892	0.0725769	0.89405	0.926981	no
58.0938	62.314	0.101172	0.116547	0.83705	0.885018	no
41.2725	44.2732	0.101253	0.0867586	0.87785	0.914979	no
73.6311	79.0048	0.101626	0.131718	0.8116	0.86669	no
152.476	163.786	0.10323	0.10217	0.84415	0.889323	no
78.8501	84.7197	0.103585	0.129005	0.8166	0.870184	no
51.6528	55.7437	0.109962	0.132589	0.81935	0.87206	no
89.0336	96.3499	0.113934	0.146129	0.7901	0.849707	no
267.581	289.902	0.11559	0.131721	0.8105	0.865778	no
190.77	207.06	0.118213	0.0702657	0.9012	0.931055	no
44.2052	47.9841	0.118339	0.149768	0.7929	0.852404	no
52.0873	56.5422	0.118395	0.154502	0.79715	0.85645	no
107.702	117.013	0.11963	0.132135	0.8014	0.85929	no
710.748	772.829	0.12081	0.114134	0.84175	0.888122	no
156.062	169.801	0.121726	0.125191	0.8336	0.88296	no
80.382	87.504	0.122476	0.157616	0.77655	0.840085	no
38.7101	42.1431	0.122588	0.154541	0.7849	0.846385	no
95.0033	103.516	0.123811	0.15698	0.771	0.835284	no
333.71	364.052	0.125548	0.117225	0.85475	0.897748	no
134.413	147.12	0.130317	0.153115	0.79605	0.855529	no
109.499	120.022	0.132383	0.169318	0.7801	0.842498	no
96.2764	105.556	0.132758	0.166276	0.75565	0.824411	no
61.0171	66.9009	0.132812	0.123776	0.83135	0.881106	no
101.573	111.451	0.133893	0.166499	0.76505	0.831084	no
60.4349	66.3318	0.134321	0.174153	0.7608	0.828766	no
47.3209	52.036	0.137035	0.17985	0.7641	0.830797	no
275.591	303.514	0.139233	0.148894	0.7897	0.849707	no
179.106	197.347	0.139923	0.173542	0.77105	0.835284	no
95.1403	104.838	0.14003	0.125761	0.8346	0.883222	no
232.557	256.439	0.141035	0.112966	0.884	0.920028	no
118.008	130.21	0.141959	0.178634	0.7443	0.81609	no
84.9973	93.7975	0.142132	0.176725	0.7561	0.824411	no
1242.17	1371.1	0.142477	0.0601333	0.8898	0.924233	no
97.4499	107.606	0.143029	0.0963164	0.8684	0.907545	no
174.548	192.919	0.144365	0.179696	0.745	0.816603	no
115.15	127.457	0.1465	0.0884887	0.873	0.911541	no
194.807	215.633	0.14653	0.156191	0.7678	0.833301	no

436.069	483.224	0.148137	0.146502	0.7858	0.847097	no
210.191	232.921	0.148138	0.185094	0.74695	0.817978	no
90.0783	100.039	0.151306	0.185372	0.7487	0.819385	no
96.5592	107.366	0.153046	0.160416	0.77015	0.83508	no
236.838	263.365	0.153164	0.188856	0.74665	0.817978	no
218.456	243.407	0.156031	0.150092	0.7996	0.858036	no
99.0849	110.536	0.157783	0.200986	0.7273	0.80144	no
361.642	403.953	0.159624	0.0834962	0.5672	0.678313	no
248.779	277.913	0.159764	0.172234	0.76315	0.830043	no
62.9006	70.3532	0.161543	0.207314	0.7097	0.789452	no
60.7365	67.9398	0.161694	0.204649	0.72105	0.796546	no
68.0162	76.0973	0.161968	0.185021	0.73755	0.810201	no
78.2932	87.6133	0.162263	0.157216	0.77715	0.840085	no
87.4994	97.9269	0.162433	0.205611	0.72255	0.797702	no
106.386	119.304	0.165336	0.192665	0.73795	0.810388	no
81.7014	91.6981	0.16653	0.187843	0.7394	0.811475	no
116.109	130.348	0.166881	0.183078	0.7559	0.824411	no
515.424	578.701	0.167057	0.138731	0.7867	0.847548	no
21.3532	23.983	0.167564	0.151089	0.82535	0.877121	no
110.092	123.889	0.170339	0.219733	0.695	0.780491	no
290.73	327.314	0.170997	0.178232	0.76255	0.829903	no
40.7868	45.9248	0.171172	0.213303	0.72075	0.796464	no
14864.7	16737.7	0.171208	0.0703727	0.89015	0.924233	no
32.0333	36.075	0.171429	0.169924	0.76985	0.835011	no
112.174	126.337	0.171538	0.208013	0.7207	0.796464	no
244.648	276.168	0.174836	0.149098	0.78835	0.848807	no
96.5159	109.029	0.175873	0.219906	0.7045	0.786398	no
166.685	188.514	0.177549	0.226284	0.6899	0.776721	no
126.934	143.573	0.177704	0.232484	0.6747	0.765993	no
167.17	189.086	0.177728	0.175694	0.74685	0.817978	no
110.459	125.048	0.178969	0.238093	0.6835	0.773492	no
59.7726	67.7743	0.181252	0.230167	0.6901	0.776721	no
42.1282	47.7987	0.182188	0.223268	0.6979	0.782781	no
70.8726	80.4299	0.182504	0.221145	0.7017	0.785414	no
184.604	209.511	0.182594	0.233685	0.70055	0.784972	no
524.539	596.05	0.184383	0.0292133	0.89715	0.928504	no
274.007	311.77	0.186268	0.2428	0.66105	0.755608	no
106.485	121.173	0.186415	0.238716	0.67265	0.765145	no
101.565	115.675	0.187675	0.230791	0.6855	0.774738	no
650.492	741.675	0.189257	0.178943	0.707	0.787803	no
121.135	138.176	0.189896	0.212891	0.7179	0.79506	no
72.1874	82.3794	0.190538	0.214009	0.7366	0.80941	no
91.5769	104.836	0.195083	0.220797	0.70815	0.788474	no
2599.65	2976.9	0.195493	0.202799	0.7026	0.785414	no

104.616	119.799	0.195504	0.258758	0.65305	0.748163	no
56.6072	64.8899	0.197008	0	1	1	no
28.1099	32.2618	0.198747	0.236265	0.68595	0.774772	no
85.887	98.5922	0.199035	0.214804	0.71565	0.794065	no
51.876	59.5795	0.199751	0.254484	0.6554	0.750611	no
67.5497	77.5953	0.20002	0.236922	0.687	0.775066	no
87.4868	100.589	0.201338	0.24824	0.68175	0.771759	no
626.253	720.202	0.201657	0.204922	0.7205	0.796464	no
107.034	123.445	0.205806	0.188118	0.74835	0.819256	no
72.6161	83.8039	0.206727	0.125588	0.8105	0.865778	no
75.5375	87.2272	0.207586	0.245163	0.67465	0.765993	no
193.721	223.767	0.208022	0.251645	0.66405	0.757808	no
71.1177	82.1814	0.208603	0.23372	0.6744	0.765993	no
15885.7	18363.5	0.209114	0.113472	0.50915	0.62956	no
219.099	253.422	0.209957	0.223486	0.70595	0.787019	no
149.626	173.211	0.211162	0.254713	0.66435	0.757905	no
143.275	165.972	0.212153	0.212091	0.7129	0.792011	no
101.007	117.146	0.213855	0.267891	0.6353	0.734687	no
122.336	141.974	0.214778	0.266525	0.64785	0.745041	no
183.207	212.772	0.215833	0.121712	0.9081	0.935715	no
30.7681	35.7518	0.21658	0.232191	0.68565	0.774738	no
87.5818	101.854	0.217801	0.27366	0.6453	0.742907	no
74.388	86.5417	0.218326	0.26888	0.63545	0.734687	no
144.158	168.097	0.221646	0.253756	0.6503	0.746097	no
74.9742	87.4623	0.222267	0.285972	0.6001	0.705859	no
241.003	282.077	0.227038	0.25454	0.65805	0.752423	no
31.5379	36.9201	0.22732	0.231834	0.6882	0.775325	no
103.625	121.561	0.230309	0.291709	0.61195	0.715024	no
153.033	179.639	0.23125	0.239015	0.6815	0.771759	no
279.118	327.697	0.231486	0.199851	0.6854	0.774738	no
125.811	147.76	0.231987	0.296861	0.5969	0.702564	no
102.684	120.622	0.232271	0.23764	0.70885	0.789004	no
51.4648	60.4896	0.233101	0.286807	0.6172	0.719425	no
140.752	165.596	0.234516	0.28878	0.6032	0.708559	no
237.589	279.84	0.236135	0.207461	0.68985	0.776721	no
74.1046	87.3174	0.236705	0.293925	0.59875	0.704506	no
764.893	902.875	0.239269	0.129014	0.525	0.643513	no
84.1046	99.4789	0.242205	0.298869	0.60095	0.706387	no
66.0753	78.2247	0.243514	0.301996	0.60385	0.709083	no
111.635	132.197	0.243898	0.312824	0.58695	0.693167	no
376.469	445.873	0.244104	0.155245	0.8313	0.881106	no
172.185	203.94	0.244185	0.297216	0.6118	0.715024	no
103.214	122.332	0.24517	0.215145	0.70955	0.789452	no
224.521	266.271	0.246045	0.185955	0.63325	0.733587	no

92.8553	110.238	0.247562	0.302319	0.58585	0.692332	no
46.1895	54.9032	0.249325	0.315543	0.574	0.682448	no
83.2388	99.0473	0.250861	0.313799	0.5816	0.688233	no
72.3703	86.1316	0.251146	0.284582	0.6209	0.722368	no
55.6257	66.2334	0.251809	0.328782	0.5603	0.67343	no
103.915	123.777	0.252342	0.307524	0.5809	0.687985	no
77.9747	92.8814	0.252383	0.313599	0.5761	0.684483	no
67.7722	80.8593	0.254721	0.317201	0.5787	0.686131	no
156.457	186.842	0.256055	0.256364	0.64765	0.745041	no
774.454	926.523	0.258647	0.135926	0.70475	0.786428	no
100.311	120.093	0.259662	0.336739	0.55275	0.668014	no
1541.35	1848.42	0.262105	0.196075	0.7864	0.847484	no
775.831	930.958	0.262975	0.10942	0.8497	0.894101	no
99.0515	119.066	0.265511	0.336248	0.5764	0.684609	no
72.2188	86.9288	0.26746	0.32725	0.5755	0.684001	no
115.362	138.941	0.268308	0.317038	0.5901	0.695955	no
64.1462	77.2853	0.26883	0.354904	0.5492	0.665079	no
66.5174	80.1613	0.269175	0.349999	0.5338	0.651063	no
63.4297	76.6095	0.272365	0.341553	0.5451	0.661372	no
166.614	201.56	0.274703	0.211613	0.68755	0.775066	no
89.2286	107.966	0.274998	0.332515	0.56565	0.677089	no
85.0061	103.016	0.277226	0.321591	0.57105	0.680318	no
51.9724	63.0397	0.278516	0.349005	0.53875	0.655352	no
33.2561	40.3614	0.279358	0.3248	0.56965	0.679228	no
57.5598	69.8692	0.279594	0.325354	0.5598	0.67343	no
126.206	153.449	0.281986	0.351505	0.52975	0.647268	no
18.5392	22.5638	0.28343	0.170251	0.75175	0.820938	no
214.284	261.144	0.285319	0.337765	0.56555	0.677089	no
625.709	762.629	0.285489	0.266047	0.6816	0.771759	no
229.331	280.057	0.288294	0.339034	0.5495	0.665214	no
169.344	206.903	0.288995	0.343495	0.54885	0.665005	no
94.9524	116.049	0.289452	0.220173	0.69295	0.778933	no
232.691	284.652	0.290786	0.132607	0.81595	0.870184	no
63.4123	77.5863	0.291039	0.373741	0.52095	0.640331	no
147.482	180.577	0.292077	0.203282	0.7204	0.796464	no
37.8482	46.4305	0.294848	0.337137	0.56105	0.673992	no
157.054	192.845	0.296187	0.267682	0.6166	0.719143	no
60.3084	74.0696	0.296523	0.383911	0.4835	0.609923	no
133.191	163.881	0.299147	0.34413	0.534	0.651063	no
121.096	149.106	0.300188	0.382114	0.49905	0.621652	no
83.6866	103.241	0.302953	0.373751	0.53705	0.653735	no
319.666	394.567	0.303706	0.192821	0.7051	0.786569	no
258.828	319.923	0.305735	0.351248	0.5447	0.66122	no
112.762	139.441	0.306377	0.25616	0.65085	0.74637	no

114.709	142.046	0.308374	0.398546	0.46825	0.596913	no
65.0961	80.6121	0.308426	0.395305	0.49765	0.620848	no
2121.18	2627.4	0.308765	0.149334	0.72365	0.798167	no
87.4713	108.749	0.314124	0.407798	0.4664	0.595289	no
37.7852	47.0037	0.314953	0.399259	0.4809	0.607416	no
116.035	144.611	0.317619	0.330402	0.5696	0.679228	no
52.7604	65.7839	0.318279	0.396951	0.48945	0.615348	no
38.2106	47.6899	0.319713	0.416785	0.4835	0.609923	no
56.895	71.0256	0.320037	0.406815	0.4907	0.616229	no
37.1266	46.3601	0.320431	0.322442	0.6273	0.728851	no
386.758	483.413	0.321827	0.32264	0.56935	0.679228	no
24.2213	30.3266	0.324306	0.399364	0.4846	0.610558	no
125.844	157.569	0.324353	0.325097	0.5692	0.679228	no
72.9052	91.2845	0.324347	0.399128	0.4848	0.610592	no
108.693	136.13	0.324723	0.408327	0.4711	0.598686	no
72.817	91.3127	0.326541	0.383268	0.50035	0.622325	no
46.8973	58.8135	0.326644	0.399322	0.4987	0.621652	no
129.267	162.326	0.328543	0.406061	0.4912	0.616449	no
143.965	180.892	0.329412	0.326466	0.5529	0.668014	no
44.7525	56.2936	0.331001	0.426418	0.4299	0.563525	no
71.0448	89.3816	0.33125	0.395503	0.49185	0.616731	no
94.4099	118.846	0.332085	0.180568	0.8013	0.85929	no
155.72	196.245	0.333704	0.394494	0.48015	0.607346	no
53.3877	67.2888	0.333858	0.431881	0.45005	0.581157	no
51.763	65.2543	0.334152	0.437542	0.45365	0.583241	no
151.393	191.12	0.336182	0.390728	0.5297	0.647268	no
182.501	230.541	0.337123	0.344643	0.54895	0.665005	no
130.942	165.572	0.338529	0.282529	0.62515	0.726832	no
126.818	160.593	0.340654	0.433356	0.45305	0.583023	no
91.4747	115.948	0.342036	0.420987	0.4663	0.595289	no
99.6662	126.453	0.343428	0.395879	0.492	0.616731	no
138.849	176.204	0.343727	0.437409	0.4299	0.563525	no
58.0845	73.7792	0.345061	0.43313	0.44255	0.574418	no
97.4635	123.838	0.345522	0.390955	0.5006	0.622325	no
69.9889	88.9777	0.346319	0.435625	0.4499	0.581157	no
263.778	335.406	0.346586	0.336836	0.55975	0.67343	no
68.4139	87.0649	0.347801	0.435048	0.4576	0.587462	no
64.0102	81.4783	0.348115	0.264151	0.6075	0.712186	no
52.5362	66.9276	0.349289	0.427916	0.46465	0.594347	no
73.4563	93.8166	0.352957	0.276526	0.6265	0.728162	no
58.7166	75.0328	0.353752	0.431781	0.46565	0.595146	no
91.4157	116.868	0.354359	0.431835	0.45315	0.583023	no
144.892	185.336	0.355166	0.459224	0.4164	0.552691	no
54.0991	69.2014	0.355197	0.4032	0.524	0.642511	no



17.8408	22.8548	0.357316	0.272221	0.63175	0.732331	no
93.577	120.05	0.359412	0.446154	0.43455	0.567444	no
142.608	182.959	0.359464	0.363264	0.55695	0.671465	no
50.5043	64.8413	0.360506	0.459673	0.4352	0.567872	no
137.376	176.383	0.360576	0.278742	0.657	0.751466	no
185.851	238.707	0.36109	0.422084	0.48375	0.609923	no
97.1436	124.805	0.361487	0.453	0.4235	0.560005	no
84.2527	108.386	0.363389	0.187453	0.75075	0.820209	no
162.15	208.629	0.363609	0.470578	0.40375	0.540784	no
119.589	153.912	0.364027	0.135517	0.81695	0.870294	no
39.3331	50.7277	0.367029	0.445612	0.42835	0.563248	no
117.192	151.202	0.3676	0.451023	0.42565	0.561374	no
74.4141	96.0419	0.368088	0.478952	0.39105	0.529616	no
98.1459	126.7	0.368416	0.413395	0.4751	0.602466	no
279.559	360.931	0.368573	0.400668	0.494	0.617982	no
70.9421	91.7548	0.371142	0.468297	0.3956	0.533931	no
39.0445	50.511	0.371479	0.43759	0.47765	0.605019	no
151.947	197.105	0.375403	0.268958	0.6192	0.720628	no
52.4506	68.0739	0.376143	0.465949	0.4281	0.563248	no
54.1746	70.5759	0.381559	0.493936	0.375	0.515141	no
92.2561	120.201	0.381732	0.466787	0.4263	0.562008	no
69.7336	90.9198	0.382741	0.458921	0.42885	0.563485	no
86.2785	112.752	0.386081	0.484234	0.38515	0.523638	no
74.0432	96.7849	0.386415	0.487903	0.3981	0.534847	no
48.6017	63.566	0.387248	0.508136	0.37175	0.511937	no
100.055	130.919	0.387885	0.472645	0.4366	0.568986	no
109.101	142.887	0.389211	0.475045	0.39735	0.534847	no
77.5359	101.592	0.389851	0.498656	0.398	0.534847	no
72.7661	95.377	0.390376	0.48748	0.3964	0.534397	no
78.0788	102.408	0.391326	0.409293	0.44865	0.579838	no
18.2261	23.916	0.391968	0.386263	0.5234	0.642222	no
68.6989	90.2065	0.392946	0.510499	0.36175	0.503617	no
122.089	160.379	0.393551	0.485551	0.39375	0.53225	no
256.298	336.76	0.393898	0.386014	0.5739	0.682448	no
92.0332	120.97	0.394427	0.488526	0.3883	0.526498	no
786.897	1036.81	0.397898	0.203004	0.53545	0.652238	no
103.191	136.397	0.402491	0.481715	0.3981	0.534847	no
148.845	196.941	0.403952	0.507203	0.4187	0.555325	no
117.343	155.494	0.406126	0.460141	0.4268	0.562259	no
39.0867	51.8731	0.408306	0.487847	0.40195	0.538992	no
27.3554	36.3109	0.408579	0.513972	0.3595	0.501138	no
109.45	145.374	0.409494	0.307217	0.6042	0.709083	no
398.868	529.946	0.409933	0.348834	0.51515	0.634973	no
72.1899	96.0971	0.412696	0.523174	0.36805	0.50883	no

38.2849	51.0907	0.416285	0.472502	0.407	0.543283	no
114.713	153.332	0.418622	0.423093	0.4382	0.570453	no
69.0286	92.4458	0.421414	0.518937	0.3757	0.515363	no
60.6256	81.2477	0.4224	0.187279	0.80625	0.862284	no
50.8535	68.3741	0.427105	0.554633	0.34025	0.484265	no
72.7291	97.86	0.428187	0.556244	0.35065	0.493881	no
102.686	138.26	0.429151	0.54337	0.34495	0.48839	no
41.8642	56.474	0.431869	0.525187	0.363	0.504222	no
89.3625	120.609	0.432601	0.549508	0.34125	0.485297	no
119.744	161.979	0.435855	0.462436	0.42825	0.563248	no
51.5501	69.746	0.436135	0.559553	0.311	0.456461	no
65.9206	89.2283	0.436771	0.540267	0.34095	0.485066	no
14845.3	20106.9	0.43768	0.199945	0.71745	0.79506	no
85.7527	116.174	0.438027	0.413898	0.43885	0.570667	no
850.14	1154.29	0.441228	0.442698	0.44285	0.57445	no
60.4	82.0847	0.442564	0.554155	0.31945	0.463631	no
345.902	470.231	0.443008	0.446259	0.4055	0.542102	no
70.4393	95.766	0.443134	0.552645	0.33845	0.482874	no
67.9569	92.4306	0.44375	0.578298	0.3266	0.470924	no
50.7215	69.067	0.445397	0.39744	0.462	0.591817	no
127.354	173.577	0.446732	0.347926	0.55365	0.66863	no
122.259	166.748	0.447732	0.537671	0.3736	0.513682	no
160.509	218.961	0.448016	0.576745	0.31305	0.458135	no
121.267	165.44	0.448114	0.534381	0.3464	0.490246	no
186.629	254.634	0.448252	0.521653	0.35915	0.501058	no
105.014	143.309	0.448543	0.372696	0.52565	0.643862	no
29.6014	40.3972	0.44859	0.560344	0.3244	0.468903	no
56.5683	77.3011	0.450495	0.512639	0.3783	0.517318	no
68.1068	93.0962	0.450923	0.562272	0.3236	0.467939	no
46.6126	63.7974	0.452777	0.54352	0.3394	0.483837	no
34.2775	46.9813	0.454827	0.496727	0.39865	0.535382	no
182.884	250.7	0.455035	0.578481	0.30415	0.450799	no
142.66	195.612	0.45541	0.32965	0.57365	0.682448	no
78.3477	107.466	0.45592	0.549795	0.3415	0.485456	no
84.2038	115.5	0.455931	0.582856	0.3054	0.451586	no
88.9325	122.514	0.462161	1.31341	0.8047	0.861523	no
65.8453	90.7659	0.463069	0.547389	0.35035	0.493656	no
125.457	173.033	0.463859	0.580077	0.30525	0.451586	no
92.0891	127.015	0.463898	0.522845	0.3698	0.510249	no
269.305	371.465	0.463983	0.561377	0.3629	0.504222	no
50.9338	70.3175	0.465259	0.565968	0.3372	0.481871	no
71.6043	98.9037	0.465977	0.583196	0.3024	0.448887	no
44.8864	62.2607	0.472042	0.605294	0.29975	0.446269	no
74.6751	103.603	0.472371	0.577247	0.30195	0.448482	no

6046.23	8398.13	0.474033	0.520731	0.38175	0.520154	no
75.3467	104.767	0.475565	0.616582	0.2878	0.433237	no
162.988	226.771	0.476467	0.532742	0.3576	0.500271	no
116.608	162.968	0.482926	0.613989	0.26655	0.41188	no
98.1089	137.115	0.482927	0.596065	0.2939	0.43923	no
66.4422	92.8688	0.483094	0.628943	0.2843	0.429988	no
315.172	441.05	0.484804	0.253011	0.44365	0.574999	no
133.778	187.726	0.488787	0.522585	0.3642	0.505292	no
53.7508	75.4474	0.489185	0.558501	0.3055	0.451586	no
86.1803	120.989	0.489447	0.469362	0.4115	0.548252	no
54.2541	76.2147	0.490336	0.599738	0.30185	0.448482	no
56.6318	79.9037	0.496648	0.628395	0.2703	0.415774	no
86.9054	122.68	0.497379	0.612198	0.2884	0.433475	no
102.086	144.233	0.498624	0.632176	0.26155	0.408737	no
49.837	70.4379	0.499137	0.582995	0.3069	0.452139	no
177.902	251.715	0.500713	0.445127	0.4965	0.620669	no
63.1688	89.8011	0.50752	0.644264	0.2824	0.428218	no
63.7302	90.6229	0.507899	0.661695	0.2471	0.395629	no
120.351	171.842	0.513841	0.634866	0.26525	0.411314	no
37.9965	54.2603	0.51403	0.618052	0.29115	0.436044	no
52.9663	75.7482	0.516137	0.504195	0.3942	0.532654	no
198.645	284.48	0.518133	0.633079	0.25075	0.397838	no
20.6596	29.7008	0.523694	0.638403	0.3169	0.461851	no
60.2449	86.6619	0.524559	0.668621	0.2382	0.386472	no
126.989	182.788	0.525462	0.502746	0.36855	0.509322	no
136.129	196.081	0.526476	0.592798	0.31605	0.461184	no
222.759	321.163	0.527826	0.435617	0.3905	0.529278	no
56.5242	81.4995	0.527924	0.677098	0.24115	0.389822	no
102.693	148.206	0.529268	0.646002	0.27335	0.41858	no
69.8459	101.056	0.532912	0.629437	0.2652	0.411314	no
52.8904	76.5653	0.533685	0.582972	0.3255	0.469722	no
65.4885	94.8072	0.533754	0.1446	0.7899	0.849707	no
124.44	180.496	0.536513	0.67862	0.23445	0.38197	no
81.7159	118.558	0.536906	0.644712	0.2632	0.409862	no
108.186	157.033	0.537562	0.643232	0.26895	0.414421	no
900.27	1309.63	0.540734	0.231178	0.69815	0.782781	no
152.717	222.449	0.542613	0.645719	0.24415	0.392511	no
65.1748	95.0288	0.544051	0.649707	0.26685	0.412086	no
67.6799	98.7557	0.545137	0.673122	0.23235	0.379954	no
54.5265	79.5832	0.545505	0.693359	0.22905	0.37648	no
76.4099	111.598	0.546477	0.549013	0.316	0.461184	no
46.4667	67.9244	0.547731	0.69363	0.2004	0.340014	no
47.7264	69.8308	0.549075	0.685056	0.2526	0.399429	no
65.8152	96.3947	0.550532	0.647211	0.26205	0.409156	no

50.2429	73.6394	0.551559	0.673688	0.25605	0.402238	no
34.6555	50.9391	0.55569	0.685354	0.22185	0.36756	no
100.181	147.254	0.555694	0.716102	0.2295	0.377043	no
137.535	202.624	0.559002	0.547961	0.336	0.480545	no
79.1056	116.668	0.560555	0.725227	0.1982	0.33783	no
125.309	184.849	0.56086	0.713047	0.22315	0.368846	no
899.049	1327.6	0.562347	0.268665	0.5544	0.669306	no
73.1256	108.087	0.563748	0.727355	0.22855	0.376008	no
37.6826	55.7239	0.564399	0.684586	0.2202	0.365513	no
51.5189	76.2799	0.566199	0.72795	0.2181	0.362369	no
62.6935	92.9276	0.567791	0.662266	0.2517	0.398827	no
79.489	117.891	0.568632	0.692709	0.2242	0.370061	no
60.707	90.079	0.569329	0.698594	0.2307	0.378637	no
104.653	155.391	0.570284	0.592046	0.31325	0.458237	no
76.7417	113.953	0.570352	0.6946	0.2135	0.356744	no
341.52	510.067	0.578718	0.645194	0.25785	0.40403	no
58.7487	87.8817	0.581006	0.742909	0.2034	0.342958	no
62.0872	92.8887	0.581206	0.750177	0.17645	0.308897	no
59.4635	88.9948	0.581716	0.741789	0.20145	0.341139	no
30.2972	45.3899	0.58319	0.610473	0.30945	0.455134	no
137.429	206.132	0.584883	0.647045	0.2588	0.404978	no
65.2717	97.9693	0.585872	0.628215	0.28425	0.429989	no
77.2584	116.31	0.590214	0.597856	0.29745	0.443219	no
38.5006	57.9971	0.5911	0.761103	0.18185	0.315996	no
72.3884	109.243	0.593709	0.694434	0.23575	0.382849	no
50.0261	75.5959	0.595628	0.738673	0.20755	0.348621	no
46.4806	70.2634	0.596144	0.596022	0.33555	0.480097	no
60.7625	91.8838	0.596629	0.51164	0.33	0.474274	no
94.6883	143.348	0.598262	0.753644	0.1883	0.324801	no
59.5684	90.354	0.601041	0.708216	0.24105	0.389822	no
60.7885	92.5058	0.605745	0.772791	0.1927	0.33045	no
76.6131	116.69	0.60702	0.760444	0.18005	0.314107	no
24.353	37.2398	0.612749	0.685278	0.24285	0.391672	no
39.8685	61.0301	0.614271	0.783477	0.1734	0.305009	no
37.3302	57.1516	0.614451	0.788668	0.17565	0.307956	no
68.4167	104.837	0.615734	0.776494	0.1706	0.301502	no
238.707	366.632	0.619095	0.522916	0.36975	0.510249	no
140.656	216.193	0.62015	0.710553	0.1907	0.327818	no
55.1546	84.8414	0.621288	0.791866	0.17	0.300983	no
64.8678	99.9353	0.623491	0.790833	0.18165	0.315891	no
78.9055	121.745	0.625663	0.73268	0.1911	0.328185	no
51.2432	79.1563	0.627343	0.79599	0.167	0.296777	no
57.3585	88.828	0.631007	0.809609	0.1458	0.272717	no
324.571	503.37	0.633088	0.421284	0.4062	0.542627	no

112.063	173.892	0.633885	0.383545	0.4983	0.621376	no
31.2284	48.5008	0.63515	0.762959	0.20815	0.349129	no
52.6854	81.864	0.635824	0.781304	0.1778	0.310951	no
118.598	184.401	0.63677	0.634441	0.2801	0.425096	no
41.8118	65.0222	0.637025	0.804154	0.1712	0.302259	no
494.807	769.536	0.637121	0.505225	0.49995	0.622325	no
61.2461	95.2638	0.63731	0.788103	0.1787	0.311906	no
56.3955	87.785	0.638394	0.809819	0.17215	0.303784	no
61.5377	95.8097	0.638701	0.765687	0.16435	0.293696	no
102.552	159.695	0.638959	0.754859	0.1752	0.307319	no
50.033	77.9177	0.639072	0.820994	0.13705	0.26078	no
66.7824	104.003	0.639084	0.8256	0.14015	0.264962	no
71.6282	112.388	0.649889	0.819858	0.1443	0.27063	no
114.201	179.412	0.651701	0.7331	0.20685	0.347611	no
414.413	651.887	0.653552	0.350036	0.3347	0.479608	no
63.1264	99.3453	0.654209	0.372442	0.507	0.628224	no
120.388	189.489	0.654424	0.805785	0.15895	0.287546	no
112.928	177.771	0.654616	0.575674	0.2841	0.429989	no
2.38225	3.76071	0.65868	0	1	1	no
91.1747	143.964	0.658999	0.833352	0.15575	0.28365	no
272.547	430.775	0.66043	0.629639	0.2851	0.430829	no
68.3681	108.061	0.660456	0.734393	0.21645	0.36056	no
87.8459	138.854	0.660524	0.807643	0.1655	0.294913	no
50.9094	80.5618	0.662165	0.822561	0.1513	0.278225	no
68.3281	108.272	0.664111	0.82861	0.15915	0.28776	no
102.949	163.215	0.664846	0.789135	0.1734	0.305009	no
64.155	101.784	0.665875	0.829265	0.1603	0.289394	no
72.5212	115.162	0.667196	0.787972	0.1732	0.305009	no
51.0568	81.1262	0.668065	0.814077	0.166	0.295297	no
67.1957	106.924	0.670147	0.577426	0.31155	0.456888	no
46.915	74.6853	0.670776	0.842634	0.1403	0.265103	no
114.439	182.255	0.671383	0.730158	0.1952	0.33401	no
136.162	216.871	0.671521	0.624528	0.3284	0.472939	no
2012.14	3205.8	0.671955	40.0363	0.66695	0.760133	no
129.79	206.888	0.672666	0.792666	0.14685	0.273664	no
26.8779	42.935	0.675737	0.741531	0.18695	0.323264	no
42.3419	67.807	0.679348	0.74191	0.1614	0.290577	no
30.7561	49.2725	0.679912	0.831356	0.14655	0.273343	no
65.0203	104.27	0.681367	0.647968	0.2628	0.40942	no
122.299	196.33	0.682862	0.700064	0.23385	0.381169	no
53.0285	85.2194	0.684413	0.855917	0.1436	0.269985	no
76.4008	122.915	0.685999	0.810317	0.1673	0.29701	no
71.2455	114.678	0.686718	0.749492	0.1917	0.329055	no
40.8765	65.7957	0.686723	0.792089	0.14875	0.275457	no

58.9388	94.9387	0.68778	0.426347	0.4429	0.57445	no
81.24	130.878	0.68796	0.825759	0.14495	0.271704	no
38.5573	62.1234	0.688132	0.888337	0.1273	0.248397	no
171.777	277.2	0.690391	0.879156	0.12615	0.246974	no
23.2757	37.6214	0.69273	0.326228	0.6345	0.73407	no
37.3357	60.3776	0.693458	0.893955	0.1334	0.256466	no
94.4935	152.94	0.69468	0.796717	0.1741	0.305847	no
53.4522	86.6253	0.696539	0.875344	0.1331	0.256168	no
99.1305	160.925	0.69899	0.899234	0.12165	0.24168	no
43.5833	70.7753	0.699472	0.877621	0.1336	0.25671	no
44.9512	73.0194	0.699921	0.867574	0.129	0.251019	no
42.9575	69.909	0.702568	0.811994	0.16775	0.297659	no
62.7786	102.199	0.703033	0.881546	0.1357	0.259101	no
126.597	206.207	0.703854	0.796308	0.17345	0.305009	no
91.529	149.093	0.70391	0.815208	0.1641	0.293547	no
40.6172	66.1816	0.704338	0.835286	0.1639	0.293339	no
39.8879	65.0225	0.704989	0.87197	0.1218	0.24168	no
46.1492	75.2626	0.705626	0.868301	0.1328	0.255827	no
54.3075	88.6747	0.707373	0.907783	0.1201	0.239792	no
70.491	115.104	0.707423	0.805246	0.16185	0.291	no
41.9314	68.497	0.708009	0.908978	0.11	0.226161	no
7.50681	12.2978	0.712126	0.361641	0.5058	0.627399	no
75.8429	124.271	0.712407	0.901002	0.11615	0.233493	no
127.239	208.517	0.712623	0.893778	0.122	0.24194	no
43.6525	71.5462	0.712809	0.926317	0.11065	0.226836	no
41.3076	67.7039	0.712832	0.839801	0.14545	0.272352	no
48.9149	80.3049	0.715216	0.885801	0.13045	0.252586	no
81.1367	133.444	0.717805	0.906793	0.12295	0.243004	no
60.3264	99.2742	0.718629	0.807154	0.14605	0.272751	no
67.7762	111.591	0.719373	0.891534	0.1236	0.243878	no
41.047	67.656	0.720942	0.672381	0.26275	0.40942	no
50.0439	82.596	0.722879	0.914049	0.12695	0.247851	no
70.2143	115.991	0.724172	0.920524	0.10165	0.212443	no
79.2309	130.939	0.724764	0.914898	0.11285	0.229609	no
77.4821	128.537	0.730252	0.446265	0.44555	0.577037	no
40.0916	66.5273	0.730648	0.931431	0.1055	0.218438	no
19.9591	33.1213	0.730711	0.577756	0.41545	0.552262	no
48.9772	81.3844	0.732642	0.934381	0.0905	0.194335	no
50.4331	83.8625	0.733657	0.949022	0.09725	0.205338	no
30.7411	51.2642	0.737786	0.656743	0.26555	0.411314	no
48.639	81.1452	0.738392	0.955311	0.1082	0.22272	no
56.8898	94.9613	0.73917	0.964007	0.10625	0.219862	no
119.264	199.76	0.744111	0.905344	0.1544	0.282011	no
78.37	131.369	0.745255	0.812956	0.15135	0.278225	no

53.7388	90.2631	0.748172	0.904411	0.1138	0.230844	no
44.8881	75.4719	0.749606	0.954266	0.0894	0.192806	no
151.455	254.821	0.750595	0.212826	0.37695	0.516474	no
33.9425	57.185	0.752545	0.279455	0.65225	0.747489	no
49.6045	83.644	0.75379	0.819206	0.1386	0.262595	no
77.8138	131.284	0.754587	0.615664	0.27795	0.422743	no
36.8959	62.3641	0.757255	0.855935	0.15135	0.278225	no
51.6259	87.4139	0.759767	0.947328	0.08955	0.192894	no
60.3882	102.307	0.760571	0.948219	0.11415	0.230959	no
43.0173	72.9756	0.762499	0.95792	0.09865	0.208007	no
95.784	162.571	0.763216	0.87968	0.1356	0.259101	no
70.232	119.531	0.767187	0.807239	0.155	0.282869	no
55.2141	94.1089	0.769295	0.998193	0.07175	0.161667	no
41.7438	71.1553	0.76941	0.989223	0.0913	0.195706	no
178.745	304.687	0.769425	0.666947	0.24725	0.39569	no
19.8408	33.9388	0.774466	0.671531	0.3219	0.466199	no
45.6834	78.1823	0.775171	0.939902	0.11385	0.230844	no
111.925	191.571	0.775344	0.873506	0.13605	0.259437	no
63.7449	109.305	0.777982	0.893964	0.10675	0.220638	no
18.1446	31.1439	0.779414	0.575595	0.57725	0.685387	no
91.5502	157.364	0.781474	0.726241	0.1817	0.315891	no
26.3164	45.2739	0.782716	0.933107	0.12385	0.244098	no
29.9735	51.6586	0.785319	0.983242	0.1049	0.217811	no
43.3666	74.7939	0.786338	0.878934	0.13915	0.263354	no
28.2748	48.7986	0.787326	0.687244	0.229	0.37648	no
31.2016	53.8954	0.788543	0.880227	0.1557	0.28365	no
34.985	60.4489	0.788981	0.990394	0.0847	0.18459	no
35.3254	61.2327	0.793596	0.839855	0.15245	0.279809	no
52.9455	91.8483	0.794746	0.987169	0.07085	0.16077	no
21.9036	38.01	0.795208	0.89235	0.1381	0.261788	no
65.9672	114.605	0.796851	0.943025	0.11255	0.229233	no
56.0039	97.3264	0.797305	0.334217	0.6395	0.738389	no
52.9252	92.0935	0.799144	0.974512	0.1017	0.212443	no
177.331	308.814	0.800295	0.902191	0.1297	0.251687	no
104.283	181.658	0.800723	0.826933	0.169	0.299726	no
89.1015	155.407	0.802528	0.93761	0.119	0.23827	no
144.828	252.694	0.80305	0.780279	0.1506	0.277425	no
40.3407	70.4126	0.803599	1.00083	0.0795	0.17488	no
107.773	188.67	0.807879	0.618685	0.25625	0.402238	no
18.2065	31.8918	0.808734	0.893614	0.11615	0.233493	no
79.7199	139.965	0.812051	1.00247	0.088	0.190486	no
37.082	65.12	0.81238	1.03728	0.072	0.162127	no
60.639	106.566	0.81343	1.06566	0.07045	0.160275	no
64.2976	113.201	0.816047	1.03075	0.07855	0.17344	no

40.1203	70.6605	0.816572	0.994274	0.08505	0.185239	no
479.087	844.425	0.817682	0.881757	0.11095	0.226923	no
40.3254	71.0833	0.817824	0.766212	0.18325	0.318115	no
46.3679	81.935	0.821353	0.925821	0.1286	0.250379	no
73.5731	130.055	0.821872	0.871933	0.13075	0.253027	no
47.5411	84.0442	0.821972	0.808515	0.13085	0.25304	no
167.93	297.379	0.824446	0.897059	0.14365	0.269985	no
37.2415	65.9553	0.824579	1.04272	0.0717	0.161667	no
62.101	110.036	0.825286	0.952559	0.10525	0.218177	no
282.333	500.597	0.826253	0.789391	0.15425	0.282011	no
108.803	193.266	0.828864	0.955098	0.10385	0.216165	no
38.1354	67.7914	0.829971	1.05799	0.06505	0.150714	no
38.8597	69.1104	0.830628	1.09034	0.06345	0.147784	no
67.8811	121.025	0.834227	1.03453	0.0756	0.168085	no
78.0266	139.468	0.837893	1.09368	0.0531	0.129677	no
45.0045	80.4818	0.838593	0.513385	0.37465	0.514925	no
39.6725	71.2294	0.844335	0.943995	0.09875	0.208007	no
47.2678	85.1258	0.848739	1.11513	0.0487	0.120943	no
54.3336	97.8971	0.849423	1.06823	0.0715	0.161667	no
223.302	402.568	0.850239	0.223446	0.6817	0.771759	no
303.407	547.033	0.850375	0.556903	0.2953	0.440948	no
58.3591	105.35	0.852164	1.05931	0.0631	0.147456	no
144.208	260.379	0.852456	0.745983	0.2392	0.387916	no
44.4639	80.4653	0.855731	1.03289	0.07165	0.161667	no
162.638	294.355	0.855897	1.10662	0.0663	0.152807	no
68.8732	124.987	0.859768	1.07328	0.05015	0.123328	no
41.7324	75.822	0.861447	0.927739	0.1343	0.257494	no
74.0355	134.702	0.863478	0.649702	0.17235	0.303985	no
37.4134	68.094	0.86397	1.05151	0.06935	0.158283	no
38.5203	70.1278	0.864368	1.12422	0.0499	0.12297	no
114.891	209.229	0.864819	0.945912	0.10035	0.210371	no
87.2755	159.263	0.867759	0.96484	0.1064	0.220043	no
64.1	116.972	0.867769	1.02747	0.0894	0.192806	no
45.5914	83.3367	0.87019	0.97797	0.07875	0.173773	no
58.0116	106.058	0.870447	1.10569	0.0669	0.153787	no
42.4631	77.7839	0.873262	1.07613	0.06515	0.150847	no
52.106	95.4513	0.873315	1.11314	0.0622	0.146169	no
81.6679	149.75	0.874718	1.04981	0.0617	0.145439	no
49.0836	90.0192	0.874992	0.635874	0.3013	0.448009	no
51.0342	93.624	0.875415	0.986305	0.0958	0.203128	no
19.878	36.5016	0.876785	1.10963	0.06275	0.146833	no
25.3481	46.6449	0.879844	0.646531	0.2963	0.442254	no
12.2992	22.6328	0.879856	1.0633	0.0715	0.161667	no
26.6331	49.0333	0.880541	1.09075	0.06415	0.149119	no



64.0642	118.037	0.881652	1.09308	0.0633	0.147728	no
34.6173	63.8053	0.882183	1.01936	0.0778	0.171892	no
24.3862	45.0056	0.884037	1.10368	0.0573	0.137551	no
142.824	264.038	0.886509	0.982196	0.09625	0.203715	no
21.4277	39.7311	0.890793	1.06042	0.0758	0.168423	no
108.602	201.829	0.894084	1.09999	0.06565	0.151705	no
99.4037	184.747	0.894179	1.10089	0.05775	0.138067	no
42.8358	79.6862	0.895512	1.13509	0.05245	0.128268	no
30.1355	56.3024	0.901733	1.07224	0.067	0.153816	no
147.611	276.478	0.905363	0.872346	0.17395	0.305736	no
216.04	404.733	0.905673	0.86059	0.1159	0.233256	no
121.896	229.096	0.910302	1.1469	0.04405	0.112162	no
16.0104	30.1175	0.911592	0.953923	0.09055	0.194335	no
82.4067	155.849	0.919313	1.17619	0.04455	0.113108	no
161.412	306.106	0.923282	1.09703	0.067	0.153816	no
27.7166	52.6627	0.92603	1.09123	0.06675	0.153542	no
57.2078	109.05	0.930712	1.13936	0.04835	0.120244	no
24.0767	45.9102	0.931173	1.09133	0.0613	0.144593	no
140.249	267.516	0.931631	1.08572	0.05685	0.13675	no
66.0416	126.198	0.934237	1.16945	0.0431	0.110542	no
62.8051	120.361	0.938416	1.20159	0.03055	0.0836505	no
74.0848	142.123	0.939887	1.04616	0.0627	0.146814	no
26.4537	50.7805	0.940806	1.13808	0.056	0.134982	no
33.6028	64.5388	0.941587	1.16642	0.04685	0.117592	no
67.1479	128.98	0.941729	0.590622	0.32505	0.469457	no
71.8548	138.207	0.943676	1.11064	0.0544	0.131666	no
50.7936	97.7163	0.943952	1.14528	0.04805	0.119667	no
174.757	336.296	0.944387	1.2047	0.05365	0.130568	no
41.5441	80.1134	0.947399	1.20548	0.04235	0.108935	no
22.0254	42.7351	0.95625	0.806166	0.1589	0.287546	no
44.323	86.0021	0.956317	0.413565	0.11095	0.226923	no
48.0213	93.2375	0.957236	1.24176	0.04025	0.104218	no
43.1156	83.852	0.959636	1.26072	0.0348	0.0932587	no
41.7758	81.2971	0.960537	1.14646	0.05495	0.132724	no
55.0725	107.215	0.961104	1.25333	0.03795	0.0994318	no
28.1523	54.847	0.962162	1.19	0.0498	0.12281	no
76.3757	149.081	0.964916	3.97488	0.5108	0.631157	no
17.8685	34.8917	0.965464	0.285487	0.70095	0.785171	no
43.3899	84.732	0.965547	0.313874	0.5591	0.673366	no
161.665	316.521	0.969293	0.443158	0.4997	0.622241	no
43.7836	85.8254	0.971013	1.26694	0.0381	0.0995288	no
37.0989	72.7338	0.97125	1.09668	0.06185	0.145597	no
107.122	210.183	0.972388	1.06625	0.05715	0.137285	no
159.722	314.258	0.976384	1.23644	0.0367	0.0965876	no

35.6926	70.2624	0.977128	1.05881	0.1071	0.221102	no
44.8566	88.3161	0.977357	1.15084	0.0494	0.122423	no
63.5906	125.466	0.980414	1.25851	0.0283	0.078775	no
23.015	45.4714	0.982384	0.978259	0.11015	0.226337	no
74.4929	147.246	0.983053	1.10589	0.06075	0.14368	no
30.589	60.6017	0.986344	1.18818	0.0508	0.124665	no
53.4759	105.995	0.987036	1.09156	0.06855	0.15666	no
60.0107	118.988	0.987529	1.28831	0.0292	0.0806433	no
36.2108	71.8514	0.988597	1.24997	0.0371	0.0974221	no
79.0433	156.996	0.990012	1.20255	0.04725	0.118216	no
100.651	200.134	0.991602	0.841792	0.09955	0.209192	no
63.8028	126.87	0.991663	1.15348	0.0501	0.123328	no
52.3348	104.159	0.992951	1.24667	0.0347	0.0930615	no
81.5726	162.682	0.995897	1.00905	0.0891	0.192395	no
32.5681	64.9785	0.996503	0.509825	0.38075	0.519258	no
72.3361	144.343	0.996715	1.27262	0.02675	0.0757773	no
75.8557	151.531	0.998282	1.15053	0.0532	0.129742	no
129.992	259.963	0.999883	0.620058	0.1049	0.217811	no
81.2729	162.761	1.00191	1.20079	0.03955	0.102783	no
90.9403	182.514	1.00502	1.13565	0.0463	0.116627	no
79.8082	160.369	1.00679	1.07685	0.06015	0.142644	no
65.4531	131.645	1.00812	1.02049	0.0991	0.20837	no
2.3609	4.76006	1.01164	0	1	1	no
12.8725	25.9678	1.01243	0.986273	0.09185	0.196527	no
32.2877	65.1922	1.01371	1.29692	0.02295	0.0670056	no
49.402	99.7483	1.01372	1.26393	0.025	0.0716843	no
10.643	21.498	1.0143	0.850745	0.1616	0.290699	no
81.3325	164.292	1.01436	1.29992	0.0262	0.0744587	no
59.6603	120.615	1.01556	1.21595	0.03625	0.0958813	no
40.7223	82.3651	1.01621	1.22862	0.04075	0.105358	no
111.973	226.492	1.01631	1.15338	0.0505	0.124015	no
7.29878	14.7757	1.0175	0.162188	0.60425	0.709083	no
121.441	246.022	1.01853	1.22374	0.03815	0.0995856	no
32.8354	66.5419	1.01901	1.25635	0.0356	0.0948257	no
118.639	240.675	1.02051	0.640234	0.42015	0.556829	no
125.786	255.401	1.02179	1.11909	0.04915	0.121889	no
312.112	635.806	1.02652	0.454249	0.20195	0.341657	no
68.7645	140.149	1.02722	1.21238	0.0503	0.12361	no
87.4596	178.81	1.03174	1.24738	0.0342	0.0919304	no
80.1316	164.228	1.03526	1.20467	0.03635	0.0958813	no
26.3917	54.1392	1.03659	1.27965	0.03035	0.0831675	no
32.3312	66.3366	1.03688	1.3199	0.0247	0.0712298	no
59.2621	121.982	1.04148	1.30429	0.02395	0.0694077	no
30.1526	62.0732	1.04169	1.29496	0.0289	0.0801287	no

33.4454	68.8882	1.04245	1.31669	0.031	0.0846853	no
884.924	1823.54	1.04311	0.580328	0.1906	0.327818	no
35.8818	74.0085	1.04444	1.31054	0.0214	0.0634143	no
47.4915	98.0129	1.0453	1.07391	0.0664	0.152837	no
61.5924	127.253	1.04687	1.34016	0.0225	0.066075	no
36.3577	75.341	1.05117	1.3171	0.0234	0.0680376	no
103.106	213.713	1.05154	0.998318	0.1014	0.212067	no
63.0328	130.767	1.05282	1.39837	0.0179	0.0547566	no
162.101	336.419	1.05337	1.09163	0.15165	0.278631	no
37.3958	77.6215	1.05358	1.30299	0.02495	0.0715992	no
48.1989	100.461	1.05956	1.36989	0.02615	0.0744367	no
50.5558	105.494	1.06121	1.14226	0.04425	0.112555	no
87.5584	182.73	1.0614	1.01395	0.08355	0.182536	no
42.8192	89.4425	1.0627	1.28517	0.02775	0.0779211	no
41.2015	86.2855	1.06642	0.522581	0.27375	0.418704	no
74.653	156.576	1.06859	1.07002	0.08535	0.185777	no
88.9387	186.658	1.06952	1.30117	0.0255	0.0728808	no
39.2963	82.531	1.07054	1.24393	0.03785	0.0992436	no
26.2457	55.2255	1.07325	1.25278	0.0316	0.0859247	no
75.846	159.616	1.07346	1.29016	0.02285	0.0668799	no
42.6849	90.1172	1.07808	1.26354	0.03165	0.0859943	no
24.7739	52.3706	1.07994	1.37801	0.02335	0.0679483	no
27.4953	58.3873	1.08647	1.10053	0.0712	0.161356	no
244.985	521.604	1.09026	0.768566	0.086	0.186846	no
34.7925	74.2361	1.09334	1.30973	0.0272	0.0768667	no
37.2659	79.5484	1.09398	0.72065	0.20955	0.351143	no
42.4012	90.6148	1.09564	1.35097	0.0277	0.0779049	no
37.6085	80.4387	1.09683	1.33399	0.02295	0.0670056	no
29.8666	63.977	1.09902	1.41115	0.01715	0.0531544	no
62.4437	133.765	1.09908	1.27189	0.02475	0.0713156	no
42.3291	91.0268	1.10464	1.30025	0.0339	0.0912633	no
44.551	95.9694	1.10712	1.35832	0.01955	0.0591367	no
196.212	423.324	1.10935	0.941809	0.05745	0.13775	no
31.6934	68.5851	1.11371	1.36387	0.01555	0.0491464	yes
30.1844	65.4206	1.11594	1.26999	0.0356	0.0948257	no
17.3544	37.675	1.1183	1.3936	0.02095	0.062513	no
13.3923	29.1411	1.12165	0.699004	0.20265	0.342348	no
26.6343	58.0445	1.12388	1.13143	0.0342	0.0919304	no
272.482	594.031	1.12438	1.36935	0.02485	0.0714285	no
92.0858	201.052	1.12652	1.40376	0.016	0.0502084	no
24.0451	52.5314	1.12743	0.967576	0.1019	0.212734	no
17.1801	37.6145	1.13055	1.23045	0.0387	0.100723	no
31.9938	70.1989	1.13366	1.35371	0.0204	0.0612348	no
40.9266	89.9548	1.13616	1.1376	0.0591	0.140817	no

60.3235	132.65	1.13683	1.48284	0.01505	0.0479098	yes
34.5743	76.0434	1.13712	1.42851	0.02	0.0601879	no
43.5517	95.8185	1.13757	1.47115	0.0177	0.0544283	no
56.9858	125.407	1.13794	1.31995	0.0297	0.0817678	no
30.4819	67.1073	1.13852	1.47297	0.012	0.0398943	yes
62.6426	137.922	1.13864	1.35262	0.0208	0.0621707	no
108.617	239.286	1.13949	1.1289	0.03585	0.0952038	no
48.9949	108.21	1.14312	0.67317	0.17695	0.309619	no
67.5514	149.194	1.14313	1.26645	0.02715	0.0768487	no
19.0444	42.3132	1.15174	1.28588	0.02595	0.0739869	no
121.988	271.545	1.15446	1.45808	0.0152	0.0483001	yes
78.6409	175.175	1.15545	1.16404	0.03625	0.0958813	no
16.2455	36.2217	1.15681	1.19807	0.04595	0.115911	no
26.9438	60.1672	1.15902	1.40536	0.01775	0.0545344	no
38.1434	85.4535	1.16371	1.48509	0.0085	0.030226	yes
24.4027	54.6804	1.16398	1.48992	0.01315	0.0428683	yes
125.417	281.385	1.16582	1.49798	0.0114	0.0384436	yes
6.6638	14.954	1.16612	0.169716	0.56895	0.679228	no
41.066	92.2946	1.1683	1.47606	0.0105	0.0360292	yes
25.3835	57.0516	1.16838	1.34533	0.0232	0.0675676	no
17.5908	39.6318	1.17184	1.39618	0.02255	0.0661667	no
16.5436	37.2784	1.17207	1.48132	0.01115	0.0377813	yes
51.4935	116.206	1.17422	1.51073	0.0093	0.0324487	yes
61.9899	140.348	1.1789	1.2426	0.03115	0.0848976	no
36.1303	81.8052	1.17898	1.44558	0.0154	0.0487597	yes
41.1093	93.0851	1.17909	1.35564	0.0184	0.0560913	no
73.2686	166.034	1.18021	1.43208	0.0147	0.0469654	yes
79.283	179.841	1.18164	1.41246	0.01975	0.0595882	no
42.4105	96.245	1.18229	1.45579	0.0156	0.0492161	yes
25.275	57.372	1.18263	1.53385	0.0083	0.0297248	yes
34.9456	79.3326	1.18281	1.41134	0.02025	0.0608363	no
52.5068	119.212	1.18295	1.30955	0.03115	0.0848976	no
19.5032	44.3855	1.18638	1.29075	0.0272	0.0768667	no
67.2958	153.235	1.18716	1.48936	0.0105	0.0360292	yes
50.0207	113.929	1.18754	1.45399	0.01745	0.0537533	no
35.7119	81.5471	1.19123	1.46231	0.0116	0.0388209	yes
29.3955	67.1593	1.19199	1.52138	0.0106	0.0363017	yes
36.4897	83.3913	1.19241	1.51186	0.00985	0.0341312	yes
178.93	408.977	1.19262	1.45751	0.01745	0.0537533	no
43.944	100.626	1.19526	1.24549	0.04675	0.117425	no
52.9378	121.386	1.19723	1.41416	0.0164	0.0512809	no
65.0469	149.187	1.19757	1.01113	0.07665	0.169883	no
39.4744	90.6026	1.19864	1.45084	0.01275	0.0419916	yes
41.2127	94.6446	1.19943	1.37659	0.01885	0.0572157	no

40.9178	94.1609	1.2024	1.23446	0.03635	0.0958813	no
37.5534	86.5665	1.20487	0.844541	0.18365	0.318339	no
19.4691	44.9088	1.20581	1.52944	0.0107	0.0365376	yes
43.4972	100.549	1.20891	1.47135	0.01575	0.0496449	yes
20.8257	48.1784	1.21002	1.49405	0.0145	0.0464527	yes
32.1375	74.3505	1.21008	1.46103	0.0179	0.0547566	no
18.8219	43.5894	1.21157	1.48051	0.0121	0.040151	yes
13.3653	30.9805	1.21287	1.39406	0.018	0.0550147	no
25.197	58.4064	1.21287	1.47912	0.012	0.0398943	yes
33.9966	78.9532	1.21561	1.51884	0.0089	0.0312698	yes
11.1406	25.8827	1.21616	1.18319	0.04905	0.121727	no
20.5431	47.8629	1.22025	1.46589	0.0165	0.0515479	no
52.9713	123.463	1.2208	1.51089	0.01225	0.0404583	yes
24.9385	58.1701	1.22191	1.31631	0.01665	0.0519244	no
68.705	160.353	1.22276	1.53444	0.01705	0.0529376	no
28.4057	66.4192	1.22542	1.51938	0.0094	0.0327652	yes
30.8036	72.0746	1.22639	1.37021	0.02545	0.0728561	no
47.2608	110.784	1.22903	1.15657	0.04675	0.117425	no
102.424	240.203	1.2297	1.41463	0.02395	0.0694077	no
41.6081	97.7396	1.23208	1.51377	0.0115	0.0386698	yes
68.7011	161.833	1.2361	0.98586	0.03585	0.0952038	no
63.5428	150.538	1.24432	1.42062	0.0147	0.0469654	yes
47.4967	112.538	1.24452	1.52502	0.0087	0.0308439	yes
13.6805	32.418	1.24468	0.810568	0.24015	0.388919	no
26.5292	62.9699	1.24708	1.37678	0.01435	0.0461821	yes
40.4875	96.2528	1.24935	0.469763	0.5721	0.681108	no
54.2272	129.035	1.25068	1.42785	0.01595	0.0500961	no
48.0104	114.337	1.25188	1.45368	0.01425	0.0459442	yes
32.2635	76.8831	1.25276	1.53565	0.0137	0.0444147	yes
34.2185	81.625	1.25424	1.58286	0.00845	0.030109	yes
40.6279	97.016	1.25575	1.43625	0.01155	0.0387271	yes
30.5613	73.1841	1.25982	1.55334	0.0122	0.0403688	yes
25.6493	61.5349	1.26249	1.38661	0.01705	0.0529376	no
63.6696	152.879	1.26372	1.60601	0.0065	0.0239853	yes
48.7053	117.285	1.26787	1.52608	0.01055	0.0361656	yes
64.3626	155.135	1.26923	1.54939	0.01525	0.0484153	yes
39.3379	95.1953	1.27497	1.61993	0.0079	0.0284658	yes
18.6374	45.1683	1.27711	1.46361	0.01665	0.0519244	no
36.7972	89.1994	1.27744	1.52894	0.01275	0.0419916	yes
75.8026	183.897	1.27858	1.4648	0.0172	0.0532158	no
45.8872	111.673	1.28311	1.4565	0.0083	0.0297248	yes
20.7541	50.5215	1.2835	1.51496	0.01405	0.0453408	yes
14.2142	34.6946	1.28738	1.49748	0.01285	0.0421633	yes
28.6071	70.0514	1.29204	1.58457	0.00885	0.0311874	yes

29.3238	71.9727	1.29538	1.51281	0.0105	0.0360292	yes
25.9223	63.6467	1.29589	1.3275	0.02775	0.0779211	no
49.422	121.511	1.29786	1.62381	0.00605	0.0225611	yes
25.5572	62.9639	1.3008	1.64049	0.00835	0.0298735	yes
37.7828	93.2283	1.30304	1.56275	0.0068	0.0249357	yes
55.6037	137.434	1.30548	1.48811	0.01325	0.0430747	yes
61.9509	153.35	1.30763	0.67796	0.36185	0.503617	no
10.3402	25.6139	1.30866	1.40261	0.0143	0.0460633	yes
65.6278	163.209	1.31434	1.48831	0.0103	0.0355506	yes
24.2502	60.4656	1.31812	1.61787	0.0108	0.0367722	yes
27.1688	67.8163	1.31968	1.75037	0.00315	0.0131993	yes
28.1798	70.3904	1.32072	1.65937	0.00675	0.024804	yes
85.0158	212.437	1.32123	1.52954	0.01075	0.0366373	yes
17.1321	42.8801	1.3236	1.55511	0.0089	0.0312698	yes
65.7877	164.711	1.32405	0.16713	0.3916	0.52975	no
29.4032	73.6744	1.32519	1.66553	0.00435	0.0173803	yes
30.3881	76.5288	1.33249	1.55417	0.0079	0.0284658	yes
14.7265	37.1183	1.33372	1.21697	0.05215	0.127623	no
32.0835	80.8791	1.33394	1.59874	0.0096	0.0333633	yes
39.3135	99.1666	1.33483	0.917424	0.10495	0.217811	no
28.8056	72.8931	1.33943	1.66925	0.0049	0.0192719	yes
82.0597	207.895	1.34111	1.51525	0.01385	0.0447364	yes
19.6014	49.7628	1.34411	1.6174	0.00795	0.0286168	yes
44.32	112.628	1.34553	1.86937	0.00395	0.0159814	yes
24.4658	62.1751	1.34557	1.64061	0.00725	0.0264209	yes
54.2431	138.042	1.3476	1.5419	0.0122	0.0403688	yes
36.129	91.9851	1.34824	1.62253	0.00665	0.024462	yes
24.0495	61.3073	1.35005	1.43002	0.01385	0.0447364	yes
43.6147	111.411	1.353	0.845453	0.1584	0.286846	no
78.4301	200.446	1.35374	1.70211	0.0038	0.0154633	yes
35.3359	90.3647	1.35463	1.63363	0.0121	0.040151	yes
22.4145	57.3368	1.35503	1.50597	0.01305	0.0427003	yes
71.9276	184.841	1.36166	1.65598	0.0049	0.0192719	yes
32.7944	84.3151	1.36234	1.58404	0.0073	0.0265756	yes
50.4687	130.278	1.36814	1.73455	0.00335	0.0138724	yes
36.5239	94.301	1.36843	1.62832	0.0075	0.0271914	yes
42.3091	109.472	1.37153	1.72484	0.00485	0.0191179	yes
36.6724	94.9599	1.37262	1.51991	0.0129	0.0422487	yes
27.7025	71.8276	1.37452	1.46304	0.0156	0.0492161	yes
17.1245	44.4089	1.37478	1.63518	0.00395	0.0159814	yes
10.2834	26.6961	1.37632	0.781415	0.1875	0.323825	no
37.3011	96.9393	1.37787	1.63263	0.006	0.0224221	yes
37.0125	96.3529	1.38032	1.68872	0.00495	0.0194252	yes
36.8647	96.2353	1.38433	1.6084	0.0112	0.0379143	yes

52.4538	137.099	1.3861	1.63356	0.00515	0.0200095	yes
20.6164	53.9044	1.38661	1.44719	0.0262	0.0744587	no
25.0886	65.7199	1.3893	1.58184	0.0107	0.0365376	yes
38.4634	100.788	1.38977	1.67137	0.0044	0.0175601	yes
29.5093	77.3718	1.39064	1.64116	0.00635	0.0235304	yes
29.1425	76.4918	1.39218	1.6224	0.0083	0.0297248	yes
23.8098	62.5371	1.39316	1.52379	0.00885	0.0311874	yes
35.3193	92.8474	1.3944	0.894638	0.1466	0.273343	no
35.3263	93.0574	1.39738	1.5975	0.0066	0.0243034	yes
16.0763	42.3645	1.39792	1.61367	0.00705	0.0257186	yes
16.5403	43.7216	1.40236	1.57905	0.00885	0.0311874	yes
26.6716	70.574	1.40383	1.56585	0.01345	0.0436444	yes
33.7065	89.2469	1.40477	1.61844	0.0098	0.0339913	yes
47.4395	125.662	1.40539	1.7825	0.00235	0.0106036	yes
25.4834	67.5213	1.40578	1.74407	0.004	0.0161466	yes
92.1125	244.506	1.4084	1.18841	0.0881	0.190586	no
31.9026	84.6956	1.40861	1.73395	0.00465	0.0183912	yes
29.995	79.7045	1.40994	1.74638	0.0055	0.0209989	yes
46.9164	124.861	1.41216	1.68561	0.0066	0.0243034	yes
6.24869	16.6388	1.41293	0.993923	0.5108	0.631157	no
78.7018	209.575	1.413	1.72699	0.0054	0.0206843	yes
28.3622	75.5931	1.41429	1.67482	0.00495	0.0194252	yes
55.1087	147.089	1.41633	1.53691	0.01165	0.0389512	yes
26.4178	70.6487	1.41915	1.66581	0.007	0.0255892	yes
36.4166	97.6824	1.4235	1.73911	0.00405	0.0163111	yes
29.4609	79.0808	1.42452	1.60654	0.00545	0.0208306	yes
99.9823	269.369	1.42984	1.65056	0.00385	0.0156306	yes
32.7334	88.2206	1.43035	1.8408	0.0024	0.0107466	yes
29.8976	80.6402	1.43147	1.74005	0.006	0.0224221	yes
30.0688	81.1593	1.43249	1.81553	0.00225	0.0102442	yes
23.3946	63.2038	1.43384	1.78232	0.0028	0.0119893	yes
18.9463	51.2418	1.4354	1.08938	0.07685	0.17022	no
23.2481	63.1009	1.44054	0.505113	0.6221	0.723525	no
28.3448	76.9584	1.441	1.79314	0.00355	0.0145807	yes
15.5808	42.3603	1.44294	1.65796	0.008	0.0287673	yes
50.0261	136.124	1.44417	1.74497	0.0037	0.0151438	yes
73.2402	199.315	1.44434	1.88601	0.00185	0.00864642	yes
31.0082	84.6322	1.44856	1.802	0.00265	0.0115149	yes
57.1443	156.01	1.44896	1.76649	0.0031	0.0130363	yes
19.8393	54.2389	1.45097	0.945489	0.1142	0.230959	no
23.5664	64.546	1.4536	1.87308	0.00145	0.00696158	yes
33.9324	93.3491	1.45997	1.66916	0.00955	0.0332223	yes
33.3588	91.7932	1.46032	1.64329	0.00395	0.0159814	yes
70.115	193.266	1.46279	1.473	0.0146	0.0467306	yes

25.1079	69.2331	1.46332	1.82798	0.00265	0.0115149	yes
25.383	70.1634	1.46686	1.63692	0.00565	0.0214323	yes
23.6626	65.4376	1.46751	1.79389	0.00445	0.0176995	yes
32.3406	89.5847	1.4699	1.63896	0.00575	0.0216949	yes
76.9075	213.72	1.47453	1.64379	0.0061	0.0227235	yes
25.7203	71.5424	1.47589	1.79056	0.0028	0.0119893	yes
14.7082	41.121	1.48326	1.72002	0.00565	0.0214323	yes
37.2829	104.279	1.48386	1.64443	0.0068	0.0249357	yes
27.2204	76.1632	1.48441	1.67137	0.00555	0.0211669	yes
14.0139	39.2203	1.48474	1.53463	0.0116	0.0388209	yes
27.6069	77.2674	1.48483	1.78525	0.00205	0.00946815	yes
82.72	231.558	1.48506	1.66289	0.00845	0.030109	yes
40.8439	114.388	1.48574	1.82177	0.0028	0.0119893	yes
81.0167	227.231	1.48787	1.7414	0.00625	0.0232086	yes
24.392	68.4594	1.48884	1.84538	0.0027	0.011646	yes
22.012	61.8998	1.49164	1.83109	0.003	0.0126611	yes
26.9726	75.9413	1.49339	1.81495	0.00275	0.0118327	yes
35.9442	101.412	1.4964	1.84864	0.0027	0.011646	yes
53.8903	152.434	1.50008	1.35929	0.0178	0.0545454	no
51.1723	144.758	1.5002	0.869537	0.1454	0.272352	no
37.3103	105.783	1.50346	1.11948	0.06105	0.144099	no
39.6075	112.375	1.50447	1.90252	0.00125	0.00617812	yes
15.5432	44.1797	1.5071	1.77157	0.00335	0.0138724	yes
6.27326	17.8552	1.50906	1.70583	0.00635	0.0235304	yes
16.4147	46.7809	1.51093	1.87551	0.0019	0.00886834	yes
47.9492	136.771	1.51219	1.71066	0.0054	0.0206843	yes
4.30428	12.32	1.51716	1.01806	0.3953	0.533731	no
21.6534	62.0682	1.51926	1.89855	0.00135	0.0066075	yes
76.5959	219.682	1.52008	1.74672	0.0043	0.0172195	yes
45.0231	129.579	1.5251	1.89103	0.0014	0.00676763	yes
39.9409	115.056	1.5264	1.82677	0.00285	0.0121591	yes
21.0646	60.8876	1.53133	1.72627	0.0033	0.0137299	yes
8.9891	26.0395	1.53445	1.21288	0.0679	0.155276	no
20.7193	60.1157	1.53676	1.91944	0.00145	0.00696158	yes
23.869	69.2795	1.53729	1.8437	0.00275	0.0118327	yes
27.0352	78.6835	1.54122	1.82409	0.00295	0.012465	yes
40.2452	117.132	1.54124	1.86477	0.0026	0.0113677	yes
37.1834	108.508	1.54507	1.9597	0.00115	0.00576472	yes
53.188	155.217	1.54512	1.86347	0.00235	0.0106036	yes
57.4236	167.625	1.54552	1.20794	0.0813	0.178394	no
15.6156	45.6054	1.54622	1.91371	0.0018	0.00844634	yes
13.8542	40.5395	1.549	1.65847	0.00875	0.0309899	yes
18.6723	54.7236	1.55126	1.94608	0.0012	0.00596446	yes
39.0875	114.823	1.55464	1.91713	0.00095	0.00489444	yes



20.6603	60.6947	1.55471	1.8678	0.00335	0.0138724	yes
16.0174	47.1127	1.55647	1.76488	0.0038	0.0154633	yes
30.6176	90.4358	1.56253	1.79901	0.0038	0.0154633	yes
43.8256	129.675	1.56506	1.94885	0.0013	0.00637163	yes
57.9662	171.546	1.56531	1.95396	0.001	0.00509986	yes
62.1692	185.098	1.57402	1.75487	0.0043	0.0172195	yes
24.6552	73.4943	1.57574	0.991228	0.08715	0.188763	no
14.9813	44.7209	1.57778	1.82499	0.00375	0.0153129	yes
18.8847	56.5152	1.58142	2.02158	0.00115	0.00576472	yes
74.3808	222.806	1.58278	1.35991	0.06745	0.154547	no
79.9519	240.157	1.58677	1.8871	0.0064	0.0236411	yes
30.6869	92.2569	1.58803	1.88526	0.0013	0.00637163	yes
27.1923	82.312	1.59791	1.85364	0.00235	0.0106036	yes
22.7545	68.9546	1.5995	1.86312	0.0025	0.0110678	yes
23.54	71.3581	1.59996	1.74981	0.02825	0.078775	no
24.0219	72.8775	1.60112	1.37418	0.02595	0.0739869	no
24.6896	75.0102	1.60319	1.3265	0.02935	0.0809307	no
36.4129	110.736	1.6046	2.02523	0.0014	0.00676763	yes
11.8578	36.0758	1.6052	2.06412	0.00105	0.0053317	yes
8.42212	25.6363	1.60593	1.62514	0.0087	0.0308439	yes
65.8763	201.264	1.61126	1.76335	0.00285	0.0121591	yes
21.669	66.2558	1.61241	2.00078	0.0012	0.00596446	yes
14.7845	45.2085	1.61251	1.73266	0.0033	0.0137299	yes
202.508	620.228	1.61482	1.99119	0.002	0.00924934	yes
281.678	866.357	1.62092	0.676085	0.12115	0.241069	no
21.5976	66.4351	1.62107	1.96552	0.00215	0.00985254	yes
27.5851	85.0485	1.6244	1.84787	0.00295	0.012465	yes
23.5425	72.6574	1.62584	2.0307	0.00085	0.00449085	yes
35.5983	109.903	1.62635	1.67314	0.0037	0.0151438	yes
31.3817	97.2829	1.63226	1.96829	0.00115	0.00576472	yes
24.723	76.665	1.63272	1.96286	0.002	0.00924934	yes
32.8561	101.93	1.63335	1.71902	0.0043	0.0172195	yes
29.1576	90.4616	1.63343	1.86744	0.0014	0.00676763	yes
9.93151	30.8154	1.63357	1.59192	0.0053	0.0204346	yes
88.8748	277.13	1.64072	1.8832	0.00195	0.0090657	yes
23.7946	74.2436	1.64163	1.93569	0.0014	0.00676763	yes
66.1955	206.908	1.64419	1.37617	0.04325	0.110765	no
24.9555	78.024	1.64456	1.96818	0.00185	0.00864642	yes
38.8768	121.552	1.64459	2.00729	0.00085	0.00449085	yes
89.557	281.829	1.65394	1.5899	0.0078	0.0281631	yes
69.0009	217.475	1.65616	1.2379	0.04345	0.111197	no
34.6779	109.384	1.65731	1.88479	0.00125	0.00617812	yes
22.5513	71.1849	1.65836	1.95313	0.0016	0.00759892	yes
20.8021	65.6927	1.65901	1.59396	0.0098	0.0339913	yes

25.1355	79.4189	1.65975	1.9738	0.001	0.00509986	yes
29.7508	94.0545	1.66057	1.97088	0.00115	0.00576472	yes
23.3593	74.0651	1.66479	2.08551	0.0007	0.00384836	yes
97.8779	311.271	1.66912	1.27325	0.05915	0.140841	no
24.3168	77.4559	1.67142	2.02185	0.00075	0.00405368	yes
27.4733	87.535	1.67183	2.11128	0.00075	0.00405368	yes
29.5606	94.265	1.67305	2.01227	0.00055	0.00311108	yes
24.3786	77.7913	1.67399	1.78206	0.0029	0.0123276	yes
28.656	91.5113	1.67511	1.81467	0.0023	0.0104448	yes
13.3655	42.7164	1.67628	1.79516	0.004	0.0161466	yes
38.4429	122.996	1.67783	1.80196	0.00585	0.0220015	yes
26.5118	84.8401	1.67811	1.9638	0.00175	0.00823364	yes
20.6968	66.3022	1.67965	2.0481	0.00065	0.00361864	yes
31.4899	101.017	1.68164	2.18052	0.0005	0.00286971	yes
40.579	130.51	1.68536	2.01967	0.0004	0.00236908	yes
24.62	79.2203	1.68604	2.05106	0.0005	0.00286971	yes
46.9809	151.614	1.69026	1.23927	0.0598	0.141909	no
2.99435	9.71922	1.6986	0.920011	0.31285	0.458032	no
23.7717	77.3693	1.70252	2.01912	0.0003	0.00186127	yes
21.379	69.9016	1.70913	1.77222	0.00235	0.0106036	yes
26.2913	86.1488	1.71225	1.73949	0.00595	0.0223299	yes
43.1129	141.357	1.71315	1.98699	0.00085	0.00449085	yes
24.4958	80.449	1.71554	1.68213	0.00885	0.0311874	yes
20.4836	67.2852	1.71582	2.14978	0.0012	0.00596446	yes
29.0406	95.4245	1.71629	2.11985	0.0009	0.00469867	yes
35.1918	115.674	1.71676	2.19972	0.0004	0.00236908	yes
61.016	200.583	1.71694	2.02285	0.00095	0.00489444	yes
33.5602	110.339	1.71713	1.95001	0.00045	0.00262985	yes
65.8694	216.823	1.71883	1.88498	0.00295	0.012465	yes
106.012	349.464	1.72092	1.92721	0.00255	0.0112609	yes
17.665	58.3148	1.72297	1.93012	0.00245	0.0108738	yes
15.567	51.4045	1.7234	1.4484	0.0159	0.0500282	no
43.1599	142.543	1.72363	1.9431	0.0013	0.00637163	yes
6.58355	21.7884	1.72662	1.44759	0.0248	0.0714013	no
30.6312	101.451	1.72771	1.86686	0.00245	0.0108738	yes
41.4454	137.645	1.73167	2.13654	0.00075	0.00405368	yes
52.872	175.658	1.7322	2.17949	0.00035	0.00212655	yes
206.435	686.622	1.73383	20.2312	0.32825	0.472916	no
29.3917	97.778	1.7341	2.07613	0.00055	0.00311108	yes
41.761	139.142	1.73633	1.95762	0.0007	0.00384836	yes
16.46	54.968	1.73963	1.93141	0.00095	0.00489444	yes
29.9377	100.165	1.74235	1.5736	0.01075	0.0366373	yes
29.4987	98.6999	1.7424	0.702245	0.2855	0.431248	no
42.9964	144.001	1.74379	2.13639	0.0003	0.00186127	yes

16.1063	53.973	1.74461	1.94635	0.00155	0.00739134	yes
16.835	56.6204	1.74986	0.572935	0.32795	0.472677	no
30.5369	102.784	1.75099	2.12561	0.0004	0.00236908	yes
23.133	78.0368	1.7542	1.76008	0.00435	0.0173803	yes
21.9249	73.9668	1.75431	1.41747	0.0319	0.0864735	no
19.8752	67.1398	1.75619	1.99575	0.00155	0.00739134	yes
30.464	103.024	1.7578	1.53481	0.0128	0.0420776	yes
29.7712	101.047	1.76304	1.80468	0.0026	0.0113677	yes
4.60019	15.6322	1.76475	1.54063	0.0187	0.0568093	no
53.801	182.889	1.76526	1.54495	0.0317	0.0859975	no
26.9646	91.7168	1.76612	2.13432	0.0007	0.00384836	yes
38.2233	130.067	1.76673	1.88779	0.00125	0.00617812	yes
20.4641	69.6531	1.76709	1.93979	0.00075	0.00405368	yes
27.2579	93.069	1.77163	2.0719	0.00095	0.00489444	yes
39.2769	134.894	1.78007	2.03342	0.0009	0.00469867	yes
34.2521	117.727	1.78118	2.0986	0.0008	0.00426505	yes
12.3228	42.4051	1.78291	2.23803	0.0001	0.00072361	yes
75.793	261.586	1.78715	2.24955	0.00055	0.00311108	yes
230.313	794.99	1.78734	1.81299	0.02985	0.0821166	no
24.7079	85.3837	1.78899	1.84177	0.006	0.0224221	yes
33.0256	114.25	1.79054	1.86601	0.002	0.00924934	yes
15.8456	54.8283	1.79084	1.81062	0.00335	0.0138724	yes
28.2121	97.7243	1.7924	2.21098	0.0003	0.00186127	yes
40.5742	140.583	1.79279	2.2256	0.00015	0.00102641	yes
22.188	76.8973	1.79316	0.892187	0.34385	0.488277	no
29.0229	100.684	1.79457	0.794946	0.00535	0.0205823	yes
24.0201	83.5539	1.79847	2.24712	0.0002	0.00133233	yes
24.1981	84.5384	1.80471	2.08835	0.00015	0.00102641	yes
9.73431	34.0245	1.80542	1.46709	0.0183	0.0558348	no
35.8783	125.91	1.81121	2.11989	0.00045	0.00262985	yes
19.3388	68.0404	1.81489	2.25569	0.00025	0.00161651	yes
11.3485	40.0369	1.81883	2.03977	0.00155	0.00739134	yes
23.8219	84.0559	1.81906	2.2069	0.00015	0.00102641	yes
47.3998	167.431	1.82061	1.71418	0.0229	0.0669706	no
19.3765	68.6337	1.82461	1.8776	0.0034	0.0139972	yes
24.1897	85.9102	1.82844	2.23169	5.00E-05	0.00039685	yes
17.6775	63.0723	1.83509	2.23405	0.0003	0.00186127	yes
35.4854	126.894	1.83833	1.86314	0.0041	0.0164936	yes
31.2508	111.839	1.83946	2.07566	0.00105	0.0053317	yes
15.7783	56.478	1.83975	2.10284	0.0008	0.00426505	yes
29.0855	104.694	1.84781	2.13226	0.00035	0.00212655	yes
23.5432	84.8383	1.84941	2.04121	0.00145	0.00696158	yes
23.8341	85.9461	1.85041	1.91435	0.0028	0.0119893	yes
46.8632	169.07	1.85109	2.23663	0.0001	0.00072361	yes

26.1002	94.9724	1.86345	2.26114	0.00025	0.00161651	yes
21.0912	76.7778	1.86405	2.32931	0.00035	0.00212655	yes
25.616	93.3545	1.86568	2.26659	0.00015	0.00102641	yes
17.8203	64.9448	1.86569	2.24704	0.0001	0.00072361	yes
22.6523	82.6337	1.86707	2.13833	0.00095	0.00489444	yes
14.9257	54.5033	1.86854	1.76795	0.0077	0.0278306	yes
30.085	109.972	1.87002	2.2388	0.00025	0.00161651	yes
36.6466	134.175	1.87236	2.2903	5.00E-05	0.00039685	yes
18.3079	67.083	1.87348	2.1241	0.0005	0.00286971	yes
18.828	69.0376	1.8745	2.26709	0.00045	0.00262985	yes
195.448	718.705	1.87862	2.12477	0.00095	0.00489444	yes
45.4357	167.766	1.88456	2.0993	0.00095	0.00489444	yes
35.1504	129.993	1.88682	1.5736	0.0022	0.0100425	yes
35.412	130.961	1.88683	0.605319	0.0867	0.187903	no
111.228	411.617	1.88778	1.27164	0.0532	0.129742	no
51.4566	190.464	1.88809	1.92327	0.0014	0.00676763	yes
24.4114	90.4542	1.88963	2.19493	0.0003	0.00186127	yes
25.4417	94.4668	1.89261	2.23148	0.0008	0.00426505	yes
8.92067	33.2314	1.89732	2.01704	0.0009	0.00469867	yes
38.414	143.199	1.89832	2.0922	0.001	0.00509986	yes
34.9188	130.59	1.90297	2.24238	0.0001	0.00072361	yes
23.6402	88.9033	1.911	2.2669	0.0004	0.00236908	yes
17.5648	66.094	1.91183	2.23283	5.00E-05	0.00039685	yes
19.6403	73.909	1.91194	1.99439	0.0021	0.0096485	yes
46.2493	174.084	1.91228	2.19036	0.00055	0.00311108	yes
25.1493	94.6699	1.91239	2.33062	0.0004	0.00236908	yes
46.8085	176.208	1.91244	1.74271	0.00605	0.0225611	yes
23.1074	87.3394	1.91828	2.31519	0.00055	0.00311108	yes
25.7351	97.4014	1.9202	2.31026	0.00025	0.00161651	yes
14.5549	55.1461	1.92175	2.33741	5.00E-05	0.00039685	yes
29.2026	110.875	1.92477	2.21495	0.00085	0.00449085	yes
28.1525	106.937	1.92542	2.04851	0.0007	0.00384836	yes
86.3061	327.994	1.92614	1.99295	0.0014	0.00676763	yes
29.2951	111.383	1.9268	2.34951	0.0003	0.00186127	yes
10.1444	38.7949	1.93519	2.17362	0.0005	0.00286971	yes
24.7449	94.9358	1.93982	2.03195	0.0027	0.011646	yes
32.6547	125.603	1.94351	1.61054	0.005	0.0195778	yes
23.4719	90.2842	1.94354	2.42525	0.0003	0.00186127	yes
43.2602	166.885	1.94774	2.20833	0.00035	0.00212655	yes
26.9803	104.086	1.94779	2.33701	0.00015	0.00102641	yes
11.69	45.1483	1.9494	2.29798	0.00025	0.00161651	yes
21.4446	83.0714	1.95373	2.31825	0.0003	0.00186127	yes
19.9986	77.6613	1.9573	2.25328	0.00015	0.00102641	yes
17.3388	67.549	1.96193	2.5431	0.0001	0.00072361	yes

16.6268	64.8093	1.96269	2.37038	0.00015	0.00102641	yes
20.0917	78.6195	1.96829	2.19443	0.00055	0.00311108	yes
54.8875	215.239	1.97139	2.16421	0.00015	0.00102641	yes
19.7121	77.307	1.97151	2.22864	0.0008	0.00426505	yes
25.8608	101.734	1.97596	2.38937	0.0002	0.00133233	yes
23.3756	92.0139	1.97685	1.68887	0.0089	0.0312698	yes
17.6423	69.9572	1.98743	2.44244	5.00E-05	0.00039685	yes
12.9058	51.2448	1.98938	2.31158	0.00055	0.00311108	yes
23.2962	92.5811	1.99062	2.50768	5.00E-05	0.00039685	yes
4.38988	17.4698	1.99261	1.23517	0.2755	0.420439	no
18.688	74.4525	1.9942	2.23759	0.00025	0.00161651	yes
47.4609	189.406	1.99667	1.76021	0.0031	0.0130363	yes
20.8645	83.2752	1.99684	2.38358	0.00015	0.00102641	yes
21.5737	86.2605	1.99943	2.09064	0.0007	0.00384836	yes
3.7645	15.0521	1.99943	1.1774	0.3027	0.448954	no
21.4701	85.8534	1.99955	2.31088	0.0003	0.00186127	yes
21.1395	84.7951	2.00404	2.48119	5.00E-05	0.00039685	yes
12.6537	50.7568	2.00404	2.4297	0.0001	0.00072361	yes
13.5768	54.4795	2.00457	2.29786	0.0001	0.00072361	yes
10.5033	42.2744	2.00894	2.15548	0.00075	0.00405368	yes
20.1717	81.5023	2.01451	2.19576	0.00035	0.00212655	yes
22.9783	92.9024	2.01544	2.53664	5.00E-05	0.00039685	yes
29.9177	121.257	2.01899	2.318	0.0002	0.00133233	yes
11.1621	45.3005	2.02092	2.29234	0.00035	0.00212655	yes
19.2968	78.3223	2.02106	3.42655	0.2394	0.388061	no
17.8997	72.6898	2.02181	2.2619	0.0002	0.00133233	yes
19.7836	80.616	2.02676	2.38619	0.00015	0.00102641	yes
5.92833	24.1666	2.02732	1.95892	0.0021	0.0096485	yes
16.2626	66.4186	2.03003	2.38996	0.00015	0.00102641	yes
19.7636	80.8924	2.03316	2.45825	0.0001	0.00072361	yes
27.1118	110.986	2.03338	2.4357	0.00015	0.00102641	yes
37.2646	152.775	2.03553	2.36522	0.0003	0.00186127	yes
114.834	471.669	2.03822	2.16286	0.00245	0.0108738	yes
30.8191	126.857	2.04131	2.44139	5.00E-05	0.00039685	yes
13.9425	57.4541	2.04292	2.54202	5.00E-05	0.00039685	yes
16.7995	69.3478	2.04543	2.37398	0.0001	0.00072361	yes
11.2819	46.5834	2.04581	2.10623	0.0004	0.00236908	yes
9.97141	41.2372	2.04808	2.21078	0.00025	0.00161651	yes
20.3673	84.2709	2.04878	2.39341	0.0003	0.00186127	yes
18.7167	77.5046	2.04995	2.58572	5.00E-05	0.00039685	yes
31.221	129.286	2.04997	2.37218	0.0001	0.00072361	yes
8.60098	35.6263	2.05037	2.44256	5.00E-05	0.00039685	yes
20.1873	83.8416	2.05422	2.45558	0.0001	0.00072361	yes
39.561	164.454	2.05553	2.32346	0.0004	0.00236908	yes

19.2446	80.5697	2.06579	1.74283	0.0024	0.0107466	yes
35.2666	148.647	2.07551	2.2206	0.00085	0.00449085	yes
17.2562	72.7597	2.07602	2.38235	0.0001	0.00072361	yes
16.3456	68.9229	2.07608	2.4779	5.00E-05	0.00039685	yes
11.7358	49.5174	2.07702	2.42865	5.00E-05	0.00039685	yes
13.7262	58.0846	2.08122	2.18229	0.00015	0.00102641	yes
18.5244	78.5777	2.08469	2.47189	0.00025	0.00161651	yes
34.5981	146.942	2.08649	2.08803	0.0014	0.00676763	yes
22.2361	94.4719	2.08698	2.58216	0.00015	0.00102641	yes
88.6666	377.441	2.08979	2.26393	0.00235	0.0106036	yes
21.9461	93.5147	2.09123	2.14089	0.0005	0.00286971	yes
13.6687	58.4183	2.09554	2.57518	0.00015	0.00102641	yes
33.5868	143.653	2.09662	2.27208	0.00025	0.00161651	yes
13.3152	56.9526	2.09669	2.49904	5.00E-05	0.00039685	yes
14.391	61.7615	2.10154	2.37109	5.00E-05	0.00039685	yes
9.18986	39.4741	2.10279	2.36563	0.00015	0.00102641	yes
26.9293	116.561	2.11384	2.03264	0.00245	0.0108738	yes
11.6499	50.5327	2.11689	2.41486	0.0001	0.00072361	yes
9.51742	41.2965	2.11738	2.31105	0.00025	0.00161651	yes
65.8152	286.089	2.11997	2.39076	0.0011	0.00554564	yes
25.449	110.624	2.11998	2.40586	0.0001	0.00072361	yes
6.90493	30.1913	2.12844	1.64781	0.2706	0.415872	no
14.256	62.5989	2.13457	2.59716	5.00E-05	0.00039685	yes
13.5729	60.0467	2.14535	1.78633	0.01485	0.0473587	yes
33.6678	149.082	2.14666	2.48612	0.00015	0.00102641	yes
16.4879	73.13	2.14905	2.4479	0.00025	0.00161651	yes
8.95557	39.8208	2.15266	2.48982	5.00E-05	0.00039685	yes
12.4471	55.4515	2.15541	2.41562	5.00E-05	0.00039685	yes
13.9959	62.5656	2.16036	2.6337	5.00E-05	0.00039685	yes
15.3955	68.904	2.16208	2.59807	5.00E-05	0.00039685	yes
62.396	279.455	2.16309	2.41475	0.0006	0.00335087	yes
33.6054	150.517	2.16316	2.26912	0.0009	0.00469867	yes
28.638	128.771	2.16881	1.65573	0.01605	0.0503205	no
17.0236	77.0204	2.1777	2.41859	5.00E-05	0.00039685	yes
12.3228	55.7644	2.17802	2.55442	0.00015	0.00102641	yes
103.387	468.907	2.18125	2.32371	0.0002	0.00133233	yes
18.3671	83.475	2.18422	2.65531	5.00E-05	0.00039685	yes
49.7913	226.507	2.18559	1.65062	0.0012	0.00596446	yes
20.299	92.7599	2.19209	1.74313	0.01065	0.0364375	yes
18.6413	85.5474	2.19822	2.70147	5.00E-05	0.00039685	yes
21.1721	97.3831	2.20151	2.64606	5.00E-05	0.00039685	yes
32.4218	149.492	2.20503	2.69833	5.00E-05	0.00039685	yes
17.3256	79.9059	2.20539	1.67866	5.00E-05	0.00039685	yes
23.909	110.506	2.20851	2.72365	5.00E-05	0.00039685	yes

28.9725	134.088	2.21043	2.46151	0.0001	0.00072361	yes
19.8367	91.8217	2.21066	2.5729	0.00015	0.00102641	yes
12.0866	55.9502	2.21074	1.76437	0.00525	0.0203085	yes
9.18753	42.8484	2.22149	2.50497	5.00E-05	0.00039685	yes
15.0896	70.3828	2.22167	2.62618	5.00E-05	0.00039685	yes
7.51012	35.0475	2.22241	2.05242	0.0056	0.0212885	yes
23.9168	111.879	2.22584	2.61564	5.00E-05	0.00039685	yes
38.2837	179.553	2.22961	2.42661	0.0002	0.00133233	yes
20.9556	98.483	2.23254	1.99546	0.0051	0.0198371	yes
22.2459	104.658	2.23407	2.24446	0.00255	0.0112609	yes
14.9597	70.5199	2.23695	2.77718	5.00E-05	0.00039685	yes
15.3098	72.5709	2.24493	1.23399	0.14985	0.276622	no
11.1136	52.6895	2.24519	2.18571	0.0006	0.00335087	yes
11.3013	53.7688	2.25029	2.19751	0.0011	0.00554564	yes
18.5592	88.8049	2.2585	2.30738	0.0004	0.00236908	yes
15.6066	74.727	2.25948	1.76572	0.0057	0.0215524	yes
6.28326	30.1218	2.26122	1.88912	0.0181	0.0552724	no
25.2159	121.033	2.263	2.5185	5.00E-05	0.00039685	yes
14.1839	68.2163	2.26586	2.52972	5.00E-05	0.00039685	yes
10.9602	52.7899	2.26799	2.69406	5.00E-05	0.00039685	yes
13.6445	65.905	2.27207	2.76151	5.00E-05	0.00039685	yes
28.9765	140.186	2.27438	2.77765	5.00E-05	0.00039685	yes
14.6271	70.8014	2.27513	1.90456	0.00895	0.0314141	yes
104.396	505.437	2.27546	2.33195	0.00045	0.00262985	yes
19.4847	94.4543	2.27727	2.58814	5.00E-05	0.00039685	yes
12.0476	58.4963	2.2796	2.34309	0.0006	0.00335087	yes
15.2875	74.4974	2.28484	2.67917	5.00E-05	0.00039685	yes
73.9169	360.647	2.28661	2.2091	0.00095	0.00489444	yes
22.6258	110.747	2.29123	2.17069	0.00145	0.00696158	yes
22.9985	112.713	2.29304	2.14591	0.001	0.00509986	yes
17.3574	85.3943	2.29859	2.58895	5.00E-05	0.00039685	yes
26.3041	129.428	2.2988	2.31602	0.0008	0.00426505	yes
4.72152	23.3598	2.30671	1.71326	0.0741	0.165376	no
14.6585	72.5563	2.30737	2.68636	5.00E-05	0.00039685	yes
40.7856	201.936	2.30777	1.91189	0.001	0.00509986	yes
8.35939	41.4593	2.31023	1.89911	0.00485	0.0191179	yes
24.3895	121.074	2.31155	2.54141	0.0001	0.00072361	yes
17.9435	89.5315	2.31893	2.68966	5.00E-05	0.00039685	yes
19.1658	95.8364	2.32204	2.86922	5.00E-05	0.00039685	yes
13.9477	69.8408	2.32405	2.55958	5.00E-05	0.00039685	yes
11.4185	57.2757	2.32655	2.67189	0.0001	0.00072361	yes
9.91343	49.8263	2.32945	2.78	5.00E-05	0.00039685	yes
9.20191	46.2578	2.32969	2.82136	5.00E-05	0.00039685	yes
11.5087	58.1842	2.3379	2.78676	5.00E-05	0.00039685	yes

16.8736	85.341	2.33848	2.77519	5.00E-05	0.00039685	yes
21.2506	107.594	2.34003	2.81827	5.00E-05	0.00039685	yes
8.35508	42.323	2.34071	2.30702	5.00E-05	0.00039685	yes
17.6129	89.2894	2.34186	2.74075	5.00E-05	0.00039685	yes
27.8283	141.086	2.34195	1.92156	0.00285	0.0121591	yes
15.9268	80.7876	2.34268	2.82026	5.00E-05	0.00039685	yes
33.7735	171.821	2.34695	2.67869	5.00E-05	0.00039685	yes
23.3301	119.312	2.35447	2.6545	5.00E-05	0.00039685	yes
89.0862	457.611	2.36085	2.4529	0.0001	0.00072361	yes
8.06684	41.6182	2.36714	2.56146	5.00E-05	0.00039685	yes
17.5104	90.7293	2.37336	2.67601	5.00E-05	0.00039685	yes
20.2992	105.373	2.37601	1.67467	0.00315	0.0131993	yes
12.7053	66.2123	2.38167	2.64089	5.00E-05	0.00039685	yes
14.4577	75.4699	2.38407	2.75953	5.00E-05	0.00039685	yes
16.724	87.3462	2.38482	2.54589	0.00035	0.00212655	yes
13.3094	69.6699	2.38809	2.77323	5.00E-05	0.00039685	yes
80.8535	423.598	2.38931	2.41408	5.00E-05	0.00039685	yes
42.1534	220.926	2.38984	2.50801	0.0006	0.00335087	yes
12.1507	63.8044	2.39262	2.49146	0.00045	0.00262985	yes
6.83293	35.8997	2.3934	2.44294	0.00035	0.00212655	yes
14.6051	77.214	2.40239	2.47178	5.00E-05	0.00039685	yes
23.5998	125.083	2.40603	2.55541	0.00015	0.00102641	yes
6.57675	35.0075	2.41222	2.02878	0.21495	0.358318	no
38.8228	206.695	2.41253	2.12726	0.0011	0.00554564	yes
15.3969	82.014	2.41323	2.86611	5.00E-05	0.00039685	yes
7.97545	42.5247	2.41466	2.23136	0.00125	0.00617812	yes
70.5747	378.358	2.42253	2.19856	0.01695	0.05272	no
12.5566	67.3224	2.42264	2.85782	5.00E-05	0.00039685	yes
14.8198	80.0464	2.43331	2.68905	5.00E-05	0.00039685	yes
16.0871	86.9964	2.43505	2.73924	5.00E-05	0.00039685	yes
7.39264	40.0667	2.43824	2.20764	0.0012	0.00596446	yes
9.06798	49.4527	2.44719	2.71402	5.00E-05	0.00039685	yes
24.5581	133.989	2.44785	2.71452	5.00E-05	0.00039685	yes
16.3774	89.4276	2.44902	2.9969	5.00E-05	0.00039685	yes
6.68526	36.5649	2.4514	1.43614	0.4553	0.585149	no
10.7396	58.7533	2.45173	2.80487	5.00E-05	0.00039685	yes
28.0473	153.7	2.45419	2.71472	0.0001	0.00072361	yes
13.4941	73.9959	2.45512	2.72974	5.00E-05	0.00039685	yes
8.70796	47.7931	2.45639	2.72207	5.00E-05	0.00039685	yes
24.9269	136.923	2.45759	2.71367	5.00E-05	0.00039685	yes
43.1	236.814	2.45799	2.84943	5.00E-05	0.00039685	yes
22.0375	122.232	2.47159	3.01441	5.00E-05	0.00039685	yes
22.6039	125.534	2.47344	1.44574	0.0631	0.147456	no
14.9066	83.0287	2.47766	2.84119	5.00E-05	0.00039685	yes



38.6101	215.345	2.4796	2.45616	0.0003	0.00186127	yes
10.6515	59.4696	2.4811	2.90027	5.00E-05	0.00039685	yes
21.1923	118.367	2.48166	2.87199	5.00E-05	0.00039685	yes
15.4625	86.4604	2.48327	2.98524	5.00E-05	0.00039685	yes
36.5054	205.009	2.4895	2.70138	5.00E-05	0.00039685	yes
18.5815	104.731	2.49475	2.61264	0.0004	0.00236908	yes
22.9646	129.458	2.495	2.56942	0.0004	0.00236908	yes
20.2017	114.485	2.50261	3.01605	5.00E-05	0.00039685	yes
11.3022	64.3297	2.50888	2.96711	5.00E-05	0.00039685	yes
10.7797	61.5082	2.51246	2.87282	5.00E-05	0.00039685	yes
28.74	164.479	2.51677	2.52336	0.00075	0.00405368	yes
21.7559	124.597	2.51779	2.71525	5.00E-05	0.00039685	yes
10.9748	63.0152	2.5215	2.94026	5.00E-05	0.00039685	yes
13.9589	80.3151	2.52448	2.64025	5.00E-05	0.00039685	yes
21.8063	125.467	2.5245	2.91066	5.00E-05	0.00039685	yes
19.1782	110.635	2.52827	2.55423	5.00E-05	0.00039685	yes
15.3339	88.5318	2.52947	2.91928	5.00E-05	0.00039685	yes
13.2143	76.4102	2.53167	2.81476	0.0001	0.00072361	yes
15.2502	88.2127	2.53215	2.94811	5.00E-05	0.00039685	yes
24.5628	142.145	2.53281	2.14535	0.0006	0.00335087	yes
17.9116	104.129	2.5394	2.87238	5.00E-05	0.00039685	yes
40.7827	237.823	2.54385	2.41355	0.0001	0.00072361	yes
3.8251	22.3348	2.54573	1.46262	0.24865	0.396849	no
35.9618	210.119	2.54667	1.75558	0.00455	0.0180565	yes
13.8965	81.5058	2.55218	3.1869	5.00E-05	0.00039685	yes
6.54415	38.4149	2.55339	2.92147	5.00E-05	0.00039685	yes
6.9113	40.6498	2.55622	2.84098	0.0001	0.00072361	yes
53.2128	314.048	2.56114	2.59756	0.01285	0.0421633	yes
8.34541	49.2972	2.56245	2.46502	0.00055	0.00311108	yes
17.0989	101.226	2.56561	3.17685	5.00E-05	0.00039685	yes
5.65979	33.7017	2.574	2.81356	5.00E-05	0.00039685	yes
12.2502	72.9598	2.5743	2.94753	5.00E-05	0.00039685	yes
23.4661	139.838	2.5751	2.15515	0.0064	0.0236411	yes
10.4728	62.55	2.57836	2.95693	5.00E-05	0.00039685	yes
21.411	128.054	2.58033	3.23215	5.00E-05	0.00039685	yes
14.4756	86.6267	2.58119	3.04117	5.00E-05	0.00039685	yes
10.0908	60.459	2.58292	2.81696	5.00E-05	0.00039685	yes
12.4783	75.149	2.59034	3.10127	5.00E-05	0.00039685	yes
42.2843	255.102	2.59288	2.46234	0.0006	0.00335087	yes
13.7763	83.1152	2.59292	3.07289	5.00E-05	0.00039685	yes
11.8647	71.657	2.59443	2.75118	5.00E-05	0.00039685	yes
5.15848	31.2158	2.59726	2.55884	5.00E-05	0.00039685	yes
17.307	104.839	2.59874	2.81957	5.00E-05	0.00039685	yes
38.7797	236.156	2.60637	2.84866	0.00015	0.00102641	yes

17.211	105.176	2.61141	2.70965	5.00E-05	0.00039685	yes
17.0125	104.228	2.61508	2.917	5.00E-05	0.00039685	yes
17.0477	104.665	2.61812	3.11511	5.00E-05	0.00039685	yes
26.7892	164.562	2.6189	3.01439	5.00E-05	0.00039685	yes
13.1806	81.0203	2.61987	3.00003	5.00E-05	0.00039685	yes
7.31767	45.0439	2.62188	2.97601	5.00E-05	0.00039685	yes
19.2252	118.606	2.62511	2.96915	5.00E-05	0.00039685	yes
3.03357	18.7214	2.6256	1.70562	0.042	0.108193	no
18.3775	113.918	2.63198	2.96978	5.00E-05	0.00039685	yes
8.86975	55.2897	2.64004	2.91247	5.00E-05	0.00039685	yes
31.7928	199.155	2.64712	2.56003	0.0009	0.00469867	yes
13.0481	81.877	2.64962	2.99567	5.00E-05	0.00039685	yes
47.801	300.29	2.65125	2.53633	0.13245	0.255476	no
6.58766	42.0739	2.67509	2.56917	0.00015	0.00102641	yes
14.2728	91.3181	2.67764	3.04498	5.00E-05	0.00039685	yes
14.2619	91.2695	2.67797	2.81968	5.00E-05	0.00039685	yes
14.426	92.3234	2.67803	2.09641	0.0034	0.0139972	yes
13.0901	83.8628	2.67955	3.17155	5.00E-05	0.00039685	yes
6.83785	43.8321	2.68037	2.76209	0.0001	0.00072361	yes
32.1539	206.191	2.68091	2.59803	0.00055	0.00311108	yes
12.3383	79.6365	2.69029	3.03784	5.00E-05	0.00039685	yes
10.9143	70.4897	2.69119	2.86315	5.00E-05	0.00039685	yes
7.49828	48.5978	2.69626	2.80822	5.00E-05	0.00039685	yes
12.729	82.5662	2.69743	3.10206	5.00E-05	0.00039685	yes
9.54725	62.0727	2.7008	3.04395	5.00E-05	0.00039685	yes
21.661	142.252	2.71528	3.08095	5.00E-05	0.00039685	yes
43.7922	289.839	2.72651	2.93404	0.0004	0.00236908	yes
11.7438	77.972	2.73106	3.13774	5.00E-05	0.00039685	yes
2.09652	13.9319	2.73232	1.24451	0.16145	0.290577	no
7.43985	49.4936	2.7339	2.41989	0.0017	0.00803056	yes
12.499	83.1758	2.73435	3.08638	5.00E-05	0.00039685	yes
14.2314	95.1629	2.74132	2.13908	0.01015	0.0351017	yes
10.0176	67.2621	2.74725	2.96392	5.00E-05	0.00039685	yes
17.6521	118.649	2.74879	3.10314	5.00E-05	0.00039685	yes
2.87706	19.3586	2.75031	1.50578	0.1853	0.320883	no
9.83808	66.3468	2.75358	3.19856	5.00E-05	0.00039685	yes
20.5918	139.063	2.7556	2.77519	5.00E-05	0.00039685	yes
6.00892	40.5834	2.75571	2.94105	5.00E-05	0.00039685	yes
9.94512	67.7838	2.76888	3.3038	5.00E-05	0.00039685	yes
16.3574	111.675	2.77129	3.09657	5.00E-05	0.00039685	yes
16.1213	110.077	2.77147	3.23412	5.00E-05	0.00039685	yes
13.2234	90.4308	2.77372	3.00388	5.00E-05	0.00039685	yes
12.7694	87.391	2.77479	1.31068	0.3155	0.460954	no
4.85251	33.2925	2.77839	2.96635	5.00E-05	0.00039685	yes

15.8188	108.969	2.78421	3.13058	5.00E-05	0.00039685	yes
6.06986	41.8883	2.78681	0.853942	0.2666	0.41188	no
22.277	153.968	2.78901	2.52311	5.00E-05	0.00039685	yes
20.0613	138.661	2.78907	3.15171	5.00E-05	0.00039685	yes
9.40235	64.9878	2.78907	2.33535	0.02785	0.0780314	no
7.48709	51.7704	2.78965	3.00067	5.00E-05	0.00039685	yes
16.3082	112.878	2.7911	2.84967	5.00E-05	0.00039685	yes
10.7248	74.3125	2.79265	2.92147	5.00E-05	0.00039685	yes
30.8591	213.852	2.79285	1.52308	0.06355	0.14792	no
34.1059	236.372	2.79296	2.9602	5.00E-05	0.00039685	yes
12.0779	83.7343	2.79345	2.95949	5.00E-05	0.00039685	yes
9.0879	63.026	2.79393	3.27382	5.00E-05	0.00039685	yes
13.3537	92.6165	2.79403	2.90595	5.00E-05	0.00039685	yes
27.3014	189.383	2.79426	2.66091	5.00E-05	0.00039685	yes
9.26675	64.3766	2.7964	3.07938	5.00E-05	0.00039685	yes
17.5018	122.329	2.80519	2.60568	0.0009	0.00469867	yes
17.8217	124.711	2.80688	3.16388	5.00E-05	0.00039685	yes
35.2608	246.894	2.80775	2.60324	0.0024	0.0107466	yes
10.6495	74.6053	2.8085	3.09304	5.00E-05	0.00039685	yes
20.0543	140.573	2.80933	3.12738	5.00E-05	0.00039685	yes
8.24732	57.9512	2.81284	3.16697	5.00E-05	0.00039685	yes
20.621	145.012	2.81399	2.8225	0.0005	0.00286971	yes
85.7652	604.976	2.81841	2.54324	0.0001	0.00072361	yes
15.4662	109.267	2.82066	3.32863	5.00E-05	0.00039685	yes
5.20646	36.9131	2.82576	2.15271	0.0051	0.0198371	yes
14.1406	100.255	2.82575	3.17342	5.00E-05	0.00039685	yes
12.4279	88.2736	2.8284	3.27768	5.00E-05	0.00039685	yes
11.5333	82.1094	2.83174	2.02181	0.01865	0.0567553	no
19.8644	141.58	2.83336	3.43408	5.00E-05	0.00039685	yes
14.8725	106.017	2.83358	3.24422	5.00E-05	0.00039685	yes
8.36866	59.6826	2.83424	3.17752	5.00E-05	0.00039685	yes
8.61503	61.5754	2.83743	3.15559	5.00E-05	0.00039685	yes
4.30734	30.8107	2.83856	2.82759	5.00E-05	0.00039685	yes
10.0503	72.0833	2.84243	2.89718	5.00E-05	0.00039685	yes
13.603	98.1866	2.85161	1.97569	0.00945	0.0329069	yes
11.3545	81.9796	2.852	3.06095	5.00E-05	0.00039685	yes
22.3171	161.745	2.85751	2.62651	0.0031	0.0130363	yes
36.1555	262.299	2.85892	2.53625	5.00E-05	0.00039685	yes
13.9915	102.047	2.86662	3.17885	5.00E-05	0.00039685	yes
10.6848	78.0477	2.86879	2.37346	0.0033	0.0137299	yes
7.21045	52.7263	2.87036	3.06558	5.00E-05	0.00039685	yes
15.9084	116.39	2.8711	2.95509	5.00E-05	0.00039685	yes
10.5158	77.1295	2.87472	3.42664	5.00E-05	0.00039685	yes
9.03702	66.519	2.87985	3.33314	5.00E-05	0.00039685	yes

7.45542	54.9212	2.881	2.44735	0.00015	0.00102641	yes
4.78976	35.3448	2.88347	2.98093	0.0002	0.00133233	yes
8.43198	62.2594	2.88435	3.33	5.00E-05	0.00039685	yes
18.4462	136.207	2.8844	2.67483	0.00035	0.00212655	yes
4.42403	32.6869	2.88528	2.77993	5.00E-05	0.00039685	yes
9.51413	70.3864	2.88715	3.00675	5.00E-05	0.00039685	yes
8.74107	64.9216	2.89282	2.51687	0.0026	0.0113677	yes
25.5627	190.129	2.89486	3.60457	5.00E-05	0.00039685	yes
10.0818	75.1138	2.89732	3.1779	5.00E-05	0.00039685	yes
5.76991	43.2107	2.90477	2.19882	0.02	0.0601879	no
14.9477	112.574	2.91287	3.24555	5.00E-05	0.00039685	yes
11.5652	87.1124	2.91308	3.35286	5.00E-05	0.00039685	yes
13.6737	103.053	2.9139	0.768004	0.02885	0.0800531	no
91.6024	691.628	2.91654	1.10482	0.3178	0.462352	no
18.3284	140.34	2.93677	3.17582	5.00E-05	0.00039685	yes
16.1639	124.075	2.94036	3.23227	5.00E-05	0.00039685	yes
5.82312	44.7911	2.94335	2.04111	0.25025	0.397423	no
8.68734	67.0183	2.94757	3.24594	0.0001	0.00072361	yes
13.1594	101.59	2.94859	3.19089	5.00E-05	0.00039685	yes
10.2865	79.9728	2.95875	3.24956	5.00E-05	0.00039685	yes
34.9442	271.898	2.95994	2.7129	0.00045	0.00262985	yes
7.23943	56.5565	2.96575	3.24052	5.00E-05	0.00039685	yes
13.5761	107.213	2.98133	4.26769	0.1574	0.285622	no
20.5609	162.722	2.98443	3.49857	5.00E-05	0.00039685	yes
5.84097	46.3505	2.9883	2.48079	0.0226	0.0662032	no
10.0321	79.8946	2.99347	2.2344	0.00025	0.00161651	yes
13.8534	110.4	2.99442	3.30412	5.00E-05	0.00039685	yes
8.53079	68.0599	2.99605	3.30032	5.00E-05	0.00039685	yes
10.9806	87.6687	2.99711	3.17735	5.00E-05	0.00039685	yes
6.37579	50.9388	2.99809	3.4045	5.00E-05	0.00039685	yes
14.518	116.315	3.00212	3.39375	5.00E-05	0.00039685	yes
7.51809	60.3031	3.00379	3.39041	5.00E-05	0.00039685	yes
5.01047	40.2295	3.00523	2.66177	5.00E-05	0.00039685	yes
10.1578	81.9346	3.01188	3.32648	5.00E-05	0.00039685	yes
6.51853	52.9666	3.02247	3.44588	5.00E-05	0.00039685	yes
20.3028	165.031	3.02299	3.0053	5.00E-05	0.00039685	yes
14.5472	118.638	3.02775	3.34034	5.00E-05	0.00039685	yes
8.74706	71.3415	3.02787	2.997	5.00E-05	0.00039685	yes
17.0818	139.622	3.03099	3.25343	5.00E-05	0.00039685	yes
12.7904	104.848	3.03517	3.64636	5.00E-05	0.00039685	yes
30.3685	248.989	3.03543	3.33489	5.00E-05	0.00039685	yes
7.89322	65.0511	3.04289	3.54222	5.00E-05	0.00039685	yes
22.6541	186.962	3.0449	3.34062	0.00165	0.00780483	yes
26.0959	215.78	3.04767	2.95603	0.00175	0.00823364	yes

14.9252	123.763	3.05176	3.36943	5.00E-05	0.00039685	yes
16.2582	135.234	3.05621	2.5389	0.00185	0.00864642	yes
10.5325	87.7496	3.05854	2.28364	0.0052	0.0201593	yes
9.36657	78.0825	3.05941	3.09338	5.00E-05	0.00039685	yes
7.16766	59.7876	3.06027	2.59405	0.24215	0.390982	no
13.8456	115.901	3.06539	3.55912	5.00E-05	0.00039685	yes
4.36297	36.7368	3.07384	2.29967	0.0057	0.0215524	yes
11.5827	97.5391	3.07401	3.04018	5.00E-05	0.00039685	yes
2.60496	22.2027	3.0914	1.62701	0.0196	0.059237	no
17.9384	154.225	3.10392	2.81558	0.0001	0.00072361	yes
15.558	134.912	3.11629	2.86274	0.00035	0.00212655	yes
11.2618	97.7878	3.11822	3.38918	5.00E-05	0.00039685	yes
4.07008	35.4355	3.12207	2.62113	0.01325	0.0430747	yes
19.9277	173.799	3.12457	3.12387	5.00E-05	0.00039685	yes
15.9662	139.485	3.12701	2.56924	0.0003	0.00186127	yes
15.4696	135.215	3.12774	3.43193	5.00E-05	0.00039685	yes
6.40758	56.2364	3.13365	3.27213	5.00E-05	0.00039685	yes
21.4728	188.551	3.13437	3.25664	5.00E-05	0.00039685	yes
6.62965	58.3204	3.137	3.47969	5.00E-05	0.00039685	yes
6.89822	60.8116	3.14005	3.28176	0.0001	0.00072361	yes
21.6111	190.663	3.14118	2.68625	0.00585	0.0220015	yes
9.86542	87.1861	3.14365	3.51285	5.00E-05	0.00039685	yes
10.432	92.6071	3.15011	3.28576	5.00E-05	0.00039685	yes
16.11	143.1	3.151	3.40373	5.00E-05	0.00039685	yes
29.076	258.509	3.15232	3.42265	5.00E-05	0.00039685	yes
10.6218	94.8097	3.15801	3.37732	5.00E-05	0.00039685	yes
12.4402	111.388	3.16252	3.61892	5.00E-05	0.00039685	yes
6.96994	62.4351	3.16314	3.08395	0.0002	0.00133233	yes
1.32773	11.9945	3.17535	1.15951	0.15315	0.280802	no
8.53035	77.5688	3.1848	3.67721	5.00E-05	0.00039685	yes
5.65536	51.536	3.18789	3.30058	5.00E-05	0.00039685	yes
12.2504	111.835	3.19047	3.43398	5.00E-05	0.00039685	yes
10.0469	91.8292	3.19221	3.60588	5.00E-05	0.00039685	yes
10.7556	98.6446	3.19715	3.59909	5.00E-05	0.00039685	yes
8.79881	80.8213	3.19936	3.07534	0.0001	0.00072361	yes
8.26354	75.922	3.19969	3.14227	5.00E-05	0.00039685	yes
5.94469	54.6878	3.20155	3.41056	5.00E-05	0.00039685	yes
15.2213	140.062	3.2019	3.04481	5.00E-05	0.00039685	yes
7.06853	65.2981	3.20756	3.50129	5.00E-05	0.00039685	yes
4.40339	40.7267	3.20929	2.95689	0.00025	0.00161651	yes
9.92573	92.3056	3.21717	3.51491	5.00E-05	0.00039685	yes
9.15668	85.253	3.21885	3.68423	5.00E-05	0.00039685	yes
19.8941	185.259	3.21913	3.63168	5.00E-05	0.00039685	yes
7.97646	74.3262	3.22005	3.67154	5.00E-05	0.00039685	yes

6.62607	62.1106	3.22861	1.58535	0.09205	0.196835	no
5.93611	55.7093	3.23033	3.80037	5.00E-05	0.00039685	yes
15.7328	148.159	3.2353	3.5159	5.00E-05	0.00039685	yes
16.74	158.046	3.23897	3.21332	5.00E-05	0.00039685	yes
13.5182	128.081	3.24408	3.81715	5.00E-05	0.00039685	yes
15.1719	144.031	3.24691	2.98085	5.00E-05	0.00039685	yes
228.542	2184.11	3.25651	1.50104	0.0173	0.0534314	no
20.2611	194.171	3.26055	3.65133	5.00E-05	0.00039685	yes
9.90154	94.917	3.26094	3.69607	5.00E-05	0.00039685	yes
11.8097	113.399	3.26336	3.7577	5.00E-05	0.00039685	yes
6.06156	58.58	3.27265	3.5892	5.00E-05	0.00039685	yes
9.00679	87.0614	3.27295	3.02922	5.00E-05	0.00039685	yes
8.54918	82.7879	3.27556	3.46407	5.00E-05	0.00039685	yes
8.58877	83.3077	3.27793	3.24982	5.00E-05	0.00039685	yes
7.20287	69.9353	3.27938	3.51404	5.00E-05	0.00039685	yes
37.0752	364.938	3.29912	3.46796	5.00E-05	0.00039685	yes
7.57137	74.8258	3.30491	3.83188	5.00E-05	0.00039685	yes
10.5315	104.351	3.30866	3.59907	5.00E-05	0.00039685	yes
5.31577	52.6979	3.3094	2.29144	0.3401	0.484265	no
4.86661	48.4255	3.31478	2.09141	0.05385	0.130784	no
18.0713	181.068	3.32476	2.95889	5.00E-05	0.00039685	yes
4.01781	40.2605	3.32488	2.10235	0.13285	0.255827	no
6.15501	61.7241	3.326	0.523004	0.1218	0.24168	no
7.20404	72.3147	3.32741	3.34417	5.00E-05	0.00039685	yes
15.9846	161.07	3.33293	3.07152	5.00E-05	0.00039685	yes
8.85692	89.687	3.34002	3.50843	5.00E-05	0.00039685	yes
7.59246	76.9017	3.34038	3.59482	5.00E-05	0.00039685	yes
13.4067	136.67	3.34967	3.5079	5.00E-05	0.00039685	yes
4.86086	49.805	3.35701	3.40698	5.00E-05	0.00039685	yes
5.10085	52.4139	3.36114	3.6495	5.00E-05	0.00039685	yes
13.5833	140.016	3.36568	3.61547	5.00E-05	0.00039685	yes
9.46119	97.8771	3.37088	3.81478	5.00E-05	0.00039685	yes
17.0736	177.378	3.37698	3.24616	5.00E-05	0.00039685	yes
9.87687	103.349	3.38732	3.23498	5.00E-05	0.00039685	yes
6.31413	66.1974	3.39012	3.09868	5.00E-05	0.00039685	yes
10.2986	108.332	3.39495	3.96559	5.00E-05	0.00039685	yes
3.97782	41.8462	3.39505	2.48913	0.0034	0.0139972	yes
6.70579	70.6013	3.39622	3.83607	5.00E-05	0.00039685	yes
8.01455	84.6813	3.40135	3.22095	5.00E-05	0.00039685	yes
12.1175	128.399	3.40547	2.27444	5.00E-05	0.00039685	yes
2.55558	27.1042	3.40679	2.46896	0.0215	0.0635088	no
3.26777	34.6591	3.40686	2.71242	0.0011	0.00554564	yes
8.08162	85.7294	3.40707	3.64337	5.00E-05	0.00039685	yes
2.04267	21.7854	3.41483	1.49287	0.1279	0.24943	no

25.3274	270.44	3.41654	3.17562	0.0003	0.00186127	yes
6.26736	67.5052	3.42907	3.8391	5.00E-05	0.00039685	yes
9.21026	100.579	3.44894	3.53769	5.00E-05	0.00039685	yes
7.08549	77.9386	3.4594	3.63943	5.00E-05	0.00039685	yes
4.68568	51.5667	3.46011	3.82516	5.00E-05	0.00039685	yes
6.57399	72.4113	3.46137	3.61577	5.00E-05	0.00039685	yes
11.9826	132.527	3.46727	3.71388	5.00E-05	0.00039685	yes
8.18366	90.7999	3.47187	1.69662	0.0002	0.00133233	yes
5.28442	58.6555	3.47245	3.51625	5.00E-05	0.00039685	yes
4.165	46.3624	3.47657	3.20264	0.00035	0.00212655	yes
3.81336	42.4626	3.47706	3.4609	5.00E-05	0.00039685	yes
26.7926	299.169	3.48105	3.62782	5.00E-05	0.00039685	yes
8.3483	93.2203	3.48109	3.87729	5.00E-05	0.00039685	yes
5.31932	59.5211	3.48409	2.79707	0.0008	0.00426505	yes
6.40432	71.8442	3.48775	3.58308	5.00E-05	0.00039685	yes
7.37319	83.0556	3.49372	3.24287	5.00E-05	0.00039685	yes
6.66699	75.1945	3.49552	3.88899	5.00E-05	0.00039685	yes
7.44078	84.1547	3.49952	3.49162	5.00E-05	0.00039685	yes
7.1959	81.4136	3.50002	2.89383	0.0011	0.00554564	yes
1.73865	19.7269	3.50413	2.3822	0.01315	0.0428683	yes
11.4179	129.855	3.50752	3.78216	5.00E-05	0.00039685	yes
2.32071	26.4266	3.50935	2.03914	0.04965	0.122611	no
3.70725	42.3308	3.51328	2.98615	0.0008	0.00426505	yes
4.01467	45.9721	3.5174	3.84092	5.00E-05	0.00039685	yes
3.7009	42.3824	3.51752	3.34619	5.00E-05	0.00039685	yes
1.27244	14.6034	3.52063	1.86393	0.2493	0.396967	no
5.69115	65.4375	3.52333	3.93384	5.00E-05	0.00039685	yes
8.16219	93.9715	3.52519	3.6405	5.00E-05	0.00039685	yes
8.62514	99.3724	3.52623	3.084	0.0004	0.00236908	yes
7.94098	92.5645	3.54307	2.9066	5.00E-05	0.00039685	yes
3.83452	44.8283	3.54729	3.00798	0.00265	0.0115149	yes
14.7652	172.897	3.54964	3.5952	5.00E-05	0.00039685	yes
23.217	271.885	3.54974	3.45581	0.0003	0.00186127	yes
7.38031	86.6798	3.55394	3.9468	5.00E-05	0.00039685	yes
5.87636	69.1217	3.55615	2.44731	0.0003	0.00186127	yes
6.91776	81.8298	3.56425	3.84914	5.00E-05	0.00039685	yes
20.8171	247.227	3.57	3.14607	0.00015	0.00102641	yes
102.267	1221.17	3.57785	2.05595	5.00E-05	0.00039685	yes
16.3783	196.126	3.58192	1.29524	0.1103	0.226382	no
6.64534	79.6577	3.5834	3.7134	5.00E-05	0.00039685	yes
6.97841	83.7283	3.58475	4.08909	5.00E-05	0.00039685	yes
3.96198	47.7688	3.59178	2.32507	0.0027	0.011646	yes
3.76782	45.5888	3.59688	2.8974	0.0051	0.0198371	yes
13.3186	161.345	3.59864	3.56401	5.00E-05	0.00039685	yes

10.3208	125.556	3.60471	4.00124	5.00E-05	0.00039685	yes
6.12474	74.6461	3.60735	3.7069	5.00E-05	0.00039685	yes
1.45642	17.8554	3.61586	2.53802	0.0113	0.0381795	yes
14.6642	179.794	3.61597	3.56471	5.00E-05	0.00039685	yes
5.16527	63.511	3.62009	4.28432	5.00E-05	0.00039685	yes
6.46408	79.6183	3.62258	4.03514	5.00E-05	0.00039685	yes
2.20115	27.1257	3.62333	3.49318	0.0001	0.00072361	yes
6.17404	76.3163	3.62771	3.81564	0.0001	0.00072361	yes
4.43829	55.1259	3.63465	3.54065	5.00E-05	0.00039685	yes
10.0779	125.301	3.63613	3.95437	5.00E-05	0.00039685	yes
4.94259	61.7607	3.64335	3.99143	5.00E-05	0.00039685	yes
5.57269	69.8183	3.64716	3.80586	5.00E-05	0.00039685	yes
3.90233	48.9127	3.6478	4.05437	5.00E-05	0.00039685	yes
5.48174	69.1593	3.65722	3.0327	0.0008	0.00426505	yes
2.79427	35.3004	3.65914	3.78177	5.00E-05	0.00039685	yes
6.38421	81.1354	3.66775	4.07052	5.00E-05	0.00039685	yes
3.61415	46.0488	3.67143	3.72034	5.00E-05	0.00039685	yes
5.08952	64.9956	3.67474	3.92787	5.00E-05	0.00039685	yes
4.64476	59.3902	3.67655	4.02524	5.00E-05	0.00039685	yes
5.37531	68.8179	3.67837	3.44335	5.00E-05	0.00039685	yes
14.7859	189.592	3.68061	3.87489	5.00E-05	0.00039685	yes
12.3844	159.049	3.68288	4.1781	5.00E-05	0.00039685	yes
4.9332	63.7576	3.692	3.69713	5.00E-05	0.00039685	yes
2.74523	35.57	3.69566	3.09628	0.0003	0.00186127	yes
6.01818	78.0891	3.69772	3.7804	5.00E-05	0.00039685	yes
107.724	1410.36	3.71065	2.32966	0.00045	0.00262985	yes
5.72222	75.2693	3.71741	3.77986	5.00E-05	0.00039685	yes
9.6347	127.892	3.73054	4.20441	5.00E-05	0.00039685	yes
6.66747	88.6619	3.7331	3.99697	5.00E-05	0.00039685	yes
5.67893	75.8457	3.73938	3.87315	5.00E-05	0.00039685	yes
6.98933	93.6819	3.74454	3.88237	0.0001	0.00072361	yes
3.87283	52.8827	3.77134	3.60178	5.00E-05	0.00039685	yes
6.32406	86.4657	3.7732	3.46302	5.00E-05	0.00039685	yes
5.46087	75.5252	3.78975	4.01562	5.00E-05	0.00039685	yes
24.2524	338.322	3.8022	4.15337	5.00E-05	0.00039685	yes
5.73527	80.7055	3.81473	3.02414	0.03525	0.0941782	no
5.31663	75.7748	3.83313	3.92511	5.00E-05	0.00039685	yes
6.95441	100.347	3.85093	3.94479	5.00E-05	0.00039685	yes
3.1722	45.8383	3.853	3.29983	0.00025	0.00161651	yes
6.7298	97.8823	3.86241	2.95939	0.0575	0.13775	no
7.21541	105.116	3.86475	4.22406	5.00E-05	0.00039685	yes
1.63876	23.9744	3.87081	2.50595	0.1497	0.276622	no
14.8331	217.945	3.87707	3.13287	0.0005	0.00286971	yes
4.41447	64.9158	3.87826	2.48609	0.2545	0.400362	no



2.36187	35.0561	3.89167	3.48025	0.00015	0.00102641	yes
3.05961	45.6463	3.89908	3.40775	0.00075	0.00405368	yes
1.66147	24.8827	3.90461	2.21599	0.0708	0.16076	no
4.53574	68.0443	3.90706	3.93786	5.00E-05	0.00039685	yes
7.34215	110.154	3.90718	4.28009	5.00E-05	0.00039685	yes
12.309	186.25	3.91945	4.32754	5.00E-05	0.00039685	yes
2.91688	44.1465	3.9198	2.38281	0.02145	0.0634143	no
3.35394	50.8034	3.921	3.58776	0.0001	0.00072361	yes
1.9548	29.6605	3.92345	1.99778	0.24495	0.393259	no
4.48592	68.2924	3.92825	4.32109	5.00E-05	0.00039685	yes
4.67907	71.4083	3.9318	4.18269	5.00E-05	0.00039685	yes
5.37313	82.0668	3.93297	4.33978	5.00E-05	0.00039685	yes
2.44976	37.5648	3.93867	2.99929	0.0034	0.0139972	yes
1.74409	26.7675	3.93994	3.65366	5.00E-05	0.00039685	yes
6.69883	102.824	3.94013	3.90229	5.00E-05	0.00039685	yes
2.36764	36.3637	3.94098	2.758	0.0051	0.0198371	yes
5.45388	83.9839	3.94476	3.82545	5.00E-05	0.00039685	yes
20.3398	317.1	3.96256	4.24062	5.00E-05	0.00039685	yes
3.38006	52.7919	3.9652	3.28527	0.00015	0.00102641	yes
5.13145	80.5966	3.97328	3.84514	5.00E-05	0.00039685	yes
5.55037	87.7745	3.98315	3.4721	5.00E-05	0.00039685	yes
2.18693	34.8036	3.99226	3.24191	0.00035	0.00212655	yes
13.4273	214.79	3.99969	4.23444	5.00E-05	0.00039685	yes
2.97828	47.9951	4.01034	3.24042	0.0022	0.0100425	yes
2.19438	35.3925	4.01155	2.47229	0.0109	0.0370411	yes
5.06806	81.8899	4.01418	4.29852	5.00E-05	0.00039685	yes
2.19992	35.6644	4.01896	3.89148	5.00E-05	0.00039685	yes
3.21823	52.9625	4.04063	3.9994	5.00E-05	0.00039685	yes
3.38771	55.8778	4.04389	3.73273	5.00E-05	0.00039685	yes
12.5152	207.021	4.04802	3.82045	5.00E-05	0.00039685	yes
2.07267	34.4866	4.05648	3.09411	0.00465	0.0183912	yes
4.28549	72.351	4.07748	4.10767	5.00E-05	0.00039685	yes
3.99439	67.5141	4.07914	4.36479	5.00E-05	0.00039685	yes
3.11365	52.6387	4.07944	3.79742	5.00E-05	0.00039685	yes
0.633245	10.7256	4.08215	2.207	0.0381	0.0995288	no
8.45391	143.6	4.0863	4.18842	5.00E-05	0.00039685	yes
3.215	55.3464	4.1056	3.5334	0.00025	0.00161651	yes
6.86009	118.344	4.10862	3.68952	5.00E-05	0.00039685	yes
1.46831	25.3779	4.11134	1.71015	0.16285	0.291756	no
6.76924	117.74	4.12047	4.30275	5.00E-05	0.00039685	yes
7.46487	131.005	4.13336	3.47264	0.00075	0.00405368	yes
3.43636	60.6694	4.14202	2.80049	0.0168	0.0522996	no
6.13237	108.27	4.14204	4.3847	5.00E-05	0.00039685	yes
3.20866	56.6752	4.14268	2.3918	0.10405	0.216326	no

3.62142	63.9933	4.14329	3.92453	5.00E-05	0.00039685	yes
5.0211	88.9612	4.1471	3.95656	5.00E-05	0.00039685	yes
4.03828	71.6077	4.1483	4.00312	5.00E-05	0.00039685	yes
3.45245	61.279	4.1497	4.20488	5.00E-05	0.00039685	yes
4.32399	77.9742	4.17256	4.1085	5.00E-05	0.00039685	yes
3.52645	64.1226	4.18455	4.42678	5.00E-05	0.00039685	yes
19.5319	357.645	4.19462	4.2322	5.00E-05	0.00039685	yes
3.47414	63.9943	4.20322	4.13207	5.00E-05	0.00039685	yes
1.59579	29.7597	4.22102	2.59956	0.05795	0.138358	no
4.85896	90.9659	4.22661	4.0791	5.00E-05	0.00039685	yes
2.98899	56.7683	4.24735	4.10752	5.00E-05	0.00039685	yes
1.96058	37.7242	4.26614	1.80086	0.1269	0.247851	no
2.35773	45.3688	4.26623	2.27337	0.24495	0.393259	no
7.11447	137.043	4.26773	4.04236	5.00E-05	0.00039685	yes
5.40657	104.325	4.27023	3.72409	5.00E-05	0.00039685	yes
2.52804	49.5444	4.29263	2.6779	0.0538	0.130753	no
25.0342	493.083	4.29986	6.87001	0.24495	0.393259	no
5.46369	107.907	4.30377	4.57591	5.00E-05	0.00039685	yes
8.15531	161.776	4.31011	4.43406	5.00E-05	0.00039685	yes
3.10056	61.7527	4.3159	4.34283	5.00E-05	0.00039685	yes
7.73754	155.309	4.32713	4.33623	5.00E-05	0.00039685	yes
2.07036	41.6999	4.33209	3.91896	5.00E-05	0.00039685	yes
2.38286	48.0357	4.33334	4.02105	5.00E-05	0.00039685	yes
4.46616	90.2151	4.33626	4.04684	5.00E-05	0.00039685	yes
4.81276	97.2363	4.33656	4.62608	5.00E-05	0.00039685	yes
6.45797	132.797	4.362	4.36229	5.00E-05	0.00039685	yes
2.18776	45.2318	4.36981	3.80902	5.00E-05	0.00039685	yes
4.66658	96.5841	4.37135	4.41364	5.00E-05	0.00039685	yes
3.80629	78.8458	4.37258	4.72659	5.00E-05	0.00039685	yes
2.77046	57.6608	4.37939	3.99624	5.00E-05	0.00039685	yes
4.06069	84.8349	4.38486	4.15866	5.00E-05	0.00039685	yes
2.09887	44.0182	4.39042	3.01162	0.00525	0.0203085	yes
2.84726	59.7215	4.3906	3.87586	5.00E-05	0.00039685	yes
4.35356	93.2695	4.42114	3.99768	5.00E-05	0.00039685	yes
3.44277	74.377	4.43321	4.30929	5.00E-05	0.00039685	yes
5.15052	111.327	4.43394	4.52528	5.00E-05	0.00039685	yes
1.83016	39.5871	4.43499	2.33767	0.01545	0.0488741	yes
3.26566	70.6785	4.43583	4.14713	0.0002	0.00133233	yes
3.71724	81.4777	4.4541	4.09732	5.00E-05	0.00039685	yes
1.88736	41.4812	4.45802	3.03231	0.0058	0.0218601	yes
1.31576	29.3835	4.48104	2.28654	0.0708	0.16076	no
5.781	129.408	4.48447	4.70519	5.00E-05	0.00039685	yes
4.33469	97.1816	4.48668	4.52316	5.00E-05	0.00039685	yes
3.9796	89.5371	4.49179	3.10483	0.01445	0.0463347	yes

2.36474	53.6265	4.50319	3.54111	0.0013	0.00637163	yes
1.80469	41.0947	4.50913	4.23886	5.00E-05	0.00039685	yes
1.54555	35.4043	4.51773	3.29854	0.00105	0.0053317	yes
2.98081	68.4605	4.5215	1.40643	5.00E-05	0.00039685	yes
2.50597	57.6115	4.52292	3.38548	0.0027	0.011646	yes
4.9645	114.412	4.52644	4.45814	5.00E-05	0.00039685	yes
2.41056	55.6959	4.53013	3.15626	0.0129	0.0422487	yes
5.36622	124.919	4.54095	4.38384	5.00E-05	0.00039685	yes
1.858	43.4976	4.54911	3.22814	0.01445	0.0463347	yes
5.27451	124.379	4.55957	2.88241	0.0013	0.00637163	yes
4.23734	101.059	4.57589	4.51191	5.00E-05	0.00039685	yes
2.98282	71.3371	4.5799	4.1739	5.00E-05	0.00039685	yes
3.09973	75.0435	4.59752	4.29321	5.00E-05	0.00039685	yes
4.41964	107.632	4.60603	4.27187	5.00E-05	0.00039685	yes
3.09875	75.7033	4.6106	3.16068	0.03525	0.0941782	no
3.9511	96.7142	4.6134	4.67173	5.00E-05	0.00039685	yes
4.14027	102.038	4.62323	4.62284	5.00E-05	0.00039685	yes
3.92968	97.3304	4.63041	4.61179	5.00E-05	0.00039685	yes
2.49383	62.0412	4.63679	1.52496	0.16725	0.29701	no
2.03493	51.2753	4.65521	4.03081	5.00E-05	0.00039685	yes
4.1548	104.807	4.65682	4.65596	5.00E-05	0.00039685	yes
1.12838	28.8052	4.67401	2.91076	0.0538	0.130753	no
2.36538	60.9808	4.68821	3.13399	0.0279	0.0780314	no
2.77392	72.8007	4.71395	3.4087	0.01105	0.0375146	yes
4.2353	111.436	4.7176	4.76794	5.00E-05	0.00039685	yes
1.68962	44.4838	4.71851	4.44183	5.00E-05	0.00039685	yes
6.75288	178.398	4.72345	4.10006	5.00E-05	0.00039685	yes
2.19849	58.1322	4.72475	3.41692	0.0027	0.011646	yes
3.84024	101.796	4.72834	4.35655	5.00E-05	0.00039685	yes
2.03942	54.4667	4.73914	3.70247	0.0005	0.00286971	yes
1.4646	39.515	4.75382	3.25319	0.0016	0.00759892	yes
2.45791	66.3338	4.75424	3.5876	0.006	0.0224221	yes
5.25533	142.639	4.76244	3.83034	0.0013	0.00637163	yes
1.89697	52.0218	4.77735	3.62163	0.001	0.00509986	yes
1.26207	34.6824	4.78034	2.96934	0.0408	0.10541	no
2.51799	69.7048	4.79091	2.34875	0.1481	0.274687	no
2.9866	82.8513	4.79395	4.97417	5.00E-05	0.00039685	yes
0.651422	18.1802	4.80263	2.27158	0.23365	0.381019	no
2.73097	76.6623	4.81103	4.41194	5.00E-05	0.00039685	yes
3.49785	99.2611	4.82669	4.00371	5.00E-05	0.00039685	yes
4.45604	127.338	4.83675	4.67039	5.00E-05	0.00039685	yes
2.96465	85.8239	4.85545	4.65884	5.00E-05	0.00039685	yes
1.93007	56.1837	4.86343	3.43303	0.0115	0.0386698	yes
3.00794	89.3355	4.89239	4.70515	0.0001	0.00072361	yes

1.26428	37.5767	4.89345	1.65786	0.12685	0.247851	no
3.49392	105.407	4.91497	4.89704	5.00E-05	0.00039685	yes
1.82826	55.2822	4.91827	2.64941	0.2493	0.396967	no
1.17219	36.4922	4.96031	4.69132	5.00E-05	0.00039685	yes
2.81315	87.9058	4.9657	3.96387	0.00225	0.0102442	yes
3.34048	104.592	4.96858	3.66429	0.01925	0.0582792	no
4.29108	134.412	4.96918	3.85874	0.00145	0.00696158	yes
2.90266	91.2463	4.97432	4.40221	5.00E-05	0.00039685	yes
2.43176	78.025	5.00387	4.67308	5.00E-05	0.00039685	yes
3.41916	110.133	5.00946	4.53826	5.00E-05	0.00039685	yes
4.58702	148.196	5.01381	4.90099	5.00E-05	0.00039685	yes
2.77805	89.9328	5.01671	4.71472	5.00E-05	0.00039685	yes
1.39907	45.5677	5.02547	2.82224	0.0381	0.0995288	no
2.84868	93.6491	5.0389	4.78367	5.00E-05	0.00039685	yes
2.35055	77.3979	5.04122	4.0999	0.0001	0.00072361	yes
2.44611	81.366	5.05587	4.36132	5.00E-05	0.00039685	yes
1.38753	47.1269	5.08596	4.65532	5.00E-05	0.00039685	yes
1.427	49.2559	5.10923	3.86845	0.0024	0.0107466	yes
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1.02059	35.5717	5.12326	2.49914	0.0541	0.13112	no
2.61731	92.9514	5.15032	2.91665	0.2321	0.379954	no
3.32707	118.525	5.1548	4.0426	0.0021	0.0096485	yes
1.76332	63.1352	5.16208	4.4311	0.0004	0.00236908	yes
3.51055	125.999	5.16557	4.98491	5.00E-05	0.00039685	yes
3.2138	120.322	5.22648	4.72992	5.00E-05	0.00039685	yes
1.89314	71.3654	5.23637	3.90226	0.0045	0.0178782	yes
1.82729	69.4834	5.24889	4.05233	5.00E-05	0.00039685	yes
4.57003	177.441	5.27899	3.32865	0.2493	0.396967	no
1.26507	49.6343	5.29405	4.36248	0.0001	0.00072361	yes
1.89736	75.3843	5.3122	3.57884	0.0018	0.00844634	yes
2.86004	113.772	5.31396	4.28344	0.0014	0.00676763	yes
2.98389	118.855	5.31586	3.54281	0.032	0.0866779	no
1.24776	49.7638	5.31768	4.31824	0.0001	0.00072361	yes
0.929156	37.4788	5.33401	2.69464	0.2545	0.400362	no
1.52702	62.0779	5.34529	4.19057	0.00045	0.00262985	yes
3.63023	147.809	5.34753	4.89422	5.00E-05	0.00039685	yes
2.1177	87.346	5.36617	4.03458	0.0007	0.00384836	yes
1.7829	73.6868	5.36911	3.70164	0.0057	0.0215524	yes
0.946201	39.6832	5.39024	2.76584	0.2531	0.399429	no
0.802851	33.9086	5.40037	3.58148	0.02105	0.0625465	no
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1.4473	67.4971	5.54339	3.93149	0.01445	0.0463347	yes
1.71097	79.807	5.54363	3.67368	0.0093	0.0324487	yes
1.23801	58.2953	5.55729	4.15887	0.00175	0.00823364	yes
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1.37464	69.2862	5.65544	4.72635	0.0008	0.00426505	yes
0.711323	36.3805	5.67652	2.50762	0.2545	0.400362	no
1.04227	53.3883	5.67873	3.84526	0.0105	0.0360292	yes
1.01131	52.2369	5.69078	1.99164	0.16285	0.291756	no
2.69148	139.717	5.69797	4.4062	0.0022	0.0100425	yes
1.73146	92.5551	5.74025	4.0676	0.0087	0.0308439	yes
1.26264	68.2763	5.75687	4.11031	0.0115	0.0386698	yes
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0.874881	51.2207	5.8715	3.52899	0.1497	0.276622	no
2.5736	151.622	5.88055	4.43926	0.0026	0.0113677	yes
1.34269	79.2044	5.88238	3.95387	0.01445	0.0463347	yes
0.891007	55.1616	5.95208	3.772	0.1497	0.276622	no
1.15143	73.2063	5.99048	3.47008	0.0381	0.0995288	no
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19.2415	1478.84	6.2641	7.28427	5.00E-05	0.00039685	yes
1.60651	125.178	6.28391	3.81921	0.11825	0.237038	no
0.653077	51.2055	6.2929	2.01476	0.1481	0.274687	no
1.08772	86.1788	6.30796	4.65734	0.00155	0.00739134	yes
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0	167.983	inf	#NAME?	5.00E-05	0.00039685	yes
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0	136.72	inf	#NAME?	5.00E-05	0.00039685	yes
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0	21.3503	inf	#NAME?	0.00245	0.0108738	yes
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0	147.172	inf	#NAME?	5.00E-05	0.00039685	yes
0	61.7515	inf	#NAME?	5.00E-05	0.00039685	yes

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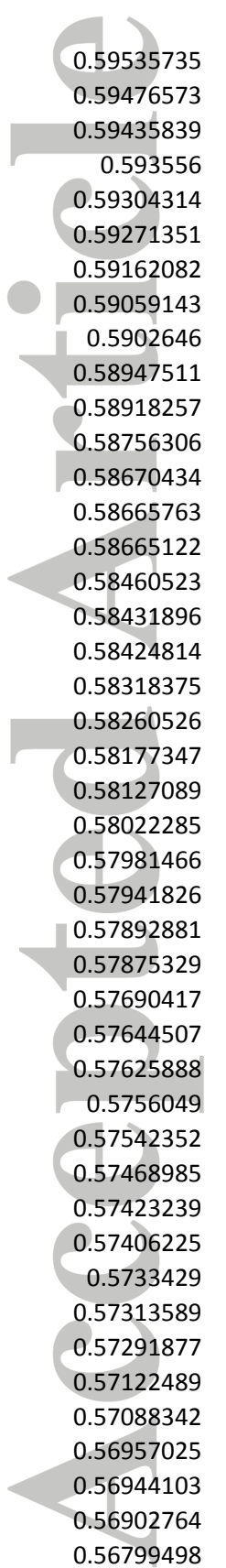
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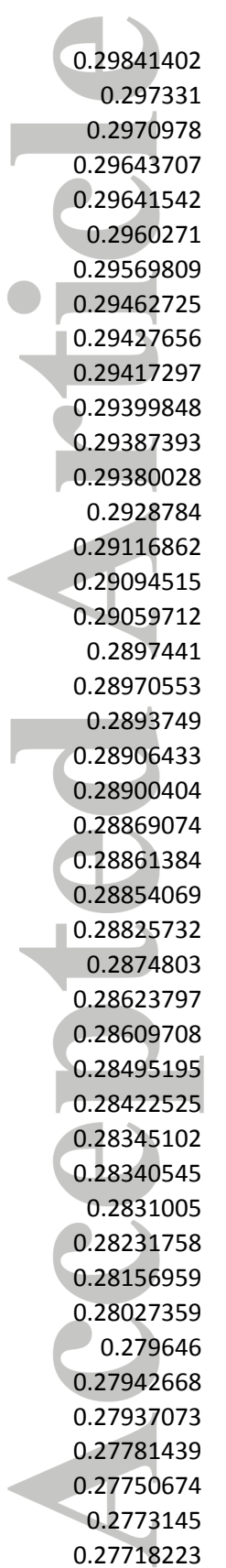
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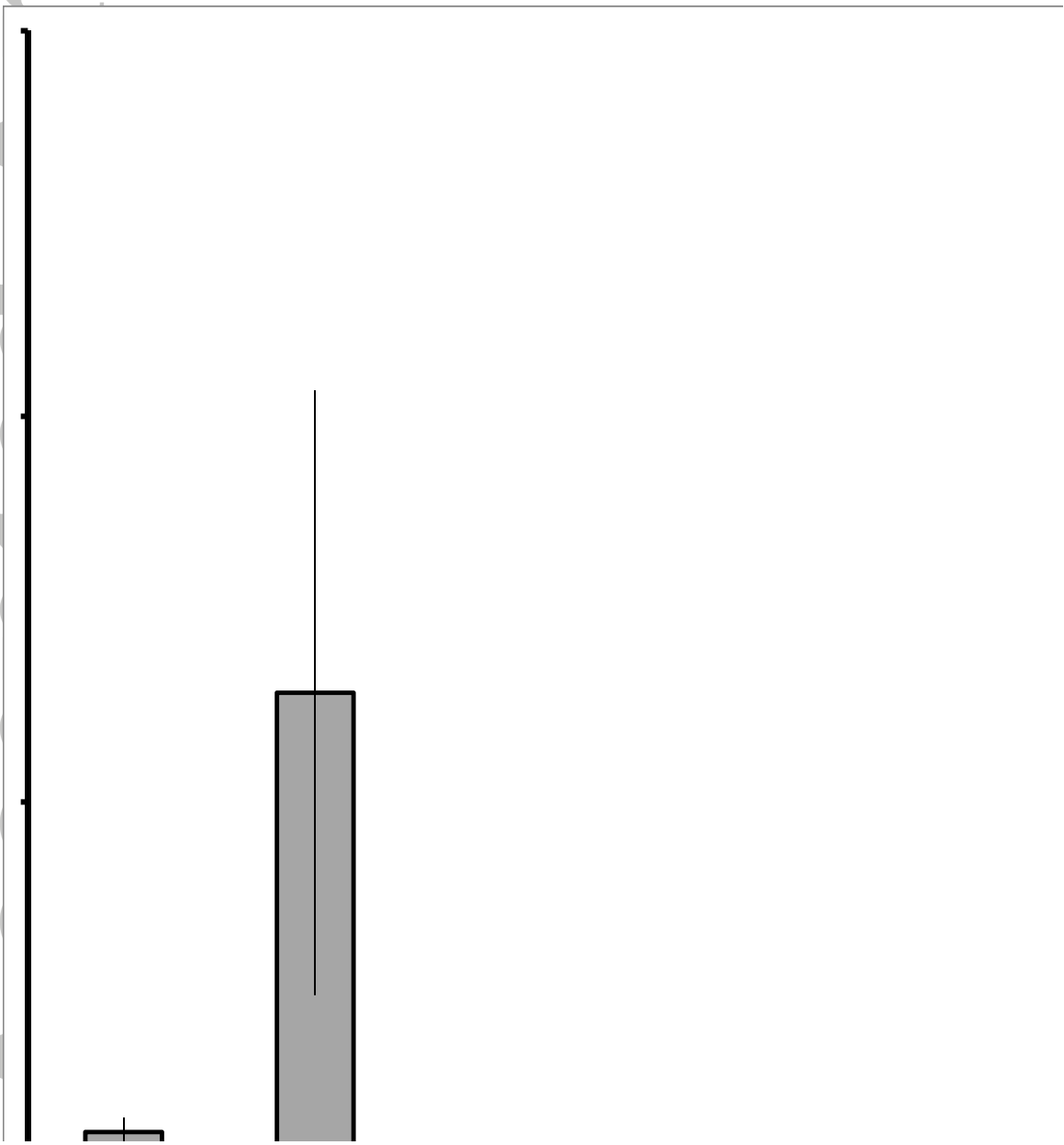


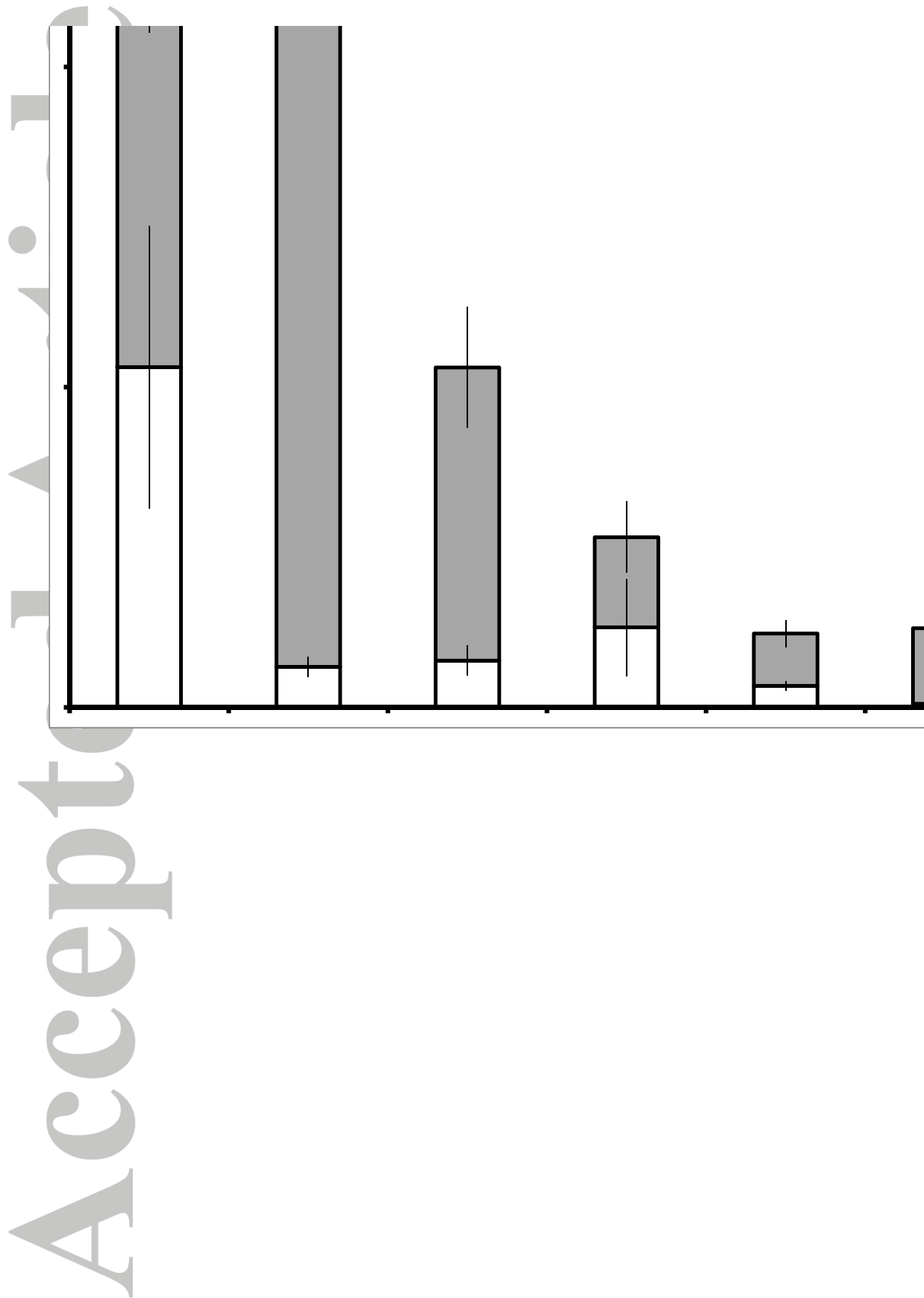
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orientation on plasmid	anti-sense					
	S1	S2	S3	S4	S5	
-	argN5	33141	25544	15329	6	5
-	argX	17147	11464	6529	11	4
-	proL	758	519	317	30	34
-	leuW	81	59	50	2	2
-	metT	100	59	60	7	9
-	argW	207	111	57	7	9
-	thrT	42	28	31	10	11
-	glyT	10	4	3	8	9
-	tyrU	37	30	17	56	57
-	thrU	79	46	36	3	3
-	argU	287	235	201	24	42
+	ileX	205	121	140	2	2

	pRARE av		pRare stdev	
	antisense	sense	antisense	
argN5	24671	199	argN5	8938
argX	11713	154	argX	5313
proL	531	541	proL	221
leuW	63	1578	leuW	16
metT	73	458	metT	23
argW	125	141	argW	76
thrT	34	82	thrT	7
glyT	6	118	glyT	4
tyrU	28	212	tyrU	10
thrU	54	48	thrU	23
argU	241	573	argU	43
ileX	155	1564	ileX	44

Article





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S6

6  
1  
2  
2  
3  
1  
0  
0  
0  
0  
0  
0

S1

186  
129  
556  
2029  
555  
204  
106  
120  
287  
77  
765  
1978

S2

193  
170  
520  
1314  
366  
118  
72  
113  
182  
35  
461  
1451

sense

S3

218  
164  
546  
1392  
452  
100  
67  
121  
167  
32  
493  
1264

S4

0  
27  
35  
10  
24  
35  
9  
8  
43  
5  
3  
3

S5

0  
40  
44  
9  
29  
36  
4  
6  
63  
8  
6  
8

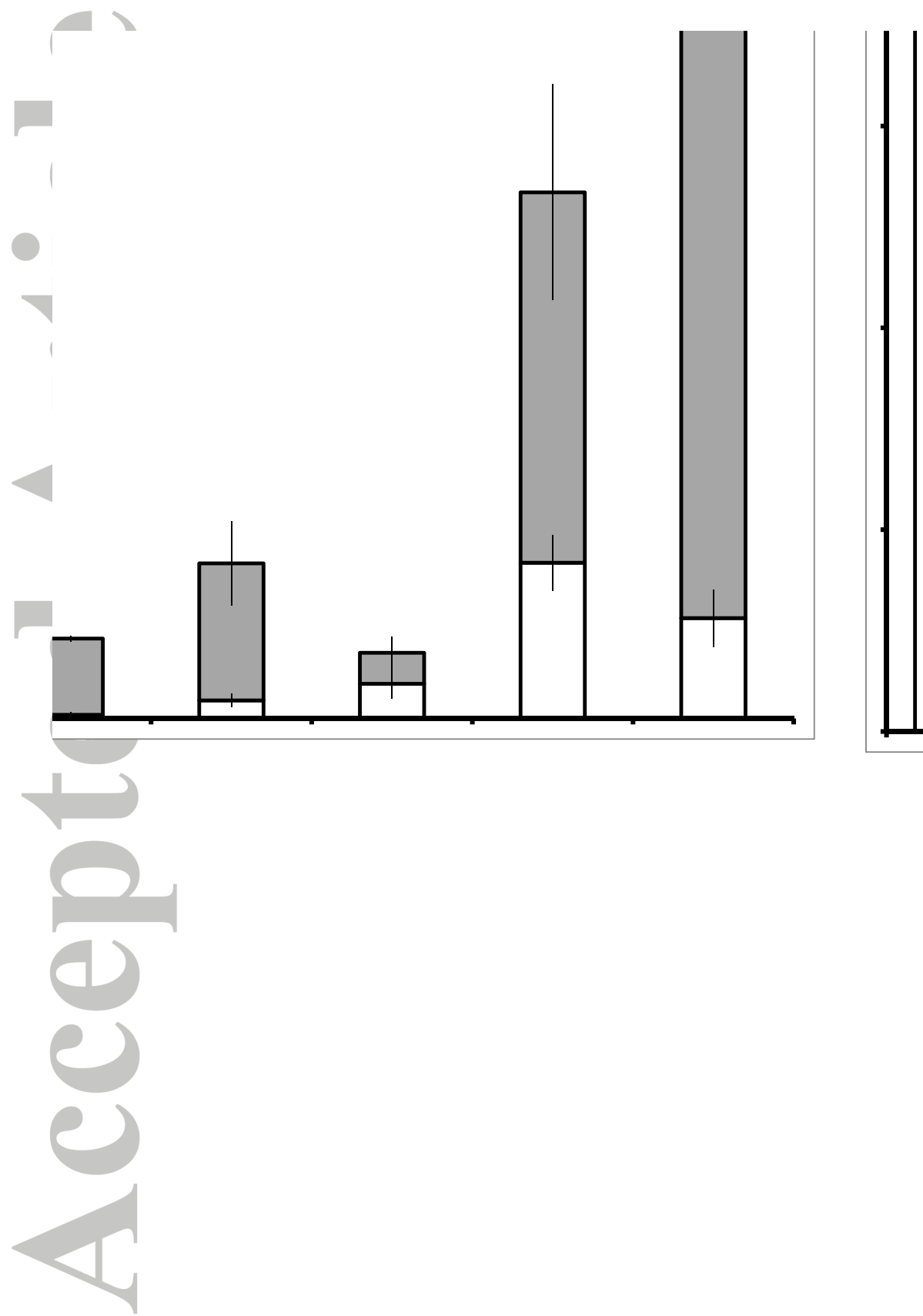
S6

0  
21  
4  
20  
11  
1  
16  
27  
37  
5  
3  
1

sense

17  
22  
19  
392  
95  
56  
21  
4  
65  
25  
167  
370







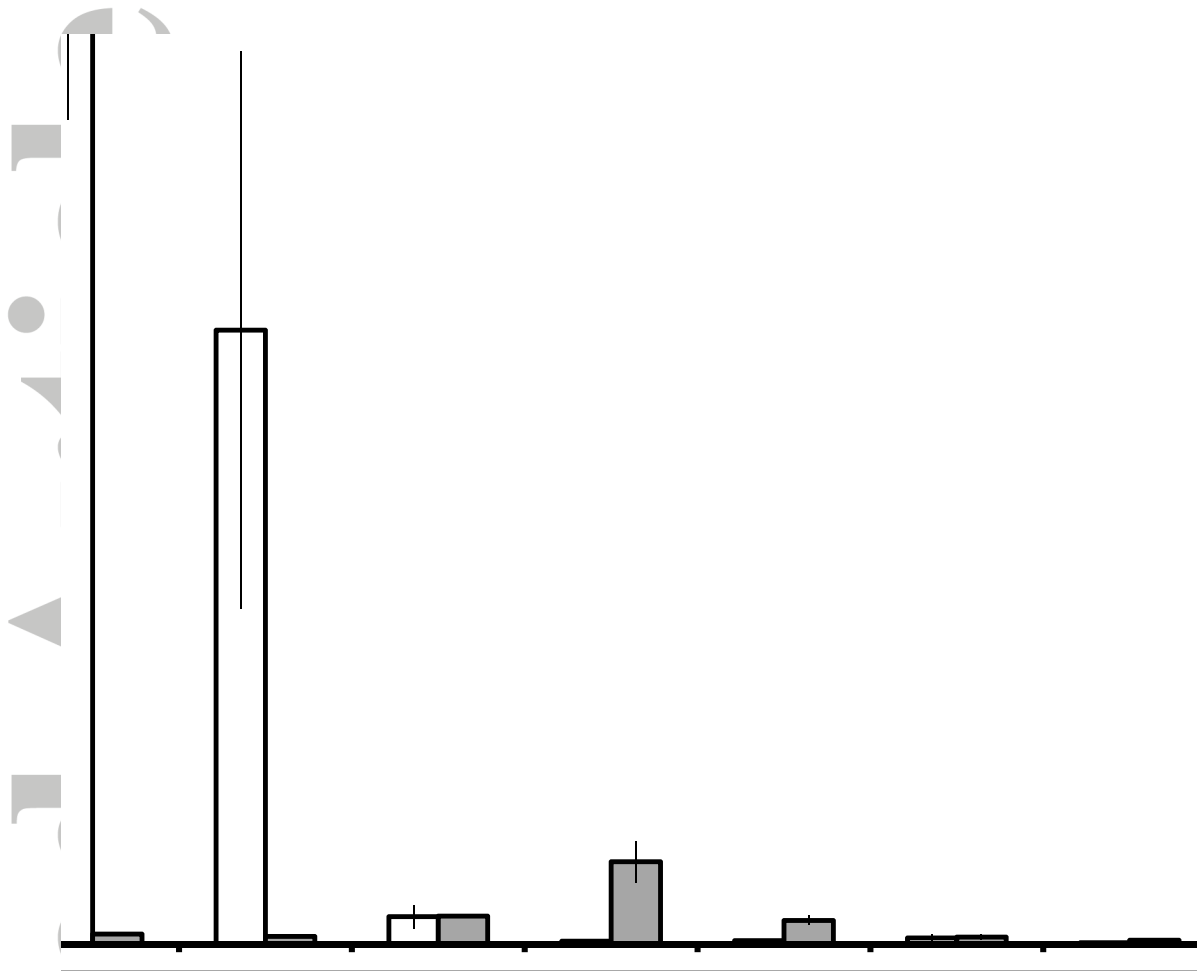
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ratio: sense/total					
S1	S2	S3	S4	S5	S6
0.01	0.01	0.01	0.00	0.00	0.00
0.01	0.01	0.02	0.71	0.91	0.95
0.42	0.50	0.63	0.54	0.56	0.67
0.96	0.96	0.97	0.83	0.82	0.91
0.85	0.86	0.88	0.77	0.76	0.79
0.50	0.52	0.64	0.83	0.80	0.50
0.72	0.72	0.68	0.47	0.27	1.00
0.92	0.97	0.98	0.50	0.40	1.00
0.89	0.86	0.91	0.43	0.53	1.00
0.49	0.43	0.47	0.63	0.73	1.00
0.73	0.66	0.71	0.11	0.13	1.00
0.91	0.92	0.90	0.60	0.80	1.00

Article

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Article



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