Common na	mEntrez ID	Gene Name	Prediction	Sorted Category
ispD	948269	2-C-methyl-D-erythritol 4-phosphate cytidylyltransferase	- Toulous	Temporarly Up Regulated
dxr	945019	1-deoxy-D-xylulose 5-phosphate reductoisomerase		Down Regulated
rbsB	948261	D-ribose-binding periplasmic protein		Up Regulated
rbsC	948262	Ribose transport system permease protein rbsC		Ambiguous/Unsorted
yieP	948263	Uncharacterized HTH-type transcriptional regulator yieP		Down Regulated
fucU	945842	L-fucose mutarotase	¥	Up Regulated
hemB	945017	Delta-aminolevulinic acid dehydratase		Ambiguous/Unsorted
tonB	945843	Protein tonB		Ambiguous/Unsorted
rbsA	948264	Ribose import ATP-binding protein rbsA; Ribose import ATP-binding protein	ein rbsA 1	Ambiguous/Unsorted
rluB	945840	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase	e B	Down Regulated
rbsR	948266	Ribose operon repressor		Down Regulated
kch	945841	Putative potassium channel protein		Ambiguous/Unsorted
rbsD	948267	D-ribose pyranase		Ambiguous/Unsorted
dnaC	948864	DNA replication protein dnaC		Ambiguous/Unsorted
ydcl	948865	Uncharacterized HTH-type transcriptional regulator ydcl	['Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated
btuR	945839	Cob(I)yrinic acid a,c-diamide adenosyltransferase		Ambiguous/Unsorted
hsdS	948867	Type-1 restriction enzyme EcoKI specificity protein		Down Regulated
adhE	945837	Aldehyde-alcohol dehydrogenase		Down Regulated
rbsK	948260	Ribokinase		Ambiguous/Unsorted
nadC	948869	Nicotinate-nucleotide pyrophosphorylase [carboxylating]		Ambiguous/Unsorted
ychE	945836	UPF0056 membrane protein yhcE		Temporarly Up Regulated
dosC	945835	Diguanylate cyclase yddV		Up Regulated
yddV	945835	Diguanylate cyclase yddV		Up Regulated
tauD	945021	Alpha-ketoglutarate-dependent taurine dioxygenase		Down Regulated
dinl	945022	DNA-damage-inducible protein I		Down Regulated
yccK	945023	Sulfurtransferase tusE		Ambiguous/Unsorted
mutH	947299	DNA mismatch repair protein mutH		Up Regulated
yieL	948272	Uncharacterized protein yieL	[Carbohydrate transport and metabolism]	Temporarly Up Regulated
yahF	947298	Uncharacterized protein yahF	['Amino acid transport and metabolism', ' Carbon compound utilization', 'amino acid metabolic process']	Temporarly Up Regulated
tdk	945834	Thymidine kinase Branched-chain-amino-acid aminotransferase		Ambiguous/Unsorted
ilvE	948278 947296	SsrA-binding protein		Ambiguous/Unsorted Down Regulated
smpB ilvM	948279	Acetolactate synthase isozyme 2 small subunit		
amiC	947293	N-acetylmuramoyl-L-alanine amidase amiC		Down Regulated Down Regulated
tauB	947293	Taurine import ATP-binding protein tauB		Ambiguous/Unsorted
recC	947294	Exodeoxyribonuclease V gamma chain		Down Regulated
hns	945829	DNA-binding protein H-NS		Up Regulated
ylaC	948876	Inner membrane protein ylaC		Down Regulated
ygdL	947291	Uncharacterized protein ygdL		Down Regulated
csdL	947291	Uncharacterized protein ygdL	и при при при при при при при при при пр	Down Regulated
ychJ	945828	UPF0225 protein ychJ		Down Regulated
ampD	948877	1,6-anhydro-N-acetylmuramyl-L-alanine amidase ampD		Temporarly Up Regulated
arcA	948874	Aerobic respiration control protein arcA		Ambiguous/Unsorted
hsdR	948878	Type I restriction enzyme EcoKI R protein		Down Regulated
ygeW	945826	Uncharacterized protein ygeW	[' Central intermediary metabolism']	Temporarly Down Regular
hsdM	948872	Type I restriction enzyme EcoKI M protein	,	Down Regulated
rstB	948870	Sensor protein; Sensor protein rstB		Down Regulated
tauA	945030	Taurine-binding periplasmic protein		Down Regulated
atpF	948247	ATP synthase subunit b; ATP synthase B chain		Up Regulated
yail	945033	UPF0178 protein yail		Temporarly Up Regulated
mnmG	948248	tRNA uridine 5-carboxymethylaminomethyl modification enzyme mnmG		Down Regulated
aroL	945031	Shikimate kinase 2		Ambiguous/Unsorted
mioC	948249	Protein mioC		Ambiguous/Unsorted
rlmM	947283	UTI89_C3178; b2806; ECIAI39_3228; ECIAI1_2916; Z4123; c3376; ECE	D1_3259; ECUMN_3135; E2348C_3073; APECO1_3725; ECS88_3075; EC55989_3085; ECDH10B_2975	Down Regulated
ygdE	947283	UTI89_C3178; b2806; ECIAI39_3228; ECIAI1_2916; Z4123; c3376; ECE	:D1_3259; ECUMN_3135; E2348C_3073; APECO1_3725; ECS88_3075; EC55989_3085; ECDH10B_2975	Down Regulated
atpD	948244	ATP synthase subunit beta		Up Regulated
yaiW	945038	Uncharacterized protein yaiW	[' Carbon compound utilization', ' RNA related', ' Type of regulation', ' Genetic unit regulated', 'transcription', 'regulation of transcription DN	
ptrA	947284	Protease 3		Ambiguous/Unsorted
suhB	947285	Inositol-1-monophosphatase		Temporarly Down Regula
recB	947286	Exodeoxyribonuclease V beta chain		Up Regulated
RecD	947287	Exodeoxyribonuclease V alpha chain		Down Regulated
pstB	948240	Phosphate import ATP-binding protein pstB		Ambiguous/Unsorted
оррВ	945823	Oligopeptide transport system permease protein oppB		Down Regulated
cls	945821	Cardiolipin synthetase		Up Regulated
argA	947289	Amino-acid acetyltransferase		Ambiguous/Unsorted
	10.45040	Ribosomal RNA small subunit methyltransferase E		Ambiguous/Unsorted
rsmE Dos	945816 945815	Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Ambiguous/Unsorted

dosP	945815	Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Ambiguous/Unsorted
ygiT	945814	Uncharacterized HTH-type transcriptional regulator ygiT	Carbon compound utilization, 'metabolic process'	Up Regulated
	945814	Uncharacterized HTH-type transcriptional regulator ygiT	[Carbon compound dunization, metabolic process]	Up Regulated
mqsA flgD	945813	Basal-body rod modification protein flgD		
				Ambiguous/Unsorted
oppF	945818	Oligopeptide transport ATP-binding protein oppF		Ambiguous/Unsorted
flhC	947280	Flagellar transcriptional activator flhC		Down Regulated
sgcX	948840	Putative sgc region protein sgcX		Up Regulated
psiF	945040	Phosphate starvation-inducible protein psiF		Up Regulated
phoA	945041	Alkaline phosphatase		Ambiguous/Unsorted
yaiA	945043	Uncharacterized protein yaiA	[Amino acid transport and metabolism', 'Building block biosynthesis', 'aromatic amino acid family biosynthetic process']	Up Regulated
asnA	948258	Aspartateammonia ligase		Ambiguous/Unsorted
phoR	945044	Sensor protein; Phosphate regulon sensor protein phoR		Ambiguous/Unsorted
aroM	945045	Protein aroM		Down Regulated
asnC	948259	Asparaginyl-tRNA synthetase; Regulatory protein asnC		Down Regulated
ravA	948256	ATPase ravA		Temporarly Down Regular
phoB	945046	Phosphate regulon transcriptional regulatory protein phoB		Temporarly Up Regulated
csdE	947274	Uncharacterized sufE-like protein ygdK		Ambiguous/Unsorted
yaiE	945048	UPF0345 protein yaiE		Down Regulated
syd	947271	Protein syd		Down Regulated
sbcD	945049	Nuclease sbcCD subunit D		Temporarly Up Regulated
kup	948255	Low affinity potassium transport system protein kup		Ambiguous/Unsorted
atpB	948252	ATP synthase subunit a		Down Regulated
gcvA	947278	Glycine cleavage system transcriptional activator		Temporarly Up Regulated
ygdl	947276	Uncharacterized lipoprotein ygdl	[' Carbon compound utilization', ' RNA related', ' Type of regulation', ' Genetic unit regulated']	Up Regulated
uxuR	948849	Uxu operon transcriptional regulator	Carbon compound utilization, Triva related, Type or regulation, Genetic unit regulated	Temporarly Up Regulated
		Oligopeptide transport ATP-binding protein oppD		
oppD	945802			Ambiguous/Unsorted
ycgN	945804	UPF0260 protein ycgN		Down Regulated
glcB	948857	Malate synthase G		Up Regulated
narJ	945807	Respiratory nitrate reductase 1 delta chain		Up Regulated
gudP	947265	Probable glucarate transporter		Temporarly Down Regula
ilvH	947267	Acetolactate synthase isozyme 3 small subunit		Ambiguous/Unsorted
tnaB	948220	Low affinity tryptophan permease		Temporarly Up Regulated
mnmE	948222	tRNA modification GTPase mnmE		Temporarly Down Regular
rumB	947260	23S rRNA (uracil-5-)-methyltransferase rumB		Ambiguous/Unsorted
wrbA	947263	Flavoprotein wrbA; Putative flavoprotein wrbA		Up Regulated
sdaB	947262	L-serine dehydratase 2		Up Regulated
yieE	948226	Uncharacterized protein yieE	['Amino acid transport and metabolism']	Temporarly Down Regula
yieF	948225	Uncharacterized protein yieF		Up Regulated
yidZ	948227	HTH-type transcriptional regulator yidZ		Up Regulated
yieK	948229	Uncharacterized protein yieK	['Carbohydrate transport and metabolism']	Temporarly Up Regulated
ygdG	947256	Uncharacterized exonuclease xni	Control of the contro	Temporarly Up Regulated
barA	947255	Sensor protein; Signal transduction histidine-protein kinase barA		Ambiguous/Unsorted
mazG	947254	Protein mazG		Down Regulated
pepN	947253	Aminopeptidase N		Ambiguous/Unsorted
mazF	947252	PemK-like protein 1		Temporarly Up Regulated
nhoA	947251			Ambiguous/Unsorted
		N-hydroxyarylamine O-acetyltransferase		
bglB	948234	6-phospho-beta-glucosidase bglB		Ambiguous/Unsorted
phoU	948233	Phosphate transport system protein phoU		Ambiguous/Unsorted
yieH	948232	Phosphatase yieH		Down Regulated
pstS	948237	Phosphate-binding protein pstS		Up Regulated
gudD	947258	Glucarate dehydratase		Ambiguous/Unsorted
qmcA	947257	Protein qmcA		Temporarly Up Regulated
ibpA	948200	Small heat shock protein ibpA		Down Regulated
CYBB	947241	Cytochrome b561		Down Regulated
ygcR	947240	Putative electron transfer flavoprotein subunit ygcR		Down Regulated
rumA	947243	23S rRNA (uracil-5-)-methyltransferase rumA		Temporarly Down Regular
mazE	947245	PemI-like protein 1		Ambiguous/Unsorted
relA	947244	GTP pyrophosphokinase		Ambiguous/Unsorted
ybdK	947246	Carboxylate-amine ligase ybdK		Up Regulated
ygiC	947249	Uncharacterized protein ygiC	ln .	Down Regulated
recF	948209	DNA replication and repair protein recF		Temporarly Up Regulated
ydcL			['Amino acid transport and metabolism', 'amino acid transport']	Up Regulated
ITUOL		Uncharacterized incorrotein vdcl		op regulated
	948203	Uncharacterized lipoprotein ydcL	n	
yjiA	948203 948882	Uncharacterized GTP-binding protein yjiA		Ambiguous/Unsorted
yjiA opgB	948203 948882 948888	Uncharacterized GTP-binding protein yjiA Phosphoglycerol transferase I		Ambiguous/Unsorted Down Regulated
yjiA opgB yjjA	948203 948882 948888 948887	Uncharacterized GTP-binding protein yjiA Phosphoglycerol transferase I Uncharacterized protein yjjA		Ambiguous/Unsorted Down Regulated Down Regulated
yjiA opgB yjjA cusR	948203 948882 948888 948887 945003	Uncharacterized GTP-binding protein yjiA Phosphoglycerol transferase I Uncharacterized protein yjjA Transcriptional regulatory protein cusR		Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regular
yjiA opgB yjjA	948203 948882 948888 948887	Uncharacterized GTP-binding protein yjiA Phosphoglycerol transferase I Uncharacterized protein yjjA		Ambiguous/Unsorted Down Regulated Down Regulated

VeaD	047024	Uncharacterized changrone protein year	In .	Temporarly Lin Dogulated
yegD	947234 945007	Uncharacterized chaperone protein yegD	_ 	Temporarly Up Regulated Ambiguous/Unsorted
lacl lacZ	945007	Lactose operon repressor		
hisQ	947235	Beta-galactosidase Histidine transport system permease protein hisQ		Down Regulated Down Regulated
dnaN	948218	DNA polymerase III subunit beta		Down Regulated
dnaA	948217	Chromosomal replication initiator protein dnaA		Up Regulated
rpmH	948216	50S ribosomal protein L34		Up Regulated
rnpA	948215	Ribonuclease P protein component		Temporarly Down Regular
cynR	945001	HTH-type transcriptional regulator cynR		Up Regulated
cysJ	947239	Sulfite reductase [NADPH] flavoprotein alpha-component		Down Regulated
osmY	948895	Osmotically-inducible protein Y		Up Regulated
riml	948894	Ribosomal-protein-alanine acetyltransferase		Ambiguous/Unsorted
fhuF	948891	Ferric iron reductase protein fhuF		Temporarly Up Regulated
holD	948890	DNA polymerase III subunit psi		Temporarly Up Regulated
yjjG	948899	5'-nucleotidase yjjG		Down Regulated
mrr	948898	Mrr restriction system protein		Ambiguous/Unsorted
prfC	948897	Peptide chain release factor 3		Temporarly Down Regular
lpp	946175	Major outer membrane lipoprotein		Up Regulated
entB	946178	Isochorismatase		Up Regulated
ydhR	946177	Putative monooxygenase ydhR		Down Regulated
ynhG	946174	Uncharacterized protein ynhG		Ambiguous/Unsorted
slyA	946167	Transcriptional regulator slyA		Temporarly Down Regula
plsX	946165	Fatty acid/phospholipid synthesis protein plsX		Ambiguous/Unsorted
pdxY	946162	Pyridoxamine kinase		Down Regulated
rsxG	946158	Electron transport complex protein rnfG		Ambiguous/Unsorted
rnt	946159	Ribonuclease T		Ambiguous/Unsorted
uidR	946150	HTH-type transcriptional regulator uidR		Down Regulated
cnu	946152	OriC-binding nucleoid-associated protein		Up Regulated
hdhA	946151	7-alpha-hydroxysteroid dehydrogenase		Down Regulated
lhr	946156	Probable ATP-dependent helicase Ihr		Down Regulated
uidA	946149	Beta-glucuronidase		Ambiguous/Unsorted
fumC	946147	Fumarate hydratase class II		Temporarly Down Regula
rsxB	946146	Electron transport complex protein rnfB		Down Regulated
topB	946141	DNA topoisomerase 3		Temporarly Up Regulated
ycel	946145	Protein ycel		Ambiguous/Unsorted
pntB	946144	NAD(P) transhydrogenase subunit beta		Ambiguous/Unsorted
fecC	948826	Fe(3+) dicitrate transport system permease protein fecC		Temporarly Up Regulated
fecE	948819	Fe(3+) dicitrate transport ATP-binding protein fecE		Up Regulated
yfcZ	948817	UPF0381 protein yfcZ		Up Regulated
sspA	944744	Stringent starvation protein A	Marine and transport and analysis and 10 characteristics Instable in a consult	Ambiguous/Unsorted
yjgB	948802	Uncharacterized zinc-type alcohol dehydrogenase-like protein yjgB	['Amino acid transport and metabolism', ' Carbon compound utilization', 'metabolic process']	Up Regulated
ydil	946190	Esterase ydil	"Factor read estimated appropriate Language duration transport Information transport Impire said metabolic process."	Up Regulated
ybaQ yddH	948800 946192	Uncharacterized HTH-type transcriptional regulator ybaQ	[Fenergy production and conversion', 'Energy production transport', 'electron transport', 'amino acid metabolic process']	Temporarly Down Regular
		Uncharacterized protein yddH	_U	Up Regulated
sapB	946191	Peptide transport system permease protein sapB	"Control intermedian, metabolism! Josepholydrate metabolis process"	Temporarly Un Degulated
ygcE trxA	946193 948289	Uncharacterized sugar kinase ygcE Thioredoxin-1	[' Central intermediary metabolism', 'carbohydrate metabolic process']	Temporarly Up Regulated
ydiH	946194		Paratachaia 1	Up Regulated
fucl	946195	Uncharacterized protein ydiH L-fucose isomerase	['proteolysis']	Up Regulated Up Regulated
ilvA	948287	Threonine dehydratase biosynthetic		Ambiguous/Unsorted
ppiC	948285	Peptidyl-prolyl cis-trans isomerase C		Ambiguous/Unsorted
rstA	946199	Transcriptional regulatory protein rstA		Temporarly Up Regulated
	948291	Guanosine-5'-triphosphate,3'-diphosphate pyrophosphatase		Down Regulated
gpp rep	948292	ATP-dependent DNA helicase rep		Down Regulated Down Regulated
wzyE	948293	Putative ECA polymerase		Down Regulated Down Regulated
ydiL	946181	Uncharacterized protein ydiL	n .	Temporarly Up Regulated
ydhZ	946180	Uncharacterized protein ydhZ	N	Up Regulated
rffH	948299	Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thym	ılu midvlytransferase 2	Temporarly Down Regular
sufS	946185	Cysteine desulfurase		Up Regulated
torR	946182	TorCAD operon transcriptional regulatory protein torR		Temporarly Up Regulated
ydiJ	946189	Uncharacterized protein ydiJ	['Energy production and conversion']	Ambiguous/Unsorted
rffA	948296	Lipopolysaccharide biosynthesis protein rffA	, and derivative and	Down Regulated
ybaS	946187	Glutaminase 1		Up Regulated
puuA	946202	Gamma-glutamylputrescine synthetase		Down Regulated
Int	946201	Apolipoprotein N-acyltransferase		Ambiguous/Unsorted
sapD	946203	Peptide transport system ATP-binding protein sapD		Down Regulated
yadD	944781	Uncharacterized protein yadD	['Replication recombination and repair', 'DNA recombination']	Down Regulated
аррА	946206	Periplasmic appA protein		Up Regulated

ydiA	946207	Uncharacterized protein yuaU; Putative phosphotransferase ydiA	in	Down Regulated
ppsR	946207	Uncharacterized protein yuaU; Putative phosphotransferase ydiA		Down Regulated
mdtB	946606	Multidrug resistance protein mdtB		Up Regulated
mdtC	946608	Multidrug resistance protein mdtC		Ambiguous/Unsorted
rffE	944789	UDP-N-acetylglucosamine 2-epimerase		Ambiguous/Unsorted
yegQ	946609	Uncharacterized protease yegQ		Down Regulated
ydiB	946200	Quinate/shikimate dehydrogenase		Temporarly Up Regulated
ftsZ	944786	Cell division protein ftsZ		Down Regulated
baeS	946611	Sensor protein; Signal transduction histidine-protein kinase baeS		Down Regulated
ybiS	945441	Uncharacterized protein ybiS	['phosphoenolpyruvate dependent sugar phosphotransferase system']	Ambiguous/Unsorted
ybiT	945440	Uncharacterized ABC transporter ATP-binding protein ybiT		Ambiguous/Unsorted
flhD	945442	Transcriptional activator flhD		Down Regulated
puuE	945446	4-aminobutyrate aminotransferase		Down Regulated
ydcF	946215	Protein ydcF		Ambiguous/Unsorted
fadK	946213	Short-chain-fatty-acidCoA ligase		Ambiguous/Unsorted
mltC	945428	Membrane-bound lytic murein transglycosylase C		Temporarly Up Regulated
ydiS	946212	Probable electron transfer flavoprotein-quinone oxidoreductase ydiS		Temporarly Down Regula
folA	944790	Dihydrofolate reductase; Dihydrofolate reductase type 1		Ambiguous/Unsorted
ydiU	946219	UPF0061 protein ydiU		Down Regulated
ydiY	946218	Uncharacterized protein ydiY		Up Regulated
murE	944791	UDP-N-acetylmuramoyl-L-alanyl-D-glutamate2,6-diaminopimelate ligas	e -	Ambiguous/Unsorted
lpxL	946216	Lipid A biosynthesis lauroyl acyltransferase		Up Regulated
rihC	944796	Non-specific ribonucleoside hydrolase rihC		Up Regulated
leuB	944798	3-isopropylmalate dehydrogenase		Temporarly Down Regular
aroD aceK	946210 944797	3-dehydroquinate dehydratase		Down Regulated
ftsl	944797	Isocitrate dehydrogenase kinase/phosphatase Peptidoglycan synthetase ftsl		Down Regulated
	946600	Uncharacterized protein yegE	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay ', 'regulation of transcrip	Down Regulated
yegE mdtA	946604	Multidrug resistance protein mdtA	[Signal transduction mechanisms, Type or regulation, two component signal transduction system phosphoretay, regulation or transcrip	Up Regulated
ybil	945434	Uncharacterized protein ybil	「Adaptation to stress']	Up Regulated
ybiJ	945433	Uncharacterized protein ybil	[Adaptation to stress]	Temporarly Up Regulated
pps	946209	Phosphoenolpyruvate synthase		Ambiguous/Unsorted
ppsA	946209	Phosphoenolpyruvate synthase		Ambiguous/Unsorted
dinG	945431	Probable ATP-dependent helicase dinG		Down Regulated
mntR	945437	Transcriptional regulator mntR		Ambiguous/Unsorted
glnQ	945435	Glutamine transport ATP-binding protein glnQ		Down Regulated
dapB	944762	Dihydrodipicolinate reductase		Ambiguous/Unsorted
Mog	944760	Molybdopterin biosynthesis mog protein		Up Regulated
rpsT	944759	30S ribosomal protein S20		Down Regulated
nhaR	944757	Transcriptional activator protein nhaR		Ambiguous/Unsorted
rhIE	945425	Putative ATP-dependent RNA helicase rhIE		Down Regulated
ybiB	945424	Uncharacterized protein ybiB	[Energy metabolism carbon', 'nitrate assimilation']	Ambiguous/Unsorted
ybiH	945421	Uncharacterized HTH-type transcriptional regulator ybiH	[Defense mechanisms', ' Primary Active Transporters']	Up Regulated
exbB	945420	Biopolymer transport protein exbB		Temporarly Up Regulated
араН	944770	Bis(5'-nucleosyl)-tetraphosphatase, symmetrical; Bis(5'-nucleosyl)-tetrapl	hosphatase [symmetrical]	Ambiguous/Unsorted
ftsA	944778	Cell division protein ftsA		Ambiguous/Unsorted
ispH	944777	4-hydroxy-3-methylbut-2-enyl diphosphate reductase		Ambiguous/Unsorted
apaG	944772	Protein apaG		Up Regulated
sspB	944774	Stringent starvation protein B		Down Regulated
rpmD	947797	50S ribosomal protein L30		Down Regulated
secY	947799	Preprotein translocase subunit secY; Preprotein translocase secY subunit	N	Down Regulated
rplO	947798 947793	50S ribosomal protein L15 30S ribosomal protein S4		Down Regulated Temporarly Up Regulated
rpsD rpsK	947793	30S ribosomal protein S11		Down Regulated
rpsE	947795	30S ribosomal protein S1		Ambiguous/Unsorted
ybhG	947795	UPF0194 membrane protein ybhG		Up Regulated
ybhF	945413	Uncharacterized ABC transporter ATP-binding protein ybhF		Temporarly Up Regulated
rpsM	947791	30S ribosomal protein S13; 30S ribosomal protein		Down Regulated
yehl	946649		[Translation ribosomal structure and biogenesis', 'translation', 'ion transport']	Up Regulated
metC	946240	Cystathionine beta-lyase metC	,	Ambiguous/Unsorted
ybdG	946243	Uncharacterized protein ybdG	in	Ambiguous/Unsorted
fiu	946246	Catecholate siderophore receptor fiu	M .	Up Regulated
rlmN	946249	Ribosomal RNA large subunit methyltransferase N		Down Regulated
rimN	947783	Putative ribosome maturation factor rimN		Up Regulated
SDHA	945402	Succinate dehydrogenase flavoprotein subunit		Ambiguous/Unsorted
ybhR	945403	Inner membrane transport permease ybhR		Temporarly Up Regulated
rplQ	947784	50S ribosomal protein L17		Temporarly Down Regular
yrdD	947782	Uncharacterized protein yrdD	['Replication recombination and repair', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Up Regulated

dld	946653	D-lactate dehydrogenase		Ambiguous/Unsorted
mscL	947787	Large-conductance mechanosensitive channel		Temporarly Up Regulated
trkA	947788	Trk system potassium uptake protein trkA		Up Regulated
yhdN	947785	Uncharacterized protein yhdN	U	Down Regulated
zntR	947786	HTH-type transcriptional regulator zntR	(Transposintion) I DNA soleted Trus of sociation Isopassistion Isopassistion of transposition DNA dependent	Down Regulated
yeiE yegW	946657 946639	Uncharacterized HTH-type transcriptional regulator yeiE Uncharacterized HTH-type transcriptional regulator yegW	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Temporarly Up Regulated
astC	946255	Succinylornithine transaminase	и при при при при при при при при при пр	Up Regulated
spy	946253	Spheroplast protein Y		Temporarly Up Regulated
astB	946259	N-succinylarginine dihydrolase		Up Regulated
IptE	946257	LPS-assembly lipoprotein lptE		Ambiguous/Unsorted
yrdB	947774	Uncharacterized protein yrdB	[' Building block biosynthesis', 'purine nucleotide biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regular
yrdA	947775	Protein yrdA		Ambiguous/Unsorted
aroE	947776	Shikimate dehydrogenase; Quinate/shikimate dehydrogenase		Up Regulated
pncB	946648	Nicotinate phosphoribosyltransferase		Down Regulated
rihB	946646	Pyrimidine-specific ribonucleoside hydrolase rihB		Temporarly Up Regulated
mrp	946627	Protein mrp		Down Regulated
pntA	946628	NAD(P) transhydrogenase subunit alpha		Up Regulated
heID	946227	Helicase IV		Down Regulated
pheS	946223	Phenylalanyl-tRNA synthetase alpha chain		Ambiguous/Unsorted
ycgL	946226	UPF0745 protein ycgL		Ambiguous/Unsorted
aaeR	947760	HTH-type transcriptional activator aaeR		Up Regulated
acrF	947768	Acriflavine resistance protein F		Temporarly Up Regulated
yhdW	947766	Putative amino-acid ABC transporter-binding protein yhdW	n.	Up Regulated
yegU	946630	Uncharacterized protein yegU	Ц	Ambiguous/Unsorted
yhdZ	947763	Uncharacterized amino-acid ABC transporter ATP-binding protein yhdZ		Down Regulated
yhdY fbaB	947764 946632	Inner membrane amino-acid ABC transporter permease protein yhdY Fructose-bisphosphate aldolase class 1		Up Regulated
pfkB	946230	6-phosphofructokinase isozyme 2		Ambiguous/Unsorted Ambiguous/Unsorted
chbG	946231	UPF0249 protein chbG		Temporarly Up Regulated
tldD	947749	Protein tldD		Down Regulated
ydjN	946238	Uncharacterized symporter ydjN	n	Down Regulated
yniA	946236	Uncharacterized protein yniA		Up Regulated
katE	946234	Catalase HPII; Catalase	u .	Ambiguous/Unsorted
cedA	946235	Cell division activator cedA		Down Regulated
yhcH	947750	Uncharacterized protein yhcH	['Carbohydrate transport and metabolism', 'carbohydrate metabolic process']	Up Regulated
tolA	946625	Protein tolA		Down Regulated
accB	947758	Biotin carboxyl carrier protein of acetyl-CoA carboxylase		Ambiguous/Unsorted
hpt	946624	Hypoxanthine phosphoribosyltransferase		Ambiguous/Unsorted
cyaY	947754	Protein cyaY		Up Regulated
cyaA	947755	Adenylate cyclase		Down Regulated
nanA	947742	N-acetylneuraminate lyase 1; N-acetylneuraminate lyase		Up Regulated
ccmE	946697	Cytochrome c-type biogenesis protein ccmE		Temporarly Up Regulated
aaeA	947748	p-hydroxybenzoic acid efflux pump subunit aaeA		Ambiguous/Unsorted
yejK	946690	Nucleoid-associated protein ndpA		Ambiguous/Unsorted
rlml	946691	Ribosomal RNA large subunit methyltransferase I		Ambiguous/Unsorted
yejL	946694 946695	UPF0352 protein yejL Protein rtn		Temporarly Up Regulated
rtn lpxT	946693	Inner membrane protein yeiU		Up Regulated Down Regulated
recQ	948318	ATP-dependent DNA helicase recQ		Down Regulated
dapE	948313	Succinyl-diaminopimelate desuccinylase		Ambiguous/Unsorted
pldB	948314	Lysophospholipase L2		Down Regulated
metR	948310	HTH-type transcriptional regulator metR		Down Regulated
hemY	948311	Protein hemY		Ambiguous/Unsorted
ushA	947331	Protein ushA		Ambiguous/Unsorted
yejM	946685	Inner membrane protein yejM		Down Regulated
mlaE	947732	UPF0393 inner membrane protein yrbE		Temporarly Down Regula
yrbE	947732	UPF0393 inner membrane protein yrbE		Temporarly Down Regula
flgC	946687	Flagellar basal-body rod protein flgC		Down Regulated
yejF	946689	Uncharacterized ABC transporter ATP-binding protein yejF		Ambiguous/Unsorted
cueO	947736	Blue copper oxidase cueO		Temporarly Up Regulated
kdsD	947734	Arabinose 5-phosphate isomerase		Ambiguous/Unsorted
osmF	946681	Putative osmoprotectant uptake system substrate-binding protein osmF		Up Regulated
flgM	946684	Negative regulator of flagellin synthesis		Ambiguous/Unsorted
pldA	948307	Phospholipase A1		Up Regulated
rffG	948300	dTDP-glucose 4,6-dehydratase		Down Regulated
ydhP rffM	947340	Inner membrane transport protein ydhP		Temporarly Up Regulated
rffM	948301	Probable UDP-N-acetyl-D-mannosaminuronic acid transferase		Temporarly Up Regulated

gltB	947724	Glutamate synthase [NADPH] large chain	T	Ambiguous/Unsorted
gltD	947723	Glutamate synthase [NADPH] small chain		Down Regulated
ampE	946678	Protein ampE		Temporarly Up Regulated
speE	947726	Spermidine synthase		Ambiguous/Unsorted
secG	947720	Protein-export membrane protein secG		Up Regulated
fruK	946676	1-phosphofructokinase		Down Regulated
fruB	946677	Multiphosphoryl transfer protein		Ambiguous/Unsorted
yeiP	946674	Elongation factor P-like protein		Ambiguous/Unsorted
yejA	946675	Uncharacterized protein yejA		Down Regulated
fruA	946672	PTS system fructose-specific EIIBC component		Down Regulated
fixA	947316	Protein fixA		Ambiguous/Unsorted
pcnB	947318	Poly(A) polymerase		Down Regulated
lysA	947313	Diaminopimelate decarboxylase		Ambiguous/Unsorted
galR	947314	HTH-type transcriptional regulator galR		Temporarly Down Regular
aas	947315	Bifunctional protein aas		Temporarly Up Regulated
hpf	947718	Probable sigma(54) modulation protein		Down Regulated
pspB	945893	Phage shock protein B		Temporarly Up Regulated
speD	947719	S-adenosylmethionine decarboxylase proenzyme		Ambiguous/Unsorted
speB	947715	Agmatinase		Down Regulated
lysP	946667	Lysine-specific permease		Down Regulated
amiD	945494	N-acetylmuramoyl-L-alanine amidase amiD		Temporarly Up Regulated
rpoN	947714	RNA polymerase sigma-54 factor		Down Regulated
ybjQ	945493	UPF0145 protein ybjQ		Temporarly Down Regular
ybjT	945496	Uncharacterized protein ybjT	['Cell wall membrane envelope biogenesis']	Temporarly Down Regular
nfo	946669	Endonuclease 4; Probable endonuclease 4		Down Regulated
ybjS	945495	Uncharacterized protein ybjS		Ambiguous/Unsorted
aat	945490	Leucyl/phenylalanyl-tRNAprotein transferase		Down Regulated
cdd	946663	Cytidine deaminase		Up Regulated
ybjP	945491	Uncharacterized lipoprotein ybjP	['Amino acid transport and metabolism', ' Building block biosynthesis']	Up Regulated
pbpG	946662	D-alanyl-D-alanine endopeptidase		Down Regulated
ybjD	945498	Uncharacterized protein ybjD	['SOS response']	Up Regulated
pspC	945499	Phage shock protein C		Up Regulated
kduD	947323	2-deoxy-D-gluconate 3-dehydrogenase		Down Regulated
yqeF	947324	Probable acetyl-CoA acetyltransferase		Temporarly Up Regulated
ymdC	947321	Uncharacterized protein ymdC	П	Temporarly Up Regulated
macA	947322	Macrolide-specific efflux protein macA		Ambiguous/Unsorted
iraP	947709	Anti-adapter protein iraP		Temporarly Up Regulated
ygeV	947320	Uncharacterized sigma-54-dependent transcriptional regulator ygeV	['Signal transduction mechanisms', 'Genetic unit regulated', 'two component signal transduction system phosphorelay ', 'regulation of trans	Up Regulated
dusB	947707	tRNA-dihydrouridine synthase B		Temporarly Up Regulated
prmA	947708	Ribosomal protein L11 methyltransferase		Ambiguous/Unsorted
artP	945489	Arginine transport ATP-binding protein artP		Temporarly Down Regular
potF	945480	Putrescine-binding periplasmic protein		Ambiguous/Unsorted
gmr	945868	Protein gmr		Temporarly Up Regulated
yciT	945869	Uncharacterized HTH-type transcriptional regulator yciT		Ambiguous/Unsorted
rimK	945484	Ribosomal protein S6 modification protein		Ambiguous/Unsorted
csrD	947702	Uncharacterized protein yhdA		Temporarly Up Regulated
ybjN	945482	Uncharacterized protein ybjN	[' Energy metabolism carbon ', 'electron transport', 'translation']	Down Regulated
murA	947703	UDP-N-acetylglucosamine 1-carboxyvinyltransferase		Ambiguous/Unsorted
nfsA	945483	Oxygen-insensitive NADPH nitroreductase		Ambiguous/Unsorted
sapA	945873	Peptide transport periplasmic protein sapA		Up Regulated
ycjF	945878	UPF0283 membrane protein ycjF		Temporarly Down Regula
prr	945876	Gamma-aminobutyraldehyde dehydrogenase		Up Regulated
ycjW	945875	Uncharacterized HTH-type transcriptional regulator ycjW	['Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependent']	Ambiguous/Unsorted
potG	945476	Putrescine transport ATP-binding protein potG		Ambiguous/Unsorted
grxA	945479	Glutaredoxin-1		Ambiguous/Unsorted
tyrR	945879	Transcriptional regulatory protein tyrR		Ambiguous/Unsorted
ybjl	945470	Phosphatase ybjl		Down Regulated
ihfA	945472	Integration host factor subunit alpha		Ambiguous/Unsorted
ybjL	945474	Putative transport protein ybjL		Ambiguous/Unsorted
puuD	945882	Gamma-glutamyl-gamma-aminobutyrate hydrolase		Ambiguous/Unsorted
rppH	947300	RNA pyrophosphohydrolase		Temporarly Up Regulated
pspA	945887	Phage shock protein A		Down Regulated
puuR	945886	HTH-type transcriptional regulator puuR		Up Regulated
ompG	945889	Outer membrane protein G		Ambiguous/Unsorted
ygdR	947304	Uncharacterized lipoprotein ygdR	"Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid metabolic process'	Temporarly Up Regulated
lgt	947303	Prolipoprotein diacylglyceryl transferase	Stand Standard Miles and Standard Stand	Ambiguous/Unsorted
yfhM	947302	Uncharacterized lipoprotein yfhM	ln .	Up Regulated
rhmD	945881	L-rhamnonate dehydratase	T T	Ambiguous/Unsorted
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yfaW	945881	L-rhamnonate dehydratase		Ambiguous/Unsorted
tas	947306	Protein tas		Temporarly Up Regulated
ascG	947305	HTH-type transcriptional regulator ascG		Ambiguous/Unsorted
acrD	945464	Probable aminoglycoside efflux pump		Ambiguous/Unsorted
rimO	945465	Ribosomal protein S12 methylthiotransferase rimO		Down Regulated
yliE	945462	Uncharacterized protein yliE	[Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription', 'regulati	
rssB	945855	Protein hnr		Temporarly Down Regula
yciO	945854	Uncharacterized protein yciO		Ambiguous/Unsorted
Ogt	945853	Methylated-DNAprotein-cysteine methyltransferase		Down Regulated
add	945851	Adenosine deaminase		Ambiguous/Unsorted
gsiA	945457	Glutathione import ATP-binding protein gsiA		Down Regulated
gsiB	945459	Glutathione-binding protein gsiB		Ambiguous/Unsorted
deoR	945453	Deoxyribose operon repressor		Down Regulated
moeA	945454	Molybdopterin biosynthesis protein moeA		Ambiguous/Unsorted
dacC	945455	D-alanyl-D-alanine carboxypeptidase dacC		Ambiguous/Unsorted
folC	945451	Bifunctional protein folC		Ambiguous/Unsorted
moeB	945452	Molybdopterin biosynthesis protein moeB		Temporarly Down Regular
yciV	945857	Protein trpH	[II] iniditenanat and metabolism!	Down Regulated
yciW	945859 945865	Uncharacterized protein yciW Transketolase 2	[Lipid transport and metabolism']	Down Regulated
tktB rnb	945864	Exoribonuclease 2		Up Regulated
osmB	945866	Osmotically-inducible lipoprotein B		Temporarly Down Regulated
ydfl	945861	Uncharacterized oxidoreductase ydfl	[Carbon compound utilization]	Up Regulated
yciN	945860	Protein yciN	Carbon compound disization	Up Regulated
dapF	948364	Diaminopimelate epimerase		Down Regulated
ybcJ	945158	Uncharacterized protein ybcJ	n	Ambiguous/Unsorted
yihN	948365	Inner membrane protein yihN		Ambiguous/Unsorted
glnL	948360	Nitrogen regulation protein NR(II); Sensor protein		Down Regulated
proX	947165	Glycine betaine-binding periplasmic protein		Temporarly Up Regulated
glnG	948361	Nitrogen regulation protein NR(I)		Temporarly Up Regulated
emrA	947166	Multidrug resistance protein A		Down Regulated
hemN	948362	Oxygen-independent coproporphyrinogen-III oxidase		Down Regulated
yihl	948363	UPF0241 protein yihl		Ambiguous/Unsorted
luxS	947168	S-ribosylhomocysteine lyase		Ambiguous/Unsorted
allC	945150	Allantoate amidohydrolase		Down Regulated
rfbA	945154	Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymi		Down Regulated
yihL	948368		[Amino acid transport and metabolism', ' Carbon compound utilization', ' Central intermediary metabolism', ' Primary Active Transporters', '	Down Regulated
typA	948369	GTP-binding protein typA/BipA; GTP-binding protein typA/bipA		Ambiguous/Unsorted
rplT	945152	50S ribosomal protein L20		Temporarly Up Regulated
ytfE	948724	Regulator of cell morphogenesis and NO signaling		Ambiguous/Unsorted
malY	945937	Protein malY		Up Regulated
Cyca	948725	D-serine/D-alanine/glycine transporter	TO I I I I I I I I I I I I I I I I I I I	Down Regulated
ytfB	948727	Uncharacterized protein ytfB	[Replication recombination and repair', 'DNA recombination', 'DNA integration']	Up Regulated
rpll	948720	50S ribosomal protein L9		Ambiguous/Unsorted
rpsR	948721 945938	30S ribosomal protein S18 Mhp operon transcriptional activator		Down Regulated
mhpR pbpC	945936	Penicillin-binding protein 1C		Temporarly Up Regulated Temporarly Down Regula
dtd	948378	D-tyrosyl-tRNA(Tyr) deacylase		Down Regulated
dbpA	947153	ATP-independent RNA helicase dbpA		Down Regulated
yqcA	947151	Uncharacterized protein yqcA		Ambiguous/Unsorted
ygaM	947157	Uncharacterized protein ygaM	□ ["Cell wall membrane envelope biogenesis"]	Up Regulated
prpD	945931	2-methylcitrate dehydratase	[on the manufactor of the property of the pro	Ambiguous/Unsorted
cpdB	948729	ECs5191; ECP 4467; ECSE 4519; EcSMS35 4692; ECUMN 4750; 75	824; EcolC 3793; ECS88 4807; E2348C 4544; EC55989 4773; ECDH10B 4408; ECED1 5072; ECH74115 5730; ECIAI1 4447; b4213;	Up Regulated
yihP	948371	Inner membrane symporter yihP	,	Down Regulated
nrdE	947155	Ribonucleoside-diphosphate reductase; Ribonucleoside-diphosphate red	uctase 2 subunit alpha	Temporarly Up Regulated
cysQ	948728	3'(2'),5'-bisphosphate nucleotidase cysQ		Up Regulated
sfmD	945160	Outer membrane usher protein sfmD		Ambiguous/Unsorted
yegl	947159	Uncharacterized protein yegl		Ambiguous/Unsorted
macB	945164	Macrolide export ATP-binding/permease protein macB		Up Regulated
glnA	948370	Glutamine synthetase		Temporarly Down Regular
ytfJ	948737	Uncharacterized protein ytfJ	[Energy production and conversion', 'Secondary metabolites biosynthesis transport and catabolism']	Temporarly Up Regulated
ytfL	948735	UPF0053 inner membrane protein ytfL		Temporarly Down Regula
ytfM	948733	Uncharacterized protein ytfM		Up Regulated
msrA	948734	Peptide methionine sulfoxide reductase msrA		Ambiguous/Unsorted
qorB	948731	Uncharacterized oxidoreductase ytfG		Up Regulated
fdhE	948384	Protein fdhE		Down Regulated
ydjA	945964	Putative NAD(P)H nitroreductase ydjA	["Cell wall membrane envelope biogenesis", 'translation', 'ion transport']	Ambiguous/Unsorted Up Regulated
yddB	945961	Uncharacterized protein yddB		

MItB	947184	Membrane-bound lytic murein transglycosylase B		Down Regulated
allB	945134	Allantoinase		Down Regulated
tus	945135	DNA replication terminus site-binding protein		Down Regulated
norR	947186	Anaerobic nitric oxide reductase transcription regulator norR		Temporarly Down Regula
kefA	945132	Potassium efflux system kefA		Ambiguous/Unsorted
pmrD	945130	Signal transduction protein pmrD		Temporarly Up Regulated
ytfN	948742	Uncharacterized protein ytfN		Down Regulated
fhIA	947181	Formate hydrogenlyase transcriptional activator		Ambiguous/Unsorted
ytfQ	948746	ABC transporter periplasmic-binding protein ytfQ		Up Regulated
ppa	948748	Inorganic pyrophosphatase		Ambiguous/Unsorted
ydeN	945957	Uncharacterized sulfatase ydeN	[Signal transduction mechanisms', ' Metabolism of other compounds']	Up Regulated
yihW	948381	Uncharacterized HTH-type transcriptional regulator yihW	[Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependent']	Temporarly Down Regular
yihX fdoH	948380 948395	Phosphatase yihX		Up Regulated
ylbA	946395	Formate dehydrogenase-O iron-sulfur subunit Uncharacterized protein ylbA	[' Carbon compound utilization', 'proteolysis']	Down Regulated Ambiguous/Unsorted
ydaL	945953	· · ·	[Carbon compound dunization, proteorysis]	
clcB	947179	Uncharacterized protein ydaL Voltage-gated CIC-type chloride channel clcB	Ц	Up Regulated Temporarly Down Regula
csrA	947179	Carbon storage regulator		Temporarly Up Regulated
fdhD	948393	Protein fdhD		Ambiguous/Unsorted
fdoG	948394	Formate dehydrogenase-O major subunit		Down Regulated
dgt	947177	Deoxyguanosinetriphosphate triphosphohydrolase		Down Regulated
qseC	947174	Sensor protein qseC; Sensor protein		Down Regulated
xdhC	945148	Xanthine dehydrogenase iron-sulfur-binding subunit		Ambiguous/Unsorted
mppA	945951	Periplasmic murein peptide-binding protein		Up Regulated
ThiM	945142	Hydroxyethylthiazole kinase		Ambiguous/Unsorted
lpxM	945143	Lipid A biosynthesis (KDO)2-(lauroyl)-lipid IVA acyltransferase		Ambiguous/Unsorted
yniB	945140	Uncharacterized protein yniB	П	Up Regulated
yjgA	948751	UPF0307 protein yjgA	и	Up Regulated
nrdD	948755	Anaerobic ribonucleoside-triphosphate reductase		Temporarly Up Regulated
ydbH	945949	Uncharacterized protein ydbH		Down Regulated
ydhV	948756	Uncharacterized protein ydhV	Central intermediary metabolism'	Temporarly Up Regulated
fbp	948753	Fructose-1,6-bisphosphatase class 1		Ambiguous/Unsorted
yddA	945945	Inner membrane ABC transporter ATP-binding protein yddA		Ambiguous/Unsorted
uspF	945948	Universal stress protein F		Up Regulated
fre	948325	NAD(P)H-flavin reductase		Down Regulated
fadA	948324	3-ketoacyl-CoA thiolase		Up Regulated
raiA	947129	Ribosome-associated inhibitor A		Up Regulated
rfaH	948327	Transcriptional activator rfaH		Ambiguous/Unsorted
ubiD	948326	3-octaprenyl-4-hydroxybenzoate carboxy-lyase		Down Regulated
tatA	948321	Sec-independent protein translocase protein tatA		Down Regulated
ysgA	948320	Putative carboxymethylenebutenolidase		Up Regulated
patA	947120	Putrescine aminotransferase		Up Regulated
ubiB	948322	Probable ubiquinone biosynthesis protein ubiB		Down Regulated
nth	947122	Endonuclease III		Down Regulated
ybbP	945118	Uncharacterized ABC transporter permease ybbP		Up Regulated
ydgH	945117	Protein ydgH		Down Regulated
yjgl	948765	Uncharacterized oxidoreductase yigl	U.	Down Regulated
pyrB	948767	Aspartate carbamoyltransferase catalytic chain; Aspartate carbamoyltran	5 E	Ambiguous/Unsorted
treR	948760 948763	HTH-type transcriptional regulator treR		Down Regulated
pyrl treC	948763	Aspartate carbamoyltransferase regulatory chain Trehalose-6-phosphate hydrolase		Down Regulated Ambiguous/Unsorted
xdhA	947116	Xanthine dehydrogenase molybdenum-binding subunit		Ambiguous/Unsorted
	948338	Uncharacterized protein yigl	n	Down Regulated
yigI ybbA	946336	Uncharacterized ABC transporter ATP-binding protein ybbA	ш	Ambiguous/Unsorted
fadB	948336	Fatty acid oxidation complex subunit alpha		Up Regulated
pepQ	948335	Xaa-Pro dipeptidase		Ambiguous/Unsorted
queD	945123	Putative 6-pyruvoyl tetrahydrobiopterin synthase		Up Regulated
hemG	948331	Protoporphyrinogen oxidase		Ambiguous/Unsorted
ompW	945128	Outer membrane protein W		Up Regulated
tesA	945127	Acyl-CoA thioesterase I		Down Regulated
tabA	948777	Uncharacterized protein yjgK		Down Regulated
yjgL	948776	Uncharacterized protein yjglc	Type of regulation	Up Regulated
yjgJ	948775	Uncharacterized HTH-type transcriptional regulator yigJ	[1] Extraoguitation [Cell wall membrane envelope biogenesis', 'Intracellular trafficking secretion and vesicular transport', ' Cell division', 'protein transport']	Down Regulated
argl	948774	Ornithine carbamoyltransferase chain I; Ornithine carbamoyltransferase	The state of the s	Down Regulated
rraB	948773	Uncharacterized protein yigD		Up Regulated
yjgM	948772	Uncharacterized N-acetyltransferase yigM		Temporarly Up Regulated
uvrD	948347	DNA helicase II	M	Temporarly Down Regular
rdoA	948346	Protein rdoA		Temporarly Down Regular
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mobA	948349	Molybdopterin-guanine dinucleotide biosynthesis protein A		Down Regulated
proV	947148	Glycine betaine/L-proline transport ATP-binding protein proV		Temporarly Down Regula
nrdF	947149	Ribonucleoside-diphosphate reductase 2 subunit beta		Up Regulated
ygaU	947144	Uncharacterized protein ygaU	Ц	Ambiguous/Unsorted
ygiS	947140	Putative binding protein ygiS		Up Regulated
allD holC	948342 948787	Ureidoglycolate dehydrogenase DNA polymerase III subunit chi		Temporarly Down Regula Ambiguous/Unsorted
recE	945918	Exodeoxyribonuclease 8		Temporarly Down Regular
yccU	949008	Uncharacterized protein yccU	n	Up Regulated
fadE	949007	Acyl-coenzyme A dehydrogenase	U	Up Regulated
btuE	945915	Vitamin B12 transport periplasmic protein btuE; Glutathione peroxidase		Ambiguous/Unsorted
abgT	945912	Aminobenzoyl-glutamate transport protein		Ambiguous/Unsorted
rpsl	949000	30S ribosomal protein S9		Down Regulated
yjgN	948784	Inner membrane protein yjgN		Ambiguous/Unsorted
prfA	949002	Peptide chain release factor 1		Ambiguous/Unsorted
YigA	948359	Uncharacterized protein yigA		Temporarly Up Regulated
recR	945100	Recombination protein recR		Down Regulated
degP	947139	Protease do		Ambiguous/Unsorted
yihF	948352	Uncharacterized protein yihF	['Replication recombination and repair', ' Adaptation to stress']	Down Regulated
corA	948351	Magnesium transport protein corA		Temporarly Down Regula
yahE	947134	Uncharacterized protein yahE	Ш	Temporarly Up Regulated
dnaX ydaN	945105 945910	DNA polymerase III subunit tau Zinc transport protein zntB		Ambiguous/Unsorted Ambiguous/Unsorted
ftsK	945102	DNA translocase ftsK		Down Regulated
polA	948356	DNA translocase tisk DNA polymerase I		Ambiguous/Unsorted
dps	945101	DNA protection during starvation protein		Up Regulated
xerC	948355	Tyrosine recombinase xerC		Temporarly Up Regulated
stpA	947130	DNA-binding protein stpA		Ambiguous/Unsorted
ybaB	945104	UPF0133 protein vbaB		Ambiguous/Unsorted
dsbA	948353	Thiol:disulfide interchange protein dsbA		Up Regulated
ykgG	945906	UPF0707 protein ykgG		Up Regulated
fnr	945908	Fumarate and nitrate reduction regulatory protein		Down Regulated
uspE	945904	Universal stress protein E		Up Regulated
folK	948792	2-amino-4-hydroxy-6-hydroxymethyldihydropteridine pyrophosphokinase		Up Regulated
lptF	948795	Lipopolysaccharide export system permease protein lptF		Down Regulated
yehT	949024	Uncharacterized response regulatory protein yehT	['transcription', 'regulation of transcription DNA dependent']	Down Regulated
CARA	949025	Carbamoyl-phosphate synthase small chain		Ambiguous/Unsorted
yacL yehS	944809 949026	UPF0231 protein yacL Uncharacterized protein yehS	[Position recombination and repair]	Up Regulated Temporarly Up Regulated
idi	949020	Isopentenyl-diphosphate Delta-isomerase	['Replication recombination and repair']	Ambiguous/Unsorted
ftsL	944803	Cell division protein ftsL		Down Regulated
fruR	944804	Fructose repressor		Temporarly Down Regular
mlrA	949029	HTH-type transcriptional regulator mlrA		Ambiguous/Unsorted
acpP	944805	Acyl carrier protein		Down Regulated
maeA	946031	NAD-dependent malic enzyme		Ambiguous/Unsorted
cfa	944811	Cyclopropane-fatty-acyl-phospholipid synthase		Temporarly Up Regulated
mraZ	944810	Protein mraZ		Up Regulated
fdnG	946035	Formate dehydrogenase, nitrate-inducible, major subunit		Down Regulated
hyfB	946961	Hydrogenase-4 component B		Temporarly Up Regulated
ydhF	946960	Oxidoreductase ydhF		Up Regulated
adhP	946036	Alcohol dehydrogenase, propanol-preferring		Up Regulated
ycgK fro A	946963	Uncharacterized protein ycgK	Ш	Up Regulated
frsA sufA	946039 949014	Esterase frsA Protein sufA		Ambiguous/Unsorted
ygfT	949014	Uncharacterized protein ygfT	['electron transport']	Up Regulated Ambiguous/Unsorted
yncH	946024	Uncharacterized protein yorl	[Greater a anaport]	Ambiguous/Unsorted
ppx	946970	Exopolyphosphatase		Down Regulated
fucK	946022	L-fuculokinase		Ambiguous/Unsorted
yfgD	946974	Uncharacterized protein yfgD		Ambiguous/Unsorted
yqcC	946027	Uncharacterized protein yqcC		Ambiguous/Unsorted
rhsE	946026	ECDH10B_1586; EC55989_0238; b1456		Down Regulated
ybjX	946025	Uncharacterized protein ybjX		Down Regulated
hda	946977	DnaA-homolog protein hda		Down Regulated
cirA	949042	Colicin I receptor		Ambiguous/Unsorted
galS	949043	HTH-type transcriptional regulator galS		Up Regulated
yeiG	949045	S-formylglutathione hydrolase yeiG		Down Regulated
artQ	949046	Arginine transport system permease protein artQ		Ambiguous/Unsorted
waaA	949048	3-deoxy-D-manno-octulosonic-acid transferase		Down Regulated

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ycbB 945541 Uncharacterized protein ycbB ['DNA replication'] Temporarly UprimP 947680 b3170 Temporarly UprimP 947680 b3179 Temporarly UprimP 947688 RNA-binding protein yhbY Ambiguous/Un yhbY 947688 RNA-binding protein yhbY D4888 Protein sufD UprimP 947689 Protein sufD UprimP 947689 UprimP 947689 UprimP 94878 UprimP 94878 UprimP 94878 UprimP 94878 UprimP 94879 UprimP 948799 UprimP 94879 UprimP 94879 UprimP 94879 UprimP 94879 UprimP 948799 UprimP					
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rimE 947689 b3179 yhbY 947688 RNA-binding protein yhbY Ambiguous/Un yhbY 947688 RNA-binding protein yhbY Ambiguous/Un sufD 944878 Protein sufD Up Regulate gmhB 944879 D,D-heptose 1,7-bisphosphate phosphatase gmhB 944879 D,D-heptose 1,7-bisphosphate phosphatase pso 947686 30S ribosomal protein S15 yafL 944899 Uncharacterized lipoprotein yafL metl 944894 Uncharacterized lipoprotein yafL metl 944891 Protein rof yejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Ambiguous/Un yejH 945529 Uncharacterized protein yejH Ambiguous/Un yejH 945529 Uncharacterized protein yejH Ambiguous/Un yejH 945529 Uncharacterized protein yejH Ambiguous/Un yejN 945629 Uncharacterized protein yejH				[STATTOPHOLOGIST	Temporarly Down Regular
yhbY 947688 RNA-binding protein yhbY sufD 944878 Protein sufD Up Regulated truB 947687 tRNA pseudouridine synthase B gmhB 944879 D.D-heptose 1,7-bisphosphate phosphatase rpsO 947686 30S ribosomal protein S15 yafL 944899 Uncharacterized lipoprotein yafL metl 944894 D-methionine transport system permease protein metl rof 944891 Protein rof yejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Ambiguous/Un Ambiguous/Un Ambiguous/Un YejH 945529 Uncharacterized protein yejH Ambiguous/Un Vp Regulate C'Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulated Ambiguous/Un Ambiguous/Un YejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process']					Ambiguous/Unsorted
sufD 944878 Protein sufD Up Regulated truB truB 947687 tRNA pseudouridine synthase B Down Regulated pown Regulated protein S15 gmhB 944879 D.D-heptose 1,7-bisphosphate phosphatase Down Regulated protein S15 rpsO 947686 30S ribosomal protein S15 Ambiguous/Un paff. yafL 944899 Uncharacterized lipoprotein yafL. ['Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Down Regulated pown Regulated protein yafL. rof 944891 P-methionine transport system permease protein metl Up Regulated protein yafL. Up Regulated protein yafL. vg H 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Temporarly Up					Ambiguous/Unsorted
truB 947687 tRNA pseudouridine synthase B gmhB 944879 D,D-heptose 1,7-bisphosphate phosphatase rpsO 947686 30S ribosomal protein S15 yafL 944899 Uncharacterized lipoprotein yafL ['Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Down Regulate rof 944891 Protein rof yejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Down Regulate Up Regulate ('Dell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulate ('Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulate ('Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulate ('Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulate ('Down Regulate ('Down Regulate ('Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Up Regulate ('Down Regulate (
gmhB 944879 D,D-heptose 1,7-bisphosphate phosphatase Down Regulate rpsO 947686 30S ribosomal protein S15 Ambiguous/Un yafL 944899 Uncharacterized lipoprotein yafL Down Regulate rof 944891 Protein rof 944891 Protein rof 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Down Regulate ('Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Down Regulate up the process of the					
rpsO 947686 30S ribosomal protein S15 yafL 944899 Uncharacterized lipoprotein yafL metl 944894 D-methionine transport system permease protein metl rof 944891 Protein rof yejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Ambiguous/Un Protein protein yejH guilding block biosynthesis', 'amino acid biosynthetic process']					Down Regulated
yafL 944899 Uncharacterized lipoprotein yafL ['Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic'] Down Regulate mett 944894 D-methionine transport system permease protein mett Up Regulated Up Regulated 944891 Protein rof 944891 Protein rof 94529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Temporarly Up					Ambiguous/Unsorted
metl 944894 D-methionine transport system permease protein metl Up Regulated rof 944891 Protein rof 944891 Protein rof 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Temporarly Up Temp				Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'resoonse to antibiotic'l	Down Regulated
rof 944891 Protein rof Ambiguous/Un yejH 945529 Uncharacterized protein yejH ['Building block biosynthesis', 'amino acid biosynthetic process'] Temporarly Up				, and the second	
yejH 945529 Uncharacterized protein yejH [' Building block biosynthesis', 'amino acid biosynthetic process'] Temporarly Up					Ambiguous/Unsorted
	rot		1		
			Uncharacterized protein yejH	[' Building block biosynthesis', 'amino acid biosynthetic process']	Temporarly Up Regulated

ycaR	945537	UPF0434 protein ycaR		Ambiguous/Unsorted
rpsA	945536	30S ribosomal protein S1		Ambiguous/Unsorted
deaD	947674	Cold-shock DEAD box protein A		Down Regulated
cmk	945535	Cytidylate kinase		Ambiguous/Unsorted
	945534	Uncharacterized metalloprotease ycaL	п	Up Regulated
ycaL nlpl	947673	Lipoprotein nlpl		Temporarly Up Regulated
ihfB	945533	Integration host factor subunit beta		Ambiguous/Unsorted
yhbS	947670		P. Duilding block biggretheric	
		Uncharacterized N-acetyltransferase yhbS	[' Building block biosynthesis']	Up Regulated
msbA	945530	Lipid A export ATP-binding/permease protein msbA tRNA(IIe)-lysidine synthase		Down Regulated
tilS	944889			Ambiguous/Unsorted
yhbW	947677	Uncharacterized protein yhbW	Ц	Ambiguous/Unsorted
rlmL	945564	Ribosomal RNA large subunit methyltransferase L		Ambiguous/Unsorted
uup	945566	ABC transporter ATP-binding protein uup		Down Regulated
fabA	945568	3-hydroxydecanoyl-[acyl-carrier-protein] dehydratase		Ambiguous/Unsorted
ycbZ	945569	Putative protease La homolog		Ambiguous/Unsorted
mukB	945549	Chromosome partition protein mukB		Down Regulated
ftsH	947690	Cell division protease ftsH		Ambiguous/Unsorted
ompF	945554	Outer membrane protein F		Down Regulated
obgE	947694		115_4505; ECUMN_3663; EcolC_0517; c3940; EcHS_A3376; EC55989_3601; ECSE_3467; ECED1_3841; ECDH10B_3357; EcE24377A_	
dacB	947693	D-alanyl-D-alanine carboxypeptidase dacB		Ambiguous/Unsorted
greA	947696	Transcription elongation factor; Transcription elongation factor greA		Ambiguous/Unsorted
pyrD	945556	Dihydroorotate dehydrogenase		Ambiguous/Unsorted
fis	947697	DNA-binding protein fis		Ambiguous/Unsorted
yhbE	947699	Uncharacterized inner membrane transporter yhbE	[' Type of regulation']	Temporarly Up Regulated
mukE	945550	Chromosome partition protein mukE		Ambiguous/Unsorted
copA	946106	Copper-exporting P-type ATPase A		Ambiguous/Unsorted
ycbS	946934	Uncharacterized outer membrane usher protein ycbS	[Cell motility', 'Intracellular trafficking secretion and vesicular transport', 'Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
yeeO	946506	Uncharacterized transporter yeeO		Up Regulated
agaD	947649	N-acetylgalactosamine permease IID component		Ambiguous/Unsorted
hisF	946516	Imidazole glycerol phosphate synthase subunit hisF		Ambiguous/Unsorted
hisl	946515	Histidine biosynthesis bifunctional protein hisIE		Down Regulated
yeeU	946510	Uncharacterized protein yeeU		Up Regulated
yeeR	946512	Inner membrane protein yeeR		Up Regulated
garD	947641	D-galactarate dehydratase		Temporarly Up Regulated
rihA	945503	Pyrimidine-specific ribonucleoside hydrolase rihA		Up Regulated
cydC	945504	ATP-binding/permease protein cydC		Down Regulated
infA	945500	Translation initiation factor IF-1		Up Regulated
grxB	946926	Glutaredoxin-2		Ambiguous/Unsorted
ynfB	946119	UPF0482 protein ynfB		Ambiguous/Unsorted
speG	946117	Spermidine N(1)-acetyltransferase		Down Regulated
ycgM	946115	Uncharacterized protein ycgM	п	Up Regulated
pyrG	946116	CTP synthase	U.	Temporarly Down Regular
ydfE	946113	b1577; ECDH10B 1709		Temporarly Down Regular
ynjE	946505	Putative thiosulfate sulfurtransferase ynjE		Temporarly Up Regulated
	946504	Protein sxy		Down Regulated
sxy agaR	947636	Putative aga operon transcriptional repressor		Temporarly Down Regular
cbl	946502	HTH-type transcriptional regulator cbl		
				Down Regulated
garR	947631	2-hydroxy-3-oxopropionate reductase		Up Regulated
efeB	946500	Peroxidase ycdB		Down Regulated
garK	947632	Glycerate kinase 2	n	Up Regulated
yfeY	946919	Uncharacterized protein yfeY	U	Ambiguous/Unsorted
ypeA	946917	Acetyltransferase ypeA		Down Regulated
amiA	946916	Probable N-acetylmuramoyl-L-alanine amidase amiA		Down Regulated
bisC	946915	Biotin sulfoxide reductase		Down Regulated
eutL	946914	Ethanolamine utilization protein eutL		Down Regulated
yfeX	946913	Uncharacterized protein yfeX	[' Building block biosynthesis']	Ambiguous/Unsorted
pflA	945517	Pyruvate formate-lyase 1-activating enzyme		Ambiguous/Unsorted
acrR	945516	HTH-type transcriptional regulator acrR		Up Regulated
trpC	945519	Tryptophan biosynthesis protein trpCF		Down Regulated
sufC	946128	Probable ATP-dependent transporter sufC		Ambiguous/Unsorted
kdgR	946129	Transcriptional regulator kdgR		Ambiguous/Unsorted
rimJ	946910	Ribosomal-protein-alanine acetyltransferase		Ambiguous/Unsorted
sbcB	946529	Exodeoxyribonuclease I		Down Regulated
yeeY	946532	Uncharacterized HTH-type transcriptional regulator yeeY	[' RNA related']	Down Regulated
yraR	947667	Uncharacterized protein yraR		Up Regulated
yraL	947664	UPF0011 protein yraL		Ambiguous/Unsorted
rsml	947664	UPF0011 protein yraL		Ambiguous/Unsorted
yeeF	946533	Inner membrane transport protein yeeF		Temporarly Up Regulated
		·		

yhbP	947665	UPF0306 protein yhbP		Ambiguous/Unsorted
yeeZ	946538	Protein yeeZ		Ambiguous/Unsorted
yhbT	947669	Uncharacterized protein yhbT	['Coenzyme transport and metabolism', ' Energy metabolism carbon ', ' Building block biosynthesis']	Down Regulated
yajO	946903	Uncharacterized oxidoreductase yajO		Up Regulated
ycaK	945520	Uncharacterized NAD(P)H oxidoreductase ycaK	[amino acid transport]	Temporarly Up Regulated
ampH	946904	Penicillin-binding protein ampH		Down Regulated
ycaN	945523	Uncharacterized HTH-type transcriptional regulator yeaN	[Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated
ycaQ	945524	Uncharacterized protein ycaQ	['two component signal transduction system phosphorelay ']	Ambiguous/Unsorted
ivy	946530	Inhibitor of vertebrate lysozyme		Up Regulated
diaA hemF	947661 946908	DnaA initiator-associating protein diaA Coproporphyrinogen-III oxidase, aerobic		Up Regulated
lpxK	945526	Tetraacyldisaccharide 4'-kinase		Down Regulated Down Regulated
gloB	944902	Hydroxyacylglutathione hydrolase		Down Regulated
rsxC	946137	Electron transport complex protein rnfC		Down Regulated
dmsB	945507	Anaerobic dimethyl sulfoxide reductase chain B		Down Regulated
ynfE	946135	Putative dimethyl sulfoxide reductase chain ynfE		Up Regulated
dkgB	944901	2,5-diketo-D-gluconic acid reductase B		Ambiguous/Unsorted
rarA	945505	Replication-associated recombination protein A		Ambiguous/Unsorted
yafJ	944906	Putative glutamine amidotransferase yafJ		Ambiguous/Unsorted
queA	944905	S-adenosylmethionine:tRNA ribosyltransferase-isomerase		Ambiguous/Unsorted
ycaO	945509	UPF0142 protein ycaO		Down Regulated
cobT	946517	Nicotinate-nucleotidedimethylbenzimidazole phosphoribosyltransferase		Ambiguous/Unsorted
dacD	946518	D-alanyl-D-alanine carboxypeptidase dacD		Temporarly Down Regula
ynfD	946133	Uncharacterized protein ynfD	['Energy production and conversion', ' Electrochemical potential driven transporters', 'response to stress']	Up Regulated
ynfC	946131	UPF0257 lipoprotein ynfC		Down Regulated
poxB	946132	Pyruvate dehydrogenase [cytochrome]		Up Regulated
mreC	947655	Rod shape-determining protein mreC		Down Regulated
yral	947657	Uncharacterized fimbrial chaperone yral	['Amino acid transport and metabolism', 'Coenzyme transport and metabolism', 'Central intermediary metabolism']	Up Regulated
hslJ	946525	Heat shock protein hslJ		Up Regulated
yraP	947659	Uncharacterized protein yraP	['DNA replication']	Up Regulated
dgsA	945510	Protein mlc		Temporarly Down Regula
entC	945511	Isochorismate synthase entC	-	Up Regulated
yafK	944910	Uncharacterized protein yafK	U	Down Regulated
ycaC	945512	Uncharacterized protein ycaC		Up Regulated
miaA	948690	tRNA Delta(2)-isopentenylpyrophosphate transferase	D. P. C. D. L. C.	Down Regulated
yafN	944920	Uncharacterized protein yafN	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula
yafN tpiA	944920 948409	Uncharacterized protein yafN Triosephosphate isomerase	[Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated
yafN tpiA mutL	944920 948409 948691	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula
yafN tpiA mutL rnr	944920 948409 948691 948692	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR	944920 948409 948691 948692 948693	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated
yafN tpiA mutL rnr nsrR rlmB	944920 948409 948691 948692 948693 948694	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR rlmB uxaA	944920 948409 948691 948692 948693 948694 947603	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase	['Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR	944920 948409 948691 948692 948693 948694 947603 947602	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator		de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC	944920 948409 948691 948692 948693 948694 947603 947602 948699	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC	[Replication recombination and repair', 'RNA related', 'Type of regulation', 'Protection', 'transcription', 'regulation of transcription DNA (de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT	944920 948409 948691 948692 948693 948694 947603 947602 948699 947605	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT		de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Down Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza	944920 948409 948691 948692 948693 948694 947603 947602 948699	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC		de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT	944920 948409 948691 948692 948693 947603 947602 948699 947605 946558 947600 948410	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR	944920 948409 948691 948692 948693 947603 947603 947602 948699 947605 947605	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL mr nsrR rImB uxaA exuR yjfC sstT wza ygjR cdh	944920 948409 948691 948692 948693 948693 947602 948699 947605 946558 947600 948410 948411 948413	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Up Regulated Down Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp	944920 948409 948691 948692 948693 948694 947602 948699 947605 946558 947600 948410 948411 948413	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Down Regula Down Regulated Up Regulated Up Regulated
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD	944920 948409 948691 948692 948693 948694 947602 948699 947605 94655 94655 94650 948410 948411 948411 948414	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ	944920 948409 948691 948692 948693 948694 947603 947602 948699 947605 946558 947600 948410 948411 948413 948415 948415	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Temporarly Up Regulated
yafN tpiA mutL rnr nsrR rlmB exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS	944920 948409 948691 948692 948693 948694 947602 948699 947605 946558 947600 948410 948411 948413 948414 948415 944914	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA	944920 948409 948691 948692 948693 948694 947602 948699 947605 948699 947600 948410 948411 948413 948414 948415 944914 948416	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Up Regulated Down Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA yifC sstT wza cdh sbp fieF fpr uspD dinJ yiiS rraA flu	944920 948409 948691 948692 948693 948694 947602 948699 947605 946558 947600 948410 948411 948413 948414 948415 944914 948416 948419	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA yifC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA filu yjeF	944920 948409 948691 948692 948693 948694 947603 947605 946558 947600 948410 948411 948413 948414 948415 944914 948419 948419 948540 948685	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yilS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yieF amiB	944920 948409 948691 948692 948693 948694 947602 948699 947605 948410 948411 948413 948414 948415 948416 948416 948416 948416 948685	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yffC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Up Regulated Down Regulated
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB	944920 948409 948691 948692 948693 948694 947602 948699 947605 948410 948410 948411 948414 948415 944914 948416 948419 946540 948683	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein yjeE	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR rlmB uxaA yjfC sstT wza yjgR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sbmC	944920 948409 948691 948692 948693 948694 947602 948699 947605 94655 94655 94655 947600 948410 948411 948411 948415 944914 948416 948419 948684 948684	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein yjeE DNA gyrase inhibitory protein	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT sstT sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sbmC hffX	944920 948409 948691 948692 948693 948693 947602 948699 947605 9486558 947600 948410 948411 948413 948414 948415 948419 948685 948683 948684 948684 948684 948688	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein yjeE DNA gyrase inhibitory protein GTP-binding protein hflX	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sbmC hfiX yeeD	944920 948409 948691 948692 948693 944602 947602 948699 947600 948410 948411 948413 948414 948416 948419 946540 948683 948684 946546 948688 946539	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein yjeE DNA gyrase inhibitory protein GTP-binding protein hffX UPF0033 protein yeeD	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Up Regulated Down Regulated Down Regulated
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza yjgR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sbmC hflX yeeD sodA	944920 948409 948691 948692 948693 948699 947602 948699 947600 948410 948411 948411 948415 944914 948416 948685 946540 948683 948684 946546 948683 946539	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein dispersion yieE DNA gyrase inhibitory protein GTP-binding protein hitX UPF0033 protein yeeD Superoxide dismutase [Mn]: Superoxide dismutase	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sbmC hflX yeeD sodA phoE	944920 948409 948691 948692 948693 948694 947602 948699 947605 94655 94655 947600 948410 948411 948415 944914 948416 948683 946540 948684 948684 948684 948684 948688 946549 948688	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 235 rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein flX UPF0033 protein hflX UPF0033 protein yeeD Superoxide dismutase [Mn]; Superoxide dismutase Outer membrane pore protein E	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regula
yafN tpiA mutL rnr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeF amiB yjeE sodA phoE cpxR	944920 948409 948691 948692 948693 944602 947602 948699 947605 946558 947600 948410 948411 948413 948414 948415 948419 946540 948683 948683 948683 948683 948683 948683 948683 948684 946546 948688 948683	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein GTP-binding protein hflX UPF0033 protein yeeD Superoxide dismutase [Mn]: Superoxide dismutase Outer membrane pore protein E Transcriptional regulatory protein cpxR	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regula Temporarly Down Regula
yafN tpiA mutL mr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yjeE sbmC hflX yeeD sodA phoE cpxR rhaD	944920 948409 948691 948692 948693 948693 947602 948699 947605 946558 947600 948410 948411 948413 948414 948415 944914 948684 946540 948683 946546 948688 946549 948688 944634 948403 944404 948404	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yjfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein yjeE DNA gyrase inhibitory protein GTP-binding protein hffX UPF0033 protein yeeD Superoxide dismutase [Mn]; Superoxide dismutase Outer membrane pore protein E Transcriptional regulatory protein cpxR Rhamnulose-1-phosphate aldolase	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Up Regulated Temporarly Down Regula Temporarly Down Regula Temporarly Down Regula Temporarly Down Regula
yafN tpiA mutL rrr nsrR rlmB uxaA exuR yjfC sstT wza ygjR cdh sbp fieF fpr uspD dinJ yiiS rraA flu yieF amiB yjeE sbmC hflX yeeD sodA phoE cpxR	944920 948409 948691 948692 948693 944602 947602 948699 947605 946558 947600 948410 948411 948413 948414 948415 948419 946540 948683 948683 948683 948683 948683 948683 948683 948684 946546 948688 948683	Uncharacterized protein yafN Triosephosphate isomerase DNA mismatch repair protein mutL. Ribonuclease R HTH-type transcriptional repressor nsrR 23S rRNA (guanosine-2'-O-)-methyltransferase rlmB Altronate hydrolase Exu regulon transcriptional regulator Uncharacterized protein yfC Serine/threonine transporter sstT Putative polysaccharide export protein wza Uncharacterized oxidoreductase ygjR CDP-diacylglycerol pyrophosphatase Sulfate-binding protein Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D DNA-damage-inducible protein J UPF0381 protein yiiS Regulator of ribonuclease activity A Antigen 43 Uncharacterized protein yjeF N-acetylmuramoyl-L-alanine amidase amiB UPF0079 ATP-binding protein GTP-binding protein hflX UPF0033 protein yeeD Superoxide dismutase [Mn]: Superoxide dismutase Outer membrane pore protein E Transcriptional regulatory protein cpxR	['electron transport', 'metabolic process']	de Temporarly Down Regula Temporarly Up Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regula Temporarly Down Regula

yiiQ	948408	Uncharacterized protein yiiQ	in .	Down Regulated
cpxA	948405	Sensor protein; Sensor protein cpxA		Down Regulated
yiiM	948406	Protein yiiM		Up Regulated
uvrC	947203	UvrABC system protein C		Temporarly Up Regulated
wcaA	946570	Putative colanic acid biosynthesis glycosyl transferase wcaA		Temporarly Down Regular
cpsG	946574	Phosphomannomutase		Temporarly Down Regular
yhaJ	947621	Uncharacterized HTH-type transcriptional regulator yhaJ	['Posttranslational modification protein turnover chaperones']	Down Regulated
yhaK	947620	Pirin-like protein yhaK		Temporarly Down Regular
tdcE	947623	Keto-acid formate acetyltransferase		Temporarly Down Regular
ybaL	946576	Inner membrane protein ybaL		Ambiguous/Unsorted
tdcF	947624	Protein tdcF		Up Regulated
metL	948433	Bifunctional aspartokinase/homoserine dehydrogenase 2		Down Regulated
rpoS	947210	RNA polymerase sigma factor rpoS; RNA polymerase sigma factor		Up Regulated
surE	947211	Multifunctional protein surE		Ambiguous/Unsorted
yciS	944936	Inner membrane protein yciS		Temporarly Down Regular
fsaB	948439	Fructose-6-phosphate aldolase 2		Ambiguous/Unsorted
truD	947214	tRNA pseudouridine synthase D		Ambiguous/Unsorted
cysD	947217	Sulfate adenylyltransferase subunit 2		Down Regulated
metB	948434	Cystathionine gamma-synthase		Ambiguous/Unsorted
metJ	948435	Met repressor		Up Regulated
rsmA	944939	b0051		Ambiguous/Unsorted
cysN	947219	Sulfate adenylyltransferase subunit 1		Down Regulated
rlmF	944938	Ribosomal RNA large subunit methyltransferase F		Down Regulated
ptsA	948437	Multiphosphoryl transfer protein 2		Ambiguous/Unsorted
galF	946560	UTPglucose-1-phosphate uridylyltransferase		Up Regulated
mdlA	945092	Multidrug resistance-like ATP-binding protein mdlA		Down Regulated
wcaL	946565	Putative colanic acid biosynthesis glycosyltransferase wcaL		Down Regulated
yegH	946566	UPF0053 protein yegH		Temporarly Up Regulated
yqjG	947615	Uncharacterized protein yqjG	[relectron transport]	Up Regulated
yqjD	947614	Uncharacterized protein yqjD	[Cell wall membrane envelope biogenesis', 'Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
ycgR	947609	Uncharacterized protein ycgR		Ambiguous/Unsorted
glpF	948422	Glycerol uptake facilitator protein		Up Regulated
yagX	947606	Uncharacterized protein yagX	[Carbohydrate transport and metabolism', 'Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DN	Ambiguous/Unsorted
zapB	948420	Cell division protein zapB		Up Regulated
cysC	947221	Adenylyl-sulfate kinase		Down Regulated
hslV	948429	ATP-dependent protease hslV		Ambiguous/Unsorted
ybgF	947227	Uncharacterized protein ybgF		Ambiguous/Unsorted
cytR	948427	HTH-type transcriptional repressor cytR		Temporarly Down Regula
ftsN	948428	Cell division protein ftsN		Down Regulated
maa	945096	Maltose O-acetyltransferase		Down Regulated
rpmE	948425	50S ribosomal protein L31		Down Regulated
hha	945098	Hemolysin expression-modulating protein		Down Regulated
priA	948426	Primosomal protein N'		Temporarly Up Regulated
glpK	948423	Glycerol kinase		Up Regulated
glpX	948424	Fructose-1,6-bisphosphatase class 2		Down Regulated
smpA	945583	Small protein A		Ambiguous/Unsorted
bamE	945583	Small protein A		Ambiguous/Unsorted
vacJ				
1	945582	Lipoprotein vacJ		Ambiguous/Unsorted
mlaA	945582	Lipoprotein vacJ		Ambiguous/Unsorted
mpaA	945582 945969	Lipoprotein vacJ Protein mpaA		Ambiguous/Unsorted Ambiguous/Unsorted
mpaA hyaB	945582 945969 945580	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated
mpaA	945582 945969 945580 946597	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated
mpaA hyaB udk cyoA	945582 945969 945580 946597 945080	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula
mpaA hyaB udk cyoA yfaL	945582 945969 945580 946597 945080 946595	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted
mpaA hyaB udk cyoA yfaL mltA	945582 945969 945580 946597 945080 946595 944964	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL Membrane-bound lytic murein transglycosylase A		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated
mpaA hyaB udk cyoA yfaL mltA hypF	945582 945969 945580 946597 945080 946595 944964 944963	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL Membrane-bound lytic murein transglycosylase A Carbamoyltransferase hypF		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted
mpaA hyaB udk cyoA yfaL mltA hypF dcd	945582 945969 945580 946597 945080 946595 944964 944963 946593	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL Membrane-bound lytic murein transglycosylase A Carbamoyltransferase hypF Deoxycytidine triphosphate deaminase		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated
mpaA hyaB udk cyoA yfaL mltA hypF dcd rutE	945582 945969 945580 946597 945080 946595 944964 944963 946593 946591	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL Membrane-bound lytic murein transglycosylase A Carbamoyltransferase hypF Deoxycytidine triphosphate deaminase Putative NADH dehydrogenase/NAD(P)H nitroreductase rutE		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated
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mpaA hyaB udk cyoA yfaL mitA hypF dcd rutE gfcD ykgM cof mdlB	945582 945969 945580 946597 945080 946595 944964 944963 946593 946591 945588 944960 945089	Lipoprotein vacJ Protein mpaA Hydrogenase-1 large chain Uridine kinase Ubiquinol oxidase subunit 2 Uncharacterized protein yfaL Membrane-bound lytic murein transglycosylase A Carbamoyltransferase hypF Deoxycytidine triphosphate deaminase Putative NADH dehydrogenase/NAD(P)H nitroreductase rutE Uncharacterized lipoprotein gfcD 50S ribosomal protein L31 type B HMP-PP phosphatase Multidrug resistance-like ATP-binding protein mdlB		Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regula Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Temporarly Up Regulated
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Seption Sept	ydbK	946587	Probable pyruvate-flavodoxin oxidoreductase		Temporarly Down Regula
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wild March M	hspQ	945578	Heat shock protein hspQ		Ambiguous/Unsorted
	yneH	944973	Glutaminase 2		Down Regulated
Martin M	yafV	946585	UPF0012 hydrolase yafV		Up Regulated
			Uncharacterized protein yahJ	['Amino acid transport and metabolism', 'Inorganic ion transport and metabolism', ' Carbon compound utilization', ' Primary Active Transport	Down Regulated
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tors 94595 Sensor protein tors'; Sensor protein tors', Sensor prot					Temporarly Up Regulated
Codd 944996 Cytosine deaminase; Protein ccdA					
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entH 945215 Esterase ybdB Up Regulated					
	ybdH	945213	Uncharacterized oxidoreductase ybdH		Down Regulated

ybdL	945211	Aminotransferase ybdL		Down Regulated
blc	948670	Outer membrane lipoprotein blc		Up Regulated
orn	948675	Oligoribonuclease		Ambiguous/Unsorted
rcsF	949113	Protein rcsF		Ambiguous/Unsorted
yaeB	949112	UPF0066 protein yaeB		Ambiguous/Unsorted
psd	948673	Phosphatidylserine decarboxylase proenzyme		Ambiguous/Unsorted
poxA	948672	Putative lysyl-tRNA synthetase		Ambiguous/Unsorted
yjeM	948679	Inner membrane transporter yjeM		Up Regulated
yjeP	948676	Uncharacterized mscS family protein yjeP	['purine nucleotide biosynthetic process', 'biosynthetic process']	Ambiguous/Unsorted
lipA	945227	Lipoyl synthase		Ambiguous/Unsorted
plsC	947496	1-acyl-sn-glycerol-3-phosphate acyltransferase		Temporarly Down Regular
uspG	945229	Universal stress protein G		Up Regulated
dkgA	947495	2,5-diketo-D-gluconic acid reductase A		Up Regulated
tatE	945228	Sec-independent protein translocase protein tatE		Ambiguous/Unsorted
tdcA	947494	HTH-type transcriptional regulator tdcA		Up Regulated
yqhD	947493	Alcohol dehydrogenase yqhD		Up Regulated
dacA	945222	D-alanyl-D-alanine carboxypeptidase dacA		Down Regulated
ahpC	945225	Alkyl hydroperoxide reductase subunit C		Down Regulated
dsbG	945224	Thiol:disulfide interchange protein dsbG		Down Regulated
foID	945221	Bifunctional protein folD		Up Regulated
ybeD	945220	UPF0250 protein ybeD		Down Regulated
parC	947499	DNA topoisomerase 4 subunit A		Ambiguous/Unsorted
dsdX	949103	DsdX permease		Temporarly Down Regula
dcuB	948641	Anaerobic C4-dicarboxylate transporter dcuB		Ambiguous/Unsorted
dsbD	948649	Thiol:disulfide interchange protein dsbD		Temporarly Down Regula
cadA	948643	Lysine decarboxylase, inducible		Up Regulated
nanM	949106	N-acetylneuraminate epimerase		Up Regulated
lysU	948645	Lysyl-tRNA synthetase; Lysyl-tRNA synthetase, heat inducible		Down Regulated
gpr	947480	Uncharacterized protein yghZ		Up Regulated
yghZ	947480	Uncharacterized protein yghZ		Up Regulated
dpiB	945233	Sensor kinase dpiB		Temporarly Up Regulated
rfbC	947482	dTDP-4-dehydrorhamnose 3,5-epimerase		Down Regulated
rlmH	945239	Ribosomal RNA large subunit methyltransferase H		Up Regulated
ybeB	945237	Uncharacterized protein ybeB	μ	Up Regulated
citC	945231	[Citrate [pro-3S]-lyase] ligase		Ambiguous/Unsorted
fadR	948652	Fatty acid metabolism regulator protein		Down Regulated
yjdC	948650	HTH-type transcriptional regulator yjdC		Up Regulated
aspA	948658	Aspartate ammonia-lyase		Up Regulated
fxsA	948657 947472	UPF0716 protein fxsA Uncharacterized GST-like protein yghU	In .	Up Regulated Ambiguous/Unsorted
yghU holE	947472	DNA polymerase III subunit theta	<u>U</u>	Temporarly Down Regular
nadD	947471	Nicotinate-nucleotide adenylyltransferase; Probable nicotinate-nucleotide	a pdamy kultraneforace	Ambiguous/Unsorted
	947474	Bifunctional glutathionylspermidine synthetase/amidase	e duelitylyttatisterase	Down Regulated
gss	947474	Bifunctional glutathionylspermidine synthetase/amidase		Down Regulated
gsp glcG	947473	Protein glcG		Up Regulated
yqhA	947479	UPF0114 protein yqhA		Up Regulated
yghA	947478	Uncharacterized oxidoreductase yghA	ln	Up Regulated
rlpA	945241	Rare lipoprotein A	U	Temporarly Down Regular
mrdA	945240	Penicillin-binding protein 2		Down Regulated
yjdM	948621	Protein phnA		Up Regulated
yjdN	948622	Protein phnB		Up Regulated
proP	948626	Proline/betaine transporter		Down Regulated
ybeL	945252	Uncharacterized protein ybeL		Up Regulated
fhuC	945250	Iron(3+)-hydroxamate import ATP-binding protein fhuC	<u>u</u>	Ambiguous/Unsorted
slp	948022	Outer membrane protein slp		Up Regulated
serA	945258	D-3-phosphoglycerate dehydrogenase		Ambiguous/Unsorted
cmtA	945256	PTS system mannitol-specific cryptic EIICB component		Ambiguous/Unsorted
adiA	948638	Biodegradative arginine decarboxylase		Ambiguous/Unsorted
melR	948637	Melibiose operon regulatory protein		Ambiguous/Unsorted
dctA	948039	C4-dicarboxylate transport protein; Aerobic C4-dicarboxylate transport protein;	rotein	Up Regulated
miaB	945260	(Dimethylallyl)adenosine tRNA methylthiotransferase miaB	<u> </u>	Down Regulated
ubif	945261	2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase		Down Regulated
yhjE	948032	Inner membrane metabolite transport protein yhjE		Down Regulated
yhjD	948033	Inner membrane protein yhjD		Ambiguous/Unsorted
treF	948037	Cytoplasmic trehalase		Up Regulated
yhjC	948035	Uncharacterized HTH-type transcriptional regulator yhjC	["Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Ambiguous/Unsorted
rpiR	948603	HTH-type transcriptional regulator rpiR		Down Regulated
yecJ	946388	Uncharacterized protein yecJ		Ambiguous/Unsorted

torZ	946389	Trimethylamine-N-oxide reductase 2	Γ	Temporarly Up Regulated
phnJ	948606	Protein phnJ		Ambiguous/Unsorted
phnP	948600	Protein phnP		Ambiguous/Unsorted
rpiB	948602	Ribose-5-phosphate isomerase B		Down Regulated
cmoA	946380	tRNA (cmo5U34)-methyltransferase		Ambiguous/Unsorted
yecR	946386	Uncharacterized protein yecR		Down Regulated
cmoB	946387	tRNA (mo5U34)-methyltransferase		Down Regulated
yecD	946384	Isochorismatase family protein yecD; Uncharacterized isochorismatase family	40	Temporarly Up Regulated
pitA	948009	Low-affinity inorganic phosphate transporter 1		Down Regulated
seqA	945272	Protein seqA		Ambiguous/Unsorted
yhiQ	948005	UPF0341 protein yhiQ		Ambiguous/Unsorted
rfbB	945276	dTDP-glucose 4,6-dehydratase		Down Regulated
erfK	945273	Protein erfK/srfK		Ambiguous/Unsorted
uspA	948007	Universal stress protein A		Ambiguous/Unsorted
iscR	945279	HTH-type transcriptional regulator iscR		Down Regulated
yhil trmJ	948003 948610	Uncharacterized protein yhil tRNA (cytidine/uridine-2'-O-)-methyltransferase trmJ	[' Protection']	Temporarly Up Regulated Down Regulated
flhB	946391	Flagellar biosynthetic protein flhB		Down Regulated
cheZ	946392	Chemotaxis protein cheZ		Up Regulated
cheB	946394	Chemotaxis response regulator protein-glutamate methylesterase		Down Regulated
cheR	946396	Chemotaxis protein methyltransferase		Temporarly Up Regulated
tap	946397	Methyl-accepting chemotaxis protein IV		Ambiguous/Unsorted
mprA	945282	Transcriptional repressor mprA		Ambiguous/Unsorted
arsC	948018	Arsenate reductase		Temporarly Up Regulated
yhiD	948019	Uncharacterized protein yhiD		Ambiguous/Unsorted
nagC	945285	N-acetylglucosamine repressor		Down Regulated
flhA	946390	Flagellar biosynthesis protein flhA		Down Regulated
yhiR	948012	Uncharacterized protein yhiR	<u>D</u>	Ambiguous/Unsorted
phoH	948010	Protein phoH		Temporarly Up Regulated
dut	948607	Deoxyuridine 5'-triphosphate nucleotidohydrolase		Ambiguous/Unsorted
dppD	948065	Dipeptide transport ATP-binding protein dppD		Down Regulated
dppB	948063 948068	Dipeptide transport system permease protein dppB b3546; ECS88_3965; ECIAl39_4054; EC55989_3997; E2348C_3793; E		Ambiguous/Unsorted Temporarly Down Regula
eptB gabT	948067	4-aminobutyrate aminotransferase	CEDT-4224; ECONIN_4036; ECDT10B_3723; ECIAT_3703	Up Regulated
yfeD	946865	Uncharacterized protein yfeD		Up Regulated
yejO	946867			Ambiguous/Unsorted
yfeA	946864	Uncharacterized protein yfeA	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'regulation of transcript	
gabD	948060	Succinate-semialdehyde dehydrogenase [NADP+]		Up Regulated
yiaD	948075	Inner membrane lipoprotein yiaD		Up Regulated
csiD	948076	Protein csiD		Ambiguous/Unsorted
yfeK	946876	Uncharacterized protein yfeK	['Defense mechanisms', ' Primary Active Transporters', ' Protection']	Down Regulated
cspA	948070	Cold shock protein cspA		Down Regulated
yiaF	948072	Uncharacterized protein yiaF	['Carbohydrate transport and metabolism', ' Carbon compound utilization', 'phosphoenolpyruvate dependent sugar phosphotransferase syst	
yhjK				Temporarly Up Regulated
	948048	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680); b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771	Temporarly Up Regulated Temporarly Up Regulated
bcsZ	948046	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase); b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771	Temporarly Up Regulated Temporarly Up Regulated Up Regulated
bcsB	948046 948045	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein); b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771	tTemporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted
bcsB crr	948046 948045 946880	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component); b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated
bcsB crr yhjG	948046 948045 946880 948043	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG); b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ["Lipid transport and metabolism"]	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula
bcsB crr yhjG pdxK	948046 948045 946880 948043 946881	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase	0; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated
bcsB crr yhjG pdxK kdgK	948046 948045 946880 948043 946881 948041	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase	0; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted
bcsB crr yhjG pdxK kdgK ptsH	948046 948045 946880 948043 946881 948041 946886	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr	0; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula
bcsB crr yhjG pdxK kdgK ptsH yfeS	948046 948045 946880 948043 946881 948041	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM	948046 948045 946880 948043 946881 948041 946886 946887	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase	0; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Ambiguous/Unsorted Down Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS	948046 948045 946880 948043 946881 948041 946886 946887 946888	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS	0; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ	948046 948045 946880 948043 946881 946886 946886 946887 946888 946889	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA	0; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Down Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ dppF bcsG	948046 948045 948043 948043 946881 946886 946887 946888 946889 948040 948056 948058	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA Protein yhjJ Dipeptide transport ATP-binding protein dppF Uncharacterized protein yhjU	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ dppF bcsG murQ	948046 948045 946880 948043 946881 948041 946886 946887 946888 946889 948040 948056 948058 946893	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA Protein yhjJ Dipeptide transport ATP-binding protein dppF Uncharacterized protein yhjU N-acetylmuramic acid 6-phosphate etherase	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ dppF bcsG murQ csiR	948046 948045 946880 948043 946881 948041 946886 946887 946888 946889 948040 948056 948058 948058 948053	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA Protein yhjJ Dipeptide transport ATP-binding protein dppF Uncharacterized protein yhjU N-acetylmuramic acid 6-phosphate etherase Uncharacterized HTH-type transcriptional regulator ygaE	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ dppF bcsG murQ csiR nupC	948046 948045 948043 948043 948041 948861 946886 946887 946888 946889 948040 948056 948058 946893 948055 946895	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA Protein yhjJ Dipeptide transport ATP-binding protein dppF Uncharacterized protein yhjU N-acetylmuramic acid 6-phosphate etherase Uncharacterized HTH-type transcriptional regulator ygaE Nucleoside permease nupC	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism'] []	Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated
bcsB crr yhjG pdxK kdgK ptsH yfeS cysM cysA yhjJ dppF bcsG murQ csiR nupC ucpA	948046 948045 948043 946880 948043 946881 946886 946887 946888 946889 948040 948056 948055 946893 948055 946895 946895	c4341; EC55989_3976; ECDH10B_3706; APECO1_2919; ECIAI1_3680 Endoglucanase Cyclic di-GMP-binding protein Glucose-specific phosphotransferase enzyme IIA component Uncharacterized protein yhjG Pyridoxine kinase 2-dehydro-3-deoxygluconokinase Phosphocarrier protein HPr Uncharacterized protein yfeS Cysteine synthase B; Cysteine synthase Sulfate/thiosulfate import ATP-binding protein cysA Protein yhjJ Dipeptide transport ATP-binding protein dppF Uncharacterized protein yhjU N-acetylmuramic acid 6-phosphate etherase Uncharacterized HTH-type transcriptional regulator ygaE Nucleoside permease nupC Oxidoreductase ucpA	D; b3529; ECIAl39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771 ['Lipid transport and metabolism']	Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regula Down Regulated Ambiguous/Unsorted Temporarly Down Regula Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated
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yceA	945601	UPF0176 protein yceA		Down Regulated
putA		Bifunctional protein putA		Down Regulated
-		Formyl-coenzyme A transferase		Down Regulated
frc				
evgS		Sensor protein evgS; Sensor protein		Ambiguous/Unsorted
malS		Alpha-amylase		Down Regulated
xylR		Xylose operon regulatory protein		Ambiguous/Unsorted
yiaJ		HTH-type transcriptional regulator yiaJ		Down Regulated
dsdA		D-serine dehydratase; D-serine dehydratase 1		Up Regulated
fecB		Fe(3+) dicitrate-binding periplasmic protein		Temporarly Up Regulated
fecl		Probable RNA polymerase sigma factor fecl; RNA polymerase sigma factor		Ambiguous/Unsorted
frya		Multiphosphoryl transfer protein 1		Up Regulated
yfdZ		Uncharacterized aminotransferase yfdZ		Down Regulated
yfeC		Uncharacterized protein yfeC		Up Regulated
fepC		Ferric enterobactin transport ATP-binding protein fepC		Up Regulated
stfR	945207	Side tail fiber protein homolog from lambdoid prophage Rac		Ambiguous/Unsorted
yceM	945204	Virulence factor mviM homolog		Temporarly Down Regula
xylF	948090	D-xylose-binding periplasmic protein		Up Regulated
IpcA	949134	Phosphoheptose isomerase		Ambiguous/Unsorted
lpxP	946847	Protein ddg		Up Regulated
secD	949133	Protein-export membrane protein secD		Ambiguous/Unsorted
tgt		Queuine tRNA-ribosyltransferase		Ambiguous/Unsorted
malZ		Maltodextrin glucosidase		Ambiguous/Unsorted
leuD	945642	3-isopropylmalate dehydratase small subunit		Ambiguous/Unsorted
flgL	945646	Flagellar hook-associated protein 3		Down Regulated
flgG		Flagellar basal-body rod protein flgG		Down Regulated
ftnA	946410	Ferritin-1		Temporarly Down Regular
yecM		Protein yecM		Temporarly Up Regulated
ybeX		Magnesium and cobalt efflux protein corC		Down Regulated
ftnB		Ferritin-like protein 2		Ambiguous/Unsorted
araG		Arabinose import ATP-binding protein araG		Ambiguous/Unsorted
araF	946409	L-arabinose-binding periplasmic protein		Up Regulated
rluC		Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase C		Ambiguous/Unsorted
		Putative ABC transporter periplasmic-binding protein ydcS		
ydcS				Up Regulated
flgF		Flagellar basal-body rod protein flgF	S	Down Regulated
yncE			n ribosomal structure and biogenesis', 'rRNA processing']	Up Regulated
ydcT		Uncharacterized ABC transporter ATP-binding protein ydcT		Temporarly Up Regulated
yceF		Maf-like protein yceF 1; Maf-like protein yceF		Ambiguous/Unsorted
yacG	945630	UPF0243 zinc-binding protein yacG		Up Regulated
flgE		Flagellar hook protein flgE		Down Regulated
yceH		UPF0502 protein yceH		Up Regulated
flgN		Flagella synthesis protein flgN		Ambiguous/Unsorted
otsA		Alpha,alpha-trehalose-phosphate synthase [UDP-forming]		Up Regulated
uspC		Universal stress protein C		Up Regulated
yncB		Putative NADP-dependent oxidoreductase yncB		Up Regulated
ycjG			48C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489	Up Regulated
araB		Ribulokinase		Up Regulated
yncD	946015	Probable tonB-dependent receptor yncD		Down Regulated
aroP		Aromatic amino acid transport protein aroP		Temporarly Down Regula
ansP	946019	L-asparagine permease		Temporarly Down Regula
yfcM	946807	Uncharacterized protein yfcM ['Cell wall m	nembrane envelope biogenesis']	Down Regulated
opgH	945624	Glucans biosynthesis glucosyltransferase H		Ambiguous/Unsorted
yaeQ			ion transport and metabolism', 'DNA repair', 'DNA recombination', 'response to DNA damage stimulus']	Down Regulated
yfcL			nembrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Down Regulated
ylbG		b0502; ECDH10B 0458		Up Regulated
ribD		Riboflavin biosynthesis protein ribD		Up Regulated
glnP		Glutamine transport system permease protein glnP		Down Regulated
mepA		Penicillin-insensitive murein endopeptidase		Down Regulated
суоВ		Ubiquinol oxidase subunit 1		Temporarly Down Regular
rplY		50S ribosomal protein L25		Down Regulated
yfjG		UPF0083 protein yfiG		Down Regulated
yhhJ		Inner membrane transport permease vhhJ		Temporarly Down Regular
msyB		Acidic protein msvB		Up Regulated
rbbA		Uncharacterized ABC transporter ATP-binding protein yhiH		Down Regulated
rhsB		Protein rhsB		Down Regulated
nikR				
		Nickel-responsive regulator Uncharacterized protein yhiN		Temporarly Down Regula
yhiN				Up Regulated
slyB		Outer membrane lipoprotein slyB		Ambiguous/Unsorted
mnmC	946800	tRNA 5-methylaminomethyl-2-thiouridine biosynthesis bifunctional protein mnmC		Temporarly Up Regulated

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Deg 946552 Priage schock protein B Temporarity Down Regulated	emtA	945655	Endo-type membrane-bound lytic murein transglycosylase A		Down Regulated
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gritK 947937 Thermoresistant gluconokinase Temporary Up Regulated Spiral	flgK	945648	Flagellar hook-associated protein 1		Down Regulated
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ydh yde					
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hiuH9464855-hydroxyisourate hydrolaseAmbiguous/UnsorteddamX947930Protein damXAmbiguous/Unsorted					
damX 947930 Protein damX Ambiguous/Unsorted					

glgP	947931	Phosphorylase; Glycogen phosphorylase	T	Ambiguous/Unsorted
mtfA	946489	Protein mtfA		Up Regulated
	947934			
glpD		Aerobic glycerol-3-phosphate dehydrogenase		Up Regulated
glpE	947935	Thiosulfate sulfurtransferase glpE		Down Regulated
glgA	947932	Glycogen synthase		Ambiguous/Unsorted
feoB	947919	Ferrous iron transport protein B		Temporarly Up Regulated
cpdA	947515	Protein icc		Down Regulated
araA	947511	L-arabinose isomerase		Up Regulated
fhuD	947510	Iron(3+)-hydroxamate-binding protein fhuD		Up Regulated
ykgH	947513	Uncharacterized protein ykgH		Ambiguous/Unsorted
yafC	947507	Uncharacterized HTH-type transcriptional regulator yafC	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated
malT	947921	HTH-type transcriptional regulator malT		Down Regulated
malQ	947923	4-alpha-glucanotransferase		Temporarly Down Regula
gntT	947924	High-affinity gluconate transporter		Down Regulated
lptA	947920	Lipopolysaccharide export system protein lptA		Down Regulated
feoA	947909	Ferrous iron transport protein A		Ambiguous/Unsorted
mrcA	947907	Penicillin-binding protein 1A		Down Regulated
nudE	947906	ADP compounds hydrolase nudE		Ambiguous/Unsorted
yrfF	947905	Putative membrane protein igaA homolog		Down Regulated
yrfG	947904	Uncharacterized protein yrfG	[' Adaptation to stress', 'protein folding']	Down Regulated
elbB	947903	Enhancing lycopene biosynthesis protein 2	[Nachtation to dieco, protein rouning]	Ambiguous/Unsorted
mhpA	945197	3-(3-hydroxy-phenyl)propionate/3-hydroxycinnamic acid hydroxylase		Ambiguous/Unsorted
	947528			
prpC		2-methylcitrate synthase		Ambiguous/Unsorted
ygcF	947527	Uncharacterized protein ygcF	Ш	Down Regulated
iscX	945196	Protein iscX		Down Regulated
ribB	947526	3,4-dihydroxy-2-butanone 4-phosphate synthase		Ambiguous/Unsorted
pheP	945199	Phenylalanine-specific permease		Down Regulated
atoD	947525	Acetate CoA-transferase subunit alpha		Up Regulated
thrC	945198	Threonine synthase		Down Regulated
fepA	945193	Ferrienterobactin receptor		Up Regulated
yqiC	947524	Uncharacterized protein yqiC		Up Regulated
ygiL	947522	Uncharacterized fimbrial-like protein ygiL	['Replication recombination and repair']	Ambiguous/Unsorted
rpmA	945190	50S ribosomal protein L27		Down Regulated
cusA	945191	Cation efflux system protein cusA		Temporarly Up Regulated
ycjN	945696	Putative ABC transporter periplasmic-binding protein ycjN		Ambiguous/Unsorted
yqiB	947518	Uncharacterized protein yqiB	['Replication recombination and repair']	Down Regulated
nudF	947519	ADP-ribose pyrophosphatase		Down Regulated
hslR	947912	Heat shock protein 15		Ambiguous/Unsorted
potB	945692	Spermidine/putrescine transport system permease protein potB		Down Regulated
ompR	947913	Transcriptional regulatory protein ompR		Ambiguous/Unsorted
yrbL	947910	Uncharacterized protein yrbL	['Carbohydrate transport and metabolism', 'Macromolecules cellular constituent biosynthesis', 'Central intermediary metabolism']	Down Regulated
hflD	945693	ECIAI1 1170; ECS88 1147; ECDH10B 1204; b1132; ECIAI39 2005; E		Temporarly Down Regular
	947911	Protein yhgF	CCEDT_1270, E2340C_1273, ECOMIN_1370, EC33909_1243	
yhgF				Down Regulated
rpsU	947577	30S ribosomal protein S21		Down Regulated
dnaG	947570	DNA primase		Up Regulated
ypfH	947571	Esterase ypfH		Up Regulated
cbpA	947572	Curved DNA-binding protein		Up Regulated
holA	947573	DNA polymerase III subunit delta		Down Regulated
btuF	947574	Vitamin B12-binding protein		Ambiguous/Unsorted
dcrB	947983	Protein dcrB		Ambiguous/Unsorted
thiD	946459	Phosphomethylpyrimidine kinase		Down Regulated
nikD	947989	Nickel import ATP-binding protein nikD		Ambiguous/Unsorted
alsE	948595	D-allulose-6-phosphate 3-epimerase		Ambiguous/Unsorted
yjcS	948597	Uncharacterized protein yjcS		Up Regulated
gltP	948591	Proton glutamate symport protein		Down Regulated
argS	946452	Arginyl-tRNA synthetase		Ambiguous/Unsorted
ribE	946453	6,7-dimethyl-8-ribityllumazine synthase		Up Regulated
rlmG	947589	Ribosomal RNA large subunit methyltransferase G		Down Regulated
gutQ	947587	Protein gutQ		Up Regulated
yqjH	947582	Uncharacterized protein ygiH	l' Adaptation to stress', 'ion transport', 'iron ion transport']	Up Regulated
ftsX	947969	Cell division protein ftsX	(Authorities and a surface of the s	Ambiguous/Unsorted
nuoK	947580	NADH-quinone oxidoreductase subunit K		Down Regulated
	947586	HTH-type transcriptional regulator ebgR		Temporarly Up Regulated
ebgR				
ebgA	947583	Evolved beta-galactosidase subunit alpha	ln	Ambiguous/Unsorted
yqjl	947584	Uncharacterized protein yqjl	<u> </u>	Temporarly Up Regulated
yhhM	947975	Uncharacterized protein yhhM	Щ	Temporarly Up Regulated
zntA	947972	Lead, cadmium, zinc and mercury-transporting ATPase		Down Regulated
acpT	947979	4'-phosphopantetheinyl transferase acpT	1	Up Regulated

yjcO hemD rdgC livJ mdtO rpoH dnaQ	948586 948587 948585	Uncharacterized protein yjcO Uroporphyrinogen-III synthase	ч	Temporarly Up Regulated Down Regulated
rdgC livJ mdtO rpoH dnaQ	948585			
livJ mdtO rpoH dnaQ		Recombination-associated protein rdgC		Ambiguous/Unsorted
rpoH dnaQ	947971	Leu/Ile/Val-binding protein		Up Regulated
dnaQ	948582	Multidrug resistance protein mdtO		Down Regulated
	947970	RNA polymerase sigma-32 factor; RNA polymerase sigma factor		Temporarly Down Regular
	946441	DNA polymerase III subunit epsilon		Down Regulated
ygiF	947554	Uncharacterized protein ygiF	['Amino acid transport and metabolism']	Down Regulated
glnE	947552	Glutamate-ammonia-ligase adenylyltransferase		Ambiguous/Unsorted
cca	947553	Multifunctional CCA protein	[[Aming gold transport and matcheliam] Duilding block bigg with gold larger that is proposed.	Up Regulated
yrbA livM	947958 947966	Uncharacterized protein yrbA	[[Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid biosynthetic process']	Ambiguous/Unsorted
yjcE	947966	High-affinity branched-chain amino acid transport system permease prote Uncharacterized Na(+)/H(+) exchanger yjcE	['rRNA processing']	Temporarly Up Regulated Down Regulated
ydgD	946436	Uncharacterized serine protease ydgD	[response to stress]	Up Regulated
ftsE	947968	Cell division ATP-binding protein ftsE	[-056-00-0-00-0-0-0-0-0-0-0-0-0-0-0-0-0-0	Down Regulated
ugpB	947962	sn-glycerol-3-phosphate-binding periplasmic protein ugpB		Up Regulated
livF	947961	High-affinity branched-chain amino acid transport ATP-binding protein liv	F	Ambiguous/Unsorted
yfdE	946432	Uncharacterized protein yfdE	['metabolic process']	Temporarly Down Regula
livK	947964	Leucine-specific-binding protein		Ambiguous/Unsorted
yhhK	947963	Uncharacterized protein yhhK	[Carbon compound utilization', ' Metabolism of other compounds']	Down Regulated
ybeY	946430	Putative metalloprotease ybeY		Ambiguous/Unsorted
ssb	948570	Single-stranded DNA-binding protein		Ambiguous/Unsorted
nrfA	948571	Cytochrome c-552		Ambiguous/Unsorted
acs azoR	948572 947569	Acetyl-coenzyme A synthetase FMN-dependent NADH-azoreductase		Up Regulated Ambiguous/Unsorted
rpoD	947567	RNA polymerase sigma factor rpoD; RNA polymerase sigma factor		Temporarly Up Regulated
ttdR	947562	HTH-type transcriptional activator ttdR		Ambiguous/Unsorted
yfcS	946418	Uncharacterized fimbrial chaperone yfcS	['Cell motility', 'Intracellular trafficking secretion and vesicular transport', 'Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
mug	947560	G/U mismatch-specific DNA glycosylase		Temporarly Up Regulated
ggt	947947	Gamma-glutamyltranspeptidase		Temporarly Down Regula
yrhB	947948	Uncharacterized protein yrhB		Down Regulated
yhhA	947956	Uncharacterized protein yhhA	['Cell cycle control cell division chromosome partitioning', ' Cell division', 'cell cycle', 'cell division']	Temporarly Up Regulated
fecA	946427	Fe(3+) dicitrate transport protein fecA		Up Regulated
ugpQ	947955	Glycerophosphoryl diester phosphodiesterase	North and the control of the control	Ambiguous/Unsorted
yrbB mlaB	947954 947954	Uncharacterized protein yrbB Uncharacterized protein yrbB	['Cell wall membrane envelope biogenesis', 'Macromolecules cellular constituent biosynthesis', 'cell cycle', 'cell division']	Ambiguous/Unsorted Ambiguous/Unsorted
ugpC	947953	sn-glycerol-3-phosphate import ATP-binding protein ugpC		Ambiguous/Unsorted
uvrY	946424	Response regulator uvrY		Ambiguous/Unsorted
yjbR	948560	Uncharacterized protein yjbR	[Amino acid transport and metabolism', ' Central intermediary metabolism', 'amino acid biosynthetic process', 'biosynthetic process', 'aror	
alr	948564	Alanine racemase, biosynthetic; Alanine racemase		Up Regulated
yjcD	948565	Putative permease yjcD		Temporarly Up Regulated
aphA	948562	Class B acid phosphatase		Down Regulated
xylE	948529	D-xylose-proton symporter		Ambiguous/Unsorted
hepA	948523	RNA polymerase-associated protein rapA		Ambiguous/Unsorted
rapA	948523	RNA polymerase-associated protein rapA		Ambiguous/Unsorted
iclR	948524	Acetate operon repressor		Ambiguous/Unsorted
yjbB penE	948521 948520	Uncharacterized protein yjbB Peptidase E	Ш	Up Regulated Ambiguous/Unsorted
pepE ubiE	948926	Ubiquinone/menaquinone biosynthesis methyltransferase ubiE		Ambiguous/Unsorted
recJ	947367	Single-stranded-DNA-specific exonuclease recJ		Temporarly Up Regulated
prfB	947369	Peptide chain release factor 2		Ambiguous/Unsorted
yccJ	948930	Uncharacterized protein yccJ	Macromolecules cellular constituent biosynthesis']	Up Regulated
nadA	945351	Quinolinate synthetase A		Down Regulated
galT	945357	Galactose-1-phosphate uridylyltransferase		Temporarly Up Regulated
ybgS	945356	Uncharacterized protein ybgS	['Inorganic ion transport and metabolism', ' Electrochemical potential driven transporters', 'ion transport']	Temporarly Up Regulated
xerD	947362	Tyrosine recombinase xerD		Down Regulated
galE	945354	UDP-glucose 4-epimerase		Ambiguous/Unsorted
fldB	947361	Flavodoxin-2		Down Regulated
rluF	948519	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthas	er -	Temporarly Up Regulated
ispB dobC	947364	Octaprenyl-diphosphate synthase		Temporarly Down Regula
dsbC galK	947363 945358	Thiol:disulfide interchange protein dsbC Galactokinase		Up Regulated Up Regulated
malE	945556	Maltose-binding periplasmic protein		Up Regulated
malK	948537	Maltose/maltodextrin import ATP-binding protein malK		Up Regulated
ycfM	948536	Uncharacterized protein vcfM	[Cell wall membrane envelope biogenesis']	Up Regulated
malF	948532	Maltose transport system permease protein malF		Up Regulated
yjjX	948919	UPF0244 protein yjjX		Ambiguous/Unsorted
ytjC	948918	Probable phosphoglycerate mutase gpmB		Down Regulated

trpR	948917	Trp operon repressor		Up Regulated
rob	948916	Right origin-binding protein		Ambiguous/Unsorted
creB	948922	Transcriptional regulatory protein creB		Temporarly Up Regulated
mocA	947356	Uncharacterized protein yqfJ		Ambiguous/Unsorted
ygfJ	947356	Uncharacterized protein ygfJ	['electron transport']	Ambiguous/Unsorted
creA	948920	Protein creA		Ambiguous/Unsorted
modC	945362	Molybdenum import ATP-binding protein modC		Temporarly Up Regulated
modA	945364	Molybdate-binding periplasmic protein		Up Regulated
modF	945368	Putative molybdenum transport ATP-binding protein modF		Temporarly Down Regular
qseB	945369	Transcriptional regulatory protein qseB		Down Regulated
ubiC	948545	Chorismatepyruvate lyase		Down Regulated
lexA	948544	LexA repressor		Ambiguous/Unsorted
malM	948547	Maltose operon periplasmic protein		Temporarly Up Regulated
yqfB	947380	UPF0267 protein yqfB		Temporarly Up Regulated
hinT	948549	HIT-like protein hinT		Up Regulated
rpsP	947103	30S ribosomal protein S16		Down Regulated
lamB	948548	Maltoporin		Up Regulated
yfiL	947106	Uncharacterized protein yfiL	['Replication recombination and repair', 'DNA recombination']	Up Regulated
recN	947105	DNA repair protein recN		Up Regulated
mtn	948542	5'-methylthioadenosine/S-adenosylhomocysteine nucleosidase		Ambiguous/Unsorted
aldB	948104	Aldehyde dehydrogenase B		Up Regulated
yagT	945330	Putative xanthine dehydrogenase yagT iron-sulfur-binding subunit		Up Regulated
paoA	945330	Putative xanthine dehydrogenase yagT iron-sulfur-binding subunit		Up Regulated
yiaU	948107	Uncharacterized HTH-type transcriptional regulator yiaU		Temporarly Up Regulated
visC	947389	Protein visC		Temporarly Up Regulated
chbB	945339	N,N'-diacetylchitobiose-specific phosphotransferase enzyme IIB compon	ent	Up Regulated
ubiH	947388	2-octaprenyl-6-methoxyphenol hydroxylase	n	Down Regulated
ybbO	945337	Uncharacterized oxidoreductase ybbO		Ambiguous/Unsorted
thiL	947387	Thiamine-monophosphate kinase		Down Regulated
ygfY	947382	UPF0350 protein ygfY		Ambiguous/Unsorted
sapF	945335	Peptide transport system ATP-binding protein sapF		Ambiguous/Unsorted
lyxK allR	948101 945333	L-xylulose/3-keto-L-gulonate kinase HTH-type transcriptional repressor allR		Up Regulated Ambiguous/Unsorted
selB	948103	Selenocysteine-specific elongation factor		
cueR	945332	HTH-type transcriptional regulator cueR		Down Regulated Ambiguous/Unsorted
	947383	Protein aegA		Ambiguous/Unsorted Ambiguous/Unsorted
aegA dusA	948558	tRNA-dihydrouridine synthase A		Ambiguous/Unsorted Ambiguous/Unsorted
qorA	948556	Quinone oxidoreductase		Ambiguous/Unsorted Ambiguous/Unsorted
dnaB	948555	Replicative DNA helicase		Ambiguous/Unsorted Ambiguous/Unsorted
yjbJ	948553	UPF0337 protein yjbJ		Up Regulated
zur	948552	Zinc uptake regulation protein		Down Regulated
srIR	948942	Glucitol operon repressor		Ambiguous/Unsorted
mtlA	948118	PTS system mannitol-specific EIICBA component		Up Regulated
mtID	948117	Mannitol-1-phosphate 5-dehydrogenase		Ambiguous/Unsorted
cydA	945341	Cytochrome d ubiquinol oxidase subunit 1		Ambiguous/Unsorted
yibK	948119	Uncharacterized tRNA/rRNA methyltransferase yibK		Temporarly Down Regular
yibH	948110	Inner membrane protein yibH		Ambiguous/Unsorted
yceB	947377	Uncharacterized lipoprotein yceB	['electron transport']	Ambiguous/Unsorted
betB	947376	Betaine aldehyde dehydrogenase		Temporarly Down Regular
lysS	947372	Lysyl-tRNA synthetase; Lysyl-tRNA synthetase, heat inducible		Down Regulated
sodC	945343	Superoxide dismutase [Cu-Zn]		Up Regulated
yibF	948113	Uncharacterized GST-like protein yibF	П	Temporarly Up Regulated
alkA	947371	DNA-3-methyladenine glycosylase 2	-	Down Regulated
astA	946261	Arginine N-succinyltransferase		Up Regulated
rluA	946262	Ribosomal large subunit pseudouridine synthase A; Pseudouridine synth	ase	Up Regulated
astD	946260	N-succinylglutamate 5-semialdehyde dehydrogenase		Up Regulated
chbF	946266	6-phospho-beta-glucosidase		Ambiguous/Unsorted
moaD	945398	Molybdopterin-converting factor subunit 1		Ambiguous/Unsorted
selA	948124	L-seryl-tRNA(Sec) selenium transferase		Down Regulated
moaE	945399	Molybdopterin-converting factor subunit 2		Up Regulated
gpsA	948125	Glycerol-3-phosphate dehydrogenase [NAD(P)+]		Ambiguous/Unsorted
rhsA	948120	Protein rhsA		Up Regulated
lldD	948121	L-lactate dehydrogenase [cytochrome]		Down Regulated
ybhK	945390	UPF0052 protein ybhK		Down Regulated
cysE	948126	Serine acetyltransferase		Ambiguous/Unsorted
MoaB	945396	Molybdenum cofactor biosynthesis protein B		Ambiguous/Unsorted
moaC	945397	Molybdenum cofactor biosynthesis protein C		Ambiguous/Unsorted
yibQ	948128	Uncharacterized protein yibQ	['proteolysis']	Down Regulated

envC	948129	Uncharacterized protein yibP		Down Regulated
ynjA	946270	Uncharacterized protein yniA	Primary Active Transporters'	Down Regulated
ynjB	946271	Protein ynjB	[Time y reduce Transporters]	Up Regulated
ydjF	946272	Uncharacterized HTH-type transcriptional regulator ydjF	['Transcription', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
pncA	946276	Pyrazinamidase/nicotinamidase	[Down Regulated
nudG	946277	CTP pyrophosphohydrolase		Ambiguous/Unsorted
ansA	946278	L-asparaginase 1		Ambiguous/Unsorted
rfaF	948135	ADP-heptoseLPS heptosyltransferase 2		Ambiguous/Unsorted
ypdB	947395	Uncharacterized response regulatory protein ypdB	П	Up Regulated
rfaC	948136	Lipopolysaccharide heptosyltransferase 1		Ambiguous/Unsorted
xylB	948133	Xylulose kinase		Up Regulated
gcvH	947393	Glycine cleavage system H protein		Ambiguous/Unsorted
yggE	947398	Uncharacterized protein yggE	['Translation ribosomal structure and biogenesis']	Up Regulated
grxC	948132	Glutaredoxin-3		Up Regulated
gpmM	948130	2,3-bisphosphoglycerate-independent phosphoglycerate mutase		Down Regulated
tdh	948139	L-threonine 3-dehydrogenase		Ambiguous/Unsorted
kbl	948138	2-amino-3-ketobutyrate coenzyme A ligase		Down Regulated
cusC	946288	Cation efflux system protein cusC		Ambiguous/Unsorted
yjjU	948906	Uncharacterized protein yjjU		Down Regulated
ybgC	948907	Acyl-CoA thioester hydrolase ybgC		Down Regulated
yafD	946286	UPF0294 protein yafD		Down Regulated
slt	948908	Soluble lytic murein transglycosylase		Down Regulated
sppA	946281	Protease 4		Down Regulated
yjaG	948501	Uncharacterized protein yjaG	μ	Down Regulated
nfi	948502	Endonuclease V		Ambiguous/Unsorted
zraS	948506	Sensor protein; Sensor protein zraS		Down Regulated
torT	946289	Periplasmic protein torT		Up Regulated
nlpE	946782	Lipoprotein nlpE		Up Regulated
xylA	948141	Xylose isomerase		Up Regulated
folX	946781	D-erythro-7,8-dihydroneopterin triphosphate epimerase		Up Regulated
rsuA	945378	Pseudouridine synthase; Ribosomal small subunit pseudouridine syntha		Down Regulated
yahG	945379	Uncharacterized protein yahG	['Amino acid transport and metabolism', ' Central intermediary metabolism', ' Metabolism of other compounds', 'metabolic process']	Ambiguous/Unsorted
bioA ybhH	945376 945375	Adenosylmethionine-8-amino-7-oxononanoate aminotransferase		Down Regulated
rfaG	945375	Uncharacterized protein ybhH Lipopolysaccharide core biosynthesis protein rfaG	U	Temporarly Down Regulated
ybhA	945372	Phosphatase ybhA		Temporarly Up Regulated
DeoB	948910	Phosphopentomutase		Ambiguous/Unsorted
hisP	946789	Histidine transport ATP-binding protein hisP		Ambiguous/Unsorted
radA	948912	DNA repair protein radA		Down Regulated
bioB	945370	Biotin synthase		Down Regulated
mngR	945371	Mannosyl-D-glycerate transport/metabolism system repressor mngR		Up Regulated
yjiY	948914	Inner membrane protein yjiY		Temporarly Up Regulated
yfcH	946784	Epimerase family protein yfcH		Up Regulated
serB	948913	Phosphoserine phosphatase		Down Regulated
fdrA	946298	Protein fdrA		Ambiguous/Unsorted
metA	948513	Homoserine O-succinyltransferase		Ambiguous/Unsorted
aceB	948512	Malate synthase A; Malate synthase		Up Regulated
rfaP	948150	Lipopolysaccharide core biosynthesis protein rfaP		Down Regulated
aceA	948517	Isocitrate lyase		Up Regulated
pagB	948518	Uncharacterized protein yjbD		Down Regulated
yjbD	948518	Uncharacterized protein yjbD		Down Regulated
ndh	946792	NADH dehydrogenase		Ambiguous/Unsorted
yicC	948154	UPF0701 protein yicC		Up Regulated
purF	946794	Amidophosphoribosyltransferase		Temporarly Up Regulated
truA	946793	tRNA pseudouridine synthase A		Down Regulated
ујаН	948508	Uncharacterized protein yjaH	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	Temporarly Up Regulated
pyrE	948157	Orotate phosphoribosyltransferase		Ambiguous/Unsorted
bioD	0.45005	Putative dethiobiotin synthetase; Dethiobiotin synthetase		Temporarly Down Regula
	945387			Down Regulated
slmA	948158	HTH-type protein slmA		
rfaQ	948158 948155	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ		Down Regulated
rfaQ rph	948158 948155 948156	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH		Down Regulated Ambiguous/Unsorted
rfaQ rph ybhB	948158 948155 948156 945383	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB		Down Regulated Ambiguous/Unsorted Up Regulated
rfaQ rph ybhB bioF	948158 948155 948156 945383 945384	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB 8-amino-7-oxononanoate synthase		Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated
rfaQ rph ybhB bioF uvrB	948158 948155 948156 945383 945384 945385	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB 8-amino-7-oxononanoate synthase UvrABC system protein B		Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted
rfaQ rph ybhB bioF uvrB spoT	948158 948155 948156 945383 945384 945385 948159	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB 8-amino-7-oxononanoate synthase UvrABC system protein B Guanosine-3',5'-bis(diphosphate) 3'-pyrophosphohydrolase		Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated
rfaQ rph ybhB bioF uvrB spoT yeaJ	948158 948155 948156 945383 945384 945385 948159 946290	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB 8-amino-7-oxononanoate synthase UvrABC system protein B Guanosine-3',5'-bis(diphosphate) 3'-pyrophosphohydrolase Uncharacterized protein yeaJ	['Signal transduction mechanisms', ' Type of regulation', 'two component signal transduction system phosphorelay ', 'transcription', 'regulat	Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted
rfaQ rph ybhB bioF uvrB spoT	948158 948155 948156 945383 945384 945385 948159	HTH-type protein slmA Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ Ribonuclease PH UPF0098 protein ybhB 8-amino-7-oxononanoate synthase UvrABC system protein B Guanosine-3',5'-bis(diphosphate) 3'-pyrophosphohydrolase	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay ', 'transcription', 'regulation', 'regulatio	Down Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated

deoA	948901	Thymidine phosphorylase		Ambiguous/Unsorted
tolQ	948900	Protein tolQ		Down Regulated
yfcG	946763	Uncharacterized GST-like protein yfcG		Ambiguous/Unsorted
nuoA	946764	NADH-quinone oxidoreductase subunit; NADH-quinone oxidoreductase s	subunit A	Temporarly Down Regular
mutM	946765	Formamidopyrimidine-DNA glycosylase		Ambiguous/Unsorted
yfbU	946767	UPF0304 protein yfbU		Temporarly Down Regular
selD	946768	Selenide, water dikinase		Ambiguous/Unsorted
IrhA	946769	Probable HTH-type transcriptional regulator IrhA		Down Regulated
yicl	948169	Alpha-xylosidase		Ambiguous/Unsorted
yicJ	948168	Inner membrane symporter yicJ		Temporarly Down Regula
gltS ligB	948166 948164	Sodium/glutamate symport carrier protein DNA ligase B		Temporarly Down Regular Ambiguous/Unsorted
rbn	946760	Ribonuclease Z		Down Regulated
gmk	948163	Guanylate kinase		Ambiguous/Unsorted
recG	948162	ATP-dependent DNA helicase recG		Down Regulated
nuoH	946761	NADH-quinone oxidoreductase subunit H		Down Regulated
trmH	948161	tRNA guanosine-2'-O-methyltransferase		Down Regulated
flk	946776	Flagellar regulator flk		Down Regulated
yfbT	946777	Phosphatase yfbT		Up Regulated
setC	948177	Sugar efflux transporter C		Ambiguous/Unsorted
yfbR	946771	UPF0207 protein yfbR; 5'-nucleotidase yfbR		Ambiguous/Unsorted
yfbQ	946772	Uncharacterized aminotransferase yfbQ	Π	Down Regulated
yicN	948173	Uncharacterized protein yicN	Carbon compound utilization', 'regulation of transcription']	Down Regulated
nlpA	948175	Lipoprotein 28	The same and satisfaction and accounting the same satisfaction and satisfaction an	Down Regulated
yicH	948171 946744	Uncharacterized protein yicH Sensor protein; Sensor protein kdpD	[[Energy production and conversion]	Ambiguous/Unsorted
kdpD nuoE	946744	NADH-quinone oxidoreductase subunit E		Up Regulated Ambiguous/Unsorted
yidJ	948188	Uncharacterized sulfatase yidJ	n	Down Regulated
ilvN	948183	Acetolactate synthase isozyme 1 small subunit	<u> </u>	Ambiguous/Unsorted
nuoB	946738	NADH-quinone oxidoreductase subunit B		Down Regulated
nuol	946757	NADH-quinone oxidoreductase subunit I		Temporarly Down Regular
elaB	946751	Protein elaB		Up Regulated
elaA	946750	Protein elaA		Temporarly Up Regulated
uhpB	948195	Sensor protein uhpB		Ambiguous/Unsorted
yidR	948198	Uncharacterized protein yidR	['Energy production and conversion', 'electron transport']	Temporarly Down Regula
yidQ	948199	Uncharacterized protein yidQ	0	Up Regulated
yidG	948191	Inner membrane protein yidG		Down Regulated
ibpB	948192	Small heat shock protein ibpB		Ambiguous/Unsorted
yfcF srlB	946749	Uncharacterized GST-like protein yfcF		Up Regulated
ybgJ	948971 945311	Glucitol/sorbitol-specific phosphotransferase enzyme IIA component Uncharacterized protein ybgJ	n	Up Regulated Ambiguous/Unsorted
sdhC	945311	Succinate dehydrogenase cytochrome b556 subunit	<u> </u>	Ambiguous/Unsorted
atoE	946721	Short-chain fatty acids transporter		Temporarly Up Regulated
yjgR	948978	Uncharacterized protein yigR		Up Regulated
menD	946720	2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthas	10 56	Temporarly Down Regular
rffD	948977	UDP-N-acetyl-D-mannosamine dehydrogenase		Ambiguous/Unsorted
ypdA	946723	Inner membrane protein ypdA		Temporarly Down Regular
glpQ	946725	Glycerophosphoryl diester phosphodiesterase		Temporarly Up Regulated
acnA	946724	Aconitate hydratase 1		Up Regulated
hisJ	945309	Histidine-binding periplasmic protein		Ambiguous/Unsorted
gltA	945323	Citrate synthase		Ambiguous/Unsorted
lptG	945324	Lipopolysaccharide export system permease protein lptG		Up Regulated
toIR	945328	Protein toIR		Ambiguous/Unsorted
ybgE #cA	945326	Uncharacterized protein ybgE	['Energy production and conversion', 'Energy metabolism carbon', 'Energy production transport', 'electron transport']	Up Regulated
ttcA rmuC	948967 948966	tRNA 2-thiocytidine biosynthesis protein ttcA DNA recombination protein rmuC		Down Regulated Up Regulated
yeaP	948969	Probable diguanylate cyclase yeaP		Down Regulated
ygiQ	948963	UPF0313 protein ygiQ		Down Regulated
nei	945320	Endonuclease VIII; Endonuclease 8		Down Regulated
glpC	946735	Anaerobic glycerol-3-phosphate dehydrogenase subunit C		Down Regulated
menC	946734	o-succinylbenzoate synthase		Temporarly Down Regular
atoB	946727	Acetyl-CoA acetyltransferase		Temporarly Down Regula
yejG	945319	Uncharacterized protein yejG		Down Regulated
ybgL	945318	UPF0271 protein ybgL		Ambiguous/Unsorted
rcsC	948993	Sensor kinase protein rcsC; Sensor protein		Down Regulated
djlA	948992	DnaJ-like protein djlA		Temporarly Down Regula
yeiR	946701	Uncharacterized protein yeiR	μ	Down Regulated
eco	946700	Ecotin		Up Regulated

bo 94898 Enhances cho Formation of Committee C	Temporarly Up Regulated
ingst 345711 Cuit production assemblythmisport component cigit	Temporarly Up Regulated
Same Services and	Down Regulated
Process Section Sectio	Up Regulated
borD 48304 keylphosphatase borD 48305 Lipoprotein bor homolog from lambdoid prophage DLP12 Softill 38305 Succinate dehydrogenate into subur subunit 38305 Succinate dehydrogenate into subur subunit 38407 A 3	Ambiguous/Unsorted
Surface Address Disporation bor homolog from lambood prophage DLP12	Up Regulated
Sights 94500 Succinate dehydrogenase ron-sulfur subunit https://doi.org/10.1001/j.com/10.1001/	Ambiguous/Unsorted
Egran 946714 Cytochrome c biogenesis ATP-binding export protein comA 19/473 Anamachic glyeard-3-phosphate delytryogenesis subunif A 19/473 Paramachic glyeard-3-phosphate delytryogenesis subunif A 19/473 19/474	Ambiguous/Unsorted
plpA 946713 Anaerobic glycorio-3-priosphate delryfocipenase subunit A mem F 946712 Menacipium-specific isochroimates synthase 4 apple 946711 [Inhamine biosynthesis [soprotein apbE]	Temporarly Down Regular
men F 946712 Menaguirone-specific sochorismate synthase gubble 946711 Thiamme biosynthesis (poportion apbE 94688 out of the membrare (spoportion apbE 94688 out of the provided out of the prov	Temporarly Down Regular
lapbE 946711 [Thamine biosynthesis (lipoprotein apbE) guac 948986 [MP reductase both 948976 [Children bedyntrigenase both 948776 [Children bedyntrigenase yol 946705 [AsC transporter AT 2-binding protein yol] 946706 [AsC transporter AT 2-binding protein yol] 946706 [AsC transporter AT 2-binding protein yol] 946707 [AsC transporter AT 2-binding protein yol] 946708 [AsC transporter AT 2-binding protein yol] 946709 [AsC transporter AT 2-binding protein yol] 946709 [AsC transporter AT 2-binding protein yol] 946700 [AsC transporter AT 2-binding yol] 94670 [Asc transporter yol] 94670	Up Regulated
GMP reductase IoRA 948980 Outer-membrane lipoprotein carrier protein IoRA 948716 Choline dehydrogenase yol 946705 AGC transporter ATP-briding protein yolf IoRA 94785 AGC transporter ATP-briding protein yolf IoRA 94785 AGC transporter ATP-briding protein yolf IoRA 94786 AGC transporter ATP-briding protein yolf IoRA 94786 AGC 14784 Septum site-determining protein march; sensor protein IoRA 94787 PTS-sequenter offlydroxysectore kinase operon regulatory protein IoRA 94787 PTS-sequenter offlydroxysectore kinase operon regulatory protein IoRA 94781 PTS-sequenter offlydroxysectore kinase operon regulatory protein IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94781 Septum site-determining protein minic. Protable septum site-determining protein minic. IoRA 94782 Septum site-determining protein site-determining protein site. IoRA 94783 Septum site-determining protein site. IoRA 94784 Septum site-determining protein site. IoRA 94785 Septum site-determining protein site. IoRA 94785 Septum site-d	Ambiguous/Unsorted
September Sept	Up Regulated
betA 945716 Choline dehydrogenase York Section Choline dehydrogenase York Section	Ambiguous/Unsorted
September Sept	Up Regulated
Series 94788	Down Regulated
Fiff. 947885 PATH-type transcriptional regulator friR DHAR 94743 PATS-Expendent dihytroxyoactone knase operon regulatory protein map 947882 Methionine aminopeptidase minC 94674 Septim still-definition aminopeptidase minC 94674 Septim still-definition aminopeptidase minC 94784 Path 47784 Siroheme synthase minE 947970 Para-aminoberozoate synthase guiturinine amidotransferase component il position aminopeptidase Path 74774 Path 747774 Path 747774 Path 747775 Path 7477775 Path 7477775 Path 7477775 Path 7477777 Path 7477777 Path 747777 Path 747777 Path 747777 Path 747777 Path 74777 Path 7477 Path	Temporarly Up Regulated
DHAR 94574 PTS-dependent dihydroxyacetone kinase operon regulatory protein map 94582 Melhonine aminopeptidase minc 94574 Septum site-determining protein minc; Probable septum site-determining protein minc 945740 Septum site-determining protein minc; Probable septum site-determining protein minc 945780 Siroberoma 945740 Cell division topological specificity factor Path 947873 Para-aminobenzoate synthase glutamine amidotransferase component 945787 Para-aminobenzoate synthase glutamine amidotransferase component 947874 Para-aminobenzoate synthase glutamine amidotransferase component 947874 Para-aminobenzoate synthase glutamine amidotransferase component 947875 Purcharacterized protein yriff 947871 Uncharacterized protein yriff 947871 Uncharacterized protein yriff 947871 Para-acterized protein yriff 947872 945787 94578	Down Regulated
map 947882 Methonine aminopeptidase minic protein minC; Probable septum site-determining protein minC 94744 Septum site-determining protein minC 94740 Cell (wilson topological specificity factor Path 347870 Path 347870 Path 347871 Path 347874 Septum site-determining protein minC 947874 Path 347874 Septum site-determining protein minC 947874 Path 347874 Septum site-determining protein minC 947875 Path 347875 Protoselysine 6-phosphate deglycase proge 947875 Uncharacterized protein yhf G 947871 Uncharacterized protein yhf G Path 347876 Path 34	Ambiguous/Unsorted
minC y48780 Sighum site-determining protein minC; Probable septum site-determining protein minC y4880 Sirveme synthase y with the protein site y years and protein site years and yea	Up Regulated
System	Ambiguous/Unsorted
Finite 945740 Cell division topological specificity factor PabA 947873 Para-aminobezoase synthase glutamine amidotransferase component II Fig8 947874 305 ribosonal protein S2 Fig8 947875 Functional protein file S2 Fig8 947875 Functional protein file S2 Fig8 947875 Functional protein file S2 Fig8 947876 Fig8 948767 Fig8 947876 Fig8 94789 Fig8 94878 Fig8 94789 Fig8 94878 Fig8 948	Down Regulated
PabA 947873 Para-aminobenzoate synthase glutamine amidotransferase component II	Down Regulated
psB 947874 30.5 ribosomal protein S2	Down Regulated
First September 194735 Fructoselysine 6-phosphate deglycase Popular September 194735 Processing September 194735 Processing September 194735 Processing September 294735 Proce	Down Regulated
yogE 945735 Uncharacterized protein yrife 947871 Uncharacterized protein yrife 947871 Uncharacterized protein yrife 947872 Cell filamentation protein fic 947873 GTF cyclohydrolase-2 CipA 945763 GTF cyclohydrolase-2 CipA 945763 Feptidyl-RNA hydrolase Peptidyl-RNA hydrolase 945765 Peptidyl-RNA hydrolase 945765 Guitathione \$478765 Phosphoglycolate protein ycgV [Amino acid transport and metabolism', 'Building block biosynthesis'] Ggt 945763 Glutathione \$478765 Phosphoglycolate phosphatase 947896 Phosphoglycolate 947896 Phosphoglycol	Ambiguous/Unsorted
hiffG 947871 Uncharacterized protein yhffG ifAmino acid transport and metabolism', 'protein folding', 'amino acid biosynthetic process'] fic 947872 Cell filamentation protein fic rssA 945763 NTE family protein rssA ribA 945763 NTE family protein rssA ribA 945764 ATP-dependent Cip protease ATP-binding subunit clpA pth 945767 peptidy-IRNA hydrolase vgaV 945767 Uncharacterized protein vgaV [Amino acid transport and metabolism', 'Building block biosynthesis'] gst 945768 Glutathione S-transferase ph 945768 Glutathione S-transferase ph 945769 Peptidy-IRNA hydrolase rpe 947890 Ribulose-phosphatase Agriculture and repair yarding and	Temporarly Up Regulated
fic 947872 Cell filamentation protein fic rssA 945753 GTP cyclohydrolase-2 cjpA 945763 GTP cyclohydrolase-2 cjpA 945764 ATP-dependent Cip protease ATP-binding subunit clpA pth 945765 Peptidy-HRNA hydrolase	Down Regulated
rssA 945725 NTE family protein rssA fibA 945763 a GTP cyclohydrolase-2 clpA 945764 ATP-dependent Clp protease ATP-binding subunit clpA pth 945765 Peptidyl-RNA hydrolase Uncharacterized protein yegV [Amino acid transport and metabolism', 'Building block biosynthesis'] 945765 Pub. 945765 Uncharacterized protein yegV [Amino acid transport and metabolism', 'Building block biosynthesis'] 945768 Gilutathione S-transferase graph 9477896 Ribulose-phosphate 3-epimerase dadA 945752 D-amino acid dehydrogenase small subunit 947529 Uncharacterized protein yhfW [Replication recombination and repair', 'Carbon compound utilization'] 947890 Pub. 94789	Up Regulated
ribA 945763 GTP cyclohydrolase-2 clpA 945764 ATP-dependent Clp protease ATP-binding subunit clpA pth 945765 Peptidyl-IRNA hydrolase Phosphoglycolate phosphatase Beptidyl-IRNA hydrolase Beptidyl-IRNA	Up Regulated
clpA 945764 ATP-dependent Clp protease ATP-binding subunit clpA pth 945765 Peptidyl-RNA hydrolase	Ambiguous/Unsorted Down Regulated
pth 945765 Peptidyl-tRNA hydrolase (Amino acid transport and metabolism', 'Building block biosynthesis') gst 945758 Glutathione S-transferase gph 945758 Glutathione S-transferase gph 947895 Phosphoglycolate phosphatase rpe 947896 Ribulose-phosphata 3-epimerase dadA 945752 D-amino acid dehydrogenase small subunit gull 945751 Protein suff Prot	Up Regulated
yegy 945767 Uncharacterized protein yegy ['Amino acid transport and metabolism', 'Building block biosynthesis'] gst 945758 Glutathione S-transferase gph 947896 Phosphoglycolate phosphatase ppe 947896 Ribulose-phosphata 3-epimerase dadA 945752 D-amino acid dehydrogenase small subunit sufB 945753 Protein sufB yhfW 947890 Uncharacterized protein yhfW btuD 945751 Vitamin B12 import ATP-binding protein btuD ldcA 945756 Muramoyltetrapeptide carboxypeptidase treA 945756 Muramoyltetrapeptide carboxypeptidase treA 945757 Periplasmic trehalase; Putative periplasmic trehalase dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945747 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945784 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945789 Protein sirB1 ychA 945784 Protein sirB1 ychA 945784 Protein sirB1 ychA 945784 Protein sirB1 ychA 945784 Respiratory nitrate reductase 1 alpha chain undK 94579 Respiratory nitrate reductase 1 alpha chain narG 94579 Protein methyltransferase hemK ftsB 945779 Protein methyltransferase hemK	Temporarly Down Regulation
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rpe 947896 Ribulose-phosphate 3-epimerase dadA 945752 D-amino acid dehydrogenase small subunit SufB 945753 Protein sufB Protein sufB Protein sufB Protein sufB Uncharacterized protein ynfW Protein sufB Pr	Ambiguous/Unsorted
dadA 945752 D-amino acid dehydrogenase small subunit sufB 945753 Protein sufB yfnfW 947890 Uncharacterized protein yfnfW [Replication recombination and repair', 'Carbon compound utilization'] btuD 945751 Vitamin B12 import ATP-binding protein btuD ldcA 945756 Muramoyltetrapeptide carboxypeptidase treA 945757 Periplasmic trehalase; Putative periplasmic trehalase dam 947893 DNA adenine methylase dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhal 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhal dhal 945749 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhal. dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhal narX 945788 Nitrate/nitrie sensor protein narX clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS yeaC 947074 Uncharacterized protein ydhS protein protein yeaC narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK ffsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Ambiguous/Unsorted
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btuD 945751 Vitamin B12 import ATP-binding protein btuD ldcA 945756 Muramoytletrapeptide carboxypeptidase treA 945757 Periplasmic trehalase; Putative periplasmic trehalase 947893 DNA adenine methylase 945754 Alanine racemase, catabolic; Alanine racemase 945755 Cell volume regulation protein A 945754 Cell volume regulation protein A 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM 945749 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL 945748 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK 945748 Nitrate/nitrite sensor protein narX 945788 Nitrate/nitrite sensor protein narX 945788 Nitrate/nitrite sensor protein narX 945784 Protein sirB1 945784 Respiratory nitrate reductase 1 alpha chain 945782 Respiratory nitrate reductase 1 alpha chain 945789 Protein methyltransferase hemK 945779 Protein methyltransferase hemK 945778 Oxygen-insensitive NAD(P)H nitroreductase	Ambiguous/Unsorted
ldcA 945756 Muramoyltetrapeptide carboxypeptidase treA 945757 Periplasmic trehalase; Putative periplasmic trehalase dam 947893 DNA adenine methylase dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945786 Uncharacterized protein ydhS [*Building block biosynthesis*] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945778 Oxygen-insensitive NAD(P)H nitroreductase	Temporarly Down Regular
treA 945757 Periplasmic trehalase; Putative periplasmic trehalase dam 947893 DNA adenine methylase dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS [Building block biosynthesis] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK protein methyltransferase hemK [S45778 P	Temporarly Down Regular
dam 947893 DNA adenine methylase dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Up Regulated
dadX 945754 Alanine racemase, catabolic; Alanine racemase cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945786 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS [*Building block biosynthesis*] yeaC 947074 Uncharacterized protein yeaC narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Down Regulated
cvrA 945755 Cell volume regulation protein A dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945786 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Up Regulated
dhaM 945749 PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL 945747 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK 945788 Nitrate/nitrite sensor protein narX 945788 Nitrate/nitrite sensor protein narX 945784 Protein sirB1 945784 Protein sirB1 945786 Uncharacterized protein ydhS 945786 Uncharacterized protein ydhS [**Building block biosynthesis**] Puncharacterized protein yeaC [**InarG** 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK protein methyltransferase hemK 945778 Protein methyltransferase hemK 945778 Oxygen-insensitive NAD(P)H nitroreductase	Down Regulated
dhaL 945748 PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK Nitrate/nitrite sensor protein narX 945788 Nitrate/nitrite sensor protein narX Chaperone protein clpB 947077 Chaperone protein clpB 945784 Protein sirB1 Protei	Up Regulated
dhaK 945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Up Regulated
narX 945788 Nitrate/nitrite sensor protein narX clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Ambiguous/Unsorted
clpB 947077 Chaperone protein clpB ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS [Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain [] nudK 947072 GDP-mannose pyrophosphatase nudK [] prmC 945778 Protein methyltransferase hemK [] nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase []	Down Regulated
ychA 945784 Protein sirB1 ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Ambiguous/Unsorted
ydhS 945786 Uncharacterized protein ydhS ['Building block biosynthesis'] yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Temporarly Down Regula
yeaC 947074 Uncharacterized protein yeaC [] narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Up Regulated
narG 945782 Respiratory nitrate reductase 1 alpha chain nudK 947072 GDP-mannose pyrophosphatase nudK prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Temporarly Up Regulated
prmC 945779 Protein methyltransferase hemK nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Temporarly Down Regular
nfsB 945778 Oxygen-insensitive NAD(P)H nitroreductase	Ambiguous/Unsorted
	Temporarly Up Regulated
(III	Ambiguous/Unsorted
yfiH 947089 UPF0124 protein yfiH	Temporarly Up Regulated
hemA 945777 Glutamyl-tRNA reductase	Down Regulated
yqaB 945776 Phosphatase yqaB	Up Regulated
IoIB 945775 Outer-membrane lipoprotein IoIB	Ambiguous/Unsorted
aroF 947084 Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensitive	Down Regulated
ispE 945774 4-diphosphocytidyl-2-C-methyl-D-erythritol kinase	Temporarly Up Regulated
agp 945773 Glucose-1-phosphatase rluD 947087 Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase D	Up Regulated
	Ambiguous/Unsorted
cysB 945771 HTH-type transcriptional regulator cysB	Ambiguous/Unsorted

ybaK	947083	Uncharacterized protein ybaK		Up Regulated
uxuA	947082	Mannonate dehydratase		Up Regulated
ychF	945769	GTP-dependent nucleic acid-binding protein engD		Down Regulated
yegP	947095	UPF0339 protein yegP		Up Regulated
rpIS	947096	50S ribosomal protein L19		Ambiguous/Unsorted
trmD	947099	tRNA (guanine-N(1)-)-methyltransferase		Ambiguous/Unsorted
yfiB	947094	Putative lipoprotein yfiB		Down Regulated
narL	945795	Nitrate/nitrite response regulator protein narL		Temporarly Up Regulated
ychN	945794	Protein ychN		Ambiguous/Unsorted
rplE	947800	50S ribosomal protein L5		Ambiguous/Unsorted
rpsN	947801	30S ribosomal protein S14		Down Regulated
rpsH	947802	30S ribosomal protein S8		Down Regulated
ptrB	946358	Protease 2		Ambiguous/Unsorted
acpS	947037	Holo-[acyl-carrier-protein] synthase		Temporarly Up Regulated
yoaB	946357	UPF0076 protein yoaB		Up Regulated
yebE	946355	Inner membrane protein yebE		Ambiguous/Unsorted
pdxJ	947039	Pyridoxine 5'-phosphate synthase		Ambiguous/Unsorted
queC	947034	Queuosine biosynthesis protein queC		Down Regulated
thiC	948492	Thiamine biosynthesis protein thiC		Temporarly Down Regular
rnc	947033	Ribonuclease 3		Ambiguous/Unsorted
yebT	946352	Uncharacterized protein yebT	[Inorganic ion transport and metabolism]	Down Regulated
era	947036	GTP-binding protein era; GTP-binding protein era homolog		Down Regulated
yebO	946350	Uncharacterized protein yebO	n	Up Regulated
yfhH	947030	Uncharacterized HTH-type transcriptional regulator yfhH	[Carbohydrate transport and metabolism]	Ambiguous/Unsorted
rsd	948496	Regulator of sigma D		Temporarly Down Regular
hupA	948499	DNA-binding protein HU-alpha		Ambiguous/Unsorted
nudC	948498	NADH pyrophosphatase		Down Regulated
zapA	947404	Cell division protein zapA		Ambiguous/Unsorted
rpml	946349	50S ribosomal protein L35		Down Regulated
rsmF	946348	Ribosomal RNA small subunit methyltransferase F		Down Regulated
exbD	946345	Biopolymer transport protein exbD		Down Regulated
dsbB	946344	Disulfide bond formation protein B		Temporarly Down Regular
nadB	947049	L-aspartate oxidase		Temporarly Up Regulated
IIIaab				remperany op regulated
veh\/	046347	I Incharacterized protein vehV	['Renlication_recombination and renair']	I In Regulated
yebV vfiC	946347	Uncharacterized protein yebV ECED1 3006: c3099: E2348C, 2852: ECIAI1 2689: APECQ1 3956: E	['Replication recombination and repair'] CS88, 2749; FCDH10B, 2743; FCLIMN, 2898; FCIAI39, 2780; LITI89, C2897; FC55989, 2864; nC15-1a, 066; 73857; h2575	Up Regulated Temporarly Down Regular
yfiC	947047	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E	['Replication recombination and repair'] CS88_2749; ECDH10B_2743; ECUMN_2898; ECIAI39_2780; UTI89_C2897; EC55989_2864; pC15-1a_066; Z3857; b2575	Temporarly Down Regula
yfiC rpIA	947047 948483	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1		Temporarly Down Regular Up Regulated
yfiC rpIA rImA	947047 948483 946340	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822		Temporarly Down Regula Up Regulated Ambiguous/Unsorted
yfiC rpIA rImA yaeH	947047 948483 946340 947044	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated
yfiC rpIA rImA yaeH manZ	947047 948483 946340 947044 946342	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted
yfiC rplA rlmA yaeH manZ bolA	947047 948483 946340 947044 946342 947043	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Up Regulated
yfiC rplA rlmA yaeH manZ bolA glrR	947047 948483 946340 947044 946342 947043 947042	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA Uncharacterized protein yfhA		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated
yfiC rplA rlmA yaeH manZ bolA glrR qseF	947047 948483 946340 947044 946342 947043 947042 947042	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA Uncharacterized protein yfhA Uncharacterized protein yfhA		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated
yfiC rplA rlmA yaeH manZ bolA glrR qseF lepB	947047 948483 946340 947044 946342 947043 947042 947042 947040	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA Uncharacterized protein yfhA Uncharacterized protein yfhA Signal peptidase I		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted
yfiC rpIA rImA yaeH manZ bolA gIrR qseF lepB epd	947047 948483 946340 947044 946342 947043 947042 947042 947040 947413	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA Uncharacterized protein yfhA Uncharacterized protein yfhA Signal peptidase I D-erythrose-4-phosphate dehydrogenase		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
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yfiC rplA rlmA yaeH manZ bolA glrR qseF lepB epd mscS rpoE	947047 948483 946340 947044 946342 947043 947042 947042 947040 947413 947416 947050	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APECO1_3956; E 50S ribosomal protein L1 b1822 UPF0325 protein yaeH Mannose permease IID component Protein bolA Uncharacterized protein yfhA Uncharacterized protein yfhA Signal peptidase I D-erythrose-4-phosphate dehydrogenase Small-conductance mechanosensitive channel RNA polymerase sigma factor; RNA polymerase sigma-E factor		Temporarly Down Regula Up Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Temporarly Up Regulated
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talA 94706 Transaldolase A; Transaldolase MitA-interacting protein Up Regulated 946301 MitA-interacting protein Up Regulated 947831 Probable general secretion pathway protein K Ambiguous/Unsort Up Regulated 947830 Uncharacterized protein yhcO Uncharacterized protein yhcO Up Ambiguous/Unsort Up Regulated Sec 94704 Cysteine desulfurase Ambiguous/Unsort Up Regulated Sec 94704 Cysteine desulfurase Ambiguous/Unsort Up Regulated Up Regulated Down Regulated D					
gspK 947831 Probable general secretion pathway protein K yhcO 947830 Uncharacterized protein yhcO [] Down Regulated yeaE 946302 Uncharacterized protein yeaE sicS 947004 Cysteine desulfurase yeaK 946303 Uncharacterized protein yeaK [] Down Regulated Down Regulated					Ambiguous/Unsorted
gspK 947831 Probable general secretion pathway protein K yhcO 947830 Uncharacterized protein yhcO [] Down Regulated yeaE 946302 Uncharacterized protein yeaE iscS 947004 Cysteine desulfurase yeaK 946303 Uncharacterized protein yeaK [] Down Regulated Down Regulated	mipA	946301	MItA-interacting protein		Up Regulated
yhcO 947830 Uncharacterized protein yhcO [] Down Regulated yeaE 946302 Uncharacterized protein yeaE Up Regulated iscS 94704 Cysteine desulfurase Ambiguous/Unsort yeaK 946303 Uncharacterized protein yeaK []	gspK				Ambiguous/Unsorted
iscS 947004 Cysteine desulfurase Ambiguous/Unsort yeaK 946303 Uncharacterized protein yeaK [] Down Regulated					
yeaK 946303 Uncharacterized protein yeaK [] Down Regulated					
					Ambiguous/Unsorted
phr 947005 Deoxyribodipyrimidine photo-lyase Ambiguous/Unsort					
	phr	947005	Deoxyribodipyrimidine photo-lyase		Ambiguous/Unsorted

aluD	0.47050	EKDD type pentidyl probl sie trans isomerane slyD	T. C.	A matrice control languages
slyD	947859 947450	FKBP-type peptidyl-prolyl cis-trans isomerase slyD		Ambiguous/Unsorted
kdpB		Potassium-transporting ATPase B chain	I Control intermedian match disert	Ambiguous/Unsorted
yggN	947453	Uncharacterized protein yggN	[' Central intermediary metabolism']	Temporarly Up Regulated
ansB	947454	L-asparaginase 2		Up Regulated
flgJ	947456	Peptidoglycan hydrolase flgJ		Down Regulated
speC	947457	Ornithine decarboxylase, constitutive		Ambiguous/Unsorted
yahA	947459	Cyclic di-GMP phosphodiesterase yahA		Temporarly Up Regulated
yfhG	947010	Uncharacterized protein yfhG	['Amino acid transport and metabolism', ' Building block biosynthesis', ' RNA related', ' Type of regulation', 'transcription', 'regulation of trans	
ycdX	948477	Putative hydrolase ycdX		Down Regulated
sdaA	946331	L-serine dehydratase 1		Up Regulated
nlpD	947011	Lipoprotein nlpD		Up Regulated
murB	948470	UDP-N-acetylenolpyruvoylglucosamine reductase		Ambiguous/Unsorted
manY	946332	Mannose permease IIC component		Down Regulated
yacC	948472	Uncharacterized protein yacC	['Amino acid transport and metabolism']	Down Regulated
argR	947861	Arginine repressor		Down Regulated
qseE	947013	Putative sensor-like histidine kinase yfhK; Sensor protein		Temporarly Up Regulated
glrK	947013	Putative sensor-like histidine kinase yfhK; Sensor protein		Temporarly Up Regulated
yhfA	947860	Protein yhfA		Ambiguous/Unsorted
yebY	947014	Uncharacterized protein yebY	['translation']	Ambiguous/Unsorted
yoaE	946335	UPF0053 inner membrane protein yoaE		Up Regulated
prkB	947862	Probable phosphoribulokinase; Phosphoribulokinase		Up Regulated
pepT	946333	Peptidase T		Up Regulated
degS	947865	Protease degS		Up Regulated
manX	946334	PTS system mannose-specific EIIAB component		Ambiguous/Unsorted
hmp	947018	Flavohemoprotein		Down Regulated
cspC	946339	Cold shock-like protein cspC		Down Regulated
yphC	947019	Uncharacterized zinc-type alcohol dehydrogenase-like protein yphC	Carbon compound utilization', 'Energy metabolism carbon']	Ambiguous/Unsorted
crp	947867	Catabolite gene activator	Total Composite difficulties, 2 and 3 metabolics carbon 1	Down Regulated
yhfK	947866	Uncharacterized protein yhfK	['Signal transduction mechanisms', 'tricarboxylic acid cycle']	Temporarly Down Regular
pabB	946337	Para-aminobenzoate synthase component 1	[Olgania daniedadosia mediatanomo, diedaboxylie dola oyolo]	Ambiguous/Unsorted
ascB	947460	6-phospho-beta-glucosidase ascB		Ambiguous/Unsorted
yggX	947461	Probable Fe(2+)-trafficking protein		Up Regulated
yeaU	946319	Probable tartrate dehydrogenase/decarboxylase		Up Regulated
dmlA	946319	Probable tartrate dehydrogenase/decarboxylase		Up Regulated
yhdH	947848	Putative quinone oxidoreductase yhdH		Ambiguous/Unsorted
slyX	947849	Protein slyX		Up Regulated
leuA	947465	2-isopropylmalate synthase		
yphG	947021	Uncharacterized protein yphG	[' Carbon compound utilization', 'carbohydrate transport']	Ambiguous/Unsorted Up Regulated
	947021	Cold shock-like protein cspE	Carbon compound utilization, carbonydrate transport	
cspE	947024			Down Regulated
oxyR fabR		Hydrogen peroxide-inducible genes activator HTH-type transcriptional repressor fabR		Ambiguous/Unsorted
	948460			Ambiguous/Unsorted
murG	946321	UDP-N-acetylglucosamineN-acetylmuramyl-(pentapeptide) pyrophosp		Ambiguous/Unsorted
yphH	947023	Uncharacterized protein yphH	[Carbohydrate transport and metabolism', 'Transcription', 'carbohydrate metabolic process']	Ambiguous/Unsorted
potA	946323	Spermidine/putrescine import ATP-binding protein potA		Down Regulated
yheM	947853	Protein tusC		Temporarly Down Regular
yfgC	947029	TPR repeat-containing protein yfgC		Ambiguous/Unsorted
ddlB	946324	D-alanineD-alanine ligase B		Down Regulated
yfhB	947026	Uncharacterized protein yfhB	['Nucleotide transport and metabolism']	Down Regulated
tadA	947027	tRNA-specific adenosine deaminase		Down Regulated
yheO	947851	Uncharacterized protein yheO	['protein folding']	Down Regulated
phoQ	946326	Sensor protein phoQ; Sensor protein		Down Regulated
birA	948469	Bifunctional protein birA		Temporarly Up Regulated
kefB	947858	Glutathione-regulated potassium-efflux system protein kefB		Temporarly Down Regular
kefG	947857	Glutathione-regulated potassium-efflux system ancillary protein kefG		Up Regulated
Fadd	946327	Long-chain-fatty-acidCoA ligase	1	Up Regulated
rnd	946328	Ribonuclease D		Down Regulated
murl	948467	Glutamate racemase		Down Regulated
yheS	947856	Uncharacterized ABC transporter ATP-binding protein yheS	<u> 0</u>	Ambiguous/Unsorted
vheT	947855	Putative esterase vheT		Temporarly Up Regulated