## SUPPLEMENTARY METHODS

### Strains, plasmids and primers

The strains, plasmids and primers used in this study are listed in Supplementary Table S1 (1, 2, 5), S2 (10), and S3 (3, 9), respectively.

### Construction of deletion mutants via replacement with an antibiotic cassette

To construct strains in which a gene was deleted, an antibiotic resistance cassette flanked by the regions upstream and downstream of the gene sequence was amplified with the gene-Fr-F/gene-Fr-R and gene-Ba-F/gene-Ba-R primer sets, respectively (Table S3). The resulting three fragments were ligated using recombinant PCR, and integrated into the *B. subtilis* strain 168 BFA genome via double crossover recombination with selection for antibiotic resistance. To construct a deletion mutant of NCIB3610, the strain was transformed with chromosomal DNA from newly generated strain 168 BFA deletion mutants. To obtain double-deletion mutant strains, chromosomal DNA of one deletion mutant was transferred into the other deletion mutant strain.

### Deletion of *sinI* using a marker-free gene disruption method

For deletion of the *sinI* gene, we performed a method of marker-free gene disruption comprising three steps (7).

In the first step, *sinI* was replaced with an erythromycin resistance cassette amplified from a pMUTin2HC plasmid using the primer set rRCP-ermF/rRCP-ermR, as described above.

In the second step, a cassette in which *mazF* (a toxin gene encoding endoribonuclease that cleaves free mRNAs) under control of IPTG-inducible *spac* promoter, fused with the flanking sequences of the *sinI* region, was inserted between the front and internal sequence of the erythromycin resistance gene to remove the entire marker region in single-crossover recombination via counter-selection. Upstream (fragment A) and downstream (fragment B) sequences of the *sinI* region were amplified from *B. subtilis*

168 BFA genomic DNA using the primer sets, sinI-Fr-F/sinI-Fr-r and sinI-Ba-f/sinI-Ba-r, respectively. The *mazF* cassette was amplified using primers pAPNC-F and chpA-R from genomic DNA of *B. subtilis* TMO310 (168, *aprE*::*spec*$^{R}$, *lacI*, P*spac-mazF*). An internal sequence in the erythromycin resistance region (fragment C) was amplified using primers emD-$F_2$ and Erm-R. PCR products were fused using recombinant PCR in the order A-B-*mazF*-cassette-C, using primers sinI-Fr-F and Erm-R, and integrated into the *sinI* deletion strain generated in the first step through homologous recombination between fragment A and C loci. The resulting recombinants were selected for spectinomycin resistance in the absence of IPTG.

In the last step, the inserted *mazF* cassette was removed to obtain marker-free *sinI* disruption. The primary transformant achieved in the second step was cultivated in the presence of IPTG (i.e., *mazF* toxin-inducing conditions), and clones in which the *mazF* cassette had been removed by intramolecular homologous recombination at region B were selected.

**Construction of the SinR2HC strain**

To construct a *B. subtilis* strain expressing SinR C-terminally tagged with twelve histidines and a chitin-binding domain (SinR-2HC), the *sinR* gene without the stop codon was amplified from *B. subtilis* 168 BFA genomic DNA using primers sinI-Ba-f and sinR-6his-r. The coding sequence of the 2HC tag and a chloramphenicol resistance gene were amplified from plasmids pMUTin2HC and pDLT3 using the DC-2HC-F/DC-2HC-R and rPCR-CmF2/rPCR-CmR2 primer sets, respectively. The downstream region of *sinR* was amplified from *B. subtilis* 168 BFA genomic DNA with the sinR-Cm-Ba-f2 and sinR-Cm-Ba-r primers. Subsequently, the four fragments were ligated with recombinant PCR using primers sinI-Ba-f and sinR-Cm-Ba-r, and employed to transform *B. subtilis* 168 BFA cells, followed by double-crossover recombination with selection for chloramphenicol resistance to create the SinR2HC strain.

**Construction of pO-veg, pO-veg12His and pO-MCS plasmids**

Expression plasmids for Veg (pO-veg), Veg-12His (pO-veg12His) and a negative control plasmid (pO-MCS) were created using the Gateway cloning system (Invitrogen), as described previously (4). To construct pO-veg, the *veg* gene was amplified from *B. subtilis* 168 BFA chromosomal DNA using primers attB1-SD-veg-F, in which the SD sequence of the *hbs* gene and half of the *attB1* sequence are attached at the 5' end, and attB2-veg-R, in which half of *attB2* sequence is attached at the 5' end. To construct pO-veg12His, a *veg* gene translationally fused with a coding sequence of twelve histidines (*veg-12xhis*) was amplified from chromosomal DNA of strain LY001 (168; *veg*::pMUTinHisΔveg) using the primers attB1-SD-veg-F and pM12HisR-attB2. To construct pO-MCS, the multi-cloning site was amplified from pUC19 using primers pUCMCS-F-adapter and pUCMCS-R-adapter. Next, entire recombination sites for BP clonase, *attB1* and *attB2*, were attached to the first PCR products in the second PCR using the adapter primers, Adapter-attB1 and Adapter-attB2. Fragments were cloned into an entry vector, pDONR201 (Invitrogen), with BP clonase to create entry clones, followed by transfer to a pOGW destination vector (4), according to Gateway technology instructions. For transformation of *B. subtilis* strains, the resulting plasmids were amplified in *E. coli recA*$^+$ strain, C600.

**Protein stability of Veg**

Cells expressing Veg from the $P_{spac}$ promoter on the pO-veg plasmid were grown in LB in the presence of 1 mM IPTG at 37ºC with shaking. When cell cultures attained $OD_{600}$ of 0.4-0.5, protein synthesis was inhibited by the addition of chloramphenicol to a final concentration of 200 μg ml$^{-1}$. Samples (10 ml) taken at the indicated times were harvested by centrifugation at 6000 g for 3 min, washed once with 1 ml chilled killing buffer, and stored at -80ºC. Cells were resuspended in lysis buffer (25 mM Tris-HCl [pH 8.0], 10 mM EDTA, 50 mM glucose, 1 mM DTT, 1x protease inhibitor cocktail [Roche]), and incubated for 10 min at 37ºC. After mixing with SDS sample buffer, followed by centrifugation to remove cell debris, proteins in the supernatant equivalent to 0.02 $OD_{600}$ units were separated on 10-20% (w/v) Tris-tricine polyacrylamide gel and transferred to Immobilon-P$^{SQ}$ membranes (Millipore) for 1 h at 10 V in a semi-dry

transfer apparatus (Bio-Rad). Transferred proteins were detected using anti-Veg at 1/20000 dilution as the primary antibody, followed by secondary anti-rabbit IgG antibody (Bio-Rad) at 1/8000 dilution conjugated to horseradish peroxidase. Proteins were detected, as described above. The signal intensities of protein bands on X-ray films were quantified using the NIH-Imagine program (11). To estimate relative abundance, standard curves were determined by loading two-fold serial dilutions of the sample (t=0) on each gel, and the levels of other samples estimated by comparing protein band intensities with the linear range of the standard curve.

**Transcriptome analysis**

Isolation of total RNA, synthesis of complementary DNA, terminal labeling and hybridization with the tiling array were performed according to the Affymetrix instruction manual (8). Biologically independent experiments were performed in duplicate (Table S6). Transcriptome information on Spo0A (6), AbrB (2) and SigD (12) is additionally included (Table S4).

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## SUPPLEMENTARY FIGURE LEGENDS

**Fig. S1. Stability of Veg protein and confirmation of the overproduction in different growth media.**

(A) Cells of LY016 (168 BFA strain harboring pO-veg) were grown to the mid-logarithmic phase in the presence of 1 mM IPTG in LB at 37ºC and treated with chloramphenicol to block protein synthesis. Veg proteins remaining in the cells at the indicated times were detected by Western blotting with the anti-Veg antibody. The Veg protein level at each time-point was measured, as described in Supplementary Methods, and plotted on a chart. (B) pO-veg (LY016) strain was grown to the mid-logarithmic phase in LB, SMM and MSgg in the presence of 1 mM IPTG at 37ºC, and Veg in cells equivalents to 0.02 $OD_{600}$ units was detected by Western blotting with anti-Veg antibody. The signal intensities of Veg bands on X-ray films were quantified using the NIH-Imagine program and the signal intensities relative to that of cells cultivated in LB are shown below the bands.

**Fig. S2. Comparison of the architecture of pellicles formed by mutants of regulators for biofilm formation.**

Pellicles of strains with mutation(s), indicated at the upper side and the left side of each picture, were formed by cultivation in liquid MSgg medium for 72 h at 30ºC. Strains with additional *Δveg* mutation, introduction of pO-MCS (as a negative control for pO-veg) and pO-veg were additionally examined. Strains harboring plasmid were cultured in the presence of 1 mM IPTG. The scale bar is 0.5 cm.

**Fig. S3. Expression of $P_{eps}$-*lacZ* and $P_{tapA}$-*lacZ* in WT, *ΔabrB* and *ΔsinR* strains after 24 h cultivation**

Expression of $P_{eps}$-*lacZ* and $P_{tapA}$-*lacZ* was compared on solid MSgg medium containing X-Gal and 1 mM IPTG after cultivation for 24 h at 30ºC. The scale bar is 0.2 cm.

**Fig. S4. Effects of SinR2HC on the architecture of colonies.** The architecture of colonies formed by WT (168 BFA), SinR2HC (LY083) and *ΔsinR* (LY012) strains grown on MSgg plates for 72 h at 30ºC. The scale bar is 0.5 cm.

# Fig. S1

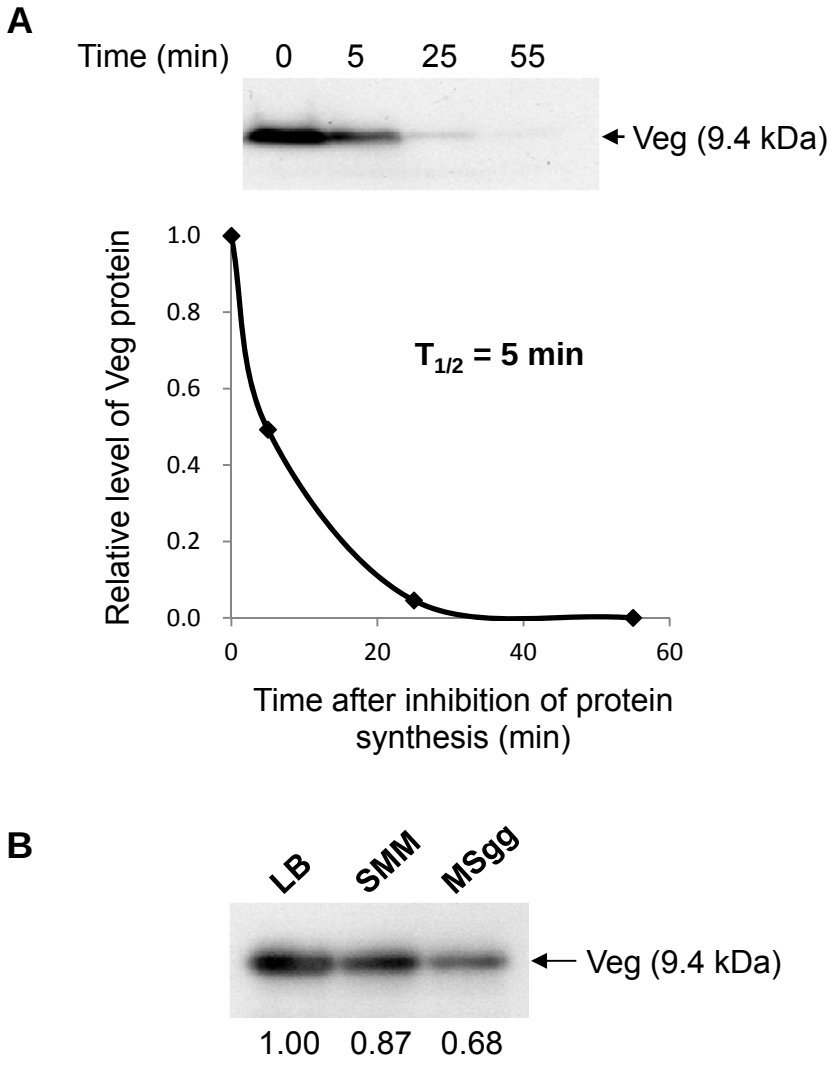


**Fig. S1. Stability of Veg protein and confirmation of the overproduction in different growth media**

(A) Cells of LY016 (168 BFA harboring pO-veg) were grown to the mid-logarithmic phase in the presence of 1 mM IPTG in LB at 37ºC and treated with chloramphenicol to block protein synthesis. Veg proteins remaining in the cells at the indicated times were detected by Western blotting with the anti-Veg antibody. The Veg protein level at each time-point was measured, as described in Supplementary Methods, and plotted on a chart. (B) pO-veg (LY016) strain was grown to the mid-logarithmic phase in LB, SMM and MSgg in the presence of 1mM IPTG at 37ºC, and Veg in cells equivalents to 0.02 $OD_{600}$ units was detected by Western blotting with anti-Veg antibody. The signal intensities of Veg bands on X-ray films were quantified using the NIH-Imagine program and the signal intensities relative to that of cells cultivated in LB are shown below the bands.

# Fig. S2

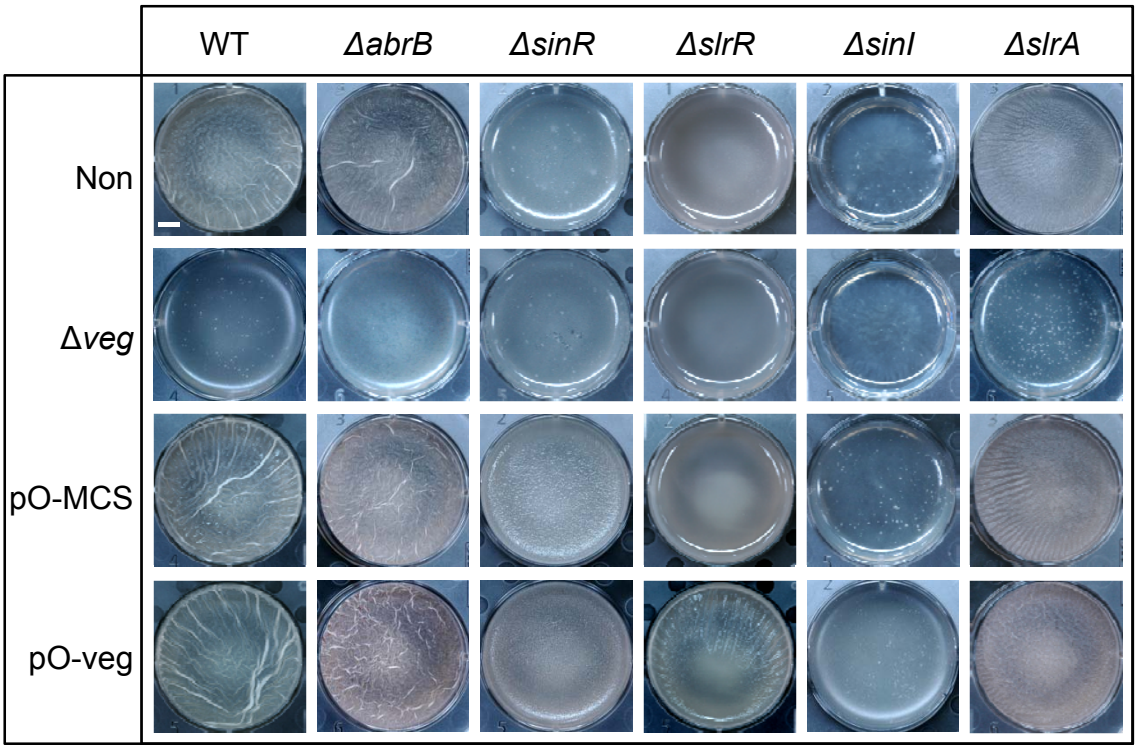


**Fig. S2. Comparison of the architecture of pellicles formed by mutants of regulators for biofilm formation**

Pellicles of strains with mutation(s), indicated at the upper side and the left side of each picture, were formed by cultivation in liquid MSgg medium for 72 h at 30ºC. Strains with additional *Δveg* mutation, introduction of pO-MCS (as a negative control for pO-veg) and pO-veg were additionally examined. Strains harboring plasmid were cultured in the presence of 1 mM IPTG. The scale bar is 0.5 cm.

# Fig. S3

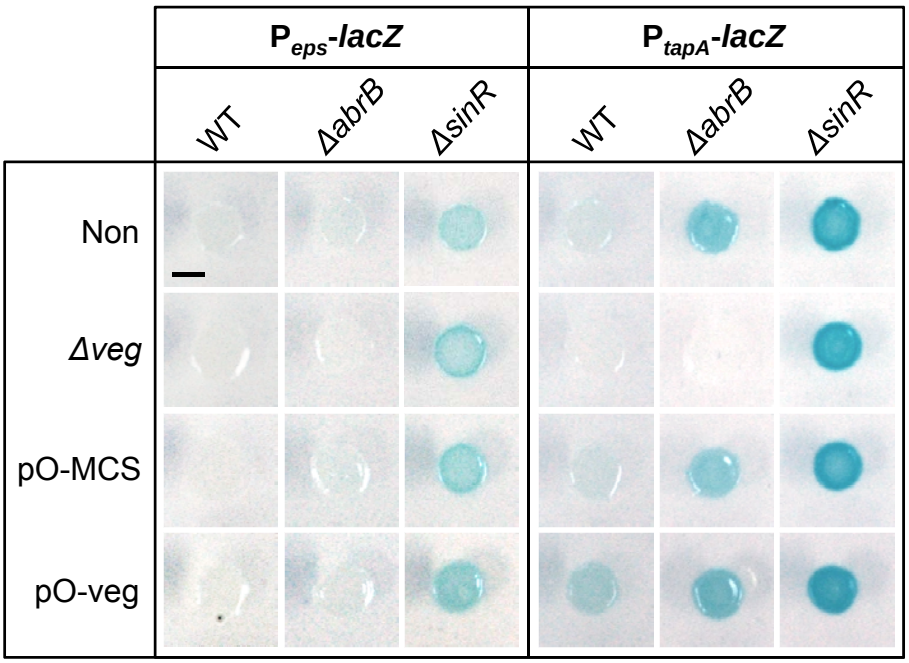


**Fig. S3. Expression of $P_{eps}$-*lacZ* and $P_{tapA}$-*lacZ* in WT, *ΔabrB* and *ΔsinR* strains after 24 h cultivation**

Expression of $P_{eps}$-*lacZ* and $P_{tapA}$-*lacZ* was compared on solid MSgg medium containing X-Gal and 1 mM IPTG after cultivation for 24 h at 30ºC. The scale bar is 0.2 cm.

# Fig. S4

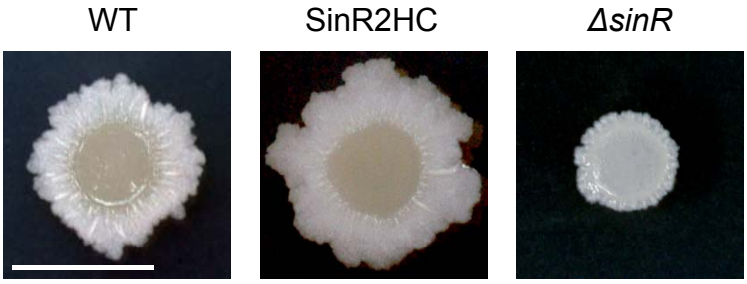


**Fig. S4. Effects of SinR2HC on the architecture of colonies.**
The architecture of colonies formed by WT (168 BFA), SinR2HC (LY083) and *ΔsinR* (LY012) strains grown on MSgg plates for 72 h at 30ºC. The scale bar is 0.5 cm.

**Table S1.** Bacterial strains

| Strain | Relevant genotype and description[a] | Reference and source[b] |
|---|---|---|
| 168 BFA | *trpC2* | Laboratory stock |
| NCIB3610 | undomesticated wild type | Laboratory stock |
| DS1882 | 3610 *epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | 5 |
| DS3352 | 3610 *epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | 1 |
| OC003 | 168 *abrB* ::*spec* | 2 |
| TMO310 | 168 *aprE* ::*spec lacI* $P_{spac}$ -*mazF* | 7 |
| LY001 | 168 *veg* ::pMUTinHisΔveg | pMUTinHisΔveg → 168 BFA |
| LY002 | 168 *veg* ::pMUTin2HCΔveg | pMUTin2HCΔveg → 168 BFA |
| LY011 | 168 *veg* ::*cat* | PCR product → 168 BFA |
| LY012 | 168 *sinR* ::*kan* | PCR product → 168 BFA |
| LY013 | 168 *slrR* ::*kan* | PCR product → 168 BFA |
| LY014 | 168 *sinI* (no marker) | PCR product → 168 BFA (removal of erm |
| LY015 | 168 pO-MCS *tet* | pO-MCS → 168 BFA |
| LY016 | 168 pO-veg *tet* | pO-veg → 168 BFA |
| LY017 | 168 *veg* ::*cat sinR* ::*kan* | LY012 → LY011 |
| LY018 | 168 *veg* ::*cat slrR* ::*kan* | LY013 → LY011 |
| LY019 | 168 *veg* ::*cat sinI* | LY011 → LY014 |
| LY020 | 168 *slrR* ::*kan sinI* | LY013 → LY014 |
| LY021 | 168 *veg* ::*cat slrR* ::*kan sinI* | LY013 → LY019 |
| LY022 | 168 *sinR* ::*kan* pO-MCS *tet* | LY012 → LY015 |
| LY023 | 168 *sinR* ::*kan* pO-veg *tet* | LY012 → LY016 |
| LY024 | 168 *slrR* ::*kan* pO-MCS *tet* | pO-MCS → LY013 |
| LY025 | 168 *slrR* ::*kan* pO-veg *tet* | pO-veg → LY013 |
| LY026 | 168 *sinI* pO-MCS *tet* | pO-MCS → LY014 |
| LY027 | 168 *sinI* pO-veg *tet* | pO-veg → LY014 |
| LY028 | 168 *slrR* ::*kan sinI* pO-MCS *tet* | pO-MCS → LY020 |
| LY029 | 168 *slrR* ::*kan sinI* pO-veg *tet* | pO-veg → LY020 |
| LY030 | 168 *veg* ::*erm* | pCm::Em → LY011 |
| LY031 | 168 *epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | DS1882 → 168 BFA |
| LY032 | 168 *epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | DS3352 → 168 BFA |
| LY033 | 168 *epsH* ::*spec amyE* ::$P_{tapA}$ -*lacZ cat* | pTc::Sp → LY032 |
| LY034 | 168 *epsH* ::*spec* | LY033 → 168 BFA |
| LY035 | 168 *epsH* ::*spec amyE* ::$P_{eps}$ -*lacZ cat* | LY034 → LY031 |
| LY036 | 168 *epsH* ::*spec amyE* ::$P_{eps}$ -*lacZ cat* pO-MCS *tet* | pO-MCS → LY035 |
| LY037 | 168 *epsH* ::*spec amyE* ::$P_{eps}$ -*lacZ cat* pO-veg *tet* | pO-veg → LY035 |
| LY038 | 168 *epsH* ::*spec amyE* ::$P_{tapA}$ -*lacZ cat* pO-MCS *tet* | pO-MCS → LY033 |
| LY039 | 168 *epsH* ::*spec amyE* ::$P_{tapA}$ -*lacZ cat* pO-veg *tet* | pO-veg → LY033 |
| LY040 | 168 *veg* ::*erm epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | LY030 → LY031 |
| LY041 | 168 *veg* ::*erm epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | LY030 → LY032 |
| LY042 | 168 *sinR* ::*kan epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | LY012 → LY031 |
| LY043 | 168 *sinR* ::*kan epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | LY012 → LY032 |
| LY044 | 168 *slrR* ::*kan epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | LY013 → LY031 |
| LY045 | 168 *slrR* ::*kan epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | LY013 → LY032 |
| LY046 | 168 *sinI epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | LY031 → LY014 |
| LY047 | 168 *sinI epsH* ::*tet amyE* ::$P_{tapA}$ -*lacZ cat* | LY032 → LY014 |
| LY048 | 3610 *veg* ::*cat* | LY011 → NCIB3610 |
| LY057 | 3610 pO-MCS *tet* | pO-MCS → LY015 |
| LY058 | 3610 pO-veg *tet* | pO-veg → LY016 |
| LY066 | 168 *abrB* ::*kan* | pSp::Km → OC003 |
| LY068 | 168 *abrB* ::*kan epsH* ::*tet amyE* ::$P_{eps}$ -*lacZ cat* | LY066 → LY031 |

| | | |
|---|---|---|
| LY069 | 168 *abrB*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY066 → LY032 |
| LY070 | 168 *veg*::*cat abrB*::*kan* | LY066 → LY011 |
| LY071 | 168 *abrB*::*kan* pO-MCS *tet* | pO-MCS → LY066 |
| LY072 | 168 *abrB*::*kan* pO-veg *tet* | pO-veg → LY066 |
| LY083 | 168 *sinR-2hc cat* | PCR product → 168 BFA |
| LY084 | 168 *sinR-2hc cat* pO-MCS *tet* | LY083 → LY015 |
| LY085 | 168 *sinR-2hc cat* pO-veg *tet* | LY083 → LY016 |
| LY091 | 168 *slrA*::*kan* | PCR product → 168 BFA |
| LY092 | 168 *slrA*::*kan epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY091 → LY031 |
| LY093 | 168 *slrA*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY091 → LY032 |
| LY131 | 168 *sinR*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-MCS *tet* | LY012 → LY036 |
| LY132 | 168 *sinR*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-veg *tet* | LY012 → LY037 |
| LY133 | 168 *sinR*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-MCS *tet* | LY012 → LY038 |
| LY134 | 168 *sinR*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-veg *tet* | LY012 → LY039 |
| LY135 | 168 *veg*::*erm sinR*::*kan epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY012 → LY040 |
| LY136 | 168 *veg*::*erm sinR*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY012 → LY041 |
| LY137 | 168 *slrR*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-MCS *tet* | LY013 → LY036 |
| LY138 | 168 *slrR*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-veg *tet* | LY013 → LY037 |
| LY139 | 168 *slrR*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-MCS *tet* | LY013 → LY038 |
| LY140 | 168 *slrR*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-veg *tet* | LY013 → LY039 |
| LY141 | 168 *veg*::*erm slrR*::*kan epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY013 → LY040 |
| LY142 | 168 *veg*::*erm slrR*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY013 → LY041 |
| LY143 | 168 *slrA*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-MCS *tet* | LY091 → LY036 |
| LY144 | 168 *slrA*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-veg *tet* | LY091 → LY037 |
| LY145 | 168 *slrA*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-MCS *tet* | LY091 → LY038 |
| LY146 | 168 *slrA*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-veg *tet* | LY091 → LY039 |
| LY147 | 168 *veg*::*erm slrA*::*kan epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY091 → LY040 |
| LY148 | 168 *veg*::*erm slrA*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY091 → LY041 |
| LY149 | 168 *abrB*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-MCS *tet* | LY066 → LY036 |
| LY150 | 168 *abrB*::*kan epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-veg *tet* | LY066 → LY037 |
| LY151 | 168 *abrB*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-MCS *tet* | LY066 → LY038 |
| LY152 | 168 *abrB*::*kan epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-veg *tet* | LY066 → LY039 |
| LY153 | 168 *veg*::*erm abrB*::*kan epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY066 → LY040 |
| LY154 | 168 *veg*::*erm abrB*::*kan epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY066 → LY041 |
| LY155 | 168 *sinI epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-MCS *tet* | LY035 → LY026 |
| LY156 | 168 *sinI epsH*::*spec amyE*::$P_{eps}$-*lacZ cat* pO-veg *tet* | LY035 → LY027 |
| LY157 | 168 *sinI epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-MCS *tet* | LY033 → LY026 |
| LY158 | 168 *sinI epsH*::*spec amyE*::$P_{tapA}$-*lacZ cat* pO-veg *tet* | LY033 → LY027 |
| LY159 | 168 *veg*::*erm sinI epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY030 → LY046 |
| LY160 | 168 *veg*::*erm sinI epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY030 → LY047 |
| LY161 | 3610 *veg*::*erm epsH*::*tet amyE*::$P_{eps}$-*lacZ cat* | LY030 → DS1882 |
| LY162 | 3610 *veg*::*erm epsH*::*tet amyE*::$P_{tapA}$-*lacZ cat* | LY030 → DS3352 |

[a] Antibiotic resistance genes are expressed as follows:*spec* , spectinomycin; *cat* , chloramphenicol; *kan* , kanamycin; *erm* , erythromycin; *tet* , tetracycline; *neo* , neomycin.

[b] '→' indicates a transformation with chromosomal DNA, plasmid DNA or PCR product.

**Table S2.** Plasmids

| Plasmid | Description | Reference and source |
|---|---|---|
| pO-MCS | A shuttle vector in *E. coli* and *B. subtilis* carrying the multiple cloning site sequence of | 10 |
| pO-veg | A shuttle vector in *E. coli* and *B. subtilis* carrying the insert sequence of *veg* | This study |
| pO-vegx12his | A shuttle vector in *E. coli* and *B. subtilis* carrying the insert sequence of *vegx12his* | This study |
| pCm::Em | An antibiotic-resistance cassette switching vector from chloramphenicol to erythromycin | Yoshimura unpublished |
| pTc::Sp | An antibiotic-resistance cassette switching vector from tetracycline to spectinomycin | Yoshimura unpublished |
| pSp::Km | An antibiotic-resistance cassette switching vector from spectinomycin to kanamycin | Yoshimura unpublished |

**Table S3.** Primers

| Primer | Sequence (5' -> 3') [a] | Location | | | Description | Rerence |
|---|---|---|---|---|---|---|
| | | start | end | strand | | |
| Deletion of *veg* from the *B. subtilis* genome | | | | | | |
| veg-Fr-f | GAAACAGTTCAAACAGCCCGAAAAAAGATCCCTCAC | 52,245 | 52,280 | + | Genome DNA of 168 BFA | This study |
| veg-Fr-r | gctcttctggtggagtctatccATTGTACAACACGAGCCCATTTTTGTC | 52,739 | 52,713 | - | Genome DNA of 168 BFA | This study |
| veg-Ba-f | cggaaggatactacatcctggGAGCTGACATTTAATGATGACGCCGC | 52,977 | 53,002 | + | Genome DNA of 168 BFA | This study |
| veg-Ba-r | CATTGTATCACATTTGAAGTACAGGATGAACATATCC | 53,475 | 53,439 | - | Genome DNA of 168 BFA | This study |
| Deletion of *sinR* from the *B. subtilis* genome | | | | | | |
| sinR-Fr-F | GAATACCATCTAGAAAAAACAGGCGC | 2,551,388 | 2,551,412 | + | Genome DNA of 168 BFA | This study |
| sinR-Fr-R | gctcttctggtggagtctatccGTGATATTATAGCACATTCAGAAAGG | 2,551,868 | 2,551,843 | - | Genome DNA of 168 BFA | This study |
| sinR-Ba-F | cggaaggatactacatcctggGGGGTATCGAAAAAACAATTTCGTG | 2,552,149 | 2,552,173 | + | Genome DNA of 168 BFA | This study |
| sinR-Ba-R | GTCTGCTAAAAATGATGCAGCGGC | 2,552,676 | 2,552,653 | - | Genome DNA of 168 BFA | This study |
| Deletion of *slrR* from the *B. subtilis* genome | | | | | | |
| slrR-Fr-F | GATTCAGATAGGTGCAATTCCGCC | 3,528,593 | 3,528,616 | + | Genome DNA of 168 BFA | This study |
| slrR-Fr-R | gctcttctggtggagtctatccGTCGTTATTTCGTTCATTATAAGG | 3,529,106 | 3,529,083 | - | Genome DNA of 168 BFA | This study |
| slrR-Ba-F | cggaaggatactacatcctggGGAAGATGATGATCGGTTAAAGGGC | 3,529,581 | 3,529,605 | + | Genome DNA of 168 BFA | This study |
| slrR-Ba-R | GACAATGACTTCTCCCTGTGCCGC | 3,530,057 | 3,530,034 | - | Genome DNA of 168 BFA | This study |
| Deletion of *slrA* from the *B. subtilis* genome | | | | | | |
| slrA-Fr-F | TGCTCCTTTGCTGTACCCGGCGGC | 3,921,843 | 3,921,866 | + | Genome DNA of 168 BFA | This study |
| slrA-Fr-R | gctcttctggtggagtctatccAATGTTTTCCTGCAACATGCGGGC | 3,922,321 | 3,922,298 | - | Genome DNA of 168 BFA | This study |
| slrA-Ba-F | cggaaggatactacatcctggACCGTCCGGCAAGACTAGTCCGAAC | 3,922,483 | 3,922,507 | + | Genome DNA of 168 BFA | This study |
| slrA-Ba-R | AGCTTGAAAAGACGGCGTTGCAGC | 3,922,993 | 3,922,970 | - | Genome DNA of 168 BFA | This study |
| Deletion of *sinI* from the *B. subtilis* genome | | | | | | |
| sinI-Fr-F | GAAGATTTTCAAAGCAAGCTGACCC | 2,551,154 | 2,551,178 | + | Genome DNA of 168 BFA | This study |
| sinI-Fr-R | gctcttctggtggagtctatccTTATGTATTTCAGCCAGTCCGGCC | 2,551,651 | 2,551,628 | - | Genome DNA of 168 BFA | This study |
| sinI-Ba-F | cggaaggatactacatcctggTCTGCTCATCCTGGTCCGGCAGCC | 2,551,801 | 2,551,824 | + | Genome DNA of 168 BFA | This study |
| sinI-Ba-R | GAAAATGAAAAAGCGCATAGCGAGG | 2,552,348 | 2,552,324 | - | Genome DNA of 168 BFA | This study |
| sinI-Fr-r | ggctgccggaccaggatgagcagaTTATGTATTTCAGCCAGTCCGGCC | 2,551,651 | 2,551,628 | - | Genome DNA of 168 BFA | This study |
| sinI-Ba-f | TCTGCTCATCCTGGTCCGGCAGCC | 2,551,801 | 2,551,824 | + | Genome DNA of 168 BFA | This study |
| sinI-Ba-r | gcttgagtcaattccgctgtcgGAAAATGAAAAAGCGCATAGCGAGG | 2,552,348 | 2,552,324 | - | Genome DNA of 168 BFA | This study |
| sinI-Fr-F2 | AATGTCACGATTTCATACCAGTCCG | 2,551,070 | 2,551,094 | + | Genome DNA of 168 BFA | This study |
| pAPNC-F | CGACAGCGGAATTGACTCAAGC | | | | Genome DNA of TMO310 | 7 |
| chpA-R | CGCGGATCCTACCCAATCAGTACGTTAATTTTG | | | | Genome DNA of TMO310 | 7 |
| emD-F2 | acgtactgattgggtaggatccgcgGAGTGAAAAAGTACTCAACC | | | | Genome DNA of TMO310 and pMUTinNC | This study |
| Erm-R | cacccgcccagcctaaacggatCTAACATTCCCTTTAGTAACGTGTAAC | | | | pMUTinNC | 9 |
| Construction of pO-veg and pO-veg×12his | | | | | | |
| attB1-SD-veg-F | aaaaagcaggctcgtttgggaggaggtgaaaggcATGGCGAAGACGTTGTCCGATATTAAAAG | 52,761 | 52,789 | + | Genome DNA of 168 BFA | This study |
| attB2-veg-R | agaaagctgggtcTTAAAATGCCACTGAGCTTGCGGCG | 53,021 | 52,997 | - | Genome DNA of 168 BFA | This study |
| pM12HisRattB2 | ggggaccactttgtacaagaaagctgggtcGAGCTCTCATCTATTTAATGG | | | | 12 x His | 2 |
| pUCMCS-F-adapter | aaaaagcaggctcgTTGTAAAACGACGGCCAGTG | | | | pUC19 | This study |
| pUCMCS-R-adapter | agaaagctgggtcTGACCATGATTACGCCAAGC | | | | pUC19 | This study |
| Adapter-attB1 | GGGGACAAGTTTGTACAAAAAAGCAGGCTCG | | | | *attB1* site | Invitrogen |
| Adapter-attB2 | GGGGACCACTTTGTACAAGAAAGCTGGGTC | | | | *attB2* site | Invitrogen |
| pDONR-F | TCGCGTTAACGCTAGCATGGATCTCG | | | | pDONR201 | Invitrogen |
| pDONR-R | GTGTCTCAAAATCTCTGATGTTAC | | | | pDONR201 | Invitrogen |
| OidFNrul3 | CCTCTAGAGTCAAATGTGAG | | | | pMUTinHis | 4 |
| TerRSmaIb | cgcgcccgggGGGTTATTGTCTCATGAGCG | | | | pMUTinHis | 4 |
| Construction of the SinR2HC strain | | | | | | |
| sinI-Ba-f | TCTGCTCATCCTGGTCCGGCAGCC | 2,551,801 | 2,551,824 | + | Genome DNA of 168 BFA | This study |
| sinR-6his-r | gtgatggtgatggtgatgcgatcctctcatCTCCTCTTTTTGGGATTTTCTCC | 2,552,217 | 2,552,195 | − | Genome DNA of 168 BFA | This study |
| sinR-Cm-Ba-f2 | cggaaggatactacatcctggCACTAACTCCTCTTTTGTCAATAACC | 2,552,235 | 2,552,260 | + | Genome DNA of 168 BFA | This study |
| sinR-Cm-Ba-r | GTTGACAGTTGGAAAAGAGGGCGGC | 2,552,760 | 2,552,736 | − | Genome DNA of 168 BFA | This study |
| DC-2HC-F | ATGAGAGGATCGCATCACC | | | | pMUTin2HC | 2 |
| DC-2HC-R | gctcttctggtggagtctatccTCATCTATTTATTGAAGCTGC | | | | pMUTin2HC | 2 |
| Antibiotics cassette | | | | | | |
| rPCR-CmF2 | ggatagactccaccagaagagcATCATCGGCAATAGTTACCC | | | | pDLT3 | 9 |
| rPCR-CmR2 | ccaggatgtagtatccttccgCGGCGTAGAGGATCTGGAGC | | | | pDLT3 | 9 |
| rPCR-KmF | ggatagactccaccagaagagcCGCAAGCTTACGATAAACCCAGC | | | | pDG780 | 3 |
| rPCR-KmR | ccaggatgtagtatccttccgCTAGGTACTAAAACAATTCATCC | | | | pDG780 | 3 |
| rPCR-ermF | ggatagactccaccagaagagcAACAAATAGGGGTTCCGCGCA | | | | pMUTin2HC | 2 |
| rPCR-ermR | ccaggatgtagtatccttccgCTCATAGAATTATTTCCTCCCG | | | | pMUTin2HC | 2 |

[a] Capital and lower-case letters correspond to sequences annealed to a template and attached tag sequence, and underlined letters indicate an endonuclease recognition site.

**Table S4.** Genes up- or down-regulated in Veg overexpression cells (pO-veg) more than 2-fold compared with its control cells (pO-MCS).

| Transcription unites | Gene name | Location | | | Expression ratio [a] | Gene function |
|---|---|---|---|---|---|---|
| | | start | end | strand | pO-veg/pO-MCS | |
| Up-regulated | | | | | | |
| 1 | *ydaE* | 472,143 | 472,646 | + | 2.7 ± 0.9 | unknown |
| 2 | *ydcO* | 531,853 | 532,113 | + | 2.6 ± 0.5 | unknown |
| | *ydcT* | 535,965 | 536,231 | + | 2.3 ± 0.4 | unknown |
| 3 | *xlyB* | 1,316,849 | 1,317,802 | + | 2.3 ± 0.2 | N-acetylmuramoyl-L-alanine amidase, peptidoglycan hydrolase |
| 4 | *xkdB* | 1,321,325 | 1,322,158 | + | 2.0 ± 0.0 | PBSX prophage protein |
| | *xkdD* | 1,323,110 | 1,323,460 | + | 2.3 ± 0.3 | PBSX prophage protein |
| | *xpf* | 1,323,779 | 1,324,288 | + | 2.3 ± 0.2 | RNA polymerase PBSX sigma factor, PBSX prophage protein |
| | *xkdH* | 1,330,202 | 1,330,558 | + | 2.4 ± 0.4 | PBSX prophage protein |
| | *xkdI* | 1,330,555 | 1,331,040 | + | 2.3 ± 0.3 | PBSX prophage protein |
| | *xkdJ* | 1,331,053 | 1,331,493 | + | 2.1 ± 0.2 | PBSX prophage protein |
| | *xkdO* | 1,334,279 | 1,338,277 | + | 2.5 ± 0.6 | PBSX prophage protein |
| | *xkdP* | 1,338,222 | 1,338,929 | + | 2.6 ± 0.8 | PBSX prophage protein |
| | *xkdQ* | 1,338,945 | 1,339,922 | + | 2.6 ± 0.6 | PBSX prophage protein |
| | *xkdR* | 1,339,922 | 1,340,188 | + | 2.8 ± 0.7 | PBSX prophage protein |
| | *xkdS* | 1,340,245 | 1,340,670 | + | 2.5 ± 0.4 | PBSX prophage protein |
| | *xkdT* | 1,340,663 | 1,341,709 | + | 2.4 ± 0.5 | PBSX prophage protein |
| | *xkdU* | 1,341,693 | 1,342,271 | + | 2.5 ± 0.5 | PBSX prophage protein |
| | *xkdV* | 1,342,542 | 1,344,605 | + | 2.5 ± 0.6 | PBSX prophage protein |
| | *xkdW* | 1,344,617 | 1,344,946 | + | 2.6 ± 0.7 | PBSX prophage protein |
| | *xkdX* | 1,344,943 | 1,345,107 | + | 3.0 ± 0.6 | PBSX prophage protein |
| | *xepA* | 1,345,151 | 1,345,990 | + | 2.5 ± 0.3 | lytic exoenzyme associated with PBSX prophage |
| | *xhlA* | 1,346,043 | 1,346,312 | + | 2.3 ± 0.3 | involved in cell lysis upon induction of PBSX |
| | *xlyA* | 1,346,601 | 1,347,494 | + | 2.4 ± 0.4 | N-acetylmuramoyl-L-alanine amidase, peptidoglycan hydrolase (PBSX prophage-mediated lysis) |
| 5 | *yosJ* | 2,165,856 | 2,166,050 | - | 2.4 ± 0.2 | SP-beta protein |
| | *yorZ* | 2,169,228 | 2,169,440 | - | 2.5 ± 0.5 | SP-beta protein |
| | *yorW* | 2,169,969 | 2,170,334 | - | 2.3 ± 0.1 | SP-beta protein |
| | *yorV* | 2,170,337 | 2,170,555 | - | 2.5 ± 0.6 | SP-beta protein |
| | *mtbP* | 2,170,599 | 2,171,930 | - | 2.2 ± 0.2 | modification methylase bsu, SP-beta protein |
| | *yorG* | 2,183,646 | 2,184,617 | - | 2.4 ± 0.1 | SP-beta protein |
| | *yorF* | 2,184,700 | 2,185,614 | - | 2.5 ± 0.3 | SP-beta protein |
| 6 | *yonN* | 2,224,533 | 2,224,811 | + | 2.2 ± 0.2 | histone-like protein, SP-beta protein |
| | *yonK* | 2,226,493 | 2,226,684 | + | 2.6 ± 0.1 | SP-beta protein |
| | *yonJ* | 2,226,701 | 2,227,918 | + | 3.0 ± 0.3 | SP-beta protein |
| | *yonH* | 2,228,581 | 2,229,081 | + | 2.8 ± 0.5 | SP-beta protein |
| | *yonE* | 2,231,878 | 2,233,398 | + | 2.3 ± 0.2 | SP-beta protein |
| | *yonD* | 2,233,429 | 2,234,865 | + | 3.8 ± 0.1 | SP-beta protein |
| | *yonC* | 2,234,890 | 2,235,426 | + | 3.8 ± 0.6 | SP-beta protein |
| | *yonB* | 2,235,465 | 2,236,481 | + | 4.2 ± 0.5 | SP-beta protein |
| | *yonA* | 2,236,517 | 2,236,987 | + | 4.2 ± 0.2 | SP-beta protein |
| | *yomZ* | 2,237,002 | 2,237,397 | + | 4.5 ± 0.5 | SP-beta protein |
| | *yomY* | 2,237,394 | 2,237,648 | + | 4.7 ± 0.3 | SP-beta protein |
| | *yomX* | 2,237,632 | 2,238,282 | + | 4.7 ± 0.4 | SP-beta protein |
| | *yomW* | 2,238,279 | 2,238,785 | + | 5.2 ± 0.9 | SP-beta protein |
| | *yomV* | 2,238,782 | 2,239,492 | + | 4.5 ± 0.6 | SP-beta protein |
| | *yomU* | 2,239,535 | 2,240,332 | + | 4.1 ± 0.5 | SP-beta protein |
| | *yomS* | 2,241,252 | 2,241,608 | + | 2.9 ± 0.5 | similar to phage-related lytic exoenzyme, SP-beta protein |
| | *yomR* | 2,241,610 | 2,242,827 | + | 3.3 ± 0.8 | similar to phage-related protein, SP-beta protein |
| | *yomQ* | 2,242,838 | 2,243,188 | + | 3.4 ± 0.3 | SP-beta protein |
| | *yomP* | 2,243,185 | 2,243,376 | + | 2.9 ± 0.1 | similar to phage-related protein, SP-beta protein |
| | *yomO* | 2,243,426 | 2,243,926 | + | 2.8 ± 0.4 | SP-beta protein |
| | *yomN* | 2,243,910 | 2,244,329 | + | 3.2 ± 0.7 | SP-beta protein |
| | *yomM* | 2,244,343 | 2,245,344 | + | 2.9 ± 0.6 | integrase/recombinase, SP-beta protein |
| | *yomD* | 2,261,633 | 2,262,457 | + | 2.3 ± 0.4 | SP-beta protein |
| 7 | *tasA* | 2,552,313 | 2,553,098 | - | 4.5 ± 1.5 | major biofilm matrix component |
| | *sipW* | 2,553,162 | 2,553,734 | - | 3.9 ± 0.9 | type I signal peptidase |
| | *tapA* (*yqxM*) | 2,553,718 | 2,554,479 | - | 2.9 ± 0.7 | lioprotein for biofilm formation |
| 8 | *yqeF* | 2,647,143 | 2,647,874 | - | 2.1 ± 0.1 | unknown |
| 9 | *yrhK* | 2,772,583 | 2,772,873 | + | 2.5 ± 0.0 | unknown |
| 10 | *epsO* (*yvfF*) | 3,513,146 | 3,514,114 | - | 2.6 ± 0.4 | putative pyruvyl transferase |
| | *epsN* (*yvfE*) | 3,514,093 | 3,515,259 | - | 3.0 ± 0.5 | putative amino transferase |
| | *epsM* (*yvfD*) | 3,515,264 | 3,515,914 | - | 2.3 ± 0.3 | putative O-acetyl transferase |
| | *epsL* (*yvfC*) | 3,515,911 | 3,516,519 | - | 2.5 ± 0.5 | putative phosphotransferase involved in extracellular matrix synthesis |
| | *epsK* (*yvfB*) | 3,516,516 | 3,517,553 | - | 2.6 ± 0.3 | putative extracellular matrix component exporter |
| | *epsK* (*yvfA*) | 3,517,703 | 3,518,032 | - | 2.9 ± 0.5 | putative extracellular matrix component exporter |
| | *epsJ* (*yveT*) | 3,518,029 | 3,519,063 | - | 2.5 ± 0.1 | putative glycosyl transferase |
| | *epsI* (*yveS*) | 3,519,060 | 3,520,136 | - | 2.3 ± 0.1 | putative polysaccharide pyruvyl transferase |
| | *epsG* (*yveQ*) | 3,521,200 | 3,522,303 | - | 2.7 ± 0.3 | biofilm extracellular matrix formation enzyme |
| | *epsF* (*yveP*) | 3,522,300 | 3,523,454 | - | 2.1 ± 0.1 | putative phosphotransferase involved in extracellular matrix formation |
| | *epsE* (*yveO*) | 3,523,447 | 3,524,283 | - | 2.3 ± 0.5 | putative glycosyl transferase |
| | *epsD* (*yveN*) | 3,524,280 | 3,525,425 | - | 2.3 ± 0.3 | putative extracellular matrix biosynthesis enzyme |
| | *epsB* (*yveL*) | 3,527,492 | 3,528,175 | - | 2.4 ± 0.4 | protein tyrosine kinase |
| | *epsA* (*yveK*) | 3,528,181 | 3,528,885 | - | 2.8 ± 0.8 | modulator of protein tyrosine kinase EpsB |
| 11 | *tagC* | 3,682,468 | 3,683,796 | + | 2.3 ± 0.1 | teichoic acid biosynthesis protein C |
| 12 | *yxiT* | 4,006,434 | 4,006,676 | - | 2.0 ± 0.0 | unknown |
| Down-regulated | | | | | | |
| 1 | *gamP* | 254,895 | 256,790 | - | 0.5 ± 0.0 | PTS glucosamine-specific enzyme IICBA componen |
| 2 | *ydbN* | 505,883 | 506,062 | - | 0.5 ± 0.0 | unknown |
| 3 | *yrhP* | 2,767,269 | 2,767,901 | - | 0.4 ± 0.0 | RhtB subfamily of amino-acid-efflux protein |
| 4 | *yurJ* | 3,344,040 | 3,345,143 | - | 0.3 ± 0.0 | similar to multiple sugar transport system ATP-binding protein |
| | *yurL* | 3,346,078 | 3,346,932 | - | 0.3 ± 0.0 | probable sugar kinase |
| | *yurM* | 3,346,946 | 3,347,848 | - | 0.2 ± 0.0 | multiple sugar transport system permease protein |
| | *yurN* | 3,347,852 | 3,348,730 | - | 0.2 ± 0.0 | multiple sugar transport system permease protein |
| | *yurO* | 3,348,788 | 3,350,056 | - | 0.2 ± 0.0 | multiple sugar transport system substrate-binding protein |
| | *yurP* | 3,350,137 | 3,351,123 | - | 0.2 ± 0.0 | probable phosphosugar isomerases |
| 5 | *yvaB* | 3,444,472 | 3,445,107 | - | 0.4 ± 0.0 | acyl carrier protein phosphodiesterase |
| 6 | *yvbA* | 3,466,085 | 3,466,357 | - | 0.4 ± 0.1 | transcriptional regulator (ArsR family), inducing the atp and yusLKJ operon |
| 7 | *bglH* | 4,031,364 | 4,032,773 | - | 0.5 ± 0.0 | beta-glucosidase |

[a] Average ratio of transcription signals in 2 independent experiments

**Table S5.** Transcriptome analysis of AbrB, SigD and Spo0A regulons in Veg overexpression cells (pO-veg) compared with its control cells (pO-MCS).

| Regulon | Gene name | Location | | | Experiment 1 | | | Experiment 2 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Signal intensity of RNA | | Expression ratio | Signal intensity of RNA | | Expression ratio |
| | | start | end | strand | pO-veg_01 | pO-MCS_01 | pO-veg /pO-MCS_01 | pO-veg_02 | pO-MCS_02 | pO-veg /pO-MCS_02 |
| AbrB regulon | | | | | | | | | | |
| | *ybcO* | 213,926 | 214,093 | + | 1321 | 1590 | 0.83 | 1666 | 2253 | 0.74 |
| | *ybdB* | 217,681 | 219,027 | + | 286 | 320 | 0.89 | 370 | 448 | 0.83 |
| | *ybdD* | 219,074 | 219,487 | + | 378 | 425 | 0.89 | 565 | 627 | 0.90 |
| | *ybdE* | 219,593 | 220,018 | + | 196 | 233 | 0.84 | 357 | 438 | 0.81 |
| | *ybdN* | 224,063 | 224,920 | - | 676 | 729 | 0.93 | 735 | 693 | 1.06 |
| | *ybfO* | 249,967 | 251,307 | + | 662 | 543 | 1.22 | 1090 | 960 | 1.14 |
| | *ybfP* | 251,415 | 252,302 | + | 220 | 185 | 1.19 | 407 | 344 | 1.18 |
| | *lip* | 291,757 | 292,395 | + | 1120 | 1088 | 1.03 | 2629 | 2542 | 1.03 |
| | *ycdA* | 298,990 | 300,054 | - | 1002 | 600 | 1.67 | 1244 | 891 | 1.40 |
| | *amyE* | 327,169 | 329,151 | + | 230 | 248 | 0.93 | 214 | 196 | 1.09 |
| | *yddJ* | 545,156 | 545,536 | + | 618 | 487 | 1.27 | 672 | 464 | 1.45 |
| | *yddT* | 556,306 | 556,992 | + | 960 | 933 | 1.03 | 1453 | 1182 | 1.23 |
| | *ydeH* | 567,206 | 567,652 | + | 82 | 70 | 1.17 | 175 | 185 | 0.94 |
| | *ydeJ* | 568,834 | 569,493 | - | 379 | 396 | 0.96 | 373 | 444 | 0.84 |
| | *ydhM* | 626,169 | 626,480 | + | 84 | 87 | 0.97 | 87 | 96 | 0.91 |
| | *ydhN* | 626,480 | 626,812 | + | 51 | 54 | 0.95 | 42 | 49 | 0.87 |
| | *ydhO* | 626,831 | 628,159 | + | 73 | 77 | 0.95 | 65 | 75 | 0.87 |
| | *ydhP* | 628,177 | 629,574 | + | 84 | 88 | 0.95 | 73 | 84 | 0.86 |
| | *ydhQ* | 629,717 | 630,430 | + | 188 | 142 | 1.33 | 139 | 147 | 0.95 |
| | *ydhR* | 630,459 | 631,358 | + | 186 | 156 | 1.19 | 147 | 159 | 0.92 |
| | *ydhS* | 631,355 | 632,302 | + | 161 | 118 | 1.36 | 121 | 129 | 0.94 |
| | *ydhT* | 632,321 | 633,409 | + | 150 | 113 | 1.32 | 116 | 118 | 0.98 |
| | *pspA* | 670,793 | 671,476 | + | 1625 | 1423 | 1.14 | 2698 | 2563 | 1.05 |
| | *ydjG* | 671,542 | 672,567 | + | 1108 | 903 | 1.23 | 2258 | 2332 | 0.97 |
| | *ydjH* | 672,567 | 673,331 | + | 1025 | 808 | 1.27 | 2224 | 2259 | 0.98 |
| | *ydjI* | 673,362 | 674,333 | + | 1041 | 851 | 1.22 | 1929 | 1939 | 0.99 |
| | *ydjL* | 677,459 | 678,499 | - | 4727 | 4574 | 1.03 | 4126 | 3608 | 1.14 |
| | *yerI* | 724,326 | 725,336 | + | 1961 | 1745 | 1.12 | 2165 | 2138 | 1.01 |
| | *rapH* | 750,293 | 751,588 | + | 2072 | 1753 | 1.18 | 2141 | 1839 | 1.16 |
| | *yfmI* | 818,648 | 819,868 | - | 114 | 139 | 0.82 | 155 | 192 | 0.81 |
| | *yfmG* | 820,204 | 821,667 | + | 886 | 847 | 1.05 | 1565 | 1624 | 0.96 |
| | *yflB* | 843,721 | 843,981 | + | 158 | 112 | 1.41 | 125 | 119 | 1.05 |
| | *yflA* | 844,106 | 845,521 | + | 3816 | 3339 | 1.14 | 1528 | 853 | 1.79 |
| | *glpF* | 1,001,834 | 1,002,658 | + | 124 | 151 | 0.82 | 184 | 240 | 0.77 |
| | *glpK* | 1,002,677 | 1,004,167 | + | 1526 | 1300 | 1.17 | 949 | 706 | 1.34 |
| | *glpD* | 1,004,308 | 1,005,975 | + | 766 | 709 | 1.08 | 313 | 380 | 0.82 |
| | *yhaQ* | 1,061,899 | 1,062,795 | + | 548 | 444 | 1.23 | 1128 | 999 | 1.13 |
| | *yhaP* | 1,062,788 | 1,064,047 | + | 386 | 328 | 1.18 | 966 | 841 | 1.15 |
| | *yhjM* | 1,129,020 | 1,130,009 | + | 360 | 324 | 1.11 | 456 | 562 | 0.81 |
| | *yjcM* | 1,263,014 | 1,264,243 | - | 1082 | 1054 | 1.03 | 1521 | 1923 | 0.79 |
| | *yjdB* | 1,269,045 | 1,269,392 | - | 244 | 180 | 1.36 | 173 | 147 | 1.17 |
| | *yjdG* | 1,275,650 | 1,276,156 | - | 376 | 369 | 1.02 | 339 | 403 | 0.84 |
| | *ctaO* | 1,278,825 | 1,279,814 | - | 345 | 264 | 1.31 | 226 | 326 | 0.69 |
| | *spo0E* | 1,429,992 | 1,430,249 | + | 1618 | 1898 | 0.85 | 1240 | 1093 | 1.13 |
| | *ykuA* | 1,467,109 | 1,469,166 | + | 586 | 654 | 0.90 | 553 | 698 | 0.79 |
| | *ykuU* | 1,491,568 | 1,492,110 | + | 1367 | 1224 | 1.12 | 1688 | 1440 | 1.17 |
| | *ykuV* | 1,492,182 | 1,492,643 | + | 604 | 526 | 1.15 | 816 | 717 | 1.14 |
| | *yknW* | 1,502,889 | 1,503,584 | + | 2537 | 2495 | 1.02 | 3192 | 3238 | 0.99 |
| | *yknX* | 1,503,589 | 1,504,722 | + | 1073 | 1064 | 1.01 | 2759 | 3093 | 0.89 |
| | *yknY* | 1,504,723 | 1,505,415 | + | 1018 | 1013 | 1.01 | 2580 | 2653 | 0.97 |
| | *yknZ* | 1,505,412 | 1,506,605 | + | 1066 | 1053 | 1.01 | 2303 | 2400 | 0.96 |
| | *nprE* | 1,539,343 | 1,540,908 | - | 149 | 149 | 1.00 | 201 | 224 | 0.90 |
| | *ylaE* | 1,544,243 | 1,544,854 | - | 332 | 441 | 0.75 | 287 | 365 | 0.79 |
| | *ctaC* | 1,559,773 | 1,560,843 | + | 777 | 1176 | 0.66 | 513 | 807 | 0.64 |
| | *ctaD* | 1,560,876 | 1,562,744 | + | 704 | 1118 | 0.63 | 521 | 805 | 0.65 |
| | *ctaE* | 1,562,744 | 1,563,367 | + | 551 | 949 | 0.58 | 463 | 738 | 0.63 |
| | *ctaF* | 1,563,370 | 1,563,702 | + | 535 | 861 | 0.62 | 367 | 681 | 0.54 |
| | *ctaG* | 1,563,729 | 1,564,622 | + | 322 | 556 | 0.58 | 274 | 434 | 0.63 |
| | *ylbA* | 1,564,654 | 1,565,016 | - | 1156 | 1603 | 0.72 | 1233 | 1640 | 0.75 |
| | *sigG* | 1,604,927 | 1,605,709 | + | 51 | 55 | 0.92 | 57 | 71 | 0.80 |
| | *ymzB* | 1,859,209 | 1,859,565 | - | 831 | 578 | 1.44 | 677 | 446 | 1.52 |
| | *ymaE* | 1,859,644 | 1,860,342 | - | 409 | 391 | 1.05 | 695 | 581 | 1.20 |
| | *yncM* | 1,902,720 | 1,903,472 | - | 1302 | 1444 | 0.90 | 1213 | 1276 | 0.95 |
| | *ynzD* | 1,922,050 | 1,922,223 | - | 136 | 123 | 1.11 | 262 | 307 | 0.86 |
| | *ynfF* | 1,941,923 | 1,943,191 | - | 349 | 251 | 1.39 | 383 | 298 | 1.29 |
| | *xynD* | 1,943,322 | 1,944,863 | - | 252 | 180 | 1.40 | 312 | 265 | 1.18 |
| | *ppsE* | 1,959,407 | 1,963,246 | - | 376 | 406 | 0.93 | 408 | 419 | 0.97 |
| | *ppsD* | 1,963,254 | 1,974,065 | - | 459 | 495 | 0.93 | 462 | 472 | 0.98 |
| | *ppsC* | 1,974,090 | 1,981,757 | - | 490 | 534 | 0.92 | 494 | 519 | 0.95 |
| | *ppsB* | 1,981,774 | 1,989,456 | - | 272 | 305 | 0.89 | 329 | 366 | 0.90 |
| | *ppsA* | 1,989,481 | 1,997,166 | - | 417 | 437 | 0.95 | 389 | 432 | 0.90 |
| | *yobB* | 2,049,899 | 2,050,162 | + | 99 | 118 | 0.83 | 115 | 139 | 0.83 |
| | *rapK* | 2,061,361 | 2,062,476 | + | 495 | 434 | 1.14 | 751 | 864 | 0.87 |
| | *yobO* | 2,075,417 | 2,077,837 | + | 178 | 186 | 0.96 | 171 | 151 | 1.14 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *yocD* | 2,087,468 | 2,088,445 | + | 318 | 338 | 0.94 | 490 | 515 | 0.95 |
| *yojL* | 2,114,627 | 2,115,871 | - | 1157 | 1358 | 0.85 | 1574 | 2013 | 0.78 |
| *phy* | 2,149,306 | 2,150,454 | - | 71 | 63 | 1.13 | 70 | 64 | 1.08 |
| *yorD* | 2,186,181 | 2,186,495 | - | 1394 | 1469 | 0.95 | 1864 | 2305 | 0.81 |
| *yoqM* | 2,195,182 | 2,195,460 | + | 299 | 268 | 1.12 | 171 | 151 | 1.13 |
| *yomJ* | 2,247,613 | 2,248,296 | + | 1201 | 1211 | 0.99 | 942 | 1070 | 0.88 |
| *bdbB* | 2,264,421 | 2,264,867 | - | 189 | 200 | 0.95 | 396 | 480 | 0.83 |
| *yolJ* | 2,264,864 | 2,266,132 | - | 500 | 372 | 1.35 | 673 | 816 | 0.83 |
| *bdbA* | 2,266,132 | 2,266,545 | - | 302 | 179 | 1.68 | 387 | 550 | 0.70 |
| *sunT* | 2,266,542 | 2,268,659 | - | 262 | 172 | 1.53 | 394 | 523 | 0.75 |
| *sunA* | 2,268,717 | 2,268,887 | - | 4302 | 4131 | 1.04 | 6893 | 5382 | 1.28 |
| *yolC* | 2,271,352 | 2,271,687 | + | 188 | 188 | 1.00 | 221 | 245 | 0.90 |
| *yolB* | 2,271,730 | 2,272,086 | - | 1621 | 1920 | 0.84 | 1604 | 1822 | 0.88 |
| *yolA* | 2,272,092 | 2,272,559 | - | 4304 | 4869 | 0.88 | 3786 | 4257 | 0.89 |
| *yokL* | 2,273,185 | 2,273,718 | - | 249 | 207 | 1.20 | 375 | 421 | 0.89 |
| *yokK* | 2,273,754 | 2,274,332 | - | 378 | 302 | 1.25 | 553 | 592 | 0.93 |
| *yokJ* | 2,274,396 | 2,274,893 | - | 419 | 360 | 1.16 | 683 | 789 | 0.87 |
| *yokI* | 2,274,902 | 2,276,617 | - | 488 | 428 | 1.14 | 723 | 865 | 0.84 |
| *yphF* | 2,387,051 | 2,387,785 | - | 418 | 496 | 0.84 | 581 | 745 | 0.78 |
| *yphE* | 2,387,807 | 2,388,010 | - | 590 | 658 | 0.90 | 821 | 1018 | 0.81 |
| *sigF* | 2,442,618 | 2,443,385 | - | 325 | 350 | 0.93 | 273 | 298 | 0.92 |
| *spoIIAB* | 2,443,397 | 2,443,837 | - | 336 | 369 | 0.91 | 280 | 287 | 0.97 |
| *spoIIAA* | 2,443,834 | 2,444,187 | - | 495 | 575 | 0.86 | 448 | 436 | 1.03 |
| *dacF* | 2,444,283 | 2,445,452 | - | 67 | 70 | 0.95 | 54 | 66 | 0.82 |
| *tasA* | 2,552,313 | 2,553,098 | - | 2398 | 427 | 5.61 | 2500 | 719 | 3.48 |
| *sipW* | 2,553,162 | 2,553,734 | - | 612 | 134 | 4.56 | 483 | 148 | 3.26 |
| *yqxM* | 2,553,718 | 2,554,479 | - | 197 | 58 | 3.40 | 159 | 66 | 2.41 |
| *yqzG* | 2,554,751 | 2,555,077 | + | 40 | 42 | 0.94 | 53 | 46 | 1.17 |
| *cccA* | 2,598,756 | 2,599,118 | - | 909 | 963 | 0.94 | 792 | 877 | 0.90 |
| *antE* | 2,602,212 | 2,602,508 | + | 78 | 76 | 1.03 | 78 | 102 | 0.76 |
| *yqcG* | 2,660,329 | 2,661,924 | + | 625 | 512 | 1.22 | 726 | 704 | 1.03 |
| *yqxJ* | 2,662,778 | 2,663,140 | - | 602 | 533 | 1.13 | 759 | 627 | 1.21 |
| *yqxI* | 2,663,156 | 2,663,635 | - | 1572 | 1362 | 1.15 | 1633 | 1391 | 1.17 |
| *yqaP* | 2,690,868 | 2,691,797 | + | 2016 | 1885 | 1.07 | 2069 | 2094 | 0.99 |
| *yrpD* | 2,738,712 | 2,739,419 | + | 2048 | 2392 | 0.86 | 2447 | 2605 | 0.94 |
| *csn* | 2,747,210 | 2,748,043 | - | 1434 | 1088 | 1.32 | 1082 | 878 | 1.23 |
| *yrzI* | 2,778,150 | 2,778,299 | - | 1688 | 2162 | 0.78 | 732 | 847 | 0.86 |
| *yuaB* | 3,186,542 | 3,187,087 | + | 542 | 398 | 1.36 | 705 | 533 | 1.32 |
| *dhbF* | 3,279,544 | 3,286,680 | - | 457 | 671 | 0.68 | 289 | 429 | 0.67 |
| *dhbB* | 3,286,700 | 3,287,638 | - | 362 | 526 | 0.69 | 215 | 362 | 0.60 |
| *dhbE* | 3,287,666 | 3,289,285 | - | 336 | 427 | 0.79 | 200 | 322 | 0.62 |
| *dhbC* | 3,289,314 | 3,290,510 | - | 468 | 557 | 0.84 | 228 | 375 | 0.61 |
| *dhbA* | 3,290,536 | 3,291,321 | - | 452 | 506 | 0.89 | 212 | 358 | 0.59 |
| *yuiI* | 3,291,515 | 3,292,459 | - | 738 | 689 | 1.07 | 428 | 594 | 0.72 |
| *yurI* | 3,343,140 | 3,344,006 | + | 336 | 329 | 1.02 | 304 | 337 | 0.90 |
| *yvqJ* | 3,398,118 | 3,399,386 | - | 297 | 289 | 1.03 | 323 | 305 | 1.06 |
| *yvrN* | 3,411,158 | 3,412,408 | - | 908 | 801 | 1.13 | 1214 | 1279 | 0.95 |
| *yvrO* | 3,412,380 | 3,413,069 | - | 1081 | 979 | 1.10 | 1499 | 1674 | 0.90 |
| *yvrP* | 3,413,053 | 3,414,246 | - | 912 | 1028 | 0.89 | 1198 | 1517 | 0.79 |
| *yvgO* | 3,426,832 | 3,427,317 | + | 4318 | 2901 | 1.49 | 2800 | 1150 | 2.43 |
| *yvaW* | 3,463,320 | 3,463,796 | + | 497 | 550 | 0.90 | 1158 | 1926 | 0.60 |
| *yvfF* | 3,513,146 | 3,514,114 | - | 380 | 133 | 2.87 | 337 | 150 | 2.25 |
| *yvfE* | 3,514,093 | 3,515,259 | - | 507 | 150 | 3.38 | 478 | 183 | 2.62 |
| *yvfD* | 3,515,264 | 3,515,914 | - | 384 | 154 | 2.49 | 335 | 163 | 2.05 |
| *yvfC* | 3,515,911 | 3,516,519 | - | 387 | 135 | 2.86 | 363 | 173 | 2.10 |
| *yvfB* | 3,516,516 | 3,517,553 | - | 333 | 119 | 2.80 | 330 | 135 | 2.44 |
| *yvfA* | 3,517,703 | 3,518,032 | - | 289 | 87 | 3.31 | 300 | 118 | 2.55 |
| *yveT* | 3,518,029 | 3,519,063 | - | 476 | 186 | 2.55 | 524 | 217 | 2.41 |
| *yveS* | 3,519,060 | 3,520,136 | - | 334 | 139 | 2.40 | 359 | 157 | 2.28 |
| *yveR* | 3,520,141 | 3,521,175 | - | 351 | 190 | 1.85 | 494 | 227 | 2.17 |
| *yveQ* | 3,521,200 | 3,522,303 | - | 252 | 87 | 2.90 | 314 | 125 | 2.51 |
| *yveP* | 3,522,300 | 3,523,454 | - | 228 | 102 | 2.25 | 258 | 126 | 2.05 |
| *yveO* | 3,523,447 | 3,524,283 | - | 294 | 111 | 2.66 | 321 | 159 | 2.01 |
| *yveN* | 3,524,280 | 3,525,425 | - | 435 | 177 | 2.45 | 455 | 219 | 2.07 |
| *yveM* | 3,525,437 | 3,527,233 | - | 384 | 192 | 2.00 | 317 | 184 | 1.73 |
| *yveL* | 3,527,492 | 3,528,175 | - | 317 | 119 | 2.67 | 287 | 134 | 2.15 |
| *yveK* | 3,528,181 | 3,528,885 | - | 423 | 126 | 3.36 | 376 | 171 | 2.20 |
| *pnbA* | 3,529,665 | 3,531,134 | + | 558 | 390 | 1.43 | 944 | 804 | 1.17 |
| *yvnA* | 3,601,104 | 3,601,577 | + | 294 | 252 | 1.17 | 261 | 312 | 0.83 |
| *cypX* | 3,601,618 | 3,602,835 | - | 255 | 228 | 1.12 | 243 | 244 | 1.00 |
| *yvmC* | 3,602,851 | 3,603,597 | - | 361 | 318 | 1.14 | 408 | 386 | 1.06 |
| *rbsR* | 3,700,438 | 3,701,418 | + | 206 | 206 | 1.00 | 244 | 296 | 0.83 |
| *rbsK* | 3,701,420 | 3,702,301 | + | 190 | 219 | 0.87 | 256 | 329 | 0.78 |
| *rbsD* | 3,702,298 | 3,702,693 | + | 71 | 99 | 0.72 | 126 | 153 | 0.83 |
| *rbsA* | 3,702,709 | 3,704,190 | + | 120 | 161 | 0.75 | 163 | 221 | 0.74 |
| *rbsC* | 3,704,192 | 3,705,160 | + | 90 | 124 | 0.73 | 91 | 131 | 0.70 |
| *rbsB* | 3,705,172 | 3,706,089 | + | 216 | 279 | 0.77 | 208 | 290 | 0.72 |
| *ywqE* | 3,730,032 | 3,730,796 | - | 113 | 97 | 1.17 | 160 | 147 | 1.09 |
| *ywqD* | 3,730,849 | 3,731,562 | - | 336 | 270 | 1.24 | 497 | 526 | 0.94 |
| *ywqC* | 3,731,552 | 3,732,298 | - | 215 | 226 | 0.95 | 377 | 427 | 0.88 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *ywoF* | 3,749,790 | 3,751,196 | - | 614 | 507 | 1.21 | 756 | 798 | 0.95 |
| | *albA* | 3,835,346 | 3,836,692 | + | 3725 | 2918 | 1.28 | 2366 | 1962 | 1.21 |
| | *albB* | 3,836,705 | 3,836,866 | + | 3153 | 2377 | 1.33 | 1724 | 1474 | 1.17 |
| | *albC* | 3,836,863 | 3,837,582 | + | 2003 | 1173 | 1.71 | 1017 | 911 | 1.12 |
| | *albD* | 3,837,575 | 3,838,885 | + | 1512 | 869 | 1.74 | 710 | 670 | 1.06 |
| | *albE* | 3,838,875 | 3,840,035 | + | 1139 | 656 | 1.74 | 498 | 476 | 1.05 |
| | *albF* | 3,840,040 | 3,841,320 | + | 900 | 587 | 1.53 | 372 | 372 | 1.00 |
| | *albG* | 3,841,317 | 3,842,018 | + | 417 | 282 | 1.48 | 149 | 155 | 0.96 |
| | *rocA* | 3,877,988 | 3,879,535 | - | 448 | 939 | 0.48 | 305 | 434 | 0.70 |
| | *rocG* | 3,879,762 | 3,881,036 | - | 310 | 418 | 0.74 | 281 | 351 | 0.80 |
| | *yweA* | 3,881,213 | 3,881,677 | - | 2653 | 3230 | 0.82 | 2078 | 2278 | 0.91 |
| | *ywbF* | 3,933,380 | 3,934,579 | + | 294 | 287 | 1.02 | 391 | 396 | 0.99 |
| | *yxzE* | 3,981,992 | 3,982,192 | + | 382 | 406 | 0.94 | 732 | 671 | 1.09 |
| | *yxeD* | 4,065,225 | 4,065,578 | + | 29 | 39 | 0.75 | 26 | 29 | 0.90 |
| | *yxbD* | 4,094,376 | 4,094,855 | - | 271 | 268 | 1.01 | 716 | 807 | 0.89 |
| | *yxbC* | 4,094,935 | 4,095,927 | - | 1807 | 2140 | 0.84 | 1970 | 2156 | 0.91 |
| | *yxbB* | 4,096,436 | 4,097,170 | + | 2055 | 2437 | 0.84 | 2289 | 2715 | 0.84 |
| | *yxbA* | 4,097,170 | 4,097,439 | + | 1481 | 1801 | 0.82 | 1875 | 2153 | 0.87 |
| | *yxnB* | 4,097,443 | 4,097,925 | + | 1257 | 1580 | 0.80 | 1606 | 2019 | 0.80 |
| | *yxaL* | 4,101,449 | 4,102,681 | - | 1357 | 1021 | 1.33 | 965 | 853 | 1.13 |
| | *yxaJ* | 4,102,782 | 4,103,210 | - | 438 | 336 | 1.30 | 642 | 571 | 1.12 |
| | *yxaB* | 4,109,973 | 4,111,004 | - | 1142 | 732 | 1.56 | 784 | 362 | 2.17 |
| | *yxaA* | 4,111,097 | 4,112,245 | - | 235 | 187 | 1.26 | 280 | 233 | 1.20 |
| | *gntR* | 4,112,441 | 4,113,172 | + | 220 | 200 | 1.10 | 553 | 375 | 1.48 |
| | *gntK* | 4,113,165 | 4,114,706 | + | 282 | 254 | 1.11 | 313 | 282 | 1.11 |
| | *gntP* | 4,114,735 | 4,116,081 | + | 280 | 223 | 1.26 | 338 | 315 | 1.07 |
| | *gntZ* | 4,116,104 | 4,117,510 | + | 453 | 326 | 1.39 | 775 | 683 | 1.13 |
| | *yydJ* | 4,123,244 | 4,123,966 | - | 487 | 457 | 1.06 | 888 | 1144 | 0.78 |
| | *yydI* | 4,123,987 | 4,124,616 | - | 975 | 919 | 1.06 | 1386 | 1776 | 0.78 |
| | *yydH* | 4,124,766 | 4,125,524 | - | 489 | 458 | 1.07 | 1012 | 1390 | 0.73 |
| | *yydG* | 4,125,505 | 4,126,464 | - | 291 | 263 | 1.11 | 1064 | 1471 | 0.72 |
| SigD regulon | | | | | | | | | | |
| | *yjbJ* | 1,234,475 | 1,235,020 | - | 1142 | 1787 | 0.64 | 1024 | 1300 | 0.79 |
| | *yjcP* | 1,265,926 | 1,266,429 | + | 935 | 940 | 0.99 | 1116 | 1129 | 0.99 |
| | *yjfB* | 1,282,480 | 1,282,647 | - | 4138 | 3845 | 1.08 | 3276 | 2517 | 1.30 |
| | *motA* | 1,433,741 | 1,434,553 | - | 2757 | 3447 | 0.80 | 1657 | 1826 | 0.91 |
| | *mcpC* | 1,462,936 | 1,464,900 | + | 2428 | 2795 | 0.87 | 1576 | 1847 | 0.85 |
| | *cheV* | 1,472,906 | 1,473,817 | + | 1075 | 1721 | 0.62 | 840 | 1273 | 0.66 |
| | *flgB* | 1,690,578 | 1,690,967 | + | 1485 | 1645 | 0.90 | 1124 | 1408 | 0.80 |
| | *yoaH* | 2,028,640 | 2,030,244 | - | 636 | 747 | 0.85 | 509 | 473 | 1.08 |
| | *degR* | 2,307,354 | 2,307,536 | - | 438 | 388 | 1.13 | 609 | 466 | 1.31 |
| | *sigA* | 2,599,447 | 2,600,562 | - | 2316 | 2484 | 0.93 | 2541 | 2689 | 0.95 |
| | *tlpB* | 3,203,106 | 3,205,094 | - | 906 | 678 | 1.34 | 853 | 544 | 1.57 |
| | *mcpA* | 3,205,208 | 3,207,193 | - | 2341 | 2982 | 0.79 | 1699 | 1948 | 0.87 |
| | *mcpB* | 3,209,484 | 3,211,472 | - | 2298 | 2752 | 0.84 | 1389 | 1540 | 0.90 |
| | *yvyC* | 3,633,455 | 3,633,784 | - | 1471 | 1655 | 0.89 | 1101 | 1191 | 0.92 |
| | *hag* | 3,634,017 | 3,634,931 | - | 10338 | 11309 | 0.91 | 8218 | 7537 | 1.09 |
| | *yvyF* | 3,639,662 | 3,640,081 | - | 1930 | 2997 | 0.64 | 1537 | 2178 | 0.71 |
| | *lytA* | 3,661,819 | 3,662,127 | - | 1981 | 2243 | 0.88 | 1864 | 2299 | 0.81 |
| | *lytD* | 3,683,856 | 3,686,498 | - | 1722 | 1710 | 1.01 | 1452 | 1413 | 1.03 |
| | *nfrA* | 3,910,500 | 3,911,249 | - | 1010 | 995 | 1.01 | 989 | 818 | 1.21 |
| | *epr* | 3,938,890 | 3,940,827 | + | 2588 | 2029 | 1.28 | 1983 | 1706 | 1.16 |
| | *dltA* | 3,951,296 | 3,952,807 | + | 1883 | 1592 | 1.18 | 2538 | 2331 | 1.09 |
| | *yxkC* | 3,988,251 | 3,988,892 | + | 4082 | 4454 | 0.92 | 4279 | 4278 | 1.00 |
| Spo0A regulon | | | | | | | | | | |
| | *dnaA* | 410 | 1,750 | + | 742 | 591 | 1.26 | 918 | 1159 | 0.79 |
| | *yaaD* | 19,060 | 19,944 | + | 3198 | 2739 | 1.17 | 3257 | 3347 | 0.97 |
| | *abrB* | 44,846 | 45,136 | - | 2790 | 3430 | 0.81 | 1529 | 1682 | 0.91 |
| | *metS* | 45,631 | 47,625 | + | 902 | 897 | 1.00 | 1312 | 1453 | 0.90 |
| | *veg* | 52,761 | 53,021 | + | 9229 | 3266 | 2.83 | 8854 | 2773 | 3.19 |
| | *spoIIE* | 70,536 | 73,019 | + | 146 | 111 | 1.31 | 100 | 88 | 1.14 |
| | *ybcO* | 213,926 | 214,093 | + | 1321 | 1590 | 0.83 | 1666 | 2253 | 0.74 |
| | *ycgM* | 344,111 | 345,022 | + | 121 | 140 | 0.86 | 200 | 191 | 1.05 |
| | *yerB* | 714,772 | 715,767 | + | 1315 | 1417 | 0.93 | 1752 | 1941 | 0.90 |
| | *yfmI* | 818,648 | 819,868 | - | 114 | 139 | 0.82 | 155 | 192 | 0.81 |
| | *ygaO* | 965,533 | 966,006 | - | 312 | 294 | 1.06 | 320 | 268 | 1.20 |
| | *lytE* | 1,018,280 | 1,019,311 | + | 1099 | 866 | 1.27 | 1316 | 1644 | 0.80 |
| | *comK* | 1,116,413 | 1,116,991 | + | 670 | 733 | 0.91 | 978 | 1204 | 0.81 |
| | *med* | 1,205,937 | 1,206,890 | + | 873 | 828 | 1.05 | 616 | 570 | 1.08 |
| | *yjcP* | 1,265,926 | 1,266,429 | + | 935 | 940 | 0.99 | 1116 | 1129 | 0.99 |
| | *rapA* | 1,315,179 | 1,316,315 | + | 4045 | 5313 | 0.76 | 2750 | 3115 | 0.88 |
| | *ykaA* | 1,349,793 | 1,350,410 | - | 1207 | 1129 | 1.07 | 1174 | 1188 | 0.99 |
| | *kinA* | 1,469,330 | 1,471,150 | + | 299 | 297 | 1.01 | 297 | 339 | 0.88 |
| | *ykzF* | 1,484,424 | 1,484,621 | + | 2185 | 2345 | 0.93 | 3142 | 3377 | 0.93 |
| | *ykuL* | 1,484,759 | 1,485,202 | + | 312 | 336 | 0.93 | 341 | 314 | 1.09 |
| | *ykuV* | 1,492,182 | 1,492,643 | + | 604 | 526 | 1.15 | 816 | 717 | 1.14 |
| | *rok* | 1,493,094 | 1,493,669 | + | 307 | 330 | 0.93 | 488 | 607 | 0.80 |
| | *fruR* | 1,506,885 | 1,507,640 | + | 801 | 934 | 0.86 | 560 | 388 | 1.44 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *kinC* | 1,517,640 | 1,518,926 | + | 564 | 490 | 1.15 | 681 | 675 | 1.01 |
| *spoIIGA* | 1,603,076 | 1,604,005 | + | 39 | 41 | 0.96 | 43 | 49 | 0.89 |
| *ylmD* | 1,608,624 | 1,609,460 | + | 1686 | 1521 | 1.11 | 1787 | 1751 | 1.02 |
| *divIVA* | 1,611,824 | 1,612,318 | + | 939 | 926 | 1.01 | 1527 | 1795 | 0.85 |
| *flgB* | 1,690,578 | 1,690,967 | + | 1485 | 1645 | 0.90 | 1124 | 1408 | 0.80 |
| *tkt* | 1,919,070 | 1,921,073 | + | 1791 | 1747 | 1.02 | 2316 | 2302 | 1.01 |
| *yneE* | 1,921,226 | 1,921,672 | + | 65 | 82 | 0.80 | 77 | 85 | 0.91 |
| *yocH* | 2,092,110 | 2,092,973 | - | 2335 | 1673 | 1.40 | 3901 | 3488 | 1.12 |
| *cotD* | 2,331,981 | 2,332,208 | - | 1096 | 740 | 1.48 | 1081 | 958 | 1.13 |
| *yppF* | 2,337,779 | 2,337,967 | + | 162 | 222 | 0.73 | 104 | 158 | 0.66 |
| *yppD* | 2,338,423 | 2,338,668 | - | 45 | 50 | 0.90 | 42 | 52 | 0.79 |
| *spoIIAA* | 2,443,834 | 2,444,187 | - | 495 | 575 | 0.86 | 448 | 436 | 1.03 |
| *spo0A* | 2,517,257 | 2,518,060 | - | 924 | 805 | 1.15 | 859 | 889 | 0.97 |
| *sinI* | 2,551,678 | 2,551,851 | + | 351 | 310 | 1.13 | 376 | 567 | 0.66 |
| *yqzD* | 2,575,599 | 2,575,952 | + | 1783 | 1470 | 1.21 | 1933 | 1805 | 1.07 |
| *dnaG* | 2,600,761 | 2,602,572 | - | 1192 | 1257 | 0.95 | 1405 | 1692 | 0.83 |
| *era* | 2,609,274 | 2,610,179 | - | 1565 | 1383 | 1.13 | 1898 | 2016 | 0.94 |
| *yqcG* | 2,660,329 | 2,661,924 | + | 625 | 512 | 1.22 | 726 | 704 | 1.03 |
| *yqxI* | 2,663,156 | 2,663,635 | - | 1572 | 1362 | 1.15 | 1633 | 1391 | 1.17 |
| *yrrL* | 2,795,114 | 2,796,196 | - | 692 | 544 | 1.27 | 976 | 805 | 1.21 |
| *accD* | 2,987,732 | 2,988,520 | - | 1607 | 1573 | 1.02 | 2284 | 2377 | 0.96 |
| *yttP* | 3,031,460 | 3,032,083 | - | 59 | 68 | 0.86 | 66 | 78 | 0.85 |
| *yusE* | 3,364,096 | 3,364,416 | - | 260 | 238 | 1.09 | 301 | 301 | 1.00 |
| *yvaW* | 3,463,320 | 3,463,796 | + | 497 | 550 | 0.90 | 1158 | 1926 | 0.60 |
| *ftsE* | 3,623,851 | 3,624,537 | - | 1142 | 898 | 1.27 | 1345 | 1449 | 0.93 |
| *yvyD* | 3,630,033 | 3,630,602 | - | 6016 | 6920 | 0.87 | 4101 | 3652 | 1.12 |
| *yvyE* | 3,645,783 | 3,646,436 | + | 469 | 431 | 1.09 | 599 | 716 | 0.84 |
| *ywqC* | 3,731,552 | 3,732,298 | - | 215 | 226 | 0.95 | 377 | 427 | 0.88 |
| *spoIID* | 3,775,745 | 3,776,776 | - | 190 | 194 | 0.98 | 133 | 136 | 0.98 |
| *ywkC* | 3,797,812 | 3,798,366 | + | 433 | 429 | 1.01 | 544 | 480 | 1.13 |
| *spo0F* | 3,808,573 | 3,808,947 | - | 742 | 740 | 1.00 | 604 | 811 | 0.75 |
| *rocG* | 3,879,762 | 3,881,036 | - | 310 | 418 | 0.74 | 281 | 351 | 0.80 |
| *ywcH* | 3,909,325 | 3,910,326 | - | 187 | 172 | 1.09 | 176 | 156 | 1.12 |
| *nfrA* | 3,910,500 | 3,911,249 | - | 1010 | 995 | 1.01 | 989 | 818 | 1.21 |
| *dltA* | 3,951,296 | 3,952,807 | + | 1883 | 1592 | 1.18 | 2538 | 2331 | 1.09 |
| *yxbC* | 4,094,935 | 4,095,927 | - | 1807 | 2140 | 0.84 | 1970 | 2156 | 0.91 |
| *rocR* | 4,144,771 | 4,146,156 | + | 172 | 166 | 1.03 | 237 | 277 | 0.86 |
| *soj* | 4,205,421 | 4,206,182 | - | 1343 | 1173 | 1.14 | 1282 | 1223 | 1.05 |

**Table S6.** Transcriptome analysis in Veg overexpression cells (pO-veg) compared with its control cells (pO-MCS).

| Gene name | Location | | | Experiment 1 | | | Experiment 2 | | | Description [a] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Signal intensity of RNA | | Expression ratio | Signal intensity of RNA | | Expression ratio | |
| | start | end | strand | pO-veg_01 | pO-MCS_01 | pO-veg /pO-MCS_01 | pO-veg_02 | pO-MCS_02 | pO-veg /pO-MCS_02 | |
| *dnaA* | 410 | 1,750 | + | 742 | 591 | 1.26 | 918 | 1159 | 0.79 | Spo0A regulon |
| *dnaN* | 1,939 | 3,075 | + | 398 | 279 | 1.43 | 687 | 729 | 0.94 | |
| *yaaA* | 3,206 | 3,421 | + | 699 | 674 | 1.04 | 783 | 987 | 0.79 | |
| *recF* | 3,437 | 4,549 | + | 1411 | 1196 | 1.18 | 1214 | 1378 | 0.88 | |
| *yaaB* | 4,567 | 4,725 | + | 1585 | 1301 | 1.22 | 1414 | 1552 | 0.91 | |
| *gyrB* | 4,866 | 6,782 | + | 1781 | 1592 | 1.12 | 2161 | 2257 | 0.96 | |
| *gyrA* | 6,993 | 9,458 | + | 1528 | 1250 | 1.22 | 1910 | 1940 | 0.99 | |
| *yaaC* | 14,845 | 15,792 | - | 51 | 37 | 1.39 | 30 | 30 | 0.98 | |
| *guaB* | 15,913 | 17,379 | + | 1622 | 1676 | 0.97 | 2065 | 2079 | 0.99 | |
| *dacA* | 17,532 | 18,863 | + | 815 | 730 | 1.12 | 1175 | 1389 | 0.85 | |
| *yaaD* | 19,060 | 19,944 | + | 3198 | 2739 | 1.17 | 3257 | 3347 | 0.97 | Spo0A regulon |
| *yaaE* | 19,966 | 20,556 | + | 3247 | 2767 | 1.17 | 3062 | 2974 | 1.03 | |
| *serS* | 20,878 | 22,155 | + | 2051 | 1831 | 1.12 | 1615 | 1508 | 1.07 | |
| *dck* | 22,494 | 23,147 | - | 493 | 385 | 1.28 | 557 | 558 | 1.00 | |
| *dgk* | 23,144 | 23,767 | - | 467 | 366 | 1.27 | 602 | 602 | 1.00 | |
| *yaaH* | 23,866 | 25,149 | - | 544 | 274 | 1.98 | 170 | 78 | 2.18 | |
| *yaaI* | 25,219 | 25,764 | - | 1884 | 1022 | 1.84 | 577 | 179 | 3.23 | |
| *yaaJ* | 25,850 | 26,335 | + | 249 | 238 | 1.04 | 252 | 283 | 0.89 | |
| *dnaX* | 26,812 | 28,503 | + | 480 | 368 | 1.30 | 607 | 664 | 0.91 | |
| *yaaK* | 28,527 | 28,850 | + | 1958 | 1447 | 1.35 | 2186 | 2475 | 0.88 | |
| *recR* | 28,865 | 29,461 | + | 807 | 530 | 1.52 | 1094 | 1030 | 1.06 | |
| *yaaL* | 29,479 | 29,703 | + | 421 | 297 | 1.42 | 511 | 544 | 0.94 | |
| *bofA* | 29,770 | 30,033 | + | 162 | 100 | 1.62 | 171 | 179 | 0.95 | |
| *csfB* | 35,529 | 35,723 | + | 113 | 84 | 1.35 | 90 | 61 | 1.48 | |
| *xpaC* | 35,843 | 36,457 | + | 367 | 340 | 1.08 | 290 | 305 | 0.95 | |
| *yaaN* | 36,476 | 37,636 | + | 381 | 375 | 1.02 | 491 | 463 | 1.06 | |
| *yaaO* | 37,718 | 39,160 | + | 219 | 176 | 1.25 | 269 | 293 | 0.92 | |
| *tmk* | 39,157 | 39,795 | + | 757 | 445 | 1.70 | 690 | 612 | 1.13 | |
| *yaaQ* | 39,869 | 40,198 | + | 1627 | 1380 | 1.18 | 1441 | 1301 | 1.11 | |
| *yaaR* | 40,211 | 40,651 | + | 1579 | 1345 | 1.17 | 1320 | 1236 | 1.07 | |
| *holB* | 40,663 | 41,652 | + | 1215 | 967 | 1.26 | 1000 | 966 | 1.04 | |
| *yaaT* | 41,655 | 42,482 | + | 1272 | 963 | 1.32 | 1226 | 1267 | 0.97 | |
| *yabA* | 42,497 | 42,856 | + | 305 | 275 | 1.11 | 447 | 462 | 0.97 | |
| *yabB* | 42,915 | 43,658 | + | 295 | 225 | 1.31 | 364 | 388 | 0.94 | |
| *yazA* | 43,645 | 43,944 | + | 198 | 166 | 1.19 | 374 | 393 | 0.95 | |
| *yabC* | 43,919 | 44,797 | + | 353 | 272 | 1.30 | 568 | 556 | 1.02 | |
| *abrB* | 44,846 | 45,136 | - | 2790 | 3430 | 0.81 | 1529 | 1682 | 0.91 | Spo0A regulon |
| *metS* | 45,631 | 47,625 | + | 902 | 897 | 1.00 | 1312 | 1453 | 0.90 | Spo0A regulon |
| *yabD* | 47,704 | 48,471 | + | 345 | 340 | 1.01 | 700 | 642 | 1.09 | |
| *yabE* | 48,627 | 49,940 | + | 624 | 816 | 0.76 | 766 | 1199 | 0.64 | |
| *rnmV* | 50,085 | 50,645 | + | 286 | 255 | 1.12 | 331 | 399 | 0.83 | |
| *ksgA* | 50,638 | 51,516 | + | 357 | 282 | 1.27 | 461 | 494 | 0.93 | |
| *yabG* | 51,678 | 52,550 | + | 63 | 64 | 0.99 | 60 | 65 | 0.91 | |
| *veg* | 52,761 | 53,021 | + | 9229 | 3266 | 2.83 | 8854 | 2773 | 3.19 | Spo0A regulon |
| *sspF* | 53,181 | 53,366 | + | 131 | 192 | 0.68 | 91 | 142 | 0.64 | |
| *ispE* | 53,514 | 54,383 | + | 815 | 816 | 1.00 | 1068 | 1167 | 0.92 | |
| *purR* | 54,439 | 55,296 | + | 1618 | 1619 | 1.00 | 1789 | 1794 | 1.00 | |
| *yabJ* | 55,293 | 55,670 | + | 2111 | 2056 | 1.03 | 2153 | 2007 | 1.07 | |
| *spoVG* | 55,864 | 56,157 | + | 3895 | 4865 | 0.80 | 3645 | 4045 | 0.90 | AbrB regulon |
| *gcaD* | 56,350 | 57,720 | + | 796 | 720 | 1.11 | 1455 | 1704 | 0.85 | |
| *prs* | 57,743 | 58,696 | + | 840 | 632 | 1.33 | 1497 | 1543 | 0.97 | |
| *ctc* | 58,781 | 59,395 | + | 5905 | 6724 | 0.88 | 3760 | 3336 | 1.13 | |
| *spoVC* | 59,502 | 60,068 | + | 1327 | 1433 | 0.93 | 793 | 761 | 1.04 | |
| *yabK* | 60,128 | 60,358 | + | 1086 | 1107 | 0.98 | 686 | 683 | 1.00 | |
| *mfd* | 60,428 | 63,961 | + | 827 | 754 | 1.10 | 845 | 762 | 1.11 | |
| *spoVT* | 64,097 | 64,633 | + | 402 | 389 | 1.03 | 618 | 515 | 1.20 | |
| *yabM* | 64,815 | 66,413 | + | 175 | 144 | 1.22 | 287 | 245 | 1.17 | |
| *yabN* | 66,403 | 67,872 | + | 906 | 811 | 1.12 | 1138 | 1042 | 1.09 | |
| *yabO* | 67,875 | 68,135 | + | 1541 | 1469 | 1.05 | 1787 | 1691 | 1.06 | |
| *yabP* | 68,214 | 68,516 | + | 956 | 848 | 1.13 | 1051 | 956 | 1.10 | |
| *yabQ* | 68,513 | 69,148 | + | 1623 | 1079 | 1.50 | 1181 | 1039 | 1.14 | |
| *divIC* | 69,166 | 69,543 | + | 1943 | 1400 | 1.39 | 1674 | 1880 | 0.89 | |
| *yabR* | 69,624 | 70,010 | + | 2718 | 2138 | 1.27 | 2119 | 2518 | 0.84 | |
| *spoIIE* | 70,536 | 73,019 | + | 146 | 111 | 1.31 | 100 | 88 | 1.14 | Spo0A regulon |
| *yabS* | 73,104 | 73,841 | + | 263 | 175 | 1.51 | 169 | 165 | 1.03 | |
| *yabT* | 73,807 | 74,823 | + | 333 | 213 | 1.57 | 196 | 128 | 1.54 | |
| *yacA* | 74,927 | 76,345 | + | 1270 | 938 | 1.35 | 1045 | 1106 | 0.94 | |
| *hprT* | 76,342 | 76,884 | + | 1578 | 1182 | 1.34 | 1584 | 1708 | 0.93 | |
| *ftsH* | 76,982 | 78,895 | + | 3022 | 2696 | 1.12 | 2911 | 3020 | 0.96 | |
| *yacB* | 79,090 | 79,791 | + | 531 | 479 | 1.11 | 612 | 616 | 0.99 | |
| *yacC* | 79,877 | 80,752 | + | 494 | 414 | 1.19 | 690 | 679 | 1.02 | |
| *yacD* | 80,799 | 81,692 | + | 290 | 312 | 0.93 | 491 | 571 | 0.86 | |
| *cysK* | 81,768 | 82,694 | + | 2799 | 2239 | 1.25 | 3065 | 3426 | 0.89 | |
| *pabB* | 82,861 | 84,273 | + | 604 | 528 | 1.14 | 715 | 675 | 1.06 | |
| *pabA* | 84,287 | 84,871 | + | 834 | 885 | 0.94 | 1003 | 1029 | 0.97 | |
| *pabC* | 84,871 | 85,752 | + | 504 | 438 | 1.15 | 643 | 717 | 0.90 | |
| *sul* | 85,734 | 86,591 | + | 744 | 648 | 1.15 | 963 | 1044 | 0.92 | |
| *folB* | 86,584 | 86,946 | + | 1136 | 1062 | 1.07 | 1506 | 1611 | 0.94 | |
| *folK* | 86,943 | 87,446 | + | 926 | 840 | 1.10 | 1208 | 1300 | 0.93 | |
| *yazB* | 87,398 | 87,607 | + | 972 | 828 | 1.17 | 1351 | 1479 | 0.91 | |
| *yacF* | 87,631 | 88,632 | + | 1442 | 1275 | 1.13 | 1947 | 1923 | 1.01 | |
| *lysS* | 88,724 | 90,223 | + | 1554 | 1380 | 1.13 | 2160 | 1977 | 1.09 | |
| *ctsR* | 101,446 | 101,910 | + | 2925 | 2794 | 1.05 | 1459 | 1022 | 1.43 | |
| *mcsA* | 101,924 | 102,481 | + | 2872 | 2494 | 1.15 | 975 | 759 | 1.29 | |
| *mcsB* | 102,481 | 103,572 | + | 3527 | 2915 | 1.21 | 1356 | 1187 | 1.14 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *clpC* | 103,569 | 106,001 | + | 4646 | 3614 | 1.29 | 2405 | 2058 | 1.17 | |
| *radA* | 106,093 | 107,469 | + | 1845 | 1291 | 1.43 | 1084 | 923 | 1.17 | |
| *yacK* | 107,473 | 108,555 | + | 1920 | 1449 | 1.33 | 1424 | 1276 | 1.12 | |
| *yacL* | 108,671 | 109,771 | + | 2035 | 1899 | 1.07 | 1414 | 1300 | 1.09 | |
| *yacM* | 109,786 | 110,484 | + | 1443 | 1263 | 1.14 | 1129 | 1064 | 1.06 | |
| *yacN* | 110,477 | 110,953 | + | 941 | 694 | 1.36 | 843 | 867 | 0.97 | |
| *gltX* | 111,044 | 112,495 | + | 1889 | 1704 | 1.11 | 2034 | 2210 | 0.92 | |
| *cysE* | 112,797 | 113,450 | + | 611 | 485 | 1.26 | 866 | 874 | 0.99 | |
| *cysS* | 113,447 | 114,847 | + | 851 | 775 | 1.10 | 1078 | 1027 | 1.05 | |
| *yazC* | 114,851 | 115,282 | + | 644 | 632 | 1.02 | 776 | 816 | 0.95 | |
| *yacO* | 115,266 | 116,015 | + | 1056 | 1028 | 1.03 | 1383 | 1312 | 1.05 | |
| *yacP* | 116,022 | 116,534 | + | 784 | 716 | 1.09 | 984 | 970 | 1.01 | |
| *sigH* | 116,597 | 117,253 | + | 2247 | 2439 | 0.92 | 2032 | 2540 | 0.80 | |
| *secE* | 117,529 | 117,708 | + | 665 | 837 | 0.80 | 1223 | 1626 | 0.75 | |
| *nusG* | 117,887 | 118,420 | + | 1032 | 945 | 1.09 | 1013 | 1401 | 0.72 | |
| *rplK* | 118,588 | 119,013 | + | 4108 | 4453 | 0.92 | 4695 | 4909 | 0.96 | |
| *rplA* | 119,107 | 119,805 | + | 3197 | 3508 | 0.91 | 4094 | 4361 | 0.94 | |
| *rplJ* | 120,057 | 120,557 | + | 3401 | 3954 | 0.86 | 4602 | 4496 | 1.02 | |
| *rplL* | 120,604 | 120,975 | + | 1801 | 2226 | 0.81 | 3186 | 3238 | 0.98 | |
| *ybxB* | 121,065 | 121,670 | + | 568 | 670 | 0.85 | 1026 | 1188 | 0.86 | |
| *rpoB* | 121,916 | 125,497 | + | 2626 | 2872 | 0.91 | 3290 | 3525 | 0.93 | |
| *rpoC* | 125,559 | 129,158 | + | 3201 | 3755 | 0.85 | 3747 | 3814 | 0.98 | |
| *ybxF* | 129,339 | 129,587 | + | 5745 | 5779 | 0.99 | 6169 | 5939 | 1.04 | |
| *rpsL* | 129,701 | 130,117 | + | 6365 | 6753 | 0.94 | 6755 | 6301 | 1.07 | |
| *rpsG* | 130,159 | 130,629 | + | 5468 | 5991 | 0.91 | 5665 | 5619 | 1.01 | |
| *fusA* | 130,683 | 132,761 | + | 6390 | 6916 | 0.92 | 6237 | 5959 | 1.05 | |
| *tufA* | 132,881 | 134,071 | + | 6956 | 7376 | 0.94 | 6276 | 5852 | 1.07 | |
| *ybaC* | 134,170 | 135,126 | + | 151 | 132 | 1.14 | 172 | 175 | 0.98 | |
| *rpsJ* | 135,362 | 135,670 | + | 6127 | 6618 | 0.93 | 5275 | 5292 | 1.00 | |
| *rplC* | 135,710 | 136,339 | + | 5923 | 6594 | 0.90 | 5805 | 5588 | 1.04 | |
| *rplD* | 136,367 | 136,990 | + | 6009 | 6519 | 0.92 | 5545 | 5168 | 1.07 | |
| *rplW* | 136,990 | 137,277 | + | 6655 | 6955 | 0.96 | 6569 | 6385 | 1.03 | |
| *rplB* | 137,309 | 138,142 | + | 6484 | 7081 | 0.92 | 5859 | 5674 | 1.03 | |
| *rpsS* | 138,200 | 138,478 | + | 6230 | 7027 | 0.89 | 6503 | 6246 | 1.04 | |
| *rplV* | 138,495 | 138,836 | + | 6599 | 7113 | 0.93 | 6388 | 6281 | 1.02 | |
| *rpsC* | 138,840 | 139,496 | + | 5299 | 5971 | 0.89 | 5753 | 5500 | 1.05 | |
| *rplP* | 139,498 | 139,932 | + | 5984 | 6461 | 0.93 | 5845 | 5703 | 1.02 | |
| *rpmC* | 139,922 | 140,122 | + | 6000 | 6127 | 0.98 | 4926 | 5104 | 0.97 | |
| *rpsQ* | 140,145 | 140,408 | + | 6162 | 6746 | 0.91 | 6020 | 5710 | 1.05 | |
| *rplN* | 140,449 | 140,817 | + | 7023 | 7903 | 0.89 | 6932 | 6646 | 1.04 | |
| *rplX* | 140,855 | 141,166 | + | 6423 | 7004 | 0.92 | 6038 | 5577 | 1.08 | |
| *rplE* | 141,193 | 141,732 | + | 6268 | 6792 | 0.92 | 5485 | 5095 | 1.08 | |
| *rpsN* | 141,755 | 141,940 | + | 5568 | 5656 | 0.98 | 4859 | 4400 | 1.10 | |
| *rpsH* | 141,972 | 142,370 | + | 6958 | 7571 | 0.92 | 6368 | 5817 | 1.09 | |
| *rplF* | 142,400 | 142,939 | + | 6201 | 6745 | 0.92 | 5705 | 5308 | 1.07 | |
| *rplR* | 142,972 | 143,334 | + | 7285 | 8034 | 0.91 | 6595 | 6111 | 1.08 | |
| *rpsE* | 143,359 | 143,859 | + | 6342 | 6911 | 0.92 | 5664 | 5371 | 1.05 | |
| *rpmD* | 143,873 | 144,052 | + | 3345 | 3638 | 0.92 | 2929 | 3128 | 0.94 | |
| *rplO* | 144,083 | 144,523 | + | 7038 | 7480 | 0.94 | 5898 | 5566 | 1.06 | |
| *secY* | 144,525 | 145,820 | + | 6803 | 7284 | 0.93 | 5699 | 5378 | 1.06 | |
| *adk* | 145,875 | 146,528 | + | 6646 | 6988 | 0.95 | 5538 | 5201 | 1.06 | |
| *map* | 146,525 | 147,271 | + | 6170 | 6557 | 0.94 | 5505 | 5237 | 1.05 | |
| *infA* | 147,583 | 147,801 | + | 6106 | 4767 | 1.28 | 5161 | 4907 | 1.05 | |
| *rpsM* | 147,971 | 148,336 | + | 5970 | 6389 | 0.93 | 5446 | 5053 | 1.08 | |
| *rpsK* | 148,357 | 148,752 | + | 6136 | 6540 | 0.94 | 5338 | 5056 | 1.06 | |
| *rpoA* | 148,929 | 149,873 | + | 6881 | 7291 | 0.94 | 6211 | 5811 | 1.07 | |
| *rplQ* | 149,951 | 150,313 | + | 3846 | 3982 | 0.97 | 3424 | 3382 | 1.01 | |
| *ybxA* | 150,441 | 151,286 | + | 750 | 746 | 1.01 | 1072 | 1025 | 1.05 | |
| *ybaE* | 151,301 | 152,131 | + | 493 | 481 | 1.02 | 662 | 650 | 1.02 | |
| *ybaF* | 152,128 | 152,925 | + | 603 | 541 | 1.12 | 660 | 652 | 1.01 | |
| *truA* | 152,935 | 153,678 | + | 942 | 759 | 1.24 | 1469 | 1287 | 1.14 | |
| *rplM* | 153,841 | 154,278 | + | 4880 | 5244 | 0.93 | 5586 | 5531 | 1.01 | |
| *rpsI* | 154,299 | 154,691 | + | 2539 | 2947 | 0.86 | 3791 | 3793 | 1.00 | |
| *ybaJ* | 155,155 | 155,922 | + | 249 | 269 | 0.92 | 440 | 505 | 0.87 | AbrB regulon |
| *ybaK* | 156,108 | 156,551 | + | 36 | 37 | 0.97 | 42 | 49 | 0.86 | |
| *cwlD* | 156,611 | 157,324 | + | 54 | 56 | 0.96 | 51 | 59 | 0.86 | |
| *ybaL* | 157,420 | 158,478 | + | 2247 | 2439 | 0.92 | 2339 | 2362 | 0.99 | |
| *gerD* | 158,514 | 159,071 | - | 32 | 36 | 0.89 | 34 | 34 | 1.01 | |
| *kbaA* | 159,181 | 159,777 | + | 238 | 298 | 0.80 | 282 | 407 | 0.69 | |
| *ybaN* | 159,778 | 160,542 | - | 29 | 34 | 0.87 | 28 | 31 | 0.88 | |
| *ybaR* | 177,082 | 178,518 | + | 280 | 254 | 1.10 | 426 | 407 | 1.04 | |
| *ybaS* | 178,733 | 179,584 | + | 189 | 149 | 1.27 | 244 | 223 | 1.10 | |
| *ybbA* | 179,594 | 180,163 | - | 183 | 205 | 0.89 | 122 | 162 | 0.75 | |
| *feuC* | 180,168 | 181,352 | - | 239 | 268 | 0.89 | 146 | 187 | 0.78 | |
| *feuB* | 181,345 | 182,349 | - | 231 | 258 | 0.90 | 115 | 142 | 0.81 | |
| *feuA* | 182,368 | 183,321 | - | 592 | 706 | 0.84 | 322 | 425 | 0.76 | |
| *ybbB* | 183,412 | 185,001 | - | 291 | 304 | 0.96 | 209 | 255 | 0.82 | |
| *ybbC* | 185,192 | 186,436 | - | 84 | 96 | 0.88 | 92 | 109 | 0.84 | |
| *ybbD* | 186,450 | 188,378 | - | 96 | 108 | 0.89 | 101 | 118 | 0.85 | |
| *ybbE* | 188,406 | 189,731 | - | 107 | 113 | 0.95 | 116 | 143 | 0.82 | |
| *ybbF* | 189,788 | 191,155 | - | 90 | 91 | 0.99 | 89 | 108 | 0.82 | |
| *ybbH* | 191,181 | 192,032 | - | 136 | 136 | 1.00 | 185 | 211 | 0.88 | |
| *ybbI* | 192,049 | 192,963 | - | 177 | 187 | 0.95 | 263 | 291 | 0.90 | |
| *ybbJ* | 193,134 | 193,553 | - | 98 | 122 | 0.80 | 107 | 107 | 1.00 | |
| *ybbK* | 193,566 | 194,021 | - | 269 | 346 | 0.78 | 282 | 281 | 1.00 | |
| *sigW* | 194,838 | 195,401 | + | 3000 | 2722 | 1.10 | 3712 | 3556 | 1.04 | |
| *ybbM* | 195,415 | 196,041 | + | 1416 | 1287 | 1.10 | 2112 | 1952 | 1.08 | |
| *ybbP* | 196,202 | 197,023 | + | 718 | 700 | 1.02 | 783 | 867 | 0.90 | |
| *ybbR* | 197,016 | 198,467 | + | 841 | 733 | 1.15 | 1143 | 1289 | 0.89 | |
| *ybbT* | 198,486 | 199,832 | + | 735 | 647 | 1.13 | 1078 | 1196 | 0.90 | |
| *glmS* | 200,263 | 202,065 | + | 873 | 836 | 1.04 | 1103 | 1312 | 0.84 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| *alkA* | 202,533 | 203,444 | - | 112 | 110 | 1.02 | 138 | 140 | 0.99 | |
| *adaA* | 203,715 | 204,350 | + | 46 | 58 | 0.80 | 38 | 35 | 1.07 | |
| *adaB* | 204,337 | 204,876 | + | 59 | 63 | 0.94 | 42 | 46 | 0.92 | |
| *ndhF* | 205,395 | 206,912 | + | 101 | 77 | 1.31 | 48 | 47 | 1.03 | |
| *ybcC* | 206,927 | 207,169 | + | 82 | 63 | 1.31 | 31 | 37 | 0.84 | |
| *ybcD* | 207,166 | 209,430 | + | 204 | 133 | 1.54 | 59 | 57 | 1.02 | |
| *ybcF* | 209,619 | 210,146 | + | 242 | 164 | 1.48 | 54 | 50 | 1.06 | |
| *ybcH* | 210,210 | 210,500 | + | 269 | 199 | 1.35 | 60 | 58 | 1.04 | |
| *ybcI* | 210,558 | 210,932 | + | 289 | 215 | 1.34 | 73 | 73 | 1.00 | |
| *ybcL* | 211,845 | 213,017 | + | 68 | 69 | 1.00 | 82 | 80 | 1.02 | |
| *ybcM* | 213,141 | 213,455 | + | 62 | 62 | 1.00 | 56 | 74 | 0.76 | |
| *ybcO* | 213,926 | 214,093 | + | 1321 | 1590 | 0.83 | 1666 | 2253 | 0.74 | Spo0A and AbrB regulo |
| *ybcP* | 214,160 | 215,392 | + | 640 | 817 | 0.78 | 889 | 1093 | 0.81 | AbrB regulon |
| *ybcS* | 215,389 | 215,946 | + | 515 | 685 | 0.75 | 781 | 948 | 0.82 | AbrB regulon |
| *ybcT* | 215,943 | 216,878 | + | 447 | 536 | 0.83 | 615 | 740 | 0.83 | AbrB regulon |
| *ybdA* | 216,897 | 217,616 | + | 498 | 581 | 0.86 | 674 | 794 | 0.85 | AbrB regulon |
| *ybdB* | 217,681 | 219,027 | + | 286 | 320 | 0.89 | 370 | 448 | 0.83 | AbrB regulon |
| *ybdD* | 219,074 | 219,487 | + | 378 | 425 | 0.89 | 565 | 627 | 0.90 | AbrB regulon |
| *ybdE* | 219,593 | 220,018 | + | 196 | 233 | 0.84 | 357 | 438 | 0.81 | AbrB regulon |
| *ybdG* | 220,264 | 221,154 | + | 119 | 114 | 1.04 | 179 | 159 | 1.13 | |
| *ybdJ* | 221,246 | 221,917 | + | 228 | 187 | 1.22 | 282 | 252 | 1.12 | |
| *ybdK* | 221,938 | 222,900 | + | 292 | 237 | 1.23 | 395 | 397 | 1.00 | |
| *ybdL* | 222,970 | 223,164 | + | 724 | 762 | 0.95 | 1142 | 1132 | 1.01 | |
| *ybdM* | 223,207 | 223,977 | - | 115 | 109 | 1.06 | 109 | 106 | 1.02 | |
| *ybdN* | 224,063 | 224,920 | - | 676 | 729 | 0.93 | 735 | 693 | 1.06 | AbrB regulon |
| *ybdO* | 225,052 | 226,236 | + | 1025 | 1622 | 0.63 | 908 | 1230 | 0.74 | AbrB and SigD regulon |
| *ybxG* | 226,554 | 227,942 | + | 412 | 510 | 0.81 | 542 | 587 | 0.92 | |
| *csgA* | 228,054 | 228,302 | + | 50 | 39 | 1.29 | 44 | 37 | 1.20 | |
| *ybxH* | 228,319 | 228,510 | + | 21 | 22 | 0.93 | 31 | 23 | 1.30 | |
| *ybxI* | 228,537 | 229,340 | - | 177 | 188 | 0.95 | 201 | 209 | 0.96 | |
| *cypC* | 229,513 | 230,766 | + | 1370 | 1039 | 1.32 | 592 | 293 | 2.02 | |
| *ybyB* | 230,807 | 231,067 | - | 8763 | 10016 | 0.87 | 5770 | 4328 | 1.33 | |
| *ybeC* | 231,336 | 232,955 | + | 1255 | 1471 | 0.85 | 994 | 1204 | 0.83 | |
| *glpQ* | 233,002 | 233,883 | - | 105 | 126 | 0.84 | 100 | 131 | 0.76 | |
| *glpT* | 233,982 | 235,316 | - | 78 | 101 | 0.77 | 70 | 99 | 0.70 | |
| *ybeF* | 235,613 | 235,861 | + | 34 | 38 | 0.89 | 44 | 42 | 1.05 | |
| *ybfA* | 235,953 | 236,870 | + | 185 | 180 | 1.03 | 187 | 195 | 0.96 | |
| *ybfB* | 236,867 | 238,117 | + | 131 | 118 | 1.12 | 134 | 135 | 0.99 | |
| *ybfE* | 238,152 | 238,436 | - | 100 | 73 | 1.37 | 160 | 174 | 0.92 | |
| *ybfF* | 238,632 | 239,543 | - | 197 | 138 | 1.43 | 333 | 268 | 1.24 | |
| *ybfG* | 239,632 | 241,830 | - | 1349 | 559 | 2.41 | 2187 | 1126 | 1.94 | |
| *ybfH* | 241,905 | 242,825 | - | 113 | 144 | 0.79 | 132 | 158 | 0.84 | |
| *ybfI* | 242,822 | 243,649 | - | 160 | 209 | 0.77 | 136 | 185 | 0.74 | |
| *purT* | 243,880 | 245,034 | + | 1126 | 1071 | 1.05 | 1518 | 1433 | 1.06 | |
| *mpr* | 245,178 | 246,119 | + | 584 | 619 | 0.94 | 676 | 650 | 1.04 | |
| *ybfJ* | 246,082 | 246,480 | + | 154 | 156 | 0.99 | 185 | 203 | 0.91 | |
| *ybfK* | 246,646 | 247,536 | + | 591 | 498 | 1.19 | 569 | 651 | 0.87 | |
| *pssA* | 247,732 | 248,265 | + | 452 | 401 | 1.13 | 537 | 614 | 0.87 | |
| *ybfM* | 248,256 | 248,744 | + | 358 | 286 | 1.25 | 439 | 470 | 0.93 | |
| *psd* | 248,737 | 249,528 | + | 421 | 343 | 1.23 | 443 | 483 | 0.92 | |
| *ybfN* | 249,583 | 249,861 | + | 64 | 70 | 0.92 | 65 | 71 | 0.91 | |
| *ybfO* | 249,967 | 251,307 | + | 662 | 543 | 1.22 | 1090 | 960 | 1.14 | AbrB regulon |
| *ybfP* | 251,415 | 252,302 | + | 220 | 185 | 1.19 | 407 | 344 | 1.18 | AbrB regulon |
| *ybfQ* | 252,502 | 253,470 | + | 1191 | 1133 | 1.05 | 1342 | 1206 | 1.11 | |
| *gltP* | 253,506 | 254,750 | - | 145 | 155 | 0.93 | 134 | 138 | 0.97 | |
| *gamP* | 254,895 | 256,790 | - | 266 | 550 | 0.48 | 236 | 495 | 0.48 | |
| *gamA* | 256,811 | 257,560 | - | 327 | 664 | 0.49 | 339 | 625 | 0.54 | |
| *ybgA* | 257,779 | 258,486 | + | 183 | 171 | 1.07 | 210 | 212 | 0.99 | |
| *ybgB* | 258,520 | 258,795 | + | 69 | 69 | 1.01 | 114 | 106 | 1.07 | |
| *ybgE* | 259,004 | 260,074 | + | 447 | 474 | 0.94 | 667 | 579 | 1.15 | |
| *ybgF* | 260,111 | 261,523 | - | 336 | 239 | 1.41 | 619 | 528 | 1.17 | |
| *ybgG* | 261,644 | 262,591 | - | 251 | 263 | 0.96 | 315 | 343 | 0.92 | |
| *ybgH* | 262,720 | 264,111 | - | 93 | 94 | 1.00 | 69 | 73 | 0.95 | |
| *ybgJ* | 264,181 | 265,164 | - | 57 | 64 | 0.89 | 49 | 57 | 0.85 | |
| *ycbA* | 265,536 | 266,699 | + | 140 | 127 | 1.10 | 134 | 151 | 0.89 | |
| *ycbB* | 266,710 | 267,654 | + | 134 | 112 | 1.19 | 166 | 175 | 0.94 | |
| *ycbC* | 267,881 | 268,807 | + | 84 | 85 | 0.99 | 77 | 96 | 0.79 | |
| *ycbD* | 268,837 | 270,303 | + | 121 | 131 | 0.92 | 107 | 134 | 0.80 | |
| *ycbE* | 270,387 | 271,754 | + | 77 | 79 | 0.97 | 65 | 75 | 0.86 | |
| *ycbF* | 271,791 | 273,158 | + | 131 | 140 | 0.94 | 103 | 125 | 0.83 | |
| *ycbG* | 273,228 | 273,929 | + | 245 | 232 | 1.05 | 423 | 455 | 0.93 | |
| *ycbH* | 274,020 | 275,552 | + | 118 | 118 | 1.00 | 123 | 139 | 0.89 | |
| *ycbJ* | 275,829 | 276,749 | + | 825 | 808 | 1.02 | 870 | 986 | 0.88 | |
| *yczA* | 277,151 | 277,312 | + | 95 | 115 | 0.83 | 151 | 143 | 1.06 | |
| *ycbK* | 277,333 | 278,271 | + | 179 | 182 | 0.98 | 172 | 180 | 0.95 | |
| *ycbL* | 278,368 | 279,048 | + | 98 | 97 | 1.01 | 98 | 118 | 0.84 | |
| *ycbM* | 279,050 | 279,526 | + | 166 | 175 | 0.94 | 252 | 273 | 0.92 | |
| *ycbN* | 279,682 | 280,521 | + | 119 | 110 | 1.08 | 161 | 177 | 0.91 | |
| *ycbO* | 280,640 | 281,254 | + | 145 | 116 | 1.25 | 242 | 237 | 1.02 | |
| *ycbP* | 281,309 | 281,695 | - | 2851 | 1822 | 1.56 | 1679 | 848 | 1.98 | |
| *cwlJ* | 282,009 | 282,437 | + | 71 | 69 | 1.04 | 61 | 73 | 0.84 | |
| *ycbR* | 282,543 | 283,274 | + | 93 | 90 | 1.04 | 95 | 111 | 0.85 | |
| *phoD* | 283,553 | 285,223 | + | 81 | 80 | 1.01 | 59 | 69 | 0.86 | |
| *tatAD* | 285,318 | 285,530 | + | 58 | 62 | 0.93 | 56 | 51 | 1.09 | |
| *tatCD* | 285,591 | 286,328 | + | 46 | 51 | 0.89 | 41 | 47 | 0.88 | |
| *pcp* | 286,325 | 286,972 | - | 422 | 365 | 1.16 | 429 | 381 | 1.13 | |
| *ycbU* | 287,051 | 288,163 | + | 342 | 288 | 1.19 | 313 | 287 | 1.09 | |
| *lmrB* | 288,205 | 289,644 | - | 161 | 134 | 1.20 | 313 | 342 | 0.92 | |
| *lmrA* | 289,684 | 290,250 | - | 169 | 186 | 0.91 | 265 | 308 | 0.86 | |
| *yccC* | 290,467 | 291,594 | + | 106 | 132 | 0.81 | 79 | 90 | 0.88 | |
| *lip* | 291,757 | 292,395 | + | 1120 | 1088 | 1.03 | 2629 | 2542 | 1.03 | AbrB regulon |

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|---|---|---|---|---|---|---|---|---|---|---|
| *yczC* | 292,433 | 292,816 | - | 142 | 134 | 1.06 | 141 | 119 | 1.18 | |
| *yccF* | 293,051 | 294,127 | + | 508 | 449 | 1.13 | 647 | 725 | 0.89 | |
| *yccG* | 294,167 | 295,123 | - | 150 | 134 | 1.12 | 157 | 170 | 0.92 | |
| *yccH* | 295,136 | 295,837 | - | 134 | 123 | 1.09 | 172 | 183 | 0.94 | |
| *natA* | 295,981 | 296,721 | + | 109 | 96 | 1.14 | 118 | 117 | 1.02 | |
| *natB* | 296,722 | 297,882 | + | 129 | 101 | 1.28 | 193 | 156 | 1.23 | |
| *yccK* | 298,018 | 298,950 | + | 273 | 262 | 1.04 | 320 | 310 | 1.03 | |
| *ycdA* | 298,990 | 300,054 | - | 1002 | 600 | 1.67 | 1244 | 891 | 1.40 | AbrB regulon |
| *ycdB* | 300,382 | 301,800 | + | 148 | 140 | 1.06 | 209 | 182 | 1.15 | |
| *ycdC* | 301,987 | 303,348 | + | 141 | 114 | 1.23 | 169 | 171 | 0.99 | |
| *ycdD* | 303,356 | 303,859 | - | 152 | 132 | 1.15 | 151 | 151 | 1.00 | |
| *rapJ* | 303,982 | 305,103 | + | 746 | 641 | 1.16 | 665 | 724 | 0.92 | |
| *ycdF* | 305,210 | 305,986 | + | 3691 | 2442 | 1.51 | 1655 | 748 | 2.21 | |
| *ycdG* | 306,011 | 307,696 | + | 3876 | 2446 | 1.58 | 1428 | 578 | 2.47 | |
| *ycdH* | 307,884 | 308,843 | + | 321 | 208 | 1.55 | 184 | 181 | 1.01 | |
| *ycdI* | 308,899 | 309,594 | + | 202 | 197 | 1.02 | 187 | 190 | 0.98 | |
| *yceA* | 309,552 | 310,394 | + | 179 | 142 | 1.26 | 252 | 212 | 1.19 | |
| *yceB* | 310,432 | 311,373 | - | 109 | 99 | 1.10 | 119 | 121 | 0.99 | |
| *yceC* | 311,711 | 312,310 | + | 3220 | 2891 | 1.11 | 3730 | 3694 | 1.01 | |
| *yceD* | 312,332 | 312,913 | + | 3413 | 3105 | 1.10 | 3947 | 3648 | 1.08 | |
| *yceE* | 312,948 | 313,526 | + | 3029 | 2968 | 1.02 | 3732 | 3585 | 1.04 | |
| *yceF* | 313,577 | 314,350 | + | 3201 | 3000 | 1.07 | 3558 | 3416 | 1.04 | |
| *yceG* | 314,435 | 316,048 | + | 1352 | 1199 | 1.13 | 1816 | 1621 | 1.12 | |
| *yceH* | 316,064 | 317,155 | + | 1753 | 1528 | 1.15 | 2303 | 2036 | 1.13 | |
| *yceI* | 317,277 | 318,479 | + | 911 | 682 | 1.34 | 828 | 821 | 1.01 | |
| *yceJ* | 318,732 | 319,904 | - | 47 | 47 | 1.00 | 44 | 47 | 0.93 | |
| *yceK* | 319,973 | 320,275 | - | 154 | 151 | 1.02 | 178 | 366 | 0.49 | |
| *opuAA* | 320,565 | 321,821 | + | 1600 | 1171 | 1.37 | 2766 | 3192 | 0.87 | |
| *opuAB* | 321,823 | 322,671 | + | 1964 | 1644 | 1.19 | 3753 | 3747 | 1.00 | |
| *opuAC* | 322,671 | 323,552 | + | 1618 | 1523 | 1.06 | 3215 | 3306 | 0.97 | |
| *amhX* | 323,571 | 324,740 | - | 1470 | 1351 | 1.09 | 1324 | 1212 | 1.09 | |
| *ycgA* | 325,133 | 326,323 | + | 297 | 267 | 1.11 | 166 | 164 | 1.01 | |
| *ycgB* | 326,439 | 327,020 | + | 221 | 198 | 1.11 | 147 | 142 | 1.03 | |
| *amyE* | 327,169 | 329,151 | + | 230 | 248 | 0.93 | 214 | 196 | 1.09 | AbrB regulon |
| *ldh* | 329,328 | 330,293 | + | 9799 | 10347 | 0.95 | 5502 | 4795 | 1.15 | |
| *lctP* | 330,325 | 331,950 | + | 7025 | 7487 | 0.94 | 1492 | 938 | 1.59 | |
| *mdr* | 332,258 | 333,538 | - | 199 | 242 | 0.82 | 270 | 414 | 0.65 | |
| *ycgE* | 333,651 | 334,118 | + | 137 | 132 | 1.04 | 118 | 178 | 0.66 | |
| *ycgF* | 334,192 | 334,821 | + | 168 | 142 | 1.18 | 162 | 215 | 0.75 | |
| *ycgG* | 334,891 | 335,652 | + | 123 | 109 | 1.13 | 125 | 169 | 0.74 | |
| *ycgH* | 335,684 | 336,817 | - | 59 | 61 | 0.95 | 51 | 61 | 0.84 | |
| *ycgI* | 336,984 | 337,718 | + | 52 | 52 | 1.01 | 53 | 68 | 0.77 | |
| *nadE* | 337,848 | 338,666 | + | 3557 | 2595 | 1.37 | 2235 | 1644 | 1.36 | |
| *tmrB* | 338,716 | 339,309 | - | 127 | 113 | 1.12 | 184 | 160 | 1.15 | |
| *aroK* | 339,585 | 340,145 | + | 103 | 113 | 0.91 | 154 | 161 | 0.96 | |
| *ycgJ* | 340,173 | 340,859 | - | 121 | 131 | 0.92 | 122 | 126 | 0.97 | |
| *ycgK* | 341,052 | 342,026 | + | 83 | 91 | 0.91 | 96 | 124 | 0.77 | |
| *cah* | 342,098 | 343,054 | + | 138 | 145 | 0.95 | 260 | 335 | 0.78 | |
| *ycgL* | 343,138 | 343,920 | + | 154 | 132 | 1.17 | 370 | 385 | 0.96 | |
| *ycgM* | 344,111 | 345,022 | + | 121 | 140 | 0.86 | 200 | 191 | 1.05 | Spo0A regulon |
| *ycgN* | 345,039 | 346,586 | + | 214 | 220 | 0.97 | 328 | 323 | 1.02 | |
| *ycgO* | 346,782 | 348,131 | + | 716 | 481 | 1.49 | 1054 | 946 | 1.11 | |
| *ycgP* | 348,284 | 349,519 | + | 136 | 155 | 0.88 | 151 | 158 | 0.95 | |
| *ycgQ* | 349,556 | 350,413 | - | 109 | 106 | 1.03 | 208 | 208 | 1.00 | |
| *ycgR* | 350,418 | 351,302 | - | 118 | 104 | 1.13 | 147 | 159 | 0.92 | |
| *ycgS* | 351,402 | 352,256 | - | 61 | 71 | 0.87 | 85 | 87 | 0.98 | |
| *ycgT* | 352,418 | 353,428 | + | 575 | 805 | 0.71 | 457 | 676 | 0.68 | |
| *nasF* | 353,460 | 354,911 | - | 1595 | 829 | 1.92 | 514 | 389 | 1.32 | |
| *nasE* | 354,972 | 355,292 | - | 2563 | 1327 | 1.93 | 495 | 303 | 1.64 | |
| *nasD* | 355,324 | 357,741 | - | 2621 | 1216 | 2.16 | 395 | 207 | 1.91 | |
| *nasC* | 357,863 | 359,995 | - | 105 | 100 | 1.05 | 83 | 97 | 0.86 | |
| *nasB* | 360,002 | 362,314 | - | 101 | 93 | 1.09 | 79 | 82 | 0.96 | |
| *nasA* | 362,494 | 363,759 | + | 153 | 131 | 1.17 | 106 | 116 | 0.92 | |
| *yciA* | 363,815 | 364,732 | + | 37 | 39 | 0.93 | 35 | 38 | 0.92 | |
| *yciB* | 364,729 | 365,313 | + | 39 | 44 | 0.89 | 39 | 48 | 0.81 | |
| *yciC* | 365,622 | 366,815 | + | 68 | 67 | 1.00 | 45 | 56 | 0.81 | |
| *yckA* | 366,864 | 367,544 | - | 92 | 108 | 0.86 | 183 | 207 | 0.89 | |
| *yckB* | 367,554 | 368,417 | - | 247 | 279 | 0.89 | 380 | 509 | 0.75 | |
| *yckC* | 368,795 | 369,250 | + | 223 | 141 | 1.58 | 146 | 115 | 1.28 | |
| *yckD* | 369,332 | 369,664 | + | 49 | 53 | 0.91 | 47 | 49 | 0.95 | |
| *yckE* | 369,818 | 371,251 | + | 73 | 74 | 0.99 | 83 | 88 | 0.95 | |
| *nin* | 371,288 | 371,686 | - | 675 | 709 | 0.95 | 572 | 851 | 0.67 | |
| *nucA* | 371,713 | 372,156 | - | 1344 | 1345 | 1.00 | 1395 | 1657 | 0.84 | |
| *tlpC* | 372,330 | 374,051 | - | 464 | 366 | 1.27 | 405 | 348 | 1.16 | SigD regulon |
| *hxlB* | 374,162 | 374,719 | - | 997 | 1236 | 0.81 | 250 | 253 | 0.99 | |
| *hxlA* | 374,725 | 375,357 | - | 1012 | 1265 | 0.80 | 245 | 273 | 0.90 | |
| *hxlR* | 375,589 | 375,951 | + | 368 | 420 | 0.88 | 481 | 561 | 0.86 | |
| *srfAA* | 376,525 | 387,291 | + | 5449 | 6398 | 0.85 | 5098 | 5311 | 0.96 | |
| *srfAB* | 387,304 | 398,067 | + | 6857 | 8150 | 0.84 | 5967 | 6010 | 0.99 | |
| *srfAC* | 398,104 | 401,928 | + | 6740 | 7877 | 0.86 | 5980 | 6048 | 0.99 | |
| *srfAD* | 401,957 | 402,685 | + | 4807 | 6035 | 0.80 | 4409 | 4528 | 0.97 | |
| *ycxA* | 402,786 | 404,015 | + | 392 | 514 | 0.76 | 368 | 487 | 0.76 | |
| *ycxB* | 404,030 | 404,587 | - | 104 | 94 | 1.11 | 134 | 130 | 1.04 | |
| *ycxC* | 404,641 | 405,579 | - | 96 | 86 | 1.12 | 65 | 79 | 0.83 | |
| *ycxD* | 405,703 | 407,037 | + | 77 | 78 | 0.99 | 74 | 85 | 0.87 | |
| *sfp* | 407,210 | 407,707 | - | 183 | 183 | 1.00 | 238 | 233 | 1.02 | |
| *yczE* | 407,812 | 408,459 | - | 126 | 142 | 0.89 | 169 | 176 | 0.96 | |
| *yckI* | 408,777 | 409,520 | - | 668 | 349 | 1.92 | 700 | 447 | 1.57 | |
| *yckJ* | 409,534 | 410,238 | - | 499 | 255 | 1.96 | 536 | 343 | 1.56 | |
| *yckK* | 410,225 | 411,031 | - | 859 | 493 | 1.74 | 928 | 604 | 1.54 | |
| *yclA* | 411,146 | 412,018 | - | 267 | 195 | 1.37 | 181 | 109 | 1.66 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *yclB* | 412,108 | 412,722 | + | 87 | 95 | 0.92 | 66 | 78 | 0.85 |
| *yclC* | 412,725 | 414,146 | + | 61 | 72 | 0.84 | 68 | 77 | 0.88 |
| *yclD* | 414,163 | 414,852 | + | 69 | 78 | 0.88 | 75 | 87 | 0.86 |
| *yclE* | 414,918 | 415,763 | + | 138 | 135 | 1.02 | 116 | 118 | 0.98 |
| *yclF* | 415,803 | 417,281 | - | 64 | 69 | 0.93 | 62 | 73 | 0.84 |
| *yclG* | 417,561 | 419,315 | + | 60 | 57 | 1.05 | 46 | 52 | 0.89 |
| *yczF* | 419,331 | 419,552 | - | 29 | 32 | 0.91 | 39 | 37 | 1.06 |
| *gerKA* | 419,678 | 421,312 | + | 101 | 96 | 1.05 | 78 | 96 | 0.81 |
| *gerKC* | 421,302 | 422,525 | + | 98 | 88 | 1.11 | 94 | 92 | 1.03 |
| *gerKB* | 422,550 | 423,671 | + | 85 | 81 | 1.06 | 90 | 87 | 1.03 |
| *yclH* | 423,776 | 424,456 | - | 74 | 72 | 1.03 | 61 | 69 | 0.88 |
| *yclI* | 424,472 | 425,932 | - | 95 | 87 | 1.09 | 69 | 90 | 0.77 |
| *yclJ* | 426,145 | 426,828 | + | 325 | 301 | 1.08 | 281 | 259 | 1.09 |
| *yclK* | 426,815 | 428,236 | + | 587 | 480 | 1.22 | 565 | 533 | 1.06 |
| *rapC* | 428,399 | 429,547 | + | 1372 | 1352 | 1.02 | 1102 | 1398 | 0.79 |
| *yclM* | 430,191 | 431,555 | - | 444 | 497 | 0.89 | 745 | 687 | 1.08 |
| *yclN* | 431,940 | 432,890 | + | 535 | 433 | 1.24 | 529 | 629 | 0.84 |
| *yclO* | 432,883 | 433,830 | + | 607 | 428 | 1.42 | 600 | 692 | 0.87 |
| *yclP* | 433,824 | 434,582 | + | 1136 | 792 | 1.43 | 1110 | 1307 | 0.85 |
| *yclQ* | 434,604 | 435,557 | + | 1253 | 875 | 1.43 | 1383 | 1665 | 0.83 |
| *ycnB* | 435,604 | 437,022 | - | 294 | 230 | 1.28 | 391 | 342 | 1.14 |
| *ycnC* | 437,042 | 437,920 | - | 466 | 411 | 1.13 | 494 | 485 | 1.02 |
| *ycnD* | 438,084 | 438,833 | - | 484 | 734 | 0.66 | 552 | 821 | 0.67 |
| *ycnE* | 438,850 | 439,137 | - | 456 | 793 | 0.58 | 865 | 1198 | 0.72 |
| *yczG* | 439,277 | 439,591 | + | 152 | 175 | 0.87 | 222 | 223 | 1.00 |
| *gabR* | 439,593 | 441,032 | - | 64 | 67 | 0.95 | 76 | 79 | 0.96 |
| *gabT* | 441,139 | 442,449 | + | 109 | 113 | 0.96 | 94 | 100 | 0.94 |
| *gabD* | 442,518 | 443,906 | + | 978 | 832 | 1.18 | 891 | 754 | 1.18 |
| *glcU* | 444,029 | 444,892 | + | 54 | 60 | 0.89 | 42 | 59 | 0.71 |
| *gdh* | 444,912 | 445,697 | + | 85 | 84 | 1.00 | 68 | 78 | 0.87 |
| *ycnI* | 445,742 | 446,356 | - | 557 | 496 | 1.12 | 295 | 284 | 1.04 |
| *ycnJ* | 446,369 | 447,994 | - | 730 | 589 | 1.24 | 348 | 344 | 1.01 |
| *ycnK* | 448,029 | 448,601 | - | 771 | 575 | 1.34 | 406 | 373 | 1.09 |
| *ycnL* | 448,766 | 449,119 | + | 202 | 169 | 1.19 | 190 | 207 | 0.92 |
| *mtlA* | 449,292 | 451,124 | + | 123 | 200 | 0.62 | 133 | 202 | 0.66 |
| *mtlD* | 451,177 | 452,277 | + | 155 | 248 | 0.62 | 143 | 230 | 0.62 |
| *ycsA* | 452,385 | 453,449 | + | 218 | 262 | 0.83 | 215 | 277 | 0.78 |
| *sipU* | 453,584 | 454,147 | + | 108 | 141 | 0.77 | 138 | 205 | 0.68 |
| *yczH* | 454,257 | 454,814 | - | 401 | 348 | 1.15 | 337 | 312 | 1.08 |
| *ycsD* | 454,900 | 455,292 | + | 249 | 242 | 1.03 | 168 | 213 | 0.79 |
| *ycsE* | 455,622 | 456,371 | + | 477 | 428 | 1.12 | 631 | 644 | 0.98 |
| *ycsF* | 456,576 | 457,349 | + | 452 | 628 | 0.72 | 447 | 476 | 0.94 |
| *ycsG* | 457,364 | 458,578 | + | 287 | 479 | 0.60 | 460 | 496 | 0.93 |
| *ycsI* | 458,584 | 459,375 | + | 183 | 259 | 0.71 | 279 | 313 | 0.89 |
| *kipI* | 459,419 | 460,141 | + | 244 | 331 | 0.74 | 424 | 441 | 0.96 |
| *kipA* | 460,144 | 461,157 | + | 216 | 257 | 0.84 | 360 | 378 | 0.95 |
| *kipR* | 461,173 | 461,913 | + | 267 | 285 | 0.94 | 425 | 476 | 0.89 |
| *ycsK* | 461,988 | 462,629 | + | 116 | 121 | 0.95 | 228 | 258 | 0.88 |
| *yczI* | 462,802 | 463,047 | + | 682 | 589 | 1.16 | 1343 | 1343 | 1.00 |
| *yczJ* | 463,053 | 463,340 | - | 756 | 740 | 1.02 | 649 | 563 | 1.15 |
| *pbpC* | 463,491 | 465,497 | + | 1671 | 1338 | 1.25 | 1947 | 1791 | 1.09 |
| *ycsN* | 465,599 | 466,501 | + | 1406 | 1390 | 1.01 | 1512 | 1513 | 1.00 |
| *mtlR* | 466,687 | 468,771 | + | 194 | 239 | 0.81 | 220 | 291 | 0.76 |
| *ydaB* | 468,982 | 470,379 | + | 265 | 178 | 1.49 | 138 | 118 | 1.18 |
| *ydaC* | 470,514 | 471,059 | - | 441 | 252 | 1.75 | 150 | 60 | 2.51 |
| *ydaD* | 471,267 | 472,127 | + | 3277 | 1695 | 1.93 | 1633 | 472 | 3.46 |
| *ydaE* | 472,143 | 472,646 | + | 2799 | 1366 | 2.05 | 977 | 298 | 3.28 |
| *ydaF* | 472,731 | 473,282 | + | 709 | 734 | 0.97 | 645 | 668 | 0.97 |
| *ydaG* | 473,360 | 473,782 | + | 7104 | 6456 | 1.10 | 4367 | 2815 | 1.55 |
| *ydaH* | 474,288 | 475,097 | + | 126 | 97 | 1.29 | 212 | 187 | 1.14 |
| *ydzA* | 475,141 | 475,431 | - | 489 | 393 | 1.24 | 222 | 203 | 1.09 |
| *lrpC* | 475,616 | 476,050 | + | 235 | 236 | 0.99 | 191 | 202 | 0.94 |
| *topB* | 476,115 | 478,298 | + | 830 | 630 | 1.32 | 897 | 881 | 1.02 |
| *ydaJ* | 478,501 | 479,589 | + | 376 | 271 | 1.39 | 180 | 129 | 1.40 |
| *ydaK* | 479,570 | 480,421 | + | 287 | 165 | 1.74 | 122 | 98 | 1.25 |
| *ydaL* | 480,432 | 482,141 | + | 333 | 167 | 2.00 | 145 | 111 | 1.31 |
| *ydaM* | 482,134 | 483,396 | + | 295 | 155 | 1.90 | 153 | 117 | 1.30 |
| *ydaN* | 483,402 | 485,513 | + | 245 | 143 | 1.71 | 192 | 133 | 1.44 |
| *ydaO* | 485,989 | 487,812 | + | 181 | 164 | 1.10 | 204 | 224 | 0.91 |
| *mutT* | 487,871 | 488,320 | + | 104 | 77 | 1.36 | 83 | 75 | 1.11 |
| *ydaP* | 488,387 | 490,111 | + | 3986 | 2843 | 1.40 | 2076 | 1020 | 2.03 |
| *ydaQ* | 490,288 | 490,578 | + | 150 | 116 | 1.30 | 86 | 72 | 1.20 |
| *mntH* | 490,702 | 491,979 | - | 1264 | 1219 | 1.04 | 1049 | 1129 | 0.93 |
| *ydaS* | 492,209 | 492,466 | - | 3095 | 2608 | 1.19 | 1814 | 772 | 2.35 |
| *ydaT* | 492,544 | 492,996 | - | 2521 | 1709 | 1.47 | 1115 | 475 | 2.35 |
| *ydbA* | 493,114 | 493,932 | + | 224 | 216 | 1.04 | 228 | 258 | 0.88 |
| *gsiB* | 494,061 | 494,432 | + | 8725 | 9205 | 0.95 | 7340 | 5942 | 1.24 |
| *ydbB* | 494,564 | 494,905 | + | 438 | 377 | 1.16 | 478 | 439 | 1.09 |
| *ydbC* | 494,899 | 495,258 | + | 352 | 276 | 1.28 | 392 | 354 | 1.11 |
| *ydbD* | 495,295 | 496,116 | - | 2043 | 1963 | 1.04 | 1486 | 789 | 1.88 |
| *dctB* | 496,207 | 497,259 | - | 143 | 173 | 0.83 | 190 | 250 | 0.76 |
| *dctS* | 497,329 | 498,936 | + | 142 | 141 | 1.01 | 172 | 222 | 0.78 |
| *dctR* | 498,926 | 499,606 | + | 142 | 151 | 0.94 | 189 | 263 | 0.72 |
| *dctP* | 499,727 | 500,992 | + | 109 | 118 | 0.93 | 151 | 189 | 0.80 |
| *ydbI* | 501,140 | 502,192 | + | 382 | 331 | 1.16 | 482 | 506 | 0.95 |
| *ydbJ* | 502,469 | 503,395 | + | 626 | 461 | 1.36 | 754 | 707 | 1.07 |
| *ydbK* | 503,415 | 504,155 | + | 537 | 357 | 1.51 | 554 | 509 | 1.09 |
| *ydbL* | 504,250 | 504,585 | + | 1274 | 1363 | 0.93 | 704 | 549 | 1.28 |
| *ydbM* | 504,713 | 505,858 | + | 943 | 888 | 1.06 | 681 | 615 | 1.11 |
| *ydbN* | 505,883 | 506,062 | - | 925 | 2020 | 0.46 | 274 | 570 | 0.48 |
| *ydbO* | 506,427 | 507,299 | + | 444 | 323 | 1.37 | 640 | 612 | 1.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ydbP* | 507,314 | 507,634 | - | 695 | 681 | 1.02 | 697 | 598 | 1.16 | |
| *ddl* | 507,809 | 508,873 | + | 891 | 765 | 1.17 | 1079 | 989 | 1.09 | |
| *murF* | 508,945 | 510,318 | + | 503 | 382 | 1.32 | 741 | 579 | 1.28 | |
| *ydbR* | 510,667 | 512,202 | + | 2613 | 2153 | 1.21 | 2762 | 3045 | 0.91 | |
| *ydbS* | 512,375 | 512,854 | + | 1093 | 979 | 1.12 | 1768 | 1851 | 0.96 | |
| *ydbT* | 512,844 | 514,325 | + | 660 | 614 | 1.07 | 1236 | 1353 | 0.91 | |
| *ydcA* | 514,577 | 515,176 | - | 162 | 154 | 1.05 | 137 | 176 | 0.78 | |
| *acpS* | 515,271 | 515,636 | + | 278 | 258 | 1.08 | 473 | 490 | 0.96 | |
| *ydcC* | 515,697 | 516,818 | + | 214 | 200 | 1.07 | 386 | 414 | 0.93 | |
| *alr* | 516,933 | 518,102 | + | 537 | 477 | 1.13 | 891 | 831 | 1.07 | |
| *ydcD* | 518,218 | 518,499 | + | 3521 | 3653 | 0.96 | 5338 | 5639 | 0.95 | |
| *ydcE* | 518,504 | 518,854 | + | 1398 | 1496 | 0.93 | 2841 | 3074 | 0.92 | |
| *rsbR* | 518,969 | 519,793 | + | 542 | 499 | 1.08 | 844 | 895 | 0.94 | |
| *rsbS* | 519,798 | 520,163 | + | 683 | 611 | 1.12 | 1163 | 1130 | 1.03 | |
| *rsbT* | 520,167 | 520,568 | + | 754 | 718 | 1.05 | 1497 | 1394 | 1.07 | |
| *rsbU* | 520,580 | 521,587 | + | 710 | 707 | 1.00 | 1420 | 1310 | 1.08 | |
| *rsbV* | 521,649 | 521,978 | + | 6080 | 6754 | 0.90 | 4162 | 3609 | 1.15 | |
| *rsbW* | 521,975 | 522,457 | + | 7110 | 7593 | 0.94 | 4396 | 3927 | 1.12 | |
| *sigB* | 522,417 | 523,211 | + | 6982 | 7503 | 0.93 | 3774 | 3383 | 1.12 | |
| *rsbX* | 523,211 | 523,810 | + | 7202 | 7516 | 0.96 | 4242 | 3909 | 1.09 | |
| *ydcF* | 524,053 | 524,346 | + | 149 | 155 | 0.96 | 96 | 126 | 0.76 | |
| *ydcG* | 524,343 | 524,783 | + | 261 | 266 | 0.98 | 211 | 236 | 0.89 | |
| *ydcH* | 524,767 | 525,210 | + | 119 | 121 | 0.99 | 87 | 93 | 0.93 | |
| *ydcI* | 525,304 | 527,463 | + | 363 | 268 | 1.36 | 600 | 508 | 1.18 | |
| *ydcK* | 527,690 | 528,142 | + | 244 | 207 | 1.18 | 241 | 274 | 0.88 | |
| *ydcL* | 529,066 | 530,172 | - | 213 | 185 | 1.15 | 363 | 421 | 0.86 | |
| *ydcM* | 530,185 | 530,694 | - | 256 | 216 | 1.19 | 361 | 423 | 0.85 | |
| *ydcN* | 530,691 | 531,074 | - | 174 | 173 | 1.01 | 239 | 270 | 0.88 | |
| *sacV* | 531,348 | 531,542 | + | 849 | 309 | 2.75 | 1079 | 655 | 1.65 | |
| *ydcO* | 531,853 | 532,113 | + | 431 | 144 | 3.00 | 702 | 311 | 2.26 | |
| *ydcP* | 532,483 | 532,863 | + | 929 | 328 | 2.83 | 1192 | 617 | 1.93 | |
| *ydcQ* | 532,899 | 534,341 | + | 327 | 136 | 2.41 | 430 | 241 | 1.78 | |
| *ydcR* | 534,334 | 535,392 | + | 340 | 138 | 2.47 | 526 | 274 | 1.92 | |
| *ydcS* | 535,657 | 535,926 | + | 326 | 157 | 2.08 | 571 | 327 | 1.75 | |
| *ydcT* | 535,965 | 536,231 | + | 675 | 259 | 2.60 | 929 | 455 | 2.04 | |
| *yddA* | 536,248 | 536,556 | + | 320 | 139 | 2.29 | 574 | 317 | 1.81 | |
| *yddB* | 536,546 | 537,610 | + | 352 | 150 | 2.34 | 604 | 319 | 1.90 | |
| *yddC* | 537,622 | 537,870 | + | 374 | 218 | 1.71 | 746 | 336 | 2.22 | |
| *yddD* | 537,883 | 538,407 | + | 275 | 109 | 2.53 | 351 | 200 | 1.76 | |
| *yddE* | 538,295 | 540,790 | + | 176 | 87 | 2.02 | 259 | 153 | 1.69 | |
| *yddF* | 540,809 | 541,135 | + | 119 | 57 | 2.09 | 271 | 142 | 1.91 | |
| *yddG* | 541,139 | 543,586 | + | 196 | 105 | 1.86 | 310 | 177 | 1.76 | |
| *yddH* | 543,583 | 544,572 | + | 173 | 106 | 1.64 | 242 | 155 | 1.56 | |
| *yddI* | 544,587 | 545,093 | + | 136 | 74 | 1.83 | 208 | 114 | 1.83 | |
| *yddJ* | 545,156 | 545,536 | + | 618 | 487 | 1.27 | 672 | 464 | 1.45 | AbrB regulon |
| *yddK* | 545,727 | 546,527 | - | 208 | 202 | 1.03 | 271 | 324 | 0.84 | |
| *rapI* | 546,867 | 548,042 | + | 297 | 199 | 1.49 | 294 | 226 | 1.30 | |
| *yddM* | 548,271 | 549,212 | + | 260 | 184 | 1.41 | 335 | 276 | 1.21 | |
| *yddN* | 549,783 | 550,802 | - | 56 | 50 | 1.13 | 62 | 60 | 1.04 | |
| *lrpA* | 551,062 | 551,472 | + | 96 | 90 | 1.07 | 148 | 180 | 0.82 | |
| *lrpB* | 551,595 | 552,044 | - | 29 | 33 | 0.87 | 37 | 37 | 1.00 | |
| *yddQ* | 552,159 | 552,701 | + | 78 | 75 | 1.04 | 113 | 105 | 1.07 | |
| *yddR* | 553,254 | 554,018 | + | 84 | 82 | 1.03 | 82 | 76 | 1.08 | |
| *yddS* | 554,212 | 555,522 | + | 122 | 120 | 1.01 | 119 | 112 | 1.07 | |
| *yddT* | 556,306 | 556,992 | + | 960 | 933 | 1.03 | 1453 | 1182 | 1.23 | AbrB regulon |
| *ydeA* | 557,952 | 558,545 | + | 98 | 93 | 1.06 | 116 | 105 | 1.11 | |
| *cspC* | 558,808 | 559,008 | + | 997 | 1149 | 0.87 | 1750 | 2267 | 0.77 | |
| *ydeB* | 559,695 | 560,156 | - | 1297 | 1157 | 1.12 | 781 | 1037 | 0.75 | |
| *ydzE* | 560,724 | 560,960 | - | 60 | 57 | 1.06 | 70 | 79 | 0.89 | |
| *ydeC* | 561,058 | 561,933 | - | 73 | 78 | 0.94 | 80 | 94 | 0.85 | |
| *ydeD* | 562,046 | 563,005 | + | 44 | 57 | 0.77 | 48 | 54 | 0.90 | |
| *ydeE* | 563,158 | 564,030 | - | 76 | 73 | 1.04 | 98 | 104 | 0.95 | |
| *ydeF* | 564,248 | 565,645 | + | 76 | 87 | 0.87 | 91 | 103 | 0.89 | |
| *ydeG* | 565,755 | 567,047 | + | 54 | 63 | 0.86 | 59 | 66 | 0.89 | |
| *ydeH* | 567,206 | 567,652 | + | 82 | 70 | 1.17 | 175 | 185 | 0.94 | AbrB regulon |
| *ydeI* | 567,889 | 568,482 | + | 88 | 103 | 0.85 | 90 | 105 | 0.86 | |
| *ydeJ* | 568,834 | 569,493 | - | 379 | 396 | 0.96 | 373 | 444 | 0.84 | AbrB regulon |
| *ydeK* | 569,915 | 570,778 | - | 93 | 109 | 0.86 | 76 | 83 | 0.92 | |
| *ydeL* | 570,933 | 572,324 | + | 73 | 68 | 1.08 | 86 | 92 | 0.94 | |
| *ydeM* | 572,518 | 572,943 | + | 362 | 268 | 1.35 | 409 | 452 | 0.90 | |
| *ydeN* | 572,996 | 573,568 | - | 201 | 198 | 1.01 | 232 | 215 | 1.08 | |
| *ydzF* | 573,650 | 573,979 | - | 230 | 225 | 1.02 | 214 | 192 | 1.11 | |
| *ydeO* | 574,234 | 575,106 | + | 632 | 422 | 1.50 | 828 | 779 | 1.06 | |
| *ydeP* | 575,256 | 575,642 | - | 115 | 94 | 1.22 | 129 | 160 | 0.81 | |
| *ydeQ* | 575,753 | 576,346 | + | 203 | 183 | 1.11 | 139 | 114 | 1.22 | |
| *ydeR* | 576,490 | 577,677 | - | 41 | 45 | 0.92 | 40 | 44 | 0.91 | |
| *ydeS* | 577,881 | 578,477 | + | 254 | 222 | 1.15 | 257 | 314 | 0.82 | |
| *ydeT* | 579,085 | 579,420 | + | 109 | 131 | 0.83 | 152 | 175 | 0.87 | |
| *ydfA* | 579,433 | 580,740 | + | 135 | 143 | 0.94 | 202 | 229 | 0.88 | |
| *ydfB* | 581,238 | 582,023 | + | 60 | 57 | 1.07 | 67 | 60 | 1.12 | |
| *ydfC* | 582,080 | 583,000 | - | 31 | 33 | 0.92 | 29 | 32 | 0.91 | |
| *ydfD* | 583,133 | 584,581 | + | 54 | 61 | 0.88 | 68 | 70 | 0.96 | |
| *ydfE* | 584,699 | 585,322 | - | 69 | 73 | 0.93 | 78 | 106 | 0.74 | |
| *ydfF* | 585,412 | 586,092 | + | 210 | 198 | 1.06 | 224 | 236 | 0.95 | |
| *ydfG* | 586,172 | 586,615 | - | 375 | 430 | 0.87 | 613 | 590 | 1.04 | |
| *ydfH* | 587,288 | 588,511 | + | 142 | 125 | 1.14 | 173 | 171 | 1.01 | |
| *ydfI* | 588,504 | 589,145 | + | 135 | 116 | 1.17 | 195 | 203 | 0.96 | |
| *ydfJ* | 589,261 | 591,435 | + | 52 | 56 | 0.92 | 54 | 58 | 0.93 | |
| *nap* | 591,847 | 592,749 | - | 562 | 397 | 1.41 | 405 | 420 | 0.97 | |
| *ydfK* | 592,951 | 593,640 | - | 35 | 39 | 0.89 | 41 | 40 | 1.02 | |
| *ydfL* | 593,730 | 594,542 | - | 126 | 127 | 0.99 | 145 | 139 | 1.04 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| *ydfM* | 594,653 | 595,546 | - | 38 | 41 | 0.93 | 46 | 46 | 0.99 | |
| *ydfN* | 596,022 | 596,642 | + | 121 | 127 | 0.95 | 120 | 183 | 0.66 | |
| *ydfO* | 596,658 | 597,596 | + | 250 | 180 | 1.39 | 135 | 209 | 0.65 | |
| *ydfP* | 597,698 | 598,087 | + | 178 | 157 | 1.13 | 136 | 197 | 0.69 | |
| *ydfQ* | 598,273 | 598,611 | + | 44 | 44 | 1.00 | 44 | 40 | 1.11 | |
| *ydzH* | 598,651 | 598,887 | - | 25 | 31 | 0.80 | 23 | 21 | 1.06 | |
| *ydfR* | 599,773 | 600,450 | - | 37 | 44 | 0.83 | 33 | 42 | 0.78 | |
| *ydfS* | 600,563 | 601,270 | + | 46 | 50 | 0.92 | 50 | 53 | 0.94 | |
| *cotP* | 601,285 | 601,716 | - | 27 | 32 | 0.85 | 27 | 28 | 0.97 | |
| *ydgA* | 601,729 | 601,971 | - | 20 | 25 | 0.79 | 23 | 26 | 0.86 | |
| *ydgB* | 601,985 | 602,257 | - | 21 | 30 | 0.71 | 23 | 26 | 0.88 | |
| *ydgC* | 602,556 | 603,143 | + | 610 | 470 | 1.30 | 1190 | 1252 | 0.95 | |
| *ydgD* | 603,140 | 603,484 | + | 338 | 278 | 1.21 | 832 | 729 | 1.14 | |
| *ydgE* | 603,647 | 604,120 | + | 240 | 227 | 1.06 | 553 | 527 | 1.05 | |
| *expZ* | 604,280 | 605,923 | - | 346 | 445 | 0.78 | 244 | 254 | 0.96 | |
| *ydgF* | 606,243 | 607,619 | - | 317 | 307 | 1.03 | 345 | 348 | 0.99 | |
| *dinB* | 607,791 | 608,309 | - | 1467 | 992 | 1.48 | 1400 | 966 | 1.45 | |
| *ydgG* | 608,478 | 608,936 | + | 52 | 51 | 1.00 | 99 | 108 | 0.92 | |
| *ydgH* | 608,933 | 611,590 | + | 161 | 139 | 1.15 | 236 | 209 | 1.13 | |
| *ydgI* | 611,736 | 612,365 | - | 117 | 116 | 1.01 | 190 | 213 | 0.89 | |
| *ydgJ* | 612,381 | 612,875 | - | 155 | 170 | 0.91 | 221 | 255 | 0.87 | |
| *ydgK* | 613,186 | 614,394 | + | 109 | 103 | 1.06 | 149 | 162 | 0.92 | |
| *ydhB* | 614,389 | 615,168 | - | 260 | 197 | 1.32 | 131 | 119 | 1.10 | |
| *ydhC* | 615,417 | 616,091 | + | 334 | 354 | 0.94 | 298 | 365 | 0.81 | |
| *ydhD* | 616,218 | 617,537 | + | 99 | 87 | 1.14 | 79 | 84 | 0.94 | |
| *ydhE* | 617,683 | 618,828 | + | 281 | 251 | 1.12 | 169 | 179 | 0.94 | |
| *ydhF* | 618,867 | 619,577 | - | 46 | 45 | 1.01 | 43 | 40 | 1.07 | |
| *phoB* | 619,643 | 621,031 | - | 92 | 91 | 1.01 | 82 | 87 | 0.94 | |
| *ydhG* | 621,393 | 621,764 | + | 279 | 268 | 1.04 | 416 | 384 | 1.09 | |
| *ydhH* | 621,840 | 622,337 | - | 166 | 159 | 1.04 | 152 | 164 | 0.93 | |
| *ydhI* | 622,355 | 622,837 | - | 143 | 140 | 1.02 | 110 | 116 | 0.94 | |
| *ydhJ* | 622,920 | 623,897 | + | 209 | 160 | 1.31 | 223 | 186 | 1.20 | |
| *ydhK* | 624,039 | 624,656 | + | 3966 | 3357 | 1.18 | 2076 | 1848 | 1.12 | |
| *ydhL* | 624,672 | 625,838 | - | 67 | 72 | 0.93 | 46 | 54 | 0.86 | |
| *ydhM* | 626,169 | 626,480 | + | 84 | 87 | 0.97 | 87 | 96 | 0.91 | AbrB regulon |
| *ydhN* | 626,480 | 626,812 | + | 51 | 54 | 0.95 | 42 | 49 | 0.87 | AbrB regulon |
| *ydhO* | 626,831 | 628,159 | + | 73 | 77 | 0.95 | 65 | 75 | 0.87 | AbrB regulon |
| *ydhP* | 628,177 | 629,574 | + | 84 | 88 | 0.95 | 73 | 84 | 0.86 | AbrB regulon |
| *ydhQ* | 629,717 | 630,430 | + | 188 | 142 | 1.33 | 139 | 147 | 0.95 | AbrB regulon |
| *ydhR* | 630,459 | 631,358 | + | 186 | 156 | 1.19 | 147 | 159 | 0.92 | AbrB regulon |
| *ydhS* | 631,355 | 632,302 | + | 161 | 118 | 1.36 | 121 | 129 | 0.94 | AbrB regulon |
| *ydhT* | 632,321 | 633,409 | + | 150 | 113 | 1.32 | 116 | 118 | 0.98 | AbrB regulon |
| *ydhU* | 633,470 | 633,925 | - | 26 | 31 | 0.83 | 32 | 33 | 0.97 | |
| *thiL* | 640,209 | 641,186 | + | 269 | 243 | 1.11 | 350 | 363 | 0.96 | |
| *ydiB* | 641,201 | 641,677 | + | 192 | 173 | 1.11 | 356 | 367 | 0.97 | |
| *ydiC* | 641,658 | 642,347 | + | 360 | 283 | 1.27 | 521 | 498 | 1.05 | |
| *ydiD* | 642,357 | 642,812 | + | 432 | 337 | 1.28 | 738 | 667 | 1.11 | |
| *gcp* | 642,805 | 643,845 | + | 464 | 361 | 1.29 | 684 | 585 | 1.17 | |
| *ydiF* | 644,075 | 646,003 | - | 567 | 456 | 1.24 | 594 | 442 | 1.34 | |
| *ydiG* | 646,129 | 646,641 | + | 565 | 464 | 1.22 | 617 | 667 | 0.93 | |
| *ydiH* | 646,638 | 647,285 | + | 727 | 637 | 1.14 | 702 | 745 | 0.94 | |
| *tatAY* | 647,307 | 647,480 | + | 602 | 526 | 1.14 | 662 | 963 | 0.69 | |
| *tatCY* | 647,487 | 648,251 | + | 683 | 695 | 0.98 | 508 | 581 | 0.87 | |
| *ydiK* | 648,289 | 648,480 | - | 85 | 112 | 0.75 | 220 | 293 | 0.75 | |
| *ydiL* | 648,477 | 649,211 | - | 392 | 347 | 1.13 | 366 | 408 | 0.90 | |
| *groES* | 649,450 | 649,734 | + | 4071 | 4357 | 0.93 | 4948 | 4652 | 1.06 | |
| *groEL* | 649,781 | 651,415 | + | 2937 | 3165 | 0.93 | 3506 | 3522 | 1.00 | |
| *ydiM* | 652,979 | 653,359 | + | 197 | 153 | 1.29 | 252 | 196 | 1.29 | |
| *ydiN* | 654,526 | 654,741 | + | 275 | 208 | 1.33 | 341 | 269 | 1.27 | |
| *ydiO* | 654,771 | 656,054 | + | 712 | 498 | 1.43 | 660 | 548 | 1.20 | |
| *ydiP* | 656,076 | 657,245 | + | 1074 | 692 | 1.55 | 1075 | 891 | 1.21 | |
| *ydiQ* | 657,731 | 657,919 | + | 37 | 30 | 1.24 | 29 | 32 | 0.89 | |
| *ydiR* | 659,171 | 660,112 | + | 718 | 612 | 1.17 | 944 | 950 | 0.99 | |
| *ydiS* | 660,144 | 661,175 | + | 873 | 654 | 1.33 | 1130 | 1092 | 1.03 | |
| *ydjA* | 661,178 | 662,575 | + | 610 | 469 | 1.30 | 853 | 855 | 1.00 | |
| *ydjB* | 663,149 | 663,484 | + | 77 | 70 | 1.10 | 162 | 169 | 0.96 | |
| *ydjC* | 663,867 | 664,217 | + | 47 | 44 | 1.06 | 68 | 70 | 0.97 | |
| *gutR* | 664,323 | 666,812 | - | 228 | 237 | 0.96 | 264 | 266 | 0.99 | |
| *gutB* | 667,014 | 668,075 | + | 164 | 167 | 0.98 | 141 | 159 | 0.88 | |
| *gutP* | 668,149 | 669,540 | + | 64 | 65 | 0.98 | 74 | 72 | 1.02 | |
| *ydjE* | 669,635 | 670,597 | + | 1007 | 934 | 1.08 | 1237 | 1121 | 1.10 | |
| *pspA* | 670,793 | 671,476 | + | 1625 | 1423 | 1.14 | 2698 | 2563 | 1.05 | AbrB regulon |
| *ydjG* | 671,542 | 672,567 | + | 1108 | 903 | 1.23 | 2258 | 2332 | 0.97 | AbrB regulon |
| *ydjH* | 672,567 | 673,331 | + | 1025 | 808 | 1.27 | 2224 | 2259 | 0.98 | AbrB regulon |
| *ydjI* | 673,362 | 674,333 | + | 1041 | 851 | 1.22 | 1929 | 1939 | 0.99 | AbrB regulon |
| *ydjJ* | 674,380 | 675,405 | - | 966 | 622 | 1.55 | 238 | 93 | 2.55 | |
| *ydjK* | 675,990 | 677,411 | + | 60 | 59 | 1.02 | 52 | 58 | 0.89 | |
| *ydjL* | 677,459 | 678,499 | - | 4727 | 4574 | 1.03 | 4126 | 3608 | 1.14 | AbrB regulon |
| *ydjM* | 678,938 | 679,309 | + | 185 | 116 | 1.59 | 457 | 482 | 0.95 | |
| *ydjN* | 679,375 | 680,421 | + | 305 | 187 | 1.63 | 760 | 695 | 1.09 | |
| *ydjO* | 680,803 | 681,012 | - | 4406 | 3972 | 1.11 | 4370 | 4069 | 1.07 | |
| *ydjP* | 681,095 | 681,910 | - | 532 | 427 | 1.25 | 912 | 832 | 1.10 | |
| *yeaA* | 681,923 | 682,912 | - | 373 | 338 | 1.10 | 661 | 611 | 1.08 | |
| *cotA* | 683,010 | 684,551 | - | 144 | 145 | 1.00 | 123 | 134 | 0.92 | |
| *gabP* | 684,703 | 686,112 | - | 1111 | 1126 | 0.99 | 1010 | 1108 | 0.91 | |
| *yeaB* | 686,510 | 687,382 | + | 105 | 111 | 0.95 | 109 | 128 | 0.85 | |
| *yeaC* | 687,535 | 688,497 | + | 284 | 241 | 1.18 | 280 | 294 | 0.95 | |
| *yeaD* | 688,881 | 689,693 | + | 357 | 241 | 1.48 | 508 | 457 | 1.11 | |
| *yebA* | 689,890 | 691,857 | + | 351 | 247 | 1.42 | 555 | 496 | 1.12 | |
| *guaA* | 692,090 | 693,631 | + | 1205 | 1089 | 1.11 | 1590 | 1710 | 0.93 | |
| *pbuG* | 694,011 | 695,333 | + | 119 | 140 | 0.85 | 313 | 505 | 0.62 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yebC* | 695,535 | 696,338 | + | 279 | 260 | 1.07 | 363 | 321 | 1.13 | |
| *yebD* | 696,497 | 696,790 | + | 93 | 99 | 0.94 | 66 | 50 | 1.32 | |
| *yebE* | 696,880 | 697,434 | + | 921 | 875 | 1.05 | 462 | 214 | 2.16 | |
| *yebG* | 697,434 | 697,631 | + | 772 | 724 | 1.07 | 393 | 319 | 1.23 | |
| *purE* | 697,954 | 698,442 | + | 492 | 520 | 0.95 | 918 | 1289 | 0.71 | |
| *purK* | 698,435 | 699,574 | + | 562 | 554 | 1.01 | 1376 | 1765 | 0.78 | |
| *purB* | 699,571 | 700,866 | + | 1040 | 1006 | 1.03 | 2301 | 2698 | 0.85 | |
| *purC* | 700,939 | 701,664 | + | 1442 | 1493 | 0.97 | 2945 | 3244 | 0.91 | |
| *purS* | 701,657 | 701,911 | + | 1180 | 1219 | 0.97 | 2507 | 2960 | 0.85 | |
| *purQ* | 701,908 | 702,591 | + | 1028 | 1063 | 0.97 | 2110 | 2641 | 0.80 | |
| *purL* | 702,575 | 704,803 | + | 1657 | 1836 | 0.90 | 2777 | 3174 | 0.87 | |
| *purF* | 704,779 | 706,209 | + | 2247 | 2596 | 0.87 | 3061 | 3427 | 0.89 | |
| *purM* | 706,311 | 707,351 | + | 2019 | 2235 | 0.90 | 2680 | 2967 | 0.90 | |
| *purN* | 707,348 | 707,935 | + | 2064 | 2240 | 0.92 | 2411 | 2705 | 0.89 | |
| *purH* | 707,932 | 709,470 | + | 2746 | 3005 | 0.91 | 3023 | 3342 | 0.90 | |
| *purD* | 709,486 | 710,754 | + | 2091 | 2292 | 0.91 | 2359 | 2546 | 0.93 | |
| *yezC* | 710,957 | 711,214 | - | 180 | 189 | 0.95 | 173 | 202 | 0.86 | |
| *yecA* | 711,358 | 712,749 | + | 85 | 96 | 0.89 | 77 | 85 | 0.91 | |
| *yerA* | 713,003 | 714,745 | + | 658 | 645 | 1.02 | 456 | 419 | 1.09 | |
| *yerB* | 714,772 | 715,767 | + | 1315 | 1417 | 0.93 | 1752 | 1941 | 0.90 | Spo0A regulon |
| *yerC* | 715,770 | 716,084 | + | 77 | 101 | 0.76 | 180 | 177 | 1.02 | |
| *yerD* | 716,119 | 717,696 | - | 2278 | 1325 | 1.72 | 734 | 288 | 2.55 | |
| *pcrB* | 717,961 | 718,647 | + | 378 | 328 | 1.15 | 533 | 621 | 0.86 | |
| *pcrA* | 718,709 | 720,928 | + | 576 | 392 | 1.47 | 1000 | 906 | 1.10 | |
| *ligA* | 720,952 | 722,958 | + | 674 | 520 | 1.30 | 1212 | 997 | 1.22 | |
| *yerH* | 722,974 | 724,164 | + | 675 | 571 | 1.18 | 1317 | 1117 | 1.18 | |
| *yerI* | 724,326 | 725,336 | + | 1961 | 1745 | 1.12 | 2165 | 2138 | 1.01 | AbrB regulon |
| *sapB* | 725,374 | 726,072 | - | 265 | 220 | 1.20 | 228 | 226 | 1.01 | |
| *opuE* | 726,179 | 727,657 | - | 1551 | 1102 | 1.41 | 1093 | 1024 | 1.07 | |
| *gatC* | 728,071 | 728,361 | + | 1886 | 1958 | 0.96 | 2853 | 3148 | 0.91 | |
| *gatA* | 728,377 | 729,834 | + | 1600 | 1580 | 1.01 | 2433 | 2518 | 0.97 | |
| *gatB* | 729,848 | 731,278 | + | 1471 | 1593 | 0.92 | 2253 | 2336 | 0.96 | |
| *yerO* | 731,293 | 732,162 | - | 89 | 100 | 0.90 | 95 | 122 | 0.78 | |
| *yerP* | 732,255 | 735,452 | + | 936 | 829 | 1.13 | 2080 | 2225 | 0.93 | |
| *yerQ* | 735,775 | 736,686 | + | 482 | 450 | 1.07 | 580 | 648 | 0.90 | |
| *yefA* | 736,942 | 738,321 | + | 316 | 264 | 1.20 | 467 | 469 | 1.00 | |
| *yefB* | 738,334 | 739,236 | - | 34 | 38 | 0.88 | 38 | 37 | 1.01 | |
| *yefC* | 739,175 | 739,552 | + | 59 | 51 | 1.17 | 108 | 100 | 1.08 | |
| *yeeA* | 739,627 | 742,266 | + | 119 | 93 | 1.28 | 196 | 173 | 1.13 | |
| *yeeB* | 742,278 | 744,074 | + | 404 | 291 | 1.39 | 609 | 477 | 1.28 | |
| *yeeC* | 744,187 | 745,335 | + | 399 | 332 | 1.20 | 561 | 481 | 1.17 | |
| *yeeD* | 745,597 | 745,902 | - | 64 | 59 | 1.09 | 54 | 53 | 1.01 | |
| *yezA* | 745,969 | 746,175 | - | 84 | 74 | 1.13 | 60 | 75 | 0.81 | |
| *yeeF* | 746,415 | 748,898 | - | 474 | 436 | 1.09 | 552 | 521 | 1.06 | |
| *yeeG* | 749,034 | 750,131 | + | 53 | 61 | 0.86 | 52 | 61 | 0.85 | |
| *rapH* | 750,293 | 751,588 | + | 2072 | 1753 | 1.18 | 2141 | 1839 | 1.16 | AbrB regulon |
| *yeeI* | 751,749 | 752,468 | + | 1688 | 1530 | 1.10 | 2176 | 2243 | 0.97 | |
| *yeeK* | 752,602 | 753,039 | + | 96 | 98 | 0.98 | 108 | 111 | 0.97 | |
| *yezE* | 753,154 | 753,738 | + | 594 | 671 | 0.89 | 883 | 986 | 0.90 | |
| *yesE* | 753,817 | 754,260 | + | 96 | 114 | 0.84 | 130 | 163 | 0.80 | |
| *yesF* | 754,257 | 755,117 | + | 125 | 126 | 0.99 | 133 | 142 | 0.94 | |
| *cotJA* | 755,244 | 755,492 | + | 41 | 57 | 0.72 | 47 | 65 | 0.72 | |
| *cotJB* | 755,437 | 755,739 | + | 35 | 43 | 0.80 | 35 | 38 | 0.92 | |
| *cotJC* | 755,754 | 756,323 | + | 216 | 210 | 1.03 | 120 | 151 | 0.79 | |
| *yesJ* | 756,448 | 756,990 | + | 347 | 328 | 1.06 | 407 | 403 | 1.01 | |
| *yesK* | 756,926 | 757,315 | + | 98 | 94 | 1.04 | 66 | 86 | 0.76 | |
| *yesL* | 757,430 | 758,059 | + | 90 | 95 | 0.94 | 92 | 105 | 0.88 | |
| *yesM* | 758,056 | 759,789 | + | 78 | 83 | 0.93 | 72 | 87 | 0.84 | |
| *yesN* | 759,789 | 760,895 | + | 95 | 92 | 1.04 | 79 | 88 | 0.89 | |
| *yesO* | 761,044 | 762,282 | + | 97 | 104 | 0.93 | 77 | 89 | 0.86 | |
| *yesP* | 762,279 | 763,208 | + | 84 | 90 | 0.93 | 72 | 88 | 0.82 | |
| *yesQ* | 763,212 | 764,102 | + | 78 | 80 | 0.98 | 62 | 70 | 0.88 | |
| *yesR* | 764,118 | 765,152 | + | 146 | 148 | 0.99 | 128 | 172 | 0.74 | |
| *yesS* | 765,175 | 767,460 | + | 127 | 127 | 1.00 | 103 | 112 | 0.93 | |
| *yesT* | 767,474 | 768,172 | + | 105 | 111 | 0.95 | 89 | 107 | 0.83 | |
| *yesU* | 768,165 | 768,827 | + | 97 | 86 | 1.14 | 63 | 74 | 0.85 | |
| *yesV* | 768,824 | 769,450 | + | 89 | 80 | 1.11 | 65 | 67 | 0.96 | |
| *yesW* | 769,571 | 771,433 | + | 118 | 123 | 0.97 | 84 | 107 | 0.79 | |
| *yesX* | 771,479 | 773,317 | + | 131 | 127 | 1.03 | 96 | 123 | 0.78 | |
| *yesY* | 773,475 | 774,128 | + | 88 | 89 | 0.99 | 64 | 76 | 0.85 | |
| *yesZ* | 774,136 | 776,127 | + | 117 | 115 | 1.01 | 86 | 100 | 0.86 | |
| *yetA* | 776,171 | 778,744 | + | 173 | 170 | 1.02 | 130 | 156 | 0.83 | |
| *lplA* | 778,866 | 780,374 | + | 126 | 111 | 1.13 | 88 | 104 | 0.85 | |
| *lplB* | 780,429 | 781,385 | + | 43 | 47 | 0.92 | 42 | 43 | 0.98 | |
| *lplC* | 781,399 | 782,286 | + | 85 | 83 | 1.02 | 83 | 85 | 0.99 | |
| *lplD* | 782,295 | 783,635 | + | 80 | 82 | 0.98 | 76 | 81 | 0.95 | |
| *yetF* | 783,718 | 784,413 | + | 82 | 87 | 0.94 | 70 | 86 | 0.82 | |
| *yetG* | 784,450 | 784,827 | - | 1946 | 2408 | 0.81 | 1132 | 1570 | 0.72 | |
| *yetH* | 784,880 | 785,242 | - | 602 | 591 | 1.02 | 434 | 431 | 1.01 | |
| *yetI* | 785,522 | 786,607 | + | 172 | 211 | 0.82 | 155 | 182 | 0.86 | |
| *yezB* | 786,613 | 786,897 | + | 156 | 191 | 0.82 | 150 | 181 | 0.83 | |
| *yezD* | 787,052 | 787,219 | + | 35 | 24 | 1.44 | 58 | 149 | 0.39 | |
| *yetJ* | 787,329 | 787,973 | + | 783 | 609 | 1.28 | 1156 | 1143 | 1.01 | |
| *yetK* | 787,973 | 788,965 | + | 539 | 492 | 1.10 | 844 | 924 | 0.91 | |
| *yetL* | 788,989 | 789,492 | - | 71 | 84 | 0.85 | 67 | 79 | 0.84 | |
| *yetM* | 789,655 | 790,764 | + | 108 | 107 | 1.00 | 82 | 100 | 0.82 | |
| *yetN* | 790,799 | 791,869 | - | 147 | 136 | 1.08 | 183 | 183 | 1.00 | |
| *yetO* | 792,019 | 795,204 | + | 478 | 246 | 1.95 | 151 | 116 | 1.30 | |
| *yfnI* | 795,651 | 797,570 | + | 802 | 706 | 1.14 | 1347 | 1418 | 0.95 | |
| *yfnH* | 797,806 | 798,570 | + | 76 | 76 | 1.01 | 63 | 67 | 0.94 | |
| *yfnG* | 798,640 | 799,545 | + | 85 | 93 | 0.91 | 72 | 86 | 0.84 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yfnF* | 799,569 | 800,480 | + | 59 | 57 | 1.04 | 53 | 54 | 0.99 | |
| *yfnE* | 800,509 | 801,687 | + | 67 | 65 | 1.04 | 64 | 68 | 0.95 | |
| *yfnD* | 801,688 | 802,623 | + | 90 | 88 | 1.02 | 87 | 100 | 0.87 | |
| *yfnC* | 802,654 | 803,883 | - | 467 | 411 | 1.14 | 384 | 364 | 1.06 | |
| *yfnB* | 803,994 | 804,701 | - | 276 | 269 | 1.03 | 208 | 242 | 0.86 | |
| *yfnA* | 804,793 | 806,178 | - | 118 | 125 | 0.95 | 317 | 345 | 0.92 | |
| *yfmT* | 806,428 | 807,885 | + | 3184 | 3301 | 0.96 | 2003 | 2085 | 0.96 | SigD regulon |
| *yfmS* | 807,899 | 808,759 | + | 3030 | 2993 | 1.01 | 1556 | 1739 | 0.89 | |
| *yfmR* | 808,894 | 810,783 | + | 620 | 553 | 1.12 | 655 | 612 | 1.07 | |
| *yfmQ* | 810,906 | 811,352 | + | 2160 | 1415 | 1.53 | 831 | 679 | 1.22 | |
| *yfmP* | 811,477 | 811,899 | + | 209 | 173 | 1.20 | 199 | 261 | 0.76 | |
| *yfmO* | 811,965 | 813,155 | + | 82 | 82 | 1.00 | 73 | 79 | 0.92 | |
| *yfmM* | 813,721 | 815,277 | - | 329 | 324 | 1.02 | 447 | 482 | 0.93 | |
| *yfmL* | 815,450 | 816,580 | + | 404 | 397 | 1.02 | 518 | 446 | 1.16 | |
| *yfmK* | 816,648 | 817,094 | + | 243 | 228 | 1.07 | 290 | 317 | 0.92 | |
| *yfmJ* | 817,147 | 818,166 | - | 289 | 360 | 0.80 | 406 | 480 | 0.85 | |
| *yfmI* | 818,648 | 819,868 | - | 114 | 139 | 0.82 | 155 | 192 | 0.81 | Spo0A and AbrB regulo |
| *yfmG* | 820,204 | 821,667 | + | 886 | 847 | 1.05 | 1565 | 1624 | 0.96 | AbrB regulon |
| *yfmF* | 822,240 | 823,040 | - | 700 | 614 | 1.14 | 738 | 725 | 1.02 | |
| *yfmE* | 823,053 | 824,054 | - | 383 | 315 | 1.22 | 429 | 429 | 1.00 | |
| *yfmD* | 824,051 | 825,052 | - | 294 | 258 | 1.14 | 332 | 334 | 0.99 | |
| *yfmC* | 825,124 | 826,071 | - | 1348 | 1518 | 0.89 | 1225 | 1316 | 0.93 | |
| *yfmB* | 826,180 | 826,548 | - | 496 | 608 | 0.82 | 325 | 298 | 1.09 | |
| *yfmA* | 826,589 | 826,756 | + | 41 | 41 | 0.99 | 48 | 61 | 0.79 | |
| *yflT* | 826,792 | 827,139 | + | 5253 | 6106 | 0.86 | 3758 | 2477 | 1.52 | |
| *pel* | 827,330 | 828,592 | + | 2529 | 2963 | 0.85 | 2812 | 3084 | 0.91 | |
| *yflS* | 828,719 | 830,155 | + | 369 | 333 | 1.11 | 186 | 159 | 1.17 | |
| *citS* | 830,282 | 831,910 | + | 389 | 335 | 1.16 | 444 | 481 | 0.92 | |
| *citT* | 831,882 | 832,562 | + | 362 | 291 | 1.24 | 408 | 479 | 0.85 | |
| *yflP* | 832,745 | 833,524 | + | 286 | 239 | 1.20 | 325 | 382 | 0.85 | |
| *citM* | 833,720 | 835,021 | + | 381 | 406 | 0.94 | 538 | 491 | 1.10 | |
| *yflN* | 835,077 | 835,871 | + | 204 | 237 | 0.86 | 214 | 284 | 0.75 | |
| *yflM* | 836,071 | 837,081 | + | 373 | 326 | 1.14 | 522 | 488 | 1.07 | |
| *yflL* | 837,072 | 837,347 | - | 165 | 154 | 1.07 | 147 | 173 | 0.85 | |
| *yflK* | 837,414 | 838,079 | + | 411 | 314 | 1.31 | 477 | 403 | 1.18 | |
| *yflI* | 838,414 | 838,569 | - | 856 | 583 | 1.47 | 475 | 471 | 1.01 | |
| *yflH* | 838,676 | 838,990 | - | 1041 | 907 | 1.15 | 790 | 600 | 1.32 | |
| *yflG* | 839,072 | 839,821 | - | 1007 | 844 | 1.19 | 1099 | 1045 | 1.05 | |
| *nagP* | 839,993 | 841,351 | + | 808 | 763 | 1.06 | 567 | 566 | 1.00 | |
| *yflE* | 841,384 | 843,333 | - | 576 | 760 | 0.76 | 866 | 1033 | 0.84 | |
| *yflB* | 843,721 | 843,981 | + | 158 | 112 | 1.41 | 125 | 119 | 1.05 | AbrB regulon |
| *yflA* | 844,106 | 845,521 | + | 3816 | 3339 | 1.14 | 1528 | 853 | 1.79 | AbrB regulon |
| *yfkT* | 845,518 | 846,594 | - | 25 | 31 | 0.81 | 30 | 31 | 0.98 | |
| *yfkS* | 846,618 | 846,818 | - | 19 | 27 | 0.70 | 24 | 23 | 1.03 | |
| *yfkR* | 846,834 | 847,988 | - | 57 | 66 | 0.86 | 49 | 54 | 0.90 | |
| *yfkQ* | 847,969 | 849,510 | - | 48 | 52 | 0.93 | 41 | 49 | 0.84 | |
| *treP* | 849,703 | 851,115 | + | 87 | 78 | 1.11 | 73 | 78 | 0.94 | |
| *treA* | 851,186 | 852,871 | + | 97 | 91 | 1.06 | 75 | 78 | 0.96 | |
| *treR* | 852,892 | 853,608 | + | 252 | 263 | 0.96 | 340 | 441 | 0.77 | |
| *yfkO* | 853,748 | 854,413 | + | 229 | 251 | 0.91 | 275 | 318 | 0.87 | |
| *yfkN* | 854,450 | 858,838 | - | 339 | 292 | 1.16 | 439 | 396 | 1.11 | |
| *yfkM* | 859,081 | 859,599 | + | 3925 | 3219 | 1.22 | 1995 | 1031 | 1.93 | |
| *yfkL* | 859,639 | 860,829 | - | 183 | 154 | 1.19 | 213 | 234 | 0.91 | |
| *yfkK* | 860,922 | 861,137 | - | 376 | 342 | 1.10 | 476 | 480 | 0.99 | |
| *yfkJ* | 861,340 | 861,810 | + | 3594 | 2256 | 1.59 | 2167 | 966 | 2.24 | |
| *yfkI* | 861,828 | 862,148 | + | 5017 | 3511 | 1.43 | 2664 | 1404 | 1.90 | |
| *yfkH* | 862,172 | 862,999 | + | 3855 | 2590 | 1.49 | 1718 | 826 | 2.08 | |
| *yfkF* | 863,198 | 864,373 | - | 100 | 111 | 0.90 | 116 | 154 | 0.75 | |
| *yfkE* | 864,541 | 865,596 | + | 1347 | 917 | 1.47 | 538 | 305 | 1.76 | |
| *yfkD* | 865,667 | 866,461 | + | 1149 | 756 | 1.52 | 514 | 301 | 1.71 | |
| *yfkC* | 866,500 | 867,342 | - | 127 | 111 | 1.14 | 202 | 188 | 1.07 | |
| *yfkB* | 867,343 | 867,804 | - | 191 | 179 | 1.07 | 348 | 354 | 0.98 | |
| *yfkA* | 867,999 | 868,463 | - | 168 | 161 | 1.04 | 241 | 256 | 0.94 | |
| *yfjT* | 868,608 | 868,793 | + | 121 | 144 | 0.84 | 267 | 375 | 0.71 | |
| *yfjS* | 868,894 | 869,685 | + | 68 | 77 | 0.87 | 81 | 104 | 0.78 | |
| *yfjR* | 869,723 | 870,508 | - | 302 | 307 | 0.98 | 427 | 442 | 0.97 | |
| *yfjQ* | 870,682 | 871,641 | - | 222 | 184 | 1.21 | 352 | 358 | 0.98 | |
| *yfjP* | 871,760 | 872,623 | + | 226 | 258 | 0.87 | 196 | 252 | 0.78 | |
| *yfjO* | 872,737 | 874,137 | + | 345 | 369 | 0.94 | 429 | 558 | 0.77 | |
| *yfjN* | 875,761 | 876,738 | + | 171 | 157 | 1.09 | 342 | 325 | 1.05 | |
| *yfjM* | 876,934 | 877,386 | + | 180 | 188 | 0.96 | 239 | 245 | 0.97 | |
| *yfjL* | 877,416 | 878,105 | + | 235 | 228 | 1.03 | 372 | 381 | 0.98 | |
| *acoA* | 878,337 | 879,338 | + | 51 | 57 | 0.89 | 48 | 55 | 0.86 | |
| *acoB* | 879,342 | 880,370 | + | 76 | 79 | 0.96 | 63 | 76 | 0.83 | |
| *acoC* | 880,384 | 881,580 | + | 104 | 105 | 0.99 | 105 | 115 | 0.91 | |
| *acoL* | 881,601 | 882,977 | + | 128 | 135 | 0.95 | 110 | 129 | 0.85 | |
| *acoR* | 883,093 | 884,910 | + | 94 | 94 | 1.00 | 89 | 111 | 0.80 | |
| *sspH* | 884,964 | 885,143 | + | 67 | 88 | 0.75 | 129 | 150 | 0.86 | |
| *yfjF* | 885,179 | 885,508 | - | 211 | 159 | 1.33 | 140 | 167 | 0.84 | |
| *yfjE* | 885,558 | 886,016 | - | 297 | 197 | 1.51 | 166 | 181 | 0.92 | |
| *yfjD* | 886,110 | 886,667 | - | 248 | 182 | 1.37 | 187 | 186 | 1.00 | |
| *yfjC* | 886,699 | 887,466 | - | 128 | 118 | 1.08 | 104 | 126 | 0.83 | |
| *yfjB* | 887,478 | 888,701 | - | 145 | 174 | 0.84 | 107 | 125 | 0.86 | |
| *yfjA* | 888,707 | 889,021 | - | 97 | 134 | 0.73 | 66 | 78 | 0.85 | |
| *malA* | 889,357 | 890,706 | + | 159 | 171 | 0.92 | 137 | 162 | 0.84 | |
| *yfiA* | 890,771 | 891,535 | + | 165 | 153 | 1.08 | 151 | 141 | 1.07 | |
| *malP* | 891,550 | 893,133 | + | 154 | 157 | 0.98 | 109 | 129 | 0.84 | |
| *yfiB* | 893,239 | 894,960 | + | 172 | 155 | 1.11 | 202 | 213 | 0.95 | |
| *yfiC* | 894,954 | 896,768 | + | 251 | 229 | 1.09 | 357 | 350 | 1.02 | |
| *yfiD* | 896,923 | 897,327 | + | 60 | 68 | 0.89 | 56 | 81 | 0.69 | |
| *yfiE* | 897,345 | 898,202 | + | 68 | 77 | 0.88 | 67 | 86 | 0.78 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yfiF* | 898,296 | 899,240 | + | 64 | 80 | 0.80 | 68 | 81 | 0.84 | |
| *yfiG* | 899,415 | 900,863 | + | 76 | 78 | 0.96 | 61 | 71 | 0.87 | |
| *yfiH* | 900,890 | 901,831 | + | 98 | 102 | 0.95 | 93 | 97 | 0.96 | |
| *yfiI* | 901,841 | 903,022 | + | 90 | 97 | 0.93 | 84 | 100 | 0.84 | |
| *yfiJ* | 903,146 | 904,348 | + | 216 | 209 | 1.04 | 234 | 268 | 0.87 | |
| *yfiK* | 904,345 | 905,007 | + | 202 | 191 | 1.06 | 229 | 243 | 0.94 | |
| *yfiL* | 905,151 | 906,086 | + | 98 | 90 | 1.09 | 63 | 75 | 0.84 | |
| *yfiM* | 906,099 | 907,289 | + | 63 | 60 | 1.06 | 54 | 57 | 0.95 | |
| *yfiN* | 907,303 | 908,460 | + | 120 | 131 | 0.91 | 86 | 99 | 0.86 | |
| *padR* | 908,533 | 909,081 | - | 322 | 288 | 1.12 | 260 | 307 | 0.85 | |
| *lipB* | 909,354 | 909,986 | + | 205 | 196 | 1.05 | 346 | 352 | 0.98 | |
| *yfiQ* | 910,175 | 911,263 | + | 61 | 67 | 0.91 | 59 | 64 | 0.92 | |
| *yfiR* | 911,299 | 911,916 | - | 188 | 163 | 1.15 | 247 | 262 | 0.94 | |
| *yfiS* | 911,882 | 913,135 | - | 80 | 89 | 0.89 | 71 | 98 | 0.73 | |
| *yfiT* | 913,259 | 913,795 | + | 585 | 555 | 1.05 | 670 | 650 | 1.03 | |
| *yfiU* | 913,792 | 915,348 | - | 74 | 74 | 1.01 | 82 | 92 | 0.88 | |
| *yfiV* | 915,459 | 915,941 | - | 144 | 156 | 0.92 | 163 | 194 | 0.84 | |
| *yfiW* | 916,113 | 916,889 | + | 574 | 433 | 1.33 | 748 | 667 | 1.12 | |
| *yfiX* | 916,864 | 918,684 | + | 426 | 305 | 1.40 | 773 | 634 | 1.22 | |
| *yfiY* | 918,702 | 919,679 | - | 851 | 944 | 0.90 | 1165 | 1593 | 0.73 | |
| *yfiZ* | 919,810 | 920,811 | + | 381 | 339 | 1.13 | 465 | 483 | 0.96 | |
| *yfhA* | 920,808 | 921,839 | + | 496 | 465 | 1.07 | 559 | 612 | 0.91 | |
| *yfhB* | 921,954 | 922,835 | + | 1792 | 1648 | 1.09 | 1875 | 1733 | 1.08 | |
| *yfhC* | 922,923 | 923,507 | + | 1746 | 2147 | 0.81 | 1926 | 2208 | 0.87 | |
| *yfhD* | 923,546 | 923,737 | - | 1099 | 751 | 1.46 | 512 | 297 | 1.72 | |
| *yfhF* | 923,969 | 924,880 | - | 1359 | 916 | 1.48 | 657 | 255 | 2.57 | |
| *yfhG* | 924,969 | 925,763 | + | 754 | 702 | 1.07 | 770 | 773 | 1.00 | |
| *yfhH* | 925,765 | 926,079 | + | 381 | 393 | 0.97 | 508 | 543 | 0.93 | |
| *yfhI* | 926,222 | 927,415 | + | 127 | 121 | 1.05 | 123 | 110 | 1.11 | |
| *sspK* | 927,448 | 927,600 | - | 29 | 33 | 0.87 | 26 | 24 | 1.08 | |
| *yfhJ* | 927,725 | 927,994 | + | 537 | 423 | 1.27 | 408 | 312 | 1.31 | |
| *yfhK* | 928,139 | 928,657 | + | 6617 | 6734 | 0.98 | 3733 | 2474 | 1.51 | |
| *yfhL* | 928,742 | 929,074 | + | 2896 | 2947 | 0.98 | 1316 | 972 | 1.35 | |
| *yfhM* | 929,061 | 929,921 | + | 3175 | 3173 | 1.00 | 1567 | 1256 | 1.25 | |
| *csbB* | 930,154 | 931,143 | + | 1201 | 1278 | 0.94 | 933 | 676 | 1.38 | |
| *yfhO* | 931,340 | 933,799 | + | 603 | 442 | 1.36 | 384 | 356 | 1.08 | |
| *yfhP* | 933,792 | 934,775 | - | 422 | 350 | 1.21 | 306 | 271 | 1.13 | |
| *yfhQ* | 934,991 | 936,100 | + | 354 | 282 | 1.26 | 668 | 554 | 1.21 | |
| *yfhS* | 936,108 | 936,332 | - | 25 | 30 | 0.86 | 24 | 29 | 0.81 | |
| *fabL* | 936,414 | 937,166 | + | 1440 | 1145 | 1.26 | 1990 | 1666 | 1.19 | |
| *sspE* | 937,235 | 937,489 | + | 756 | 622 | 1.21 | 1331 | 1113 | 1.20 | |
| *ygaB* | 937,578 | 937,922 | + | 70 | 83 | 0.84 | 108 | 134 | 0.81 | |
| *ygaC* | 938,066 | 938,596 | + | 696 | 553 | 1.26 | 763 | 752 | 1.02 | |
| *ygaD* | 938,657 | 940,426 | + | 348 | 255 | 1.36 | 455 | 406 | 1.12 | |
| *ygaE* | 940,503 | 941,564 | - | 385 | 339 | 1.14 | 211 | 166 | 1.27 | |
| *gsaB* | 941,784 | 943,073 | - | 669 | 602 | 1.11 | 891 | 916 | 0.97 | |
| *ygaF* | 943,226 | 943,699 | + | 288 | 246 | 1.17 | 472 | 555 | 0.85 | |
| *perR* | 943,822 | 944,259 | + | 1795 | 1696 | 1.06 | 1550 | 1697 | 0.91 | |
| *ygzB* | 944,294 | 944,647 | - | 850 | 811 | 1.05 | 575 | 578 | 0.99 | |
| *ygxA* | 944,855 | 945,739 | + | 880 | 960 | 0.92 | 784 | 851 | 0.92 | |
| *spo0M* | 952,707 | 953,483 | - | 1520 | 1589 | 0.96 | 2517 | 2684 | 0.94 | |
| *ygzA* | 953,625 | 953,828 | + | 61 | 53 | 1.14 | 64 | 76 | 0.83 | |
| *ygaJ* | 954,225 | 954,980 | + | 476 | 436 | 1.09 | 532 | 465 | 1.14 | |
| *thiC* | 955,231 | 957,003 | + | 2522 | 3095 | 0.81 | 3039 | 3360 | 0.90 | |
| *ygaK* | 957,041 | 958,144 | - | 40 | 45 | 0.89 | 35 | 40 | 0.87 | |
| *senS* | 958,626 | 958,844 | + | 37 | 35 | 1.05 | 33 | 37 | 0.90 | |
| *katA* | 958,871 | 960,322 | - | 1032 | 797 | 1.30 | 969 | 886 | 1.09 | |
| *ssuB* | 960,686 | 961,498 | + | 49 | 55 | 0.88 | 41 | 53 | 0.76 | |
| *ssuA* | 961,516 | 962,514 | + | 55 | 58 | 0.95 | 49 | 59 | 0.82 | |
| *ssuC* | 962,511 | 963,341 | + | 70 | 73 | 0.96 | 53 | 64 | 0.83 | |
| *ssuD* | 963,364 | 964,494 | + | 77 | 78 | 0.98 | 61 | 75 | 0.81 | |
| *ygaN* | 964,598 | 965,134 | + | 153 | 150 | 1.02 | 140 | 153 | 0.92 | |
| *yhzA* | 965,246 | 965,515 | + | 69 | 68 | 1.02 | 66 | 68 | 0.97 | |
| *ygaO* | 965,533 | 966,006 | - | 312 | 294 | 1.06 | 320 | 268 | 1.20 | Spo0A regulon |
| *yhzB* | 966,566 | 967,189 | - | 168 | 182 | 0.92 | 182 | 181 | 1.00 | |
| *yhbA* | 967,125 | 968,432 | + | 87 | 82 | 1.07 | 87 | 90 | 0.97 | |
| *yhbB* | 968,499 | 969,434 | + | 53 | 76 | 0.70 | 51 | 57 | 0.90 | |
| *cspR* | 969,472 | 969,954 | + | 292 | 240 | 1.22 | 536 | 562 | 0.96 | |
| *yhbD* | 970,004 | 970,720 | + | 89 | 92 | 0.97 | 114 | 139 | 0.82 | |
| *yhbE* | 970,711 | 971,424 | + | 202 | 206 | 0.98 | 300 | 350 | 0.86 | |
| *yhbF* | 971,436 | 972,143 | + | 229 | 228 | 1.01 | 313 | 346 | 0.91 | |
| *prkA* | 972,493 | 974,388 | + | 123 | 127 | 0.97 | 113 | 123 | 0.93 | |
| *yhbH* | 974,568 | 975,746 | + | 79 | 76 | 1.04 | 87 | 84 | 1.05 | |
| *yhbI* | 975,906 | 976,370 | + | 201 | 128 | 1.57 | 184 | 141 | 1.30 | |
| *yhbJ* | 976,406 | 977,071 | + | 501 | 319 | 1.57 | 477 | 286 | 1.67 | |
| *yhcA* | 977,112 | 978,710 | + | 441 | 257 | 1.72 | 318 | 197 | 1.61 | |
| *yhcB* | 978,733 | 979,263 | + | 447 | 271 | 1.65 | 287 | 195 | 1.48 | |
| *yhcC* | 979,276 | 979,650 | + | 228 | 168 | 1.36 | 137 | 107 | 1.27 | |
| *yhcE* | 979,810 | 980,571 | + | 82 | 87 | 0.95 | 134 | 149 | 0.90 | |
| *yhcF* | 980,574 | 980,939 | + | 138 | 136 | 1.01 | 255 | 317 | 0.80 | |
| *yhcG* | 980,941 | 981,639 | + | 171 | 153 | 1.11 | 312 | 368 | 0.85 | |
| *yhcH* | 981,656 | 982,573 | + | 233 | 213 | 1.10 | 467 | 530 | 0.88 | |
| *yhcI* | 982,566 | 983,507 | + | 213 | 204 | 1.05 | 384 | 391 | 0.98 | |
| *cspB* | 983,599 | 983,802 | - | 6555 | 6481 | 1.01 | 4630 | 4690 | 0.99 | |
| *yhcJ* | 984,238 | 985,029 | + | 523 | 442 | 1.18 | 568 | 851 | 0.67 | |
| *yhcK* | 985,070 | 986,149 | - | 233 | 217 | 1.08 | 410 | 361 | 1.14 | |
| *yhcL* | 986,322 | 987,713 | + | 215 | 179 | 1.20 | 341 | 420 | 0.81 | |
| *yhcM* | 987,753 | 988,208 | - | 1896 | 1509 | 1.26 | 802 | 329 | 2.44 | |
| *yhcN* | 988,358 | 988,927 | + | 53 | 69 | 0.76 | 83 | 83 | 1.00 | |
| *yhcO* | 989,107 | 989,406 | + | 27 | 35 | 0.76 | 28 | 36 | 0.77 | |
| *yhcP* | 989,397 | 990,014 | + | 52 | 52 | 1.00 | 41 | 53 | 0.76 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yhcQ* | 989,946 | 990,599 | - | 46 | 52 | 0.89 | 46 | 53 | 0.87 | |
| *yhcR* | 990,682 | 994,335 | + | 260 | 291 | 0.89 | 323 | 340 | 0.95 | |
| *yhcS* | 994,332 | 994,928 | + | 241 | 256 | 0.94 | 288 | 287 | 1.00 | |
| *yhcT* | 994,958 | 995,866 | - | 112 | 99 | 1.13 | 120 | 121 | 0.99 | |
| *yhcU* | 995,977 | 996,372 | + | 96 | 89 | 1.08 | 107 | 102 | 1.05 | |
| *yhcV* | 996,509 | 996,931 | + | 90 | 86 | 1.05 | 64 | 72 | 0.90 | |
| *yhcW* | 997,058 | 997,720 | + | 564 | 553 | 1.02 | 623 | 653 | 0.95 | |
| *yhcX* | 997,736 | 999,277 | + | 1068 | 973 | 1.10 | 1404 | 1318 | 1.07 | |
| *yhxA* | 999,697 | 1,001,049 | + | 428 | 517 | 0.83 | 396 | 543 | 0.73 | |
| *glpP* | 1,001,077 | 1,001,655 | + | 349 | 430 | 0.81 | 420 | 600 | 0.70 | |
| *glpF* | 1,001,834 | 1,002,658 | + | 124 | 151 | 0.82 | 184 | 240 | 0.77 | AbrB regulon |
| *glpK* | 1,002,677 | 1,004,167 | + | 1526 | 1300 | 1.17 | 949 | 706 | 1.34 | AbrB regulon |
| *glpD* | 1,004,308 | 1,005,975 | + | 766 | 709 | 1.08 | 313 | 380 | 0.82 | AbrB regulon |
| *yhxB* | 1,006,107 | 1,007,804 | + | 1895 | 1428 | 1.33 | 1907 | 1552 | 1.23 | |
| *yhcY* | 1,007,953 | 1,009,092 | + | 258 | 219 | 1.18 | 311 | 324 | 0.96 | |
| *yhcZ* | 1,009,089 | 1,009,733 | + | 346 | 285 | 1.21 | 453 | 452 | 1.00 | |
| *yhdA* | 1,009,730 | 1,010,254 | + | 251 | 211 | 1.19 | 359 | 333 | 1.08 | |
| *yhdB* | 1,010,269 | 1,010,511 | - | 27 | 32 | 0.85 | 29 | 37 | 0.78 | |
| *yhdC* | 1,010,712 | 1,011,035 | + | 51 | 46 | 1.11 | 62 | 59 | 1.06 | |
| *lytF* | 1,011,079 | 1,012,542 | - | 1626 | 2257 | 0.72 | 1464 | 2012 | 0.73 | SigD regulon |
| *yhdE* | 1,012,695 | 1,013,135 | - | 568 | 591 | 0.96 | 593 | 743 | 0.80 | |
| *ygxB* | 1,013,238 | 1,014,896 | - | 2036 | 1874 | 1.09 | 1168 | 687 | 1.70 | |
| *spoVR* | 1,014,927 | 1,016,333 | + | 61 | 66 | 0.93 | 60 | 65 | 0.92 | |
| *phoA* | 1,016,363 | 1,017,748 | - | 133 | 111 | 1.20 | 131 | 127 | 1.03 | |
| *lytE* | 1,018,280 | 1,019,311 | + | 1099 | 866 | 1.27 | 1316 | 1644 | 0.80 | Spo0A regulon |
| *citR* | 1,019,330 | 1,020,256 | - | 157 | 144 | 1.09 | 127 | 131 | 0.97 | |
| *citA* | 1,020,365 | 1,021,465 | + | 213 | 181 | 1.18 | 198 | 183 | 1.08 | |
| *yhdF* | 1,021,539 | 1,022,408 | + | 1812 | 1004 | 1.80 | 959 | 378 | 2.53 | |
| *yhdG* | 1,022,658 | 1,024,055 | + | 347 | 367 | 0.95 | 702 | 516 | 1.36 | |
| *yhdH* | 1,024,173 | 1,025,528 | + | 198 | 166 | 1.19 | 343 | 279 | 1.23 | |
| *yhdI* | 1,025,563 | 1,026,972 | - | 98 | 99 | 0.99 | 96 | 107 | 0.90 | |
| *yhdJ* | 1,027,082 | 1,027,510 | + | 254 | 264 | 0.96 | 225 | 225 | 1.00 | |
| *yhdK* | 1,027,541 | 1,027,831 | - | 63 | 69 | 0.91 | 129 | 130 | 0.99 | |
| *yhdL* | 1,027,819 | 1,028,895 | - | 579 | 552 | 1.05 | 627 | 660 | 0.95 | |
| *sigM* | 1,028,885 | 1,029,376 | - | 381 | 419 | 0.91 | 382 | 456 | 0.84 | |
| *yhdN* | 1,029,573 | 1,030,568 | + | 2381 | 2936 | 0.81 | 1418 | 1172 | 1.21 | |
| *yhdO* | 1,030,703 | 1,031,302 | + | 1251 | 1381 | 0.91 | 931 | 1139 | 0.82 | |
| *yhdP* | 1,031,371 | 1,032,705 | - | 741 | 689 | 1.07 | 1315 | 1312 | 1.00 | |
| *yhdQ* | 1,032,766 | 1,033,197 | - | 1049 | 975 | 1.08 | 1499 | 1503 | 1.00 | |
| *yhdR* | 1,033,354 | 1,034,535 | + | 404 | 391 | 1.03 | 801 | 922 | 0.87 | |
| *yhdT* | 1,034,862 | 1,036,247 | + | 1140 | 1441 | 0.79 | 1009 | 1297 | 0.78 | |
| *yhdU* | 1,036,261 | 1,036,617 | - | 107 | 82 | 1.30 | 154 | 149 | 1.04 | |
| *yhdV* | 1,036,614 | 1,037,009 | - | 296 | 243 | 1.22 | 310 | 316 | 0.98 | |
| *yhdW* | 1,036,996 | 1,037,727 | - | 440 | 370 | 1.19 | 559 | 541 | 1.03 | |
| *yhdY* | 1,038,217 | 1,039,332 | + | 170 | 134 | 1.27 | 166 | 141 | 1.18 | |
| *yhdZ* | 1,039,402 | 1,040,145 | + | 260 | 259 | 1.01 | 290 | 327 | 0.89 | |
| *yheN* | 1,040,169 | 1,041,017 | - | 800 | 724 | 1.10 | 971 | 1113 | 0.87 | |
| *dat* | 1,041,302 | 1,042,150 | + | 2411 | 2409 | 1.00 | 2524 | 2640 | 0.96 | |
| *nhaC* | 1,042,193 | 1,043,554 | - | 183 | 191 | 0.96 | 196 | 208 | 0.95 | |
| *nhaX* | 1,043,681 | 1,044,181 | - | 4101 | 5316 | 0.77 | 2120 | 1252 | 1.69 | |
| *yheI* | 1,044,626 | 1,046,383 | + | 612 | 878 | 0.70 | 371 | 438 | 0.85 | |
| *yheH* | 1,046,380 | 1,048,401 | + | 576 | 710 | 0.81 | 404 | 467 | 0.87 | |
| *yheG* | 1,048,450 | 1,049,070 | - | 275 | 364 | 0.76 | 431 | 541 | 0.80 | |
| *sspB* | 1,049,339 | 1,049,542 | - | 62 | 84 | 0.74 | 90 | 113 | 0.79 | |
| *yheE* | 1,049,751 | 1,049,969 | - | 86 | 98 | 0.88 | 81 | 82 | 0.98 | |
| *yheD* | 1,050,119 | 1,051,480 | - | 73 | 68 | 1.07 | 81 | 79 | 1.03 | |
| *yheC* | 1,051,470 | 1,052,561 | - | 46 | 53 | 0.86 | 48 | 51 | 0.95 | |
| *yheB* | 1,052,828 | 1,053,961 | + | 273 | 259 | 1.06 | 366 | 414 | 0.88 | |
| *yheA* | 1,054,054 | 1,054,407 | + | 784 | 776 | 1.01 | 723 | 654 | 1.11 | |
| *yhaZ* | 1,054,451 | 1,055,524 | - | 230 | 163 | 1.41 | 269 | 218 | 1.23 | |
| *yhaY* | 1,055,717 | 1,055,968 | - | 24 | 27 | 0.90 | 25 | 27 | 0.92 | |
| *yhaX* | 1,056,011 | 1,056,877 | + | 47 | 50 | 0.95 | 48 | 60 | 0.79 | |
| *hemZ* | 1,056,989 | 1,058,494 | + | 135 | 137 | 0.99 | 214 | 242 | 0.89 | |
| *yhaU* | 1,058,512 | 1,059,738 | - | 203 | 148 | 1.37 | 238 | 199 | 1.20 | |
| *yhaT* | 1,059,735 | 1,060,232 | - | 158 | 108 | 1.46 | 196 | 155 | 1.27 | |
| *yhaS* | 1,060,296 | 1,060,634 | - | 349 | 217 | 1.61 | 462 | 329 | 1.40 | |
| *yhaR* | 1,060,799 | 1,061,566 | + | 147 | 193 | 0.76 | 124 | 169 | 0.73 | |
| *yhaQ* | 1,061,899 | 1,062,795 | + | 548 | 444 | 1.23 | 1128 | 999 | 1.13 | AbrB regulon |
| *yhaP* | 1,062,788 | 1,064,047 | + | 386 | 328 | 1.18 | 966 | 841 | 1.15 | AbrB regulon |
| *yhaO* | 1,064,154 | 1,065,380 | + | 327 | 253 | 1.29 | 411 | 374 | 1.10 | |
| *yhaN* | 1,065,385 | 1,068,276 | + | 613 | 365 | 1.68 | 533 | 417 | 1.28 | |
| *yhaM* | 1,068,350 | 1,069,294 | + | 1363 | 1037 | 1.31 | 1248 | 1172 | 1.06 | |
| *yhaL* | 1,069,419 | 1,069,631 | + | 56 | 55 | 1.01 | 89 | 126 | 0.71 | |
| *prsA* | 1,069,672 | 1,070,550 | - | 2446 | 2105 | 1.16 | 3477 | 3263 | 1.07 | |
| *yhaK* | 1,071,350 | 1,071,604 | - | 65 | 88 | 0.74 | 61 | 65 | 0.93 | |
| *yhaJ* | 1,071,628 | 1,071,867 | - | 60 | 91 | 0.65 | 71 | 84 | 0.84 | |
| *yhaI* | 1,072,075 | 1,072,416 | + | 157 | 155 | 1.01 | 223 | 220 | 1.02 | |
| *hpr* | 1,072,413 | 1,073,024 | - | 1489 | 1382 | 1.08 | 1318 | 1431 | 0.92 | |
| *yhaH* | 1,073,202 | 1,073,558 | - | 1117 | 1147 | 0.97 | 1035 | 1213 | 0.85 | |
| *yhaG* | 1,073,951 | 1,074,469 | - | 936 | 883 | 1.06 | 1226 | 1178 | 1.04 | |
| *serC* | 1,074,594 | 1,075,673 | - | 2164 | 1961 | 1.10 | 1938 | 1964 | 0.99 | |
| *hit* | 1,075,820 | 1,076,257 | - | 913 | 985 | 0.93 | 1553 | 1608 | 0.97 | |
| *ecsA* | 1,076,745 | 1,077,488 | + | 367 | 317 | 1.16 | 420 | 452 | 0.93 | |
| *ecsB* | 1,077,481 | 1,078,707 | + | 475 | 341 | 1.40 | 643 | 651 | 0.99 | |
| *ecsC* | 1,078,727 | 1,079,437 | + | 406 | 309 | 1.32 | 563 | 571 | 0.99 | |
| *yhaA* | 1,079,455 | 1,080,645 | - | 1106 | 1136 | 0.97 | 1246 | 1292 | 0.96 | |
| *yhfA* | 1,080,718 | 1,082,109 | - | 74 | 73 | 1.02 | 66 | 74 | 0.89 | |
| *yhgB* | 1,082,175 | 1,082,489 | - | 124 | 120 | 1.03 | 101 | 118 | 0.86 | |
| *yhgC* | 1,082,534 | 1,083,034 | - | 1527 | 1750 | 0.87 | 1948 | 1862 | 1.05 | |
| *pbpF* | 1,083,156 | 1,085,300 | + | 265 | 216 | 1.23 | 336 | 288 | 1.17 | |
| *hemE* | 1,085,422 | 1,086,483 | + | 1473 | 972 | 1.52 | 956 | 727 | 1.31 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *hemH* | 1,086,555 | 1,087,487 | + | 2701 | 1910 | 1.41 | 1758 | 1353 | 1.30 | |
| *hemY* | 1,087,502 | 1,088,914 | + | 1454 | 1019 | 1.43 | 856 | 686 | 1.25 | |
| *yhgD* | 1,089,060 | 1,089,635 | + | 424 | 396 | 1.07 | 658 | 465 | 1.41 | |
| *yhgE* | 1,089,706 | 1,092,033 | + | 437 | 394 | 1.11 | 781 | 572 | 1.36 | |
| *fabHB* | 1,092,075 | 1,093,052 | - | 2025 | 2019 | 1.00 | 1230 | 995 | 1.24 | |
| *yhfC* | 1,093,178 | 1,093,954 | + | 321 | 337 | 0.96 | 319 | 272 | 1.17 | |
| *yhfD* | 1,094,045 | 1,094,248 | - | 26 | 35 | 0.74 | 34 | 31 | 1.10 | |
| *yhfE* | 1,094,367 | 1,095,407 | + | 862 | 826 | 1.04 | 1057 | 931 | 1.14 | |
| *yhfF* | 1,095,420 | 1,095,827 | + | 690 | 736 | 0.94 | 954 | 833 | 1.15 | |
| *gltT* | 1,095,864 | 1,097,153 | - | 1442 | 1735 | 0.83 | 1361 | 1890 | 0.72 | |
| *yhfI* | 1,097,716 | 1,098,450 | + | 648 | 526 | 1.23 | 707 | 659 | 1.07 | |
| *yhfJ* | 1,098,463 | 1,099,458 | + | 1243 | 971 | 1.28 | 1414 | 1271 | 1.11 | |
| *yhfK* | 1,099,523 | 1,100,167 | + | 922 | 799 | 1.15 | 881 | 783 | 1.13 | |
| *yhfL* | 1,100,284 | 1,101,825 | + | 178 | 130 | 1.37 | 185 | 146 | 1.26 | |
| *yhfM* | 1,101,864 | 1,102,259 | - | 162 | 129 | 1.26 | 127 | 95 | 1.34 | |
| *yhfN* | 1,102,408 | 1,103,688 | + | 205 | 170 | 1.21 | 208 | 185 | 1.12 | |
| *aprE* | 1,103,727 | 1,104,872 | - | 264 | 342 | 0.77 | 206 | 279 | 0.74 | |
| *yhfO* | 1,105,307 | 1,105,756 | + | 129 | 123 | 1.05 | 167 | 188 | 0.89 | |
| *yhfP* | 1,105,828 | 1,106,820 | + | 509 | 439 | 1.16 | 656 | 569 | 1.15 | |
| *yhfQ* | 1,106,962 | 1,108,008 | + | 851 | 1176 | 0.72 | 730 | 1019 | 0.72 | |
| *yhfR* | 1,108,040 | 1,108,621 | - | 660 | 738 | 0.89 | 1397 | 1679 | 0.83 | |
| *yhfS* | 1,108,692 | 1,109,786 | - | 515 | 601 | 0.86 | 976 | 1213 | 0.81 | |
| *yhfT* | 1,109,783 | 1,111,222 | - | 498 | 565 | 0.88 | 894 | 1140 | 0.78 | |
| *yhfU* | 1,111,229 | 1,111,789 | - | 252 | 353 | 0.72 | 464 | 673 | 0.69 | |
| *hemAT* | 1,111,924 | 1,113,222 | - | 1801 | 1841 | 0.98 | 1597 | 1835 | 0.87 | SigD regulon |
| *yhfW* | 1,113,361 | 1,114,890 | - | 72 | 77 | 0.93 | 61 | 82 | 0.74 | |
| *yhxC* | 1,115,002 | 1,115,859 | + | 92 | 92 | 1.01 | 62 | 77 | 0.81 | |
| *yhzC* | 1,115,887 | 1,116,120 | - | 2466 | 3197 | 0.77 | 1279 | 1367 | 0.94 | |
| *comK* | 1,116,413 | 1,116,991 | + | 670 | 733 | 0.91 | 978 | 1204 | 0.81 | Spo0A regulon |
| *yhxD* | 1,117,038 | 1,117,937 | - | 3031 | 1635 | 1.85 | 1855 | 727 | 2.55 | |
| *yhjA* | 1,118,154 | 1,118,423 | + | 2440 | 2521 | 0.97 | 2907 | 2548 | 1.14 | |
| *yhjB* | 1,118,466 | 1,119,935 | - | 1000 | 890 | 1.12 | 1005 | 767 | 1.31 | |
| *yhjC* | 1,119,932 | 1,120,132 | - | 1731 | 1539 | 1.12 | 1856 | 1431 | 1.30 | |
| *yhjD* | 1,120,340 | 1,120,702 | - | 50 | 44 | 1.13 | 57 | 40 | 1.42 | |
| *yhjE* | 1,120,855 | 1,121,478 | + | 468 | 334 | 1.40 | 460 | 377 | 1.22 | |
| *sipV* | 1,121,480 | 1,121,986 | + | 416 | 305 | 1.36 | 455 | 388 | 1.17 | |
| *yhjG* | 1,122,166 | 1,123,665 | + | 203 | 225 | 0.90 | 179 | 231 | 0.78 | |
| *yhjH* | 1,123,742 | 1,124,269 | + | 167 | 163 | 1.03 | 177 | 196 | 0.91 | |
| *glcP* | 1,124,427 | 1,125,632 | - | 46 | 45 | 1.01 | 52 | 56 | 0.93 | |
| *yhjJ* | 1,125,704 | 1,126,756 | - | 90 | 82 | 1.10 | 100 | 100 | 1.00 | |
| *yhjK* | 1,126,759 | 1,127,619 | - | 71 | 69 | 1.03 | 83 | 91 | 0.91 | |
| *yhjL* | 1,127,591 | 1,128,916 | - | 46 | 50 | 0.91 | 48 | 57 | 0.84 | |
| *yhjM* | 1,129,020 | 1,130,009 | + | 360 | 324 | 1.11 | 456 | 562 | 0.81 | AbrB regulon |
| *yhjN* | 1,130,223 | 1,131,377 | - | 133 | 136 | 0.98 | 162 | 170 | 0.95 | |
| *yhjO* | 1,131,484 | 1,132,689 | - | 76 | 75 | 1.02 | 49 | 57 | 0.85 | |
| *yhjP* | 1,132,803 | 1,134,530 | + | 144 | 119 | 1.21 | 158 | 149 | 1.06 | |
| *yhjQ* | 1,134,560 | 1,134,886 | - | 77 | 79 | 0.97 | 55 | 47 | 1.18 | |
| *yhjR* | 1,135,004 | 1,135,441 | - | 41 | 41 | 1.00 | 35 | 39 | 0.89 | |
| *addB* | 1,135,625 | 1,139,125 | + | 548 | 437 | 1.25 | 654 | 603 | 1.08 | |
| *addA* | 1,139,112 | 1,142,810 | + | 726 | 652 | 1.11 | 1094 | 955 | 1.15 | |
| *sbcD* | 1,142,882 | 1,144,057 | + | 508 | 486 | 1.04 | 770 | 659 | 1.17 | |
| *yirY* | 1,144,054 | 1,147,446 | + | 718 | 692 | 1.04 | 1213 | 1028 | 1.18 | |
| *yisB* | 1,147,460 | 1,147,762 | + | 521 | 527 | 0.99 | 1007 | 840 | 1.20 | |
| *gerPF* | 1,147,799 | 1,148,026 | - | 35 | 33 | 1.07 | 45 | 39 | 1.15 | |
| *gerPE* | 1,148,049 | 1,148,450 | - | 47 | 57 | 0.82 | 43 | 49 | 0.88 | |
| *gerPD* | 1,148,450 | 1,148,626 | - | 55 | 55 | 1.00 | 57 | 61 | 0.94 | |
| *gerPC* | 1,148,623 | 1,149,240 | - | 105 | 113 | 0.93 | 87 | 98 | 0.89 | |
| *gerPB* | 1,149,263 | 1,149,505 | - | 37 | 40 | 0.93 | 32 | 35 | 0.89 | |
| *gerPA* | 1,149,511 | 1,149,732 | - | 45 | 49 | 0.91 | 44 | 54 | 0.81 | |
| *yisI* | 1,150,155 | 1,150,325 | - | 52 | 46 | 1.15 | 64 | 77 | 0.83 | |
| *yisJ* | 1,150,471 | 1,151,394 | - | 62 | 62 | 1.00 | 39 | 49 | 0.80 | |
| *yisK* | 1,151,549 | 1,152,454 | + | 652 | 862 | 0.76 | 752 | 984 | 0.76 | |
| *yisL* | 1,152,570 | 1,152,926 | + | 345 | 434 | 0.80 | 446 | 554 | 0.81 | |
| *wprA* | 1,153,094 | 1,155,778 | + | 4000 | 4478 | 0.89 | 4757 | 4908 | 0.97 | |
| *yisN* | 1,155,809 | 1,156,396 | - | 43 | 41 | 1.05 | 38 | 42 | 0.91 | |
| *asnO* | 1,156,542 | 1,158,386 | + | 75 | 77 | 0.97 | 61 | 76 | 0.80 | |
| *yizA* | 1,158,516 | 1,158,995 | - | 82 | 95 | 0.86 | 67 | 78 | 0.86 | |
| *yisP* | 1,159,227 | 1,160,051 | + | 635 | 431 | 1.47 | 350 | 234 | 1.49 | |
| *yisQ* | 1,160,081 | 1,161,448 | - | 52 | 59 | 0.88 | 45 | 52 | 0.87 | |
| *yisR* | 1,161,572 | 1,162,435 | + | 425 | 264 | 1.61 | 245 | 231 | 1.06 | |
| *degA* | 1,162,453 | 1,163,466 | + | 837 | 539 | 1.55 | 531 | 488 | 1.09 | |
| *yisS* | 1,163,675 | 1,164,703 | + | 89 | 86 | 1.04 | 99 | 108 | 0.92 | |
| *yisT* | 1,164,754 | 1,165,263 | - | 726 | 803 | 0.90 | 517 | 474 | 1.09 | |
| *yisU* | 1,165,313 | 1,165,975 | - | 64 | 64 | 0.99 | 53 | 63 | 0.84 | |
| *yisV* | 1,166,042 | 1,167,496 | + | 159 | 153 | 1.04 | 151 | 168 | 0.90 | |
| *yisX* | 1,167,504 | 1,168,142 | - | 248 | 272 | 0.91 | 283 | 294 | 0.96 | |
| *yisY* | 1,168,348 | 1,169,154 | + | 133 | 131 | 1.01 | 169 | 167 | 1.02 | |
| *yisZ* | 1,169,182 | 1,169,781 | - | 53 | 56 | 0.94 | 47 | 54 | 0.87 | |
| *yitA* | 1,169,778 | 1,170,947 | - | 91 | 96 | 0.95 | 82 | 101 | 0.82 | |
| *yitB* | 1,171,060 | 1,171,770 | - | 150 | 151 | 0.99 | 105 | 120 | 0.87 | |
| *yitC* | 1,171,955 | 1,172,641 | + | 81 | 87 | 0.94 | 71 | 75 | 0.95 | |
| *yitD* | 1,172,638 | 1,173,396 | + | 67 | 65 | 1.03 | 53 | 63 | 0.84 | |
| *yitE* | 1,173,441 | 1,174,070 | - | 39 | 42 | 0.93 | 33 | 39 | 0.83 | |
| *yitF* | 1,174,166 | 1,175,281 | - | 72 | 77 | 0.93 | 53 | 63 | 0.84 | |
| *yitG* | 1,175,290 | 1,176,558 | - | 76 | 81 | 0.94 | 68 | 81 | 0.84 | |
| *yitH* | 1,176,670 | 1,177,518 | - | 310 | 325 | 0.95 | 351 | 419 | 0.84 | |
| *yitI* | 1,177,523 | 1,177,987 | - | 300 | 308 | 0.97 | 336 | 462 | 0.73 | |
| *yitJ* | 1,178,062 | 1,179,900 | - | 458 | 509 | 0.90 | 814 | 1015 | 0.80 | |
| *yitK* | 1,180,214 | 1,180,705 | - | 671 | 663 | 1.01 | 617 | 702 | 0.88 | |
| *yitL* | 1,180,804 | 1,181,700 | + | 436 | 394 | 1.10 | 446 | 472 | 0.94 | |
| *yitM* | 1,181,753 | 1,182,337 | - | 456 | 478 | 0.95 | 308 | 373 | 0.83 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yitN* | 1,182,334 | 1,182,702 | - | 65 | 70 | 0.92 | 60 | 67 | 0.89 | |
| *yitO* | 1,182,834 | 1,183,046 | - | 32 | 35 | 0.92 | 44 | 42 | 1.06 | |
| *yitP* | 1,183,247 | 1,183,783 | - | 50 | 57 | 0.88 | 57 | 66 | 0.87 | |
| *yitQ* | 1,184,155 | 1,184,892 | + | 219 | 186 | 1.18 | 201 | 237 | 0.85 | |
| *yitR* | 1,184,912 | 1,185,205 | + | 147 | 117 | 1.26 | 133 | 145 | 0.92 | |
| *nprB* | 1,185,341 | 1,186,957 | + | 105 | 107 | 0.98 | 104 | 117 | 0.89 | |
| *yitS* | 1,187,004 | 1,187,855 | - | 605 | 499 | 1.21 | 540 | 494 | 1.09 | |
| *yitT* | 1,187,993 | 1,188,835 | + | 2593 | 1646 | 1.58 | 1282 | 531 | 2.41 | |
| *ipi* | 1,188,950 | 1,189,309 | + | 1172 | 737 | 1.59 | 319 | 173 | 1.85 | |
| *yitU* | 1,189,794 | 1,190,606 | - | 479 | 429 | 1.12 | 551 | 641 | 0.86 | |
| *yitV* | 1,190,727 | 1,191,494 | + | 462 | 375 | 1.23 | 498 | 533 | 0.93 | |
| *yitW* | 1,191,558 | 1,191,866 | + | 2067 | 1861 | 1.11 | 2145 | 1992 | 1.08 | |
| *yitY* | 1,192,162 | 1,193,592 | + | 162 | 159 | 1.02 | 320 | 387 | 0.83 | |
| *yitZ* | 1,193,637 | 1,194,131 | + | 80 | 80 | 0.99 | 166 | 191 | 0.87 | |
| *argC* | 1,194,338 | 1,195,378 | + | 194 | 187 | 1.04 | 831 | 1379 | 0.60 | |
| *argJ* | 1,195,398 | 1,196,618 | + | 337 | 435 | 0.78 | 1472 | 2007 | 0.73 | |
| *argB* | 1,196,633 | 1,197,409 | + | 330 | 446 | 0.74 | 1181 | 1601 | 0.74 | |
| *argD* | 1,197,406 | 1,198,563 | + | 406 | 511 | 0.79 | 1064 | 1417 | 0.75 | |
| *carA* | 1,198,634 | 1,199,695 | + | 628 | 779 | 0.81 | 1348 | 1742 | 0.77 | |
| *carB* | 1,199,688 | 1,202,780 | + | 993 | 1194 | 0.83 | 1461 | 1833 | 0.80 | |
| *argF* | 1,202,768 | 1,203,727 | + | 1246 | 1543 | 0.81 | 1510 | 1842 | 0.82 | |
| *yjzC* | 1,203,813 | 1,203,992 | + | 40 | 59 | 0.68 | 40 | 47 | 0.84 | |
| *yjzD* | 1,204,038 | 1,204,223 | - | 568 | 679 | 0.84 | 634 | 684 | 0.93 | |
| *yjaU* | 1,204,472 | 1,205,206 | + | 86 | 80 | 1.08 | 92 | 104 | 0.88 | |
| *yjaV* | 1,205,288 | 1,205,695 | + | 47 | 48 | 0.99 | 47 | 53 | 0.89 | |
| *med* | 1,205,937 | 1,206,890 | + | 873 | 828 | 1.05 | 616 | 570 | 1.08 | Spo0A regulon |
| *comZ* | 1,206,905 | 1,207,096 | + | 174 | 250 | 0.70 | 295 | 229 | 1.29 | |
| *yjzB* | 1,207,126 | 1,207,365 | - | 89 | 104 | 0.86 | 98 | 93 | 1.05 | |
| *fabHA* | 1,207,530 | 1,208,468 | + | 2298 | 2413 | 0.95 | 1836 | 2241 | 0.82 | |
| *fabF* | 1,208,491 | 1,209,732 | + | 3099 | 3127 | 0.99 | 3052 | 3168 | 0.96 | |
| *yjaZ* | 1,209,808 | 1,210,593 | + | 77 | 86 | 0.89 | 66 | 70 | 0.95 | |
| *appD* | 1,210,785 | 1,211,771 | + | 913 | 1199 | 0.76 | 787 | 981 | 0.80 | |
| *appF* | 1,211,768 | 1,212,757 | + | 1358 | 1488 | 0.91 | 1157 | 1483 | 0.78 | |
| *appA* | 1,212,845 | 1,214,476 | + | 3890 | 4672 | 0.83 | 3033 | 3577 | 0.85 | |
| *appB* | 1,214,552 | 1,215,505 | + | 1871 | 2427 | 0.77 | 1473 | 1961 | 0.75 | |
| *appC* | 1,215,522 | 1,216,433 | + | 1658 | 2188 | 0.76 | 1280 | 1706 | 0.75 | |
| *yjbA* | 1,216,639 | 1,217,391 | + | 127 | 147 | 0.86 | 159 | 254 | 0.63 | |
| *trpS* | 1,217,426 | 1,218,418 | - | 892 | 889 | 1.00 | 1004 | 1050 | 0.96 | |
| *oppA* | 1,219,162 | 1,220,799 | + | 2803 | 3150 | 0.89 | 1876 | 2102 | 0.89 | |
| *oppB* | 1,220,907 | 1,221,842 | + | 650 | 564 | 1.15 | 399 | 454 | 0.88 | |
| *oppC* | 1,221,846 | 1,222,763 | + | 859 | 759 | 1.13 | 603 | 643 | 0.94 | |
| *oppD* | 1,222,768 | 1,223,844 | + | 1185 | 1138 | 1.04 | 895 | 986 | 0.91 | |
| *oppF* | 1,223,846 | 1,224,763 | + | 1105 | 1129 | 0.98 | 930 | 977 | 0.95 | |
| *yjbB* | 1,224,870 | 1,226,087 | + | 83 | 78 | 1.06 | 119 | 108 | 1.10 | |
| *yjbC* | 1,226,251 | 1,226,829 | + | 1907 | 2025 | 0.94 | 1798 | 1425 | 1.26 | |
| *yjbD* | 1,227,010 | 1,227,405 | + | 1956 | 2062 | 0.95 | 1263 | 1250 | 1.01 | |
| *yjbE* | 1,227,448 | 1,228,104 | - | 49 | 54 | 0.91 | 47 | 53 | 0.89 | |
| *mecA* | 1,228,381 | 1,229,037 | + | 1258 | 1414 | 0.89 | 916 | 780 | 1.17 | |
| *yjbF* | 1,229,228 | 1,230,349 | + | 157 | 136 | 1.15 | 186 | 171 | 1.09 | |
| *yjbG* | 1,230,579 | 1,232,408 | + | 1822 | 1847 | 0.99 | 1940 | 1761 | 1.10 | |
| *yjbH* | 1,232,926 | 1,233,753 | - | 369 | 341 | 1.08 | 396 | 425 | 0.93 | |
| *yjbI* | 1,233,822 | 1,234,220 | - | 500 | 426 | 1.17 | 347 | 439 | 0.79 | |
| *yjbJ* | 1,234,475 | 1,235,020 | - | 1142 | 1787 | 0.64 | 1024 | 1300 | 0.79 | SigD regulon |
| *yjbK* | 1,235,224 | 1,235,796 | - | 330 | 301 | 1.10 | 264 | 248 | 1.06 | |
| *yjbL* | 1,235,921 | 1,236,289 | + | 550 | 514 | 1.07 | 748 | 869 | 0.86 | |
| *yjbM* | 1,236,318 | 1,236,953 | + | 774 | 736 | 1.05 | 933 | 977 | 0.96 | |
| *yjbN* | 1,236,972 | 1,237,772 | + | 771 | 727 | 1.06 | 850 | 925 | 0.92 | |
| *yjbO* | 1,237,835 | 1,238,686 | + | 704 | 672 | 1.05 | 770 | 822 | 0.94 | |
| *yjbP* | 1,238,699 | 1,239,433 | - | 94 | 96 | 0.98 | 126 | 127 | 0.99 | |
| *yjbQ* | 1,239,668 | 1,241,512 | + | 94 | 103 | 0.91 | 198 | 220 | 0.90 | |
| *tenA* | 1,241,761 | 1,242,471 | + | 1244 | 1497 | 0.83 | 1884 | 2355 | 0.80 | |
| *tenI* | 1,242,446 | 1,243,063 | + | 1933 | 2392 | 0.81 | 3172 | 3485 | 0.91 | |
| *goxB* | 1,243,047 | 1,244,156 | + | 2033 | 2397 | 0.85 | 2823 | 3171 | 0.89 | |
| *thiS* | 1,244,156 | 1,244,356 | + | 2195 | 2715 | 0.81 | 3417 | 3707 | 0.92 | |
| *thiG* | 1,244,353 | 1,245,123 | + | 2250 | 2823 | 0.80 | 2929 | 3182 | 0.92 | |
| *thiF* | 1,245,120 | 1,246,130 | + | 2310 | 2818 | 0.82 | 2915 | 3182 | 0.92 | |
| *yjbV* | 1,246,149 | 1,246,964 | + | 2295 | 2860 | 0.80 | 3034 | 3252 | 0.93 | |
| *fabI* | 1,247,100 | 1,247,876 | + | 2987 | 3692 | 0.81 | 1850 | 2550 | 0.73 | |
| *yjbX* | 1,247,977 | 1,248,660 | + | 159 | 180 | 0.89 | 122 | 159 | 0.77 | |
| *cotZ* | 1,248,754 | 1,249,200 | - | 48 | 62 | 0.76 | 45 | 56 | 0.80 | |
| *cotY* | 1,249,328 | 1,249,816 | - | 33 | 57 | 0.58 | 31 | 38 | 0.82 | |
| *cotX* | 1,249,968 | 1,250,486 | - | 42 | 83 | 0.51 | 40 | 45 | 0.88 | |
| *cotW* | 1,250,585 | 1,250,902 | - | 74 | 103 | 0.71 | 57 | 77 | 0.75 | |
| *cotV* | 1,250,943 | 1,251,329 | - | 39 | 62 | 0.63 | 33 | 38 | 0.87 | |
| *yjcA* | 1,251,489 | 1,251,845 | + | 71 | 66 | 1.07 | 68 | 74 | 0.91 | |
| *yjcB* | 1,252,170 | 1,252,385 | + | 40 | 46 | 0.87 | 47 | 41 | 1.15 | |
| *yjcC* | 1,252,649 | 1,252,951 | + | 29 | 34 | 0.85 | 24 | 31 | 0.77 | |
| *yjcD* | 1,253,025 | 1,255,304 | - | 132 | 111 | 1.18 | 198 | 189 | 1.05 | |
| *yjcE* | 1,255,385 | 1,255,687 | - | 20 | 28 | 0.71 | 29 | 49 | 0.60 | |
| *yjcF* | 1,255,748 | 1,256,170 | - | 1664 | 2210 | 0.75 | 2231 | 2865 | 0.78 | |
| *yjcG* | 1,256,174 | 1,256,689 | - | 2005 | 2615 | 0.77 | 2121 | 3109 | 0.68 | |
| *yjcH* | 1,256,726 | 1,257,448 | - | 1648 | 2106 | 0.78 | 1504 | 2365 | 0.64 | |
| *yjcI* | 1,257,804 | 1,258,925 | + | 575 | 775 | 0.74 | 1041 | 1663 | 0.63 | |
| *yjcJ* | 1,258,918 | 1,260,090 | + | 588 | 840 | 0.70 | 874 | 1268 | 0.69 | |
| *yjcK* | 1,260,123 | 1,260,668 | - | 172 | 235 | 0.73 | 167 | 212 | 0.79 | |
| *yjcL* | 1,260,738 | 1,261,928 | - | 206 | 280 | 0.74 | 179 | 228 | 0.79 | |
| *yjcM* | 1,263,014 | 1,264,243 | - | 1082 | 1054 | 1.03 | 1521 | 1923 | 0.79 | AbrB regulon |
| *yjcN* | 1,264,369 | 1,264,689 | + | 1254 | 1495 | 0.84 | 1132 | 1456 | 0.78 | |
| *yjcO* | 1,265,199 | 1,265,660 | + | 280 | 337 | 0.83 | 365 | 402 | 0.91 | |
| *yjcP* | 1,265,926 | 1,266,429 | + | 935 | 940 | 0.99 | 1116 | 1129 | 0.99 | Spo0A and SigD regulor |
| *yjcQ* | 1,266,441 | 1,266,725 | + | 352 | 347 | 1.01 | 523 | 534 | 0.98 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yjcR* | 1,266,886 | 1,267,413 | + | 35 | 37 | 0.93 | 35 | 37 | 0.96 | |
| *yjcS* | 1,267,587 | 1,267,904 | + | 678 | 631 | 1.07 | 680 | 734 | 0.93 | |
| *yjdA* | 1,268,141 | 1,268,896 | + | 695 | 661 | 1.05 | 650 | 584 | 1.11 | |
| *yjdB* | 1,269,045 | 1,269,392 | - | 244 | 180 | 1.36 | 173 | 147 | 1.17 | AbrB regulon |
| *manR* | 1,269,943 | 1,271,889 | + | 59 | 55 | 1.08 | 60 | 67 | 0.89 | |
| *manP* | 1,272,037 | 1,273,806 | + | 66 | 71 | 0.93 | 57 | 72 | 0.79 | |
| *manA* | 1,274,005 | 1,274,952 | + | 42 | 54 | 0.78 | 44 | 49 | 0.89 | |
| *yjdF* | 1,275,122 | 1,275,604 | + | 316 | 280 | 1.13 | 529 | 469 | 1.13 | |
| *yjdG* | 1,275,650 | 1,276,156 | - | 376 | 369 | 1.02 | 339 | 403 | 0.84 | AbrB regulon |
| *yjdH* | 1,276,388 | 1,276,792 | - | 67 | 71 | 0.95 | 59 | 79 | 0.74 | |
| *yjdI* | 1,276,997 | 1,277,476 | + | 421 | 398 | 1.06 | 409 | 385 | 1.06 | |
| *yjdJ* | 1,277,876 | 1,278,205 | - | 145 | 131 | 1.11 | 154 | 165 | 0.93 | |
| *ctaO* | 1,278,825 | 1,279,814 | - | 345 | 264 | 1.31 | 226 | 326 | 0.69 | AbrB regulon |
| *cotT* | 1,279,937 | 1,280,260 | - | 62 | 113 | 0.55 | 42 | 56 | 0.75 | |
| *yjeA* | 1,280,439 | 1,281,842 | + | 268 | 460 | 0.58 | 135 | 174 | 0.78 | |
| *yjfA* | 1,281,882 | 1,282,355 | - | 745 | 688 | 1.08 | 480 | 405 | 1.19 | |
| *yjfB* | 1,282,480 | 1,282,647 | - | 4138 | 3845 | 1.08 | 3276 | 2517 | 1.30 | SigD regulon |
| *yjfC* | 1,282,774 | 1,283,703 | + | 53 | 58 | 0.92 | 46 | 57 | 0.81 | |
| *yjgA* | 1,283,681 | 1,284,079 | - | 132 | 111 | 1.19 | 96 | 95 | 1.00 | |
| *yjgB* | 1,284,180 | 1,284,755 | - | 398 | 302 | 1.32 | 236 | 108 | 2.19 | |
| *yjgC* | 1,284,901 | 1,287,858 | + | 3421 | 2017 | 1.70 | 1781 | 680 | 2.62 | |
| *yjgD* | 1,287,851 | 1,288,411 | + | 3913 | 2194 | 1.78 | 2281 | 874 | 2.61 | |
| *yjhA* | 1,288,608 | 1,289,249 | + | 280 | 237 | 1.18 | 494 | 466 | 1.06 | |
| *yjhB* | 1,289,442 | 1,289,954 | + | 150 | 134 | 1.12 | 170 | 165 | 1.03 | |
| *yjiA* | 1,289,985 | 1,290,263 | - | 53 | 62 | 0.86 | 73 | 93 | 0.79 | |
| *yjiB* | 1,290,654 | 1,291,844 | + | 259 | 243 | 1.07 | 347 | 332 | 1.05 | |
| *yjiC* | 1,291,867 | 1,293,045 | + | 240 | 216 | 1.11 | 421 | 362 | 1.16 | |
| *yjjA* | 1,293,448 | 1,294,260 | + | 443 | 388 | 1.14 | 597 | 615 | 0.97 | |
| *yjkA* | 1,294,306 | 1,295,058 | - | 109 | 100 | 1.08 | 150 | 141 | 1.07 | |
| *yjkB* | 1,295,058 | 1,295,810 | - | 100 | 99 | 1.01 | 127 | 142 | 0.90 | |
| *yjlA* | 1,295,930 | 1,296,904 | - | 226 | 172 | 1.32 | 221 | 214 | 1.03 | |
| *yjlB* | 1,297,036 | 1,297,533 | + | 1269 | 720 | 1.76 | 685 | 277 | 2.47 | |
| *yjlC* | 1,297,922 | 1,298,344 | + | 3338 | 3488 | 0.96 | 2686 | 3036 | 0.88 | |
| *yjlD* | 1,298,384 | 1,299,562 | + | 3306 | 3462 | 0.96 | 3096 | 3459 | 0.90 | |
| *uxaC* | 1,299,760 | 1,301,181 | + | 62 | 67 | 0.92 | 45 | 57 | 0.79 | |
| *yjmB* | 1,301,249 | 1,302,628 | + | 69 | 73 | 0.94 | 61 | 61 | 1.00 | |
| *yjmC* | 1,302,733 | 1,303,746 | + | 79 | 82 | 0.97 | 61 | 93 | 0.66 | |
| *yjmD* | 1,303,752 | 1,304,771 | + | 123 | 126 | 0.97 | 93 | 113 | 0.82 | |
| *uxuA* | 1,304,796 | 1,305,875 | + | 78 | 80 | 0.98 | 62 | 75 | 0.83 | |
| *yjmF* | 1,305,872 | 1,306,708 | + | 109 | 116 | 0.95 | 99 | 116 | 0.85 | |
| *exuT* | 1,306,756 | 1,308,024 | + | 65 | 67 | 0.97 | 53 | 64 | 0.83 | |
| *exuR* | 1,308,112 | 1,309,113 | + | 256 | 268 | 0.95 | 255 | 325 | 0.79 | |
| *uxaB* | 1,309,190 | 1,310,632 | + | 71 | 78 | 0.91 | 54 | 62 | 0.87 | |
| *uxaA* | 1,310,629 | 1,312,122 | + | 57 | 60 | 0.94 | 50 | 56 | 0.90 | |
| *yjnA* | 1,312,161 | 1,312,925 | - | 241 | 151 | 1.59 | 289 | 407 | 0.71 | |
| *yjoA* | 1,313,150 | 1,313,614 | - | 3024 | 2590 | 1.17 | 2351 | 1872 | 1.26 | |
| *yjoB* | 1,313,763 | 1,315,034 | + | 264 | 221 | 1.20 | 486 | 542 | 0.90 | |
| *rapA* | 1,315,179 | 1,316,315 | + | 4045 | 5313 | 0.76 | 2750 | 3115 | 0.88 | Spo0A regulon |
| *yjpA* | 1,316,470 | 1,316,712 | - | 150 | 134 | 1.12 | 297 | 249 | 1.19 | |
| *xlyB* | 1,316,849 | 1,317,802 | + | 972 | 417 | 2.33 | 1609 | 774 | 2.08 | |
| *yjqA* | 1,317,839 | 1,318,216 | - | 316 | 290 | 1.09 | 614 | 525 | 1.17 | |
| *yjqB* | 1,318,322 | 1,318,924 | + | 224 | 161 | 1.40 | 306 | 217 | 1.41 | |
| *yjqC* | 1,319,001 | 1,319,837 | + | 197 | 140 | 1.40 | 302 | 226 | 1.34 | |
| *xkdA* | 1,319,881 | 1,320,477 | - | 240 | 130 | 1.84 | 198 | 121 | 1.64 | |
| *xre* | 1,320,640 | 1,320,981 | - | 366 | 351 | 1.04 | 508 | 586 | 0.87 | |
| *xkdB* | 1,321,325 | 1,322,158 | + | 293 | 144 | 2.03 | 379 | 189 | 2.01 | |
| *xkdC* | 1,322,058 | 1,322,858 | + | 394 | 185 | 2.13 | 594 | 300 | 1.98 | |
| *xkdD* | 1,323,110 | 1,323,460 | + | 282 | 112 | 2.52 | 414 | 201 | 2.05 | |
| *xtrA* | 1,323,457 | 1,323,663 | + | 445 | 252 | 1.76 | 787 | 451 | 1.75 | |
| *xpf* | 1,323,779 | 1,324,288 | + | 349 | 141 | 2.48 | 646 | 293 | 2.20 | |
| *xtmA* | 1,324,404 | 1,325,201 | + | 1270 | 392 | 3.24 | 1842 | 936 | 1.97 | |
| *xtmB* | 1,325,198 | 1,326,499 | + | 1057 | 316 | 3.34 | 1451 | 757 | 1.92 | |
| *xkdE* | 1,326,503 | 1,327,990 | + | 1029 | 373 | 2.76 | 1567 | 847 | 1.85 | |
| *xkdF* | 1,328,010 | 1,328,837 | + | 2826 | 1221 | 2.31 | 3944 | 2177 | 1.81 | |
| *xkdG* | 1,328,863 | 1,329,798 | + | 2494 | 1054 | 2.37 | 3731 | 1937 | 1.93 | |
| *xkdH* | 1,330,202 | 1,330,558 | + | 1861 | 725 | 2.57 | 2659 | 1223 | 2.17 | |
| *xkdI* | 1,330,555 | 1,331,040 | + | 2446 | 964 | 2.54 | 3291 | 1606 | 2.05 | |
| *xkdJ* | 1,331,053 | 1,331,493 | + | 2196 | 965 | 2.28 | 3451 | 1728 | 2.00 | |
| *xkdK* | 1,331,712 | 1,333,106 | + | 2666 | 1062 | 2.51 | 3820 | 2018 | 1.89 | |
| *xkdM* | 1,333,113 | 1,333,556 | + | 1978 | 753 | 2.63 | 2966 | 1608 | 1.84 | |
| *xkdN* | 1,333,648 | 1,334,274 | + | 1309 | 430 | 3.05 | 2331 | 1320 | 1.77 | |
| *xkdO* | 1,334,279 | 1,338,277 | + | 1020 | 352 | 2.90 | 1791 | 896 | 2.00 | |
| *xkdP* | 1,338,222 | 1,338,929 | + | 1141 | 364 | 3.13 | 2147 | 1060 | 2.02 | |
| *xkdQ* | 1,338,945 | 1,339,922 | + | 1269 | 424 | 2.99 | 2106 | 980 | 2.15 | |
| *xkdR* | 1,339,922 | 1,340,188 | + | 1096 | 340 | 3.23 | 1740 | 763 | 2.28 | |
| *xkdS* | 1,340,245 | 1,340,670 | + | 1430 | 521 | 2.75 | 2583 | 1194 | 2.16 | |
| *xkdT* | 1,340,663 | 1,341,709 | + | 1143 | 415 | 2.76 | 2084 | 984 | 2.12 | |
| *xkdU* | 1,341,693 | 1,342,271 | + | 916 | 323 | 2.84 | 1521 | 710 | 2.14 | |
| *xkdV* | 1,342,542 | 1,344,605 | + | 1279 | 438 | 2.92 | 2252 | 1119 | 2.01 | |
| *xkdW* | 1,344,617 | 1,344,946 | + | 1150 | 366 | 3.14 | 1955 | 918 | 2.13 | |
| *xkdX* | 1,344,943 | 1,345,107 | + | 523 | 155 | 3.37 | 807 | 315 | 2.56 | |
| *xepA* | 1,345,151 | 1,345,990 | + | 1288 | 481 | 2.68 | 2211 | 993 | 2.23 | |
| *xhlA* | 1,346,043 | 1,346,312 | + | 2350 | 947 | 2.48 | 4220 | 2033 | 2.08 | |
| *xhlB* | 1,346,325 | 1,346,588 | + | 2317 | 814 | 2.85 | 3374 | 1847 | 1.83 | |
| *xlyA* | 1,346,601 | 1,347,494 | + | 1745 | 636 | 2.74 | 3046 | 1445 | 2.11 | |
| *spoIISB* | 1,347,754 | 1,347,924 | - | 370 | 312 | 1.19 | 417 | 397 | 1.05 | |
| *spoIISA* | 1,347,924 | 1,348,670 | - | 518 | 378 | 1.37 | 466 | 477 | 0.98 | |
| *pit* | 1,348,794 | 1,349,780 | - | 1097 | 891 | 1.23 | 1196 | 1194 | 1.00 | |
| *ykaA* | 1,349,793 | 1,350,410 | - | 1207 | 1129 | 1.07 | 1174 | 1188 | 0.99 | Spo0A regulon |
| *ykbA* | 1,350,686 | 1,352,002 | - | 150 | 135 | 1.11 | 104 | 131 | 0.79 | |
| *ykcA* | 1,352,391 | 1,353,341 | + | 183 | 231 | 0.79 | 276 | 382 | 0.72 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ykcB* | 1,353,592 | 1,355,742 | + | 97 | 99 | 0.98 | 80 | 91 | 0.87 | |
| *ykcC* | 1,355,754 | 1,356,725 | + | 49 | 53 | 0.93 | 51 | 57 | 0.90 | |
| *htrA* | 1,357,243 | 1,358,592 | - | 646 | 709 | 0.91 | 2184 | 2919 | 0.75 | |
| *proG* | 1,358,761 | 1,359,579 | + | 317 | 282 | 1.12 | 449 | 402 | 1.12 | |
| *dppA* | 1,359,708 | 1,360,532 | + | 1231 | 1484 | 0.83 | 1010 | 1452 | 0.70 | |
| *dppB* | 1,360,549 | 1,361,475 | + | 879 | 962 | 0.91 | 444 | 708 | 0.63 | |
| *dppC* | 1,361,481 | 1,362,443 | + | 829 | 922 | 0.90 | 429 | 724 | 0.59 | |
| *dppD* | 1,362,448 | 1,363,455 | + | 1045 | 1231 | 0.85 | 594 | 948 | 0.63 | |
| *dppE* | 1,363,458 | 1,365,107 | + | 1101 | 1361 | 0.81 | 739 | 1166 | 0.63 | |
| *ykfA* | 1,365,448 | 1,366,152 | + | 450 | 543 | 0.83 | 339 | 526 | 0.65 | |
| *ykfB* | 1,366,149 | 1,367,249 | + | 435 | 547 | 0.80 | 401 | 555 | 0.72 | |
| *ykfC* | 1,367,246 | 1,368,136 | + | 403 | 510 | 0.79 | 432 | 624 | 0.69 | |
| *ykfD* | 1,368,149 | 1,369,132 | + | 393 | 523 | 0.75 | 416 | 595 | 0.70 | |
| *ykgB* | 1,369,180 | 1,370,229 | - | 3305 | 3016 | 1.10 | 2350 | 2038 | 1.15 | |
| *ykgA* | 1,370,389 | 1,371,180 | - | 2890 | 2457 | 1.18 | 1008 | 356 | 2.83 | |
| *ykhA* | 1,371,340 | 1,371,858 | + | 477 | 387 | 1.23 | 549 | 497 | 1.10 | |
| *hmp* | 1,372,097 | 1,373,296 | + | 978 | 200 | 4.89 | 116 | 68 | 1.70 | |
| *ykzH* | 1,373,373 | 1,373,597 | - | 33 | 36 | 0.92 | 28 | 29 | 0.95 | |
| *ykjA* | 1,373,742 | 1,374,473 | + | 100 | 71 | 1.41 | 44 | 51 | 0.87 | |
| *ykkA* | 1,374,565 | 1,375,092 | + | 233 | 205 | 1.14 | 269 | 217 | 1.24 | |
| *ykkB* | 1,375,082 | 1,375,600 | + | 202 | 183 | 1.10 | 243 | 198 | 1.23 | |
| *ykkC* | 1,375,823 | 1,376,161 | + | 198 | 174 | 1.14 | 173 | 178 | 0.97 | |
| *ykkD* | 1,376,161 | 1,376,478 | + | 116 | 108 | 1.07 | 129 | 117 | 1.10 | |
| *ykkE* | 1,376,549 | 1,377,451 | + | 424 | 433 | 0.98 | 504 | 521 | 0.97 | |
| *proB* | 1,377,802 | 1,378,899 | + | 457 | 480 | 0.95 | 803 | 921 | 0.87 | |
| *proA* | 1,378,911 | 1,380,158 | + | 812 | 876 | 0.93 | 1131 | 1284 | 0.88 | |
| *yklA* | 1,380,284 | 1,380,709 | + | 179 | 367 | 0.49 | 283 | 546 | 0.52 | |
| *ykmA* | 1,380,740 | 1,381,183 | - | 255 | 231 | 1.10 | 260 | 232 | 1.12 | |
| *ykzA* | 1,381,326 | 1,381,736 | + | 6778 | 6620 | 1.02 | 4007 | 2451 | 1.63 | |
| *guaD* | 1,381,983 | 1,382,453 | - | 87 | 107 | 0.81 | 144 | 179 | 0.80 | |
| *metE* | 1,382,626 | 1,384,914 | - | 2119 | 2394 | 0.89 | 3556 | 3838 | 0.93 | |
| *ispA* | 1,385,330 | 1,386,289 | - | 172 | 238 | 0.72 | 131 | 148 | 0.89 | |
| *ykoB* | 1,386,512 | 1,387,345 | + | 757 | 794 | 0.95 | 1211 | 1217 | 1.00 | |
| *ykoC* | 1,387,376 | 1,388,140 | - | 1336 | 1268 | 1.05 | 1632 | 1425 | 1.14 | |
| *ykoD* | 1,388,287 | 1,389,759 | - | 1046 | 981 | 1.07 | 1284 | 1151 | 1.12 | |
| *ykoE* | 1,389,746 | 1,390,345 | - | 1280 | 1264 | 1.01 | 1585 | 1398 | 1.13 | |
| *ykoF* | 1,390,347 | 1,390,949 | - | 1311 | 1330 | 0.99 | 1636 | 1436 | 1.14 | |
| *ykoG* | 1,391,260 | 1,391,946 | + | 168 | 157 | 1.07 | 184 | 203 | 0.90 | |
| *ykoH* | 1,391,950 | 1,393,314 | + | 144 | 123 | 1.17 | 216 | 225 | 0.96 | |
| *ykoI* | 1,393,311 | 1,393,991 | + | 125 | 102 | 1.22 | 225 | 222 | 1.01 | |
| *ykoJ* | 1,394,083 | 1,394,595 | + | 790 | 1399 | 0.56 | 1814 | 2849 | 0.64 | |
| *ykzD* | 1,394,678 | 1,394,815 | + | 18 | 29 | 0.62 | 45 | 49 | 0.91 | |
| *ykoK* | 1,395,321 | 1,396,676 | + | 599 | 587 | 1.02 | 696 | 689 | 1.01 | |
| *tnrA* | 1,396,719 | 1,397,051 | - | 213 | 264 | 0.81 | 169 | 194 | 0.87 | |
| *ykzB* | 1,397,246 | 1,397,401 | + | 55 | 52 | 1.05 | 69 | 55 | 1.27 | |
| *ykoL* | 1,397,489 | 1,397,671 | + | 22 | 25 | 0.89 | 23 | 27 | 0.85 | |
| *ykoM* | 1,397,804 | 1,398,268 | + | 470 | 538 | 0.87 | 638 | 831 | 0.77 | |
| *ykoN* | 1,398,283 | 1,399,404 | - | 59 | 61 | 0.97 | 52 | 56 | 0.93 | |
| *ykoP* | 1,399,496 | 1,400,047 | + | 33 | 37 | 0.88 | 34 | 36 | 0.94 | |
| *ykoQ* | 1,400,075 | 1,400,887 | - | 54 | 55 | 0.97 | 48 | 56 | 0.85 | |
| *ykoS* | 1,401,080 | 1,402,774 | + | 67 | 63 | 1.06 | 56 | 62 | 0.90 | |
| *ykoT* | 1,402,787 | 1,403,800 | + | 61 | 54 | 1.13 | 54 | 50 | 1.08 | |
| *ykoU* | 1,403,826 | 1,405,661 | - | 100 | 86 | 1.16 | 89 | 107 | 0.83 | |
| *ykoV* | 1,405,665 | 1,406,600 | - | 121 | 99 | 1.22 | 87 | 100 | 0.87 | |
| *ykoW* | 1,406,637 | 1,408,886 | - | 329 | 358 | 0.92 | 255 | 350 | 0.73 | |
| *ykoX* | 1,409,220 | 1,409,885 | + | 143 | 142 | 1.01 | 231 | 267 | 0.86 | |
| *ykoY* | 1,409,962 | 1,410,936 | + | 143 | 158 | 0.91 | 159 | 201 | 0.79 | |
| *sigI* | 1,411,200 | 1,411,955 | + | 287 | 210 | 1.37 | 304 | 270 | 1.13 | |
| *ykrI* | 1,411,952 | 1,413,097 | + | 242 | 177 | 1.37 | 485 | 459 | 1.06 | |
| *sspD* | 1,413,108 | 1,413,302 | - | 87 | 117 | 0.74 | 87 | 94 | 0.93 | |
| *ykrK* | 1,413,433 | 1,414,134 | - | 184 | 230 | 0.80 | 232 | 319 | 0.73 | |
| *ykrL* | 1,414,305 | 1,415,201 | + | 585 | 500 | 1.17 | 683 | 634 | 1.08 | |
| *ykrM* | 1,415,375 | 1,416,724 | + | 81 | 82 | 0.98 | 122 | 114 | 1.07 | |
| *ykrP* | 1,417,246 | 1,418,268 | - | 180 | 109 | 1.65 | 187 | 113 | 1.66 | |
| *kinE* | 1,418,521 | 1,420,737 | + | 314 | 297 | 1.06 | 432 | 377 | 1.14 | |
| *ogt* | 1,420,734 | 1,421,231 | + | 487 | 443 | 1.10 | 588 | 479 | 1.23 | |
| *ykrS* | 1,421,480 | 1,422,541 | - | 4249 | 5045 | 0.84 | 5110 | 5417 | 0.94 | |
| *ykrT* | 1,422,549 | 1,423,748 | - | 4047 | 4710 | 0.86 | 4493 | 5023 | 0.89 | |
| *ykrU* | 1,424,075 | 1,424,854 | - | 477 | 540 | 0.88 | 718 | 849 | 0.85 | |
| *ykrV* | 1,424,949 | 1,426,145 | + | 842 | 1005 | 0.84 | 1177 | 1304 | 0.90 | |
| *ykrW* | 1,426,342 | 1,427,586 | + | 528 | 636 | 0.83 | 756 | 1081 | 0.70 | |
| *ykrX* | 1,427,583 | 1,428,290 | + | 1100 | 1215 | 0.91 | 1714 | 2231 | 0.77 | |
| *ykrY* | 1,428,248 | 1,428,877 | + | 1622 | 1794 | 0.90 | 2224 | 2853 | 0.78 | |
| *ykrZ* | 1,428,892 | 1,429,428 | + | 1302 | 1600 | 0.81 | 1876 | 2320 | 0.81 | |
| *ykvA* | 1,429,469 | 1,429,789 | - | 523 | 541 | 0.97 | 420 | 434 | 0.97 | |
| *spo0E* | 1,429,992 | 1,430,249 | + | 1618 | 1898 | 0.85 | 1240 | 1093 | 1.13 | AbrB regulon |
| *eag* | 1,430,335 | 1,430,766 | + | 186 | 196 | 0.95 | 142 | 128 | 1.11 | |
| *kinD* | 1,430,794 | 1,432,314 | - | 672 | 524 | 1.28 | 622 | 591 | 1.05 | |
| *ykvE* | 1,432,507 | 1,432,944 | + | 344 | 229 | 1.50 | 377 | 284 | 1.33 | |
| *motB* | 1,432,984 | 1,433,769 | - | 2660 | 3026 | 0.88 | 1536 | 1793 | 0.86 | |
| *motA* | 1,433,741 | 1,434,553 | - | 2757 | 3447 | 0.80 | 1657 | 1826 | 0.91 | SigD regulon |
| *clpE* | 1,434,936 | 1,437,035 | - | 181 | 165 | 1.10 | 132 | 127 | 1.03 | |
| *ykvI* | 1,437,400 | 1,438,443 | + | 80 | 78 | 1.03 | 66 | 71 | 0.93 | |
| *ykvJ* | 1,438,756 | 1,439,415 | + | 126 | 126 | 1.00 | 231 | 252 | 0.91 | |
| *ykvK* | 1,439,408 | 1,439,857 | + | 171 | 165 | 1.04 | 310 | 318 | 0.98 | |
| *ykvL* | 1,439,850 | 1,440,581 | + | 180 | 171 | 1.06 | 306 | 314 | 0.97 | |
| *ykvM* | 1,440,599 | 1,441,096 | + | 290 | 278 | 1.04 | 460 | 429 | 1.07 | |
| *ykvN* | 1,441,655 | 1,442,011 | - | 122 | 110 | 1.11 | 141 | 182 | 0.78 | |
| *ykvO* | 1,442,180 | 1,442,926 | + | 48 | 51 | 0.93 | 61 | 59 | 1.03 | |
| *ykvP* | 1,443,407 | 1,444,606 | + | 66 | 54 | 1.24 | 57 | 45 | 1.27 | |
| *ykvQ* | 1,444,946 | 1,445,644 | + | 76 | 57 | 1.32 | 70 | 67 | 1.06 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| *ykvR* | 1,446,559 | 1,446,849 | + | 68 | 67 | 1.02 | 69 | 77 | 0.89 | |
| *ykvS* | 1,446,970 | 1,447,401 | - | 212 | 186 | 1.14 | 295 | 389 | 0.76 | |
| *ykvT* | 1,447,814 | 1,448,440 | + | 50 | 50 | 1.00 | 45 | 56 | 0.82 | |
| *ykvU* | 1,448,558 | 1,449,895 | + | 47 | 51 | 0.92 | 46 | 51 | 0.90 | |
| *ykvV* | 1,449,946 | 1,450,443 | + | 72 | 70 | 1.04 | 88 | 92 | 0.96 | |
| *ykvW* | 1,450,679 | 1,452,592 | + | 156 | 129 | 1.21 | 150 | 140 | 1.08 | |
| *ykvY* | 1,452,999 | 1,454,090 | + | 473 | 487 | 0.97 | 562 | 714 | 0.79 | |
| *ykvZ* | 1,454,372 | 1,455,337 | + | 99 | 113 | 0.88 | 176 | 227 | 0.78 | |
| *glcT* | 1,455,400 | 1,456,257 | + | 283 | 317 | 0.89 | 330 | 421 | 0.78 | |
| *ptsG* | 1,456,496 | 1,458,595 | + | 3253 | 3407 | 0.95 | 3262 | 3293 | 0.99 | |
| *ptsH* | 1,458,693 | 1,458,959 | + | 4474 | 4824 | 0.93 | 3735 | 3988 | 0.94 | |
| *ptsI* | 1,458,959 | 1,460,671 | + | 5018 | 5510 | 0.91 | 4170 | 4299 | 0.97 | |
| *splA* | 1,460,762 | 1,461,001 | + | 299 | 329 | 0.91 | 285 | 319 | 0.89 | |
| *splB* | 1,461,079 | 1,462,107 | + | 210 | 229 | 0.92 | 226 | 249 | 0.91 | |
| *ykwB* | 1,462,280 | 1,462,801 | - | 615 | 550 | 1.12 | 436 | 397 | 1.10 | |
| *mcpC* | 1,462,936 | 1,464,900 | + | 2428 | 2795 | 0.87 | 1576 | 1847 | 0.85 | SigD regulon |
| *ykwC* | 1,465,037 | 1,465,903 | + | 2040 | 1689 | 1.21 | 2717 | 2386 | 1.14 | |
| *ykwD* | 1,465,942 | 1,466,715 | - | 178 | 153 | 1.16 | 219 | 184 | 1.19 | |
| *ykuA* | 1,467,109 | 1,469,166 | + | 586 | 654 | 0.90 | 553 | 698 | 0.79 | AbrB regulon |
| *kinA* | 1,469,330 | 1,471,150 | + | 299 | 297 | 1.01 | 297 | 339 | 0.88 | Spo0A regulon |
| *patA* | 1,471,161 | 1,472,339 | - | 1003 | 953 | 1.05 | 925 | 907 | 1.02 | |
| *cheV* | 1,472,906 | 1,473,817 | + | 1075 | 1721 | 0.62 | 840 | 1273 | 0.66 | SigD regulon |
| *ykyB* | 1,473,861 | 1,474,325 | - | 1077 | 977 | 1.10 | 897 | 922 | 0.97 | |
| *ykuC* | 1,474,451 | 1,475,743 | - | 199 | 151 | 1.31 | 318 | 320 | 0.99 | |
| *ykuD* | 1,475,819 | 1,476,313 | - | 72 | 65 | 1.12 | 80 | 91 | 0.89 | |
| *ykuE* | 1,476,370 | 1,477,233 | - | 106 | 102 | 1.05 | 98 | 116 | 0.84 | |
| *ykuF* | 1,477,376 | 1,478,140 | + | 427 | 308 | 1.39 | 367 | 302 | 1.22 | |
| *ykuG* | 1,478,441 | 1,480,723 | + | 889 | 405 | 2.20 | 1390 | 785 | 1.77 | |
| *ykuH* | 1,480,853 | 1,481,401 | + | 472 | 311 | 1.52 | 663 | 653 | 1.02 | |
| *ykuI* | 1,481,554 | 1,482,777 | + | 559 | 425 | 1.32 | 707 | 670 | 1.06 | |
| *ykuJ* | 1,483,423 | 1,483,662 | + | 1117 | 875 | 1.28 | 1363 | 1291 | 1.06 | |
| *ykuK* | 1,483,772 | 1,484,290 | + | 1398 | 1119 | 1.25 | 1540 | 1600 | 0.96 | |
| *ykzF* | 1,484,424 | 1,484,621 | + | 2185 | 2345 | 0.93 | 3142 | 3377 | 0.93 | Spo0A regulon |
| *ykuL* | 1,484,759 | 1,485,202 | + | 312 | 336 | 0.93 | 341 | 314 | 1.09 | Spo0A regulon |
| *ccpC* | 1,485,351 | 1,486,232 | + | 203 | 202 | 1.00 | 328 | 429 | 0.76 | |
| *ykuN* | 1,486,344 | 1,486,820 | + | 824 | 1413 | 0.58 | 230 | 529 | 0.44 | |
| *ykuO* | 1,486,810 | 1,487,703 | + | 649 | 1043 | 0.62 | 124 | 298 | 0.42 | |
| *ykuP* | 1,487,719 | 1,488,255 | + | 497 | 803 | 0.62 | 115 | 270 | 0.43 | |
| *ykuQ* | 1,488,280 | 1,488,990 | + | 3422 | 3215 | 1.06 | 3552 | 3009 | 1.18 | |
| *ykuR* | 1,489,060 | 1,490,184 | + | 1031 | 1050 | 0.98 | 1221 | 1092 | 1.12 | |
| *ykuS* | 1,490,246 | 1,490,491 | + | 1266 | 1239 | 1.02 | 1337 | 1175 | 1.14 | |
| *ykuT* | 1,490,528 | 1,491,331 | - | 424 | 263 | 1.61 | 291 | 219 | 1.32 | |
| *ykuU* | 1,491,568 | 1,492,110 | + | 1367 | 1224 | 1.12 | 1688 | 1440 | 1.17 | AbrB regulon |
| *ykuV* | 1,492,182 | 1,492,643 | + | 604 | 526 | 1.15 | 816 | 717 | 1.14 | Spo0A and AbrB regulo |
| *rok* | 1,493,094 | 1,493,669 | + | 307 | 330 | 0.93 | 488 | 607 | 0.80 | Spo0A regulon |
| *yknT* | 1,493,710 | 1,494,675 | - | 54 | 59 | 0.91 | 44 | 52 | 0.83 | |
| *mobA* | 1,494,812 | 1,495,411 | + | 483 | 382 | 1.26 | 731 | 574 | 1.27 | |
| *moeB* | 1,495,462 | 1,496,481 | + | 507 | 433 | 1.17 | 795 | 660 | 1.20 | |
| *moeA* | 1,496,499 | 1,497,791 | + | 510 | 411 | 1.24 | 815 | 638 | 1.28 | |
| *mobB* | 1,497,752 | 1,498,273 | + | 608 | 465 | 1.31 | 963 | 786 | 1.22 | |
| *moaE* | 1,498,273 | 1,498,746 | + | 1206 | 982 | 1.23 | 1857 | 1590 | 1.17 | |
| *moaD* | 1,498,739 | 1,498,972 | + | 84 | 85 | 0.99 | 313 | 243 | 1.29 | |
| *yknU* | 1,499,196 | 1,500,953 | + | 93 | 93 | 1.00 | 97 | 102 | 0.95 | |
| *yknV* | 1,500,965 | 1,502,779 | + | 110 | 106 | 1.04 | 106 | 114 | 0.93 | |
| *yknW* | 1,502,889 | 1,503,584 | + | 2537 | 2495 | 1.02 | 3192 | 3238 | 0.99 | AbrB regulon |
| *yknX* | 1,503,589 | 1,504,722 | + | 1073 | 1064 | 1.01 | 2759 | 3093 | 0.89 | AbrB regulon |
| *yknY* | 1,504,723 | 1,505,415 | + | 1018 | 1013 | 1.01 | 2580 | 2653 | 0.97 | AbrB regulon |
| *yknZ* | 1,505,412 | 1,506,605 | + | 1066 | 1053 | 1.01 | 2303 | 2400 | 0.96 | AbrB regulon |
| *fruR* | 1,506,885 | 1,507,640 | + | 801 | 934 | 0.86 | 560 | 388 | 1.44 | Spo0A regulon |
| *fruK* | 1,507,637 | 1,508,548 | + | 508 | 614 | 0.83 | 236 | 188 | 1.26 | |
| *fruA* | 1,508,563 | 1,510,470 | + | 529 | 641 | 0.83 | 359 | 339 | 1.06 | |
| *sipT* | 1,510,615 | 1,511,196 | + | 408 | 368 | 1.11 | 408 | 465 | 0.88 | |
| *ykoA* | 1,511,230 | 1,511,499 | - | 34 | 42 | 0.81 | 129 | 150 | 0.86 | |
| *ykpA* | 1,511,680 | 1,513,302 | + | 916 | 901 | 1.02 | 1117 | 1406 | 0.79 | |
| *ykpB* | 1,513,359 | 1,514,270 | + | 454 | 519 | 0.87 | 425 | 566 | 0.75 | |
| *ampS* | 1,514,304 | 1,515,536 | - | 479 | 418 | 1.15 | 850 | 832 | 1.02 | |
| *mreBH* | 1,515,881 | 1,516,888 | - | 417 | 240 | 1.73 | 738 | 451 | 1.64 | |
| *abh* | 1,517,172 | 1,517,450 | + | 1334 | 1133 | 1.18 | 2048 | 1612 | 1.27 | |
| *kinC* | 1,517,640 | 1,518,926 | + | 564 | 490 | 1.15 | 681 | 675 | 1.01 | Spo0A regulon |
| *ykqA* | 1,518,942 | 1,519,775 | + | 578 | 489 | 1.18 | 684 | 716 | 0.96 | |
| *ykqB* | 1,519,838 | 1,520,503 | + | 753 | 718 | 1.05 | 790 | 801 | 0.99 | |
| *adeC* | 1,520,658 | 1,522,391 | + | 360 | 317 | 1.14 | 562 | 505 | 1.11 | |
| *ykqC* | 1,522,425 | 1,524,092 | - | 1856 | 1924 | 0.96 | 2289 | 2711 | 0.84 | |
| *ykzG* | 1,524,098 | 1,524,307 | - | 1755 | 2125 | 0.83 | 1766 | 2279 | 0.77 | |
| *ykrA* | 1,524,693 | 1,525,466 | + | 554 | 491 | 1.13 | 652 | 594 | 1.10 | |
| *ykrB* | 1,525,502 | 1,526,056 | - | 274 | 213 | 1.29 | 485 | 551 | 0.88 | |
| *ykyA* | 1,526,592 | 1,527,209 | + | 403 | 359 | 1.12 | 526 | 558 | 0.94 | |
| *pdhA* | 1,527,633 | 1,528,748 | + | 3417 | 2763 | 1.24 | 3139 | 3291 | 0.95 | |
| *pdhB* | 1,528,752 | 1,529,729 | + | 3957 | 3636 | 1.09 | 3371 | 3478 | 0.97 | |
| *pdhC* | 1,529,844 | 1,531,172 | + | 5243 | 5235 | 1.00 | 4565 | 4587 | 1.00 | |
| *pdhD* | 1,531,177 | 1,532,589 | + | 3962 | 4055 | 0.98 | 3474 | 3464 | 1.00 | |
| *slp* | 1,532,634 | 1,533,008 | - | 43 | 43 | 1.01 | 65 | 64 | 1.01 | |
| *speA* | 1,533,586 | 1,535,058 | - | 134 | 169 | 0.79 | 201 | 209 | 0.96 | |
| *yktA* | 1,535,243 | 1,535,509 | + | 384 | 373 | 1.03 | 721 | 762 | 0.95 | |
| *yktB* | 1,535,542 | 1,536,180 | - | 760 | 630 | 1.21 | 1083 | 979 | 1.11 | |
| *ykzI* | 1,536,420 | 1,536,608 | + | 2961 | 3299 | 0.90 | 2204 | 1228 | 1.80 | |
| *yktC* | 1,536,748 | 1,537,545 | + | 1181 | 1356 | 0.87 | 861 | 690 | 1.25 | |
| *ykzC* | 1,537,571 | 1,537,999 | + | 621 | 611 | 1.02 | 489 | 455 | 1.07 | |
| *yktD* | 1,538,077 | 1,538,991 | - | 161 | 124 | 1.30 | 153 | 119 | 1.28 | |
| *nprE* | 1,539,343 | 1,540,908 | - | 149 | 149 | 1.00 | 201 | 224 | 0.90 | AbrB regulon |
| *ylaA* | 1,541,193 | 1,543,133 | + | 55 | 60 | 0.91 | 64 | 67 | 0.96 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ylaB* | 1,543,123 | 1,543,392 | + | 50 | 40 | 1.25 | 63 | 57 | 1.11 | |
| *ylaC* | 1,543,392 | 1,543,913 | + | 76 | 66 | 1.16 | 100 | 94 | 1.06 | |
| *ylaD* | 1,543,910 | 1,544,203 | + | 65 | 63 | 1.04 | 83 | 83 | 0.99 | |
| *ylaE* | 1,544,243 | 1,544,854 | - | 332 | 441 | 0.75 | 287 | 365 | 0.79 | AbrB regulon |
| *ylaF* | 1,545,127 | 1,545,315 | - | 2542 | 2395 | 1.06 | 1875 | 1612 | 1.16 | |
| *ylaG* | 1,545,428 | 1,547,266 | + | 1060 | 1023 | 1.04 | 1174 | 1546 | 0.76 | |
| *ylaH* | 1,547,323 | 1,547,640 | + | 173 | 172 | 1.01 | 372 | 449 | 0.83 | |
| *ylaI* | 1,547,696 | 1,547,905 | - | 389 | 445 | 0.87 | 450 | 572 | 0.79 | |
| *ylaJ* | 1,547,988 | 1,548,617 | - | 62 | 69 | 0.90 | 55 | 69 | 0.80 | |
| *ylaK* | 1,548,772 | 1,550,100 | + | 76 | 67 | 1.13 | 64 | 69 | 0.92 | |
| *ylaL* | 1,550,104 | 1,550,589 | - | 1449 | 1705 | 0.85 | 1505 | 1614 | 0.93 | |
| *ylaM* | 1,550,692 | 1,551,621 | + | 123 | 116 | 1.07 | 115 | 125 | 0.92 | |
| *ylaN* | 1,551,719 | 1,552,000 | + | 1202 | 1622 | 0.74 | 1067 | 1504 | 0.71 | |
| *ftsW* | 1,552,206 | 1,553,417 | + | 469 | 418 | 1.12 | 588 | 607 | 0.97 | |
| *pycA* | 1,553,492 | 1,556,938 | + | 2358 | 2092 | 1.13 | 2870 | 2550 | 1.13 | |
| *ctaA* | 1,557,341 | 1,558,261 | - | 1067 | 1027 | 1.04 | 343 | 341 | 1.01 | |
| *ctaB* | 1,558,616 | 1,559,533 | + | 1420 | 1697 | 0.84 | 1161 | 1320 | 0.88 | |
| *ctaC* | 1,559,773 | 1,560,843 | + | 777 | 1176 | 0.66 | 513 | 807 | 0.64 | AbrB regulon |
| *ctaD* | 1,560,876 | 1,562,744 | + | 704 | 1118 | 0.63 | 521 | 805 | 0.65 | AbrB regulon |
| *ctaE* | 1,562,744 | 1,563,367 | + | 551 | 949 | 0.58 | 463 | 738 | 0.63 | AbrB regulon |
| *ctaF* | 1,563,370 | 1,563,702 | + | 535 | 861 | 0.62 | 367 | 681 | 0.54 | AbrB regulon |
| *ctaG* | 1,563,729 | 1,564,622 | + | 322 | 556 | 0.58 | 274 | 434 | 0.63 | AbrB regulon |
| *ylbA* | 1,564,654 | 1,565,016 | - | 1156 | 1603 | 0.72 | 1233 | 1640 | 0.75 | AbrB regulon |
| *ylbB* | 1,565,156 | 1,565,608 | + | 226 | 219 | 1.03 | 245 | 273 | 0.90 | |
| *ylbC* | 1,565,685 | 1,566,725 | + | 445 | 378 | 1.18 | 573 | 483 | 1.19 | |
| *ylbD* | 1,566,957 | 1,567,355 | + | 94 | 88 | 1.07 | 89 | 120 | 0.74 | |
| *ylbE* | 1,567,371 | 1,567,610 | + | 49 | 51 | 0.97 | 57 | 61 | 0.92 | |
| *ylbF* | 1,567,726 | 1,568,175 | + | 602 | 577 | 1.04 | 772 | 889 | 0.87 | |
| *ylbG* | 1,568,230 | 1,568,502 | + | 367 | 358 | 1.02 | 492 | 594 | 0.83 | |
| *ylbH* | 1,568,825 | 1,569,319 | + | 335 | 305 | 1.10 | 611 | 697 | 0.88 | |
| *ylbI* | 1,569,383 | 1,569,868 | + | 286 | 253 | 1.13 | 493 | 565 | 0.87 | |
| *ylbJ* | 1,569,879 | 1,571,105 | - | 42 | 46 | 0.90 | 38 | 49 | 0.79 | |
| *ylbK* | 1,571,286 | 1,572,068 | + | 204 | 181 | 1.12 | 269 | 308 | 0.87 | |
| *ylbL* | 1,572,070 | 1,573,122 | + | 282 | 267 | 1.05 | 444 | 504 | 0.88 | |
| *ylbM* | 1,573,111 | 1,574,358 | - | 144 | 160 | 0.90 | 169 | 196 | 0.86 | |
| *ylbN* | 1,574,568 | 1,575,086 | + | 2400 | 2271 | 1.06 | 2733 | 3156 | 0.87 | |
| *rpmF* | 1,575,108 | 1,575,287 | + | 3434 | 4011 | 0.86 | 4200 | 4116 | 1.02 | |
| *ylbO* | 1,575,433 | 1,576,014 | + | 172 | 183 | 0.94 | 158 | 197 | 0.80 | |
| *ylbP* | 1,576,071 | 1,576,553 | - | 1033 | 1506 | 0.69 | 928 | 1293 | 0.72 | |
| *ylbQ* | 1,576,713 | 1,577,609 | + | 201 | 185 | 1.09 | 268 | 322 | 0.83 | |
| *yllA* | 1,577,680 | 1,579,299 | + | 295 | 278 | 1.06 | 564 | 634 | 0.89 | |
| *yllB* | 1,579,425 | 1,579,856 | + | 1628 | 1867 | 0.87 | 1783 | 2194 | 0.81 | |
| *ylxA* | 1,579,926 | 1,580,861 | + | 1042 | 1127 | 0.92 | 1213 | 1540 | 0.79 | |
| *ftsL* | 1,580,901 | 1,581,254 | + | 1407 | 1935 | 0.73 | 1850 | 2326 | 0.80 | |
| *pbpB* | 1,581,251 | 1,583,401 | + | 373 | 483 | 0.77 | 697 | 908 | 0.77 | |
| *spoVD* | 1,583,518 | 1,585,455 | + | 109 | 102 | 1.07 | 114 | 124 | 0.92 | |
| *murE* | 1,585,631 | 1,587,115 | + | 859 | 582 | 1.48 | 1352 | 1328 | 1.02 | |
| *mraY* | 1,587,228 | 1,588,202 | + | 667 | 416 | 1.61 | 1086 | 1015 | 1.07 | |
| *murD* | 1,588,203 | 1,589,558 | + | 953 | 670 | 1.42 | 1761 | 1631 | 1.08 | |
| *spoVE* | 1,589,619 | 1,590,719 | + | 461 | 305 | 1.51 | 748 | 710 | 1.05 | |
| *murG* | 1,590,842 | 1,591,933 | + | 460 | 339 | 1.35 | 1137 | 940 | 1.21 | |
| *murB* | 1,591,960 | 1,592,871 | + | 610 | 482 | 1.27 | 1348 | 1130 | 1.19 | |
| *divIB* | 1,593,002 | 1,593,793 | + | 538 | 454 | 1.18 | 894 | 821 | 1.09 | |
| *ylxW* | 1,593,790 | 1,594,485 | + | 536 | 453 | 1.18 | 1023 | 908 | 1.13 | |
| *ylxX* | 1,594,508 | 1,595,215 | + | 571 | 562 | 1.02 | 950 | 930 | 1.02 | |
| *sbp* | 1,595,233 | 1,595,598 | + | 185 | 219 | 0.85 | 534 | 604 | 0.88 | |
| *ftsA* | 1,595,772 | 1,597,094 | + | 2008 | 2035 | 0.99 | 2004 | 2053 | 0.98 | |
| *ftsZ* | 1,597,130 | 1,598,278 | + | 3084 | 2933 | 1.05 | 3351 | 3117 | 1.07 | |
| *bpr* | 1,598,580 | 1,602,881 | + | 117 | 123 | 0.95 | 130 | 128 | 1.02 | |
| *spoIIGA* | 1,603,076 | 1,604,005 | + | 39 | 41 | 0.96 | 43 | 49 | 0.89 | Spo0A regulon |
| *sigE* | 1,604,068 | 1,604,787 | + | 47 | 44 | 1.07 | 59 | 64 | 0.93 | |
| *sigG* | 1,604,927 | 1,605,709 | + | 51 | 55 | 0.92 | 57 | 71 | 0.80 | AbrB regulon |
| *ylmA* | 1,605,857 | 1,606,651 | + | 391 | 322 | 1.22 | 709 | 733 | 0.97 | |
| *ylmB* | 1,606,853 | 1,608,133 | + | 427 | 401 | 1.06 | 760 | 705 | 1.08 | |
| *ylmC* | 1,608,216 | 1,608,461 | + | 653 | 628 | 1.04 | 1105 | 1080 | 1.02 | |
| *ylmD* | 1,608,624 | 1,609,460 | + | 1686 | 1521 | 1.11 | 1787 | 1751 | 1.02 | Spo0A regulon |
| *ylmE* | 1,609,473 | 1,610,165 | + | 2547 | 2002 | 1.27 | 2546 | 2350 | 1.08 | |
| *ylmF* | 1,610,168 | 1,610,617 | + | 2548 | 2123 | 1.20 | 2788 | 2529 | 1.10 | |
| *ylmG* | 1,610,624 | 1,610,896 | + | 1391 | 1149 | 1.21 | 1799 | 1639 | 1.10 | |
| *ylmH* | 1,610,957 | 1,611,730 | + | 729 | 651 | 1.12 | 1136 | 1197 | 0.95 | |
| *divIVA* | 1,611,824 | 1,612,318 | + | 939 | 926 | 1.01 | 1527 | 1795 | 0.85 | Spo0A regulon |
| *ileS* | 1,612,660 | 1,615,425 | + | 858 | 881 | 0.97 | 1523 | 1599 | 0.95 | |
| *ylyA* | 1,615,503 | 1,615,946 | + | 28 | 34 | 0.83 | 33 | 35 | 0.95 | |
| *lspA* | 1,616,049 | 1,616,513 | + | 271 | 265 | 1.02 | 387 | 475 | 0.81 | |
| *ylyB* | 1,616,515 | 1,617,426 | + | 363 | 306 | 1.19 | 606 | 669 | 0.91 | |
| *pyrR* | 1,617,609 | 1,618,154 | + | 237 | 530 | 0.45 | 749 | 1055 | 0.71 | |
| *pyrP* | 1,618,326 | 1,619,630 | + | 342 | 370 | 0.92 | 726 | 915 | 0.79 | |
| *pyrB* | 1,619,776 | 1,620,690 | + | 193 | 206 | 0.94 | 582 | 728 | 0.80 | |
| *pyrC* | 1,620,674 | 1,621,960 | + | 310 | 338 | 0.92 | 1014 | 1227 | 0.83 | |
| *pyrAA* | 1,621,957 | 1,623,051 | + | 533 | 612 | 0.87 | 1393 | 1683 | 0.83 | |
| *pyrAB* | 1,623,036 | 1,626,251 | + | 1060 | 1181 | 0.90 | 1566 | 1786 | 0.88 | |
| *pyrK* | 1,626,248 | 1,627,018 | + | 1041 | 1216 | 0.86 | 1264 | 1461 | 0.87 | |
| *pyrD* | 1,627,018 | 1,627,953 | + | 1720 | 1861 | 0.92 | 1715 | 1911 | 0.90 | |
| *pyrF* | 1,627,922 | 1,628,641 | + | 1632 | 1793 | 0.91 | 1609 | 1814 | 0.89 | |
| *pyrE* | 1,628,620 | 1,629,270 | + | 1426 | 1511 | 0.94 | 1180 | 1385 | 0.85 | |
| *cysH* | 1,629,682 | 1,630,383 | + | 3644 | 3151 | 1.16 | 3315 | 3543 | 0.94 | |
| *cysP* | 1,630,395 | 1,631,459 | + | 2937 | 2414 | 1.22 | 2860 | 3000 | 0.95 | |
| *sat* | 1,631,508 | 1,632,656 | + | 3578 | 3142 | 1.14 | 3853 | 3803 | 1.01 | |
| *cysC* | 1,632,669 | 1,633,262 | + | 3175 | 2899 | 1.10 | 3035 | 2872 | 1.06 | |
| *ylnD* | 1,633,361 | 1,634,134 | + | 3283 | 3119 | 1.05 | 3306 | 3301 | 1.00 | |
| *ylnE* | 1,634,137 | 1,634,922 | + | 3359 | 3132 | 1.07 | 3260 | 3105 | 1.05 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ylnF* | 1,634,903 | 1,635,391 | + | 2641 | 2572 | 1.03 | 3362 | 3159 | 1.06 | |
| *yloA* | 1,635,431 | 1,637,149 | - | 359 | 349 | 1.03 | 433 | 503 | 0.86 | |
| *yloB* | 1,637,265 | 1,639,937 | + | 112 | 117 | 0.95 | 123 | 136 | 0.91 | |
| *yloC* | 1,640,020 | 1,640,895 | + | 1354 | 1160 | 1.17 | 1409 | 1602 | 0.88 | |
| *ylzA* | 1,640,972 | 1,641,241 | + | 1562 | 1239 | 1.26 | 1581 | 1744 | 0.91 | |
| *gmk* | 1,641,249 | 1,641,863 | + | 1209 | 1002 | 1.21 | 1665 | 1804 | 0.92 | |
| *yloH* | 1,641,867 | 1,642,070 | + | 1738 | 1277 | 1.36 | 1842 | 2085 | 0.88 | |
| *yloI* | 1,642,151 | 1,643,371 | + | 242 | 201 | 1.21 | 474 | 465 | 1.02 | |
| *priA* | 1,643,368 | 1,645,785 | + | 296 | 285 | 1.04 | 541 | 543 | 1.00 | |
| *def* | 1,645,812 | 1,646,294 | + | 363 | 355 | 1.02 | 670 | 682 | 0.98 | |
| *fmt* | 1,646,299 | 1,647,252 | + | 607 | 589 | 1.03 | 950 | 1052 | 0.90 | |
| *yloM* | 1,647,239 | 1,648,582 | + | 639 | 603 | 1.06 | 1019 | 1042 | 0.98 | |
| *yloN* | 1,648,586 | 1,649,677 | + | 965 | 973 | 0.99 | 1425 | 1390 | 1.03 | |
| *prpC* | 1,649,684 | 1,650,448 | + | 547 | 641 | 0.85 | 1065 | 1146 | 0.93 | |
| *prkC* | 1,650,442 | 1,652,388 | + | 554 | 656 | 0.84 | 1178 | 1362 | 0.87 | |
| *yloQ* | 1,652,403 | 1,653,299 | + | 1157 | 910 | 1.27 | 1100 | 1091 | 1.01 | |
| *rpe* | 1,653,304 | 1,653,957 | + | 796 | 627 | 1.27 | 704 | 736 | 0.96 | |
| *yloS* | 1,654,030 | 1,654,674 | + | 437 | 316 | 1.39 | 457 | 504 | 0.91 | |
| *rpmB* | 1,654,899 | 1,655,087 | - | 228 | 331 | 0.69 | 1880 | 1970 | 0.95 | |
| *yloU* | 1,655,364 | 1,655,726 | + | 1305 | 1306 | 1.00 | 1952 | 2068 | 0.94 | |
| *yloV* | 1,655,742 | 1,657,403 | + | 979 | 1006 | 0.97 | 1436 | 1465 | 0.98 | |
| *sdaAB* | 1,657,542 | 1,658,204 | + | 534 | 492 | 1.09 | 421 | 379 | 1.11 | |
| *sdaAA* | 1,658,230 | 1,659,132 | + | 824 | 694 | 1.19 | 707 | 627 | 1.13 | |
| *recG* | 1,659,110 | 1,661,158 | + | 616 | 452 | 1.36 | 556 | 475 | 1.17 | |
| *ylpC* | 1,661,267 | 1,661,833 | + | 3237 | 3696 | 0.88 | 2657 | 2994 | 0.89 | |
| *plsX* | 1,661,847 | 1,662,848 | + | 2175 | 2412 | 0.90 | 1827 | 2271 | 0.80 | |
| *fabD* | 1,662,867 | 1,663,820 | + | 2526 | 2544 | 0.99 | 2560 | 2978 | 0.86 | |
| *fabG* | 1,663,813 | 1,664,553 | + | 3794 | 3652 | 1.04 | 3499 | 4024 | 0.87 | |
| *acpA* | 1,664,637 | 1,664,870 | + | 4068 | 4537 | 0.90 | 5021 | 4877 | 1.03 | |
| *rnc* | 1,665,010 | 1,665,759 | + | 1338 | 1004 | 1.33 | 1463 | 1597 | 0.92 | |
| *smc* | 1,665,860 | 1,669,420 | + | 397 | 338 | 1.18 | 675 | 673 | 1.00 | |
| *ftsY* | 1,669,440 | 1,670,429 | + | 389 | 345 | 1.13 | 729 | 661 | 1.10 | |
| *ylqB* | 1,670,466 | 1,670,951 | - | 3773 | 4902 | 0.77 | 3710 | 4263 | 0.87 | AbrB and SigD regulon |
| *ylxM* | 1,671,128 | 1,671,460 | + | 4095 | 3918 | 1.05 | 3482 | 3986 | 0.87 | |
| *ffh* | 1,671,474 | 1,672,814 | + | 3188 | 3336 | 0.96 | 2909 | 3272 | 0.89 | |
| *rpsP* | 1,672,920 | 1,673,192 | + | 3513 | 4033 | 0.87 | 2684 | 2854 | 0.94 | |
| *ylqC* | 1,673,192 | 1,673,437 | + | 2743 | 2795 | 0.98 | 1359 | 1401 | 0.97 | |
| *ylqD* | 1,673,559 | 1,673,945 | + | 523 | 565 | 0.93 | 880 | 1085 | 0.81 | |
| *rimM* | 1,673,950 | 1,674,474 | + | 1071 | 1095 | 0.98 | 1202 | 1529 | 0.79 | |
| *trmD* | 1,674,471 | 1,675,202 | + | 1127 | 966 | 1.17 | 1127 | 1175 | 0.96 | |
| *rplS* | 1,675,333 | 1,675,689 | + | 7149 | 8018 | 0.89 | 6668 | 6386 | 1.04 | |
| *ylqF* | 1,675,832 | 1,676,680 | + | 313 | 330 | 0.95 | 442 | 601 | 0.74 | |
| *rnhB* | 1,676,751 | 1,677,518 | + | 1342 | 1366 | 0.98 | 1092 | 1272 | 0.86 | |
| *ylqG* | 1,677,550 | 1,679,280 | + | 1261 | 1186 | 1.06 | 850 | 1022 | 0.83 | |
| *ylqH* | 1,679,277 | 1,679,558 | + | 780 | 675 | 1.16 | 600 | 776 | 0.77 | |
| *sucC* | 1,679,731 | 1,680,888 | + | 4610 | 5112 | 0.90 | 4597 | 4688 | 0.98 | |
| *sucD* | 1,680,917 | 1,681,819 | + | 4475 | 5133 | 0.87 | 4492 | 4662 | 0.96 | |
| *smf* | 1,681,880 | 1,682,773 | + | 343 | 430 | 0.80 | 511 | 745 | 0.69 | |
| *topA* | 1,682,961 | 1,685,036 | + | 869 | 863 | 1.01 | 1194 | 1351 | 0.88 | |
| *gid* | 1,685,112 | 1,686,419 | + | 382 | 306 | 1.25 | 741 | 678 | 1.09 | |
| *codV* | 1,686,487 | 1,687,401 | + | 1121 | 868 | 1.29 | 1538 | 1394 | 1.10 | |
| *clpQ* | 1,687,414 | 1,687,959 | + | 985 | 788 | 1.25 | 1524 | 1452 | 1.05 | |
| *clpY* | 1,687,976 | 1,689,379 | + | 1577 | 1246 | 1.27 | 2045 | 1870 | 1.09 | |
| *codY* | 1,689,419 | 1,690,198 | + | 1390 | 1109 | 1.25 | 1766 | 1570 | 1.12 | |
| *flgB* | 1,690,578 | 1,690,967 | + | 1485 | 1645 | 0.90 | 1124 | 1408 | 0.80 | Spo0A and SigD regulor |
| *flgC* | 1,690,967 | 1,691,419 | + | 2517 | 2861 | 0.88 | 2093 | 2313 | 0.90 | |
| *fliE* | 1,691,430 | 1,691,750 | + | 1547 | 1810 | 0.85 | 1450 | 1615 | 0.90 | |
| *fliF* | 1,691,796 | 1,693,406 | + | 2405 | 2527 | 0.95 | 2131 | 2399 | 0.89 | |
| *fliG* | 1,693,419 | 1,694,435 | + | 2517 | 2539 | 0.99 | 2197 | 2421 | 0.91 | |
| *fliH* | 1,694,553 | 1,695,179 | + | 2613 | 2697 | 0.97 | 2390 | 2613 | 0.91 | |
| *fliI* | 1,695,166 | 1,696,488 | + | 1993 | 2101 | 0.95 | 2033 | 2228 | 0.91 | |
| *fliJ* | 1,696,491 | 1,696,934 | + | 2557 | 2663 | 0.96 | 2374 | 2718 | 0.87 | |
| *ylxF* | 1,696,946 | 1,697,587 | + | 1836 | 1872 | 0.98 | 2047 | 2179 | 0.94 | |
| *fliK* | 1,697,748 | 1,699,037 | + | 1457 | 1530 | 0.95 | 1747 | 1796 | 0.97 | |
| *ylxG* | 1,699,034 | 1,699,456 | + | 1425 | 1504 | 0.95 | 1800 | 1768 | 1.02 | |
| *flgE* | 1,699,478 | 1,700,272 | + | 2187 | 2313 | 0.95 | 2741 | 2789 | 0.98 | |
| *fliL* | 1,700,524 | 1,700,946 | + | 1770 | 1746 | 1.01 | 1972 | 2163 | 0.91 | |
| *fliM* | 1,700,980 | 1,701,978 | + | 2553 | 2805 | 0.91 | 2848 | 2795 | 1.02 | |
| *fliY* | 1,701,968 | 1,703,104 | + | 2415 | 2629 | 0.92 | 2736 | 2763 | 0.99 | |
| *cheY* | 1,703,130 | 1,703,492 | + | 2214 | 2356 | 0.94 | 2486 | 2444 | 1.02 | |
| *fliZ* | 1,703,507 | 1,704,166 | + | 1970 | 2147 | 0.92 | 2151 | 2296 | 0.94 | |
| *fliP* | 1,704,159 | 1,704,824 | + | 1657 | 1791 | 0.93 | 1917 | 2082 | 0.92 | |
| *fliQ* | 1,704,839 | 1,705,108 | + | 1434 | 1541 | 0.93 | 1729 | 1892 | 0.91 | |
| *fliR* | 1,705,116 | 1,705,895 | + | 1216 | 1323 | 0.92 | 1444 | 1599 | 0.90 | |
| *flhB* | 1,705,895 | 1,706,977 | + | 1345 | 1512 | 0.89 | 1646 | 1815 | 0.91 | |
| *flhA* | 1,707,010 | 1,709,043 | + | 1208 | 1331 | 0.91 | 1490 | 1657 | 0.90 | |
| *flhF* | 1,709,043 | 1,710,143 | + | 1199 | 1373 | 0.87 | 1608 | 1700 | 0.95 | |
| *ylxH* | 1,710,134 | 1,711,030 | + | 942 | 1064 | 0.88 | 1293 | 1387 | 0.93 | |
| *cheB* | 1,711,032 | 1,712,105 | + | 1212 | 1347 | 0.90 | 1665 | 1744 | 0.95 | |
| *cheA* | 1,712,111 | 1,714,126 | + | 1700 | 1961 | 0.87 | 1983 | 2010 | 0.99 | |
| *cheW* | 1,714,148 | 1,714,618 | + | 2063 | 2508 | 0.82 | 2604 | 2618 | 0.99 | |
| *cheC* | 1,714,637 | 1,715,266 | + | 1981 | 2239 | 0.88 | 1953 | 1970 | 0.99 | |
| *cheD* | 1,715,263 | 1,715,763 | + | 1515 | 1716 | 0.88 | 1636 | 1634 | 1.00 | |
| *sigD* | 1,715,786 | 1,716,550 | + | 2203 | 2435 | 0.90 | 2402 | 2345 | 1.02 | |
| *ylxL* | 1,716,579 | 1,717,082 | + | 1855 | 1970 | 0.94 | 1856 | 1811 | 1.02 | |
| *rpsB* | 1,717,226 | 1,717,966 | + | 3968 | 4001 | 0.99 | 4025 | 4069 | 0.99 | |
| *tsf* | 1,718,068 | 1,718,949 | + | 3057 | 3165 | 0.97 | 3873 | 4132 | 0.94 | |
| *pyrH* | 1,719,095 | 1,719,817 | + | 1137 | 1050 | 1.08 | 2026 | 2307 | 0.88 | |
| *frr* | 1,719,819 | 1,720,376 | + | 592 | 545 | 1.09 | 1190 | 1344 | 0.89 | |
| *uppS* | 1,720,507 | 1,721,289 | + | 845 | 812 | 1.04 | 1107 | 1257 | 0.88 | |
| *cdsA* | 1,721,293 | 1,722,102 | + | 430 | 370 | 1.16 | 707 | 833 | 0.85 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *dxr* | 1,722,164 | 1,723,330 | + | 782 | 662 | 1.18 | 1337 | 1446 | 0.92 | |
| *yluC* | 1,723,321 | 1,724,589 | + | 1144 | 999 | 1.14 | 1694 | 1759 | 0.96 | |
| *proS* | 1,724,622 | 1,726,316 | + | 876 | 782 | 1.12 | 1506 | 1465 | 1.03 | |
| *polC* | 1,726,425 | 1,730,738 | + | 427 | 394 | 1.08 | 714 | 732 | 0.98 | |
| *ylxS* | 1,731,068 | 1,731,538 | + | 1238 | 1213 | 1.02 | 1935 | 2332 | 0.83 | |
| *nusA* | 1,731,573 | 1,732,688 | + | 1760 | 1714 | 1.03 | 2517 | 2904 | 0.87 | |
| *ylxR* | 1,732,702 | 1,732,977 | + | 1811 | 1951 | 0.93 | 3156 | 3413 | 0.92 | |
| *ylxQ* | 1,732,979 | 1,733,281 | + | 2017 | 2170 | 0.93 | 3545 | 3614 | 0.98 | |
| *infB* | 1,733,301 | 1,735,451 | + | 2158 | 2449 | 0.88 | 2837 | 3005 | 0.94 | |
| *ylxP* | 1,735,448 | 1,735,726 | + | 4356 | 4285 | 1.02 | 3291 | 3150 | 1.04 | |
| *rbfA* | 1,735,743 | 1,736,096 | + | 527 | 532 | 0.99 | 567 | 533 | 1.06 | |
| *truB* | 1,736,178 | 1,737,107 | + | 781 | 719 | 1.09 | 665 | 743 | 0.89 | |
| *ribC* | 1,737,126 | 1,738,076 | + | 1387 | 1214 | 1.14 | 1293 | 1306 | 0.99 | |
| *rpsO* | 1,738,233 | 1,738,502 | + | 1597 | 2089 | 0.76 | 3644 | 3772 | 0.97 | |
| *pnpA* | 1,738,675 | 1,740,792 | + | 1823 | 1772 | 1.03 | 2182 | 2394 | 0.91 | |
| *ylxY* | 1,740,910 | 1,741,869 | + | 167 | 155 | 1.08 | 405 | 435 | 0.93 | |
| *mlpA* | 1,741,909 | 1,743,138 | + | 240 | 232 | 1.03 | 505 | 524 | 0.96 | |
| *ymxH* | 1,743,216 | 1,743,473 | + | 37 | 47 | 0.79 | 50 | 48 | 1.03 | |
| *spoVFA* | 1,743,659 | 1,744,552 | + | 44 | 49 | 0.91 | 34 | 41 | 0.83 | |
| *spoVFB* | 1,744,555 | 1,745,157 | + | 59 | 62 | 0.95 | 46 | 48 | 0.95 | |
| *asd* | 1,745,283 | 1,746,323 | + | 2120 | 1960 | 1.08 | 2396 | 2735 | 0.88 | |
| *dapG* | 1,746,415 | 1,747,629 | + | 1194 | 961 | 1.24 | 1856 | 1743 | 1.07 | |
| *dapA* | 1,747,660 | 1,748,532 | + | 1838 | 1598 | 1.15 | 2444 | 2226 | 1.10 | |
| *ymfA* | 1,748,830 | 1,750,377 | + | 1667 | 1436 | 1.16 | 2157 | 2119 | 1.02 | |
| *tepA* | 1,750,559 | 1,751,230 | + | 77 | 73 | 1.05 | 94 | 98 | 0.96 | |
| *spoIIIE* | 1,751,569 | 1,753,932 | + | 599 | 539 | 1.11 | 556 | 592 | 0.94 | |
| *ymfC* | 1,754,075 | 1,754,800 | + | 728 | 848 | 0.86 | 811 | 1069 | 0.76 | |
| *ymfD* | 1,754,939 | 1,755,313 | + | 89 | 98 | 0.90 | 83 | 111 | 0.75 | |
| *ymfE* | 1,755,565 | 1,756,149 | + | 55 | 58 | 0.95 | 80 | 83 | 0.97 | |
| *ymfF* | 1,756,424 | 1,756,756 | + | 894 | 772 | 1.16 | 1078 | 1326 | 0.81 | |
| *ymfG* | 1,756,821 | 1,757,543 | + | 1061 | 1028 | 1.03 | 1555 | 1624 | 0.96 | |
| *ymfH* | 1,757,626 | 1,758,873 | + | 847 | 870 | 0.97 | 1297 | 1267 | 1.02 | |
| *ymfI* | 1,758,928 | 1,759,656 | + | 179 | 181 | 0.99 | 262 | 227 | 1.15 | |
| *ymfJ* | 1,759,737 | 1,759,994 | + | 100 | 116 | 0.87 | 220 | 176 | 1.25 | |
| *ymfK* | 1,760,138 | 1,760,638 | + | 742 | 817 | 0.91 | 489 | 602 | 0.81 | |
| *ymfL* | 1,760,526 | 1,760,912 | + | 1200 | 1323 | 0.91 | 907 | 1189 | 0.76 | |
| *ymfM* | 1,760,979 | 1,761,620 | + | 813 | 935 | 0.87 | 875 | 977 | 0.90 | |
| *pgsA* | 1,761,895 | 1,762,476 | + | 317 | 259 | 1.23 | 541 | 521 | 1.04 | |
| *cinA* | 1,762,494 | 1,763,744 | + | 625 | 511 | 1.22 | 1050 | 951 | 1.10 | |
| *recA* | 1,763,917 | 1,764,960 | + | 2126 | 1936 | 1.10 | 2366 | 2383 | 0.99 | |
| *pbpX* | 1,765,128 | 1,766,303 | + | 171 | 164 | 1.04 | 432 | 422 | 1.02 | |
| *ymdA* | 1,766,580 | 1,768,142 | + | 4080 | 4158 | 0.98 | 3992 | 4063 | 0.98 | |
| *ymdB* | 1,768,211 | 1,769,005 | + | 511 | 510 | 1.00 | 733 | 804 | 0.91 | |
| *spoVS* | 1,769,205 | 1,769,465 | + | 1109 | 1138 | 0.97 | 1345 | 1486 | 0.91 | |
| *tdh* | 1,769,731 | 1,770,774 | + | 112 | 141 | 0.79 | 121 | 149 | 0.81 | |
| *kbl* | 1,770,787 | 1,771,965 | + | 104 | 135 | 0.77 | 99 | 124 | 0.80 | |
| *ymcB* | 1,772,113 | 1,773,642 | + | 1436 | 1261 | 1.14 | 1772 | 1712 | 1.04 | |
| *ymcA* | 1,773,644 | 1,774,075 | + | 799 | 916 | 0.87 | 1204 | 1083 | 1.11 | |
| *cotE* | 1,774,337 | 1,774,882 | + | 80 | 80 | 1.01 | 83 | 85 | 0.97 | |
| *mutS* | 1,775,015 | 1,777,591 | + | 319 | 254 | 1.26 | 455 | 520 | 0.88 | |
| *mutL* | 1,777,607 | 1,779,490 | + | 497 | 439 | 1.13 | 763 | 747 | 1.02 | |
| *ymzD* | 1,779,888 | 1,780,343 | - | 251 | 306 | 0.82 | 256 | 336 | 0.76 | |
| *ymcC* | 1,780,498 | 1,781,055 | - | 62 | 67 | 0.93 | 73 | 80 | 0.92 | |
| *pksA* | 1,781,176 | 1,781,793 | + | 149 | 153 | 0.98 | 181 | 265 | 0.68 | |
| *pksB* | 1,781,983 | 1,782,660 | + | 333 | 273 | 1.22 | 299 | 293 | 1.02 | |
| *pksC* | 1,783,033 | 1,783,899 | + | 443 | 455 | 0.98 | 525 | 579 | 0.91 | |
| *pksD* | 1,784,403 | 1,785,293 | + | 295 | 241 | 1.22 | 309 | 360 | 0.86 | |
| *pksE* | 1,785,290 | 1,787,593 | + | 387 | 309 | 1.25 | 433 | 512 | 0.84 | |
| *acpK* | 1,787,654 | 1,787,902 | + | 269 | 216 | 1.25 | 308 | 355 | 0.87 | |
| *pksF* | 1,787,880 | 1,789,130 | + | 261 | 232 | 1.13 | 319 | 341 | 0.94 | |
| *pksG* | 1,789,131 | 1,790,393 | + | 213 | 207 | 1.03 | 335 | 368 | 0.91 | |
| *pksH* | 1,790,381 | 1,791,160 | + | 174 | 174 | 1.00 | 260 | 290 | 0.90 | |
| *pksI* | 1,791,200 | 1,791,949 | + | 126 | 128 | 0.98 | 211 | 258 | 0.82 | |
| *pksJ* | 1,791,994 | 1,807,131 | + | 288 | 302 | 0.96 | 362 | 355 | 1.02 | |
| *pksL* | 1,807,146 | 1,820,731 | + | 459 | 453 | 1.01 | 471 | 438 | 1.08 | |
| *pksM* | 1,820,747 | 1,833,535 | + | 339 | 336 | 1.01 | 357 | 327 | 1.09 | |
| *pksN* | 1,833,603 | 1,850,069 | + | 390 | 381 | 1.02 | 451 | 389 | 1.16 | |
| *pksR* | 1,850,084 | 1,857,715 | + | 478 | 444 | 1.08 | 534 | 448 | 1.19 | |
| *pksS* | 1,857,854 | 1,858,984 | - | 664 | 539 | 1.23 | 606 | 602 | 1.01 | |
| *ymzB* | 1,859,209 | 1,859,565 | - | 831 | 578 | 1.44 | 677 | 446 | 1.52 | AbrB regulon |
| *ymaE* | 1,859,644 | 1,860,342 | - | 409 | 391 | 1.05 | 695 | 581 | 1.20 | AbrB regulon |
| *aprX* | 1,860,580 | 1,861,908 | - | 86 | 85 | 1.01 | 74 | 82 | 0.89 | |
| *ymaC* | 1,862,644 | 1,863,351 | + | 97 | 100 | 0.97 | 111 | 125 | 0.88 | |
| *ymaD* | 1,863,421 | 1,863,873 | + | 108 | 118 | 0.91 | 221 | 196 | 1.13 | |
| *ebrB* | 1,863,887 | 1,864,240 | - | 77 | 81 | 0.95 | 63 | 64 | 0.97 | |
| *ebrA* | 1,864,254 | 1,864,571 | - | 55 | 61 | 0.89 | 56 | 59 | 0.94 | |
| *ymaG* | 1,864,708 | 1,865,079 | - | 40 | 42 | 0.96 | 38 | 45 | 0.85 | |
| *ymaF* | 1,865,072 | 1,865,485 | + | 47 | 46 | 1.01 | 42 | 51 | 0.81 | |
| *miaA* | 1,865,584 | 1,866,528 | + | 349 | 251 | 1.39 | 331 | 297 | 1.11 | |
| *ymaH* | 1,866,568 | 1,866,789 | + | 461 | 502 | 0.92 | 751 | 959 | 0.78 | |
| *ymzC* | 1,866,985 | 1,867,257 | + | 251 | 214 | 1.18 | 307 | 318 | 0.96 | |
| *ymzA* | 1,867,339 | 1,867,569 | + | 440 | 426 | 1.03 | 646 | 651 | 0.99 | |
| *ymaA* | 1,867,812 | 1,868,204 | + | 463 | 366 | 1.27 | 866 | 1083 | 0.80 | |
| *nrdE* | 1,868,164 | 1,870,266 | + | 758 | 581 | 1.30 | 1458 | 1602 | 0.91 | |
| *nrdF* | 1,870,284 | 1,871,273 | + | 677 | 596 | 1.14 | 1313 | 1346 | 0.98 | |
| *ymaB* | 1,871,323 | 1,871,943 | + | 319 | 295 | 1.08 | 733 | 708 | 1.04 | |
| *cwlC* | 1,872,007 | 1,872,774 | - | 44 | 50 | 0.88 | 53 | 52 | 1.01 | |
| *spoVK* | 1,873,398 | 1,874,366 | + | 83 | 84 | 0.99 | 89 | 95 | 0.93 | |
| *ynbA* | 1,874,587 | 1,875,591 | + | 477 | 394 | 1.21 | 629 | 617 | 1.02 | |
| *ynbB* | 1,875,779 | 1,877,044 | + | 474 | 329 | 1.44 | 812 | 673 | 1.21 | |
| *glnR* | 1,877,155 | 1,877,562 | + | 1561 | 1783 | 0.88 | 1153 | 1151 | 1.00 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *glnA* | 1,877,623 | 1,878,957 | + | 4131 | 4792 | 0.86 | 4124 | 4291 | 0.96 | |
| *ynxB* | 1,879,285 | 1,879,575 | + | 126 | 142 | 0.89 | 120 | 111 | 1.08 | |
| *ynzF* | 1,879,821 | 1,880,165 | + | 413 | 367 | 1.12 | 414 | 365 | 1.14 | |
| *ynzG* | 1,880,296 | 1,880,547 | + | 72 | 65 | 1.12 | 60 | 59 | 1.02 | |
| *ynaB* | 1,880,867 | 1,881,178 | + | 520 | 405 | 1.28 | 627 | 495 | 1.27 | |
| *ynaC* | 1,881,248 | 1,882,039 | + | 338 | 275 | 1.23 | 464 | 392 | 1.18 | |
| *ynaD* | 1,882,374 | 1,882,886 | + | 40 | 43 | 0.93 | 69 | 75 | 0.92 | |
| *ynaE* | 1,883,446 | 1,884,087 | + | 140 | 143 | 0.98 | 151 | 190 | 0.79 | |
| *ynaF* | 1,884,176 | 1,884,529 | + | 101 | 99 | 1.03 | 100 | 131 | 0.77 | |
| *ynaG* | 1,884,573 | 1,884,848 | + | 117 | 105 | 1.12 | 132 | 141 | 0.94 | |
| *ynaI* | 1,885,265 | 1,885,735 | + | 48 | 46 | 1.05 | 56 | 63 | 0.88 | |
| *xynP* | 1,886,560 | 1,887,951 | + | 35 | 45 | 0.78 | 38 | 42 | 0.91 | |
| *xynB* | 1,887,982 | 1,889,583 | + | 58 | 58 | 1.01 | 57 | 61 | 0.95 | |
| *xylR* | 1,889,720 | 1,890,772 | - | 168 | 156 | 1.08 | 184 | 183 | 1.00 | |
| *xylA* | 1,891,116 | 1,892,453 | + | 83 | 143 | 0.58 | 85 | 105 | 0.81 | |
| *xylB* | 1,892,604 | 1,894,103 | + | 84 | 93 | 0.90 | 86 | 91 | 0.95 | |
| *yncB* | 1,894,586 | 1,895,221 | - | 121 | 123 | 0.98 | 168 | 159 | 1.06 | |
| *yncC* | 1,895,632 | 1,896,891 | + | 54 | 69 | 0.78 | 52 | 62 | 0.85 | |
| *yncD* | 1,897,149 | 1,898,333 | - | 67 | 77 | 0.88 | 60 | 74 | 0.81 | |
| *yncE* | 1,898,797 | 1,899,258 | + | 90 | 88 | 1.02 | 138 | 129 | 1.07 | |
| *yncF* | 1,899,288 | 1,899,722 | + | 184 | 171 | 1.08 | 262 | 285 | 0.92 | |
| *ynzH* | 1,900,326 | 1,900,586 | - | 28 | 35 | 0.80 | 34 | 38 | 0.92 | |
| *thyA* | 1,901,428 | 1,902,267 | + | 139 | 130 | 1.07 | 191 | 208 | 0.92 | |
| *yncM* | 1,902,720 | 1,903,472 | - | 1302 | 1444 | 0.90 | 1213 | 1276 | 0.95 | AbrB regulon |
| *cotC* | 1,904,204 | 1,904,560 | - | 32 | 36 | 0.88 | 44 | 48 | 0.92 | |
| *tatAC* | 1,904,579 | 1,904,767 | - | 311 | 328 | 0.95 | 282 | 291 | 0.97 | |
| *yndA* | 1,905,018 | 1,905,416 | + | 31 | 37 | 0.85 | 37 | 40 | 0.93 | |
| *yndB* | 1,905,481 | 1,905,915 | - | 394 | 407 | 0.97 | 485 | 569 | 0.85 | |
| *ynzB* | 1,906,222 | 1,906,410 | + | 53 | 56 | 0.93 | 76 | 86 | 0.89 | |
| *yndD* | 1,906,703 | 1,908,265 | + | 64 | 58 | 1.11 | 44 | 47 | 0.93 | |
| *yndE* | 1,908,295 | 1,909,386 | + | 56 | 50 | 1.11 | 44 | 46 | 0.95 | |
| *yndF* | 1,909,376 | 1,910,590 | + | 97 | 100 | 0.97 | 87 | 95 | 0.91 | |
| *yndG* | 1,910,737 | 1,911,543 | + | 209 | 160 | 1.31 | 337 | 283 | 1.19 | |
| *yndH* | 1,911,548 | 1,912,165 | + | 198 | 143 | 1.39 | 269 | 243 | 1.11 | |
| *yndJ* | 1,912,162 | 1,913,802 | + | 190 | 138 | 1.38 | 323 | 266 | 1.22 | |
| *yndK* | 1,913,839 | 1,914,204 | + | 212 | 154 | 1.37 | 324 | 286 | 1.13 | |
| *yndL* | 1,914,430 | 1,915,188 | + | 56 | 65 | 0.87 | 46 | 64 | 0.72 | |
| *yndM* | 1,915,215 | 1,915,754 | - | 26 | 31 | 0.83 | 31 | 31 | 1.01 | |
| *yndN* | 1,915,872 | 1,916,306 | + | 554 | 469 | 1.18 | 774 | 617 | 1.25 | |
| *lexA* | 1,916,848 | 1,917,465 | - | 1196 | 1285 | 0.93 | 885 | 1206 | 0.73 | |
| *yneA* | 1,917,615 | 1,917,932 | + | 201 | 117 | 1.72 | 187 | 147 | 1.27 | |
| *yneB* | 1,917,951 | 1,918,604 | + | 233 | 159 | 1.47 | 329 | 275 | 1.20 | |
| *ynzC* | 1,918,668 | 1,918,901 | + | 105 | 109 | 0.96 | 152 | 202 | 0.75 | |
| *tkt* | 1,919,070 | 1,921,073 | + | 1791 | 1747 | 1.02 | 2316 | 2302 | 1.01 | Spo0A regulon |
| *yneE* | 1,921,226 | 1,921,672 | + | 65 | 82 | 0.80 | 77 | 85 | 0.91 | Spo0A regulon |
| *yneF* | 1,921,758 | 1,921,976 | + | 598 | 646 | 0.93 | 1716 | 1689 | 1.02 | |
| *ynzD* | 1,922,050 | 1,922,223 | - | 136 | 123 | 1.11 | 262 | 307 | 0.86 | AbrB regulon |
| *ccdA* | 1,922,443 | 1,923,150 | + | 212 | 176 | 1.20 | 245 | 237 | 1.03 | |
| *yneI* | 1,923,239 | 1,923,601 | + | 551 | 462 | 1.19 | 689 | 704 | 0.98 | |
| *yneJ* | 1,923,680 | 1,924,171 | + | 357 | 396 | 0.90 | 497 | 558 | 0.89 | |
| *yneK* | 1,924,202 | 1,924,630 | - | 527 | 406 | 1.30 | 458 | 440 | 1.04 | |
| *cotM* | 1,924,864 | 1,925,256 | - | 23 | 28 | 0.82 | 32 | 37 | 0.87 | |
| *citB* | 1,925,889 | 1,928,618 | + | 2897 | 3674 | 0.79 | 3727 | 4119 | 0.90 | |
| *yneN* | 1,928,690 | 1,929,202 | + | 360 | 550 | 0.65 | 745 | 1082 | 0.69 | |
| *tlp* | 1,929,656 | 1,929,907 | + | 225 | 167 | 1.35 | 217 | 109 | 2.00 | |
| *yneP* | 1,930,043 | 1,930,408 | + | 118 | 93 | 1.26 | 123 | 122 | 1.01 | |
| *yneQ* | 1,930,424 | 1,930,723 | + | 143 | 136 | 1.05 | 256 | 237 | 1.08 | |
| *yneR* | 1,930,754 | 1,931,041 | - | 254 | 266 | 0.95 | 542 | 462 | 1.17 | |
| *yneS* | 1,931,129 | 1,931,710 | - | 445 | 427 | 1.04 | 453 | 559 | 0.81 | |
| *yneT* | 1,931,880 | 1,932,287 | + | 612 | 702 | 0.87 | 748 | 856 | 0.87 | |
| *parE* | 1,932,686 | 1,934,653 | + | 471 | 359 | 1.31 | 840 | 769 | 1.09 | |
| *parC* | 1,934,657 | 1,937,077 | + | 697 | 558 | 1.25 | 1227 | 1041 | 1.18 | |
| *ynfC* | 1,937,275 | 1,937,685 | - | 1634 | 1942 | 0.84 | 704 | 584 | 1.20 | |
| *alsT* | 1,938,134 | 1,939,531 | + | 322 | 333 | 0.97 | 508 | 670 | 0.76 | |
| *bglC* | 1,939,834 | 1,941,333 | + | 176 | 170 | 1.04 | 160 | 154 | 1.04 | |
| *ynfE* | 1,941,401 | 1,941,664 | + | 31 | 32 | 0.96 | 32 | 34 | 0.94 | |
| *ynfF* | 1,941,923 | 1,943,191 | - | 349 | 251 | 1.39 | 383 | 298 | 1.29 | AbrB regulon |
| *xynD* | 1,943,322 | 1,944,863 | - | 252 | 180 | 1.40 | 312 | 265 | 1.18 | AbrB regulon |
| *yngA* | 1,945,458 | 1,945,904 | + | 48 | 43 | 1.13 | 37 | 38 | 0.98 | |
| *yngB* | 1,945,911 | 1,946,804 | + | 349 | 268 | 1.30 | 322 | 329 | 0.98 | |
| *yngC* | 1,946,877 | 1,947,473 | + | 569 | 420 | 1.36 | 839 | 634 | 1.32 | |
| *yngD* | 1,947,522 | 1,948,721 | - | 63 | 67 | 0.95 | 59 | 62 | 0.95 | |
| *yngE* | 1,948,891 | 1,950,678 | - | 81 | 80 | 1.02 | 67 | 76 | 0.88 | |
| *yngF* | 1,950,437 | 1,951,219 | - | 57 | 58 | 0.98 | 46 | 48 | 0.95 | |
| *yngG* | 1,951,240 | 1,952,139 | - | 64 | 60 | 1.06 | 44 | 60 | 0.74 | |
| *yngH* | 1,952,390 | 1,953,724 | - | 76 | 81 | 0.95 | 60 | 72 | 0.83 | |
| *yngI* | 1,953,734 | 1,955,383 | - | 69 | 70 | 0.99 | 49 | 58 | 0.85 | |
| *yngJ* | 1,955,427 | 1,956,569 | - | 83 | 81 | 1.02 | 55 | 65 | 0.85 | |
| *ynzE* | 1,956,660 | 1,956,965 | - | 25 | 35 | 0.72 | 25 | 30 | 0.84 | |
| *yngK* | 1,957,236 | 1,958,768 | - | 72 | 78 | 0.92 | 54 | 76 | 0.71 | |
| *yngL* | 1,958,904 | 1,959,296 | - | 45 | 51 | 0.89 | 39 | 51 | 0.75 | |
| *ppsE* | 1,959,407 | 1,963,246 | - | 376 | 406 | 0.93 | 408 | 419 | 0.97 | AbrB regulon |
| *ppsD* | 1,963,254 | 1,974,065 | - | 459 | 495 | 0.93 | 462 | 472 | 0.98 | AbrB regulon |
| *ppsC* | 1,974,090 | 1,981,757 | - | 490 | 534 | 0.92 | 494 | 519 | 0.95 | AbrB regulon |
| *ppsB* | 1,981,774 | 1,989,456 | - | 272 | 305 | 0.89 | 329 | 366 | 0.90 | AbrB regulon |
| *ppsA* | 1,989,481 | 1,997,166 | - | 417 | 437 | 0.95 | 389 | 432 | 0.90 | AbrB regulon |
| *dacC* | 1,997,549 | 1,999,024 | - | 356 | 359 | 0.99 | 429 | 444 | 0.97 | |
| *yoxA* | 1,999,058 | 2,000,035 | - | 286 | 304 | 0.94 | 360 | 378 | 0.95 | |
| *yoeA* | 2,000,169 | 2,001,560 | - | 427 | 410 | 1.04 | 590 | 487 | 1.21 | |
| *yoeB* | 2,001,846 | 2,002,391 | + | 3963 | 5630 | 0.70 | 1747 | 1508 | 1.16 | |
| *yoeC* | 2,002,869 | 2,003,156 | - | 105 | 75 | 1.40 | 92 | 119 | 0.77 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yoeD* | 2,003,472 | 2,003,702 | - | 77 | 73 | 1.07 | 102 | 105 | 0.97 | |
| *ggt* | 2,003,887 | 2,005,650 | + | 95 | 107 | 0.89 | 81 | 93 | 0.87 | |
| *yofA* | 2,005,751 | 2,006,608 | - | 112 | 84 | 1.32 | 165 | 172 | 0.96 | |
| *yogA* | 2,006,736 | 2,007,725 | + | 78 | 77 | 1.02 | 86 | 92 | 0.94 | |
| *gltB* | 2,007,782 | 2,009,263 | - | 3245 | 3740 | 0.87 | 3852 | 3813 | 1.01 | |
| *gltA* | 2,009,280 | 2,013,842 | - | 1961 | 2176 | 0.90 | 2819 | 2961 | 0.95 | |
| *gltC* | 2,013,989 | 2,014,891 | + | 268 | 257 | 1.04 | 202 | 274 | 0.74 | |
| *proJ* | 2,014,943 | 2,016,058 | - | 299 | 159 | 1.88 | 857 | 687 | 1.25 | |
| *proH* | 2,016,055 | 2,016,948 | - | 419 | 230 | 1.82 | 1126 | 915 | 1.23 | |
| *rtp* | 2,017,095 | 2,017,463 | - | 79 | 97 | 0.82 | 117 | 119 | 0.98 | |
| *yoxD* | 2,017,763 | 2,018,479 | - | 587 | 596 | 0.98 | 1227 | 1262 | 0.97 | |
| *yoxC* | 2,018,630 | 2,018,935 | + | 3941 | 3113 | 1.27 | 2016 | 987 | 2.04 | |
| *yoxB* | 2,019,006 | 2,019,776 | + | 1771 | 1166 | 1.52 | 458 | 206 | 2.23 | |
| *yoaA* | 2,019,820 | 2,020,317 | + | 1137 | 684 | 1.66 | 332 | 176 | 1.89 | |
| *yoaB* | 2,020,433 | 2,021,677 | - | 181 | 244 | 0.74 | 375 | 442 | 0.85 | |
| *yoaC* | 2,021,771 | 2,023,234 | - | 169 | 216 | 0.78 | 532 | 628 | 0.85 | |
| *yoaD* | 2,023,252 | 2,024,286 | - | 101 | 112 | 0.90 | 263 | 321 | 0.82 | |
| *yoaE* | 2,024,610 | 2,026,643 | + | 330 | 341 | 0.97 | 633 | 675 | 0.94 | |
| *yoaF* | 2,026,720 | 2,027,013 | + | 431 | 382 | 1.13 | 631 | 875 | 0.72 | |
| *yoaG* | 2,027,386 | 2,027,790 | - | 163 | 155 | 1.05 | 386 | 447 | 0.86 | |
| *yozQ* | 2,028,231 | 2,028,524 | + | 87 | 93 | 0.93 | 120 | 125 | 0.96 | |
| *yoaH* | 2,028,640 | 2,030,244 | - | 636 | 747 | 0.85 | 509 | 473 | 1.08 | SigD regulon |
| *yoaI* | 2,030,972 | 2,032,099 | + | 62 | 52 | 1.19 | 40 | 40 | 1.00 | |
| *yoaJ* | 2,032,136 | 2,032,834 | - | 201 | 236 | 0.85 | 179 | 196 | 0.91 | |
| *yoaK* | 2,033,104 | 2,033,781 | - | 72 | 73 | 0.98 | 98 | 98 | 1.00 | |
| *pelB* | 2,033,954 | 2,034,991 | + | 53 | 54 | 0.99 | 57 | 54 | 1.04 | |
| *yoaM* | 2,035,248 | 2,035,931 | + | 35 | 45 | 0.78 | 38 | 46 | 0.82 | |
| *yoaN* | 2,036,810 | 2,037,988 | - | 46 | 53 | 0.87 | 46 | 50 | 0.91 | |
| *yoaO* | 2,038,111 | 2,038,599 | - | 132 | 112 | 1.18 | 210 | 175 | 1.20 | |
| *yoaP* | 2,038,819 | 2,039,574 | - | 62 | 59 | 1.05 | 59 | 56 | 1.05 | |
| *yoaQ* | 2,039,882 | 2,040,238 | + | 33 | 35 | 0.95 | 33 | 35 | 0.93 | |
| *yozF* | 2,040,786 | 2,041,037 | - | 49 | 43 | 1.15 | 41 | 39 | 1.06 | |
| *yoaR* | 2,041,138 | 2,042,049 | - | 51 | 53 | 0.96 | 37 | 43 | 0.85 | |
| *yoaS* | 2,042,396 | 2,042,878 | + | 157 | 180 | 0.88 | 105 | 109 | 0.96 | |
| *yozG* | 2,042,888 | 2,043,142 | + | 297 | 326 | 0.91 | 248 | 260 | 0.95 | |
| *yoaT* | 2,043,248 | 2,044,042 | + | 126 | 148 | 0.85 | 136 | 134 | 1.01 | |
| *yoaU* | 2,044,166 | 2,045,038 | - | 64 | 62 | 1.04 | 60 | 70 | 0.85 | |
| *yoaV* | 2,045,139 | 2,046,017 | + | 45 | 51 | 0.89 | 48 | 53 | 0.91 | |
| *yoaW* | 2,046,190 | 2,046,621 | - | 64 | 40 | 1.63 | 69 | 48 | 1.45 | |
| *yoaZ* | 2,046,885 | 2,047,517 | - | 49 | 51 | 0.97 | 63 | 62 | 1.02 | |
| *penP* | 2,047,743 | 2,048,663 | + | 464 | 455 | 1.02 | 652 | 615 | 1.06 | |
| *yobA* | 2,049,160 | 2,049,522 | - | 65 | 74 | 0.88 | 105 | 94 | 1.11 | |
| *yobB* | 2,049,899 | 2,050,162 | + | 99 | 118 | 0.83 | 115 | 139 | 0.83 | AbrB regulon |
| *pps* | 2,050,539 | 2,053,139 | - | 129 | 143 | 0.90 | 215 | 214 | 1.01 | |
| *xynA* | 2,053,809 | 2,054,450 | - | 1535 | 1399 | 1.10 | 1597 | 1456 | 1.10 | |
| *yobD* | 2,055,488 | 2,055,826 | + | 61 | 73 | 0.84 | 106 | 177 | 0.60 | |
| *yozH* | 2,055,860 | 2,056,180 | - | 23 | 22 | 1.05 | 20 | 20 | 1.03 | |
| *yozI* | 2,056,425 | 2,056,790 | + | 54 | 71 | 0.76 | 98 | 153 | 0.64 | |
| *yobE* | 2,057,012 | 2,057,671 | + | 114 | 146 | 0.78 | 117 | 134 | 0.87 | |
| *yobF* | 2,057,926 | 2,058,849 | - | 177 | 175 | 1.01 | 173 | 190 | 0.91 | |
| *yozJ* | 2,059,448 | 2,059,903 | - | 42 | 37 | 1.11 | 55 | 67 | 0.83 | |
| *rapK* | 2,061,361 | 2,062,476 | + | 495 | 434 | 1.14 | 751 | 864 | 0.87 | AbrB regulon |
| *yobH* | 2,062,721 | 2,063,332 | - | 54 | 56 | 0.97 | 49 | 51 | 0.96 | |
| *yozK* | 2,063,411 | 2,063,758 | - | 23 | 25 | 0.90 | 24 | 27 | 0.89 | |
| *yozL* | 2,063,751 | 2,064,044 | - | 16 | 24 | 0.64 | 19 | 19 | 0.96 | |
| *yozM* | 2,064,253 | 2,064,588 | + | 117 | 143 | 0.82 | 136 | 152 | 0.90 | |
| *yobI* | 2,064,635 | 2,068,240 | - | 600 | 374 | 1.61 | 574 | 589 | 0.97 | |
| *yobJ* | 2,069,455 | 2,070,297 | - | 361 | 270 | 1.33 | 874 | 1103 | 0.79 | |
| *yobK* | 2,070,497 | 2,070,955 | - | 216 | 173 | 1.24 | 394 | 409 | 0.96 | |
| *yobL* | 2,070,965 | 2,072,767 | - | 312 | 288 | 1.09 | 429 | 565 | 0.76 | |
| *yobM* | 2,072,869 | 2,073,357 | - | 421 | 382 | 1.10 | 580 | 517 | 1.12 | |
| *yobN* | 2,073,650 | 2,074,990 | + | 38 | 41 | 0.91 | 31 | 37 | 0.86 | |
| *yobO* | 2,075,417 | 2,077,837 | + | 178 | 186 | 0.96 | 171 | 151 | 1.14 | AbrB regulon |
| *csaA* | 2,078,425 | 2,078,757 | - | 267 | 341 | 0.78 | 434 | 607 | 0.71 | |
| *yobQ* | 2,078,822 | 2,079,547 | - | 167 | 197 | 0.85 | 354 | 527 | 0.67 | |
| *yobR* | 2,079,562 | 2,080,305 | - | 210 | 240 | 0.87 | 346 | 495 | 0.70 | |
| *yobS* | 2,080,383 | 2,080,958 | - | 60 | 66 | 0.91 | 102 | 120 | 0.85 | |
| *yobT* | 2,080,964 | 2,081,665 | - | 97 | 95 | 1.02 | 118 | 141 | 0.83 | |
| *yobU* | 2,081,742 | 2,082,224 | - | 82 | 80 | 1.02 | 68 | 72 | 0.94 | |
| *yobV* | 2,082,278 | 2,083,219 | - | 94 | 105 | 0.90 | 130 | 132 | 0.98 | |
| *yobW* | 2,083,425 | 2,083,970 | + | 36 | 44 | 0.82 | 36 | 39 | 0.92 | |
| *yozA* | 2,083,997 | 2,084,320 | - | 332 | 359 | 0.92 | 343 | 353 | 0.97 | |
| *yocA* | 2,084,514 | 2,085,191 | + | 776 | 531 | 1.46 | 1456 | 1323 | 1.10 | |
| *yozB* | 2,085,281 | 2,085,817 | - | 1098 | 820 | 1.34 | 701 | 644 | 1.09 | |
| *yocB* | 2,085,954 | 2,086,736 | - | 3620 | 2079 | 1.74 | 2011 | 733 | 2.74 | |
| *yocC* | 2,086,907 | 2,087,404 | + | 74 | 74 | 1.01 | 134 | 110 | 1.22 | |
| *yocD* | 2,087,468 | 2,088,445 | + | 318 | 338 | 0.94 | 490 | 515 | 0.95 | AbrB regulon |
| *des* | 2,088,607 | 2,089,665 | + | 321 | 384 | 0.83 | 296 | 377 | 0.78 | |
| *yocF* | 2,089,785 | 2,090,897 | + | 179 | 156 | 1.15 | 145 | 130 | 1.11 | |
| *yocG* | 2,090,916 | 2,091,515 | + | 236 | 195 | 1.21 | 218 | 194 | 1.13 | |
| *yocH* | 2,092,110 | 2,092,973 | - | 2335 | 1673 | 1.40 | 3901 | 3488 | 1.12 | Spo0A regulon |
| *yocI* | 2,093,221 | 2,094,996 | - | 217 | 199 | 1.09 | 310 | 324 | 0.96 | |
| *yocJ* | 2,095,561 | 2,096,187 | - | 784 | 800 | 0.98 | 806 | 777 | 1.04 | |
| *yocK* | 2,096,338 | 2,096,967 | - | 2890 | 2564 | 1.13 | 1219 | 676 | 1.80 | |
| *yocL* | 2,096,904 | 2,097,236 | - | 129 | 93 | 1.38 | 268 | 324 | 0.83 | |
| *yocM* | 2,097,528 | 2,098,004 | - | 98 | 72 | 1.35 | 141 | 181 | 0.78 | |
| *yozN* | 2,098,071 | 2,098,334 | + | 53 | 54 | 0.98 | 46 | 47 | 0.98 | |
| *yocN* | 2,098,339 | 2,098,572 | + | 45 | 39 | 1.15 | 49 | 42 | 1.17 | |
| *yozO* | 2,098,658 | 2,099,002 | - | 453 | 364 | 1.25 | 610 | 788 | 0.77 | |
| *yozC* | 2,099,359 | 2,099,562 | - | 399 | 320 | 1.25 | 451 | 451 | 1.00 | |
| *dhaS* | 2,099,792 | 2,101,279 | + | 911 | 1422 | 0.64 | 783 | 1110 | 0.71 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *sqhC* | 2,101,380 | 2,103,278 | + | 68 | 74 | 0.92 | 61 | 75 | 0.82 | |
| *sodF* | 2,103,268 | 2,104,113 | + | 92 | 98 | 0.94 | 81 | 94 | 0.86 | |
| *yocR* | 2,104,146 | 2,105,483 | - | 287 | 309 | 0.93 | 354 | 409 | 0.87 | |
| *yocS* | 2,105,702 | 2,106,667 | + | 479 | 607 | 0.79 | 523 | 521 | 1.00 | |
| *odhB* | 2,106,717 | 2,107,970 | - | 4013 | 4814 | 0.83 | 4439 | 4785 | 0.93 | |
| *odhA* | 2,107,986 | 2,110,811 | - | 3085 | 3750 | 0.82 | 3623 | 3989 | 0.91 | |
| *yojO* | 2,111,039 | 2,113,024 | - | 313 | 250 | 1.25 | 620 | 608 | 1.02 | |
| *yojN* | 2,112,966 | 2,113,880 | - | 259 | 218 | 1.19 | 426 | 454 | 0.94 | |
| *yojM* | 2,113,944 | 2,114,534 | - | 292 | 315 | 0.93 | 418 | 528 | 0.79 | |
| *yojL* | 2,114,627 | 2,115,871 | - | 1157 | 1358 | 0.85 | 1574 | 2013 | 0.78 | AbrB regulon |
| *yojK* | 2,116,253 | 2,117,470 | - | 179 | 162 | 1.10 | 279 | 267 | 1.05 | |
| *yojJ* | 2,117,706 | 2,118,329 | - | 131 | 105 | 1.25 | 75 | 51 | 1.48 | |
| *yojI* | 2,118,594 | 2,119,952 | + | 116 | 108 | 1.07 | 203 | 198 | 1.03 | |
| *yojH* | 2,119,968 | 2,120,816 | + | 216 | 190 | 1.14 | 335 | 315 | 1.06 | |
| *yojG* | 2,120,842 | 2,121,270 | - | 946 | 823 | 1.15 | 1570 | 1322 | 1.19 | |
| *yojF* | 2,121,524 | 2,121,874 | - | 926 | 762 | 1.22 | 1223 | 1133 | 1.08 | |
| *yojE* | 2,122,225 | 2,123,121 | - | 184 | 205 | 0.89 | 147 | 190 | 0.77 | |
| *yozR* | 2,123,220 | 2,123,693 | + | 45 | 54 | 0.84 | 37 | 45 | 0.83 | |
| *yojC* | 2,123,586 | 2,123,819 | - | 24 | 27 | 0.90 | 26 | 28 | 0.92 | |
| *yojB* | 2,123,728 | 2,123,964 | - | 44 | 50 | 0.88 | 43 | 52 | 0.83 | |
| *yojA* | 2,124,049 | 2,125,383 | - | 102 | 108 | 0.94 | 86 | 98 | 0.88 | |
| *yodA* | 2,125,748 | 2,126,137 | + | 74 | 75 | 0.99 | 85 | 98 | 0.87 | |
| *yodB* | 2,126,544 | 2,126,882 | - | 234 | 238 | 0.98 | 170 | 233 | 0.73 | |
| *yodC* | 2,127,012 | 2,127,620 | + | 938 | 1132 | 0.83 | 1018 | 1132 | 0.90 | |
| *yodD* | 2,127,663 | 2,128,265 | - | 146 | 196 | 0.74 | 114 | 176 | 0.65 | |
| *yodE* | 2,128,281 | 2,129,192 | - | 181 | 215 | 0.84 | 188 | 286 | 0.66 | |
| *yodF* | 2,129,576 | 2,131,066 | + | 721 | 796 | 0.90 | 1183 | 1278 | 0.93 | |
| *ctpA* | 2,131,101 | 2,132,501 | - | 1405 | 1269 | 1.11 | 1917 | 1887 | 1.02 | |
| *yodH* | 2,132,654 | 2,133,355 | + | 57 | 57 | 1.01 | 60 | 57 | 1.06 | |
| *yodI* | 2,133,443 | 2,133,694 | + | 85 | 95 | 0.90 | 89 | 92 | 0.97 | |
| *yodJ* | 2,133,765 | 2,134,586 | - | 543 | 443 | 1.22 | 932 | 786 | 1.18 | |
| *deoD* | 2,134,669 | 2,135,370 | - | 740 | 752 | 0.98 | 1172 | 1192 | 0.98 | |
| *yodL* | 2,135,737 | 2,136,054 | - | 234 | 183 | 1.28 | 260 | 219 | 1.19 | |
| *yodM* | 2,136,112 | 2,136,723 | - | 162 | 105 | 1.54 | 180 | 133 | 1.35 | |
| *yozD* | 2,136,801 | 2,136,977 | - | 66 | 61 | 1.08 | 57 | 55 | 1.04 | |
| *yodN* | 2,137,236 | 2,137,916 | - | 53 | 58 | 0.91 | 53 | 54 | 0.97 | |
| *yozE* | 2,138,067 | 2,138,291 | - | 241 | 243 | 0.99 | 380 | 290 | 1.31 | |
| *kamA* | 2,138,652 | 2,140,067 | - | 55 | 59 | 0.93 | 46 | 53 | 0.88 | |
| *yodP* | 2,140,096 | 2,140,923 | - | 53 | 53 | 0.99 | 53 | 53 | 0.99 | |
| *yodQ* | 2,140,901 | 2,142,211 | - | 60 | 61 | 0.99 | 48 | 58 | 0.83 | |
| *yodR* | 2,142,220 | 2,142,873 | - | 106 | 97 | 1.09 | 111 | 144 | 0.77 | |
| *yodS* | 2,142,858 | 2,143,547 | - | 57 | 61 | 0.94 | 45 | 57 | 0.79 | |
| *yodT* | 2,143,554 | 2,144,888 | - | 73 | 78 | 0.94 | 58 | 73 | 0.80 | |
| *cgeE* | 2,145,211 | 2,145,990 | - | 542 | 507 | 1.07 | 305 | 345 | 0.89 | |
| *cgeD* | 2,146,019 | 2,147,299 | - | 276 | 295 | 0.94 | 172 | 193 | 0.89 | |
| *cgeC* | 2,147,364 | 2,147,669 | - | 22 | 26 | 0.84 | 25 | 25 | 0.99 | |
| *cgeA* | 2,147,874 | 2,148,275 | + | 26 | 52 | 0.51 | 29 | 34 | 0.85 | |
| *cgeB* | 2,148,282 | 2,149,235 | + | 82 | 99 | 0.84 | 71 | 87 | 0.82 | |
| *phy* | 2,149,306 | 2,150,454 | - | 71 | 63 | 1.13 | 70 | 64 | 1.08 | AbrB regulon |
| *yodU* | 2,150,824 | 2,151,249 | + | 64 | 72 | 0.89 | 71 | 78 | 0.90 | |
| *yotN* | 2,151,284 | 2,151,460 | - | 26 | 30 | 0.88 | 30 | 22 | 1.39 | |
| *yotM* | 2,151,463 | 2,152,050 | - | 64 | 36 | 1.77 | 77 | 40 | 1.95 | |
| *yotL* | 2,152,125 | 2,152,367 | + | 39 | 54 | 0.72 | 64 | 58 | 1.11 | |
| *yotK* | 2,152,369 | 2,152,554 | - | 66 | 43 | 1.53 | 103 | 42 | 2.45 | |
| *yotJ* | 2,152,638 | 2,152,850 | - | 35 | 22 | 1.62 | 51 | 22 | 2.32 | |
| *yotI* | 2,152,916 | 2,153,278 | - | 51 | 33 | 1.55 | 75 | 37 | 2.00 | |
| *yotH* | 2,153,275 | 2,153,448 | - | 69 | 57 | 1.20 | 79 | 57 | 1.40 | |
| *yotG* | 2,153,464 | 2,153,781 | - | 45 | 33 | 1.36 | 51 | 31 | 1.66 | |
| *yotC* | 2,154,256 | 2,154,447 | - | 61 | 45 | 1.36 | 63 | 41 | 1.52 | |
| *yotB* | 2,154,491 | 2,155,318 | - | 70 | 45 | 1.55 | 80 | 42 | 1.89 | |
| *sspC* | 2,155,437 | 2,155,655 | + | 35 | 45 | 0.79 | 40 | 46 | 0.87 | |
| *yosX* | 2,155,955 | 2,156,308 | - | 92 | 53 | 1.74 | 125 | 60 | 2.08 | |
| *yosW* | 2,156,539 | 2,156,880 | - | 56 | 40 | 1.39 | 63 | 46 | 1.38 | |
| *yosV* | 2,157,027 | 2,157,317 | - | 47 | 34 | 1.40 | 63 | 34 | 1.86 | |
| *yosU* | 2,157,637 | 2,157,882 | + | 30 | 31 | 0.97 | 41 | 38 | 1.09 | |
| *yosT* | 2,157,922 | 2,158,371 | - | 164 | 119 | 1.37 | 177 | 123 | 1.44 | |
| *yosS* | 2,158,466 | 2,158,894 | - | 140 | 75 | 1.86 | 140 | 72 | 1.95 | |
| *yosR* | 2,158,940 | 2,159,182 | - | 93 | 51 | 1.81 | 118 | 48 | 2.48 | |
| *yosP* | 2,159,182 | 2,160,976 | - | 269 | 190 | 1.41 | 442 | 344 | 1.28 | |
| *yosN* | 2,161,309 | 2,164,812 | - | 89 | 54 | 1.65 | 114 | 57 | 2.01 | |
| *yosM* | 2,164,775 | 2,165,164 | - | 38 | 32 | 1.19 | 55 | 32 | 1.73 | |
| *yosL* | 2,165,170 | 2,165,523 | - | 52 | 32 | 1.62 | 68 | 34 | 2.03 | |
| *yosK* | 2,165,611 | 2,165,811 | - | 85 | 46 | 1.84 | 146 | 53 | 2.73 | |
| *yosJ* | 2,165,856 | 2,166,050 | - | 87 | 38 | 2.29 | 122 | 47 | 2.58 | |
| *yosH* | 2,166,237 | 2,166,707 | - | 105 | 55 | 1.91 | 146 | 66 | 2.21 | |
| *yosG* | 2,166,768 | 2,167,130 | - | 97 | 49 | 1.98 | 140 | 56 | 2.51 | |
| *yosE* | 2,167,312 | 2,167,659 | - | 55 | 31 | 1.78 | 60 | 30 | 2.00 | |
| *yosD* | 2,167,674 | 2,168,069 | - | 85 | 43 | 1.95 | 113 | 53 | 2.14 | |
| *yosC* | 2,168,108 | 2,168,650 | - | 79 | 46 | 1.71 | 104 | 56 | 1.85 | |
| *yosB* | 2,168,695 | 2,168,874 | - | 97 | 54 | 1.79 | 89 | 61 | 1.46 | |
| *yorZ* | 2,169,228 | 2,169,440 | - | 72 | 33 | 2.16 | 115 | 40 | 2.91 | |
| *yorY* | 2,169,507 | 2,169,689 | - | 28 | 27 | 1.02 | 44 | 20 | 2.20 | |
| *yorX* | 2,169,702 | 2,169,929 | - | 71 | 40 | 1.78 | 102 | 49 | 2.10 | |
| *yorW* | 2,169,969 | 2,170,334 | - | 74 | 33 | 2.23 | 108 | 45 | 2.39 | |
| *yorV* | 2,170,337 | 2,170,555 | - | 82 | 39 | 2.08 | 133 | 46 | 2.86 | |
| *mtbP* | 2,170,599 | 2,171,930 | - | 99 | 49 | 2.04 | 132 | 56 | 2.36 | |
| *yorS* | 2,172,130 | 2,172,648 | - | 57 | 43 | 1.32 | 89 | 46 | 1.92 | |
| *yorR* | 2,172,657 | 2,173,154 | - | 131 | 104 | 1.26 | 159 | 88 | 1.81 | |
| *yorQ* | 2,173,154 | 2,173,309 | - | 235 | 206 | 1.14 | 309 | 187 | 1.65 | |
| *yorP* | 2,173,302 | 2,173,517 | - | 163 | 143 | 1.14 | 182 | 123 | 1.48 | |
| *yorO* | 2,173,550 | 2,173,747 | - | 209 | 150 | 1.39 | 203 | 143 | 1.42 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yorM* | 2,174,048 | 2,174,764 | - | 56 | 38 | 1.48 | 75 | 48 | 1.56 | |
| *yorL* | 2,174,792 | 2,178,709 | - | 67 | 46 | 1.44 | 70 | 49 | 1.43 | |
| *yorK* | 2,178,722 | 2,180,452 | - | 53 | 36 | 1.46 | 67 | 41 | 1.62 | |
| *yorJ* | 2,180,452 | 2,181,588 | - | 52 | 33 | 1.59 | 68 | 37 | 1.82 | |
| *yorI* | 2,181,604 | 2,183,118 | - | 73 | 42 | 1.74 | 90 | 46 | 1.96 | |
| *yorH* | 2,183,133 | 2,183,603 | - | 74 | 40 | 1.84 | 106 | 50 | 2.11 | |
| *yorG* | 2,183,646 | 2,184,617 | - | 126 | 54 | 2.35 | 181 | 71 | 2.53 | |
| *yorF* | 2,184,700 | 2,185,614 | - | 132 | 49 | 2.69 | 179 | 81 | 2.22 | |
| *yorE* | 2,185,636 | 2,186,007 | - | 135 | 49 | 2.78 | 209 | 138 | 1.51 | |
| *yorD* | 2,186,181 | 2,186,495 | - | 1394 | 1469 | 0.95 | 1864 | 2305 | 0.81 | AbrB regulon |
| *yorC* | 2,186,572 | 2,186,952 | - | 355 | 185 | 1.92 | 414 | 280 | 1.48 | |
| *yorB* | 2,187,015 | 2,187,311 | - | 1456 | 780 | 1.87 | 1424 | 996 | 1.43 | |
| *yorA* | 2,187,400 | 2,189,160 | - | 178 | 105 | 1.71 | 132 | 74 | 1.79 | |
| *yoqZ* | 2,189,157 | 2,189,981 | - | 162 | 109 | 1.49 | 150 | 77 | 1.95 | |
| *yoqY* | 2,190,080 | 2,190,475 | - | 39 | 36 | 1.08 | 52 | 36 | 1.45 | |
| *yoqX* | 2,190,530 | 2,190,751 | - | 33 | 32 | 1.02 | 43 | 31 | 1.39 | |
| *yoqW* | 2,190,822 | 2,191,496 | + | 128 | 163 | 0.78 | 129 | 151 | 0.85 | |
| *ligB* | 2,191,566 | 2,192,378 | + | 28 | 29 | 0.97 | 31 | 31 | 0.99 | |
| *yoqU* | 2,192,444 | 2,192,857 | - | 43 | 34 | 1.29 | 53 | 41 | 1.30 | |
| *yoqT* | 2,193,023 | 2,193,172 | + | 18 | 19 | 0.91 | 19 | 21 | 0.94 | |
| *yoqS* | 2,193,249 | 2,193,596 | - | 77 | 49 | 1.58 | 85 | 65 | 1.30 | |
| *yoqR* | 2,193,598 | 2,193,954 | - | 65 | 37 | 1.73 | 76 | 49 | 1.56 | |
| *yoqP* | 2,193,914 | 2,194,255 | - | 65 | 52 | 1.26 | 72 | 55 | 1.32 | |
| *yoqO* | 2,194,369 | 2,194,743 | + | 112 | 145 | 0.77 | 212 | 193 | 1.10 | |
| *yoqN* | 2,194,760 | 2,194,978 | - | 90 | 60 | 1.52 | 81 | 66 | 1.23 | |
| *yoqM* | 2,195,182 | 2,195,460 | + | 299 | 268 | 1.12 | 171 | 151 | 1.13 | AbrB regulon |
| *yoqL* | 2,195,585 | 2,196,277 | - | 58 | 43 | 1.35 | 69 | 55 | 1.25 | |
| *yoqK* | 2,196,317 | 2,196,520 | - | 74 | 45 | 1.64 | 77 | 54 | 1.43 | |
| *yoqJ* | 2,196,540 | 2,197,055 | - | 97 | 62 | 1.58 | 93 | 66 | 1.40 | |
| *yoqI* | 2,197,266 | 2,197,460 | - | 69 | 45 | 1.55 | 59 | 48 | 1.24 | |
| *yoqH* | 2,197,509 | 2,197,961 | - | 68 | 53 | 1.27 | 71 | 52 | 1.38 | |
| *yoqG* | 2,198,044 | 2,198,301 | - | 81 | 54 | 1.49 | 90 | 71 | 1.27 | |
| *yoqF* | 2,198,346 | 2,198,549 | - | 59 | 54 | 1.10 | 67 | 44 | 1.50 | |
| *yoqE* | 2,198,558 | 2,198,722 | - | 116 | 70 | 1.65 | 107 | 99 | 1.08 | |
| *yoqD* | 2,198,776 | 2,199,531 | - | 76 | 59 | 1.28 | 91 | 73 | 1.24 | |
| *yoqC* | 2,199,572 | 2,199,979 | - | 51 | 47 | 1.10 | 67 | 51 | 1.32 | |
| *yoqB* | 2,199,986 | 2,200,324 | - | 57 | 44 | 1.29 | 74 | 54 | 1.38 | |
| *yoqA* | 2,200,321 | 2,200,671 | - | 99 | 76 | 1.30 | 118 | 84 | 1.40 | |
| *yopZ* | 2,200,684 | 2,200,887 | - | 85 | 60 | 1.41 | 75 | 73 | 1.02 | |
| *yopY* | 2,200,901 | 2,201,179 | - | 174 | 128 | 1.36 | 165 | 138 | 1.19 | |
| *yopX* | 2,201,176 | 2,201,580 | - | 91 | 74 | 1.23 | 86 | 80 | 1.07 | |
| *yopW* | 2,201,577 | 2,201,912 | - | 57 | 44 | 1.30 | 58 | 48 | 1.20 | |
| *yopV* | 2,202,001 | 2,202,195 | - | 55 | 51 | 1.07 | 99 | 104 | 0.95 | |
| *yopU* | 2,202,307 | 2,202,504 | - | 105 | 71 | 1.47 | 120 | 129 | 0.93 | |
| *yopT* | 2,202,574 | 2,202,792 | - | 313 | 188 | 1.67 | 333 | 310 | 1.07 | |
| *yopS* | 2,202,975 | 2,203,199 | + | 51 | 46 | 1.11 | 72 | 99 | 0.73 | |
| *yopR* | 2,203,388 | 2,204,365 | - | 420 | 396 | 1.06 | 575 | 583 | 0.99 | |
| *yopQ* | 2,204,389 | 2,205,771 | - | 455 | 435 | 1.04 | 535 | 629 | 0.85 | |
| *yopP* | 2,205,878 | 2,206,954 | - | 203 | 194 | 1.05 | 165 | 240 | 0.69 | |
| *yopO* | 2,206,944 | 2,207,156 | - | 123 | 99 | 1.24 | 84 | 100 | 0.84 | |
| *yopN* | 2,207,204 | 2,207,521 | - | 183 | 178 | 1.03 | 240 | 279 | 0.86 | |
| *yopM* | 2,207,524 | 2,207,724 | - | 139 | 105 | 1.32 | 128 | 154 | 0.83 | |
| *yopK* | 2,208,190 | 2,209,350 | - | 130 | 116 | 1.12 | 148 | 170 | 0.87 | |
| *yopJ* | 2,209,527 | 2,209,943 | - | 257 | 193 | 1.33 | 386 | 420 | 0.92 | |
| *yopI* | 2,209,945 | 2,210,478 | - | 356 | 270 | 1.32 | 337 | 374 | 0.90 | |
| *yopH* | 2,210,505 | 2,211,041 | - | 280 | 240 | 1.16 | 227 | 285 | 0.80 | |
| *yopF* | 2,211,222 | 2,211,437 | - | 147 | 133 | 1.11 | 169 | 233 | 0.72 | |
| *yopE* | 2,211,441 | 2,211,692 | - | 238 | 182 | 1.31 | 185 | 284 | 0.65 | |
| *yopD* | 2,212,279 | 2,212,674 | - | 556 | 472 | 1.18 | 551 | 573 | 0.96 | |
| *yopC* | 2,212,732 | 2,214,060 | - | 329 | 290 | 1.13 | 359 | 408 | 0.88 | |
| *yopB* | 2,214,168 | 2,214,395 | - | 51 | 50 | 1.02 | 62 | 67 | 0.92 | |
| *yopA* | 2,214,656 | 2,215,972 | - | 274 | 229 | 1.20 | 281 | 243 | 1.16 | |
| *yonX* | 2,216,329 | 2,216,835 | - | 47 | 36 | 1.31 | 45 | 35 | 1.29 | |
| *yonV* | 2,217,163 | 2,218,395 | - | 35 | 34 | 1.02 | 39 | 35 | 1.11 | |
| *yonU* | 2,218,477 | 2,218,665 | - | 1105 | 1105 | 1.00 | 1176 | 1069 | 1.10 | |
| *yonT* | 2,218,980 | 2,219,156 | - | 59 | 91 | 0.65 | 61 | 72 | 0.84 | |
| *yonS* | 2,219,531 | 2,220,142 | - | 297 | 297 | 1.00 | 530 | 611 | 0.87 | |
| *yonR* | 2,220,257 | 2,220,583 | - | 189 | 212 | 0.89 | 200 | 254 | 0.79 | |
| *yonP* | 2,221,536 | 2,221,730 | + | 47 | 30 | 1.59 | 72 | 32 | 2.28 | |
| *yonO* | 2,221,770 | 2,224,289 | + | 49 | 29 | 1.67 | 65 | 33 | 1.94 | |
| *yonN* | 2,224,533 | 2,224,811 | + | 162 | 78 | 2.07 | 279 | 120 | 2.32 | |
| *yonK* | 2,226,493 | 2,226,684 | + | 71 | 28 | 2.59 | 90 | 34 | 2.69 | |
| *yonJ* | 2,226,701 | 2,227,918 | + | 157 | 57 | 2.74 | 229 | 72 | 3.17 | |
| *yonI* | 2,227,952 | 2,228,362 | - | 210 | 202 | 1.04 | 234 | 245 | 0.96 | |
| *yonH* | 2,228,581 | 2,229,081 | + | 101 | 41 | 2.48 | 143 | 46 | 3.14 | |
| *yonG* | 2,229,184 | 2,230,104 | + | 47 | 38 | 1.22 | 53 | 34 | 1.56 | |
| *yonF* | 2,230,091 | 2,231,860 | + | 60 | 37 | 1.64 | 80 | 36 | 2.24 | |
| *yonE* | 2,231,878 | 2,233,398 | + | 96 | 44 | 2.16 | 135 | 54 | 2.49 | |
| *yonD* | 2,233,429 | 2,234,865 | + | 365 | 99 | 3.68 | 453 | 117 | 3.88 | |
| *yonC* | 2,234,890 | 2,235,426 | + | 239 | 72 | 3.33 | 349 | 83 | 4.22 | |
| *yonB* | 2,235,465 | 2,236,481 | + | 322 | 84 | 3.85 | 431 | 96 | 4.51 | |
| *yonA* | 2,236,517 | 2,236,987 | + | 355 | 86 | 4.12 | 493 | 113 | 4.37 | |
| *yomZ* | 2,237,002 | 2,237,397 | + | 214 | 51 | 4.18 | 312 | 64 | 4.87 | |
| *yomY* | 2,237,394 | 2,237,648 | + | 272 | 60 | 4.55 | 390 | 79 | 4.91 | |
| *yomX* | 2,237,632 | 2,238,282 | + | 258 | 59 | 4.37 | 363 | 73 | 5.00 | |
| *yomW* | 2,238,279 | 2,238,785 | + | 339 | 73 | 4.61 | 461 | 79 | 5.81 | |
| *yomV* | 2,238,782 | 2,239,492 | + | 245 | 59 | 4.12 | 344 | 69 | 4.97 | |
| *yomU* | 2,239,535 | 2,240,332 | + | 253 | 67 | 3.79 | 365 | 82 | 4.47 | |
| *yomT* | 2,240,961 | 2,241,188 | + | 74 | 44 | 1.69 | 111 | 43 | 2.60 | |
| *yomS* | 2,241,252 | 2,241,608 | + | 123 | 48 | 2.54 | 154 | 48 | 3.23 | |
| *yomR* | 2,241,610 | 2,242,827 | + | 161 | 58 | 2.78 | 215 | 55 | 3.92 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yomQ* | 2,242,838 | 2,243,188 | + | 206 | 65 | 3.18 | 266 | 75 | 3.56 | |
| *yomP* | 2,243,185 | 2,243,376 | + | 92 | 32 | 2.87 | 99 | 33 | 3.03 | |
| *yomO* | 2,243,426 | 2,243,926 | + | 101 | 39 | 2.56 | 119 | 39 | 3.07 | |
| *yomN* | 2,243,910 | 2,244,329 | + | 152 | 55 | 2.78 | 224 | 61 | 3.70 | |
| *yomM* | 2,244,343 | 2,245,344 | + | 119 | 49 | 2.42 | 164 | 50 | 3.29 | |
| *yozP* | 2,245,347 | 2,245,676 | - | 47 | 53 | 0.89 | 75 | 77 | 0.97 | |
| *yomL* | 2,245,852 | 2,246,538 | - | 869 | 854 | 1.02 | 1372 | 1120 | 1.22 | |
| *yomK* | 2,247,085 | 2,247,531 | + | 2114 | 2082 | 1.02 | 1274 | 1425 | 0.89 | |
| *yomJ* | 2,247,613 | 2,248,296 | + | 1201 | 1211 | 0.99 | 942 | 1070 | 0.88 | AbrB regulon |
| *yomI* | 2,248,350 | 2,255,207 | + | 60 | 43 | 1.41 | 70 | 44 | 1.59 | |
| *yomH* | 2,255,258 | 2,256,016 | + | 38 | 25 | 1.53 | 59 | 27 | 2.21 | |
| *yomG* | 2,256,028 | 2,258,655 | + | 73 | 49 | 1.48 | 91 | 54 | 1.69 | |
| *yomF* | 2,258,671 | 2,259,492 | + | 57 | 33 | 1.74 | 76 | 36 | 2.11 | |
| *yomE* | 2,259,529 | 2,261,463 | + | 62 | 38 | 1.62 | 86 | 37 | 2.31 | |
| *yomD* | 2,261,633 | 2,262,457 | + | 51 | 26 | 2.01 | 70 | 27 | 2.58 | |
| *blyA* | 2,262,685 | 2,263,788 | + | 51 | 32 | 1.59 | 70 | 32 | 2.18 | |
| *bhlA* | 2,263,876 | 2,264,088 | + | 38 | 25 | 1.52 | 38 | 28 | 1.37 | |
| *bhlB* | 2,264,099 | 2,264,365 | + | 23 | 24 | 0.96 | 25 | 20 | 1.23 | |
| *bdbB* | 2,264,421 | 2,264,867 | - | 189 | 200 | 0.95 | 396 | 480 | 0.83 | AbrB regulon |
| *yolJ* | 2,264,864 | 2,266,132 | - | 500 | 372 | 1.35 | 673 | 816 | 0.83 | AbrB regulon |
| *bdbA* | 2,266,132 | 2,266,545 | - | 302 | 179 | 1.68 | 387 | 550 | 0.70 | AbrB regulon |
| *sunT* | 2,266,542 | 2,268,659 | - | 262 | 172 | 1.53 | 394 | 523 | 0.75 | AbrB regulon |
| *sunA* | 2,268,717 | 2,268,887 | - | 4302 | 4131 | 1.04 | 6893 | 5382 | 1.28 | AbrB regulon |
| *yolF* | 2,269,184 | 2,269,501 | - | 1089 | 1343 | 0.81 | 1073 | 1395 | 0.77 | |
| *uvrX* | 2,269,603 | 2,270,853 | - | 49 | 55 | 0.90 | 53 | 50 | 1.08 | |
| *yolD* | 2,270,846 | 2,271,178 | - | 25 | 29 | 0.87 | 31 | 28 | 1.10 | |
| *yolC* | 2,271,352 | 2,271,687 | + | 188 | 188 | 1.00 | 221 | 245 | 0.90 | AbrB regulon |
| *yolB* | 2,271,730 | 2,272,086 | - | 1621 | 1920 | 0.84 | 1604 | 1822 | 0.88 | AbrB regulon |
| *yolA* | 2,272,092 | 2,272,559 | - | 4304 | 4869 | 0.88 | 3786 | 4257 | 0.89 | AbrB regulon |
| *yokL* | 2,273,185 | 2,273,718 | - | 249 | 207 | 1.20 | 375 | 421 | 0.89 | AbrB regulon |
| *yokK* | 2,273,754 | 2,274,332 | - | 378 | 302 | 1.25 | 553 | 592 | 0.93 | AbrB regulon |
| *yokJ* | 2,274,396 | 2,274,893 | - | 419 | 360 | 1.16 | 683 | 789 | 0.87 | AbrB regulon |
| *yokI* | 2,274,902 | 2,276,617 | - | 488 | 428 | 1.14 | 723 | 865 | 0.84 | AbrB regulon |
| *yokH* | 2,276,717 | 2,277,274 | - | 512 | 455 | 1.13 | 760 | 667 | 1.14 | |
| *yokG* | 2,277,798 | 2,278,871 | - | 1882 | 1608 | 1.17 | 1658 | 1447 | 1.15 | |
| *yokF* | 2,279,173 | 2,280,063 | + | 576 | 549 | 1.05 | 921 | 870 | 1.06 | |
| *yokE* | 2,280,077 | 2,280,559 | + | 165 | 126 | 1.31 | 255 | 234 | 1.09 | |
| *yokD* | 2,280,863 | 2,281,681 | + | 387 | 261 | 1.48 | 383 | 374 | 1.02 | |
| *yokC* | 2,282,332 | 2,282,847 | - | 104 | 105 | 0.98 | 105 | 124 | 0.85 | |
| *yokB* | 2,283,054 | 2,283,764 | - | 212 | 225 | 0.94 | 212 | 250 | 0.85 | |
| *yokA* | 2,283,967 | 2,285,604 | + | 127 | 103 | 1.23 | 232 | 285 | 0.81 | |
| *ypqP* | 2,285,626 | 2,286,249 | + | 111 | 94 | 1.19 | 231 | 239 | 0.96 | |
| *yppQ* | 2,286,293 | 2,286,724 | - | 497 | 538 | 0.92 | 646 | 702 | 0.92 | |
| *msrA* | 2,286,725 | 2,287,258 | - | 663 | 680 | 0.97 | 551 | 625 | 0.88 | |
| *ypoP* | 2,287,390 | 2,287,815 | + | 470 | 490 | 0.96 | 457 | 620 | 0.74 | |
| *ypnP* | 2,287,865 | 2,289,202 | - | 67 | 67 | 0.99 | 78 | 90 | 0.87 | |
| *ypmT* | 2,289,274 | 2,289,468 | - | 105 | 102 | 1.03 | 187 | 171 | 1.10 | |
| *ypmS* | 2,289,481 | 2,290,044 | - | 360 | 384 | 0.94 | 462 | 568 | 0.81 | |
| *ypmR* | 2,290,054 | 2,290,821 | - | 454 | 528 | 0.86 | 557 | 777 | 0.72 | |
| *ypmQ* | 2,290,899 | 2,291,480 | - | 598 | 671 | 0.89 | 666 | 910 | 0.73 | |
| *ypmP* | 2,291,628 | 2,291,879 | - | 1243 | 1356 | 0.92 | 1812 | 2059 | 0.88 | |
| *ilvA* | 2,291,965 | 2,293,233 | - | 1044 | 1267 | 0.82 | 1244 | 1668 | 0.75 | |
| *yplP* | 2,293,482 | 2,294,477 | + | 545 | 483 | 1.13 | 298 | 477 | 0.62 | |
| *yplQ* | 2,294,498 | 2,295,139 | + | 793 | 717 | 1.11 | 408 | 543 | 0.75 | |
| *ypkP* | 2,295,178 | 2,295,798 | - | 309 | 263 | 1.17 | 450 | 459 | 0.98 | |
| *dfrA* | 2,295,799 | 2,296,305 | - | 303 | 240 | 1.26 | 377 | 405 | 0.93 | |
| *thyB* | 2,296,302 | 2,297,096 | - | 309 | 310 | 1.00 | 404 | 454 | 0.89 | |
| *ypjQ* | 2,297,180 | 2,297,713 | - | 706 | 837 | 0.84 | 781 | 917 | 0.85 | |
| *ypjP* | 2,297,731 | 2,298,342 | - | 1013 | 996 | 1.02 | 729 | 895 | 0.81 | |
| *ypiP* | 2,298,602 | 2,299,120 | - | 246 | 234 | 1.05 | 283 | 286 | 0.99 | |
| *yphP* | 2,299,417 | 2,299,851 | - | 647 | 565 | 1.14 | 963 | 952 | 1.01 | |
| *ilvD* | 2,299,958 | 2,301,634 | - | 1415 | 1797 | 0.79 | 2105 | 2405 | 0.88 | |
| *ypgR* | 2,301,923 | 2,303,056 | - | 743 | 630 | 1.18 | 1108 | 1032 | 1.07 | |
| *ypgQ* | 2,303,116 | 2,303,733 | - | 397 | 382 | 1.04 | 640 | 528 | 1.21 | |
| *bsaA* | 2,303,749 | 2,304,231 | - | 270 | 262 | 1.03 | 424 | 379 | 1.12 | |
| *metA* | 2,304,574 | 2,305,248 | + | 255 | 292 | 0.87 | 283 | 444 | 0.64 | |
| *ugtP* | 2,305,711 | 2,306,859 | + | 582 | 566 | 1.03 | 719 | 971 | 0.74 | |
| *cspD* | 2,307,102 | 2,307,302 | + | 5299 | 5873 | 0.90 | 7133 | 6563 | 1.09 | |
| *degR* | 2,307,354 | 2,307,536 | - | 438 | 388 | 1.13 | 609 | 466 | 1.31 | SigD regulon |
| *ypzA* | 2,307,692 | 2,307,961 | + | 76 | 89 | 0.86 | 59 | 79 | 0.74 | |
| *ypeQ* | 2,307,989 | 2,308,171 | - | 99 | 92 | 1.08 | 169 | 181 | 0.94 | |
| *ypeP* | 2,308,164 | 2,308,526 | - | 247 | 235 | 1.05 | 275 | 245 | 1.12 | |
| *ypdP* | 2,308,927 | 2,309,616 | + | 191 | 190 | 1.01 | 155 | 176 | 0.88 | |
| *ypdQ* | 2,309,616 | 2,310,014 | + | 313 | 280 | 1.12 | 338 | 358 | 0.94 | |
| *ypcP* | 2,310,192 | 2,311,082 | - | 300 | 275 | 1.09 | 244 | 337 | 0.73 | |
| *ypbS* | 2,311,404 | 2,311,661 | - | 840 | 1103 | 0.76 | 1390 | 1426 | 0.97 | |
| *ypbR* | 2,311,726 | 2,315,307 | - | 316 | 291 | 1.09 | 651 | 547 | 1.19 | |
| *ypbQ* | 2,315,643 | 2,316,149 | - | 36 | 46 | 0.78 | 45 | 51 | 0.88 | |
| *bcsA* | 2,316,153 | 2,317,250 | - | 35 | 39 | 0.91 | 36 | 45 | 0.79 | |
| *pbuX* | 2,317,324 | 2,318,640 | - | 380 | 458 | 0.83 | 866 | 1113 | 0.78 | |
| *xpt* | 2,318,637 | 2,319,221 | - | 573 | 675 | 0.85 | 1279 | 1584 | 0.81 | |
| *ypwA* | 2,319,552 | 2,321,057 | - | 1347 | 1271 | 1.06 | 1513 | 1266 | 1.20 | |
| *kdgT* | 2,321,169 | 2,322,161 | - | 160 | 195 | 0.82 | 127 | 163 | 0.78 | |
| *kdgA* | 2,322,206 | 2,322,796 | - | 150 | 199 | 0.75 | 150 | 187 | 0.80 | |
| *kdgK* | 2,322,798 | 2,323,772 | - | 229 | 288 | 0.80 | 263 | 313 | 0.84 | |
| *kdgR* | 2,323,810 | 2,324,829 | - | 288 | 325 | 0.89 | 299 | 404 | 0.74 | |
| *kduI* | 2,325,051 | 2,325,878 | + | 581 | 718 | 0.81 | 646 | 822 | 0.79 | |
| *kduD* | 2,325,880 | 2,326,644 | + | 276 | 348 | 0.79 | 280 | 361 | 0.78 | |
| *ypvA* | 2,326,685 | 2,328,610 | - | 366 | 314 | 1.17 | 501 | 480 | 1.04 | |
| *yptA* | 2,328,712 | 2,328,903 | - | 107 | 105 | 1.02 | 194 | 196 | 0.99 | |
| *ypsC* | 2,329,272 | 2,330,429 | - | 579 | 505 | 1.15 | 744 | 854 | 0.87 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ypsB* | 2,330,976 | 2,331,272 | - | 2516 | 2577 | 0.98 | 2377 | 2378 | 1.00 | |
| *ypsA* | 2,331,350 | 2,331,892 | - | 366 | 282 | 1.30 | 473 | 471 | 1.00 | |
| *cotD* | 2,331,981 | 2,332,208 | - | 1096 | 740 | 1.48 | 1081 | 958 | 1.13 | Spo0A regulon |
| *yprB* | 2,332,521 | 2,333,762 | - | 1046 | 622 | 1.68 | 901 | 588 | 1.53 | |
| *yprA* | 2,333,778 | 2,336,027 | - | 379 | 243 | 1.56 | 659 | 484 | 1.36 | |
| *ypqE* | 2,336,130 | 2,336,636 | - | 1351 | 1002 | 1.35 | 1972 | 1785 | 1.10 | |
| *ypqA* | 2,336,774 | 2,337,193 | + | 38 | 37 | 1.04 | 32 | 37 | 0.86 | |
| *yppG* | 2,337,214 | 2,337,591 | - | 30 | 33 | 0.91 | 36 | 35 | 1.05 | |
| *yppF* | 2,337,779 | 2,337,967 | + | 162 | 222 | 0.73 | 104 | 158 | 0.66 | Spo0A regulon |
| *yppE* | 2,338,006 | 2,338,377 | - | 165 | 132 | 1.25 | 301 | 309 | 0.97 | |
| *yppD* | 2,338,423 | 2,338,668 | - | 45 | 50 | 0.90 | 42 | 52 | 0.79 | Spo0A regulon |
| *yppC* | 2,338,996 | 2,339,958 | - | 49 | 51 | 0.95 | 44 | 49 | 0.89 | |
| *recU* | 2,339,999 | 2,340,619 | + | 1071 | 670 | 1.60 | 1273 | 1197 | 1.06 | |
| *ponA* | 2,340,641 | 2,343,385 | + | 1480 | 1106 | 1.34 | 2113 | 1814 | 1.16 | |
| *ypoC* | 2,343,461 | 2,343,955 | - | 302 | 295 | 1.02 | 441 | 459 | 0.96 | |
| *nth* | 2,343,952 | 2,344,611 | - | 531 | 504 | 1.05 | 693 | 688 | 1.01 | |
| *dnaD* | 2,344,630 | 2,345,328 | - | 803 | 763 | 1.05 | 947 | 946 | 1.00 | |
| *asnS* | 2,345,421 | 2,346,713 | - | 1551 | 1541 | 1.01 | 1921 | 2096 | 0.92 | |
| *aspB* | 2,346,857 | 2,348,038 | - | 1704 | 1669 | 1.02 | 2800 | 2757 | 1.02 | |
| *ypmB* | 2,348,061 | 2,348,546 | - | 2264 | 2114 | 1.07 | 3055 | 3228 | 0.95 | |
| *ypmA* | 2,348,555 | 2,348,725 | - | 665 | 456 | 1.46 | 1092 | 1270 | 0.86 | |
| *dinG* | 2,348,868 | 2,351,663 | - | 441 | 342 | 1.29 | 834 | 924 | 0.90 | |
| *panD* | 2,351,789 | 2,352,172 | - | 928 | 868 | 1.07 | 863 | 839 | 1.03 | |
| *panC* | 2,352,174 | 2,353,034 | - | 1455 | 1386 | 1.05 | 1945 | 1685 | 1.15 | |
| *panB* | 2,353,036 | 2,353,869 | - | 1440 | 1401 | 1.03 | 1945 | 1721 | 1.13 | |
| *birA* | 2,354,115 | 2,355,092 | - | 367 | 284 | 1.29 | 970 | 834 | 1.16 | |
| *cca* | 2,355,077 | 2,356,270 | - | 466 | 344 | 1.36 | 1038 | 911 | 1.14 | |
| *ypjH* | 2,356,275 | 2,357,408 | - | 443 | 336 | 1.32 | 1024 | 924 | 1.11 | |
| *ypjG* | 2,357,440 | 2,358,114 | - | 420 | 295 | 1.42 | 928 | 860 | 1.08 | |
| *mgsA* | 2,358,107 | 2,358,520 | - | 565 | 415 | 1.36 | 1090 | 981 | 1.11 | |
| *dapB* | 2,358,536 | 2,359,339 | - | 484 | 351 | 1.38 | 998 | 897 | 1.11 | |
| *ypjD* | 2,359,351 | 2,359,686 | - | 478 | 393 | 1.22 | 844 | 837 | 1.01 | |
| *ypjC* | 2,360,051 | 2,360,698 | + | 238 | 204 | 1.17 | 379 | 338 | 1.12 | |
| *ypjB* | 2,360,740 | 2,361,534 | - | 227 | 204 | 1.11 | 323 | 318 | 1.02 | |
| *ypjA* | 2,361,603 | 2,362,160 | - | 208 | 192 | 1.08 | 236 | 233 | 1.01 | |
| *qcrC* | 2,362,307 | 2,363,074 | - | 1510 | 2021 | 0.75 | 1371 | 1764 | 0.78 | |
| *qcrB* | 2,363,109 | 2,363,783 | - | 1677 | 2190 | 0.77 | 1554 | 1963 | 0.79 | |
| *qcrA* | 2,363,785 | 2,364,288 | - | 2146 | 2804 | 0.77 | 2160 | 2558 | 0.84 | |
| *ypiF* | 2,364,431 | 2,364,877 | - | 355 | 530 | 0.67 | 432 | 622 | 0.69 | |
| *ypiB* | 2,364,932 | 2,365,471 | - | 1345 | 1897 | 0.71 | 1059 | 1180 | 0.90 | |
| *ypiA* | 2,365,543 | 2,366,814 | - | 427 | 323 | 1.32 | 481 | 402 | 1.20 | |
| *aroE* | 2,367,150 | 2,368,436 | - | 760 | 884 | 0.86 | 1721 | 1937 | 0.89 | |
| *tyrA* | 2,368,447 | 2,369,562 | - | 487 | 553 | 0.88 | 1826 | 2153 | 0.85 | |
| *hisC* | 2,369,611 | 2,370,693 | - | 803 | 734 | 1.09 | 1624 | 1997 | 0.81 | |
| *trpA* | 2,370,704 | 2,371,507 | - | 502 | 400 | 1.26 | 872 | 1205 | 0.72 | |
| *trpB* | 2,371,500 | 2,372,702 | - | 149 | 164 | 0.91 | 178 | 200 | 0.89 | |
| *trpF* | 2,372,683 | 2,373,330 | - | 149 | 159 | 0.94 | 172 | 189 | 0.91 | |
| *trpC* | 2,373,335 | 2,374,087 | - | 118 | 120 | 0.98 | 109 | 124 | 0.88 | |
| *trpD* | 2,374,080 | 2,375,096 | - | 145 | 146 | 0.99 | 110 | 134 | 0.82 | |
| *trpE* | 2,375,068 | 2,376,615 | - | 143 | 136 | 1.05 | 122 | 183 | 0.67 | |
| *aroH* | 2,376,831 | 2,377,214 | - | 1087 | 1281 | 0.85 | 2020 | 2459 | 0.82 | |
| *aroB* | 2,377,211 | 2,378,299 | - | 1042 | 1257 | 0.83 | 2204 | 2673 | 0.82 | |
| *aroF* | 2,378,361 | 2,379,470 | - | 778 | 979 | 0.79 | 1904 | 2392 | 0.80 | |
| *cheR* | 2,379,545 | 2,380,315 | - | 296 | 398 | 0.74 | 388 | 489 | 0.79 | |
| *ndk* | 2,380,552 | 2,381,001 | - | 1117 | 1789 | 0.62 | 1111 | 1542 | 0.72 | |
| *hepT* | 2,381,117 | 2,382,163 | - | 550 | 507 | 1.08 | 903 | 1294 | 0.70 | |
| *menH* | 2,382,105 | 2,382,806 | - | 883 | 830 | 1.06 | 1181 | 1577 | 0.75 | |
| *hepS* | 2,382,813 | 2,383,568 | - | 576 | 622 | 0.93 | 845 | 1255 | 0.67 | |
| *mtrB* | 2,383,731 | 2,383,958 | - | 1078 | 1142 | 0.94 | 1139 | 1474 | 0.77 | |
| *mtrA* | 2,383,980 | 2,384,552 | - | 1149 | 1220 | 0.94 | 1244 | 1369 | 0.91 | |
| *hbs* | 2,384,740 | 2,385,018 | - | 4989 | 5376 | 0.93 | 4469 | 4400 | 1.02 | |
| *spoIVA* | 2,385,392 | 2,386,870 | - | 70 | 82 | 0.85 | 76 | 90 | 0.84 | |
| *yphF* | 2,387,051 | 2,387,785 | - | 418 | 496 | 0.84 | 581 | 745 | 0.78 | AbrB regulon |
| *yphE* | 2,387,807 | 2,388,010 | - | 590 | 658 | 0.90 | 821 | 1018 | 0.81 | AbrB regulon |
| *gpsA* | 2,388,348 | 2,389,385 | - | 1181 | 1070 | 1.10 | 1483 | 1365 | 1.09 | |
| *yphC* | 2,389,403 | 2,390,713 | - | 1068 | 908 | 1.18 | 1264 | 1233 | 1.03 | |
| *seaA* | 2,391,058 | 2,391,951 | - | 129 | 110 | 1.17 | 107 | 107 | 1.00 | |
| *yphA* | 2,391,948 | 2,392,547 | - | 115 | 99 | 1.16 | 91 | 83 | 1.10 | |
| *ypgA* | 2,392,799 | 2,393,437 | - | 595 | 548 | 1.09 | 689 | 788 | 0.87 | |
| *ypfD* | 2,393,861 | 2,395,009 | - | 4551 | 4720 | 0.96 | 4350 | 4289 | 1.01 | |
| *cmk* | 2,395,242 | 2,395,916 | - | 573 | 652 | 0.88 | 635 | 907 | 0.70 | |
| *ypfB* | 2,395,995 | 2,396,171 | - | 136 | 125 | 1.08 | 166 | 189 | 0.88 | |
| *ypfA* | 2,396,216 | 2,396,869 | - | 298 | 315 | 0.95 | 381 | 461 | 0.83 | |
| *ypeB* | 2,396,962 | 2,398,314 | - | 72 | 68 | 1.05 | 62 | 68 | 0.91 | |
| *sleB* | 2,398,349 | 2,399,266 | - | 58 | 59 | 0.98 | 47 | 54 | 0.86 | |
| *ypdC* | 2,399,405 | 2,400,061 | - | 217 | 191 | 1.14 | 261 | 330 | 0.79 | |
| *ypdA* | 2,400,181 | 2,401,155 | - | 608 | 554 | 1.10 | 891 | 1032 | 0.86 | |
| *gudB* | 2,401,264 | 2,402,544 | - | 2068 | 1938 | 1.07 | 2488 | 2356 | 1.06 | |
| *ypbH* | 2,402,700 | 2,403,284 | - | 1060 | 1260 | 0.84 | 879 | 937 | 0.94 | |
| *ypbG* | 2,403,443 | 2,404,222 | - | 142 | 151 | 0.94 | 285 | 243 | 1.18 | |
| *ypbF* | 2,404,308 | 2,404,751 | - | 219 | 207 | 1.05 | 242 | 326 | 0.74 | |
| *ypbE* | 2,404,814 | 2,405,536 | - | 787 | 743 | 1.06 | 882 | 1078 | 0.82 | |
| *ypbD* | 2,405,487 | 2,406,056 | - | 396 | 323 | 1.23 | 400 | 495 | 0.81 | |
| *recQ* | 2,406,116 | 2,407,606 | - | 611 | 534 | 1.14 | 672 | 767 | 0.88 | |
| *ypbB* | 2,407,599 | 2,408,657 | - | 255 | 243 | 1.05 | 273 | 348 | 0.78 | |
| *fer* | 2,408,923 | 2,409,171 | + | 1279 | 1451 | 0.88 | 1362 | 1530 | 0.89 | |
| *ypaA* | 2,409,211 | 2,409,783 | - | 379 | 481 | 0.79 | 182 | 204 | 0.89 | |
| *ypzE* | 2,409,889 | 2,410,053 | - | 786 | 923 | 0.85 | 226 | 300 | 0.75 | |
| *serA* | 2,410,280 | 2,411,857 | + | 1926 | 2411 | 0.80 | 3177 | 3836 | 0.83 | |
| *aroC* | 2,411,900 | 2,412,667 | - | 379 | 327 | 1.16 | 387 | 387 | 1.00 | |
| *rsiX* | 2,412,779 | 2,413,885 | - | 556 | 551 | 1.01 | 753 | 866 | 0.87 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *sigX* | 2,413,821 | 2,414,405 | - | 676 | 768 | 0.88 | 953 | 1086 | 0.88 | |
| *resE* | 2,414,609 | 2,416,378 | - | 1361 | 1319 | 1.03 | 1012 | 1001 | 1.01 | |
| *resD* | 2,416,375 | 2,417,097 | - | 1565 | 1483 | 1.06 | 989 | 1049 | 0.94 | |
| *resC* | 2,417,178 | 2,418,236 | - | 970 | 860 | 1.13 | 446 | 505 | 0.88 | |
| *resB* | 2,418,372 | 2,420,000 | - | 907 | 750 | 1.21 | 623 | 716 | 0.87 | |
| *resA* | 2,419,997 | 2,420,542 | - | 913 | 796 | 1.15 | 912 | 969 | 0.94 | |
| *rluB* | 2,420,674 | 2,421,363 | - | 889 | 808 | 1.10 | 1102 | 949 | 1.16 | |
| *spmB* | 2,421,455 | 2,421,994 | - | 34 | 36 | 0.94 | 38 | 44 | 0.86 | |
| *spmA* | 2,421,999 | 2,422,589 | - | 87 | 83 | 1.05 | 81 | 100 | 0.81 | |
| *dacB* | 2,422,577 | 2,423,725 | - | 61 | 58 | 1.05 | 75 | 78 | 0.95 | |
| *ypuI* | 2,423,848 | 2,424,387 | - | 193 | 152 | 1.27 | 252 | 271 | 0.93 | |
| *ypuH* | 2,424,442 | 2,425,035 | - | 411 | 313 | 1.31 | 591 | 651 | 0.91 | |
| *ypuG* | 2,425,025 | 2,425,780 | - | 295 | 261 | 1.13 | 477 | 538 | 0.89 | |
| *ypuF* | 2,426,061 | 2,426,585 | + | 91 | 86 | 1.06 | 82 | 91 | 0.90 | |
| *ribT* | 2,426,599 | 2,426,973 | - | 1167 | 1180 | 0.99 | 1421 | 1574 | 0.90 | |
| *ribH* | 2,427,086 | 2,427,550 | - | 1072 | 896 | 1.20 | 1237 | 1158 | 1.07 | |
| *ribA* | 2,427,583 | 2,428,779 | - | 1012 | 809 | 1.25 | 1026 | 1005 | 1.02 | |
| *ribE* | 2,428,794 | 2,429,441 | - | 853 | 702 | 1.22 | 979 | 909 | 1.08 | |
| *ribD* | 2,429,452 | 2,430,537 | - | 930 | 847 | 1.10 | 947 | 873 | 1.09 | |
| *ypuD* | 2,430,930 | 2,431,274 | - | 521 | 541 | 0.96 | 531 | 275 | 1.93 | |
| *sipS* | 2,431,509 | 2,432,063 | - | 659 | 580 | 1.14 | 806 | 893 | 0.90 | |
| *ypzC* | 2,432,330 | 2,432,566 | + | 21 | 28 | 0.73 | 22 | 22 | 1.00 | |
| *ypuC* | 2,432,969 | 2,433,358 | - | 120 | 90 | 1.33 | 83 | 74 | 1.12 | |
| *ypuB* | 2,433,336 | 2,433,539 | - | 82 | 85 | 0.96 | 79 | 67 | 1.19 | |
| *ypzD* | 2,434,205 | 2,434,417 | + | 15 | 25 | 0.60 | 19 | 20 | 0.92 | |
| *ppiB* | 2,434,553 | 2,434,984 | - | 1158 | 1053 | 1.10 | 1450 | 1384 | 1.05 | |
| *ypuA* | 2,435,238 | 2,436,110 | + | 469 | 399 | 1.17 | 986 | 900 | 1.10 | |
| *lysA* | 2,436,139 | 2,437,458 | - | 736 | 616 | 1.19 | 1305 | 1217 | 1.07 | |
| *spoVAF* | 2,437,564 | 2,439,042 | - | 141 | 121 | 1.17 | 172 | 156 | 1.10 | |
| *spoVAE* | 2,438,993 | 2,439,964 | - | 66 | 66 | 0.99 | 71 | 73 | 0.98 | |
| *spoVAD* | 2,439,966 | 2,440,982 | - | 57 | 59 | 0.97 | 47 | 55 | 0.86 | |
| *spoVAC* | 2,440,995 | 2,441,447 | - | 27 | 31 | 0.87 | 25 | 27 | 0.94 | |
| *spoVAB* | 2,441,459 | 2,441,884 | - | 41 | 48 | 0.86 | 33 | 40 | 0.83 | |
| *spoVAA* | 2,441,894 | 2,442,496 | - | 20 | 25 | 0.77 | 23 | 23 | 0.98 | |
| *sigF* | 2,442,618 | 2,443,385 | - | 325 | 350 | 0.93 | 273 | 298 | 0.92 | AbrB regulon |
| *spoIIAB* | 2,443,397 | 2,443,837 | - | 336 | 369 | 0.91 | 280 | 287 | 0.97 | AbrB regulon |
| *spoIIAA* | 2,443,834 | 2,444,187 | - | 495 | 575 | 0.86 | 448 | 436 | 1.03 | Spo0A and AbrB regulo |
| *dacF* | 2,444,283 | 2,445,452 | - | 67 | 70 | 0.95 | 54 | 66 | 0.82 | AbrB regulon |
| *punA* | 2,445,607 | 2,446,422 | - | 538 | 508 | 1.06 | 1054 | 1004 | 1.05 | |
| *drm* | 2,446,435 | 2,447,619 | - | 616 | 537 | 1.15 | 920 | 914 | 1.01 | |
| *ripX* | 2,447,780 | 2,448,670 | - | 595 | 471 | 1.26 | 677 | 743 | 0.91 | |
| *fur* | 2,449,029 | 2,449,478 | - | 644 | 556 | 1.16 | 532 | 560 | 0.95 | |
| *spoIIM* | 2,449,591 | 2,450,235 | - | 30 | 32 | 0.94 | 34 | 37 | 0.93 | |
| *yqkK* | 2,450,336 | 2,450,551 | - | 80 | 78 | 1.03 | 103 | 93 | 1.11 | |
| *mleA* | 2,450,651 | 2,451,970 | - | 226 | 262 | 0.86 | 261 | 299 | 0.87 | |
| *mleN* | 2,451,988 | 2,453,394 | - | 134 | 165 | 0.81 | 169 | 190 | 0.89 | |
| *ansB* | 2,453,535 | 2,454,962 | - | 254 | 230 | 1.10 | 294 | 291 | 1.01 | |
| *ansA* | 2,455,007 | 2,455,996 | - | 274 | 260 | 1.05 | 388 | 378 | 1.03 | |
| *ansR* | 2,456,178 | 2,456,528 | + | 157 | 149 | 1.06 | 120 | 154 | 0.78 | |
| *yqxK* | 2,456,537 | 2,457,421 | - | 675 | 593 | 1.14 | 613 | 548 | 1.12 | |
| *nudF* | 2,457,698 | 2,458,255 | - | 1068 | 918 | 1.16 | 1153 | 1054 | 1.09 | |
| *yqkF* | 2,458,515 | 2,459,435 | + | 427 | 328 | 1.30 | 932 | 845 | 1.10 | |
| *yqkE* | 2,459,467 | 2,459,691 | - | 40 | 41 | 0.98 | 51 | 53 | 0.97 | |
| *yqkD* | 2,459,853 | 2,460,770 | + | 100 | 89 | 1.13 | 101 | 109 | 0.93 | |
| *yqkC* | 2,460,810 | 2,461,049 | - | 165 | 191 | 0.86 | 719 | 796 | 0.90 | |
| *yqkB* | 2,461,062 | 2,461,385 | - | 982 | 971 | 1.01 | 1327 | 1492 | 0.89 | |
| *yqkA* | 2,461,382 | 2,462,413 | - | 540 | 553 | 0.98 | 1084 | 1295 | 0.84 | |
| *yqjZ* | 2,462,406 | 2,462,750 | - | 419 | 482 | 0.87 | 812 | 1071 | 0.76 | |
| *yqjY* | 2,462,760 | 2,463,230 | - | 370 | 398 | 0.93 | 609 | 853 | 0.71 | |
| *yqjX* | 2,463,416 | 2,463,754 | - | 63 | 51 | 1.24 | 65 | 66 | 0.98 | |
| *yqjW* | 2,463,751 | 2,464,989 | - | 90 | 87 | 1.03 | 85 | 89 | 0.95 | |
| *yqzH* | 2,465,155 | 2,465,361 | + | 159 | 145 | 1.10 | 317 | 276 | 1.15 | |
| *yqjV* | 2,465,910 | 2,467,142 | + | 163 | 149 | 1.10 | 187 | 186 | 1.01 | |
| *yqjU* | 2,467,160 | 2,467,351 | + | 212 | 189 | 1.12 | 288 | 282 | 1.02 | |
| *yqjT* | 2,467,348 | 2,467,734 | - | 514 | 502 | 1.02 | 753 | 730 | 1.03 | |
| *coaA* | 2,467,738 | 2,468,697 | - | 438 | 454 | 0.96 | 561 | 575 | 0.98 | |
| *dsdA* | 2,468,769 | 2,470,115 | - | 299 | 247 | 1.21 | 476 | 461 | 1.03 | |
| *yqjQ* | 2,470,191 | 2,470,970 | - | 258 | 216 | 1.19 | 402 | 367 | 1.10 | |
| *yqjP* | 2,470,976 | 2,471,935 | - | 162 | 147 | 1.10 | 185 | 197 | 0.94 | |
| *proI* | 2,472,340 | 2,473,176 | + | 175 | 201 | 0.87 | 224 | 287 | 0.78 | |
| *yqjN* | 2,473,217 | 2,474,860 | - | 313 | 279 | 1.12 | 349 | 307 | 1.14 | |
| *yqjM* | 2,475,032 | 2,476,048 | + | 120 | 135 | 0.89 | 161 | 183 | 0.88 | |
| *yqjL* | 2,476,158 | 2,476,919 | + | 171 | 242 | 0.71 | 343 | 383 | 0.90 | |
| *yqjK* | 2,477,195 | 2,478,118 | - | 231 | 222 | 1.04 | 289 | 324 | 0.89 | |
| *zwf* | 2,478,345 | 2,479,814 | + | 2006 | 1737 | 1.15 | 2161 | 2101 | 1.03 | |
| *yqjI* | 2,479,937 | 2,481,346 | - | 2834 | 3121 | 0.91 | 2865 | 3204 | 0.89 | |
| *yqjH* | 2,481,456 | 2,482,700 | - | 281 | 212 | 1.33 | 244 | 243 | 1.00 | |
| *yqzJ* | 2,482,773 | 2,483,060 | + | 1025 | 1316 | 0.78 | 738 | 859 | 0.86 | |
| *yqjG* | 2,483,091 | 2,483,918 | + | 770 | 867 | 0.89 | 565 | 631 | 0.90 | |
| *yqjF* | 2,484,098 | 2,484,826 | + | 271 | 324 | 0.84 | 102 | 68 | 1.49 | |
| *yqjE* | 2,484,867 | 2,485,982 | - | 1207 | 1141 | 1.06 | 1749 | 1777 | 0.98 | |
| *yqjD* | 2,486,000 | 2,487,520 | - | 953 | 857 | 1.11 | 1187 | 1217 | 0.98 | |
| *yqjC* | 2,487,517 | 2,487,939 | - | 62 | 64 | 0.98 | 51 | 60 | 0.85 | |
| *yqjB* | 2,488,141 | 2,488,671 | - | 58 | 59 | 0.98 | 85 | 73 | 1.16 | |
| *yqjA* | 2,488,723 | 2,489,691 | - | 266 | 244 | 1.09 | 370 | 410 | 0.90 | |
| *yqiZ* | 2,489,762 | 2,490,484 | - | 513 | 517 | 0.99 | 1408 | 1820 | 0.77 | |
| *yqiY* | 2,490,477 | 2,491,136 | - | 315 | 290 | 1.09 | 1000 | 1355 | 0.74 | |
| *yqiX* | 2,491,217 | 2,491,984 | - | 442 | 353 | 1.25 | 1076 | 1789 | 0.60 | |
| *yqiW* | 2,492,253 | 2,492,690 | - | 1018 | 987 | 1.03 | 1265 | 1427 | 0.89 | |
| *bmrU* | 2,492,853 | 2,493,746 | + | 2326 | 1839 | 1.26 | 1073 | 399 | 2.69 | |
| *bmr* | 2,493,847 | 2,495,016 | + | 2152 | 1502 | 1.43 | 497 | 284 | 1.75 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *bmrR* | 2,495,089 | 2,495,925 | + | 439 | 392 | 1.12 | 178 | 151 | 1.18 | |
| *bkdB* | 2,495,987 | 2,497,261 | - | 575 | 812 | 0.71 | 603 | 656 | 0.92 | |
| *bkdAB* | 2,497,284 | 2,498,267 | - | 898 | 1180 | 0.76 | 853 | 968 | 0.88 | |
| *bkdAA* | 2,498,281 | 2,499,273 | - | 835 | 1118 | 0.75 | 838 | 940 | 0.89 | |
| *lpdV* | 2,499,347 | 2,500,720 | - | 642 | 838 | 0.77 | 605 | 707 | 0.86 | |
| *buk* | 2,500,741 | 2,501,832 | - | 558 | 733 | 0.76 | 471 | 651 | 0.72 | |
| *bcd* | 2,501,851 | 2,502,945 | - | 872 | 1202 | 0.73 | 634 | 809 | 0.78 | |
| *ptb* | 2,502,957 | 2,503,856 | - | 657 | 904 | 0.73 | 328 | 509 | 0.64 | |
| *bkdR* | 2,503,981 | 2,506,059 | - | 619 | 532 | 1.16 | 440 | 419 | 1.05 | |
| *yqzF* | 2,506,212 | 2,506,448 | + | 434 | 449 | 0.97 | 356 | 474 | 0.75 | |
| *yqiQ* | 2,506,490 | 2,507,395 | - | 95 | 87 | 1.09 | 74 | 86 | 0.87 | |
| *mmgE* | 2,507,413 | 2,508,831 | - | 72 | 65 | 1.12 | 64 | 65 | 0.98 | |
| *mmgD* | 2,508,846 | 2,509,964 | - | 76 | 77 | 1.00 | 61 | 69 | 0.88 | |
| *mmgC* | 2,509,998 | 2,511,134 | - | 84 | 82 | 1.02 | 68 | 77 | 0.88 | |
| *mmgB* | 2,511,162 | 2,511,896 | - | 61 | 64 | 0.96 | 50 | 62 | 0.81 | |
| *mmgA* | 2,512,046 | 2,513,227 | - | 85 | 92 | 0.92 | 62 | 82 | 0.75 | |
| *yqiK* | 2,513,365 | 2,514,084 | - | 167 | 148 | 1.13 | 214 | 197 | 1.09 | |
| *yqiI* | 2,514,163 | 2,514,783 | - | 126 | 120 | 1.05 | 113 | 122 | 0.93 | |
| *yqiH* | 2,514,798 | 2,515,091 | - | 48 | 49 | 0.98 | 47 | 54 | 0.88 | |
| *yqiG* | 2,515,623 | 2,516,741 | + | 290 | 273 | 1.06 | 358 | 320 | 1.12 | |
| *spo0A* | 2,517,257 | 2,518,060 | - | 924 | 805 | 1.15 | 859 | 889 | 0.97 | Spo0A regulon |
| *spoIVB* | 2,518,336 | 2,519,613 | - | 70 | 72 | 0.96 | 66 | 80 | 0.83 | |
| *recN* | 2,519,788 | 2,521,518 | - | 421 | 406 | 1.04 | 771 | 807 | 0.96 | |
| *ahrC* | 2,521,555 | 2,522,004 | - | 518 | 496 | 1.04 | 894 | 911 | 0.98 | |
| *yqxC* | 2,522,139 | 2,522,948 | - | 756 | 685 | 1.10 | 1284 | 1470 | 0.87 | |
| *dxs* | 2,522,945 | 2,524,846 | - | 1262 | 1195 | 1.06 | 1601 | 1686 | 0.95 | |
| *yqiD* | 2,525,093 | 2,525,911 | - | 538 | 419 | 1.29 | 881 | 791 | 1.11 | |
| *yqiC* | 2,525,901 | 2,526,065 | - | 903 | 644 | 1.40 | 1300 | 1366 | 0.95 | |
| *yqiB* | 2,526,151 | 2,527,497 | - | 547 | 366 | 1.50 | 763 | 746 | 1.02 | |
| *folD* | 2,527,635 | 2,528,486 | - | 1606 | 1362 | 1.18 | 1663 | 1732 | 0.96 | |
| *nusB* | 2,528,498 | 2,528,893 | - | 1815 | 1659 | 1.09 | 2108 | 2113 | 1.00 | |
| *yqhY* | 2,529,157 | 2,529,564 | - | 3103 | 3109 | 1.00 | 3252 | 3195 | 1.02 | |
| *accC* | 2,529,585 | 2,530,937 | - | 3699 | 3509 | 1.05 | 3436 | 3267 | 1.05 | |
| *accB* | 2,530,949 | 2,531,428 | - | 2011 | 1971 | 1.02 | 2202 | 2576 | 0.86 | |
| *spoIIIAH* | 2,531,584 | 2,532,240 | - | 78 | 78 | 0.99 | 73 | 84 | 0.86 | |
| *spoIIIAG* | 2,532,241 | 2,532,930 | - | 50 | 50 | 1.01 | 40 | 47 | 0.84 | |
| *spoIIIAF* | 2,532,923 | 2,533,543 | - | 46 | 45 | 1.02 | 37 | 40 | 0.93 | |
| *spoIIIAE* | 2,533,540 | 2,534,757 | - | 59 | 61 | 0.97 | 47 | 51 | 0.91 | |
| *spoIIIAD* | 2,534,776 | 2,535,177 | - | 25 | 32 | 0.76 | 27 | 27 | 1.01 | |
| *spoIIIAC* | 2,535,184 | 2,535,390 | - | 20 | 30 | 0.67 | 30 | 31 | 0.98 | |
| *spoIIIAB* | 2,535,413 | 2,535,928 | - | 78 | 80 | 0.98 | 67 | 71 | 0.95 | |
| *spoIIIAA* | 2,535,922 | 2,536,845 | - | 63 | 64 | 0.99 | 48 | 57 | 0.84 | |
| *yqhV* | 2,536,921 | 2,537,202 | - | 22 | 30 | 0.74 | 28 | 31 | 0.91 | |
| *efp* | 2,537,347 | 2,537,904 | - | 1558 | 1713 | 0.91 | 2347 | 2433 | 0.96 | |
| *yqhT* | 2,537,929 | 2,538,990 | - | 2308 | 2413 | 0.96 | 2661 | 2743 | 0.97 | |
| *yqhS* | 2,538,987 | 2,539,433 | - | 1648 | 1615 | 1.02 | 1613 | 1644 | 0.98 | |
| *yqhR* | 2,539,520 | 2,540,056 | - | 78 | 80 | 0.97 | 86 | 67 | 1.29 | |
| *yqhQ* | 2,540,283 | 2,541,239 | + | 991 | 916 | 1.08 | 443 | 443 | 1.00 | |
| *yqhP* | 2,541,279 | 2,541,674 | + | 1098 | 1190 | 0.92 | 388 | 461 | 0.84 | |
| *yqhO* | 2,541,671 | 2,542,546 | - | 64 | 64 | 0.99 | 58 | 68 | 0.86 | |
| *mntR* | 2,542,672 | 2,543,100 | - | 468 | 406 | 1.15 | 829 | 914 | 0.91 | |
| *yqhM* | 2,543,200 | 2,544,036 | - | 448 | 362 | 1.24 | 754 | 794 | 0.95 | |
| *yqhL* | 2,544,227 | 2,544,607 | + | 404 | 343 | 1.18 | 508 | 630 | 0.81 | |
| *gcvPB* | 2,544,642 | 2,546,108 | - | 633 | 795 | 0.80 | 637 | 717 | 0.89 | |
| *gcvPA* | 2,546,101 | 2,547,447 | - | 786 | 988 | 0.80 | 839 | 928 | 0.90 | |
| *gcvT* | 2,547,477 | 2,548,565 | - | 606 | 738 | 0.82 | 747 | 889 | 0.84 | |
| *yqhH* | 2,549,007 | 2,550,680 | + | 48 | 54 | 0.90 | 42 | 51 | 0.84 | |
| *yqhG* | 2,550,701 | 2,551,495 | + | 195 | 157 | 1.24 | 178 | 151 | 1.18 | |
| *sinI* | 2,551,678 | 2,551,851 | + | 351 | 310 | 1.13 | 376 | 567 | 0.66 | Spo0A regulon |
| *sinR* | 2,551,885 | 2,552,220 | + | 244 | 283 | 0.86 | 366 | 428 | 0.85 | |
| *tasA* | 2,552,313 | 2,553,098 | - | 2398 | 427 | 5.61 | 2500 | 719 | 3.48 | AbrB regulon |
| *sipW* | 2,553,162 | 2,553,734 | - | 612 | 134 | 4.56 | 483 | 148 | 3.26 | AbrB regulon |
| *yqxM* | 2,553,718 | 2,554,479 | - | 197 | 58 | 3.40 | 159 | 66 | 2.41 | AbrB regulon |
| *yqzG* | 2,554,751 | 2,555,077 | + | 40 | 42 | 0.94 | 53 | 46 | 1.17 | AbrB regulon |
| *yqzE* | 2,555,060 | 2,555,299 | - | 88 | 126 | 0.70 | 250 | 399 | 0.63 | |
| *comGG* | 2,555,370 | 2,555,744 | - | 251 | 354 | 0.71 | 708 | 1063 | 0.67 | |
| *comGF* | 2,555,745 | 2,556,128 | - | 413 | 637 | 0.65 | 878 | 1296 | 0.68 | |
| *comGE* | 2,556,154 | 2,556,501 | - | 327 | 476 | 0.69 | 696 | 989 | 0.70 | |
| *comGD* | 2,556,485 | 2,556,916 | - | 331 | 482 | 0.69 | 665 | 915 | 0.73 | |
| *comGC* | 2,556,906 | 2,557,202 | - | 547 | 747 | 0.73 | 1064 | 1433 | 0.74 | |
| *comGB* | 2,557,216 | 2,558,187 | - | 581 | 718 | 0.81 | 797 | 1067 | 0.75 | |
| *comGA* | 2,558,240 | 2,559,310 | - | 799 | 1009 | 0.79 | 1318 | 1683 | 0.78 | |
| *yqxL* | 2,559,722 | 2,560,675 | - | 1557 | 1231 | 1.26 | 716 | 246 | 2.91 | |
| *yqhB* | 2,560,818 | 2,562,146 | + | 895 | 565 | 1.58 | 317 | 143 | 2.21 | |
| *yqhA* | 2,562,199 | 2,563,035 | - | 481 | 485 | 0.99 | 466 | 392 | 1.19 | |
| *yqgZ* | 2,563,259 | 2,563,639 | - | 6758 | 6656 | 1.02 | 4371 | 3814 | 1.15 | |
| *yqgY* | 2,563,871 | 2,564,116 | + | 1899 | 2489 | 0.76 | 1367 | 1843 | 0.74 | |
| *yqgX* | 2,564,156 | 2,564,791 | - | 907 | 990 | 0.92 | 1251 | 1243 | 1.01 | |
| *yqgW* | 2,564,949 | 2,565,122 | + | 959 | 1397 | 0.69 | 1456 | 1761 | 0.83 | |
| *yqgV* | 2,565,183 | 2,565,467 | - | 603 | 505 | 1.19 | 937 | 864 | 1.08 | |
| *yqgU* | 2,565,470 | 2,566,531 | - | 385 | 325 | 1.19 | 674 | 658 | 1.02 | |
| *yqgT* | 2,566,593 | 2,567,723 | - | 157 | 140 | 1.12 | 307 | 327 | 0.94 | |
| *yqgS* | 2,567,806 | 2,569,722 | - | 586 | 589 | 1.00 | 959 | 1149 | 0.83 | |
| *glcK* | 2,569,838 | 2,570,803 | - | 581 | 603 | 0.96 | 756 | 761 | 0.99 | |
| *yqgQ* | 2,570,814 | 2,571,029 | - | 221 | 227 | 0.97 | 334 | 448 | 0.75 | |
| *yqgP* | 2,571,139 | 2,572,662 | - | 205 | 219 | 0.94 | 247 | 334 | 0.74 | |
| *yqgO* | 2,572,752 | 2,572,925 | - | 368 | 376 | 0.98 | 381 | 500 | 0.76 | |
| *yqgN* | 2,572,992 | 2,573,555 | - | 262 | 289 | 0.91 | 300 | 353 | 0.85 | |
| *rpmGA* | 2,573,640 | 2,573,789 | - | 875 | 1130 | 0.77 | 1555 | 1402 | 1.11 | |
| *yqgM* | 2,573,873 | 2,574,952 | - | 116 | 105 | 1.11 | 120 | 128 | 0.94 | |
| *yqgL* | 2,574,949 | 2,575,419 | - | 87 | 93 | 0.94 | 91 | 94 | 0.97 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yqzD* | 2,575,599 | 2,575,952 | + | 1783 | 1470 | 1.21 | 1933 | 1805 | 1.07 | Spo0A regulon |
| *yqzC* | 2,575,949 | 2,576,413 | + | 895 | 766 | 1.17 | 1165 | 1067 | 1.09 | |
| *pstBB* | 2,576,442 | 2,577,224 | - | 63 | 58 | 1.07 | 55 | 60 | 0.91 | |
| *pstBA* | 2,577,235 | 2,578,044 | - | 53 | 53 | 1.00 | 49 | 52 | 0.95 | |
| *pstA* | 2,578,065 | 2,578,949 | - | 54 | 53 | 1.02 | 47 | 51 | 0.91 | |
| *pstC* | 2,578,949 | 2,579,878 | - | 55 | 56 | 0.98 | 48 | 51 | 0.92 | |
| *pstS* | 2,579,947 | 2,580,849 | - | 43 | 49 | 0.88 | 38 | 40 | 0.95 | |
| *pbpA* | 2,581,003 | 2,583,153 | - | 1587 | 1315 | 1.21 | 1612 | 1544 | 1.04 | |
| *yqgE* | 2,583,267 | 2,584,559 | - | 74 | 74 | 0.99 | 55 | 62 | 0.88 | |
| *sodA* | 2,584,666 | 2,585,274 | - | 7473 | 7779 | 0.96 | 6025 | 5393 | 1.12 | |
| *yqgC* | 2,585,453 | 2,585,935 | - | 1619 | 1108 | 1.46 | 774 | 717 | 1.08 | |
| *yqgB* | 2,586,045 | 2,586,803 | + | 407 | 344 | 1.18 | 443 | 387 | 1.14 | |
| *yqgA* | 2,587,229 | 2,587,657 | - | 2605 | 2875 | 0.91 | 3280 | 3614 | 0.91 | |
| *yqfZ* | 2,587,934 | 2,588,233 | + | 46 | 47 | 0.98 | 46 | 58 | 0.80 | |
| *yqfY* | 2,588,356 | 2,589,489 | + | 702 | 671 | 1.05 | 798 | 872 | 0.92 | |
| *yqfX* | 2,589,515 | 2,589,904 | - | 81 | 91 | 0.89 | 78 | 94 | 0.83 | |
| *yqfW* | 2,590,037 | 2,590,618 | + | 454 | 374 | 1.22 | 610 | 577 | 1.06 | |
| *zur* | 2,590,661 | 2,591,098 | - | 362 | 385 | 0.94 | 260 | 275 | 0.94 | |
| *yqfU* | 2,591,236 | 2,592,117 | - | 605 | 559 | 1.08 | 589 | 701 | 0.84 | |
| *yqfT* | 2,592,233 | 2,592,487 | + | 38 | 38 | 1.01 | 36 | 31 | 1.14 | |
| *yqfS* | 2,592,514 | 2,593,407 | - | 1044 | 1283 | 0.81 | 925 | 1230 | 0.75 | |
| *yqfR* | 2,593,417 | 2,594,733 | - | 1148 | 1366 | 0.84 | 926 | 1235 | 0.75 | |
| *yqfQ* | 2,594,902 | 2,595,645 | + | 95 | 102 | 0.93 | 75 | 89 | 0.84 | |
| *yqfP* | 2,595,768 | 2,596,712 | + | 550 | 438 | 1.26 | 517 | 572 | 0.90 | |
| *yqfO* | 2,596,735 | 2,597,856 | - | 641 | 575 | 1.11 | 904 | 873 | 1.04 | |
| *yqfN* | 2,597,849 | 2,598,499 | - | 450 | 423 | 1.06 | 693 | 672 | 1.03 | |
| *cccA* | 2,598,756 | 2,599,118 | - | 909 | 963 | 0.94 | 792 | 877 | 0.90 | AbrB regulon |
| *sigA* | 2,599,447 | 2,600,562 | - | 2316 | 2484 | 0.93 | 2541 | 2689 | 0.95 | SigD regulon |
| *dnaG* | 2,600,761 | 2,602,572 | - | 1192 | 1257 | 0.95 | 1405 | 1692 | 0.83 | Spo0A regulon |
| *antE* | 2,602,212 | 2,602,508 | + | 78 | 76 | 1.03 | 78 | 102 | 0.76 | AbrB regulon |
| *yqxD* | 2,602,606 | 2,603,196 | - | 1032 | 1043 | 0.99 | 1133 | 1351 | 0.84 | |
| *yqfL* | 2,603,354 | 2,604,166 | - | 473 | 482 | 0.98 | 695 | 793 | 0.88 | |
| *yqzB* | 2,604,192 | 2,604,830 | - | 567 | 644 | 0.88 | 799 | 845 | 0.95 | |
| *glyS* | 2,604,963 | 2,607,002 | - | 759 | 858 | 0.88 | 1329 | 1336 | 0.99 | |
| *glyQ* | 2,606,995 | 2,607,882 | - | 566 | 558 | 1.01 | 1012 | 1084 | 0.93 | |
| *recO* | 2,608,179 | 2,608,946 | - | 1098 | 909 | 1.21 | 1355 | 1633 | 0.83 | |
| *era* | 2,609,274 | 2,610,179 | - | 1565 | 1383 | 1.13 | 1898 | 2016 | 0.94 | Spo0A regulon |
| *cdd* | 2,610,160 | 2,610,570 | - | 1188 | 1072 | 1.11 | 1474 | 1554 | 0.95 | |
| *dgkA* | 2,610,689 | 2,611,033 | - | 719 | 452 | 1.59 | 694 | 616 | 1.13 | |
| *yqfG* | 2,611,040 | 2,611,513 | - | 864 | 624 | 1.38 | 1034 | 844 | 1.22 | |
| *yqfF* | 2,611,514 | 2,613,649 | - | 885 | 642 | 1.38 | 883 | 789 | 1.12 | |
| *phoH* | 2,613,728 | 2,614,687 | - | 1943 | 1467 | 1.32 | 1650 | 1495 | 1.10 | |
| *yqfD* | 2,614,684 | 2,615,880 | - | 126 | 110 | 1.14 | 153 | 153 | 1.00 | |
| *yqfC* | 2,615,899 | 2,616,180 | - | 63 | 65 | 0.97 | 140 | 144 | 0.98 | |
| *yqfB* | 2,616,237 | 2,616,656 | - | 2263 | 2411 | 0.94 | 2980 | 3330 | 0.89 | |
| *yqfA* | 2,616,681 | 2,617,676 | - | 2300 | 2358 | 0.98 | 3188 | 3405 | 0.94 | |
| *yqeZ* | 2,617,698 | 2,619,011 | - | 1944 | 1774 | 1.10 | 2343 | 2648 | 0.88 | |
| *yqeY* | 2,619,142 | 2,619,588 | - | 3264 | 3710 | 0.88 | 3226 | 3401 | 0.95 | |
| *rpsU* | 2,619,603 | 2,619,776 | - | 4876 | 5904 | 0.83 | 5338 | 5562 | 0.96 | |
| *yqeW* | 2,619,940 | 2,620,872 | + | 51 | 56 | 0.91 | 48 | 51 | 0.94 | |
| *yqeV* | 2,620,909 | 2,622,264 | - | 643 | 565 | 1.14 | 1301 | 1354 | 0.96 | |
| *yqeU* | 2,622,264 | 2,623,034 | - | 384 | 287 | 1.34 | 715 | 813 | 0.88 | |
| *yqeT* | 2,623,057 | 2,623,992 | - | 507 | 409 | 1.24 | 947 | 1075 | 0.88 | |
| *dnaJ* | 2,624,017 | 2,625,135 | - | 1042 | 1005 | 1.04 | 1720 | 1740 | 0.99 | |
| *dnaK* | 2,625,335 | 2,627,170 | - | 3272 | 3042 | 1.08 | 3852 | 3540 | 1.09 | |
| *grpE* | 2,627,194 | 2,627,757 | - | 2821 | 2361 | 1.19 | 3169 | 3023 | 1.05 | |
| *hrcA* | 2,627,829 | 2,628,860 | - | 899 | 784 | 1.15 | 883 | 733 | 1.21 | |
| *hemN* | 2,628,980 | 2,630,080 | - | 237 | 212 | 1.12 | 354 | 339 | 1.04 | |
| *lepA* | 2,630,133 | 2,631,971 | - | 693 | 592 | 1.17 | 900 | 996 | 0.90 | |
| *yqxA* | 2,632,105 | 2,632,443 | - | 52 | 48 | 1.09 | 49 | 50 | 0.98 | |
| *spoIIP* | 2,632,460 | 2,633,665 | - | 93 | 85 | 1.09 | 80 | 100 | 0.80 | |
| *gpr* | 2,633,728 | 2,634,834 | - | 86 | 83 | 1.03 | 78 | 87 | 0.89 | |
| *rpsT* | 2,635,038 | 2,635,304 | + | 584 | 781 | 0.75 | 787 | 734 | 1.07 | |
| *yqeN* | 2,635,319 | 2,636,362 | - | 253 | 250 | 1.01 | 336 | 429 | 0.78 | |
| *comEC* | 2,636,766 | 2,639,096 | - | 105 | 125 | 0.84 | 147 | 242 | 0.61 | |
| *comEB* | 2,639,100 | 2,639,669 | - | 340 | 361 | 0.94 | 465 | 650 | 0.72 | |
| *comEA* | 2,639,736 | 2,640,353 | - | 286 | 307 | 0.93 | 405 | 669 | 0.60 | |
| *comER* | 2,640,437 | 2,641,258 | + | 79 | 76 | 1.04 | 56 | 61 | 0.92 | |
| *yqeM* | 2,641,324 | 2,642,067 | - | 687 | 513 | 1.34 | 1206 | 1050 | 1.15 | |
| *yqeL* | 2,642,064 | 2,642,420 | - | 1091 | 830 | 1.31 | 1944 | 1781 | 1.09 | |
| *yqeK* | 2,642,438 | 2,642,998 | - | 639 | 461 | 1.39 | 1250 | 1102 | 1.13 | |
| *yqeJ* | 2,642,988 | 2,643,557 | - | 927 | 639 | 1.45 | 1444 | 1319 | 1.10 | |
| *yqeI* | 2,643,569 | 2,643,859 | - | 962 | 726 | 1.33 | 1935 | 1726 | 1.12 | |
| *aroD* | 2,643,853 | 2,644,695 | - | 806 | 604 | 1.33 | 1554 | 1432 | 1.09 | |
| *yqeH* | 2,644,713 | 2,645,813 | - | 485 | 345 | 1.41 | 986 | 929 | 1.06 | |
| *yqeG* | 2,645,817 | 2,646,335 | - | 343 | 255 | 1.35 | 536 | 621 | 0.86 | |
| *sda* | 2,646,679 | 2,646,837 | + | 180 | 123 | 1.46 | 246 | 464 | 0.53 | |
| *yqeF* | 2,647,143 | 2,647,874 | - | 909 | 417 | 2.18 | 372 | 184 | 2.02 | |
| *cwlH* | 2,648,126 | 2,648,878 | - | 151 | 130 | 1.16 | 154 | 124 | 1.24 | |
| *yqeD* | 2,649,065 | 2,649,691 | + | 97 | 62 | 1.57 | 75 | 71 | 1.07 | |
| *yqeC* | 2,649,710 | 2,650,603 | - | 97 | 93 | 1.04 | 81 | 83 | 0.98 | |
| *yqeB* | 2,650,855 | 2,651,580 | + | 404 | 289 | 1.40 | 616 | 453 | 1.36 | |
| *nucB* | 2,651,613 | 2,652,023 | - | 64 | 72 | 0.90 | 62 | 72 | 0.86 | |
| *spoIVCB* | 2,652,219 | 2,652,689 | + | 51 | 52 | 0.97 | 72 | 67 | 1.07 | |
| *spoIVCA* | 2,652,597 | 2,654,099 | - | 68 | 66 | 1.02 | 89 | 97 | 0.91 | |
| *arsC* | 2,654,548 | 2,654,967 | - | 180 | 193 | 0.93 | 235 | 243 | 0.97 | |
| *arsB* | 2,654,979 | 2,656,019 | - | 131 | 138 | 0.95 | 134 | 148 | 0.91 | |
| *yqcK* | 2,656,042 | 2,656,482 | - | 50 | 59 | 0.85 | 59 | 69 | 0.85 | |
| *arsR* | 2,656,543 | 2,656,860 | - | 68 | 74 | 0.93 | 96 | 113 | 0.85 | |
| *yqcI* | 2,657,232 | 2,657,996 | - | 30 | 35 | 0.87 | 29 | 35 | 0.83 | |
| *rapE* | 2,658,440 | 2,659,567 | + | 138 | 152 | 0.91 | 183 | 167 | 1.10 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yqzI* | 2,659,801 | 2,659,959 | + | 87 | 102 | 0.85 | 98 | 98 | 1.00 | |
| *yqcG* | 2,660,329 | 2,661,924 | + | 625 | 512 | 1.22 | 726 | 704 | 1.03 | Spo0A and AbrB regulo |
| *yqcF* | 2,661,939 | 2,662,517 | + | 444 | 328 | 1.36 | 517 | 461 | 1.12 | |
| *yqxJ* | 2,662,778 | 2,663,140 | - | 602 | 533 | 1.13 | 759 | 627 | 1.21 | AbrB regulon |
| *yqxI* | 2,663,156 | 2,663,635 | - | 1572 | 1362 | 1.15 | 1633 | 1391 | 1.17 | Spo0A and AbrB regulo |
| *cwlA* | 2,663,800 | 2,664,618 | - | 56 | 56 | 0.99 | 62 | 60 | 1.04 | |
| *yqxH* | 2,664,663 | 2,665,085 | - | 30 | 33 | 0.91 | 29 | 28 | 1.04 | |
| *yqxG* | 2,665,130 | 2,666,023 | - | 26 | 30 | 0.88 | 27 | 29 | 0.95 | |
| *yqcE* | 2,666,111 | 2,666,275 | - | 28 | 29 | 0.99 | 35 | 29 | 1.21 | |
| *yqcD* | 2,666,272 | 2,666,607 | - | 26 | 32 | 0.81 | 29 | 26 | 1.15 | |
| *yqcC* | 2,666,617 | 2,667,717 | - | 57 | 50 | 1.14 | 75 | 60 | 1.25 | |
| *yqcB* | 2,667,720 | 2,667,992 | - | 30 | 38 | 0.78 | 29 | 31 | 0.94 | |
| *yqcA* | 2,667,989 | 2,668,567 | - | 53 | 50 | 1.06 | 35 | 41 | 0.86 | |
| *yqbT* | 2,668,551 | 2,669,597 | - | 63 | 73 | 0.86 | 56 | 69 | 0.81 | |
| *yqbS* | 2,669,590 | 2,670,015 | - | 39 | 48 | 0.82 | 34 | 37 | 0.93 | |
| *yqbR* | 2,670,028 | 2,670,291 | - | 23 | 29 | 0.78 | 28 | 31 | 0.92 | |
| *yqbQ* | 2,670,288 | 2,671,268 | - | 61 | 54 | 1.13 | 54 | 52 | 1.04 | |
| *yqbP* | 2,671,281 | 2,671,940 | - | 64 | 48 | 1.34 | 78 | 68 | 1.16 | |
| *yqbO* | 2,671,933 | 2,676,690 | - | 76 | 70 | 1.07 | 70 | 72 | 0.97 | |
| *yqbN* | 2,676,872 | 2,677,321 | - | 30 | 33 | 0.89 | 34 | 33 | 1.04 | |
| *yqdB* | 2,677,467 | 2,677,646 | + | 33 | 39 | 0.84 | 121 | 163 | 0.74 | |
| *yqbM* | 2,678,369 | 2,678,812 | - | 141 | 89 | 1.59 | 74 | 56 | 1.31 | |
| *yqbL* | 2,678,815 | 2,679,219 | - | 145 | 80 | 1.80 | 66 | 43 | 1.52 | |
| *yqbK* | 2,679,297 | 2,680,214 | - | 60 | 63 | 0.95 | 64 | 69 | 0.93 | |
| *yqbJ* | 2,680,403 | 2,680,840 | - | 36 | 42 | 0.87 | 40 | 45 | 0.89 | |
| *yqbI* | 2,680,853 | 2,681,356 | - | 55 | 60 | 0.90 | 52 | 51 | 1.01 | |
| *yqbH* | 2,681,353 | 2,681,715 | - | 31 | 35 | 0.89 | 37 | 37 | 1.01 | |
| *yqbG* | 2,681,712 | 2,682,107 | - | 60 | 75 | 0.80 | 69 | 74 | 0.93 | |
| *yqbF* | 2,682,111 | 2,682,422 | - | 33 | 39 | 0.84 | 42 | 38 | 1.10 | |
| *yqbE* | 2,682,433 | 2,683,368 | - | 41 | 41 | 0.98 | 50 | 46 | 1.10 | |
| *yqbD* | 2,683,387 | 2,684,355 | - | 74 | 78 | 0.95 | 72 | 82 | 0.87 | |
| *yqbC* | 2,684,388 | 2,685,041 | - | 148 | 166 | 0.89 | 176 | 185 | 0.95 | |
| *yqbB* | 2,685,082 | 2,685,999 | - | 63 | 55 | 1.14 | 64 | 61 | 1.05 | |
| *yqbA* | 2,685,996 | 2,687,528 | - | 54 | 52 | 1.04 | 53 | 53 | 1.02 | |
| *yqaT* | 2,687,532 | 2,688,827 | - | 49 | 56 | 0.87 | 46 | 58 | 0.80 | |
| *yqaS* | 2,688,820 | 2,689,539 | - | 66 | 94 | 0.71 | 73 | 85 | 0.86 | |
| *yqaR* | 2,689,607 | 2,690,071 | - | 165 | 207 | 0.80 | 262 | 321 | 0.81 | |
| *yqaQ* | 2,690,215 | 2,690,670 | - | 34 | 47 | 0.73 | 38 | 42 | 0.89 | |
| *yqaP* | 2,690,868 | 2,691,797 | + | 2016 | 1885 | 1.07 | 2069 | 2094 | 0.99 | AbrB regulon |
| *yqaO* | 2,691,871 | 2,692,077 | - | 26 | 29 | 0.88 | 25 | 22 | 1.16 | |
| *yqaN* | 2,692,159 | 2,692,587 | - | 47 | 51 | 0.92 | 53 | 51 | 1.04 | |
| *yqaM* | 2,692,823 | 2,693,764 | - | 34 | 37 | 0.92 | 32 | 35 | 0.94 | |
| *yqaL* | 2,693,646 | 2,694,347 | - | 62 | 66 | 0.95 | 47 | 52 | 0.89 | |
| *yqaK* | 2,694,399 | 2,695,253 | - | 47 | 46 | 1.02 | 37 | 43 | 0.87 | |
| *yqaJ* | 2,695,256 | 2,696,215 | - | 24 | 28 | 0.85 | 25 | 28 | 0.92 | |
| *yqaI* | 2,696,321 | 2,696,515 | - | 25 | 35 | 0.71 | 26 | 22 | 1.19 | |
| *yqaH* | 2,696,645 | 2,696,902 | - | 27 | 30 | 0.88 | 22 | 27 | 0.81 | |
| *yqaG* | 2,696,899 | 2,697,468 | - | 31 | 38 | 0.82 | 30 | 35 | 0.87 | |
| *yqdA* | 2,697,542 | 2,697,682 | - | 41 | 42 | 0.97 | 52 | 51 | 1.02 | |
| *yqaF* | 2,697,712 | 2,697,942 | - | 19 | 26 | 0.76 | 22 | 23 | 0.96 | |
| *yqaE* | 2,698,119 | 2,698,469 | + | 258 | 250 | 1.03 | 234 | 247 | 0.95 | |
| *yqaD* | 2,698,736 | 2,698,903 | - | 23 | 29 | 0.78 | 35 | 34 | 1.04 | |
| *yqaC* | 2,699,259 | 2,699,795 | - | 90 | 84 | 1.06 | 81 | 70 | 1.15 | |
| *yqaB* | 2,700,064 | 2,700,582 | + | 30 | 36 | 0.82 | 35 | 38 | 0.92 | |
| *spoIIIC* | 2,700,564 | 2,700,980 | + | 83 | 81 | 1.03 | 61 | 82 | 0.74 | |
| *yrkS* | 2,701,205 | 2,701,369 | - | 41 | 44 | 0.93 | 36 | 49 | 0.74 | |
| *yrkR* | 2,701,914 | 2,702,333 | - | 132 | 73 | 1.80 | 96 | 70 | 1.37 | |
| *yrkQ* | 2,702,376 | 2,703,674 | - | 189 | 128 | 1.47 | 156 | 131 | 1.19 | |
| *yrkP* | 2,703,661 | 2,704,356 | - | 92 | 100 | 0.93 | 99 | 93 | 1.06 | |
| *yrkO* | 2,704,624 | 2,705,841 | + | 90 | 75 | 1.20 | 82 | 80 | 1.02 | |
| *yrkN* | 2,706,353 | 2,706,910 | + | 96 | 84 | 1.15 | 96 | 93 | 1.03 | |
| *yrkL* | 2,707,401 | 2,707,925 | - | 607 | 507 | 1.20 | 530 | 513 | 1.03 | |
| *yrkK* | 2,708,169 | 2,708,645 | - | 90 | 93 | 0.97 | 82 | 91 | 0.90 | |
| *yrkJ* | 2,709,228 | 2,710,013 | - | 35 | 37 | 0.96 | 37 | 33 | 1.10 | |
| *yrkI* | 2,710,074 | 2,710,301 | - | 30 | 30 | 1.00 | 43 | 40 | 1.07 | |
| *yrkH* | 2,710,335 | 2,711,222 | - | 82 | 79 | 1.04 | 80 | 93 | 0.86 | |
| *yrkF* | 2,711,803 | 2,712,360 | - | 55 | 57 | 0.96 | 55 | 55 | 1.00 | |
| *yrkE* | 2,712,546 | 2,713,028 | - | 39 | 45 | 0.87 | 35 | 36 | 0.98 | |
| *yrkD* | 2,713,175 | 2,713,366 | - | 257 | 303 | 0.85 | 362 | 477 | 0.76 | |
| *yrkC* | 2,714,159 | 2,714,719 | - | 155 | 129 | 1.20 | 202 | 226 | 0.89 | |
| *yrkB* | 2,714,945 | 2,715,091 | - | 75 | 57 | 1.31 | 102 | 80 | 1.27 | |
| *bltR* | 2,715,261 | 2,716,082 | - | 50 | 54 | 0.93 | 70 | 79 | 0.89 | |
| *blt* | 2,716,199 | 2,717,401 | + | 42 | 49 | 0.87 | 42 | 48 | 0.88 | |
| *bltD* | 2,717,570 | 2,718,028 | + | 27 | 34 | 0.81 | 40 | 42 | 0.95 | |
| *yrkA* | 2,718,185 | 2,719,489 | - | 413 | 514 | 0.80 | 251 | 328 | 0.76 | |
| *yrdR* | 2,719,913 | 2,720,878 | - | 34 | 37 | 0.92 | 31 | 31 | 0.98 | |
| *yrdQ* | 2,721,004 | 2,721,870 | + | 168 | 159 | 1.06 | 197 | 182 | 1.08 | |
| *trkA* | 2,721,993 | 2,723,030 | - | 326 | 467 | 0.70 | 123 | 173 | 0.71 | |
| *czcD* | 2,723,118 | 2,724,053 | - | 520 | 861 | 0.60 | 242 | 303 | 0.80 | |
| *yrdN* | 2,724,340 | 2,724,729 | - | 41 | 42 | 0.98 | 46 | 41 | 1.11 | |
| *gltR* | 2,725,063 | 2,725,953 | + | 60 | 62 | 0.98 | 85 | 93 | 0.91 | |
| *yrdK* | 2,726,111 | 2,726,428 | - | 91 | 90 | 1.01 | 142 | 143 | 0.99 | |
| *brnQ* | 2,726,386 | 2,727,708 | - | 107 | 105 | 1.02 | 138 | 148 | 0.93 | |
| *azlD* | 2,727,873 | 2,728,205 | - | 151 | 144 | 1.05 | 226 | 211 | 1.07 | |
| *azlC* | 2,728,202 | 2,728,966 | - | 124 | 118 | 1.05 | 160 | 170 | 0.94 | |
| *azlB* | 2,728,979 | 2,729,452 | - | 110 | 108 | 1.01 | 163 | 148 | 1.10 | |
| *yrdF* | 2,729,786 | 2,730,061 | - | 33 | 34 | 0.96 | 46 | 38 | 1.20 | |
| *cypA* | 2,730,333 | 2,731,565 | - | 68 | 56 | 1.22 | 94 | 81 | 1.16 | |
| *yrdC* | 2,732,206 | 2,732,769 | - | 189 | 189 | 1.00 | 355 | 451 | 0.79 | |
| *yrdB* | 2,732,998 | 2,733,369 | - | 45 | 56 | 0.81 | 82 | 99 | 0.83 | |
| *yrdA* | 2,734,179 | 2,734,682 | - | 572 | 385 | 1.48 | 366 | 398 | 0.92 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *aadK* | 2,734,908 | 2,735,762 | - | 288 | 254 | 1.13 | 266 | 309 | 0.86 | |
| *yrpB* | 2,736,141 | 2,737,184 | + | 474 | 428 | 1.11 | 366 | 322 | 1.14 | |
| *yrpC* | 2,737,534 | 2,738,331 | + | 62 | 69 | 0.89 | 67 | 68 | 0.98 | |
| *yrpD* | 2,738,712 | 2,739,419 | + | 2048 | 2392 | 0.86 | 2447 | 2605 | 0.94 | AbrB regulon |
| *yrpE* | 2,740,583 | 2,741,338 | - | 32 | 33 | 0.97 | 48 | 46 | 1.04 | |
| *sigZ* | 2,741,470 | 2,742,000 | - | 66 | 61 | 1.08 | 75 | 68 | 1.09 | |
| *yrpG* | 2,742,165 | 2,743,115 | + | 100 | 95 | 1.05 | 92 | 93 | 0.99 | |
| *yraO* | 2,743,389 | 2,744,705 | - | 141 | 176 | 0.80 | 167 | 206 | 0.81 | |
| *yraN* | 2,744,820 | 2,745,689 | - | 206 | 256 | 0.80 | 285 | 329 | 0.87 | |
| *yraM* | 2,745,834 | 2,746,937 | + | 56 | 65 | 0.86 | 64 | 68 | 0.94 | |
| *csn* | 2,747,210 | 2,748,043 | - | 1434 | 1088 | 1.32 | 1082 | 878 | 1.23 | AbrB regulon |
| *yraL* | 2,748,486 | 2,748,749 | + | 602 | 445 | 1.35 | 609 | 627 | 0.97 | |
| *yraK* | 2,748,886 | 2,749,575 | + | 122 | 116 | 1.06 | 121 | 122 | 0.99 | |
| *yraJ* | 2,750,108 | 2,750,470 | - | 443 | 299 | 1.48 | 316 | 236 | 1.34 | |
| *yraI* | 2,750,517 | 2,750,951 | - | 1004 | 719 | 1.40 | 884 | 626 | 1.41 | |
| *yraH* | 2,751,392 | 2,751,778 | - | 263 | 194 | 1.35 | 194 | 181 | 1.07 | |
| *yraG* | 2,752,027 | 2,752,272 | + | 58 | 43 | 1.35 | 39 | 29 | 1.34 | |
| *yraF* | 2,752,290 | 2,752,658 | + | 73 | 60 | 1.20 | 53 | 42 | 1.26 | |
| *adhB* | 2,752,677 | 2,753,813 | + | 85 | 71 | 1.20 | 68 | 52 | 1.30 | |
| *yraE* | 2,753,832 | 2,754,029 | + | 114 | 78 | 1.47 | 77 | 55 | 1.40 | |
| *yraD* | 2,754,045 | 2,754,344 | + | 59 | 49 | 1.21 | 53 | 38 | 1.42 | |
| *yraB* | 2,754,607 | 2,755,029 | - | 98 | 88 | 1.11 | 85 | 86 | 0.99 | |
| *adhA* | 2,755,537 | 2,756,586 | + | 125 | 122 | 1.03 | 132 | 117 | 1.13 | |
| *yraA* | 2,756,717 | 2,757,226 | + | 1452 | 1728 | 0.84 | 1743 | 1918 | 0.91 | |
| *sacC* | 2,757,268 | 2,759,301 | - | 205 | 131 | 1.56 | 131 | 113 | 1.15 | |
| *levG* | 2,759,458 | 2,760,285 | - | 475 | 247 | 1.92 | 319 | 224 | 1.43 | |
| *levF* | 2,760,306 | 2,761,115 | - | 474 | 246 | 1.93 | 328 | 214 | 1.54 | |
| *levE* | 2,761,132 | 2,761,620 | - | 480 | 244 | 1.97 | 362 | 241 | 1.50 | |
| *levD* | 2,761,620 | 2,762,060 | - | 434 | 229 | 1.89 | 300 | 193 | 1.56 | |
| *levR* | 2,762,250 | 2,765,066 | - | 177 | 113 | 1.56 | 194 | 131 | 1.48 | |
| *aapA* | 2,765,783 | 2,767,162 | + | 74 | 71 | 1.04 | 79 | 84 | 0.94 | |
| *yrhP* | 2,767,269 | 2,767,901 | - | 88 | 213 | 0.41 | 62 | 157 | 0.39 | |
| *yrhO* | 2,768,054 | 2,768,881 | + | 149 | 130 | 1.14 | 176 | 192 | 0.92 | |
| *sigV* | 2,769,077 | 2,769,577 | + | 34 | 39 | 0.86 | 37 | 42 | 0.89 | |
| *yrhM* | 2,769,577 | 2,770,434 | + | 50 | 52 | 0.96 | 53 | 57 | 0.93 | |
| *yrhL* | 2,770,545 | 2,772,449 | + | 82 | 76 | 1.08 | 97 | 93 | 1.04 | |
| *yrhK* | 2,772,583 | 2,772,873 | + | 274 | 111 | 2.47 | 203 | 80 | 2.53 | |
| *yrhJ* | 2,773,117 | 2,776,281 | - | 211 | 218 | 0.97 | 402 | 330 | 1.22 | |
| *yrhI* | 2,776,297 | 2,776,881 | - | 84 | 75 | 1.12 | 141 | 114 | 1.23 | |
| *yrhH* | 2,777,104 | 2,777,646 | - | 69 | 76 | 0.90 | 95 | 106 | 0.90 | |
| *yrzI* | 2,778,150 | 2,778,299 | - | 1688 | 2162 | 0.78 | 732 | 847 | 0.86 | AbrB regulon |
| *yrhG* | 2,778,689 | 2,779,489 | - | 175 | 152 | 1.15 | 226 | 187 | 1.21 | |
| *yrhF* | 2,779,752 | 2,780,120 | - | 166 | 151 | 1.10 | 284 | 259 | 1.09 | |
| *yrhE* | 2,780,436 | 2,783,378 | + | 142 | 146 | 0.97 | 120 | 134 | 0.89 | |
| *yrhD* | 2,783,397 | 2,783,879 | + | 91 | 99 | 0.92 | 65 | 73 | 0.90 | |
| *yrhC* | 2,783,915 | 2,784,145 | - | 59 | 64 | 0.92 | 48 | 45 | 1.07 | |
| *yrhB* | 2,784,228 | 2,785,367 | - | 255 | 256 | 0.99 | 306 | 380 | 0.81 | |
| *yrhA* | 2,785,369 | 2,786,292 | - | 287 | 262 | 1.10 | 338 | 425 | 0.80 | |
| *mtn* | 2,786,357 | 2,787,052 | - | 870 | 815 | 1.07 | 1140 | 1216 | 0.94 | |
| *yrrT* | 2,787,073 | 2,787,714 | - | 411 | 356 | 1.15 | 423 | 552 | 0.77 | |
| *yrzA* | 2,787,907 | 2,788,110 | + | 263 | 247 | 1.07 | 372 | 381 | 0.98 | |
| *yrrS* | 2,788,147 | 2,788,848 | - | 1082 | 1014 | 1.07 | 1130 | 1080 | 1.05 | |
| *yrrR* | 2,788,913 | 2,790,667 | - | 114 | 111 | 1.03 | 134 | 150 | 0.90 | |
| *greA* | 2,790,721 | 2,791,194 | - | 1018 | 1035 | 0.98 | 1914 | 2007 | 0.95 | |
| *udk* | 2,791,445 | 2,792,080 | - | 367 | 326 | 1.13 | 763 | 783 | 0.97 | |
| *yrrO* | 2,792,087 | 2,793,355 | - | 481 | 405 | 1.19 | 985 | 948 | 1.04 | |
| *yrrN* | 2,793,374 | 2,794,303 | - | 488 | 394 | 1.24 | 857 | 914 | 0.94 | |
| *yrrM* | 2,794,309 | 2,794,962 | - | 291 | 259 | 1.13 | 574 | 627 | 0.92 | |
| *yrrL* | 2,795,114 | 2,796,196 | - | 692 | 544 | 1.27 | 976 | 805 | 1.21 | Spo0A regulon |
| *yrzB* | 2,796,327 | 2,796,608 | - | 3241 | 3391 | 0.96 | 2934 | 2864 | 1.02 | |
| *yrrK* | 2,796,626 | 2,797,042 | - | 1986 | 1805 | 1.10 | 2102 | 1922 | 1.09 | |
| *yrzL* | 2,797,050 | 2,797,316 | - | 1794 | 1576 | 1.14 | 1864 | 1715 | 1.09 | |
| *alaS* | 2,797,401 | 2,800,037 | - | 1214 | 996 | 1.22 | 1691 | 1491 | 1.13 | |
| *yrrI* | 2,800,368 | 2,801,429 | - | 67 | 63 | 1.07 | 58 | 66 | 0.89 | |
| *glnQ* | 2,801,585 | 2,802,313 | + | 118 | 118 | 1.00 | 107 | 121 | 0.89 | |
| *glnH* | 2,802,335 | 2,803,156 | + | 77 | 55 | 1.39 | 38 | 39 | 0.97 | |
| *glnM* | 2,803,217 | 2,803,867 | + | 74 | 66 | 1.13 | 45 | 54 | 0.84 | |
| *glnP* | 2,803,884 | 2,804,540 | + | 43 | 36 | 1.21 | 31 | 31 | 1.02 | |
| *yrrD* | 2,804,931 | 2,805,455 | - | 43 | 50 | 0.86 | 56 | 54 | 1.03 | |
| *yrrC* | 2,805,513 | 2,807,909 | - | 223 | 202 | 1.11 | 405 | 433 | 0.94 | |
| *yrrB* | 2,807,934 | 2,808,554 | - | 260 | 236 | 1.10 | 537 | 547 | 0.98 | |
| *trmU* | 2,808,640 | 2,809,764 | - | 729 | 706 | 1.03 | 930 | 1179 | 0.79 | |
| *yrvO* | 2,809,786 | 2,810,925 | - | 770 | 727 | 1.06 | 930 | 1243 | 0.75 | |
| *yrzC* | 2,811,027 | 2,811,362 | - | 362 | 354 | 1.02 | 362 | 602 | 0.60 | |
| *yrvN* | 2,811,562 | 2,812,827 | + | 198 | 178 | 1.11 | 205 | 196 | 1.05 | |
| *yrvM* | 2,812,869 | 2,813,633 | - | 296 | 369 | 0.80 | 273 | 375 | 0.73 | |
| *aspS* | 2,813,969 | 2,815,747 | - | 1295 | 1570 | 0.82 | 1759 | 1964 | 0.90 | |
| *hisS* | 2,815,761 | 2,817,035 | - | 770 | 857 | 0.90 | 1071 | 1397 | 0.77 | |
| *yrzK* | 2,817,417 | 2,817,587 | - | 24 | 28 | 0.85 | 41 | 44 | 0.94 | |
| *yrvJ* | 2,817,720 | 2,819,276 | + | 1013 | 972 | 1.04 | 1384 | 1318 | 1.05 | |
| *yrvI* | 2,819,303 | 2,819,701 | - | 1025 | 876 | 1.17 | 1540 | 1399 | 1.10 | |
| *relA* | 2,819,755 | 2,821,959 | - | 1403 | 1242 | 1.13 | 1524 | 1536 | 0.99 | |
| *apt* | 2,822,127 | 2,822,639 | - | 881 | 710 | 1.24 | 1319 | 1405 | 0.94 | |
| *yrvE* | 2,822,645 | 2,825,005 | - | 688 | 619 | 1.11 | 1040 | 1120 | 0.93 | |
| *yrvD* | 2,825,072 | 2,825,395 | - | 1130 | 1212 | 0.93 | 897 | 659 | 1.36 | |
| *yrvC* | 2,825,471 | 2,825,968 | - | 338 | 359 | 0.94 | 462 | 633 | 0.73 | |
| *secDF* | 2,826,126 | 2,828,339 | - | 1514 | 1551 | 0.98 | 1540 | 1769 | 0.87 | |
| *yrzD* | 2,828,378 | 2,828,674 | - | 1375 | 1421 | 0.97 | 1612 | 2009 | 0.80 | |
| *spoVB* | 2,828,790 | 2,830,346 | + | 59 | 65 | 0.91 | 53 | 63 | 0.83 | |
| *yrbG* | 2,830,350 | 2,831,006 | - | 55 | 64 | 0.87 | 47 | 53 | 0.88 | |
| *yrzE* | 2,831,141 | 2,831,593 | + | 70 | 58 | 1.21 | 67 | 55 | 1.22 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *yrbF* | 2,831,650 | 2,831,919 | - | 2593 | 2447 | 1.06 | 2056 | 2084 | 0.99 |
| *tgt* | 2,831,953 | 2,833,098 | - | 760 | 590 | 1.29 | 1158 | 1045 | 1.11 |
| *queA* | 2,833,125 | 2,834,153 | - | 905 | 677 | 1.34 | 1228 | 1157 | 1.06 |
| *ruvB* | 2,834,376 | 2,835,380 | - | 568 | 471 | 1.21 | 714 | 764 | 0.93 |
| *ruvA* | 2,835,391 | 2,835,996 | - | 542 | 401 | 1.35 | 475 | 627 | 0.76 |
| *bofC* | 2,836,135 | 2,836,647 | - | 1055 | 701 | 1.51 | 428 | 265 | 1.62 |
| *csbX* | 2,836,695 | 2,838,002 | - | 1942 | 1478 | 1.31 | 732 | 450 | 1.63 |
| *yrbE* | 2,838,073 | 2,839,098 | - | 229 | 235 | 0.97 | 234 | 286 | 0.82 |
| *yrzF* | 2,839,336 | 2,839,728 | + | 515 | 505 | 1.02 | 388 | 406 | 0.95 |
| *yrzG* | 2,839,761 | 2,839,982 | + | 505 | 522 | 0.97 | 283 | 321 | 0.88 |
| *yrbD* | 2,840,836 | 2,842,290 | + | 132 | 137 | 0.97 | 95 | 106 | 0.89 |
| *yrbC* | 2,842,331 | 2,843,053 | - | 210 | 204 | 1.03 | 264 | 239 | 1.10 |
| *coxA* | 2,843,156 | 2,843,674 | - | 362 | 354 | 1.02 | 495 | 490 | 1.01 |
| *safA* | 2,843,900 | 2,845,063 | - | 3235 | 3540 | 0.91 | 2888 | 2995 | 0.96 |
| *nadA* | 2,845,180 | 2,846,286 | - | 4229 | 4270 | 0.99 | 3635 | 3683 | 0.99 |
| *nadC* | 2,846,273 | 2,847,142 | - | 2947 | 2577 | 1.14 | 2469 | 2592 | 0.95 |
| *nadB* | 2,847,096 | 2,848,691 | - | 2522 | 1815 | 1.39 | 2212 | 2542 | 0.87 |
| *nifS* | 2,848,794 | 2,849,981 | + | 1203 | 793 | 1.52 | 1103 | 1303 | 0.85 |
| *yrxA* | 2,849,941 | 2,850,477 | + | 1560 | 1172 | 1.33 | 1726 | 1970 | 0.88 |
| *pheA* | 2,850,509 | 2,851,366 | - | 353 | 376 | 0.94 | 655 | 676 | 0.97 |
| *pheB* | 2,851,383 | 2,851,826 | - | 875 | 865 | 1.01 | 1195 | 1211 | 0.99 |
| *obg* | 2,851,887 | 2,853,173 | - | 857 | 828 | 1.03 | 1222 | 1276 | 0.96 |
| *spo0B* | 2,853,207 | 2,853,785 | - | 563 | 562 | 1.00 | 810 | 921 | 0.88 |
| *rpmA* | 2,854,106 | 2,854,390 | - | 2926 | 3453 | 0.85 | 2158 | 2444 | 0.88 |
| *ysxB* | 2,854,403 | 2,854,741 | - | 5991 | 7029 | 0.85 | 5688 | 5514 | 1.03 |
| *rplU* | 2,854,744 | 2,855,052 | - | 6299 | 7465 | 0.84 | 5887 | 5917 | 0.99 |
| *spoIVFB* | 2,855,199 | 2,856,065 | - | 77 | 65 | 1.18 | 95 | 76 | 1.25 |
| *spoIVFA* | 2,856,058 | 2,856,852 | - | 88 | 67 | 1.32 | 120 | 83 | 1.44 |
| *minD* | 2,857,003 | 2,857,809 | - | 1551 | 1335 | 1.16 | 2108 | 2063 | 1.02 |
| *minC* | 2,857,811 | 2,858,491 | - | 1729 | 1468 | 1.18 | 2272 | 2359 | 0.96 |
| *mreD* | 2,858,544 | 2,859,062 | - | 1159 | 909 | 1.28 | 1670 | 1752 | 0.95 |
| *mreC* | 2,859,059 | 2,859,931 | - | 1375 | 1157 | 1.19 | 2607 | 2588 | 1.01 |
| *mreB* | 2,859,962 | 2,860,975 | - | 1308 | 1173 | 1.12 | 2005 | 2110 | 0.95 |
| *radC* | 2,861,066 | 2,861,761 | - | 501 | 492 | 1.02 | 850 | 950 | 0.89 |
| *maf* | 2,861,798 | 2,862,367 | - | 734 | 733 | 1.00 | 1272 | 1289 | 0.99 |
| *spoIIB* | 2,862,520 | 2,863,518 | - | 119 | 110 | 1.08 | 131 | 166 | 0.79 |
| *comC* | 2,863,652 | 2,864,398 | - | 150 | 145 | 1.03 | 204 | 292 | 0.70 |
| *folC* | 2,864,538 | 2,865,830 | - | 524 | 595 | 0.88 | 985 | 994 | 0.99 |
| *valS* | 2,865,890 | 2,868,532 | - | 673 | 639 | 1.05 | 1406 | 1505 | 0.93 |
| *ysxE* | 2,869,029 | 2,870,054 | - | 73 | 76 | 0.96 | 63 | 78 | 0.80 |
| *spoVID* | 2,870,087 | 2,871,814 | - | 96 | 99 | 0.97 | 79 | 86 | 0.93 |
| *hemL* | 2,871,945 | 2,873,237 | - | 1616 | 1241 | 1.30 | 1440 | 1139 | 1.26 |
| *hemB* | 2,873,267 | 2,874,241 | - | 1658 | 1188 | 1.40 | 1518 | 1244 | 1.22 |
| *hemD* | 2,874,238 | 2,875,026 | - | 1104 | 680 | 1.62 | 903 | 713 | 1.27 |
| *hemC* | 2,875,016 | 2,875,960 | - | 1122 | 685 | 1.64 | 766 | 606 | 1.26 |
| *hemX* | 2,875,993 | 2,876,823 | - | 587 | 375 | 1.56 | 415 | 360 | 1.15 |
| *hemA* | 2,876,831 | 2,878,198 | - | 1715 | 1349 | 1.27 | 1121 | 1074 | 1.04 |
| *ysxD* | 2,878,362 | 2,878,925 | + | 77 | 82 | 0.94 | 105 | 107 | 0.98 |
| *ysxC* | 2,878,947 | 2,879,534 | - | 1093 | 854 | 1.28 | 1395 | 1138 | 1.23 |
| *lonA* | 2,879,531 | 2,881,855 | - | 1589 | 1267 | 1.25 | 1518 | 1234 | 1.23 |
| *lonB* | 2,882,036 | 2,883,694 | - | 130 | 104 | 1.25 | 85 | 95 | 0.90 |
| *clpX* | 2,883,846 | 2,885,108 | - | 2186 | 2013 | 1.09 | 2186 | 2322 | 0.94 |
| *tig* | 2,885,381 | 2,886,655 | - | 2233 | 1991 | 1.12 | 3464 | 3785 | 0.92 |
| *ysoA* | 2,886,883 | 2,887,815 | - | 558 | 635 | 0.88 | 745 | 986 | 0.76 |
| *leuD* | 2,888,005 | 2,888,604 | - | 1007 | 1505 | 0.67 | 1630 | 2053 | 0.79 |
| *leuC* | 2,888,617 | 2,890,035 | - | 2910 | 3903 | 0.75 | 3602 | 4323 | 0.83 |
| *leuB* | 2,890,085 | 2,891,182 | - | 2715 | 3638 | 0.75 | 3599 | 4309 | 0.84 |
| *leuA* | 2,891,203 | 2,892,759 | - | 2749 | 3632 | 0.76 | 3350 | 4040 | 0.83 |
| *ilvC* | 2,892,746 | 2,893,774 | - | 4120 | 5246 | 0.79 | 4523 | 5069 | 0.89 |
| *ilvH* | 2,893,791 | 2,894,315 | - | 3083 | 3915 | 0.79 | 3737 | 4205 | 0.89 |
| *ilvB* | 2,894,312 | 2,896,036 | - | 2257 | 2678 | 0.84 | 2840 | 3468 | 0.82 |
| *ysnD* | 2,896,852 | 2,897,187 | + | 63 | 65 | 0.98 | 49 | 53 | 0.92 |
| *ysnE* | 2,897,356 | 2,897,811 | + | 103 | 107 | 0.96 | 128 | 125 | 1.03 |
| *ysnF* | 2,897,995 | 2,898,855 | + | 2698 | 2693 | 1.00 | 1737 | 930 | 1.87 |
| *ysnB* | 2,899,086 | 2,899,601 | - | 2158 | 1489 | 1.45 | 1543 | 1177 | 1.31 |
| *ysnA* | 2,899,611 | 2,900,207 | - | 2486 | 1700 | 1.46 | 1819 | 1475 | 1.23 |
| *rph* | 2,900,220 | 2,900,957 | - | 2121 | 1428 | 1.49 | 1442 | 1192 | 1.21 |
| *gerM* | 2,901,068 | 2,902,168 | - | 144 | 133 | 1.09 | 87 | 99 | 0.88 |
| *racE* | 2,902,284 | 2,903,102 | - | 517 | 493 | 1.05 | 639 | 719 | 0.89 |
| *ysmB* | 2,903,110 | 2,903,550 | - | 756 | 721 | 1.05 | 938 | 1142 | 0.82 |
| *gerE* | 2,903,794 | 2,904,018 | - | 151 | 156 | 0.97 | 223 | 279 | 0.80 |
| *ysmA* | 2,904,134 | 2,904,577 | - | 227 | 323 | 0.70 | 368 | 517 | 0.71 |
| *sdhB* | 2,904,640 | 2,905,401 | - | 2443 | 2862 | 0.85 | 2758 | 2934 | 0.94 |
| *sdhA* | 2,905,404 | 2,907,164 | - | 2357 | 2698 | 0.87 | 3085 | 3347 | 0.92 |
| *sdhC* | 2,907,198 | 2,907,806 | - | 1714 | 1727 | 0.99 | 2263 | 2563 | 0.88 |
| *yslB* | 2,908,099 | 2,908,545 | + | 961 | 863 | 1.11 | 1131 | 860 | 1.32 |
| *lysC* | 2,908,589 | 2,909,815 | - | 1327 | 1406 | 0.94 | 1437 | 1836 | 0.78 |
| *uvrC* | 2,910,160 | 2,911,956 | - | 461 | 325 | 1.42 | 333 | 343 | 0.97 |
| *trxA* | 2,912,092 | 2,912,406 | - | 4849 | 4160 | 1.17 | 3549 | 3589 | 0.99 |
| *xsa* | 2,912,729 | 2,914,216 | - | 94 | 103 | 0.91 | 86 | 106 | 0.81 |
| *etfA* | 2,914,433 | 2,915,410 | - | 261 | 376 | 0.69 | 315 | 461 | 0.68 |
| *etfB* | 2,915,446 | 2,916,219 | - | 377 | 482 | 0.78 | 477 | 644 | 0.74 |
| *ysiB* | 2,916,234 | 2,917,010 | - | 264 | 328 | 0.81 | 317 | 422 | 0.75 |
| *ysiA* | 2,917,025 | 2,917,609 | - | 440 | 526 | 0.84 | 550 | 780 | 0.71 |
| *lcfA* | 2,917,714 | 2,919,396 | - | 591 | 567 | 1.04 | 578 | 602 | 0.96 |
| *yshE* | 2,919,585 | 2,919,989 | - | 616 | 601 | 1.02 | 800 | 891 | 0.90 |
| *mutSB* | 2,920,004 | 2,922,361 | - | 602 | 570 | 1.06 | 916 | 905 | 1.01 |
| *yshC* | 2,922,382 | 2,924,094 | - | 565 | 540 | 1.05 | 749 | 777 | 0.96 |
| *yshB* | 2,924,168 | 2,924,701 | - | 156 | 166 | 0.94 | 134 | 167 | 0.80 |
| *yshA* | 2,924,708 | 2,924,965 | - | 320 | 318 | 1.01 | 421 | 575 | 0.73 |
| *rnhC* | 2,925,099 | 2,926,040 | + | 281 | 247 | 1.13 | 306 | 343 | 0.89 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *pheT* | 2,926,076 | 2,928,490 | - | 901 | 983 | 0.92 | 1334 | 1337 | 1.00 | |
| *pheS* | 2,928,506 | 2,929,540 | - | 831 | 785 | 1.06 | 1413 | 1486 | 0.95 | |
| *ysgA* | 2,929,895 | 2,930,641 | - | 315 | 277 | 1.14 | 302 | 350 | 0.86 | |
| *sspI* | 2,930,760 | 2,930,975 | + | 37 | 46 | 0.81 | 36 | 36 | 0.98 | |
| *ysfB* | 2,931,044 | 2,932,150 | + | 131 | 115 | 1.14 | 152 | 161 | 0.95 | |
| *ysfC* | 2,932,253 | 2,933,665 | + | 351 | 245 | 1.43 | 359 | 374 | 0.96 | |
| *ysfD* | 2,933,662 | 2,934,996 | + | 289 | 215 | 1.35 | 238 | 245 | 0.97 | |
| *ysfE* | 2,935,035 | 2,935,277 | - | 384 | 414 | 0.93 | 399 | 430 | 0.93 | |
| *cstA* | 2,935,450 | 2,937,246 | - | 227 | 251 | 0.90 | 238 | 271 | 0.88 | |
| *abfA* | 2,937,398 | 2,938,900 | - | 80 | 82 | 0.98 | 70 | 85 | 0.82 | |
| *araQ* | 2,938,919 | 2,939,764 | - | 51 | 52 | 0.99 | 45 | 49 | 0.92 | |
| *araP* | 2,939,765 | 2,940,706 | - | 74 | 75 | 0.99 | 64 | 72 | 0.89 | |
| *araN* | 2,940,742 | 2,942,043 | - | 74 | 76 | 0.96 | 68 | 75 | 0.92 | |
| *araM* | 2,942,074 | 2,943,258 | - | 70 | 69 | 1.01 | 60 | 71 | 0.85 | |
| *araL* | 2,943,255 | 2,944,073 | - | 66 | 69 | 0.96 | 56 | 65 | 0.86 | |
| *araD* | 2,944,051 | 2,944,740 | - | 58 | 62 | 0.93 | 57 | 65 | 0.88 | |
| *araB* | 2,944,757 | 2,946,439 | - | 131 | 140 | 0.94 | 134 | 138 | 0.97 | |
| *araA* | 2,946,453 | 2,947,949 | - | 145 | 142 | 1.02 | 128 | 152 | 0.84 | |
| *abnA* | 2,948,157 | 2,949,098 | - | 42 | 43 | 0.98 | 34 | 38 | 0.90 | |
| *ysdC* | 2,949,295 | 2,950,380 | - | 1224 | 1096 | 1.12 | 1554 | 1466 | 1.06 | |
| *ysdB* | 2,950,564 | 2,950,956 | + | 1170 | 1440 | 0.81 | 956 | 961 | 0.99 | |
| *ysdA* | 2,950,972 | 2,951,241 | - | 55 | 69 | 0.80 | 129 | 134 | 0.96 | |
| *rplT* | 2,951,298 | 2,951,657 | - | 719 | 1010 | 0.71 | 1373 | 1597 | 0.86 | |
| *rpmI* | 2,951,689 | 2,951,889 | - | 4590 | 5266 | 0.87 | 4704 | 4813 | 0.98 | |
| *infC* | 2,951,902 | 2,952,423 | - | 4238 | 4789 | 0.89 | 4363 | 4414 | 0.99 | |
| *yscA* | 2,952,595 | 2,952,819 | + | 17 | 25 | 0.68 | 25 | 22 | 1.14 | |
| *yscB* | 2,952,869 | 2,953,501 | + | 2048 | 2291 | 0.89 | 1737 | 1691 | 1.03 | AbrB and SigD regulon |
| *ysbB* | 2,953,533 | 2,954,228 | - | 101 | 110 | 0.92 | 70 | 96 | 0.73 | |
| *ysbA* | 2,954,250 | 2,954,690 | - | 48 | 52 | 0.92 | 48 | 52 | 0.92 | |
| *lytT* | 2,954,824 | 2,955,549 | - | 224 | 174 | 1.29 | 337 | 330 | 1.02 | |
| *lytS* | 2,955,527 | 2,957,308 | - | 165 | 146 | 1.13 | 174 | 200 | 0.87 | |
| *ysaA* | 2,957,475 | 2,958,257 | + | 667 | 623 | 1.07 | 904 | 1114 | 0.81 | |
| *thrS* | 2,958,298 | 2,960,229 | - | 770 | 833 | 0.92 | 1297 | 1376 | 0.94 | |
| *ytxC* | 2,960,626 | 2,961,471 | - | 293 | 236 | 1.24 | 388 | 405 | 0.96 | |
| *ytxB* | 2,961,550 | 2,962,191 | - | 421 | 328 | 1.28 | 599 | 576 | 1.04 | |
| *dnaI* | 2,962,225 | 2,963,160 | - | 344 | 285 | 1.21 | 460 | 498 | 0.92 | |
| *dnaB* | 2,963,188 | 2,964,606 | - | 206 | 197 | 1.04 | 266 | 332 | 0.80 | |
| *ytcG* | 2,964,721 | 2,965,179 | - | 138 | 151 | 0.91 | 227 | 242 | 0.94 | |
| *speD* | 2,965,453 | 2,965,839 | - | 1061 | 1449 | 0.73 | 1113 | 1235 | 0.90 | |
| *gapB* | 2,966,072 | 2,967,094 | - | 75 | 76 | 1.00 | 77 | 88 | 0.87 | |
| *ytcD* | 2,967,300 | 2,967,680 | - | 90 | 83 | 1.07 | 116 | 118 | 0.98 | |
| *ytbD* | 2,967,864 | 2,969,054 | + | 67 | 64 | 1.05 | 51 | 55 | 0.92 | |
| *ytbE* | 2,969,078 | 2,969,920 | + | 90 | 89 | 1.01 | 89 | 93 | 0.96 | |
| *ytaG* | 2,969,962 | 2,970,555 | - | 597 | 421 | 1.42 | 879 | 741 | 1.19 | |
| *ytaF* | 2,970,717 | 2,971,196 | - | 842 | 615 | 1.37 | 1379 | 1076 | 1.28 | |
| *mutM* | 2,971,368 | 2,972,204 | - | 834 | 641 | 1.30 | 1228 | 964 | 1.27 | |
| *polA* | 2,972,221 | 2,974,863 | - | 736 | 504 | 1.46 | 925 | 816 | 1.13 | |
| *phoR* | 2,975,107 | 2,976,846 | - | 480 | 454 | 1.06 | 537 | 595 | 0.90 | |
| *phoP* | 2,976,839 | 2,977,561 | - | 442 | 477 | 0.93 | 444 | 547 | 0.81 | |
| *mdh* | 2,977,773 | 2,978,711 | - | 6218 | 6826 | 0.91 | 5291 | 5258 | 1.01 | |
| *icd* | 2,978,755 | 2,980,026 | - | 7020 | 7500 | 0.94 | 6242 | 6093 | 1.02 | |
| *citZ* | 2,980,190 | 2,981,308 | - | 5717 | 6245 | 0.92 | 4841 | 4803 | 1.01 | |
| *ytwI* | 2,981,642 | 2,982,106 | - | 131 | 140 | 0.93 | 207 | 222 | 0.93 | |
| *ytvI* | 2,982,203 | 2,983,318 | + | 43 | 45 | 0.95 | 34 | 42 | 0.81 | |
| *ytzA* | 2,983,351 | 2,983,734 | - | 1727 | 1584 | 1.09 | 1954 | 1784 | 1.10 | |
| *pyk* | 2,983,827 | 2,985,584 | - | 2893 | 2670 | 1.08 | 2945 | 2828 | 1.04 | |
| *pfkA* | 2,985,627 | 2,986,586 | - | 2205 | 2034 | 1.08 | 2704 | 2733 | 0.99 | |
| *accA* | 2,986,770 | 2,987,747 | - | 1406 | 1337 | 1.05 | 1920 | 2056 | 0.93 | |
| *accD* | 2,987,732 | 2,988,520 | - | 1607 | 1573 | 1.02 | 2284 | 2377 | 0.96 | Spo0A regulon |
| *ytsJ* | 2,988,939 | 2,990,171 | - | 1091 | 1092 | 1.00 | 1261 | 1373 | 0.92 | |
| *dnaE* | 2,990,308 | 2,993,655 | - | 480 | 440 | 1.09 | 436 | 427 | 1.02 | |
| *ytrI* | 2,994,133 | 2,994,636 | + | 31 | 34 | 0.93 | 36 | 36 | 0.99 | |
| *ytqI* | 2,994,947 | 2,995,888 | - | 340 | 361 | 0.94 | 619 | 731 | 0.85 | |
| *ytpI* | 2,996,019 | 2,996,321 | + | 597 | 478 | 1.25 | 405 | 437 | 0.93 | |
| *ytoI* | 2,996,340 | 2,997,659 | - | 245 | 249 | 0.98 | 255 | 311 | 0.82 | |
| *ytnM* | 2,997,835 | 2,998,737 | - | 66 | 69 | 0.96 | 58 | 63 | 0.91 | |
| *ytnL* | 2,998,756 | 3,000,006 | - | 58 | 58 | 1.00 | 57 | 57 | 1.00 | |
| *ribR* | 3,000,024 | 3,000,716 | - | 52 | 51 | 1.01 | 56 | 52 | 1.07 | |
| *ytnJ* | 3,000,763 | 3,002,091 | - | 61 | 67 | 0.91 | 59 | 63 | 0.94 | |
| *ytnI* | 3,002,088 | 3,002,369 | - | 69 | 68 | 1.01 | 79 | 79 | 1.00 | |
| *ytmO* | 3,002,384 | 3,003,388 | - | 93 | 95 | 0.98 | 80 | 95 | 0.84 | |
| *ytmN* | 3,003,385 | 3,004,164 | - | 123 | 120 | 1.02 | 90 | 118 | 0.77 | |
| *ytmM* | 3,004,161 | 3,004,868 | - | 46 | 45 | 1.00 | 41 | 44 | 0.93 | |
| *ytmL* | 3,004,898 | 3,005,617 | - | 42 | 41 | 1.03 | 40 | 44 | 0.91 | |
| *ytmK* | 3,005,639 | 3,006,451 | - | 60 | 53 | 1.13 | 51 | 62 | 0.83 | |
| *ytmJ* | 3,006,465 | 3,007,274 | - | 70 | 64 | 1.10 | 58 | 70 | 0.83 | |
| *ytmI* | 3,007,288 | 3,007,824 | - | 49 | 43 | 1.12 | 44 | 56 | 0.78 | |
| *ytlI* | 3,007,977 | 3,008,903 | + | 72 | 55 | 1.31 | 95 | 153 | 0.62 | |
| *ytkL* | 3,008,954 | 3,009,637 | - | 2853 | 2179 | 1.31 | 1701 | 1330 | 1.28 | |
| *ytkK* | 3,009,700 | 3,010,467 | - | 590 | 495 | 1.19 | 759 | 847 | 0.90 | |
| *ytzD* | 3,010,594 | 3,010,830 | - | 263 | 300 | 0.88 | 997 | 1284 | 0.78 | |
| *argH* | 3,010,790 | 3,012,175 | - | 835 | 905 | 0.92 | 2398 | 2747 | 0.87 | |
| *argG* | 3,012,172 | 3,013,383 | - | 477 | 454 | 1.05 | 1955 | 2373 | 0.82 | |
| *moaB* | 3,013,553 | 3,014,065 | - | 246 | 192 | 1.28 | 392 | 337 | 1.16 | |
| *ackA* | 3,014,150 | 3,015,337 | - | 734 | 591 | 1.24 | 1311 | 1159 | 1.13 | |
| *ytxK* | 3,015,685 | 3,016,674 | - | 637 | 617 | 1.03 | 685 | 667 | 1.03 | |
| *tpx* | 3,016,735 | 3,017,238 | - | 3341 | 3580 | 0.93 | 2867 | 2731 | 1.05 | |
| *ytfJ* | 3,017,348 | 3,017,803 | - | 47 | 52 | 0.90 | 51 | 57 | 0.89 | |
| *ytfI* | 3,017,817 | 3,018,497 | - | 65 | 67 | 0.97 | 78 | 77 | 1.02 | |
| *yteJ* | 3,018,572 | 3,019,066 | - | 986 | 1155 | 0.85 | 2593 | 2606 | 1.00 | |
| *sppA* | 3,019,079 | 3,020,086 | - | 902 | 923 | 0.98 | 1766 | 1936 | 0.91 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ytdI* | 3,020,272 | 3,021,075 | + | 839 | 1126 | 0.75 | 1092 | 1159 | 0.94 | |
| *ytcJ* | 3,021,107 | 3,022,696 | - | 661 | 572 | 1.15 | 1068 | 928 | 1.15 | |
| *ytcI* | 3,022,716 | 3,024,311 | - | 631 | 486 | 1.30 | 1133 | 1043 | 1.09 | |
| *sspA* | 3,024,484 | 3,024,693 | - | 189 | 156 | 1.21 | 287 | 267 | 1.07 | |
| *ytbJ* | 3,024,920 | 3,025,996 | - | 286 | 221 | 1.29 | 513 | 473 | 1.08 | |
| *nifZ* | 3,026,000 | 3,027,145 | - | 209 | 189 | 1.11 | 267 | 264 | 1.01 | |
| *braB* | 3,027,340 | 3,028,677 | + | 86 | 75 | 1.15 | 231 | 184 | 1.26 | |
| *ezrA* | 3,028,772 | 3,030,460 | - | 1229 | 1290 | 0.95 | 1299 | 1590 | 0.82 | |
| *hisJ* | 3,030,657 | 3,031,463 | + | 465 | 491 | 0.95 | 415 | 511 | 0.81 | |
| *yttP* | 3,031,460 | 3,032,083 | - | 59 | 68 | 0.86 | 66 | 78 | 0.85 | Spo0A regulon |
| *ytsP* | 3,032,464 | 3,032,700 | + | 297 | 299 | 0.99 | 580 | 625 | 0.93 | |
| *ytrP* | 3,032,738 | 3,034,477 | - | 458 | 319 | 1.44 | 258 | 272 | 0.95 | |
| *rpsD* | 3,034,772 | 3,035,374 | + | 825 | 1051 | 0.78 | 1497 | 1737 | 0.86 | |
| *tyrS* | 3,035,645 | 3,036,913 | - | 487 | 481 | 1.01 | 1163 | 1311 | 0.89 | |
| *acsA* | 3,037,255 | 3,038,973 | - | 833 | 998 | 0.83 | 1091 | 1382 | 0.79 | |
| *acuA* | 3,039,134 | 3,039,766 | + | 409 | 310 | 1.32 | 413 | 417 | 0.99 | |
| *acuB* | 3,039,793 | 3,040,437 | + | 434 | 328 | 1.32 | 464 | 495 | 0.94 | |
| *acuC* | 3,040,434 | 3,041,597 | + | 470 | 387 | 1.21 | 523 | 537 | 0.97 | |
| *ytxE* | 3,041,608 | 3,042,336 | - | 90 | 100 | 0.91 | 179 | 240 | 0.74 | |
| *ytxD* | 3,042,326 | 3,043,144 | - | 77 | 86 | 0.89 | 196 | 217 | 0.91 | |
| *ccpA* | 3,043,207 | 3,044,211 | - | 489 | 494 | 0.99 | 822 | 906 | 0.91 | |
| *aroA* | 3,044,486 | 3,045,562 | - | 1887 | 1857 | 1.02 | 3399 | 3409 | 1.00 | |
| *ytxJ* | 3,045,798 | 3,046,124 | - | 4710 | 5239 | 0.90 | 2277 | 1916 | 1.19 | |
| *ytxH* | 3,046,148 | 3,046,606 | - | 6707 | 7459 | 0.90 | 3929 | 3556 | 1.10 | |
| *ytxG* | 3,046,634 | 3,047,065 | - | 6740 | 7410 | 0.91 | 4004 | 3358 | 1.19 | |
| *murC* | 3,047,227 | 3,048,525 | - | 992 | 865 | 1.15 | 1375 | 1484 | 0.93 | |
| *ytpT* | 3,048,775 | 3,050,883 | - | 624 | 381 | 1.64 | 1091 | 906 | 1.21 | |
| *ytpS* | 3,050,838 | 3,051,632 | - | 510 | 388 | 1.32 | 679 | 660 | 1.03 | |
| *ytpR* | 3,051,792 | 3,052,397 | - | 1172 | 1004 | 1.17 | 2061 | 1718 | 1.20 | |
| *ytpQ* | 3,052,413 | 3,053,222 | - | 1049 | 755 | 1.39 | 1650 | 1439 | 1.15 | |
| *ytpP* | 3,053,237 | 3,053,560 | - | 878 | 611 | 1.44 | 1354 | 1326 | 1.02 | |
| *ytoQ* | 3,053,795 | 3,054,241 | + | 752 | 781 | 0.96 | 1220 | 1260 | 0.97 | |
| *ytoP* | 3,054,296 | 3,055,369 | - | 742 | 747 | 0.99 | 840 | 897 | 0.94 | |
| *ytzB* | 3,055,528 | 3,055,845 | + | 2058 | 1893 | 1.09 | 2298 | 2078 | 1.11 | |
| *malS* | 3,055,898 | 3,057,598 | - | 3385 | 2698 | 1.25 | 3027 | 2267 | 1.34 | |
| *ytnP* | 3,057,680 | 3,058,450 | - | 3792 | 2993 | 1.27 | 3385 | 2574 | 1.32 | |
| *ytmQ* | 3,058,596 | 3,059,237 | - | 256 | 300 | 0.85 | 327 | 424 | 0.77 | |
| *ytzH* | 3,059,444 | 3,059,722 | + | 22 | 27 | 0.83 | 25 | 27 | 0.92 | |
| *ytmP* | 3,059,723 | 3,060,532 | - | 445 | 455 | 0.98 | 477 | 565 | 0.85 | |
| *amyX* | 3,060,700 | 3,062,856 | - | 598 | 433 | 1.38 | 581 | 576 | 1.01 | |
| *ytlR* | 3,062,882 | 3,063,811 | - | 1137 | 862 | 1.32 | 976 | 938 | 1.04 | |
| *ytlQ* | 3,063,860 | 3,064,774 | - | 1111 | 989 | 1.12 | 1049 | 916 | 1.15 | |
| *ytlP* | 3,064,800 | 3,065,351 | - | 609 | 515 | 1.18 | 773 | 658 | 1.17 | |
| *ytkP* | 3,065,500 | 3,066,435 | + | 204 | 197 | 1.04 | 285 | 322 | 0.89 | |
| *ytjP* | 3,066,469 | 3,067,860 | - | 1063 | 834 | 1.27 | 1363 | 1059 | 1.29 | |
| *ytiP* | 3,067,957 | 3,069,255 | + | 107 | 87 | 1.22 | 116 | 120 | 0.97 | |
| *ythQ* | 3,069,294 | 3,070,451 | - | 452 | 399 | 1.13 | 656 | 657 | 1.00 | |
| *ythP* | 3,070,448 | 3,071,158 | - | 705 | 609 | 1.16 | 1000 | 939 | 1.07 | |
| *ytzE* | 3,071,449 | 3,071,670 | + | 649 | 887 | 0.73 | 306 | 320 | 0.96 | |
| *ytzF* | 3,071,791 | 3,072,264 | - | 207 | 164 | 1.26 | 241 | 238 | 1.01 | |
| *ytzG* | 3,072,249 | 3,072,509 | - | 195 | 173 | 1.13 | 230 | 246 | 0.94 | |
| *ytgP* | 3,072,578 | 3,074,212 | - | 312 | 266 | 1.17 | 359 | 421 | 0.85 | |
| *ytfP* | 3,074,720 | 3,075,676 | + | 541 | 435 | 1.24 | 527 | 457 | 1.15 | |
| *opuD* | 3,075,865 | 3,077,403 | + | 748 | 558 | 1.34 | 515 | 449 | 1.15 | |
| *yteV* | 3,077,440 | 3,077,622 | - | 22 | 33 | 0.66 | 24 | 27 | 0.89 | |
| *yteU* | 3,077,690 | 3,078,358 | - | 59 | 58 | 1.02 | 69 | 63 | 1.10 | |
| *yteT* | 3,078,380 | 3,079,666 | - | 99 | 98 | 1.00 | 83 | 90 | 0.92 | |
| *yteS* | 3,079,678 | 3,080,157 | - | 52 | 49 | 1.04 | 42 | 50 | 0.84 | |
| *yteR* | 3,080,178 | 3,081,299 | - | 92 | 94 | 0.97 | 64 | 77 | 0.82 | |
| *yteQ* | 3,081,307 | 3,081,798 | - | 90 | 89 | 1.01 | 73 | 91 | 0.80 | |
| *yteP* | 3,081,893 | 3,082,273 | - | 35 | 39 | 0.90 | 34 | 35 | 0.95 | |
| *ytdP* | 3,082,489 | 3,084,807 | + | 113 | 116 | 0.97 | 111 | 107 | 1.04 | |
| *ytcQ* | 3,084,848 | 3,086,317 | - | 162 | 141 | 1.15 | 110 | 111 | 0.99 | |
| *ytcP* | 3,086,370 | 3,087,230 | - | 90 | 89 | 1.01 | 55 | 61 | 0.90 | |
| *ytbQ* | 3,087,437 | 3,088,042 | - | 1068 | 1032 | 1.03 | 1360 | 1324 | 1.03 | |
| *bioI* | 3,088,275 | 3,089,462 | - | 947 | 1003 | 0.95 | 1557 | 1506 | 1.03 | |
| *bioB* | 3,089,531 | 3,090,538 | - | 1838 | 1844 | 1.00 | 2687 | 2663 | 1.01 | |
| *bioD* | 3,090,541 | 3,091,236 | - | 1955 | 1814 | 1.08 | 2442 | 2271 | 1.07 | |
| *bioF* | 3,091,233 | 3,092,402 | - | 3341 | 3116 | 1.07 | 3686 | 3391 | 1.09 | |
| *bioA* | 3,092,392 | 3,093,738 | - | 3169 | 2931 | 1.08 | 3215 | 2990 | 1.08 | |
| *bioW* | 3,093,728 | 3,094,507 | - | 2557 | 2393 | 1.07 | 2960 | 2712 | 1.09 | |
| *ytaP* | 3,094,714 | 3,095,613 | - | 68 | 73 | 0.93 | 69 | 72 | 0.95 | |
| *msmR* | 3,095,831 | 3,096,865 | + | 88 | 92 | 0.96 | 84 | 102 | 0.83 | |
| *msmE* | 3,096,899 | 3,098,179 | + | 82 | 103 | 0.80 | 86 | 116 | 0.74 | |
| *amyD* | 3,098,172 | 3,099,083 | + | 57 | 74 | 0.77 | 65 | 85 | 0.77 | |
| *amyC* | 3,099,080 | 3,099,910 | + | 74 | 84 | 0.88 | 69 | 93 | 0.74 | |
| *melA* | 3,099,930 | 3,101,228 | + | 137 | 143 | 0.96 | 154 | 182 | 0.85 | |
| *ytwF* | 3,101,250 | 3,101,456 | - | 258 | 185 | 1.40 | 306 | 302 | 1.01 | |
| *leuS* | 3,101,678 | 3,104,092 | - | 1016 | 838 | 1.21 | 1522 | 1450 | 1.05 | |
| *ytvB* | 3,104,519 | 3,104,854 | - | 204 | 154 | 1.33 | 152 | 172 | 0.88 | |
| *ytvA* | 3,105,259 | 3,106,044 | + | 251 | 192 | 1.31 | 287 | 229 | 1.26 | |
| *yttB* | 3,106,281 | 3,107,474 | - | 71 | 61 | 1.15 | 63 | 64 | 0.98 | |
| *yttA* | 3,107,669 | 3,108,409 | + | 356 | 330 | 1.08 | 445 | 514 | 0.87 | |
| *ytsD* | 3,108,446 | 3,110,386 | - | 118 | 102 | 1.15 | 112 | 116 | 0.97 | |
| *ytsC* | 3,110,376 | 3,111,137 | - | 104 | 93 | 1.11 | 101 | 112 | 0.90 | |
| *ytsB* | 3,111,239 | 3,112,243 | - | 296 | 272 | 1.09 | 372 | 373 | 1.00 | |
| *ytsA* | 3,112,236 | 3,112,931 | - | 223 | 213 | 1.05 | 240 | 265 | 0.90 | |
| *ytrF* | 3,113,028 | 3,114,338 | - | 506 | 586 | 0.86 | 1042 | 1284 | 0.81 | |
| *ytrE* | 3,114,328 | 3,115,023 | - | 333 | 346 | 0.96 | 619 | 810 | 0.76 | |
| *ytrD* | 3,115,038 | 3,116,015 | - | 219 | 245 | 0.90 | 428 | 606 | 0.71 | |
| *ytrC* | 3,116,045 | 3,117,031 | - | 241 | 250 | 0.96 | 412 | 592 | 0.70 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *ytrB* | 3,117,025 | 3,117,903 | - | 265 | 279 | 0.95 | 394 | 584 | 0.67 | |
| *ytrA* | 3,117,896 | 3,118,288 | - | 232 | 253 | 0.92 | 306 | 507 | 0.60 | |
| *ytzC* | 3,118,614 | 3,118,886 | - | 137 | 138 | 1.00 | 90 | 67 | 1.34 | |
| *ytqA* | 3,119,048 | 3,120,016 | + | 308 | 332 | 0.93 | 411 | 568 | 0.72 | |
| *ytqB* | 3,120,013 | 3,120,597 | + | 347 | 352 | 0.98 | 565 | 670 | 0.84 | |
| *ytpB* | 3,120,587 | 3,121,690 | - | 1034 | 802 | 1.29 | 1139 | 905 | 1.26 | |
| *ytpA* | 3,121,711 | 3,122,490 | - | 1326 | 966 | 1.37 | 1346 | 1117 | 1.20 | |
| *ytoA* | 3,122,539 | 3,123,054 | + | 187 | 222 | 0.84 | 255 | 306 | 0.83 | |
| *ytnA* | 3,123,299 | 3,124,690 | - | 437 | 392 | 1.11 | 783 | 810 | 0.97 | |
| *asnB* | 3,124,826 | 3,126,724 | - | 674 | 528 | 1.28 | 1193 | 1266 | 0.94 | |
| *metK* | 3,126,874 | 3,128,076 | - | 1042 | 993 | 1.05 | 1349 | 1595 | 0.85 | |
| *pckA* | 3,128,579 | 3,130,162 | + | 156 | 164 | 0.95 | 177 | 232 | 0.76 | |
| *ytmB* | 3,130,201 | 3,130,443 | - | 582 | 498 | 1.17 | 310 | 378 | 0.82 | |
| *ytmA* | 3,130,495 | 3,131,268 | - | 189 | 151 | 1.26 | 200 | 193 | 1.04 | |
| *ytlA* | 3,131,419 | 3,132,108 | + | 50 | 56 | 0.89 | 47 | 52 | 0.91 | |
| *ytlB* | 3,132,105 | 3,132,422 | + | 36 | 42 | 0.86 | 27 | 29 | 0.95 | |
| *ytlC* | 3,132,435 | 3,133,217 | + | 42 | 42 | 1.00 | 37 | 40 | 0.93 | |
| *ytlD* | 3,133,192 | 3,134,004 | + | 38 | 41 | 0.92 | 35 | 35 | 0.99 | |
| *ytkD* | 3,134,031 | 3,134,507 | - | 321 | 316 | 1.01 | 283 | 306 | 0.92 | |
| *ytkC* | 3,134,716 | 3,135,120 | - | 144 | 129 | 1.12 | 71 | 62 | 1.15 | |
| *dps* | 3,135,286 | 3,135,723 | - | 7707 | 8266 | 0.93 | 5264 | 4484 | 1.17 | |
| *ytkA* | 3,135,986 | 3,136,423 | - | 1188 | 1022 | 1.16 | 670 | 554 | 1.21 | |
| *luxS* | 3,136,543 | 3,137,016 | - | 1284 | 1179 | 1.09 | 1206 | 1055 | 1.14 | |
| *ytjA* | 3,137,145 | 3,137,372 | + | 189 | 226 | 0.84 | 131 | 207 | 0.63 | |
| *ytiB* | 3,137,369 | 3,137,932 | - | 785 | 737 | 1.07 | 707 | 786 | 0.90 | |
| *ytiA* | 3,138,026 | 3,138,274 | - | 2348 | 1869 | 1.26 | 1786 | 804 | 2.22 | |
| *ythA* | 3,138,494 | 3,139,810 | + | 65 | 67 | 0.97 | 49 | 60 | 0.82 | |
| *ythB* | 3,139,854 | 3,140,894 | + | 55 | 51 | 1.08 | 56 | 52 | 1.06 | |
| *ythC* | 3,140,943 | 3,141,110 | + | 126 | 113 | 1.11 | 87 | 118 | 0.74 | |
| *mntD* | 3,141,125 | 3,142,012 | - | 1857 | 1620 | 1.15 | 2162 | 1884 | 1.15 | |
| *mntC* | 3,142,002 | 3,143,309 | - | 2561 | 2207 | 1.16 | 3102 | 2773 | 1.12 | |
| *mntB* | 3,143,315 | 3,144,067 | - | 2709 | 2277 | 1.19 | 3461 | 3221 | 1.07 | |
| *mntA* | 3,144,086 | 3,145,006 | - | 2674 | 1984 | 1.35 | 3708 | 3576 | 1.04 | |
| *menC* | 3,145,286 | 3,146,401 | - | 1104 | 749 | 1.47 | 637 | 423 | 1.50 | |
| *menE* | 3,146,398 | 3,147,858 | - | 1108 | 816 | 1.36 | 696 | 499 | 1.40 | |
| *menB* | 3,147,949 | 3,148,764 | - | 2420 | 2034 | 1.19 | 2204 | 1824 | 1.21 | |
| *ytxM* | 3,148,799 | 3,149,623 | - | 578 | 400 | 1.44 | 555 | 410 | 1.35 | |
| *menD* | 3,149,611 | 3,151,353 | - | 400 | 287 | 1.40 | 440 | 361 | 1.22 | |
| *menF* | 3,151,350 | 3,152,765 | - | 466 | 336 | 1.39 | 673 | 619 | 1.09 | |
| *yteA* | 3,153,054 | 3,153,773 | + | 35 | 40 | 0.89 | 33 | 37 | 0.87 | |
| *ytdA* | 3,153,782 | 3,154,600 | - | 68 | 64 | 1.06 | 61 | 63 | 0.96 | |
| *ytcA* | 3,154,772 | 3,156,058 | + | 105 | 101 | 1.04 | 65 | 76 | 0.85 | |
| *ytcB* | 3,156,055 | 3,157,005 | + | 44 | 45 | 0.99 | 36 | 43 | 0.82 | |
| *ytcC* | 3,157,008 | 3,158,231 | + | 40 | 43 | 0.94 | 35 | 38 | 0.91 | |
| *ytxO* | 3,158,305 | 3,158,736 | - | 48 | 59 | 0.81 | 56 | 54 | 1.03 | |
| *cotS* | 3,158,738 | 3,159,793 | - | 127 | 138 | 0.92 | 123 | 144 | 0.86 | |
| *cotSA* | 3,159,808 | 3,160,941 | - | 156 | 148 | 1.05 | 127 | 138 | 0.92 | |
| *ytaA* | 3,161,131 | 3,162,204 | + | 37 | 42 | 0.87 | 38 | 41 | 0.94 | |
| *ytaB* | 3,162,284 | 3,162,751 | + | 1025 | 720 | 1.42 | 429 | 170 | 2.53 | |
| *glgP* | 3,162,782 | 3,165,178 | - | 100 | 96 | 1.04 | 111 | 112 | 0.99 | |
| *glgA* | 3,165,165 | 3,166,619 | - | 114 | 113 | 1.01 | 118 | 129 | 0.92 | |
| *glgD* | 3,166,616 | 3,167,647 | - | 92 | 91 | 1.01 | 96 | 100 | 0.96 | |
| *glgC* | 3,167,671 | 3,168,813 | - | 67 | 65 | 1.02 | 69 | 75 | 0.92 | |
| *glgB* | 3,168,810 | 3,170,693 | - | 49 | 55 | 0.89 | 49 | 57 | 0.86 | |
| *yuaJ* | 3,178,345 | 3,178,923 | + | 1058 | 1147 | 0.92 | 939 | 985 | 0.95 | |
| *yuaI* | 3,178,965 | 3,179,486 | - | 1572 | 1521 | 1.03 | 1867 | 2009 | 0.93 | |
| *yuaG* | 3,179,504 | 3,181,033 | - | 1603 | 1533 | 1.05 | 2194 | 2426 | 0.90 | |
| *yuaF* | 3,181,054 | 3,181,578 | - | 964 | 880 | 1.10 | 1301 | 1521 | 0.86 | |
| *yuaE* | 3,181,746 | 3,182,234 | + | 634 | 607 | 1.05 | 908 | 926 | 0.98 | |
| *yuaD* | 3,182,240 | 3,182,818 | - | 488 | 404 | 1.21 | 541 | 473 | 1.14 | |
| *gbsB* | 3,182,906 | 3,184,117 | - | 96 | 98 | 0.97 | 126 | 135 | 0.93 | |
| *gbsA* | 3,184,131 | 3,185,603 | - | 129 | 138 | 0.94 | 141 | 171 | 0.82 | |
| *yuaC* | 3,185,802 | 3,186,344 | + | 84 | 84 | 1.00 | 135 | 206 | 0.66 | |
| *yuaB* | 3,186,542 | 3,187,087 | + | 542 | 398 | 1.36 | 705 | 533 | 1.32 | AbrB regulon |
| *yuaA* | 3,187,453 | 3,188,121 | + | 144 | 133 | 1.08 | 143 | 144 | 0.99 | |
| *yubG* | 3,188,128 | 3,189,465 | + | 123 | 109 | 1.12 | 119 | 119 | 1.00 | |
| *yubF* | 3,189,501 | 3,189,764 | - | 1172 | 1290 | 0.91 | 2172 | 2097 | 1.04 | |
| *yubE* | 3,189,873 | 3,190,721 | - | 181 | 194 | 0.93 | 254 | 316 | 0.81 | |
| *yubD* | 3,190,882 | 3,192,417 | - | 316 | 254 | 1.24 | 210 | 218 | 0.96 | |
| *yubC* | 3,192,902 | 3,193,387 | + | 26 | 30 | 0.86 | 29 | 31 | 0.94 | |
| *yubB* | 3,193,674 | 3,194,504 | - | 353 | 300 | 1.18 | 542 | 499 | 1.09 | |
| *yubA* | 3,194,597 | 3,195,763 | - | 506 | 408 | 1.24 | 507 | 529 | 0.96 | |
| *yulF* | 3,195,945 | 3,196,931 | + | 405 | 338 | 1.20 | 585 | 544 | 1.07 | |
| *yulE* | 3,196,972 | 3,198,246 | - | 80 | 85 | 0.94 | 82 | 91 | 0.90 | |
| *yulD* | 3,198,272 | 3,198,586 | - | 69 | 67 | 1.03 | 93 | 91 | 1.02 | |
| *yulC* | 3,198,604 | 3,200,061 | - | 155 | 141 | 1.10 | 188 | 204 | 0.92 | |
| *yulB* | 3,200,066 | 3,200,842 | - | 167 | 157 | 1.06 | 204 | 210 | 0.97 | |
| *yuxG* | 3,200,899 | 3,202,968 | - | 78 | 86 | 0.91 | 83 | 106 | 0.78 | |
| *tlpB* | 3,203,106 | 3,205,094 | - | 906 | 678 | 1.34 | 853 | 544 | 1.57 | SigD regulon |
| *mcpA* | 3,205,208 | 3,207,193 | - | 2341 | 2982 | 0.79 | 1699 | 1948 | 0.87 | SigD regulon |
| *tlpA* | 3,207,319 | 3,209,307 | - | 778 | 790 | 0.98 | 698 | 701 | 1.00 | AbrB and SigD regulon |
| *mcpB* | 3,209,484 | 3,211,472 | - | 2298 | 2752 | 0.84 | 1389 | 1540 | 0.90 | SigD regulon |
| *tgl* | 3,211,630 | 3,212,367 | + | 63 | 68 | 0.93 | 63 | 66 | 0.95 | |
| *yugU* | 3,212,892 | 3,213,320 | - | 1669 | 1352 | 1.23 | 917 | 529 | 1.73 | |
| *yugT* | 3,213,410 | 3,215,074 | - | 79 | 72 | 1.10 | 76 | 76 | 1.01 | |
| *yugS* | 3,215,201 | 3,216,505 | - | 66 | 75 | 0.88 | 61 | 70 | 0.87 | |
| *yugP* | 3,216,533 | 3,217,210 | - | 207 | 218 | 0.95 | 258 | 284 | 0.91 | |
| *yugO* | 3,217,562 | 3,218,878 | + | 195 | 130 | 1.50 | 64 | 68 | 0.95 | |
| *yugN* | 3,218,875 | 3,219,279 | - | 211 | 235 | 0.90 | 175 | 212 | 0.83 | |
| *yugM* | 3,219,339 | 3,219,710 | - | 270 | 321 | 0.84 | 300 | 327 | 0.92 | |
| *pgi* | 3,219,769 | 3,221,124 | - | 1578 | 1506 | 1.05 | 2218 | 2032 | 1.09 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yugK* | 3,221,236 | 3,222,408 | - | 289 | 315 | 0.92 | 399 | 354 | 1.13 | |
| *yugJ* | 3,222,512 | 3,223,675 | - | 1650 | 1887 | 0.87 | 1776 | 1669 | 1.06 | |
| *yuzA* | 3,223,905 | 3,224,141 | + | 735 | 485 | 1.52 | 429 | 174 | 2.46 | |
| *yugI* | 3,224,219 | 3,224,611 | - | 2049 | 1972 | 1.04 | 2710 | 3103 | 0.87 | |
| *alaT* | 3,224,813 | 3,225,973 | - | 1037 | 1050 | 0.99 | 1323 | 1609 | 0.82 | |
| *alaR* | 3,225,974 | 3,226,474 | - | 1357 | 1458 | 0.93 | 1677 | 2049 | 0.82 | |
| *yugF* | 3,226,622 | 3,227,443 | + | 80 | 70 | 1.15 | 64 | 66 | 0.98 | |
| *yugE* | 3,227,472 | 3,227,738 | - | 294 | 233 | 1.26 | 323 | 289 | 1.12 | |
| *patB* | 3,227,819 | 3,228,982 | + | 260 | 312 | 0.84 | 398 | 541 | 0.73 | |
| *kinB* | 3,229,108 | 3,230,397 | + | 261 | 145 | 1.80 | 271 | 250 | 1.08 | |
| *kapB* | 3,230,443 | 3,230,829 | + | 559 | 397 | 1.41 | 835 | 713 | 1.17 | |
| *kapD* | 3,230,856 | 3,231,473 | - | 123 | 106 | 1.17 | 130 | 143 | 0.91 | |
| *yuxJ* | 3,231,684 | 3,232,862 | + | 106 | 101 | 1.05 | 93 | 92 | 1.01 | |
| *pbpD* | 3,232,955 | 3,234,829 | + | 577 | 511 | 1.13 | 700 | 710 | 0.99 | |
| *yuxK* | 3,234,850 | 3,235,263 | + | 366 | 290 | 1.26 | 404 | 387 | 1.04 | |
| *yufK* | 3,235,466 | 3,236,080 | - | 140 | 121 | 1.16 | 166 | 178 | 0.93 | |
| *yufL* | 3,236,201 | 3,237,802 | + | 443 | 419 | 1.06 | 393 | 407 | 0.97 | |
| *yufM* | 3,237,795 | 3,238,502 | + | 572 | 434 | 1.32 | 516 | 498 | 1.03 | |
| *yufN* | 3,239,001 | 3,240,053 | + | 2053 | 2004 | 1.02 | 1649 | 1561 | 1.06 | |
| *yufO* | 3,240,129 | 3,241,661 | + | 1005 | 873 | 1.15 | 934 | 779 | 1.20 | |
| *yufP* | 3,241,654 | 3,242,700 | + | 730 | 569 | 1.28 | 626 | 509 | 1.23 | |
| *yufQ* | 3,242,701 | 3,243,660 | + | 494 | 385 | 1.28 | 400 | 347 | 1.15 | |
| *maeN* | 3,243,814 | 3,245,160 | + | 104 | 109 | 0.95 | 99 | 99 | 1.00 | |
| *yufS* | 3,245,196 | 3,245,411 | - | 64 | 56 | 1.14 | 49 | 56 | 0.88 | |
| *mrpA* | 3,245,723 | 3,248,047 | + | 400 | 361 | 1.11 | 571 | 591 | 0.97 | |
| *mrpB* | 3,248,040 | 3,248,471 | + | 375 | 338 | 1.11 | 618 | 586 | 1.06 | |
| *mrpC* | 3,248,471 | 3,248,812 | + | 256 | 238 | 1.08 | 392 | 360 | 1.09 | |
| *mrpD* | 3,248,805 | 3,250,286 | + | 386 | 356 | 1.08 | 589 | 555 | 1.06 | |
| *mrpE* | 3,250,292 | 3,250,768 | + | 344 | 337 | 1.02 | 515 | 448 | 1.15 | |
| *mrpF* | 3,250,768 | 3,251,052 | + | 201 | 207 | 0.97 | 309 | 244 | 1.27 | |
| *mrpG* | 3,251,036 | 3,251,410 | + | 183 | 178 | 1.03 | 208 | 208 | 1.00 | |
| *yuxO* | 3,251,449 | 3,251,829 | - | 305 | 263 | 1.16 | 519 | 514 | 1.01 | |
| *comA* | 3,251,848 | 3,252,492 | - | 611 | 550 | 1.11 | 1182 | 1243 | 0.95 | |
| *comP* | 3,252,573 | 3,254,882 | - | 885 | 805 | 1.10 | 661 | 809 | 0.82 | |
| *comX* | 3,254,897 | 3,255,064 | - | 1691 | 1691 | 1.00 | 1416 | 1655 | 0.86 | |
| *comQ* | 3,255,052 | 3,255,951 | - | 668 | 680 | 0.98 | 633 | 628 | 1.01 | |
| *yuzC* | 3,256,737 | 3,257,105 | + | 122 | 128 | 0.95 | 100 | 141 | 0.71 | |
| *yuxH* | 3,257,081 | 3,258,310 | - | 517 | 481 | 1.07 | 446 | 478 | 0.93 | |
| *yueK* | 3,258,447 | 3,259,919 | - | 1447 | 1430 | 1.01 | 1782 | 1697 | 1.05 | |
| *yueJ* | 3,259,935 | 3,260,486 | - | 1244 | 1259 | 0.99 | 1348 | 1326 | 1.02 | |
| *yueI* | 3,260,583 | 3,260,981 | - | 467 | 348 | 1.34 | 496 | 490 | 1.01 | |
| *yueH* | 3,261,053 | 3,261,301 | - | 426 | 352 | 1.21 | 467 | 436 | 1.07 | |
| *yueG* | 3,261,374 | 3,261,595 | - | 158 | 125 | 1.26 | 275 | 223 | 1.23 | |
| *yueF* | 3,261,655 | 3,262,764 | - | 383 | 306 | 1.25 | 407 | 384 | 1.06 | |
| *yuzE* | 3,262,879 | 3,263,268 | + | 45 | 46 | 0.98 | 51 | 58 | 0.89 | |
| *yuzF* | 3,263,309 | 3,263,545 | - | 727 | 850 | 0.85 | 401 | 423 | 0.95 | |
| *yueE* | 3,263,722 | 3,264,252 | - | 1095 | 1282 | 0.85 | 709 | 731 | 0.97 | |
| *yueD* | 3,264,450 | 3,265,181 | - | 650 | 618 | 1.05 | 1120 | 1028 | 1.09 | |
| *yueC* | 3,265,244 | 3,265,699 | - | 541 | 522 | 1.04 | 1205 | 1108 | 1.09 | |
| *yueB* | 3,265,731 | 3,268,961 | - | 410 | 411 | 1.00 | 1282 | 1168 | 1.10 | |
| *yukA* | 3,268,958 | 3,272,581 | - | 347 | 292 | 1.19 | 885 | 770 | 1.15 | |
| *yukB* | 3,272,581 | 3,273,456 | - | 347 | 255 | 1.36 | 678 | 645 | 1.05 | |
| *yukC* | 3,273,484 | 3,274,839 | - | 400 | 312 | 1.28 | 714 | 682 | 1.05 | |
| *yukD* | 3,274,854 | 3,275,093 | - | 530 | 453 | 1.17 | 848 | 753 | 1.13 | |
| *yukE* | 3,275,237 | 3,275,479 | - | 7699 | 7361 | 1.05 | 6844 | 6049 | 1.13 | |
| *yukF* | 3,275,976 | 3,277,280 | + | 201 | 171 | 1.18 | 311 | 256 | 1.22 | |
| *ald* | 3,277,348 | 3,278,484 | + | 1044 | 1684 | 0.62 | 402 | 772 | 0.52 | |
| *yuxI* | 3,278,597 | 3,278,920 | + | 874 | 1142 | 0.77 | 608 | 628 | 0.97 | |
| *yukJ* | 3,278,838 | 3,279,275 | + | 289 | 382 | 0.76 | 365 | 284 | 1.28 | |
| *dhbF* | 3,279,544 | 3,286,680 | - | 457 | 671 | 0.68 | 289 | 429 | 0.67 | AbrB regulon |
| *dhbB* | 3,286,700 | 3,287,638 | - | 362 | 526 | 0.69 | 215 | 362 | 0.60 | AbrB regulon |
| *dhbE* | 3,287,666 | 3,289,285 | - | 336 | 427 | 0.79 | 200 | 322 | 0.62 | AbrB regulon |
| *dhbC* | 3,289,314 | 3,290,510 | - | 468 | 557 | 0.84 | 228 | 375 | 0.61 | AbrB regulon |
| *dhbA* | 3,290,536 | 3,291,321 | - | 452 | 506 | 0.89 | 212 | 358 | 0.59 | AbrB regulon |
| *yuiI* | 3,291,515 | 3,292,459 | - | 738 | 689 | 1.07 | 428 | 594 | 0.72 | AbrB regulon |
| *yuiH* | 3,292,598 | 3,293,194 | - | 168 | 136 | 1.24 | 164 | 158 | 1.04 | |
| *yuiG* | 3,293,295 | 3,293,897 | + | 1500 | 1399 | 1.07 | 1906 | 1549 | 1.23 | |
| *yuiF* | 3,293,967 | 3,295,295 | - | 478 | 381 | 1.26 | 531 | 642 | 0.83 | |
| *yuiE* | 3,295,442 | 3,296,944 | - | 742 | 681 | 1.09 | 889 | 846 | 1.05 | |
| *yuiD* | 3,297,102 | 3,297,578 | + | 272 | 316 | 0.86 | 217 | 172 | 1.26 | |
| *yuiC* | 3,297,609 | 3,298,265 | - | 220 | 275 | 0.80 | 229 | 374 | 0.61 | |
| *yuiB* | 3,298,369 | 3,298,689 | - | 1026 | 1245 | 0.82 | 748 | 1035 | 0.72 | |
| *yuiA* | 3,298,743 | 3,298,886 | - | 2780 | 3625 | 0.77 | 1398 | 1921 | 0.73 | |
| *yumB* | 3,299,059 | 3,300,279 | - | 512 | 509 | 1.01 | 414 | 460 | 0.90 | |
| *yumC* | 3,300,611 | 3,301,609 | + | 1055 | 1096 | 0.96 | 1211 | 1742 | 0.70 | |
| *guaC* | 3,302,067 | 3,303,047 | + | 372 | 377 | 0.99 | 147 | 170 | 0.86 | |
| *paiB* | 3,303,121 | 3,303,744 | - | 183 | 207 | 0.89 | 199 | 275 | 0.72 | |
| *paiA* | 3,303,768 | 3,304,286 | - | 98 | 126 | 0.78 | 127 | 194 | 0.65 | |
| *yutM* | 3,304,624 | 3,304,986 | - | 1882 | 1876 | 1.00 | 1914 | 1871 | 1.02 | |
| *dapF* | 3,305,065 | 3,305,919 | - | 326 | 409 | 0.80 | 385 | 459 | 0.84 | |
| *yutK* | 3,306,042 | 3,307,256 | - | 66 | 78 | 0.85 | 98 | 98 | 1.00 | |
| *yuzB* | 3,307,393 | 3,307,629 | - | 30 | 36 | 0.83 | 62 | 68 | 0.91 | |
| *yutJ* | 3,307,892 | 3,308,884 | + | 973 | 1107 | 0.88 | 998 | 1232 | 0.81 | |
| *yuzD* | 3,308,986 | 3,309,312 | - | 275 | 279 | 0.99 | 266 | 328 | 0.81 | |
| *yutI* | 3,309,412 | 3,309,747 | + | 990 | 1185 | 0.84 | 992 | 1068 | 0.93 | |
| *yuxL* | 3,309,789 | 3,311,762 | - | 126 | 153 | 0.82 | 141 | 172 | 0.82 | |
| *thrB* | 3,311,870 | 3,312,799 | - | 1964 | 2284 | 0.86 | 2490 | 2717 | 0.92 | |
| *thrC* | 3,312,796 | 3,313,854 | - | 2617 | 3105 | 0.84 | 3157 | 3448 | 0.92 | |
| *hom* | 3,313,854 | 3,315,155 | - | 1607 | 2198 | 0.73 | 1882 | 2299 | 0.82 | |
| *yutH* | 3,315,356 | 3,316,375 | - | 115 | 113 | 1.02 | 134 | 132 | 1.02 | |
| *yutG* | 3,316,528 | 3,317,028 | + | 59 | 57 | 1.03 | 42 | 51 | 0.81 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yutF* | 3,317,055 | 3,317,825 | - | 621 | 658 | 0.94 | 998 | 943 | 1.06 | |
| *yutE* | 3,317,854 | 3,318,288 | - | 699 | 700 | 1.00 | 1014 | 971 | 1.04 | |
| *yutD* | 3,318,312 | 3,318,620 | - | 752 | 721 | 1.04 | 975 | 884 | 1.10 | |
| *yutC* | 3,318,702 | 3,319,334 | + | 80 | 71 | 1.14 | 72 | 68 | 1.07 | |
| *lipA* | 3,319,350 | 3,320,246 | - | 1393 | 1272 | 1.10 | 2334 | 2235 | 1.04 | |
| *yunA* | 3,320,412 | 3,321,461 | + | 80 | 80 | 0.99 | 69 | 78 | 0.89 | |
| *yunB* | 3,321,489 | 3,322,253 | - | 158 | 138 | 1.15 | 227 | 237 | 0.96 | |
| *yunC* | 3,322,326 | 3,322,631 | - | 400 | 349 | 1.15 | 519 | 528 | 0.98 | |
| *yunD* | 3,322,696 | 3,324,084 | - | 669 | 536 | 1.25 | 738 | 699 | 1.05 | |
| *yunE* | 3,324,104 | 3,324,925 | - | 573 | 500 | 1.15 | 647 | 616 | 1.05 | |
| *yunF* | 3,324,943 | 3,325,797 | - | 602 | 531 | 1.13 | 652 | 661 | 0.99 | |
| *yunG* | 3,325,829 | 3,326,176 | - | 452 | 441 | 1.02 | 392 | 397 | 0.99 | |
| *pucH* | 3,326,273 | 3,327,613 | - | 153 | 151 | 1.02 | 144 | 145 | 1.00 | |
| *pucR* | 3,327,788 | 3,329,383 | + | 130 | 123 | 1.06 | 105 | 102 | 1.03 | |
| *pucJ* | 3,329,528 | 3,330,877 | + | 106 | 103 | 1.03 | 99 | 104 | 0.95 | |
| *pucK* | 3,330,883 | 3,332,175 | + | 95 | 92 | 1.04 | 70 | 80 | 0.87 | |
| *pucL* | 3,332,188 | 3,333,672 | + | 122 | 116 | 1.05 | 110 | 114 | 0.96 | |
| *pucM* | 3,333,651 | 3,334,016 | + | 129 | 112 | 1.15 | 156 | 140 | 1.11 | |
| *pucE* | 3,334,777 | 3,335,298 | - | 86 | 77 | 1.11 | 62 | 70 | 0.88 | |
| *pucD* | 3,335,289 | 3,337,526 | - | 127 | 126 | 1.00 | 104 | 110 | 0.94 | |
| *pucC* | 3,337,527 | 3,338,360 | - | 70 | 72 | 0.97 | 54 | 60 | 0.90 | |
| *pucB* | 3,338,382 | 3,338,975 | - | 75 | 82 | 0.91 | 61 | 83 | 0.74 | |
| *pucA* | 3,338,972 | 3,339,964 | - | 65 | 72 | 0.91 | 50 | 64 | 0.77 | |
| *yurG* | 3,340,193 | 3,341,443 | - | 246 | 252 | 0.98 | 225 | 254 | 0.88 | |
| *yurH* | 3,341,460 | 3,342,698 | - | 155 | 171 | 0.90 | 137 | 172 | 0.80 | |
| *yurI* | 3,343,140 | 3,344,006 | + | 336 | 329 | 1.02 | 304 | 337 | 0.90 | AbrB regulon |
| *yurJ* | 3,344,040 | 3,345,143 | - | 243 | 871 | 0.28 | 276 | 838 | 0.33 | |
| *yurK* | 3,345,325 | 3,346,053 | + | 232 | 412 | 0.56 | 236 | 631 | 0.37 | |
| *yurL* | 3,346,078 | 3,346,932 | - | 184 | 792 | 0.23 | 170 | 623 | 0.27 | |
| *yurM* | 3,346,946 | 3,347,848 | - | 131 | 594 | 0.22 | 123 | 452 | 0.27 | |
| *yurN* | 3,347,852 | 3,348,730 | - | 134 | 667 | 0.20 | 105 | 596 | 0.18 | |
| *yurO* | 3,348,788 | 3,350,056 | - | 254 | 1360 | 0.19 | 241 | 1391 | 0.17 | |
| *yurP* | 3,350,137 | 3,351,123 | - | 718 | 3521 | 0.20 | 765 | 3166 | 0.24 | |
| *yurQ* | 3,351,339 | 3,351,713 | - | 297 | 303 | 0.98 | 644 | 635 | 1.01 | |
| *yurR* | 3,351,816 | 3,352,934 | - | 475 | 405 | 1.17 | 487 | 480 | 1.01 | |
| *yurS* | 3,353,239 | 3,353,514 | + | 27 | 36 | 0.75 | 24 | 26 | 0.91 | |
| *yurT* | 3,353,578 | 3,353,961 | - | 206 | 173 | 1.19 | 366 | 384 | 0.95 | |
| *yurU* | 3,354,620 | 3,356,017 | - | 2662 | 2809 | 0.95 | 3200 | 3330 | 0.96 | |
| *yurV* | 3,356,038 | 3,356,481 | - | 2894 | 2955 | 0.98 | 3317 | 3265 | 1.02 | |
| *csd* | 3,356,471 | 3,357,691 | - | 2424 | 2416 | 1.00 | 2886 | 2967 | 0.97 | |
| *yurX* | 3,357,691 | 3,359,004 | - | 3263 | 3159 | 1.03 | 3667 | 3760 | 0.98 | |
| *yurY* | 3,359,022 | 3,359,807 | - | 2652 | 2318 | 1.14 | 2707 | 3004 | 0.90 | |
| *yurZ* | 3,360,332 | 3,360,709 | - | 50 | 55 | 0.91 | 53 | 68 | 0.77 | |
| *yusA* | 3,360,794 | 3,361,618 | - | 1215 | 1553 | 0.78 | 2298 | 3110 | 0.74 | |
| *yusB* | 3,361,632 | 3,362,300 | - | 449 | 594 | 0.76 | 872 | 1357 | 0.64 | |
| *yusC* | 3,362,293 | 3,363,318 | - | 467 | 650 | 0.72 | 1004 | 1486 | 0.68 | |
| *yusD* | 3,363,645 | 3,363,989 | - | 377 | 337 | 1.12 | 390 | 409 | 0.95 | |
| *yusE* | 3,364,096 | 3,364,416 | - | 260 | 238 | 1.09 | 301 | 301 | 1.00 | Spo0A regulon |
| *yusF* | 3,364,418 | 3,364,858 | - | 513 | 478 | 1.07 | 766 | 714 | 1.07 | |
| *yusG* | 3,364,858 | 3,365,094 | - | 1111 | 1182 | 0.94 | 1949 | 1855 | 1.05 | |
| *gcvH* | 3,365,150 | 3,365,533 | - | 4599 | 4725 | 0.97 | 5103 | 4623 | 1.10 | |
| *yusI* | 3,365,600 | 3,365,956 | - | 742 | 687 | 1.08 | 1609 | 1673 | 0.96 | |
| *yusJ* | 3,366,067 | 3,367,851 | - | 133 | 129 | 1.03 | 138 | 137 | 1.01 | |
| *yusK* | 3,367,866 | 3,369,041 | - | 186 | 190 | 0.98 | 189 | 220 | 0.86 | |
| *yusL* | 3,369,052 | 3,371,499 | - | 156 | 140 | 1.11 | 175 | 188 | 0.93 | |
| *yusM* | 3,371,767 | 3,372,675 | - | 74 | 74 | 1.01 | 52 | 66 | 0.79 | |
| *yusN* | 3,373,028 | 3,373,360 | + | 39 | 39 | 0.99 | 41 | 38 | 1.08 | |
| *yusO* | 3,373,519 | 3,373,986 | + | 495 | 442 | 1.12 | 558 | 564 | 0.99 | |
| *yusP* | 3,373,983 | 3,375,608 | + | 441 | 335 | 1.31 | 529 | 477 | 1.11 | |
| *yusQ* | 3,375,644 | 3,376,027 | - | 79 | 85 | 0.93 | 66 | 74 | 0.89 | |
| *yusR* | 3,376,046 | 3,376,435 | - | 100 | 104 | 0.96 | 82 | 94 | 0.87 | |
| *yusS* | 3,376,457 | 3,376,786 | - | 81 | 97 | 0.83 | 86 | 92 | 0.94 | |
| *yusT* | 3,376,920 | 3,377,807 | + | 103 | 119 | 0.87 | 89 | 109 | 0.81 | |
| *yusU* | 3,377,827 | 3,378,114 | - | 393 | 509 | 0.77 | 351 | 528 | 0.67 | |
| *yusV* | 3,378,139 | 3,378,966 | - | 806 | 1022 | 0.79 | 493 | 816 | 0.60 | |
| *yusW* | 3,379,184 | 3,379,621 | - | 105 | 109 | 0.96 | 136 | 174 | 0.78 | |
| *yusX* | 3,379,731 | 3,381,233 | - | 848 | 944 | 0.90 | 969 | 1060 | 0.91 | |
| *yusY* | 3,381,230 | 3,381,526 | - | 672 | 705 | 0.95 | 624 | 716 | 0.87 | |
| *yusZ* | 3,381,660 | 3,382,502 | + | 192 | 212 | 0.90 | 240 | 267 | 0.90 | |
| *mrgA* | 3,382,592 | 3,383,053 | + | 657 | 703 | 0.93 | 953 | 1220 | 0.78 | |
| *yvtA* | 3,383,097 | 3,384,473 | - | 1669 | 1271 | 1.31 | 2390 | 2808 | 0.85 | |
| *cssR* | 3,384,751 | 3,385,428 | + | 408 | 409 | 1.00 | 555 | 519 | 1.07 | |
| *cssS* | 3,385,425 | 3,386,780 | + | 607 | 568 | 1.07 | 818 | 805 | 1.02 | |
| *yuxN* | 3,387,140 | 3,388,015 | + | 232 | 190 | 1.22 | 262 | 290 | 0.90 | |
| *citG* | 3,388,051 | 3,389,439 | - | 1583 | 1947 | 0.81 | 2370 | 2609 | 0.91 | |
| *gerAA* | 3,389,809 | 3,391,257 | + | 54 | 60 | 0.89 | 45 | 53 | 0.85 | |
| *gerAB* | 3,391,226 | 3,392,323 | + | 26 | 33 | 0.78 | 31 | 34 | 0.92 | |
| *gerAC* | 3,392,320 | 3,393,441 | + | 49 | 56 | 0.88 | 48 | 54 | 0.89 | |
| *yvqC* | 3,393,449 | 3,394,084 | - | 335 | 280 | 1.20 | 370 | 382 | 0.97 | |
| *yvqE* | 3,394,062 | 3,395,144 | - | 344 | 293 | 1.17 | 367 | 414 | 0.89 | |
| *yvqF* | 3,395,141 | 3,395,866 | - | 303 | 266 | 1.14 | 315 | 346 | 0.91 | |
| *yvqG* | 3,395,900 | 3,396,622 | - | 289 | 260 | 1.11 | 371 | 450 | 0.83 | |
| *yvqH* | 3,396,872 | 3,397,549 | - | 309 | 223 | 1.39 | 513 | 261 | 1.97 | |
| *yvqI* | 3,397,576 | 3,397,956 | - | 205 | 129 | 1.59 | 237 | 146 | 1.63 | |
| *yvqJ* | 3,398,118 | 3,399,386 | - | 297 | 289 | 1.03 | 323 | 305 | 1.06 | AbrB regulon |
| *yvqK* | 3,399,563 | 3,400,144 | - | 213 | 210 | 1.01 | 299 | 313 | 0.96 | |
| *yvrA* | 3,400,167 | 3,401,495 | - | 282 | 255 | 1.11 | 389 | 403 | 0.97 | |
| *yvrB* | 3,401,495 | 3,402,556 | - | 158 | 157 | 1.01 | 249 | 256 | 0.97 | |
| *yvrC* | 3,402,519 | 3,403,463 | - | 575 | 605 | 0.95 | 840 | 944 | 0.89 | |
| *yvrD* | 3,403,861 | 3,404,652 | + | 365 | 371 | 0.98 | 522 | 511 | 1.02 | |
| *yvrE* | 3,404,690 | 3,405,568 | - | 2214 | 1738 | 1.27 | 1315 | 803 | 1.64 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yvrG* | 3,405,640 | 3,407,361 | - | 582 | 406 | 1.44 | 818 | 709 | 1.15 | |
| *yvrH* | 3,407,379 | 3,408,488 | - | 157 | 154 | 1.02 | 158 | 161 | 0.99 | |
| *yvrI* | 3,408,492 | 3,409,067 | - | 65 | 83 | 0.78 | 73 | 86 | 0.86 | |
| *oxdC* | 3,409,496 | 3,410,653 | + | 465 | 988 | 0.47 | 437 | 803 | 0.54 | |
| *yvrL* | 3,410,714 | 3,411,124 | + | 62 | 89 | 0.69 | 80 | 111 | 0.71 | |
| *yvrN* | 3,411,158 | 3,412,408 | - | 908 | 801 | 1.13 | 1214 | 1279 | 0.95 | AbrB regulon |
| *yvrO* | 3,412,380 | 3,413,069 | - | 1081 | 979 | 1.10 | 1499 | 1674 | 0.90 | AbrB regulon |
| *yvrP* | 3,413,053 | 3,414,246 | - | 912 | 1028 | 0.89 | 1198 | 1517 | 0.79 | AbrB regulon |
| *fhuC* | 3,414,417 | 3,415,226 | - | 572 | 561 | 1.02 | 487 | 600 | 0.81 | |
| *fhuG* | 3,415,242 | 3,416,252 | - | 343 | 299 | 1.15 | 259 | 315 | 0.82 | |
| *fhuB* | 3,416,252 | 3,417,406 | - | 335 | 327 | 1.02 | 217 | 299 | 0.73 | |
| *fhuD* | 3,417,504 | 3,418,451 | + | 1721 | 2134 | 0.81 | 851 | 1295 | 0.66 | |
| *yvsH* | 3,418,686 | 3,420,095 | - | 275 | 229 | 1.20 | 496 | 559 | 0.89 | |
| *sspJ* | 3,420,495 | 3,420,635 | - | 81 | 79 | 1.03 | 65 | 47 | 1.38 | |
| *yvsG* | 3,420,802 | 3,421,284 | + | 137 | 103 | 1.33 | 159 | 148 | 1.07 | |
| *yvgJ* | 3,421,384 | 3,423,237 | + | 236 | 165 | 1.43 | 353 | 281 | 1.26 | |
| *yvgK* | 3,423,265 | 3,424,191 | - | 589 | 520 | 1.13 | 592 | 528 | 1.12 | |
| *yvgL* | 3,424,302 | 3,425,084 | + | 194 | 174 | 1.12 | 169 | 202 | 0.83 | |
| *yvgM* | 3,425,188 | 3,425,748 | + | 99 | 97 | 1.02 | 107 | 128 | 0.84 | |
| *yvgN* | 3,425,779 | 3,426,609 | - | 1567 | 1784 | 0.88 | 1725 | 1800 | 0.96 | |
| *yvgO* | 3,426,832 | 3,427,317 | + | 4318 | 2901 | 1.49 | 2800 | 1150 | 2.43 | AbrB regulon |
| *yvgP* | 3,427,361 | 3,429,373 | - | 559 | 439 | 1.27 | 667 | 623 | 1.07 | |
| *yvgQ* | 3,429,628 | 3,431,343 | - | 2419 | 2402 | 1.01 | 2770 | 2931 | 0.95 | |
| *yvgR* | 3,431,369 | 3,433,186 | - | 1754 | 1665 | 1.05 | 2283 | 2510 | 0.91 | |
| *yvgS* | 3,433,357 | 3,435,681 | - | 316 | 243 | 1.30 | 440 | 356 | 1.23 | |
| *yvgT* | 3,435,879 | 3,436,487 | - | 153 | 167 | 0.92 | 141 | 164 | 0.86 | |
| *bdbC* | 3,436,674 | 3,437,090 | - | 928 | 856 | 1.08 | 716 | 787 | 0.91 | |
| *bdbD* | 3,437,095 | 3,437,763 | - | 1716 | 1568 | 1.09 | 1213 | 1339 | 0.91 | |
| *yvgW* | 3,437,883 | 3,439,991 | - | 1052 | 1363 | 0.77 | 455 | 537 | 0.85 | |
| *yvgX* | 3,440,151 | 3,442,562 | - | 2606 | 1848 | 1.41 | 730 | 776 | 0.94 | |
| *yvgY* | 3,442,643 | 3,442,852 | - | 2055 | 1499 | 1.37 | 540 | 528 | 1.02 | |
| *yvgZ* | 3,442,926 | 3,443,231 | - | 920 | 759 | 1.21 | 573 | 433 | 1.32 | |
| *yvaA* | 3,443,359 | 3,444,435 | + | 4330 | 4405 | 0.98 | 3472 | 2943 | 1.18 | |
| *yvaB* | 3,444,472 | 3,445,107 | - | 548 | 1245 | 0.44 | 686 | 1607 | 0.43 | |
| *yvaC* | 3,445,267 | 3,447,162 | - | 84 | 86 | 0.98 | 68 | 78 | 0.87 | |
| *yvaD* | 3,447,325 | 3,447,726 | - | 89 | 94 | 0.95 | 119 | 113 | 1.05 | |
| *yvaE* | 3,447,723 | 3,448,082 | - | 198 | 205 | 0.97 | 183 | 179 | 1.02 | |
| *yvaF* | 3,448,079 | 3,448,651 | - | 150 | 154 | 0.98 | 150 | 152 | 0.99 | |
| *yvaG* | 3,448,762 | 3,449,556 | - | 407 | 362 | 1.13 | 389 | 309 | 1.26 | |
| *smpB* | 3,450,278 | 3,450,748 | - | 1957 | 1154 | 1.70 | 998 | 1145 | 0.87 | |
| *rnr* | 3,450,893 | 3,453,232 | - | 3236 | 2006 | 1.61 | 1472 | 1101 | 1.34 | |
| *yvaK* | 3,453,251 | 3,453,997 | - | 2104 | 1437 | 1.46 | 1440 | 1074 | 1.34 | |
| *secG* | 3,454,123 | 3,454,353 | - | 1787 | 2022 | 0.88 | 1076 | 1190 | 0.90 | |
| *yvaM* | 3,454,502 | 3,455,272 | + | 106 | 95 | 1.11 | 101 | 88 | 1.15 | |
| *yvzC* | 3,455,312 | 3,455,545 | - | 33 | 30 | 1.08 | 31 | 31 | 1.00 | |
| *yvaN* | 3,455,697 | 3,456,104 | + | 255 | 269 | 0.95 | 304 | 368 | 0.82 | |
| *yvaO* | 3,456,134 | 3,456,553 | + | 139 | 143 | 0.98 | 189 | 223 | 0.84 | |
| *yvaP* | 3,456,396 | 3,457,106 | + | 181 | 167 | 1.08 | 187 | 211 | 0.89 | |
| *yvaQ* | 3,457,097 | 3,458,797 | + | 719 | 849 | 0.85 | 415 | 374 | 1.11 | |
| *opuBD* | 3,458,837 | 3,459,517 | - | 155 | 201 | 0.77 | 325 | 499 | 0.65 | |
| *opuBC* | 3,459,534 | 3,460,454 | - | 167 | 222 | 0.75 | 697 | 1101 | 0.63 | |
| *opuBB* | 3,460,466 | 3,461,119 | - | 118 | 150 | 0.79 | 509 | 785 | 0.65 | |
| *opuBA* | 3,461,136 | 3,462,281 | - | 148 | 148 | 1.00 | 581 | 968 | 0.60 | |
| *yvaV* | 3,462,556 | 3,463,098 | + | 238 | 179 | 1.33 | 273 | 318 | 0.86 | |
| *yvaW* | 3,463,320 | 3,463,796 | + | 497 | 550 | 0.90 | 1158 | 1926 | 0.60 | Spo0A and AbrB regulo |
| *yvaX* | 3,463,793 | 3,464,764 | + | 457 | 441 | 1.04 | 1193 | 1899 | 0.63 | |
| *yvaY* | 3,464,807 | 3,465,418 | + | 4063 | 4814 | 0.84 | 5165 | 5062 | 1.02 | |
| *yvaZ* | 3,465,465 | 3,466,088 | - | 611 | 1580 | 0.39 | 368 | 586 | 0.63 | |
| *yvbA* | 3,466,085 | 3,466,357 | - | 689 | 1886 | 0.37 | 253 | 514 | 0.49 | |
| *opuCD* | 3,466,577 | 3,467,266 | - | 1504 | 1748 | 0.86 | 2145 | 2504 | 0.86 | |
| *opuCC* | 3,467,284 | 3,468,195 | - | 1914 | 1961 | 0.98 | 2869 | 3431 | 0.84 | |
| *opuCB* | 3,468,215 | 3,468,868 | - | 1205 | 1120 | 1.08 | 1934 | 2410 | 0.80 | |
| *opuCA* | 3,468,891 | 3,470,033 | - | 1508 | 1166 | 1.29 | 2363 | 3127 | 0.76 | |
| *yvbF* | 3,470,297 | 3,470,854 | + | 335 | 283 | 1.18 | 545 | 723 | 0.75 | |
| *yvbG* | 3,470,872 | 3,471,507 | - | 296 | 261 | 1.14 | 118 | 83 | 1.43 | |
| *yvbH* | 3,471,657 | 3,472,271 | + | 295 | 309 | 0.95 | 592 | 721 | 0.82 | |
| *yvbI* | 3,472,403 | 3,473,101 | + | 133 | 161 | 0.83 | 264 | 429 | 0.62 | |
| *yvbJ* | 3,473,137 | 3,474,954 | - | 606 | 679 | 0.89 | 1205 | 1456 | 0.83 | |
| *yvbK* | 3,475,074 | 3,475,541 | + | 356 | 331 | 1.08 | 468 | 479 | 0.98 | |
| *eno* | 3,475,586 | 3,476,878 | - | 4366 | 4807 | 0.91 | 4171 | 3903 | 1.07 | |
| *pgm* | 3,476,908 | 3,478,443 | - | 5803 | 6150 | 0.94 | 5248 | 4820 | 1.09 | |
| *tpiA* | 3,478,436 | 3,479,197 | - | 4684 | 4813 | 0.97 | 3758 | 3423 | 1.10 | |
| *pgk* | 3,479,228 | 3,480,412 | - | 5610 | 5896 | 0.95 | 4899 | 4497 | 1.09 | |
| *gapA* | 3,480,729 | 3,481,736 | - | 7884 | 8203 | 0.96 | 6173 | 5695 | 1.08 | |
| *cggR* | 3,481,783 | 3,482,805 | - | 2392 | 2496 | 0.96 | 2140 | 2225 | 0.96 | |
| *araE* | 3,483,103 | 3,484,497 | - | 68 | 67 | 1.02 | 49 | 56 | 0.88 | |
| *araR* | 3,484,635 | 3,485,789 | + | 298 | 248 | 1.20 | 334 | 351 | 0.95 | |
| *yvbT* | 3,485,838 | 3,486,848 | - | 177 | 171 | 1.03 | 211 | 239 | 0.88 | |
| *yvbU* | 3,487,005 | 3,487,883 | - | 60 | 62 | 0.97 | 64 | 70 | 0.91 | |
| *yvbV* | 3,487,983 | 3,488,900 | + | 105 | 109 | 0.97 | 77 | 93 | 0.83 | |
| *yvbW* | 3,488,941 | 3,490,284 | - | 162 | 182 | 0.89 | 193 | 250 | 0.77 | |
| *yvbX* | 3,490,686 | 3,491,720 | - | 1354 | 1655 | 0.82 | 1309 | 1484 | 0.88 | |
| *yvbY* | 3,491,828 | 3,492,550 | - | 5825 | 5409 | 1.08 | 5045 | 4745 | 1.06 | |
| *yvfW* | 3,492,550 | 3,493,989 | - | 4590 | 4366 | 1.05 | 4822 | 4494 | 1.07 | |
| *yvfV* | 3,494,016 | 3,494,732 | - | 3709 | 3489 | 1.06 | 4255 | 4168 | 1.02 | |
| *yvfU* | 3,494,907 | 3,495,509 | - | 181 | 157 | 1.15 | 174 | 214 | 0.81 | |
| *yvfT* | 3,495,526 | 3,496,512 | - | 196 | 172 | 1.14 | 189 | 211 | 0.89 | |
| *yvfS* | 3,496,645 | 3,497,382 | - | 72 | 71 | 1.01 | 69 | 85 | 0.81 | |
| *yvfR* | 3,497,383 | 3,498,288 | - | 77 | 76 | 1.02 | 67 | 72 | 0.93 | |
| *rsbQ* | 3,498,572 | 3,499,381 | + | 308 | 264 | 1.17 | 276 | 324 | 0.85 | |
| *rsbP* | 3,499,417 | 3,500,628 | + | 378 | 300 | 1.26 | 394 | 421 | 0.94 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yvfO* | 3,500,682 | 3,501,971 | - | 91 | 91 | 1.00 | 70 | 93 | 0.75 | |
| *lacA* | 3,502,051 | 3,504,114 | - | 108 | 120 | 0.90 | 108 | 133 | 0.82 | |
| *yvfM* | 3,504,133 | 3,504,984 | - | 84 | 94 | 0.90 | 80 | 109 | 0.73 | |
| *yvfL* | 3,504,988 | 3,506,244 | - | 62 | 71 | 0.87 | 68 | 83 | 0.82 | |
| *yvfK* | 3,506,284 | 3,507,549 | - | 114 | 120 | 0.95 | 107 | 143 | 0.75 | |
| *lacR* | 3,507,690 | 3,508,682 | - | 130 | 127 | 1.03 | 157 | 166 | 0.95 | |
| *yvfI* | 3,508,862 | 3,509,389 | - | 423 | 408 | 1.04 | 312 | 373 | 0.84 | |
| *yvfH* | 3,509,811 | 3,511,502 | + | 820 | 1083 | 0.76 | 841 | 1077 | 0.78 | |
| *sigL* | 3,511,529 | 3,512,839 | - | 1023 | 1077 | 0.95 | 836 | 815 | 1.03 | |
| *yvfG* | 3,512,918 | 3,513,136 | + | 457 | 379 | 1.21 | 518 | 485 | 1.07 | |
| *yvfF* | 3,513,146 | 3,514,114 | - | 380 | 133 | 2.87 | 337 | 150 | 2.25 | AbrB regulon |
| *yvfE* | 3,514,093 | 3,515,259 | - | 507 | 150 | 3.38 | 478 | 183 | 2.62 | AbrB regulon |
| *yvfD* | 3,515,264 | 3,515,914 | - | 384 | 154 | 2.49 | 335 | 163 | 2.05 | AbrB regulon |
| *yvfC* | 3,515,911 | 3,516,519 | - | 387 | 135 | 2.86 | 363 | 173 | 2.10 | AbrB regulon |
| *yvfB* | 3,516,516 | 3,517,553 | - | 333 | 119 | 2.80 | 330 | 135 | 2.44 | AbrB regulon |
| *yvfA* | 3,517,703 | 3,518,032 | - | 289 | 87 | 3.31 | 300 | 118 | 2.55 | AbrB regulon |
| *yveT* | 3,518,029 | 3,519,063 | - | 476 | 186 | 2.55 | 524 | 217 | 2.41 | AbrB regulon |
| *yveS* | 3,519,060 | 3,520,136 | - | 334 | 139 | 2.40 | 359 | 157 | 2.28 | AbrB regulon |
| *yveR* | 3,520,141 | 3,521,175 | - | 351 | 190 | 1.85 | 494 | 227 | 2.17 | AbrB regulon |
| *yveQ* | 3,521,200 | 3,522,303 | - | 252 | 87 | 2.90 | 314 | 125 | 2.51 | AbrB regulon |
| *yveP* | 3,522,300 | 3,523,454 | - | 228 | 102 | 2.25 | 258 | 126 | 2.05 | AbrB regulon |
| *yveO* | 3,523,447 | 3,524,283 | - | 294 | 111 | 2.66 | 321 | 159 | 2.01 | AbrB regulon |
| *yveN* | 3,524,280 | 3,525,425 | - | 435 | 177 | 2.45 | 455 | 219 | 2.07 | AbrB regulon |
| *yveM* | 3,525,437 | 3,527,233 | - | 384 | 192 | 2.00 | 317 | 184 | 1.73 | AbrB regulon |
| *yveL* | 3,527,492 | 3,528,175 | - | 317 | 119 | 2.67 | 287 | 134 | 2.15 | AbrB regulon |
| *yveK* | 3,528,181 | 3,528,885 | - | 423 | 126 | 3.36 | 376 | 171 | 2.20 | AbrB regulon |
| *slr* | 3,529,131 | 3,529,589 | + | 141 | 80 | 1.76 | 150 | 88 | 1.71 | |
| *pnbA* | 3,529,665 | 3,531,134 | + | 558 | 390 | 1.43 | 944 | 804 | 1.17 | AbrB regulon |
| *padC* | 3,531,355 | 3,531,840 | - | 98 | 96 | 1.02 | 125 | 135 | 0.92 | |
| *yveG* | 3,531,863 | 3,532,150 | - | 86 | 86 | 1.00 | 100 | 94 | 1.07 | |
| *racX* | 3,532,449 | 3,533,132 | - | 3310 | 2327 | 1.42 | 3172 | 2276 | 1.39 | |
| *pbpE* | 3,533,148 | 3,534,503 | - | 3043 | 2064 | 1.47 | 2913 | 2091 | 1.39 | |
| *sacB* | 3,535,042 | 3,536,463 | + | 44 | 52 | 0.85 | 44 | 49 | 0.90 | |
| *yveB* | 3,536,537 | 3,538,087 | + | 78 | 78 | 1.01 | 57 | 65 | 0.88 | |
| *yveA* | 3,538,195 | 3,539,757 | + | 46 | 45 | 1.03 | 37 | 39 | 0.94 | |
| *yvdT* | 3,539,852 | 3,540,436 | + | 582 | 544 | 1.07 | 351 | 361 | 0.97 | |
| *yvdS* | 3,540,518 | 3,540,853 | + | 120 | 106 | 1.14 | 67 | 75 | 0.89 | |
| *yvdR* | 3,540,853 | 3,541,173 | + | 129 | 109 | 1.19 | 90 | 94 | 0.96 | |
| *yvdQ* | 3,541,209 | 3,541,721 | - | 106 | 96 | 1.10 | 79 | 109 | 0.72 | |
| *yvdP* | 3,541,973 | 3,543,316 | - | 95 | 71 | 1.35 | 75 | 72 | 1.04 | |
| *yvdO* | 3,543,672 | 3,544,634 | + | 55 | 55 | 1.01 | 53 | 56 | 0.94 | |
| *clpP* | 3,545,264 | 3,545,857 | + | 3455 | 3240 | 1.07 | 2755 | 2472 | 1.11 | |
| *pgcM* | 3,545,903 | 3,546,583 | - | 147 | 121 | 1.21 | 119 | 118 | 1.01 | |
| *malL* | 3,546,580 | 3,548,265 | - | 154 | 137 | 1.12 | 150 | 142 | 1.05 | |
| *yvdK* | 3,548,258 | 3,550,531 | - | 138 | 131 | 1.05 | 128 | 139 | 0.92 | |
| *yvdJ* | 3,550,509 | 3,551,393 | - | 67 | 70 | 0.96 | 70 | 73 | 0.96 | |
| *yvdI* | 3,551,399 | 3,552,235 | - | 68 | 78 | 0.88 | 65 | 73 | 0.89 | |
| *yvdH* | 3,552,236 | 3,553,543 | - | 73 | 85 | 0.85 | 67 | 81 | 0.82 | |
| *yvdG* | 3,553,583 | 3,554,836 | - | 99 | 104 | 0.95 | 101 | 112 | 0.91 | |
| *yvdF* | 3,554,932 | 3,556,701 | - | 78 | 81 | 0.97 | 67 | 73 | 0.93 | |
| *yvdE* | 3,556,814 | 3,557,764 | - | 67 | 71 | 0.95 | 64 | 60 | 1.07 | |
| *yvdD* | 3,557,970 | 3,558,545 | - | 1413 | 1299 | 1.09 | 2043 | 2023 | 1.01 | |
| *yvdC* | 3,558,662 | 3,558,982 | + | 638 | 601 | 1.06 | 893 | 1071 | 0.83 | |
| *yvdB* | 3,559,009 | 3,560,601 | - | 128 | 133 | 0.96 | 116 | 123 | 0.94 | |
| *yvdA* | 3,560,620 | 3,561,213 | - | 126 | 134 | 0.94 | 95 | 103 | 0.92 | |
| *yvcT* | 3,561,596 | 3,562,573 | + | 1208 | 1075 | 1.12 | 2072 | 1773 | 1.17 | |
| *yvcS* | 3,562,611 | 3,564,551 | - | 209 | 208 | 1.00 | 273 | 290 | 0.94 | |
| *yvcR* | 3,564,526 | 3,565,305 | - | 424 | 401 | 1.06 | 595 | 656 | 0.91 | |
| *yvcQ* | 3,565,388 | 3,566,458 | - | 268 | 264 | 1.01 | 381 | 429 | 0.89 | |
| *yvcP* | 3,566,452 | 3,567,165 | - | 253 | 264 | 0.96 | 319 | 373 | 0.85 | |
| *yvcN* | 3,567,557 | 3,568,321 | - | 1100 | 960 | 1.15 | 1074 | 1025 | 1.05 | |
| *crh* | 3,568,322 | 3,568,579 | - | 1340 | 1154 | 1.16 | 1348 | 1437 | 0.94 | |
| *yvcL* | 3,568,603 | 3,569,553 | - | 1155 | 1003 | 1.15 | 1250 | 1246 | 1.00 | |
| *yvcK* | 3,569,576 | 3,570,529 | - | 1144 | 924 | 1.24 | 1150 | 1074 | 1.07 | |
| *yvcJ* | 3,570,531 | 3,571,418 | - | 1206 | 968 | 1.25 | 1016 | 990 | 1.03 | |
| *yvcI* | 3,571,443 | 3,571,919 | - | 946 | 765 | 1.24 | 1016 | 1001 | 1.02 | |
| *trxB* | 3,572,237 | 3,573,187 | - | 812 | 687 | 1.18 | 1380 | 1361 | 1.01 | |
| *yvcE* | 3,573,393 | 3,574,814 | - | 1371 | 876 | 1.56 | 3183 | 3586 | 0.89 | |
| *yvcD* | 3,575,195 | 3,576,649 | - | 298 | 240 | 1.24 | 545 | 488 | 1.12 | |
| *yvcC* | 3,576,775 | 3,578,544 | - | 407 | 340 | 1.20 | 489 | 430 | 1.14 | |
| *yvzA* | 3,578,709 | 3,579,068 | - | 352 | 209 | 1.68 | 621 | 484 | 1.28 | |
| *yvcB* | 3,579,083 | 3,580,993 | - | 635 | 408 | 1.56 | 624 | 489 | 1.28 | |
| *yvcA* | 3,580,995 | 3,581,720 | - | 338 | 371 | 0.91 | 310 | 256 | 1.21 | |
| *hisI* | 3,581,966 | 3,582,595 | - | 2514 | 2926 | 0.86 | 1809 | 1903 | 0.95 | |
| *hisF* | 3,582,592 | 3,583,350 | - | 2885 | 3108 | 0.93 | 1657 | 1824 | 0.91 | |
| *hisA* | 3,583,347 | 3,584,084 | - | 2636 | 2833 | 0.93 | 1695 | 1784 | 0.95 | |
| *hisH* | 3,584,081 | 3,584,719 | - | 3363 | 3674 | 0.92 | 2246 | 2436 | 0.92 | |
| *hisB* | 3,584,720 | 3,585,304 | - | 2903 | 3264 | 0.89 | 2247 | 2300 | 0.98 | |
| *hisD* | 3,585,301 | 3,586,584 | - | 1942 | 1872 | 1.04 | 1212 | 1266 | 0.96 | |
| *hisG* | 3,586,581 | 3,587,222 | - | 1870 | 1742 | 1.07 | 1416 | 1401 | 1.01 | |
| *hisZ* | 3,587,215 | 3,588,390 | - | 1196 | 889 | 1.34 | 965 | 1014 | 0.95 | |
| *yvpB* | 3,588,641 | 3,589,393 | + | 233 | 266 | 0.87 | 166 | 219 | 0.76 | |
| *yvpA* | 3,589,633 | 3,590,298 | + | 162 | 184 | 0.88 | 159 | 195 | 0.82 | |
| *yvoF* | 3,590,318 | 3,590,836 | - | 679 | 585 | 1.16 | 811 | 875 | 0.93 | |
| *hprP* | 3,590,840 | 3,591,490 | - | 1018 | 820 | 1.24 | 1172 | 1159 | 1.01 | |
| *yvoD* | 3,591,487 | 3,592,425 | - | 1003 | 822 | 1.22 | 1155 | 1139 | 1.01 | |
| *lgt* | 3,592,449 | 3,593,258 | - | 654 | 547 | 1.19 | 739 | 742 | 1.00 | |
| *hprK* | 3,593,272 | 3,594,204 | - | 721 | 668 | 1.08 | 750 | 842 | 0.89 | |
| *nagA* | 3,594,386 | 3,595,576 | + | 463 | 466 | 0.99 | 392 | 388 | 1.01 | |
| *nagB* | 3,595,573 | 3,596,301 | + | 763 | 679 | 1.12 | 552 | 515 | 1.07 | |
| *yvoA* | 3,596,319 | 3,597,050 | + | 590 | 540 | 1.09 | 402 | 375 | 1.07 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yvnB* | 3,597,070 | 3,600,939 | - | 137 | 126 | 1.09 | 141 | 146 | 0.96 | |
| *yvnA* | 3,601,104 | 3,601,577 | + | 294 | 252 | 1.17 | 261 | 312 | 0.83 | AbrB regulon |
| *cypX* | 3,601,618 | 3,602,835 | - | 255 | 228 | 1.12 | 243 | 244 | 1.00 | AbrB regulon |
| *yvmC* | 3,602,851 | 3,603,597 | - | 361 | 318 | 1.14 | 408 | 386 | 1.06 | AbrB regulon |
| *yvmB* | 3,604,023 | 3,604,532 | + | 111 | 104 | 1.07 | 137 | 133 | 1.03 | |
| *yvmA* | 3,604,553 | 3,605,764 | + | 120 | 115 | 1.05 | 136 | 124 | 1.10 | |
| *yvlD* | 3,605,792 | 3,606,151 | - | 1181 | 877 | 1.35 | 1276 | 1089 | 1.17 | |
| *yvlC* | 3,606,153 | 3,606,350 | - | 3280 | 2582 | 1.27 | 2947 | 2544 | 1.16 | |
| *yvlB* | 3,606,355 | 3,607,452 | - | 1879 | 1582 | 1.19 | 2540 | 2394 | 1.06 | |
| *yvlA* | 3,607,477 | 3,607,803 | - | 682 | 558 | 1.22 | 1272 | 1299 | 0.98 | |
| *yvkN* | 3,608,021 | 3,608,251 | + | 67 | 74 | 0.90 | 87 | 80 | 1.09 | |
| *yvzB* | 3,608,450 | 3,608,932 | - | 2074 | 2169 | 0.96 | 1406 | 1355 | 1.04 | |
| *uvrA* | 3,609,094 | 3,611,967 | - | 1762 | 1452 | 1.21 | 1488 | 1096 | 1.36 | |
| *uvrB* | 3,611,975 | 3,613,960 | - | 1253 | 1066 | 1.18 | 902 | 702 | 1.28 | |
| *csbA* | 3,614,146 | 3,614,376 | - | 319 | 297 | 1.07 | 332 | 293 | 1.13 | |
| *yvkC* | 3,614,823 | 3,617,318 | + | 118 | 104 | 1.13 | 196 | 162 | 1.21 | |
| *yvkB* | 3,617,394 | 3,617,963 | + | 134 | 131 | 1.02 | 250 | 205 | 1.22 | |
| *yvkA* | 3,617,994 | 3,619,328 | + | 95 | 90 | 1.06 | 136 | 116 | 1.17 | |
| *yvjD* | 3,619,376 | 3,620,569 | - | 835 | 845 | 0.99 | 598 | 663 | 0.90 | |
| *yvzD* | 3,620,648 | 3,620,986 | - | 854 | 1203 | 0.71 | 782 | 906 | 0.86 | |
| *yvjB* | 3,621,386 | 3,622,828 | - | 73 | 82 | 0.89 | 72 | 91 | 0.79 | |
| *ftsX* | 3,622,968 | 3,623,858 | - | 310 | 260 | 1.19 | 574 | 598 | 0.96 | |
| *ftsE* | 3,623,851 | 3,624,537 | - | 1142 | 898 | 1.27 | 1345 | 1449 | 0.93 | Spo0A regulon |
| *cccB* | 3,624,771 | 3,625,109 | - | 1022 | 818 | 1.25 | 1059 | 995 | 1.06 | |
| *yvjA* | 3,625,158 | 3,626,003 | - | 212 | 172 | 1.24 | 165 | 140 | 1.17 | |
| *prfB* | 3,626,169 | 3,627,270 | - | 1633 | 1528 | 1.07 | 1846 | 1829 | 1.01 | |
| *secA* | 3,627,340 | 3,629,865 | - | 2457 | 2322 | 1.06 | 2062 | 2109 | 0.98 | |
| *yvyD* | 3,630,033 | 3,630,602 | - | 6016 | 6920 | 0.87 | 4101 | 3652 | 1.12 | Spo0A regulon |
| *fliT* | 3,631,180 | 3,631,521 | - | 4707 | 4528 | 1.04 | 3693 | 3677 | 1.00 | |
| *fliS* | 3,631,518 | 3,631,919 | - | 4480 | 4379 | 1.02 | 3613 | 3338 | 1.08 | |
| *fliD* | 3,631,941 | 3,633,437 | - | 4301 | 4412 | 0.97 | 3289 | 3239 | 1.02 | |
| *yvyC* | 3,633,455 | 3,633,784 | - | 1471 | 1655 | 0.89 | 1101 | 1191 | 0.92 | SigD regulon |
| *hag* | 3,634,017 | 3,634,931 | - | 10338 | 11309 | 0.91 | 8218 | 7537 | 1.09 | SigD regulon |
| *csrA* | 3,635,076 | 3,635,300 | - | 755 | 784 | 0.96 | 744 | 890 | 0.84 | |
| *yviF* | 3,635,294 | 3,635,725 | - | 461 | 467 | 0.99 | 319 | 424 | 0.75 | |
| *yviE* | 3,635,746 | 3,636,321 | - | 1154 | 1187 | 0.97 | 781 | 1003 | 0.78 | |
| *flgL* | 3,636,368 | 3,637,264 | - | 3942 | 3957 | 1.00 | 2362 | 2749 | 0.86 | |
| *flgK* | 3,637,275 | 3,638,798 | - | 3480 | 3712 | 0.94 | 2024 | 2370 | 0.85 | |
| *yvyG* | 3,638,817 | 3,639,299 | - | 4460 | 5317 | 0.84 | 2501 | 3039 | 0.82 | |
| *flgM* | 3,639,315 | 3,639,581 | - | 4326 | 5469 | 0.79 | 2262 | 2784 | 0.81 | |
| *yvyF* | 3,639,662 | 3,640,081 | - | 1930 | 2997 | 0.64 | 1537 | 2178 | 0.71 | SigD regulon |
| *comFC* | 3,640,155 | 3,640,844 | - | 681 | 887 | 0.77 | 723 | 1087 | 0.67 | |
| *comFB* | 3,640,841 | 3,641,137 | - | 949 | 1212 | 0.78 | 927 | 1395 | 0.66 | |
| *comFA* | 3,641,197 | 3,642,588 | - | 904 | 1146 | 0.79 | 988 | 1432 | 0.69 | |
| *yviA* | 3,642,694 | 3,643,539 | - | 370 | 354 | 1.05 | 487 | 588 | 0.83 | |
| *degU* | 3,643,637 | 3,644,326 | - | 1308 | 1268 | 1.03 | 1615 | 1704 | 0.95 | |
| *degS* | 3,644,409 | 3,645,566 | - | 793 | 688 | 1.15 | 880 | 987 | 0.89 | |
| *yvyE* | 3,645,783 | 3,646,436 | + | 469 | 431 | 1.09 | 599 | 716 | 0.84 | Spo0A regulon |
| *yvhJ* | 3,646,436 | 3,647,611 | + | 504 | 434 | 1.16 | 895 | 1004 | 0.89 | |
| *tagO* | 3,647,684 | 3,648,760 | - | 852 | 750 | 1.14 | 627 | 793 | 0.79 | |
| *tuaH* | 3,648,905 | 3,650,098 | - | 82 | 69 | 1.19 | 102 | 90 | 1.13 | |
| *tuaG* | 3,650,127 | 3,650,885 | - | 113 | 103 | 1.10 | 127 | 126 | 1.01 | |
| *tuaF* | 3,650,909 | 3,651,589 | - | 120 | 107 | 1.12 | 150 | 134 | 1.13 | |
| *tuaE* | 3,651,618 | 3,653,084 | - | 83 | 80 | 1.04 | 99 | 89 | 1.11 | |
| *tuaD* | 3,653,169 | 3,654,554 | - | 128 | 107 | 1.20 | 136 | 133 | 1.02 | |
| *tuaC* | 3,654,616 | 3,655,785 | - | 116 | 107 | 1.08 | 97 | 98 | 0.99 | |
| *tuaB* | 3,655,782 | 3,657,233 | - | 71 | 69 | 1.02 | 69 | 75 | 0.92 | |
| *tuaA* | 3,657,383 | 3,657,922 | - | 54 | 56 | 0.96 | 45 | 53 | 0.86 | |
| *lytC* | 3,658,149 | 3,659,639 | - | 2620 | 2431 | 1.08 | 1931 | 2243 | 0.86 | |
| *lytB* | 3,659,678 | 3,661,795 | - | 2289 | 2127 | 1.08 | 1850 | 2420 | 0.76 | |
| *lytA* | 3,661,819 | 3,662,127 | - | 1981 | 2243 | 0.88 | 1864 | 2299 | 0.81 | SigD regulon |
| *lytR* | 3,662,311 | 3,663,231 | + | 2245 | 2207 | 1.02 | 1963 | 1902 | 1.03 | |
| *yvyH* | 3,663,271 | 3,664,413 | - | 334 | 316 | 1.06 | 316 | 323 | 0.98 | |
| *gtaB* | 3,664,659 | 3,665,537 | + | 4537 | 4633 | 0.98 | 2532 | 2219 | 1.14 | |
| *ggaB* | 3,666,239 | 3,668,941 | - | 91 | 96 | 0.95 | 434 | 446 | 0.97 | |
| *ggaA* | 3,669,065 | 3,670,405 | - | 40 | 37 | 1.09 | 111 | 149 | 0.75 | |
| *tagH* | 3,672,594 | 3,674,177 | - | 375 | 317 | 1.18 | 704 | 727 | 0.97 | |
| *tagG* | 3,674,197 | 3,675,024 | - | 390 | 367 | 1.06 | 636 | 655 | 0.97 | |
| *tagF* | 3,675,189 | 3,677,429 | - | 359 | 282 | 1.27 | 657 | 747 | 0.88 | |
| *tagE* | 3,677,429 | 3,679,450 | - | 485 | 418 | 1.16 | 669 | 780 | 0.86 | |
| *tagD* | 3,679,611 | 3,680,000 | - | 1037 | 1206 | 0.86 | 944 | 1321 | 0.71 | |
| *tagA* | 3,680,400 | 3,681,170 | + | 861 | 867 | 0.99 | 779 | 1039 | 0.75 | |
| *tagB* | 3,681,203 | 3,682,348 | + | 371 | 341 | 1.09 | 389 | 483 | 0.81 | |
| *tagC* | 3,682,468 | 3,683,796 | + | 257 | 106 | 2.42 | 394 | 175 | 2.25 | |
| *lytD* | 3,683,856 | 3,686,498 | - | 1722 | 1710 | 1.01 | 1452 | 1413 | 1.03 | SigD regulon |
| *pmi* | 3,686,627 | 3,687,577 | - | 699 | 708 | 0.99 | 675 | 752 | 0.90 | |
| *gerBA* | 3,687,842 | 3,689,290 | + | 51 | 54 | 0.95 | 47 | 50 | 0.94 | |
| *gerBB* | 3,689,296 | 3,690,402 | + | 45 | 48 | 0.94 | 50 | 54 | 0.92 | |
| *gerBC* | 3,690,399 | 3,691,523 | + | 69 | 66 | 1.05 | 67 | 72 | 0.93 | |
| *ywtG* | 3,691,560 | 3,692,933 | - | 2729 | 1892 | 1.44 | 963 | 349 | 2.76 | |
| *ywtF* | 3,693,266 | 3,694,234 | + | 697 | 619 | 1.13 | 568 | 534 | 1.06 | |
| *ywtE* | 3,694,390 | 3,695,250 | + | 625 | 529 | 1.18 | 736 | 721 | 1.02 | |
| *ywtD* | 3,695,284 | 3,696,525 | - | 4121 | 3358 | 1.23 | 3690 | 2910 | 1.27 | |
| *ywtC* | 3,696,666 | 3,696,833 | - | 49 | 43 | 1.14 | 60 | 51 | 1.17 | |
| *ywtB* | 3,696,848 | 3,697,990 | - | 79 | 77 | 1.03 | 74 | 86 | 0.86 | |
| *ywtA* | 3,698,009 | 3,698,458 | - | 48 | 41 | 1.19 | 42 | 43 | 0.97 | |
| *ywsC* | 3,698,473 | 3,699,654 | - | 51 | 49 | 1.03 | 46 | 48 | 0.96 | |
| *rbsR* | 3,700,438 | 3,701,418 | + | 206 | 206 | 1.00 | 244 | 296 | 0.83 | AbrB regulon |
| *rbsK* | 3,701,420 | 3,702,301 | + | 190 | 219 | 0.87 | 256 | 329 | 0.78 | AbrB regulon |
| *rbsD* | 3,702,298 | 3,702,693 | + | 71 | 99 | 0.72 | 126 | 153 | 0.83 | AbrB regulon |
| *rbsA* | 3,702,709 | 3,704,190 | + | 120 | 161 | 0.75 | 163 | 221 | 0.74 | AbrB regulon |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *rbsC* | 3,704,192 | 3,705,160 | + | 90 | 124 | 0.73 | 91 | 131 | 0.70 | AbrB regulon |
| *rbsB* | 3,705,172 | 3,706,089 | + | 216 | 279 | 0.77 | 208 | 290 | 0.72 | AbrB regulon |
| *ywsB* | 3,706,171 | 3,706,707 | + | 5563 | 5681 | 0.98 | 3027 | 1825 | 1.66 | |
| *ywsA* | 3,706,863 | 3,707,159 | + | 159 | 261 | 0.61 | 68 | 51 | 1.35 | |
| *ywrO* | 3,707,199 | 3,707,726 | - | 783 | 524 | 1.49 | 1284 | 1094 | 1.17 | |
| *alsD* | 3,707,826 | 3,708,593 | - | 173 | 149 | 1.16 | 175 | 135 | 1.30 | |
| *alsS* | 3,708,655 | 3,710,370 | - | 166 | 120 | 1.38 | 151 | 129 | 1.17 | |
| *alsR* | 3,710,525 | 3,711,433 | + | 264 | 299 | 0.88 | 280 | 330 | 0.85 | |
| *ywrK* | 3,711,644 | 3,712,972 | + | 30 | 36 | 0.83 | 36 | 40 | 0.90 | |
| *ywrJ* | 3,713,029 | 3,713,706 | - | 32 | 40 | 0.78 | 38 | 39 | 0.97 | |
| *cotB* | 3,713,766 | 3,714,908 | - | 45 | 46 | 0.97 | 55 | 48 | 1.13 | |
| *cotH* | 3,715,036 | 3,716,124 | - | 35 | 41 | 0.87 | 37 | 40 | 0.92 | |
| *cotG* | 3,716,265 | 3,716,852 | + | 38 | 115 | 0.33 | 36 | 47 | 0.76 | |
| *ywrF* | 3,717,026 | 3,717,643 | + | 490 | 508 | 0.96 | 428 | 363 | 1.18 | |
| *ywrE* | 3,717,821 | 3,718,156 | + | 308 | 262 | 1.17 | 452 | 478 | 0.95 | |
| *ywrD* | 3,718,161 | 3,719,738 | - | 78 | 83 | 0.94 | 64 | 73 | 0.88 | |
| *ywrC* | 3,719,952 | 3,720,428 | + | 232 | 266 | 0.87 | 154 | 181 | 0.85 | |
| *ywrB* | 3,720,442 | 3,721,035 | + | 143 | 157 | 0.91 | 118 | 121 | 0.98 | |
| *ywrA* | 3,721,032 | 3,721,568 | + | 108 | 111 | 0.98 | 100 | 114 | 0.88 | |
| *ywqO* | 3,721,595 | 3,721,816 | - | 41 | 44 | 0.95 | 57 | 47 | 1.19 | |
| *ywqN* | 3,721,813 | 3,722,358 | - | 68 | 58 | 1.18 | 84 | 79 | 1.07 | |
| *ywqM* | 3,722,481 | 3,723,362 | + | 107 | 123 | 0.86 | 91 | 119 | 0.76 | |
| *ywqL* | 3,723,447 | 3,724,163 | - | 504 | 330 | 1.53 | 548 | 491 | 1.12 | |
| *ywqK* | 3,724,173 | 3,724,637 | - | 710 | 413 | 1.72 | 672 | 629 | 1.07 | |
| *ywqJ* | 3,724,627 | 3,726,435 | - | 726 | 475 | 1.53 | 644 | 519 | 1.24 | |
| *ywqI* | 3,726,454 | 3,726,714 | - | 1060 | 802 | 1.32 | 990 | 728 | 1.36 | |
| *ywqH* | 3,726,724 | 3,727,146 | - | 859 | 647 | 1.33 | 711 | 569 | 1.25 | |
| *ywqG* | 3,727,538 | 3,728,323 | - | 440 | 350 | 1.26 | 725 | 691 | 1.05 | |
| *ywqF* | 3,728,515 | 3,729,837 | - | 196 | 154 | 1.27 | 324 | 293 | 1.11 | |
| *ywqE* | 3,730,032 | 3,730,796 | - | 113 | 97 | 1.17 | 160 | 147 | 1.09 | AbrB regulon |
| *ywqD* | 3,730,849 | 3,731,562 | - | 336 | 270 | 1.24 | 497 | 526 | 0.94 | AbrB regulon |
| *ywqC* | 3,731,552 | 3,732,298 | - | 215 | 226 | 0.95 | 377 | 427 | 0.88 | Spo0A and AbrB regulo |
| *ywqB* | 3,732,879 | 3,734,489 | + | 209 | 181 | 1.16 | 212 | 263 | 0.81 | |
| *ywqA* | 3,734,476 | 3,737,244 | + | 383 | 282 | 1.36 | 484 | 460 | 1.05 | |
| *ywpJ* | 3,737,370 | 3,738,227 | - | 252 | 278 | 0.91 | 505 | 663 | 0.76 | |
| *glcR* | 3,738,233 | 3,739,009 | - | 215 | 248 | 0.87 | 361 | 519 | 0.69 | |
| *ywpH* | 3,739,233 | 3,739,574 | - | 3282 | 3802 | 0.86 | 3532 | 4102 | 0.86 | |
| *ywpG* | 3,739,651 | 3,740,034 | - | 49 | 57 | 0.86 | 129 | 127 | 1.02 | |
| *ywpF* | 3,740,209 | 3,740,619 | + | 1842 | 1690 | 1.09 | 1285 | 1364 | 0.94 | |
| *ywpE* | 3,740,758 | 3,741,066 | - | 38 | 36 | 1.05 | 54 | 51 | 1.07 | |
| *ywpD* | 3,741,410 | 3,742,246 | + | 45 | 46 | 0.99 | 48 | 51 | 0.94 | |
| *mscL* | 3,742,293 | 3,742,685 | - | 564 | 541 | 1.04 | 660 | 743 | 0.89 | |
| *ywpB* | 3,742,784 | 3,743,182 | - | 224 | 243 | 0.92 | 291 | 349 | 0.83 | |
| *rapD* | 3,743,374 | 3,744,438 | + | 384 | 303 | 1.27 | 510 | 490 | 1.04 | |
| *flhP* | 3,744,461 | 3,745,267 | - | 1352 | 1878 | 0.72 | 1156 | 1548 | 0.75 | |
| *flhO* | 3,745,301 | 3,746,113 | - | 1339 | 2311 | 0.58 | 1147 | 1487 | 0.77 | |
| *mbl* | 3,746,276 | 3,747,277 | - | 982 | 921 | 1.07 | 1098 | 1595 | 0.69 | |
| *spoIIID* | 3,747,443 | 3,747,724 | - | 27 | 41 | 0.66 | 31 | 40 | 0.76 | |
| *ywoH* | 3,748,074 | 3,748,487 | + | 60 | 59 | 1.02 | 63 | 100 | 0.64 | |
| *ywoG* | 3,748,509 | 3,749,699 | + | 79 | 74 | 1.07 | 98 | 108 | 0.90 | |
| *ywoF* | 3,749,790 | 3,751,196 | - | 614 | 507 | 1.21 | 756 | 798 | 0.95 | AbrB regulon |
| *ywoE* | 3,751,302 | 3,752,774 | - | 62 | 65 | 0.96 | 55 | 60 | 0.91 | |
| *ywoD* | 3,752,955 | 3,754,313 | - | 169 | 149 | 1.13 | 184 | 170 | 1.09 | |
| *ywoC* | 3,754,313 | 3,754,882 | - | 295 | 276 | 1.07 | 376 | 386 | 0.98 | |
| *ywoB* | 3,755,066 | 3,755,530 | - | 234 | 235 | 1.00 | 325 | 341 | 0.95 | |
| *nrgA* | 3,755,812 | 3,757,026 | + | 312 | 321 | 0.97 | 168 | 158 | 1.07 | |
| *nrgB* | 3,757,038 | 3,757,388 | + | 852 | 861 | 0.99 | 1196 | 830 | 1.44 | |
| *ywoA* | 3,757,569 | 3,758,150 | + | 451 | 320 | 1.41 | 495 | 451 | 1.10 | |
| *ywnJ* | 3,758,191 | 3,758,613 | - | 81 | 66 | 1.22 | 96 | 74 | 1.31 | |
| *spoIIQ* | 3,758,724 | 3,759,575 | - | 72 | 105 | 0.69 | 70 | 82 | 0.85 | |
| *ywnH* | 3,759,716 | 3,760,207 | + | 468 | 477 | 0.98 | 489 | 620 | 0.79 | |
| *ywnG* | 3,760,204 | 3,760,722 | + | 370 | 341 | 1.08 | 430 | 477 | 0.90 | |
| *ywnF* | 3,761,009 | 3,761,443 | - | 554 | 432 | 1.28 | 216 | 203 | 1.06 | |
| *ywnE* | 3,761,686 | 3,763,134 | + | 212 | 175 | 1.21 | 255 | 250 | 1.02 | |
| *mta* | 3,763,155 | 3,763,928 | - | 149 | 138 | 1.08 | 144 | 127 | 1.13 | |
| *ywnC* | 3,764,073 | 3,764,456 | + | 88 | 81 | 1.09 | 140 | 142 | 0.99 | |
| *ywnB* | 3,764,491 | 3,765,132 | - | 192 | 221 | 0.87 | 252 | 303 | 0.83 | |
| *ywnA* | 3,765,200 | 3,765,601 | - | 324 | 332 | 0.97 | 376 | 435 | 0.86 | |
| *ureC* | 3,765,736 | 3,767,445 | - | 570 | 480 | 1.19 | 492 | 386 | 1.27 | |
| *ureB* | 3,767,442 | 3,767,816 | - | 694 | 563 | 1.23 | 660 | 510 | 1.29 | |
| *ureA* | 3,767,813 | 3,768,130 | - | 603 | 538 | 1.12 | 506 | 376 | 1.35 | |
| *csbD* | 3,769,127 | 3,769,315 | - | 752 | 802 | 0.94 | 1038 | 587 | 1.77 | |
| *ywmF* | 3,769,388 | 3,769,867 | - | 121 | 85 | 1.42 | 71 | 46 | 1.56 | |
| *rapB* | 3,770,023 | 3,771,156 | - | 675 | 644 | 1.05 | 621 | 610 | 1.02 | |
| *moaA* | 3,771,348 | 3,772,373 | - | 903 | 673 | 1.34 | 1163 | 859 | 1.35 | |
| *fdhD* | 3,772,389 | 3,773,177 | - | 671 | 439 | 1.53 | 704 | 540 | 1.30 | |
| *ywmD* | 3,773,678 | 3,774,352 | - | 312 | 239 | 1.31 | 306 | 290 | 1.06 | |
| *ywmC* | 3,774,676 | 3,775,359 | - | 197 | 173 | 1.14 | 140 | 153 | 0.91 | |
| *spoIID* | 3,775,745 | 3,776,776 | - | 190 | 194 | 0.98 | 133 | 136 | 0.98 | Spo0A regulon |
| *murAA* | 3,776,972 | 3,778,282 | - | 2149 | 1780 | 1.21 | 1888 | 2052 | 0.92 | |
| *ywmB* | 3,778,316 | 3,779,056 | - | 1689 | 1257 | 1.34 | 1319 | 1406 | 0.94 | |
| *ywzB* | 3,779,185 | 3,779,415 | - | 1498 | 1131 | 1.32 | 1110 | 1050 | 1.06 | |
| *ywmA* | 3,779,585 | 3,780,058 | + | 79 | 94 | 0.85 | 59 | 61 | 0.97 | |
| *atpC* | 3,780,092 | 3,780,490 | - | 4800 | 4766 | 1.01 | 3214 | 3188 | 1.01 | |
| *atpD* | 3,780,514 | 3,781,935 | - | 3249 | 3927 | 0.83 | 3226 | 3478 | 0.93 | |
| *atpG* | 3,781,961 | 3,782,824 | - | 3432 | 4132 | 0.83 | 4093 | 4309 | 0.95 | |
| *atpA* | 3,782,901 | 3,784,409 | - | 3018 | 3229 | 0.93 | 3345 | 3658 | 0.91 | |
| *atpH* | 3,784,426 | 3,784,971 | - | 3179 | 3403 | 0.93 | 3691 | 3910 | 0.94 | |
| *atpF* | 3,784,968 | 3,785,480 | - | 4081 | 4421 | 0.92 | 4377 | 4743 | 0.92 | |
| *atpE* | 3,785,643 | 3,785,855 | - | 2255 | 2411 | 0.94 | 3065 | 3505 | 0.87 | |
| *atpB* | 3,785,901 | 3,786,635 | - | 2634 | 2877 | 0.92 | 2819 | 3180 | 0.89 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *atpI* | 3,786,643 | 3,787,026 | - | 1416 | 1481 | 0.96 | 1251 | 1642 | 0.76 | |
| *upp* | 3,787,449 | 3,788,078 | - | 719 | 752 | 0.96 | 1304 | 1520 | 0.86 | |
| *glyA* | 3,788,213 | 3,789,460 | - | 2740 | 3010 | 0.91 | 2545 | 2891 | 0.88 | |
| *ywlG* | 3,789,667 | 3,790,209 | - | 695 | 679 | 1.02 | 647 | 611 | 1.06 | |
| *ywlF* | 3,790,222 | 3,790,671 | - | 1009 | 984 | 1.03 | 913 | 932 | 0.98 | |
| *ywlE* | 3,790,828 | 3,791,280 | - | 493 | 491 | 1.00 | 372 | 392 | 0.95 | |
| *ywlD* | 3,791,356 | 3,791,913 | - | 71 | 64 | 1.11 | 64 | 68 | 0.94 | |
| *ywlC* | 3,791,992 | 3,793,032 | - | 314 | 306 | 1.02 | 316 | 295 | 1.07 | |
| *ywlB* | 3,793,189 | 3,793,632 | - | 583 | 349 | 1.67 | 231 | 137 | 1.68 | |
| *spoIIR* | 3,793,699 | 3,794,373 | - | 591 | 353 | 1.68 | 249 | 130 | 1.91 | |
| *ywlA* | 3,794,514 | 3,794,876 | + | 143 | 135 | 1.06 | 178 | 179 | 0.99 | |
| *ywkF* | 3,794,893 | 3,795,180 | - | 214 | 169 | 1.27 | 256 | 251 | 1.02 | |
| *ywkE* | 3,795,240 | 3,796,106 | - | 338 | 246 | 1.37 | 436 | 418 | 1.04 | |
| *prfA* | 3,796,108 | 3,797,178 | - | 1284 | 1159 | 1.11 | 1436 | 1368 | 1.05 | |
| *ywkD* | 3,797,304 | 3,797,690 | + | 224 | 190 | 1.18 | 263 | 198 | 1.33 | |
| *ywkC* | 3,797,812 | 3,798,366 | + | 433 | 429 | 1.01 | 544 | 480 | 1.13 | Spo0A regulon |
| *ywkB* | 3,798,400 | 3,799,359 | - | 84 | 66 | 1.27 | 56 | 44 | 1.26 | |
| *ywkA* | 3,799,441 | 3,801,189 | - | 101 | 79 | 1.27 | 106 | 73 | 1.46 | |
| *tdk* | 3,801,428 | 3,802,015 | - | 194 | 237 | 0.82 | 202 | 277 | 0.73 | |
| *rpmE* | 3,802,104 | 3,802,304 | - | 1546 | 2104 | 0.74 | 3368 | 3812 | 0.88 | |
| *rho* | 3,802,423 | 3,803,706 | - | 1628 | 1357 | 1.20 | 1655 | 1657 | 1.00 | |
| *ywjI* | 3,804,113 | 3,805,078 | - | 1103 | 1371 | 0.80 | 1548 | 2290 | 0.68 | |
| *murAB* | 3,805,109 | 3,806,398 | - | 1237 | 1425 | 0.87 | 1640 | 2361 | 0.69 | |
| *ywjH* | 3,806,777 | 3,807,415 | - | 2923 | 3799 | 0.77 | 3299 | 4104 | 0.80 | |
| *fbaA* | 3,807,535 | 3,808,392 | - | 3303 | 4012 | 0.82 | 3543 | 4124 | 0.86 | |
| *spo0F* | 3,808,573 | 3,808,947 | - | 742 | 740 | 1.00 | 604 | 811 | 0.75 | Spo0A regulon |
| *ywjG* | 3,809,113 | 3,809,634 | + | 242 | 239 | 1.01 | 268 | 268 | 1.00 | |
| *pyrG* | 3,809,716 | 3,811,323 | - | 493 | 499 | 0.99 | 918 | 997 | 0.92 | |
| *rpoE* | 3,811,565 | 3,812,086 | - | 958 | 1014 | 0.94 | 1013 | 1331 | 0.76 | |
| *acdA* | 3,812,269 | 3,813,408 | - | 148 | 129 | 1.15 | 153 | 148 | 1.04 | |
| *ywjF* | 3,813,405 | 3,815,522 | - | 145 | 130 | 1.12 | 149 | 158 | 0.94 | |
| *ywjE* | 3,815,677 | 3,816,873 | + | 57 | 60 | 0.94 | 43 | 53 | 0.81 | |
| *ywjD* | 3,816,886 | 3,817,848 | + | 50 | 49 | 1.02 | 38 | 44 | 0.86 | |
| *ywjC* | 3,817,929 | 3,818,201 | + | 1697 | 2317 | 0.73 | 2127 | 1166 | 1.82 | |
| *ywjB* | 3,818,243 | 3,818,767 | - | 1583 | 1476 | 1.07 | 946 | 978 | 0.97 | |
| *ywjA* | 3,818,777 | 3,820,504 | - | 1865 | 1804 | 1.03 | 946 | 998 | 0.95 | |
| *ywiE* | 3,820,593 | 3,822,095 | - | 1348 | 1632 | 0.83 | 988 | 778 | 1.27 | |
| *narI* | 3,822,581 | 3,823,252 | - | 59 | 62 | 0.96 | 56 | 63 | 0.89 | |
| *narJ* | 3,823,249 | 3,823,803 | - | 112 | 114 | 0.99 | 91 | 107 | 0.85 | |
| *narH* | 3,823,829 | 3,825,292 | - | 125 | 118 | 1.05 | 85 | 112 | 0.76 | |
| *narG* | 3,825,282 | 3,828,968 | - | 97 | 94 | 1.03 | 71 | 88 | 0.81 | |
| *arfM* | 3,829,164 | 3,829,640 | - | 82 | 85 | 0.96 | 67 | 85 | 0.79 | |
| *ywiC* | 3,829,784 | 3,830,503 | + | 48 | 53 | 0.90 | 53 | 62 | 0.85 | |
| *fnr* | 3,830,535 | 3,831,251 | - | 587 | 499 | 1.18 | 177 | 158 | 1.12 | |
| *narK* | 3,831,350 | 3,832,537 | - | 92 | 93 | 0.99 | 75 | 89 | 0.85 | |
| *argS* | 3,832,673 | 3,834,343 | - | 918 | 849 | 1.08 | 927 | 1082 | 0.86 | |
| *ywiB* | 3,834,340 | 3,834,768 | - | 509 | 518 | 0.98 | 561 | 734 | 0.76 | |
| *albA* | 3,835,346 | 3,836,692 | + | 3725 | 2918 | 1.28 | 2366 | 1962 | 1.21 | AbrB regulon |
| *albB* | 3,836,705 | 3,836,866 | + | 3153 | 2377 | 1.33 | 1724 | 1474 | 1.17 | AbrB regulon |
| *albC* | 3,836,863 | 3,837,582 | + | 2003 | 1173 | 1.71 | 1017 | 911 | 1.12 | AbrB regulon |
| *albD* | 3,837,575 | 3,838,885 | + | 1512 | 869 | 1.74 | 710 | 670 | 1.06 | AbrB regulon |
| *albE* | 3,838,875 | 3,840,035 | + | 1139 | 656 | 1.74 | 498 | 476 | 1.05 | AbrB regulon |
| *albF* | 3,840,040 | 3,841,320 | + | 900 | 587 | 1.53 | 372 | 372 | 1.00 | AbrB regulon |
| *albG* | 3,841,317 | 3,842,018 | + | 417 | 282 | 1.48 | 149 | 155 | 0.96 | AbrB regulon |
| *ywhL* | 3,842,024 | 3,843,400 | - | 60 | 60 | 1.00 | 58 | 62 | 0.95 | |
| *ywhK* | 3,843,439 | 3,844,794 | - | 44 | 47 | 0.94 | 44 | 47 | 0.94 | |
| *rapF* | 3,845,024 | 3,846,169 | + | 2507 | 2361 | 1.06 | 2765 | 2821 | 0.98 | |
| *ywhH* | 3,846,371 | 3,846,844 | + | 272 | 200 | 1.36 | 396 | 360 | 1.10 | |
| *speB* | 3,846,876 | 3,847,748 | - | 234 | 247 | 0.95 | 480 | 473 | 1.01 | |
| *speE* | 3,847,809 | 3,848,639 | - | 406 | 531 | 0.77 | 614 | 762 | 0.81 | |
| *ywhE* | 3,848,841 | 3,850,784 | + | 83 | 83 | 0.99 | 64 | 82 | 0.78 | |
| *ywhD* | 3,851,208 | 3,851,726 | - | 776 | 663 | 1.17 | 1092 | 1081 | 1.01 | |
| *ywhC* | 3,851,740 | 3,852,399 | - | 528 | 475 | 1.11 | 594 | 648 | 0.92 | |
| *ywhB* | 3,852,508 | 3,852,696 | + | 287 | 297 | 0.97 | 431 | 438 | 0.98 | |
| *ywhA* | 3,852,739 | 3,853,158 | - | 308 | 302 | 1.02 | 330 | 338 | 0.98 | |
| *thrZ* | 3,853,278 | 3,855,194 | - | 142 | 141 | 1.01 | 150 | 155 | 0.97 | |
| *mmr* | 3,856,039 | 3,857,439 | - | 172 | 168 | 1.03 | 183 | 206 | 0.89 | |
| *ywgB* | 3,857,439 | 3,857,909 | - | 88 | 93 | 0.94 | 111 | 128 | 0.87 | |
| *ywgA* | 3,858,021 | 3,858,521 | - | 306 | 269 | 1.14 | 476 | 538 | 0.88 | |
| *ywfO* | 3,858,557 | 3,859,858 | - | 552 | 534 | 1.03 | 773 | 853 | 0.91 | |
| *ywzC* | 3,860,020 | 3,860,244 | - | 281 | 335 | 0.84 | 171 | 239 | 0.72 | |
| *rsfA* | 3,860,459 | 3,861,235 | + | 90 | 103 | 0.88 | 64 | 79 | 0.82 | |
| *ywfM* | 3,861,379 | 3,862,269 | - | 96 | 85 | 1.13 | 91 | 87 | 1.05 | |
| *ywfL* | 3,862,437 | 3,863,282 | - | 165 | 172 | 0.96 | 218 | 263 | 0.83 | |
| *ywfK* | 3,863,331 | 3,864,230 | - | 159 | 167 | 0.95 | 169 | 182 | 0.93 | |
| *pta* | 3,864,377 | 3,865,348 | - | 1083 | 959 | 1.13 | 1581 | 1399 | 1.13 | |
| *ywfI* | 3,865,618 | 3,866,382 | + | 1014 | 797 | 1.27 | 698 | 643 | 1.09 | |
| *ywfH* | 3,866,515 | 3,867,294 | + | 1029 | 933 | 1.10 | 947 | 1041 | 0.91 | |
| *ywfG* | 3,867,309 | 3,868,508 | - | 268 | 266 | 1.01 | 382 | 409 | 0.94 | |
| *ywfF* | 3,868,509 | 3,869,693 | - | 407 | 382 | 1.06 | 676 | 692 | 0.98 | |
| *ywfE* | 3,869,690 | 3,871,108 | - | 594 | 548 | 1.08 | 931 | 953 | 0.98 | |
| *ywfD* | 3,871,127 | 3,871,894 | - | 549 | 489 | 1.12 | 743 | 794 | 0.93 | |
| *ywfC* | 3,871,891 | 3,872,598 | - | 429 | 432 | 0.99 | 630 | 708 | 0.89 | |
| *ywfB* | 3,872,588 | 3,873,202 | - | 251 | 268 | 0.94 | 240 | 291 | 0.82 | |
| *ywfA* | 3,873,354 | 3,874,592 | - | 126 | 114 | 1.10 | 92 | 99 | 0.93 | |
| *rocC* | 3,874,802 | 3,876,214 | - | 236 | 234 | 1.01 | 203 | 195 | 1.05 | |
| *rocB* | 3,876,214 | 3,877,914 | - | 213 | 330 | 0.65 | 180 | 190 | 0.95 | |
| *rocA* | 3,877,988 | 3,879,535 | - | 448 | 939 | 0.48 | 305 | 434 | 0.70 | AbrB regulon |
| *rocG* | 3,879,762 | 3,881,036 | - | 310 | 418 | 0.74 | 281 | 351 | 0.80 | Spo0A and AbrB regulo |
| *yweA* | 3,881,213 | 3,881,677 | - | 2653 | 3230 | 0.82 | 2078 | 2278 | 0.91 | AbrB regulon |
| *spsL* | 3,882,001 | 3,882,456 | - | 96 | 78 | 1.23 | 121 | 112 | 1.08 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *spsK* | 3,882,449 | 3,883,300 | - | 174 | 142 | 1.22 | 186 | 175 | 1.06 | |
| *spsJ* | 3,883,314 | 3,884,261 | - | 113 | 99 | 1.14 | 141 | 123 | 1.14 | |
| *spsI* | 3,884,261 | 3,885,001 | - | 120 | 114 | 1.05 | 121 | 126 | 0.96 | |
| *spsG* | 3,885,026 | 3,886,045 | - | 102 | 98 | 1.04 | 99 | 101 | 0.98 | |
| *spsF* | 3,886,052 | 3,886,771 | - | 72 | 69 | 1.03 | 72 | 69 | 1.04 | |
| *spsE* | 3,886,764 | 3,887,885 | - | 109 | 109 | 1.00 | 97 | 96 | 1.01 | |
| *spsD* | 3,887,885 | 3,888,754 | - | 67 | 63 | 1.07 | 66 | 70 | 0.94 | |
| *spsC* | 3,888,755 | 3,889,924 | - | 105 | 108 | 0.97 | 87 | 109 | 0.80 | |
| *spsB* | 3,889,945 | 3,891,363 | - | 44 | 48 | 0.94 | 40 | 43 | 0.94 | |
| *spsA* | 3,891,368 | 3,892,138 | - | 46 | 55 | 0.84 | 36 | 44 | 0.82 | |
| *ywdL* | 3,892,458 | 3,893,003 | + | 53 | 62 | 0.86 | 37 | 44 | 0.84 | |
| *ywdK* | 3,893,076 | 3,893,417 | - | 710 | 590 | 1.20 | 568 | 520 | 1.09 | |
| *ywdJ* | 3,893,418 | 3,894,800 | - | 414 | 371 | 1.12 | 680 | 698 | 0.97 | |
| *ywdI* | 3,894,820 | 3,895,137 | - | 629 | 551 | 1.14 | 566 | 608 | 0.93 | |
| *ywdH* | 3,895,305 | 3,896,678 | + | 137 | 137 | 1.00 | 160 | 154 | 1.04 | |
| *ung* | 3,896,703 | 3,897,380 | - | 392 | 282 | 1.39 | 462 | 400 | 1.15 | |
| *ywdF* | 3,897,394 | 3,898,200 | - | 358 | 280 | 1.28 | 573 | 516 | 1.11 | |
| *ywdE* | 3,898,291 | 3,898,824 | - | 75 | 77 | 0.97 | 102 | 125 | 0.82 | |
| *ywdD* | 3,898,872 | 3,899,363 | - | 65 | 68 | 0.96 | 109 | 166 | 0.66 | |
| *ywdC* | 3,899,406 | 3,899,834 | + | 29 | 34 | 0.84 | 31 | 34 | 0.93 | |
| *thiD* | 3,899,983 | 3,900,798 | + | 509 | 547 | 0.93 | 742 | 865 | 0.86 | |
| *ywdA* | 3,900,888 | 3,901,136 | - | 346 | 444 | 0.78 | 198 | 215 | 0.92 | |
| *sacA* | 3,901,230 | 3,902,672 | - | 318 | 399 | 0.80 | 292 | 395 | 0.74 | |
| *sacP* | 3,902,669 | 3,904,054 | - | 142 | 176 | 0.80 | 134 | 182 | 0.74 | |
| *ywcJ* | 3,904,356 | 3,905,126 | + | 1009 | 831 | 1.21 | 192 | 167 | 1.15 | |
| *sacT* | 3,905,165 | 3,905,995 | - | 102 | 135 | 0.76 | 118 | 142 | 0.83 | |
| *ywcI* | 3,906,035 | 3,906,337 | - | 83 | 99 | 0.83 | 81 | 135 | 0.60 | |
| *vpr* | 3,906,867 | 3,909,287 | + | 456 | 416 | 1.10 | 698 | 598 | 1.17 | |
| *ywcH* | 3,909,325 | 3,910,326 | - | 187 | 172 | 1.09 | 176 | 156 | 1.12 | Spo0A regulon |
| *nfrA* | 3,910,500 | 3,911,249 | - | 1010 | 995 | 1.01 | 989 | 818 | 1.21 | Spo0A and SigD regulon |
| *rodA* | 3,911,355 | 3,912,536 | - | 113 | 137 | 0.83 | 168 | 201 | 0.83 | |
| *ywcE* | 3,913,032 | 3,913,295 | + | 68 | 81 | 0.83 | 145 | 253 | 0.57 | |
| *qoxD* | 3,913,338 | 3,913,712 | - | 479 | 587 | 0.82 | 1154 | 999 | 1.16 | |
| *qoxC* | 3,913,714 | 3,914,328 | - | 4662 | 4618 | 1.01 | 3688 | 3412 | 1.08 | |
| *qoxB* | 3,914,342 | 3,916,291 | - | 4303 | 4292 | 1.00 | 3454 | 3160 | 1.09 | |
| *qoxA* | 3,916,319 | 3,917,284 | - | 3775 | 3832 | 0.99 | 2744 | 2836 | 0.97 | |
| *ywzA* | 3,917,895 | 3,918,044 | + | 2439 | 2195 | 1.11 | 1413 | 721 | 1.96 | |
| *galT* | 3,918,116 | 3,919,657 | - | 1132 | 882 | 1.28 | 666 | 588 | 1.13 | |
| *galK* | 3,919,661 | 3,920,833 | - | 903 | 738 | 1.22 | 607 | 459 | 1.32 | |
| *ywcD* | 3,920,914 | 3,921,297 | - | 188 | 184 | 1.02 | 200 | 230 | 0.87 | |
| *ywcC* | 3,921,315 | 3,921,986 | - | 143 | 156 | 0.92 | 125 | 144 | 0.87 | |
| *slrA* | 3,922,342 | 3,922,500 | + | 520 | 415 | 1.25 | 499 | 431 | 1.16 | |
| *ywcB* | 3,922,943 | 3,923,251 | + | 116 | 99 | 1.17 | 130 | 117 | 1.11 | |
| *ywcA* | 3,923,238 | 3,924,788 | + | 82 | 79 | 1.03 | 71 | 78 | 0.91 | |
| *ywbO* | 3,924,819 | 3,925,421 | - | 154 | 147 | 1.05 | 141 | 193 | 0.73 | |
| *ywbN* | 3,925,705 | 3,926,955 | - | 724 | 762 | 0.95 | 607 | 748 | 0.81 | |
| *ywbM* | 3,926,974 | 3,928,131 | - | 714 | 802 | 0.89 | 599 | 865 | 0.69 | |
| *ywbL* | 3,928,128 | 3,929,573 | - | 302 | 369 | 0.82 | 236 | 351 | 0.67 | |
| *thiE* | 3,929,730 | 3,930,398 | - | 636 | 521 | 1.22 | 565 | 525 | 1.08 | |
| *thiM* | 3,930,395 | 3,931,213 | - | 717 | 564 | 1.27 | 654 | 577 | 1.13 | |
| *ywbI* | 3,931,221 | 3,932,126 | - | 378 | 280 | 1.35 | 334 | 308 | 1.08 | |
| *ywbH* | 3,932,232 | 3,932,618 | + | 164 | 116 | 1.42 | 186 | 281 | 0.66 | |
| *ywbG* | 3,932,600 | 3,933,325 | + | 168 | 130 | 1.29 | 122 | 183 | 0.66 | |
| *ywbF* | 3,933,380 | 3,934,579 | + | 294 | 287 | 1.02 | 391 | 396 | 0.99 | AbrB regulon |
| *ywbE* | 3,934,613 | 3,934,810 | + | 365 | 348 | 1.05 | 620 | 654 | 0.95 | |
| *ywbD* | 3,934,845 | 3,936,035 | - | 390 | 337 | 1.16 | 379 | 380 | 1.00 | |
| *ywbC* | 3,936,156 | 3,936,536 | + | 518 | 448 | 1.16 | 673 | 666 | 1.01 | |
| *ywbB* | 3,936,574 | 3,937,251 | - | 94 | 74 | 1.26 | 87 | 90 | 0.98 | |
| *ywbA* | 3,937,328 | 3,938,662 | - | 102 | 104 | 0.98 | 85 | 107 | 0.79 | |
| *epr* | 3,938,890 | 3,940,827 | + | 2588 | 2029 | 1.28 | 1983 | 1706 | 1.16 | SigD regulon |
| *sacX* | 3,941,255 | 3,942,634 | + | 108 | 100 | 1.08 | 168 | 176 | 0.96 | |
| *sacY* | 3,942,688 | 3,943,530 | + | 68 | 73 | 0.93 | 143 | 154 | 0.93 | |
| *gspA* | 3,943,581 | 3,944,441 | - | 6591 | 6291 | 1.05 | 3482 | 1801 | 1.93 | |
| *ywaF* | 3,944,551 | 3,945,264 | - | 62 | 62 | 1.00 | 50 | 57 | 0.88 | |
| *ywaE* | 3,945,415 | 3,945,930 | + | 207 | 227 | 0.91 | 219 | 248 | 0.88 | |
| *tyrZ* | 3,946,179 | 3,947,420 | + | 85 | 100 | 0.85 | 99 | 113 | 0.88 | |
| *ywaD* | 3,947,576 | 3,948,943 | + | 108 | 107 | 1.01 | 90 | 91 | 0.99 | |
| *ywaC* | 3,948,973 | 3,949,605 | - | 216 | 262 | 0.82 | 341 | 346 | 0.99 | |
| *menA* | 3,949,747 | 3,950,682 | - | 524 | 638 | 0.82 | 504 | 646 | 0.78 | |
| *dltA* | 3,951,296 | 3,952,807 | + | 1883 | 1592 | 1.18 | 2538 | 2331 | 1.09 | Spo0A and SigD regulon |
| *dltB* | 3,952,804 | 3,953,991 | + | 1776 | 1401 | 1.27 | 2768 | 2503 | 1.11 | |
| *dltC* | 3,954,008 | 3,954,244 | + | 2693 | 1951 | 1.38 | 3595 | 3190 | 1.13 | |
| *dltD* | 3,954,244 | 3,955,422 | + | 2223 | 1646 | 1.35 | 3091 | 2857 | 1.08 | |
| *dltE* | 3,955,513 | 3,956,271 | + | 1607 | 1256 | 1.28 | 2684 | 2438 | 1.10 | |
| *ywaA* | 3,956,412 | 3,957,503 | + | 1776 | 1808 | 0.98 | 1990 | 1976 | 1.01 | |
| *licH* | 3,957,537 | 3,958,865 | - | 118 | 175 | 0.67 | 104 | 189 | 0.55 | |
| *licA* | 3,958,862 | 3,959,194 | - | 137 | 222 | 0.62 | 113 | 212 | 0.54 | |
| *licC* | 3,959,213 | 3,960,571 | - | 118 | 164 | 0.72 | 95 | 149 | 0.64 | |
| *licB* | 3,960,587 | 3,960,895 | - | 70 | 112 | 0.63 | 96 | 120 | 0.80 | |
| *licR* | 3,961,023 | 3,962,948 | - | 229 | 236 | 0.97 | 201 | 269 | 0.75 | |
| *yxlJ* | 3,963,298 | 3,963,888 | - | 632 | 374 | 1.69 | 360 | 205 | 1.75 | |
| *katX* | 3,964,017 | 3,965,660 | + | 1601 | 857 | 1.87 | 1243 | 511 | 2.43 | |
| *yxlH* | 3,965,765 | 3,966,967 | + | 99 | 93 | 1.07 | 110 | 112 | 0.98 | |
| *yxlG* | 3,966,960 | 3,967,739 | - | 345 | 315 | 1.09 | 408 | 341 | 1.20 | |
| *yxlF* | 3,967,736 | 3,968,623 | - | 456 | 394 | 1.16 | 490 | 436 | 1.13 | |
| *yxlE* | 3,968,630 | 3,968,818 | - | 391 | 355 | 1.10 | 447 | 321 | 1.39 | |
| *yxlD* | 3,968,815 | 3,969,021 | - | 361 | 300 | 1.20 | 445 | 353 | 1.26 | |
| *yxlC* | 3,969,018 | 3,969,338 | - | 212 | 192 | 1.11 | 244 | 213 | 1.15 | |
| *sigY* | 3,969,331 | 3,969,867 | - | 173 | 162 | 1.07 | 228 | 228 | 1.00 | |
| *yxlA* | 3,970,079 | 3,971,452 | + | 180 | 140 | 1.28 | 309 | 325 | 0.95 | |
| *yxkO* | 3,971,467 | 3,972,297 | - | 583 | 383 | 1.52 | 378 | 276 | 1.37 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *cydD* | 3,972,383 | 3,974,110 | - | 1738 | 1564 | 1.11 | 110 | 86 | 1.28 | |
| *cydC* | 3,974,107 | 3,975,810 | - | 2998 | 2640 | 1.14 | 171 | 102 | 1.68 | |
| *cydB* | 3,975,810 | 3,976,826 | - | 3676 | 3193 | 1.15 | 282 | 133 | 2.13 | |
| *cydA* | 3,976,810 | 3,978,216 | - | 2610 | 2184 | 1.20 | 512 | 392 | 1.31 | |
| *yxkJ* | 3,978,772 | 3,980,124 | + | 761 | 872 | 0.87 | 436 | 516 | 0.85 | |
| *yxkI* | 3,980,246 | 3,981,934 | + | 340 | 322 | 1.05 | 369 | 437 | 0.84 | |
| *yxzE* | 3,981,992 | 3,982,192 | + | 382 | 406 | 0.94 | 732 | 671 | 1.09 | AbrB regulon |
| *yxkH* | 3,982,206 | 3,983,045 | - | 368 | 434 | 0.85 | 377 | 358 | 1.05 | |
| *msmX* | 3,983,152 | 3,984,249 | - | 312 | 427 | 0.73 | 356 | 500 | 0.71 | |
| *yxkF* | 3,984,370 | 3,985,263 | - | 176 | 190 | 0.93 | 144 | 199 | 0.72 | |
| *aldY* | 3,985,447 | 3,986,904 | + | 913 | 738 | 1.24 | 322 | 200 | 1.61 | |
| *yxkD* | 3,986,946 | 3,987,782 | - | 119 | 131 | 0.91 | 139 | 179 | 0.78 | |
| *yxkC* | 3,988,251 | 3,988,892 | + | 4082 | 4454 | 0.92 | 4279 | 4278 | 1.00 | SigD regulon |
| *galE* | 3,988,967 | 3,989,986 | - | 1153 | 1182 | 0.98 | 1295 | 1444 | 0.90 | |
| *yxkA* | 3,990,101 | 3,990,607 | - | 72 | 61 | 1.17 | 72 | 58 | 1.24 | |
| *yxjO* | 3,990,737 | 3,991,612 | + | 114 | 125 | 0.92 | 105 | 138 | 0.76 | |
| *yxjN* | 3,991,690 | 3,992,163 | + | 158 | 210 | 0.75 | 177 | 253 | 0.70 | |
| *yxjM* | 3,992,181 | 3,993,401 | + | 105 | 110 | 0.95 | 115 | 136 | 0.85 | |
| *yxjL* | 3,993,388 | 3,994,044 | + | 134 | 140 | 0.95 | 152 | 190 | 0.80 | |
| *pepT* | 3,994,094 | 3,995,326 | + | 1065 | 1453 | 0.73 | 1210 | 1442 | 0.84 | |
| *yxjJ* | 3,995,848 | 3,996,111 | + | 3027 | 3154 | 0.96 | 2512 | 1644 | 1.53 | |
| *yxjI* | 3,996,240 | 3,996,728 | + | 431 | 377 | 1.14 | 494 | 461 | 1.07 | |
| *yxjH* | 3,996,983 | 3,998,005 | + | 850 | 885 | 0.96 | 1072 | 1249 | 0.86 | |
| *yxjG* | 3,998,368 | 3,999,504 | + | 1178 | 1469 | 0.80 | 1537 | 1907 | 0.81 | |
| *yxjF* | 3,999,557 | 4,000,330 | - | 72 | 70 | 1.03 | 62 | 67 | 0.92 | |
| *scoB* | 4,000,347 | 4,000,997 | - | 116 | 118 | 0.98 | 98 | 108 | 0.91 | |
| *scoA* | 4,000,994 | 4,001,710 | - | 67 | 72 | 0.92 | 68 | 71 | 0.95 | |
| *yxjC* | 4,001,734 | 4,003,152 | - | 78 | 75 | 1.05 | 55 | 66 | 0.84 | |
| *yxjB* | 4,003,306 | 4,004,154 | - | 137 | 119 | 1.15 | 152 | 161 | 0.95 | |
| *yxjA* | 4,004,770 | 4,005,963 | + | 61 | 86 | 0.71 | 210 | 233 | 0.90 | |
| *yxiT* | 4,006,434 | 4,006,676 | - | 564 | 277 | 2.04 | 548 | 274 | 2.00 | |
| *yxiS* | 4,006,821 | 4,007,111 | - | 1853 | 1248 | 1.48 | 1023 | 578 | 1.77 | |
| *katE* | 4,007,161 | 4,009,221 | - | 4019 | 2846 | 1.41 | 1617 | 832 | 1.94 | |
| *citH* | 4,009,422 | 4,010,702 | + | 52 | 54 | 0.95 | 41 | 45 | 0.90 | |
| *bglS* | 4,010,860 | 4,011,588 | - | 106 | 141 | 0.75 | 104 | 135 | 0.77 | |
| *licT* | 4,011,884 | 4,012,717 | - | 566 | 663 | 0.85 | 505 | 561 | 0.90 | |
| *yxiP* | 4,012,813 | 4,013,493 | - | 337 | 338 | 1.00 | 305 | 341 | 0.89 | |
| *yxiO* | 4,013,700 | 4,014,986 | + | 265 | 255 | 1.04 | 219 | 243 | 0.90 | |
| *deaD* | 4,015,005 | 4,016,444 | - | 751 | 846 | 0.89 | 670 | 837 | 0.80 | |
| *yxiM* | 4,016,526 | 4,017,674 | - | 711 | 852 | 0.83 | 604 | 777 | 0.78 | |
| *yxiL* | 4,017,857 | 4,018,057 | - | 481 | 503 | 0.96 | 345 | 439 | 0.79 | |
| *yxiK* | 4,018,166 | 4,018,627 | - | 897 | 1058 | 0.85 | 694 | 892 | 0.78 | |
| *yxiJ* | 4,018,643 | 4,018,939 | - | 938 | 1107 | 0.85 | 827 | 1003 | 0.83 | |
| *yxiI* | 4,018,967 | 4,019,455 | - | 898 | 1083 | 0.83 | 884 | 993 | 0.89 | |
| *yxzG* | 4,019,473 | 4,019,925 | - | 1144 | 1331 | 0.86 | 1054 | 1219 | 0.87 | |
| *yxiH* | 4,019,995 | 4,020,324 | - | 806 | 895 | 0.90 | 605 | 746 | 0.81 | |
| *yxiG* | 4,020,447 | 4,020,863 | - | 1473 | 1678 | 0.88 | 1238 | 1431 | 0.86 | |
| *yxzC* | 4,020,914 | 4,021,282 | - | 1427 | 1687 | 0.85 | 1260 | 1614 | 0.78 | |
| *yxiF* | 4,021,276 | 4,021,746 | - | 1340 | 1575 | 0.85 | 1213 | 1496 | 0.81 | |
| *yxxG* | 4,022,072 | 4,022,500 | - | 3249 | 3355 | 0.97 | 2398 | 2850 | 0.84 | |
| *wapA* | 4,022,562 | 4,029,566 | - | 3616 | 4367 | 0.83 | 3831 | 4224 | 0.91 | |
| *yxxF* | 4,029,728 | 4,030,663 | - | 267 | 221 | 1.21 | 346 | 351 | 0.99 | |
| *yxiE* | 4,030,815 | 4,031,261 | - | 1463 | 1827 | 0.80 | 996 | 1189 | 0.84 | |
| *bglH* | 4,031,364 | 4,032,773 | - | 454 | 963 | 0.47 | 466 | 979 | 0.48 | |
| *bglP* | 4,032,796 | 4,034,625 | - | 365 | 682 | 0.53 | 338 | 639 | 0.53 | |
| *yxxE* | 4,035,008 | 4,035,316 | - | 102 | 60 | 1.70 | 150 | 126 | 1.19 | |
| *yxxD* | 4,035,362 | 4,035,805 | - | 226 | 133 | 1.70 | 299 | 217 | 1.38 | |
| *yxiD* | 4,035,802 | 4,037,511 | - | 349 | 205 | 1.70 | 368 | 283 | 1.30 | |
| *yxiC* | 4,037,531 | 4,037,800 | - | 418 | 330 | 1.27 | 337 | 211 | 1.60 | |
| *yxiB* | 4,037,812 | 4,038,177 | - | 434 | 457 | 0.95 | 331 | 234 | 1.42 | |
| *yxiA* | 4,038,484 | 4,039,893 | - | 120 | 111 | 1.08 | 144 | 141 | 1.02 | |
| *hutP* | 4,040,501 | 4,040,956 | + | 397 | 621 | 0.64 | 438 | 469 | 0.94 | |
| *hutH* | 4,041,069 | 4,042,595 | + | 76 | 83 | 0.91 | 56 | 68 | 0.82 | |
| *hutU* | 4,042,592 | 4,044,250 | + | 87 | 93 | 0.94 | 81 | 89 | 0.91 | |
| *hutI* | 4,044,263 | 4,045,528 | + | 115 | 120 | 0.96 | 108 | 109 | 0.99 | |
| *hutG* | 4,045,521 | 4,046,480 | + | 77 | 80 | 0.96 | 82 | 78 | 1.05 | |
| *hutM* | 4,046,556 | 4,047,983 | + | 108 | 89 | 1.21 | 90 | 82 | 1.10 | |
| *pdp* | 4,048,027 | 4,049,328 | - | 682 | 706 | 0.97 | 523 | 582 | 0.90 | |
| *nupC* | 4,049,358 | 4,050,539 | - | 739 | 692 | 1.07 | 543 | 556 | 0.98 | |
| *dra* | 4,050,655 | 4,051,290 | - | 1736 | 1405 | 1.24 | 1286 | 1047 | 1.23 | |
| *deoR* | 4,051,396 | 4,052,337 | - | 351 | 422 | 0.83 | 270 | 398 | 0.68 | |
| *yxxB* | 4,052,428 | 4,053,297 | - | 394 | 410 | 0.96 | 202 | 137 | 1.47 | |
| *yxeR* | 4,053,370 | 4,054,482 | - | 383 | 282 | 1.36 | 421 | 342 | 1.23 | |
| *yxeQ* | 4,054,552 | 4,055,889 | - | 378 | 260 | 1.46 | 422 | 298 | 1.42 | |
| *yxeP* | 4,055,886 | 4,057,028 | - | 683 | 418 | 1.64 | 690 | 487 | 1.42 | |
| *yxeO* | 4,057,045 | 4,057,794 | - | 539 | 298 | 1.81 | 678 | 482 | 1.41 | |
| *yxeN* | 4,057,807 | 4,058,481 | - | 609 | 308 | 1.98 | 677 | 475 | 1.42 | |
| *yxeM* | 4,058,504 | 4,059,298 | - | 659 | 297 | 2.22 | 898 | 641 | 1.40 | |
| *yxeL* | 4,059,323 | 4,059,820 | - | 428 | 247 | 1.73 | 635 | 474 | 1.34 | |
| *yxeK* | 4,059,834 | 4,061,159 | - | 286 | 180 | 1.59 | 444 | 382 | 1.16 | |
| *yxeJ* | 4,061,345 | 4,061,572 | - | 24 | 33 | 0.71 | 34 | 35 | 0.97 | |
| *yxeI* | 4,061,559 | 4,062,545 | - | 71 | 70 | 1.01 | 107 | 110 | 0.97 | |
| *yxeH* | 4,062,700 | 4,063,512 | - | 591 | 444 | 1.33 | 926 | 862 | 1.07 | |
| *yxeG* | 4,063,552 | 4,064,109 | - | 204 | 151 | 1.35 | 302 | 306 | 0.99 | |
| *yxeF* | 4,064,090 | 4,064,524 | - | 369 | 270 | 1.36 | 530 | 568 | 0.93 | |
| *yxeE* | 4,064,612 | 4,064,977 | + | 67 | 77 | 0.87 | 37 | 45 | 0.81 | |
| *yxeD* | 4,065,225 | 4,065,578 | + | 29 | 39 | 0.75 | 26 | 29 | 0.90 | AbrB regulon |
| *yxeC* | 4,065,622 | 4,066,020 | - | 540 | 581 | 0.93 | 646 | 718 | 0.90 | |
| *yxeB* | 4,066,198 | 4,067,157 | + | 944 | 1437 | 0.66 | 462 | 865 | 0.53 | |
| *yxeA* | 4,067,204 | 4,067,551 | - | 99 | 100 | 0.98 | 98 | 116 | 0.84 | |
| *yxdM* | 4,067,565 | 4,069,433 | - | 79 | 79 | 1.00 | 70 | 75 | 0.92 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yxdL* | 4,069,408 | 4,070,181 | - | 68 | 71 | 0.96 | 68 | 73 | 0.94 | |
| *yxdK* | 4,070,325 | 4,071,302 | - | 167 | 146 | 1.15 | 172 | 171 | 1.01 | |
| *yxdJ* | 4,071,299 | 4,071,988 | - | 201 | 180 | 1.12 | 197 | 196 | 1.00 | |
| *fbaB* | 4,072,097 | 4,072,969 | - | 149 | 181 | 0.82 | 182 | 214 | 0.85 | |
| *iolI* | 4,072,990 | 4,073,826 | - | 104 | 137 | 0.76 | 129 | 172 | 0.75 | |
| *iolH* | 4,073,912 | 4,074,781 | - | 90 | 121 | 0.74 | 101 | 144 | 0.70 | |
| *idh* | 4,074,801 | 4,075,835 | - | 129 | 158 | 0.82 | 155 | 234 | 0.67 | |
| *iolF* | 4,075,858 | 4,077,177 | - | 121 | 141 | 0.85 | 108 | 148 | 0.73 | |
| *iolE* | 4,077,192 | 4,078,085 | - | 107 | 140 | 0.76 | 108 | 155 | 0.70 | |
| *iolD* | 4,078,102 | 4,079,844 | - | 134 | 175 | 0.77 | 150 | 219 | 0.68 | |
| *iolC* | 4,080,048 | 4,081,025 | - | 104 | 145 | 0.72 | 125 | 175 | 0.71 | |
| *iolB* | 4,081,049 | 4,081,864 | - | 53 | 83 | 0.64 | 89 | 120 | 0.74 | |
| *mmsA* | 4,081,939 | 4,083,402 | - | 116 | 144 | 0.80 | 159 | 226 | 0.71 | |
| *iolR* | 4,083,818 | 4,084,573 | + | 225 | 262 | 0.86 | 325 | 368 | 0.88 | |
| *iolS* | 4,084,627 | 4,085,559 | + | 645 | 666 | 0.97 | 1221 | 1095 | 1.12 | |
| *yxcE* | 4,085,821 | 4,086,471 | + | 363 | 409 | 0.89 | 330 | 280 | 1.18 | |
| *yxcD* | 4,086,475 | 4,086,783 | + | 143 | 149 | 0.96 | 154 | 137 | 1.13 | |
| *csbC* | 4,087,022 | 4,088,407 | + | 5252 | 4913 | 1.07 | 1799 | 911 | 1.98 | |
| *htpG* | 4,088,449 | 4,090,329 | - | 888 | 846 | 1.05 | 1303 | 1228 | 1.06 | |
| *yxcA* | 4,090,497 | 4,090,748 | - | 226 | 201 | 1.13 | 285 | 296 | 0.96 | |
| *yxbG* | 4,090,865 | 4,091,686 | + | 1636 | 1435 | 1.14 | 680 | 347 | 1.96 | |
| *yxbF* | 4,091,715 | 4,092,857 | - | 120 | 114 | 1.06 | 129 | 143 | 0.91 | |
| *aldX* | 4,093,000 | 4,094,337 | + | 133 | 137 | 0.97 | 121 | 139 | 0.87 | |
| *yxbD* | 4,094,376 | 4,094,855 | - | 271 | 268 | 1.01 | 716 | 807 | 0.89 | AbrB regulon |
| *yxbC* | 4,094,935 | 4,095,927 | - | 1807 | 2140 | 0.84 | 1970 | 2156 | 0.91 | Spo0A and AbrB regulo |
| *yxbB* | 4,096,436 | 4,097,170 | + | 2055 | 2437 | 0.84 | 2289 | 2715 | 0.84 | AbrB regulon |
| *yxbA* | 4,097,170 | 4,097,439 | + | 1481 | 1801 | 0.82 | 1875 | 2153 | 0.87 | AbrB regulon |
| *yxnB* | 4,097,443 | 4,097,925 | + | 1257 | 1580 | 0.80 | 1606 | 2019 | 0.80 | AbrB regulon |
| *asnH* | 4,097,946 | 4,100,189 | + | 471 | 607 | 0.78 | 790 | 1134 | 0.70 | |
| *yxaM* | 4,100,186 | 4,101,385 | + | 364 | 532 | 0.68 | 599 | 893 | 0.67 | |
| *yxaL* | 4,101,449 | 4,102,681 | - | 1357 | 1021 | 1.33 | 965 | 853 | 1.13 | AbrB regulon |
| *yxaJ* | 4,102,782 | 4,103,210 | - | 438 | 336 | 1.30 | 642 | 571 | 1.12 | AbrB regulon |
| *yxaI* | 4,103,467 | 4,103,922 | + | 198 | 243 | 0.82 | 363 | 476 | 0.76 | |
| *yxaH* | 4,103,952 | 4,105,160 | - | 148 | 181 | 0.82 | 163 | 234 | 0.70 | |
| *yxaG* | 4,105,268 | 4,106,281 | - | 194 | 251 | 0.77 | 261 | 390 | 0.67 | |
| *yxaF* | 4,106,375 | 4,106,950 | - | 62 | 63 | 1.00 | 84 | 96 | 0.87 | |
| *yxnA* | 4,107,081 | 4,108,151 | + | 2137 | 1683 | 1.27 | 768 | 339 | 2.27 | |
| *yxaD* | 4,108,208 | 4,108,639 | - | 84 | 87 | 0.96 | 80 | 110 | 0.73 | |
| *yxaC* | 4,108,866 | 4,109,933 | + | 83 | 70 | 1.19 | 71 | 70 | 1.02 | |
| *yxaB* | 4,109,973 | 4,111,004 | - | 1142 | 732 | 1.56 | 784 | 362 | 2.17 | AbrB regulon |
| *yxaA* | 4,111,097 | 4,112,245 | - | 235 | 187 | 1.26 | 280 | 233 | 1.20 | AbrB regulon |
| *gntR* | 4,112,441 | 4,113,172 | + | 220 | 200 | 1.10 | 553 | 375 | 1.48 | AbrB regulon |
| *gntK* | 4,113,165 | 4,114,706 | + | 282 | 254 | 1.11 | 313 | 282 | 1.11 | AbrB regulon |
| *gntP* | 4,114,735 | 4,116,081 | + | 280 | 223 | 1.26 | 338 | 315 | 1.07 | AbrB regulon |
| *gntZ* | 4,116,104 | 4,117,510 | + | 453 | 326 | 1.39 | 775 | 683 | 1.13 | AbrB regulon |
| *ahpC* | 4,117,974 | 4,118,537 | + | 5697 | 4845 | 1.18 | 5545 | 4931 | 1.12 | |
| *ahpF* | 4,118,551 | 4,120,080 | + | 4890 | 4316 | 1.13 | 4409 | 3848 | 1.15 | |
| *bglA* | 4,120,190 | 4,121,629 | - | 121 | 120 | 1.01 | 136 | 153 | 0.88 | |
| *yyzE* | 4,121,643 | 4,121,873 | - | 138 | 132 | 1.05 | 139 | 171 | 0.81 | |
| *yydK* | 4,122,217 | 4,122,927 | + | 167 | 162 | 1.03 | 147 | 172 | 0.86 | |
| *yydJ* | 4,123,244 | 4,123,966 | - | 487 | 457 | 1.06 | 888 | 1144 | 0.78 | AbrB regulon |
| *yydI* | 4,123,987 | 4,124,616 | - | 975 | 919 | 1.06 | 1386 | 1776 | 0.78 | AbrB regulon |
| *yydH* | 4,124,766 | 4,125,524 | - | 489 | 458 | 1.07 | 1012 | 1390 | 0.73 | AbrB regulon |
| *yydG* | 4,125,505 | 4,126,464 | - | 291 | 263 | 1.11 | 1064 | 1471 | 0.72 | AbrB regulon |
| *fbp* | 4,127,053 | 4,129,068 | + | 371 | 342 | 1.08 | 670 | 695 | 0.96 | |
| *yydD* | 4,129,602 | 4,131,362 | - | 1359 | 958 | 1.42 | 1053 | 1004 | 1.05 | |
| *yydC* | 4,131,362 | 4,131,760 | - | 1126 | 762 | 1.48 | 746 | 636 | 1.17 | |
| *yydB* | 4,131,753 | 4,133,198 | - | 1074 | 890 | 1.21 | 879 | 799 | 1.10 | |
| *yydA* | 4,133,460 | 4,133,939 | - | 547 | 557 | 0.98 | 539 | 509 | 1.06 | |
| *yycS* | 4,134,376 | 4,134,789 | + | 144 | 120 | 1.20 | 118 | 119 | 0.99 | |
| *yycR* | 4,134,823 | 4,136,049 | - | 490 | 367 | 1.34 | 351 | 306 | 1.15 | |
| *yycQ* | 4,136,387 | 4,136,635 | - | 38 | 54 | 0.70 | 47 | 55 | 0.85 | |
| *yycP* | 4,136,651 | 4,137,814 | - | 76 | 83 | 0.93 | 72 | 86 | 0.84 | |
| *yycO* | 4,137,825 | 4,138,562 | - | 104 | 102 | 1.02 | 85 | 95 | 0.89 | |
| *yycN* | 4,138,704 | 4,139,174 | - | 198 | 183 | 1.08 | 194 | 207 | 0.94 | |
| *rapG* | 4,139,285 | 4,140,382 | + | 596 | 638 | 0.93 | 763 | 883 | 0.86 | |
| *rocF* | 4,140,735 | 4,141,625 | - | 553 | 573 | 0.96 | 892 | 750 | 1.19 | |
| *rocE* | 4,141,699 | 4,143,102 | - | 426 | 485 | 0.88 | 661 | 557 | 1.19 | |
| *rocD* | 4,143,325 | 4,144,530 | - | 750 | 898 | 0.84 | 749 | 634 | 1.18 | |
| *rocR* | 4,144,771 | 4,146,156 | + | 172 | 166 | 1.03 | 237 | 277 | 0.86 | Spo0A regulon |
| *yyxA* | 4,146,591 | 4,147,793 | - | 513 | 383 | 1.34 | 926 | 753 | 1.23 | |
| *yycJ* | 4,147,862 | 4,148,668 | - | 546 | 405 | 1.35 | 897 | 715 | 1.25 | |
| *yycI* | 4,148,690 | 4,149,532 | - | 693 | 494 | 1.40 | 1239 | 1059 | 1.17 | |
| *yycH* | 4,149,519 | 4,150,886 | - | 676 | 486 | 1.39 | 1102 | 931 | 1.18 | |
| *yycG* | 4,150,876 | 4,152,711 | - | 678 | 515 | 1.32 | 873 | 748 | 1.17 | |
| *yycF* | 4,152,719 | 4,153,426 | - | 700 | 609 | 1.15 | 818 | 678 | 1.21 | |
| *purA* | 4,154,457 | 4,155,749 | - | 1780 | 1696 | 1.05 | 1285 | 1674 | 0.77 | |
| *yycE* | 4,155,955 | 4,156,374 | - | 34 | 40 | 0.86 | 45 | 52 | 0.88 | |
| *dnaC* | 4,156,495 | 4,157,859 | - | 319 | 295 | 1.08 | 381 | 433 | 0.88 | |
| *yycD* | 4,158,029 | 4,158,229 | + | 806 | 746 | 1.08 | 808 | 376 | 2.15 | |
| *yyzB* | 4,158,277 | 4,158,480 | - | 64 | 63 | 1.01 | 60 | 58 | 1.04 | |
| *yycB* | 4,158,814 | 4,160,022 | + | 1608 | 1542 | 1.04 | 1553 | 1508 | 1.03 | |
| *yycA* | 4,160,127 | 4,162,184 | + | 338 | 313 | 1.08 | 359 | 337 | 1.06 | |
| *rplI* | 4,162,221 | 4,162,670 | - | 1149 | 1106 | 1.04 | 1328 | 1474 | 0.90 | |
| *yybT* | 4,162,667 | 4,164,646 | - | 996 | 721 | 1.38 | 965 | 1003 | 0.96 | |
| *yybS* | 4,164,683 | 4,165,612 | - | 599 | 411 | 1.46 | 516 | 552 | 0.93 | |
| *cotF* | 4,166,134 | 4,166,616 | + | 30 | 36 | 0.82 | 27 | 31 | 0.89 | |
| *yybR* | 4,166,646 | 4,167,023 | - | 122 | 90 | 1.35 | 126 | 141 | 0.89 | |
| *ppaC* | 4,167,228 | 4,168,157 | + | 1923 | 2143 | 0.90 | 2054 | 2422 | 0.85 | |
| *yybP* | 4,168,190 | 4,168,636 | - | 146 | 137 | 1.07 | 123 | 130 | 0.94 | |
| *yybO* | 4,169,069 | 4,170,376 | + | 761 | 389 | 1.96 | 294 | 132 | 2.23 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *yybN* | 4,172,138 | 4,172,575 | + | 3420 | 3365 | 1.02 | 3150 | 3686 | 0.85 | |
| *yybM* | 4,172,689 | 4,173,444 | + | 553 | 492 | 1.12 | 540 | 800 | 0.67 | |
| *yybL* | 4,173,434 | 4,174,144 | + | 169 | 135 | 1.25 | 276 | 528 | 0.52 | |
| *yybK* | 4,174,141 | 4,174,896 | + | 154 | 136 | 1.13 | 231 | 454 | 0.51 | |
| *yybJ* | 4,174,893 | 4,175,549 | + | 404 | 352 | 1.15 | 548 | 840 | 0.65 | |
| *yybI* | 4,175,924 | 4,176,712 | - | 142 | 161 | 0.89 | 136 | 138 | 0.99 | |
| *yybH* | 4,176,780 | 4,177,169 | - | 168 | 186 | 0.90 | 158 | 184 | 0.86 | |
| *yybG* | 4,177,315 | 4,178,154 | + | 236 | 228 | 1.04 | 244 | 251 | 0.97 | |
| *yybF* | 4,178,187 | 4,179,401 | - | 95 | 90 | 1.06 | 143 | 166 | 0.86 | |
| *yybE* | 4,179,630 | 4,180,466 | + | 74 | 80 | 0.92 | 76 | 98 | 0.78 | |
| *yybD* | 4,180,480 | 4,180,923 | + | 112 | 120 | 0.93 | 117 | 140 | 0.84 | |
| *yybC* | 4,181,006 | 4,181,485 | + | 67 | 63 | 1.06 | 80 | 92 | 0.87 | |
| *yybB* | 4,181,660 | 4,182,322 | - | 336 | 266 | 1.26 | 248 | 232 | 1.07 | |
| *yybA* | 4,182,469 | 4,182,921 | - | 206 | 195 | 1.06 | 212 | 240 | 0.88 | |
| *yyaT* | 4,183,041 | 4,183,487 | + | 93 | 124 | 0.75 | 113 | 167 | 0.68 | |
| *yyaS* | 4,183,484 | 4,184,089 | + | 36 | 49 | 0.74 | 53 | 74 | 0.72 | |
| *yyaR* | 4,184,184 | 4,184,705 | - | 55 | 51 | 1.08 | 85 | 76 | 1.12 | |
| *yyaQ* | 4,185,116 | 4,185,472 | + | 271 | 221 | 1.23 | 236 | 199 | 1.19 | |
| *yyaP* | 4,185,632 | 4,186,198 | + | 118 | 109 | 1.09 | 139 | 134 | 1.04 | |
| *tetB* | 4,186,705 | 4,188,081 | - | 1354 | 1461 | 0.93 | 930 | 978 | 0.95 | |
| *yyaO* | 4,188,430 | 4,188,669 | + | 368 | 361 | 1.02 | 270 | 186 | 1.45 | |
| *yyaN* | 4,188,820 | 4,189,236 | + | 35 | 38 | 0.90 | 39 | 46 | 0.85 | |
| *yyaM* | 4,189,233 | 4,190,150 | + | 49 | 45 | 1.10 | 57 | 53 | 1.08 | |
| *yyaL* | 4,190,222 | 4,192,291 | + | 615 | 481 | 1.28 | 522 | 455 | 1.15 | |
| *yyaK* | 4,192,288 | 4,193,187 | - | 738 | 600 | 1.23 | 810 | 727 | 1.11 | |
| *yyaJ* | 4,193,413 | 4,194,768 | + | 101 | 96 | 1.06 | 93 | 99 | 0.93 | |
| *maa* | 4,194,802 | 4,195,356 | - | 225 | 219 | 1.03 | 228 | 236 | 0.97 | |
| *yyaH* | 4,195,374 | 4,195,754 | - | 203 | 238 | 0.85 | 266 | 282 | 0.94 | |
| *ccpB* | 4,195,810 | 4,196,745 | - | 132 | 126 | 1.05 | 120 | 114 | 1.05 | |
| *exoA* | 4,196,804 | 4,197,562 | - | 114 | 115 | 1.00 | 153 | 155 | 0.99 | |
| *rpsR* | 4,197,627 | 4,197,866 | - | 901 | 1118 | 0.81 | 1541 | 1416 | 1.09 | |
| *ssb* | 4,197,910 | 4,198,428 | - | 6595 | 7206 | 0.92 | 6355 | 6094 | 1.04 | |
| *rpsF* | 4,198,469 | 4,198,756 | - | 7759 | 8462 | 0.92 | 7060 | 6696 | 1.05 | |
| *yyaF* | 4,198,867 | 4,199,967 | - | 1092 | 1216 | 0.90 | 1593 | 2105 | 0.76 | |
| *yyaE* | 4,200,094 | 4,202,097 | - | 234 | 209 | 1.12 | 301 | 300 | 1.00 | |
| *yyaD* | 4,202,448 | 4,203,464 | - | 52 | 57 | 0.92 | 55 | 64 | 0.85 | |
| *yyaC* | 4,203,924 | 4,204,541 | + | 62 | 63 | 0.98 | 53 | 69 | 0.76 | |
| *spo0J* | 4,204,580 | 4,205,428 | - | 1216 | 1053 | 1.15 | 1308 | 1158 | 1.13 | |
| *soj* | 4,205,421 | 4,206,182 | - | 1343 | 1173 | 1.14 | 1282 | 1223 | 1.05 | Spo0A regulon |
| *yyaB* | 4,206,430 | 4,206,870 | + | 175 | 191 | 0.92 | 182 | 176 | 1.03 | |
| *yyaA* | 4,206,921 | 4,207,772 | - | 1224 | 1195 | 1.02 | 1880 | 1638 | 1.15 | |
| *gidB* | 4,207,894 | 4,208,613 | - | 1002 | 769 | 1.30 | 1719 | 1504 | 1.14 | |
| *gidA* | 4,208,627 | 4,210,513 | - | 897 | 686 | 1.31 | 1468 | 1278 | 1.15 | |
| *thdF* | 4,210,534 | 4,211,913 | - | 555 | 442 | 1.26 | 718 | 704 | 1.02 | |
| *jag* | 4,212,224 | 4,212,850 | - | 1174 | 1123 | 1.05 | 1897 | 2478 | 0.77 | |
| *spoIIIJ* | 4,212,847 | 4,213,632 | - | 1148 | 1087 | 1.06 | 1472 | 1925 | 0.76 | |
| *rnpA* | 4,213,777 | 4,214,127 | - | 427 | 416 | 1.03 | 884 | 1340 | 0.66 | |

[a] Spo0A, AbrB and SigD regulons shown here are described in References 6, 2 and 12, respectively.