Common Nam	Entrez ID Gene Name	Prediction	Sorted Category
yjeK	948662 Uncharacterized kamA family protein yieK		Down Regulated
dxr	945019 1-deoxy-D-xylulose 5-phosphate reductoisomerase		Temporarly Down Regulated
groL	948665 60 kDa chaperonin		Down Regulated
ribF	949129 Riboflavin biosynthesis protein ribF		Down Regulated
kch	945841 Putative potassium channel protein		Down Regulated
ydhB	945208 Uncharacterized HTH-type transcriptional regulator ydhB	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
fepG	945209 Ferric enterobactin transport system permease protein fepG		Ambiguous/Unsorted
ybaA	948863 Uncharacterized protein ybaA		Up Regulated
ydcl	948865 Uncharacterized HTH-type transcriptional regulator ydcl	['Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA depen	
btuR	945839 Cob(I)yrinic acid a,c-diamide adenosyltransferase		Down Regulated
hsdS	948867 Type-1 restriction enzyme EcoKI specificity protein		Temporarly Down Regulated
yciK	945838 Uncharacterized oxidoreductase yciK		Ambiguous/Unsorted
creD	948868 Inner membrane protein creD		Ambiguous/Unsorted
cstA	945213 Carbon starvation protein A		Ambiguous/Unsorted
rbsK	948260 Ribokinase		Down Regulated
ychE	945836 UPF0056 membrane protein yhcE		Temporarly Down Regulated
yjiN	948860 Uncharacterized protein yjiN		Up Regulated Down Regulated
sugE tauD	948671 Quaternary ammonium compound-resistance protein sugE 945021 Alpha-ketoglutarate-dependent taurine dioxygenase		
dinl	945022 DNA-damage-inducible protein I		Down Regulated Temporarly Up Regulated
rcsF	949113 Protein rcsF		Down Regulated
yaeB	949112 UPF0066 protein yaeB		Ambiguous/Unsorted
psd	948673 Phosphatidylserine decarboxylase proenzyme		Ambiguous/Unsorted
poxA	948672 Putative lysyl-tRNA synthetase		Up Regulated
abgR	945831 HTH-type transcriptional regulator abgR		Ambiguous/Unsorted
yqeG	945028 Inner membrane transport protein ygeG		Ambiguous/Unsorted
yhbV	949117 Uncharacterized protein yhbV	['Coenzyme transport and metabolism', ' Energy metabolism carbon ', ' Building block biosynthesis', 'ion transport', 'iron ion transport', '	
yjeM	948679 Inner membrane transporter yieM		Up Regulated
yieL	948272 Uncharacterized protein yieL		Up Regulated
yjeP	948676 Uncharacterized mscS family protein yjeP		Down Regulated
ilvE	948278 Branched-chain-amino-acid aminotransferase		Down Regulated
il∨M	948279 Acetolactate synthase isozyme 2 small subunit		Down Regulated
tauC	945026 Taurine transport system permease protein tauC		Down Regulated
tauB	945027 Taurine import ATP-binding protein tauB		Down Regulated
ilvD	948277 Dihydroxy-acid dehydratase		Down Regulated
oppA	945830 Periplasmic oligopeptide-binding protein		Down Regulated
thrB	947498 Homoserine kinase		Down Regulated
ylaC	948876 Inner membrane protein ylaC		Up Regulated
ampD	948877 1,6-anhydro-N-acetylmuramyl-L-alanine amidase ampD		Ambiguous/Unsorted
leuS dkgA	947497 Leucyl-tRNA synthetase 947495 2,5-diketo-D-gluconic acid reductase A		Temporarly Down Regulated Temporarly Up Regulated
tatE	945228 Sec-independent protein translocase protein tatE		Down Regulated
marR	945825 Multiple antibiotic resistance protein marR		Up Regulated
ybgl	945824UPF0135 protein ybgl		Ambiguous/Unsorted
dacA	945222 D-alanyl-D-alanine carboxypeptidase dacA		Down Regulated
ahpC	945225 Alkyl hydroperoxide reductase subunit C		
yqhC			
dsbG		l' RNA related', 'Type of regulation', 'Genetic unit regulated', 'Protection'. 'regulation of transcription DNA dependent'	Temporarly Up Regulated
	947491 Uncharacterized HTH-type transcriptional regulator yqhC		Temporarly Up Regulated Up Regulated
yjjL			Temporarly Up Regulated
yjjL ybeD	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thiol:disulfide interchange protein dsbG		Temporarly Up Regulated Up Regulated Down Regulated
	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thiol:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated
ybeD	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted
ybeD hsdM	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated
ybeD hsdM fecR	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thiol:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted
ybeD hsdM fecR tauA dsdX fumB	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated
ybeD hsdM fecR tauA dsdX fumB yail	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103]OsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain		Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 tRNA uridine 5-carboxymethylaminomethyl modification enz	yme mnmG	Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 tRNA uridine 5-carboxymethylaminomethyl modification enz	yme mnmG	Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948244 ATP synthase subunit beta	yme mnmG	Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 [Thioi:disulfide interchange protein dsbG 948879 [Inner membrane transport protein yjjL 945220 [UPF0250 protein ybeD 948872 [Type I restriction enzyme EcoKI M protein 949104 [Protein fecR 945030 [Taurine-binding periplasmic protein 949103 [DsdX permease 948642 [Fumarate hydratase class I, anaerobic 945033 [UPF0178 protein yail 948247 [ATP synthase subunit b; ATP synthase B chain 948248 [RNA uridine 5-carboxymethylaminomethyl modification enz 948243 [ATP synthase gamma chain 948244 [ATP synthase subunit beta 947284 [Protease 3 948245 [ATP synthase epsilon chain	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpD ptrA atpC glmU	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948245 Bifunctional protein glmU	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC glmU recB	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bfunctional protein glmU 947286 Exodeoxyribonuclease V beta chain	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC glmU recB ynfH	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase subunit beta 948244 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bifunctional protein glmU 947286 Exodeoxyribonuclease V beta chain 94522 Anaerobic dimethyl sulfoxide reductase chain ynfH	yme mnmG	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpD ptrA atpD ptrA gdmU recB ynfH RecD	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103] OsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947286 Exodeoxyribonuclease V beta chain 948280 Exodeoxyribonuclease V alpha chain	yme mnmG	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpD ptrA atpC glmU recB ynfH RecD oppB	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thiol:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948244 ATP synthase gamma chain 948244 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bifunctional protein glmU 947286 Exodeoxyribonuclease V beta chain 945822 Anaerobic dimethyl sulfoxide reductase chain ynfH 947887 Exodeoxyribonuclease V alpha chain	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC glmU recB ynfH RecD oppB fimA	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947286 Exodeoxyribonuclease V beta chain 945822 Anaerobic dimethyl sulfoxide reductase chain ynfH 947287 Exodeoxyribonuclease V alpha chain 945823 Oligopeptide transport system permease protein oppB 948838 Type-1 fimbrial protein, A chain	yme mnmG	Temporarly Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC glmU recB ynfH RecD oppB fimA nanM	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103] OsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase gamma chain 948244 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bifunctional protein glmU 947286 Exodeoxyribonuclease V beta chain 945823 Oligopeptide transport system permease protein oppB 948838 Type-1 fimbrial protein, A chain	yme mnmG	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated
ybeD InsdM I	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thiol:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103 DsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948244 ATP synthase gamma chain 948244 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bifunctional protein glmU 947286 Exodeoxyribonuclease V abpta chain 945822 Anaerobic dimethyl sulfoxide reductase chain ynfH 947287 Exodeoxyribonuclease V alpha chain 945823 Oligopeptide transport system permease protein oppB 948838 Type-1 fimbrial protein, A chain 949106 N-acetylneuraminate epimerase	yme mnmG  perizing]	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ybeD hsdM fecR tauA dsdX fumB yail atpF mnmG atpG atpD ptrA atpC glmU recB ynfH RecD oppB fimA nanM	947491 Uncharacterized HTH-type transcriptional regulator yqhC 945224 Thioi:disulfide interchange protein dsbG 948879 Inner membrane transport protein yjjL 945220 UPF0250 protein ybeD 948872 Type I restriction enzyme EcoKI M protein 949104 Protein fecR 945030 Taurine-binding periplasmic protein 949103] OsdX permease 948642 Fumarate hydratase class I, anaerobic 945033 UPF0178 protein yail 948247 ATP synthase subunit b; ATP synthase B chain 948248 IRNA uridine 5-carboxymethylaminomethyl modification enz 948243 ATP synthase gamma chain 948244 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase subunit beta 947284 Protease 3 948245 ATP synthase epsilon chain 948246 Bifunctional protein glmU 947286 Exodeoxyribonuclease V beta chain 945823 Oligopeptide transport system permease protein oppB 948838 Type-1 fimbrial protein, A chain	yme mnmG  erizing]	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated

do a D	045915  Long regulated evalind CMD evalin AMD phoenhadiseters		Towns and the Dogulated
dosP	945815 Heme-regulated cyclic di-GMP, cyclic AMP phosphodiestera 947480 Uncharacterized protein yghZ		Temporarly Up Regulated Temporarly Up Regulated
gpr yghZ	947480 Uncharacterized protein yghZ		Temporarly Up Regulated Temporarly Up Regulated
fimH	948847 Protein fimH		Temporarly Down Regulated
ygiT	945814 Uncharacterized HTH-type transcriptional regulator ygiT		Up Regulated
mqsA	945814 Uncharacterized HTH-type transcriptional regulator ygiT		Up Regulated
gntP	948848 High-affinity gluconate transporter		Up Regulated
flgD	945813 Basal-body rod modification protein flgD		Down Regulated
rfbC	947482 dTDP-4-dehydrorhamnose 3,5-epimerase		Down Regulated
yfdY	948842 Uncharacterized protein yfdY		Up Regulated
uidB	947484 ECIAI39 1442: ECHS A1691: APECO1 699: b1616: ECDH	LIDB_1749; c2008; UTI89_C1804; EcSMS35_1583; EcE24377A_1824; Z2620; ECS88_1662; ECED1_1815; ECUMN_1905; ECH	Up Regulated
yciU	945819UPF0263 protein yciU		Down Regulated
rlmH	945239 Ribosomal RNA large subunit methyltransferase H		Temporarly Down Regulated
mrdB	945238 Rod shape-determining protein rodA		Down Regulated
flhC	947280 Flagellar transcriptional activator flhC		Temporarly Up Regulated
ybeB	945237Uncharacterized protein vbeB		Down Regulated
sgcX	948840 Putative sgc region protein sgcX		Up Regulated
fadR	948652 Fatty acid metabolism regulator protein		Down Regulated
psiF	945040 Phosphate starvation-inducible protein psiF		Up Regulated
ygdD	947279 UPF0382 inner membrane protein ygdD		Temporarly Up Regulated
yjdC	948650 HTH-type transcriptional regulator yjdC		Temporarly Up Regulated
phoR	945044 Sensor protein; Phosphate regulon sensor protein phoR		Temporarly Down Regulated
aroM	945045 Protein aroM		Temporarly Down Regulated
asnC	948259 Asparaginyl-tRNA synthetase; Regulatory protein asnC		Down Regulated
fucO	947273 Lactaldehyde reductase		Temporarly Up Regulated
csdE	947274 Uncharacterized sufE-like protein ygdK		Ambiguous/Unsorted
yaiE	945048 UPF0345 protein yaiE		Down Regulated
atpH	948254 ATP synthase subunit delta		Down Regulated
aspA	948658 Aspartate ammonia-lyase		Temporarly Up Regulated
atpB	948252 ATP synthase subunit a		Down Regulated
fxsA	948657 UPF0716 protein fxsA		Temporarly Up Regulated
yjeH	948656 Inner membrane protein yjeH 948253 ATP synthase subunit c		Down Regulated
atpE	948253ATP Synthase subunit c		Down Regulated
oppC rsmG	945810 Oligopeptide transport system permease protein oppC 948250 Ribosomal RNA small subunit methyltransferase G		Down Regulated Down Regulated
groS	948655 10 kDa chaperonin		Down Regulated
uxuR	948849 Uxu operon transcriptional regulator		Ambiguous/Unsorted
thrA	945803 Bifunctional aspartokinase/homoserine dehydrogenase 1		Temporarly Up Regulated
oppD	945802 Oligopeptide transport ATP-binding protein oppD		Down Regulated
holE	947471 DNA polymerase III subunit theta		Temporarly Down Regulated
nadD	945248 Nicotinate-nucleotide adenylyltransferase; Probable nicotina		Down Regulated
gss	947474 Bifunctional glutathionylspermidine synthetase/amidase		Temporarly Down Regulated
gsp	947474 Bifunctional glutathionylspermidine synthetase/amidase		Temporarly Down Regulated
yjiE	948852 Uncharacterized HTH-type transcriptional regulator yjiE		Ambiguous/Unsorted
glcG	947473 Protein glcG		Temporarly Up Regulated
yqhA	947479 UPF0114 protein yqhA		Down Regulated
rlpA	945241 Rare lipoprotein A		Down Regulated
mrdA	945240 Penicillin-binding protein 2		Down Regulated
ygdH	947266 UPF0717 protein ygdH		Down Regulated
gudX	947261 Glucarate dehydratase-related protein		Up Regulated
rumB	947260 23S rRNA (uracil-5-)-methyltransferase rumB		Temporarly Down Regulated
wrbA	947263 Flavoprotein wrbA; Putative flavoprotein wrbA		Temporarly Up Regulated
yieE	948226 Uncharacterized protein yieE		Temporarly Down Regulated
yieF	948225 Uncharacterized protein yieF		Temporarly Down Regulated
ygbE	947268 Inner membrane protein ygbE		Down Regulated
gadA	948027 Glutamate decarboxylase alpha		Up Regulated
djlC	945253 Uncharacterized J domain-containing protein djlC		Up Regulated
fhuC	945250 Iron(3+)-hydroxamate import ATP-binding protein fhuC		Temporarly Up Regulated
serA	945258 D-3-phosphoglycerate dehydrogenase		Down Regulated
adiA	948638 Biodegradative arginine decarboxylase		Up Regulated
dcuS	948639 Sensor protein dcuS		Temporarly Down Regulated
phoU meIR	948233 Phosphate transport system protein phoU		Down Regulated
glcA	948637 Melibiose operon regulatory protein 947259 Glycolate permease glcA		Up Regulated Temporarly Up Regulated
yhjA	948038 Probable cytochrome c peroxidase		Up Regulated
miaB	945260 (Dimethylallyl)adenosine tRNA methylthiotransferase miaB		Down Regulated
ubif	945261 2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxyla		Up Regulated
	948032 Inner membrane metabolite transport protein yhjE		Temporarly Up Regulated
yhjE yhjD	948033 Inner membrane protein yhjD		Temporarly Up Regulated Temporarly Up Regulated
eptA			Ambiguous/Unsorted
yhjC	948035 Uncharacterized HTH-type transcriptional regulator yhjC		Up Regulated
ibpA	948200 Small heat shock protein ibpA		Up Regulated
yecJ	946388 Uncharacterized protein yecJ		Down Regulated
yidX	948202 Uncharacterized protein yidX		Up Regulated
Jun	ononaraotonzoa protein yiak	k	

OVED	047044 0:4		Davis Davidatad
CYBB	947241 Cytochrome b561		Down Regulated
torZ	946389 Trimethylamine-N-oxide reductase 2		Ambiguous/Unsorted
rumA	947243 23S rRNA (uracil-5-)-methyltransferase rumA		Temporarly Down Regulated
nudB	946383 Dihydroneopterin triphosphate pyrophosphatase		Down Regulated
recF	948209 DNA replication and repair protein recF		Temporarly Down Regulated
yecR	946386 Uncharacterized protein yecR	['Inorganic ion transport and metabolism', ' Adaptation to stress', 'iron ion transport']	Down Regulated
cmoB	946387 tRNA (mo5U34)-methyltransferase		Down Regulated
pgm	945271 Phosphoglucomutase		Ambiguous/Unsorted
pitA	948009 Low-affinity inorganic phosphate transporter 1		Down Regulated
seqA	945272 Protein seqA		Temporarly Down Regulated
tsr	948884 Methyl-accepting chemotaxis protein I		Up Regulated
yhiQ	948005 UPF0341 protein yhiQ		Temporarly Up Regulated
rfbB	945276 dTDP-glucose 4,6-dehydratase		Down Regulated
erfK	945273 Protein erfK/srfK		Temporarly Up Regulated
uspA	948007 Universal stress protein A		Up Regulated
yhil	948003 Uncharacterized protein yhil	"Protection"	Up Regulated
yahB	945278 Uncharacterized HTH-type transcriptional regulator yahB	['Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Temporarly Down Regulated
cusR	945003 Transcriptional regulatory protein cusR		Down Regulated
yael	945002 Phosphodiesterase yael		Down Regulated
opgG	945005 Glucans biosynthesis protein G		Down Regulated
gyrB	948211 DNA gyrase subunit B		Down Regulated
pal	945004 Peptidoglycan-associated lipoprotein	1	Down Regulated
lacl	945007 Lactose operon repressor	1	Up Regulated
trmJ	948610tRNA (cytidine/uridine-2'-O-)-methyltransferase trmJ	1	Temporarly Down Regulated
cysl	947231 Sulfite reductase [NADPH] hemoprotein beta-component	1	Down Regulated
hisQ	947235 Histidine transport system permease protein hisQ	+	Down Regulated
dnaN	948218 DNA polymerase III subunit beta	+	Down Regulated  Down Regulated
dnaA rpmH	948217 Chromosomal replication initiator protein dnaA 948216 50S ribosomal protein L34		Down Regulated  Down Regulated
yidC	948214 Inner membrane protein oxaA		Down Regulated
osmY	948895 Osmotically-inducible protein Y		Temporarly Up Regulated
asnB	945281 Asparagine synthetase B [glutamine-hydrolyzing]		Down Regulated
fhuF	948891 Ferric iron reductase protein fhuF		Temporarly Up Regulated
flhA	946390 Flagellar biosynthesis protein flhA		Down Regulated
ybfF	945288 Esterase ybfF		Ambiguous/Unsorted
nagA	945289 N-acetylglucosamine-6-phosphate deacetylase		Ambiguous/Unsorted
yjjG	948899 5'-nucleotidase yjjG		Temporarly Down Regulated
mrr	948898 Mrr restriction system protein		Temporarly Up Regulated
prfC	948897 Peptide chain release factor 3		Down Regulated
yhjX	948066 Inner membrane protein yhjX		Up Regulated
dppC	948064 Dipeptide transport system permease protein dppC		Down Regulated
valV	946170 c5541; Z2692; UTI89_C1856; ECDH10B_1799; b1665; E23	<sup>148C</sup> _tRNA31; ECs5461	Temporarly Down Regulated
eptB	948068 b3546; ECS88 3965; ECIAI39 4054; EC55989 3997; E234	48C 3793; ECED1 4224; ECUMN 4058; ECDH10B 3725; ECIAI1 3705	Temporarly Down Regulated
yfeA	946864 Uncharacterized protein yfeA	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'regulation o	Temporarly Down Regulated
pykF	946179 Pyruvate kinase I; Pyruvate kinase		Temporarly Up Regulated
glk	946858 Glucokinase		Up Regulated
lpp	946175 Major outer membrane lipoprotein		Down Regulated
ydhR	946177 Putative monooxygenase ydhR		Down Regulated
ydgA	946172 Protein ydgA		Temporarly Up Regulated
ynhG	946174 Uncharacterized protein ynhG	in .	Temporarly Up Regulated
sufE	946173 Cysteine desulfuration protein sufE		Temporarly Up Regulated
gabD	948060 Succinate-semialdehyde dehydrogenase [NADP+]	1	Temporarly Up Regulated
yiaD	948075 Inner membrane lipoprotein yiaD	1	Temporarly Up Regulated
glyQ	948079 Glycyl-tRNA synthetase alpha subunit	1	Down Regulated
yiaA	948078 Inner membrane protein yiaA	1	Up Regulated
ptsl	946879 Phosphoenolpyruvate-protein phosphotransferase	+	Down Regulated
	946876 Uncharacterized protein yfeK	['Defense mechanisms', ' Primary Active Transporters', ' Protection']	
yfeK	946877 Cysteine synthase A; Cysteine synthase	Deterior medianionis, Filliary Active Harisporters, Frotectioni	Up Regulated
cysK		C Matchelians of other company del Javiso quelectide bioquethetic proceed	Down Regulated
ydhL	946168 Uncharacterized protein ydhL	[' Metabolism of other compounds', 'purine nucleotide biosynthetic process']	Up Regulated
plsX	946165 Fatty acid/phospholipid synthesis protein plsX		Down Regulated
nemA	946164 N-ethylmaleimide reductase		Ambiguous/Unsorted
pdxY	946162 Pyridoxamine kinase		Down Regulated
yiaG	948071 Uncharacterized HTH-type transcriptional regulator yiaG	['RNA related', 'Type of regulation', 'Adaptation to stress', 'transcription', 'regulation of transcription DNA dependent', 'response t	
yiaF	948072 Uncharacterized protein yiaF	['Carbohydrate transport and metabolism', ' Carbon compound utilization', 'phosphoenolpyruvate dependent sugar phosphotransf	
yhjK		ECIAI1_3680; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771	Ambiguous/Unsorted
bcsZ	948046 Endoglucanase		Down Regulated
bcsB	948045 Cyclic di-GMP-binding protein		Down Regulated
ybeZ	948044 PhoH-like protein		Temporarly Up Regulated
pdxK	946881 Pyridoxine kinase		Up Regulated
kdgK	948041 2-dehydro-3-deoxygluconokinase		Temporarly Up Regulated
cysU	946882 Sulfate transport system permease protein cysT		Down Regulated
cysP	946883 Thiosulfate-binding protein		Down Regulated
cysP	946883 Thiosulfate-binding protein 946886 Phosphocarrier protein HPr		
cysP ptsH yfeS		П	Down Regulated Down Regulated Down Regulated

			T
cysM	946888 Cysteine synthase B; Cysteine synthase		Down Regulated
rsxG	946158 Electron transport complex protein rnfG		Down Regulated
leuE	946157 Leucine efflux protein		Down Regulated
yhjJ	948040 Protein yhjJ		Down Regulated
hdhA	946151 7-alpha-hydroxysteroid dehydrogenase		Temporarly Up Regulated
murC	946153 UDP-N-acetylmuramateL-alanine ligase		Down Regulated
yhjV	948057 Inner membrane transport protein yhjV		Temporarly Down Regulated
csiR	948055 Uncharacterized HTH-type transcriptional regulator ygaE		Ambiguous/Unsorted
prpE	946891 PropionateCoA ligase		Up Regulated
cyoC	946897 Cytochrome o ubiquinol oxidase subunit 3		Down Regulated
mntH	946899 Manganese transport protein mntH		Up Regulated
uidA	946149 Beta-glucuronidase		Up Regulated
rsxB	946146 Electron transport complex protein rnfB		Temporarly Down Regulated
topB	946141 DNA topoisomerase 3		Down Regulated
pntB	946144 NAD(P) transhydrogenase subunit beta		Down Regulated
tqsA	946142 Al-2 transport protein tqsA		Temporarly Down Regulated
fadL	946820 Long-chain fatty acid transport protein		Temporarly Up Regulated
fecE	948819Fe(3+) dicitrate transport ATP-binding protein fecE		Down Regulated
dnaJ	944753 Chaperone protein dnaJ		Down Regulated
dnaK	944750 Chaperone protein dnaK		Temporarly Up Regulated
aroC	946814 Chorismate synthase		Down Regulated
sixA	946815 Phosphohistidine phosphatase sixA		Up Regulated
fecD	946816 Fe(3+) dicitrate transport system permease protein fecD		Down Regulated
insB		2/3/4 protein insA; Insertion element IS1 protein insA; Insertion element IS1 4 protein insB; Insertion element IS1 1/5/6 protein ins	
sspA	944744 Stringent starvation protein A		Down Regulated
nfrA	944741 Bacteriophage N4 adsorption protein A		Ambiguous/Unsorted
efeO	945603 UPF0409 protein ycdO		Temporarly Up Regulated
putP	945602 Sodium/proline symporter		Down Regulated
yceA	945601 UPF0176 protein yceA		Down Regulated
ypfG	946828 Uncharacterized protein ypfG	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Temporarly Down Regulated
evgS	946844 Sensor protein evgS; Sensor protein		Temporarly Down Regulated
BAX	948089 Protein bax		Temporarly Down Regulated
ydil	946190 Esterase ydil		Down Regulated
malS	948088 Alpha-amylase		Down Regulated
sapB	946191 Peptide transport system permease protein sapB		Temporarly Up Regulated
xyIR	948086 Xylose operon regulatory protein		Up Regulated
ygcE	946193Uncharacterized sugar kinase yqcE	l' Central intermediary metabolism', 'carbohydrate metabolic process']	Temporarly Up Regulated
yiaJ	948084 HTH-type transcriptional regulator yiaJ	Gontal intermediaty includes in in a carbonyal de metabolio process	Ambiguous/Unsorted
ydiH	946194 Uncharacterized protein ydiH	['proteolysis']	Temporarly Down Regulated
trxA	948289 Thioredoxin-1	[proteorysis]	Temporarly Down Regulated
yafE	946197 Uncharacterized protein yafE	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid biosynthetic process']	Ambiguous/Unsorted
	948080 Glycyl-tRNA synthetase beta subunit	[Affinito acid transport and metabolism, Building block blosynthesis, amino acid blosynthetic process]	Down Regulated
glyS			
ilvY	948284 HTH-type transcriptional regulator ilvY		Temporarly Down Regulated
rstA	946199 Transcriptional regulatory protein rstA		Down Regulated
ilvL	948283 IIVGMEDA operon leader peptide		Temporarly Up Regulated
dsdA	946837 D-serine dehydratase; D-serine dehydratase 1		Ambiguous/Unsorted
fecB	946838 Fe(3+) dicitrate-binding periplasmic protein		Temporarly Up Regulated
fecl	946839 Probable RNA polymerase sigma factor fecl; RNA polymeras		Up Regulated
yjhP	946851 Uncharacterized protein yjhP	['Replication recombination and repair']	Up Regulated
yfeC	946857 Uncharacterized protein yfeC		Up Regulated
ypeC	946855 Uncharacterized protein ypeC	['Energy production and conversion']	Temporarly Up Regulated
rhIB	948290 ATP-dependent RNA helicase rhlB		Down Regulated
gpp	948291 Guanosine-5'-triphosphate,3'-diphosphate pyrophosphatase		Down Regulated
yjjP	948812 Inner membrane protein yjjP		Ambiguous/Unsorted
rep	948292 ATP-dependent DNA helicase rep		Down Regulated
wzyE	948293 Putative ECA polymerase		Down Regulated
ydhZ	946180 Uncharacterized protein ydhZ	ln	Temporarly Up Regulated
rffH	948299 Glucose-1-phosphate thymidylyltransferase; Glucose-1-phos	sphate thymidylyttransferase 2	Down Regulated
sufS	946185 Cysteine desulfurase		Temporarly Up Regulated
vdiK	946183 UPF0118 inner membrane protein ydiK		Ambiguous/Unsorted
insG	948805 Transposase insG for insertion sequence element IS4		Up Regulated
yneE	946188 UPF0187 protein yneE		Down Regulated
wzxE	948294 Protein wzxE		Down Regulated
hyi	946186 Hydroxypyruvate isomerase		Ambiguous/Unsorted
yjhB	948807 Putative metabolite transport protein yjhB		Up Regulated
rffA	948296 Lipopolysaccharide biosynthesis protein rffA		Down Regulated
IpcA	949134 Phosphoheptose isomerase		Ambiguous/Unsorted
асрН	949132 Acyl carrier protein phosphodiesterase		Up Regulated
secD	949133 Protein-export membrane protein secD		Down Regulated
tgt	949130 Queuine tRNA-ribosyltransferase		Down Regulated
malZ	949131 Maltodextrin glucosidase		Down Regulated
puuA	946202 Gamma-glutamylputrescine synthetase		Down Regulated
trpA	946204 Tryptophan synthase alpha chain		Down Regulated
leuD	945642 3-isopropylmalate dehydratase small subunit		Down Regulated
	- · · -   o · o o propy in latate derivatation of han babalit		

	044704	[Daylington recombination and require IDMA recombination]	Tanana and the Danielated
yadD	944781 Uncharacterized protein yadD 945644 Inner membrane protein ydjM	['Replication recombination and repair', 'DNA recombination']	Temporarly Up Regulated
ydjM	944780 Arabinose operon regulatory protein		Up Regulated
araC		NA seign seid kann auch auf der Abelliant I Deltatier blank bie auch bei der Abellians I Bei auch bei	Up Regulated
ydiE	946205 Uncharacterized protein ydiE 945646 Flagellar hook-associated protein 3	['Amino acid transport and metabolism', 'Building block biosynthesis', 'metabolic process', 'biosynthetic process', 'aromatic amino	
flgL		n .	Down Regulated
ydiA	946207 Uncharacterized protein yuaU; Putative phosphotransferase	IU stati A	Ambiguous/Unsorted Ambiguous/Unsorted
ppsR	946207 Uncharacterized protein yuaU; Putative phosphotransferase 945647 Flagellar basal-body rod protein flgG	ydiA	Down Regulated
flgG	946605 Transcriptional regulatory protein baeR		
baeR	946607 3-demethylubiquinone-9 3-methyltransferase		Up Regulated
ubiG rffE			Down Regulated
ydiB	944789 UDP-N-acetylglucosamine 2-epimerase 946200 Quinate/shikimate dehydrogenase		Temporarly Down Regulated Temporarly Down Regulated
nrdA	946612 Ribonucleoside-diphosphate reductase; Ribonucleoside-diphosphate	hoophoto rodustago 1 gubunit alaba	Down Regulated
ybiS	945441 Uncharacterized protein ybiS	phosphoenolpyruvate dependent sugar phosphotransferase system'	Ambiguous/Unsorted
	946614 DNA gyrase subunit A	[ phosphoenolpyruvate dependent sugar phosphotransierase system]	Down Regulated
gyrA hicB	946001 Uncharacterized HTH-type transcriptional regulator ydcQ		Up Regulated
ydcQ	946001 Uncharacterized HTH-type transcriptional regulator ydcQ	["Coenzyme transport and metabolism"]	Up Regulated
fabH	946003 3-oxoacyl-[acyl-carrier-protein] synthase 3	Coenzyme transport and metabolism	Down Regulated
gltJ	945443 Glutamate/aspartate transport system permease protein gltJ		Down Regulated
ydcR	946004 Uncharacterized HTH-type transcriptional regulator ydcR	ln	Up Regulated
flgF	945639 Flagellar basal-body rod protein flgF		Down Regulated
yceF	945631 Maf-like protein yceF 1; Maf-like protein yceF		Up Regulated
vniC	945632 Phosphatase yniC		Temporarly Down Regulated
toIB	945429 Protein tolB		Down Regulated
vdiU	946219 UPF0061 protein ydiU		Down Regulated
pspD	945635 Phage shock protein D		Up Regulated
folA	944790 Dihydrofolate reductase; Dihydrofolate reductase type 1		Temporarly Up Regulated
flgE	945636 Flagellar hook protein flgE		Down Regulated
yaaH	944792 Inner membrane protein yaaH		Ambiguous/Unsorted
flgN	945634 Flagella synthesis protein flgN		Down Regulated
murE	944791 UDP-N-acetylmuramoyl-L-alanyl-D-glutamate2,6-diaminop	imelate ligase	Down Regulated
aceF	944794 Dihydrolipoyllysine-residue acetyltransferase component of		Down Regulated
setA	944793 Sugar efflux transporter A		Temporarly Down Regulated
leuB	944798 3-isopropylmalate dehydrogenase		Down Regulated
otsB	946406 Trehalose-phosphate phosphatase		Up Regulated
ftsI	944799 Peptidoglycan synthetase ftsl		Down Regulated
yncB	946012 Putative NADP-dependent oxidoreductase yncB		Ambiguous/Unsorted
	5.55.1=1. State of the dependent extraoreduction yilled		Ambiguous/Onsorted
ycjG		L 25; UTI89_C1596; E2348C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489	Temporarly Down Regulated
ycjG yccA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 inner membrane protein yccA	   25; UTI89_C1596; E2348C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489 	Temporarly Down Regulated Down Regulated
yccA ybiJ	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ		Temporarly Down Regulated Down Regulated Up Regulated
yccA ybiJ araB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase	   25; UTI89_C1596; E2348C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489 	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated
yccA ybiJ araB glnQ	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ	   25; UTi89_C1596; E2348C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489   10	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA	25; UTI89_C1596; E2348C_1518; ECIAI1_1350; c1797; APECO1_478; ECS88_1467; ECIAI39_1677; EC55989_1489	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC		Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_4458		Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD		Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated
yccA ybiJ araB ginQ yfcA csgC yfcL ylbG ribD glnP	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP		Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase		Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB lieS	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 0o502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Soleucyl-tRNA synthetase 945812 Penicillin-insensitive murein endopeptidase	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 soleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin—f 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB lileS hcaD mepA ybiH exbB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-19 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 soleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945632 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 D0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945611 Nucleoside diphosphate kinase	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin—1 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 D0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin—1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein myB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rlbA carB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 0o502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin—1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-19 946812 Penicillin-insensitive murein endopeptidase 945427 Juncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 947995 Nickel-responsive regulator	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB ribbA carB ftsA nikR sspB	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427]3-phenylpropionate/cinnamic acid dioxygenase ferredoxin1 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carlamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 947995 Nickel-responsive regulator	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 D6502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 947995 Nickel-responsive regulator 944774 Stringent starvation protein B 944773 Glutathione-regulated potassium-efflux system protein kefC	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Cilutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 944773 Stringent starvation protein B 944779 Sos ribosomal protein L30	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB ribbA carB ftsA nikR sspB kefC rpmD secY	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin-f 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944778 Carbamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 947995 Nickel-responsive regulator 944774 Stringent starvation protein B 944773 Glutathione-regulated potassium-efflux system protein kefC 947779 Preprotein translocase subunit secY; Preprotein translocase	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rplO	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 0o502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-19 945420 Biopolymer transport protein exbB 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944776 Cell division protein ftsA 947995 Nickel-responsive regulator 944774 Stringent starvation protein B 944773 Glutathione-regulated potassium-efflux system protein kefC 9477799 Preprotein translocase subunit secY; Preprotein translocase 947799 SoS ribosomal protein L30	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rpIO rpsD	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Ciutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Ciutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-19 946812 Penicillin-insensitive murein endopeptidase 945427 Juncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 944773 Ciutathione-regulated potassium-efflux system protein kefC 947797 50S ribosomal protein L30 947799 Preprotein translocase subunit secY; Preprotein translocase 947799330S ribosomal protein S4	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rplO rpsK	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Cilutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Isoleucyl-tRNA synthetase 945427]3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945615 Libiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945798 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 944773 Sutathione-regulated potassium-efflux system protein kefC 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 SiOS ribosomal protein S4 947799 SiOS ribosomal protein S4	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rpIO rpsD rpsK rpsE	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 945427]3-phenylpropionate/cinnamic acid dioxygenase ferredoxin1 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 947995 Nickel-responsive regulator 944774 Stringent starvation protein B 944773 Glutathione-regulated potassium-efflux system protein kefC 947799 Sos ribosomal protein L30 947799 Sos ribosomal protein S4 947799 Sos ribosomal protein S1 947799 Sos ribosomal protein S4 947799 Sos ribosomal protein S1	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG nibD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB ftsA nikR sspB kefC rpmD secY rpiO rpsD rpsK rpsE rpoA	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945433 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Isoleucyl-tRNA synthetase 945427 3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-19 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945420 Biopolymer transport protein exbB 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 947795 Nickel-responsive regulator 944774 Stringent starvation protein B 947797 SOS ribosomal protein L30 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 SOS ribosomal protein S1 947793 30S ribosomal protein S1 947794 DNA-directed RNA polymerase subunit alpha	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rplO rpsB rpsK rpsE rpoA rpsM	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Isoleucyl-tRNA synthetase 945427]3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945615 Licilian protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 944774 Stringent starvation protein B 944774 Stringent starvation protein B 944779 Preprotein translocase subunit secY; Preprotein translocase 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 SoS ribosomal protein L15 947793 SoS ribosomal protein S1 947793 SoS ribosomal protein S1 947791 SoS ribosomal protein S1	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB ribbA carB ftsA nikR sspB kefC rpmD secY rpIO rpsD rpsK rpsE rpoA rpsM metC	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 9454273-phenylpropionate/cinnamic acid dioxygenase ferredoxin-f 946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945612 Acidic protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944776 Carloamoyl-phosphate synthase large chain 944778 Cell division protein ftsA 94799 Shickel-responsive regulator 944774 Stringent starvation protein B 944779 Custathione-regulated potassium-efflux system protein kefC 947799 Preprotein translocase subunit secY; Preprotein translocase 947798 SoS ribosomal protein L15 947793 SoS ribosomal protein S4 947792 SoS ribosomal protein S1 947793 SoS ribosomal protein S1 947794 DNA-directed RNA polymerase subunit alpha 947791 SoS ribosomal protein S1 947794 DNA-directed RNA polymerase subunit alpha 947791 SoS ribosomal protein S1 947794 SoS ribosomal protein S3 947794 DNA-directed RNA polymerase subunit alpha	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
yccA ybiJ araB glnQ yfcA csgC yfcL ylbG ribD glnP dapB ileS hcaD mepA ybiH exbB cyoB ndk msyB rbbA carB ftsA nikR sspB kefC rpmD secY rplO rpsB rpsK rpsE rpoA rpsM	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b13 946016 Inner membrane protein yccA 945433 Uncharacterized protein ybiJ 946017 Ribulokinase 945435 Glutamine transport ATP-binding protein glnQ 946808 UPF0721 transmembrane protein yfcA 945623 Putative curli production protein csgC 946804 Uncharacterized protein yfcL 946803 b0502; ECDH10B_0458 945620 Riboflavin biosynthesis protein ribD 945621 Glutamine transport system permease protein glnP 944762 Dihydrodipicolinate reductase 944761 Isoleucyl-tRNA synthetase 944761 Isoleucyl-tRNA synthetase 945427]3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-1946812 Penicillin-insensitive murein endopeptidase 945421 Uncharacterized HTH-type transcriptional regulator ybiH 945615 Ubiquinol oxidase subunit 1 945611 Nucleoside diphosphate kinase 945615 Licilian protein msyB 947998 Uncharacterized ABC transporter ATP-binding protein yhiH 944775 Carbamoyl-phosphate synthase large chain 944774 Stringent starvation protein B 944774 Stringent starvation protein B 944774 Stringent starvation protein B 944779 Preprotein translocase subunit secY; Preprotein translocase 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 Preprotein translocase subunit secY; Preprotein translocase 947799 SoS ribosomal protein L15 947793 SoS ribosomal protein S1 947793 SoS ribosomal protein S1 947791 SoS ribosomal protein S1	[Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']  NAD(+) reductase component  ['Defense mechanisms', ' Primary Active Transporters']	Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated

notD	045682 Charmidina/putrosaina hindina parinlaamia protain		Down Regulated
potD fiu	945682 Spermidine/putrescine-binding periplasmic protein 946246 Catecholate siderophore receptor fiu		Temporarly Up Regulated
cobB	945687 NAD-dependent deacetylase		Up Regulated
			Down Regulated
panD	945686 Aspartate 1-decarboxylase		
nudJ ybhL	945689 Phosphatase nudJ		Down Regulated
	945401 Inner membrane protein ybhL 947784 50S ribosomal protein L17		Temporarly Up Regulated
rpIQ			Down Regulated
trkA	947788 Trk system potassium uptake protein trkA		Up Regulated
yhdN	947785 Uncharacterized protein yhdN	□ 0005 F0400 70005 F05D4 0470 F01BN 0450 HT100 00004 F0DH40D 0077 F01B4 0400	Ambiguous/Unsorted
yehQ		88_2265; b2122; Z3295; ECED1_2478; ECUMN_2456; UTI89_C2394; ECDH10B_2277; ECIAI1_2198	Up Regulated
spy ycfP	946253 Spheroplast protein Y		Up Regulated
yctP	945676 UPF0227 protein ycfP		Temporarly Up Regulated
astB	946259 N-succinylarginine dihydrolase		Ambiguous/Unsorted
lptE	946257 LPS-assembly lipoprotein lptE		Down Regulated
loIC	945673 Lipoprotein-releasing system transmembrane protein IoIC		Down Regulated
flgB	945678 Flagellar basal-body rod protein flgB		Down Regulated
parE	947501 DNA topoisomerase 4 subunit B		Down Regulated
ybiX	947502 PKHD-type hydroxylase ybiX		Ambiguous/Unsorted
yrdB	947774 Uncharacterized protein yrdB	[' Building block biosynthesis', 'purine nucleotide biosynthetic process', 'aromatic amino acid family biosynthetic process']	Temporarly Down Regulated
yrdA	947775 Protein yrdA		Down Regulated
fmt	947779 Methionyl-tRNA formyltransferase		Ambiguous/Unsorted
nlpC	946220 Probable lipoprotein nlpC		Up Regulated
holB	945661 DNA polymerase III subunit delta'		Down Regulated
thrS	946222 Threonyl-tRNA synthetase		Down Regulated
mrp	946627 Protein mrp		Ambiguous/Unsorted
pntA	946628 NAD(P) transhydrogenase subunit alpha		Down Regulated
ycfS	945666 Uncharacterized protein ycfS		Down Regulated
aroH	946229 Phospho-2-dehydro-3-deoxyheptonate aldolase, Trp-sensiti	ve	Down Regulated
infC	946225 Translation initiation factor IF-3		Down Regulated
accC	947761 Biotin carboxylase		Down Regulated
aaeR	947760 HTH-type transcriptional activator aaeR		Up Regulated
yhdV	947767 Uncharacterized protein yhdV	[' Electrochemical potential driven transporters', ' Protection', 'cell cycle', 'cell division']	Up Regulated
acrF	947768 Acriflavine resistance protein F		Up Regulated
yagV	946631 Uncharacterized protein yagV		Up Regulated
yegU	946630 Uncharacterized protein yegU	Ĭ	Down Regulated
yhdY	947764 Inner membrane amino-acid ABC transporter permease pro	tein yhdY	Down Regulated
yceD	945650 Uncharacterized protein yceD		Down Regulated
ydiZ	946232 Uncharacterized protein ydiZ	Carbon compound utilization', ' Energy metabolism carbon ', 'translation']	Temporarly Up Regulated
ydiZ yfaA	946232 Uncharacterized protein ydiZ 946618 Uncharacterized protein yfaA	Carbon compound utilization', 'Energy metabolism carbon ', 'translation'] ['Replication recombination and repair', 'RNA related', 'Type of regulation']	
			Temporarly Up Regulated
yfaA	946618 Uncharacterized protein yfaA		Temporarly Up Regulated Ambiguous/Unsorted
yfaA rpmF	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32		Temporarly Up Regulated Ambiguous/Unsorted Down Regulated
yfaA rpmF ycfH ydjN yhcH	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH		Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated
yfaA rpmF ycfH ydjN yhcH	946618 Uncharacterized protein yfaA 945657[50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated
yfaA rpmF ycfH ydjN	946618 Uncharacterized protein yfaA 94565750S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated
yfaA rpmF ycfH ydjN yhcH flgK fhuE	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporary Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated
yfaA rpmF ycfH ydjN yhcH flgK	946618 Uncharacterized protein yfaA 94565750S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted
yfaA rpmF ycfH ydjN yhcH flgK fhuE yegS	946618 Uncharacterized protein yfaA 945657[50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 [Tagellar hook-associated protein 1 945649 [FhuE receptor 946626 [Probable lipid kinase yegS; Lipid kinase yegS	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Up Regulated
yfaA rpmF ycfH ydjN yhcH flgK fhuE yegS mreD	946618 Uncharacterized protein yfaA 94565750S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated
yfaA rpmF ycfH ydjN yhcH flgK fhuE yegS mreD nanK	946618 Uncharacterized protein yfaA 945657 Slos ribosomal protein L32 945656 Uncharacterized dexyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Temporarly Up Regulated
yfaA rpmF ycfH ydjN yhcH flgK fhuE yegS mreD nanK tolA	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized deoxyribonuclease ycfH 947750 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FnuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein tolA	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated
yfaA rpmF ycfH ydjN yhcH flgK fhuE yegS mreD nanK tolA accB	946618 Uncharacterized protein yfaA 94565750S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized symporter ydjN 947648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein tolA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yfaA rpmF ycfl+ ydjN yhcH flgK fhuE yegS mreD nanK tolA accB hpt ccmH	946618 Uncharacterized protein yfaA 94565750S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized symporter ydjN 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757N-acetylmannosamine kinase 946625 Protein tolA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946624 Hypoxanthine phosphoribosyltransferase	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated
yfaA rpmF ycfH ycfH ydjN yhcH flgK fhuE yegS mreD nanK tolA accB hpt	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized dexyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein toIA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946623 Cytochrome c-type biogenesis protein ccmH	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yfaA rpmF ycfH ycfH ydjN yhcH flgK fhuE yegS mreD nanK tolA accB hpt ccmH ccyaA	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FnuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein tolA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946624 Hypoxanthine phosphoribosyltransferase 946623 Cytochrome c-type biogenesis protein ccmH 947755 Adenylate cyclase	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Up Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Up Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
yfaA rpmF ycfH ydjN yhcH flgK flhuE yegS mreD nanK tolA accB hpt ccmH cyaA nanE aaeA	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized dexyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein toIA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946623 Cytochrome c-type biogenesis protein cmH 947755 Adenylate cyclase 947748 Putative N-acetylmannosamine-6-phosphate 2-epimerase 947748 P-hydroxybenzoic acid efflux pump subunit aaeA	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Negulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated
yfaA rpmF ycfH ydjN yhcH flgk ffhuE yegS mreD nanK tolA accB hpt ccmH cyaA nanE aaeA aaeA	946618 Uncharacterized protein yfaA 945657 50S ribosomal protein L32 945656 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized deoxyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FnuE receptor 946626 Probable lipid kinase yegS; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein tolA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946624 Hypoxanthine phosphoribosyltransferase 946623 Cytochrome c-type biogenesis protein cmH 947755 Adenylate cyclase 947745 Putative N-acetylmannosamine-6-phosphate 2-epimerase 947748 p-hydroxybenzoic acid efflux pump subunit aaeA 947747 p-hydroxybenzoic acid efflux pump subunit aaeA	[Replication recombination and repair, 'RNA related', 'Type of regulation']  [] []	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated
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yfaA rpmF ycfiH ydjN yhcH flgK flmE yegS mreD nanK tolA accB hpt ccmH cyaA nanE aaeA glgS flgI flgI flgI flgI flgI flgI flgI flgI	946618 Uncharacterized protein yfaA 945657 Slos Pibosomal protein L32 9456566 Uncharacterized dexyribonuclease ycfH 946238 Uncharacterized symporter ydjN 947750 Uncharacterized protein yhcH 945648 Flagellar hook-associated protein 1 945649 FhuE receptor 946626 Probable lipid kinase yegs; Lipid kinase yegS 947756 Rod shape-determining protein mreD 947757 N-acetylmannosamine kinase 946625 Protein tolA 947758 Biotin carboxyl carrier protein of acetyl-CoA carboxylase 946624 Hypoxanthine phosphoribosyltransferase 946623 Cytochrome c-type biogenesis protein cmH 947755 Adenylate cyclase 947745 Putative N-acetylmannosamine-6-phosphate 2-epimerase 947748 p-hydroxybenzoic acid efflux pump subunit aaeA 947747 p-hydroxybenzoic acid efflux pump subunit aaeA 947747 p-hydroxybenzoic acid efflux pump subunit aaeB 947533 Glycogen synthesis protein glgS 945182 Hydrogenase-2 large chain 947694 IJPF0352 protein yejL 947695 Protein rtn 947740 Putative sialic acid transporter; Putative sialic acid transporter 946693 Inner membrane protein yeiU 947538 Ferrienterobactin-binding periplasmic protein 946493 UPF0082 protein yeeN 947335 Cell division inhibitor sulA 948319 Sec-independent protein translocase protein tatB homolog; 948313 Succinyl-diaminopimelate desuccinylase	[Replication recombination and repair', 'RNA related', 'Type of regulation']  [] [] [] [] [] [] [] [] [] [] [] [] [	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Negulated Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated

yhcG	947739 Uncharacterized protein yhcG	[' Macromolecule degradation']	Down Regulated	
glgB	947940 1,4-alpha-glucan-branching enzyme	[ mediane degradation ]	Down Regulated	
metR	948310 HTH-type transcriptional regulator metR		Up Regulated	
hemY	948311 Protein hemY		Down Regulated	
glgX	947941 Glycogen debranching enzyme		Up Regulated	
yeeJ	946498 Uncharacterized protein yeeJ		Up Regulated	
ushA	947331 Protein ushA		Down Regulated	
yejM	946685 Inner membrane protein yejM		Down Regulated	
aroB	947927 3-dehydroquinate synthase		Down Regulated	
flgC	946687 Flagellar basal-body rod protein flgC		Down Regulated	
nuoM	947731 NADH-quinone oxidoreductase subunit M		Down Regulated	
yrbG yejF	947730 Inner membrane protein yrbG 946689 Uncharacterized ABC transporter ATP-binding protein yejF		Ambiguous/Unsorted Down Regulated	
pgpA	947542 Phosphatidylglycerophosphatase A		Up Regulated	
ahpF	947540 Alkyl hydroperoxide reductase subunit F		Down Regulated	
kdsD	947734 Arabinose 5-phosphate isomerase		Down Regulated	
rtcB	947929 Protein rtcB		Temporarly Up Regulated	
yggG	945173 Uncharacterized metalloprotease yggG		Up Regulated	
osmF	946681 Putative osmoprotectant uptake system substrate-binding pr	otein osmF	Temporarly Up Regulated	
bglX	946682 Periplasmic beta-glucosidase		Temporarly Down Regulated	d
rfaE	947548 Bifunctional protein hldE		Down Regulated	
flgM	946684 Negative regulator of flagellin synthesis		Down Regulated	
yodA	946480 Metal-binding protein yodA		Up Regulated	
zinT ygeA	946480 Metal-binding protein yodA 947348 Uncharacterized protein ygeA	n.	Up Regulated Up Regulated	
hchA	946481 Chaperone protein hchA	<u>U</u>	Ambiguous/Unsorted	
pldA	948307 Phospholipase A1		Down Regulated	
yedW	946486 Probable transcriptional regulatory protein yedW		Temporarly Down Regulated	d
damX	947930 Protein damX		Down Regulated	
rffG	948300 dTDP-glucose 4,6-dehydratase		Down Regulated	
glgP	947931 Phosphorylase; Glycogen phosphorylase		Down Regulated	
rffM	948301 Probable UDP-N-acetyl-D-mannosaminuronic acid transfera	se	Down Regulated	
yhbJ	947727 UPF0042 protein yhbJ		Down Regulated	
glpE	947935 Thiosulfate sulfurtransferase glpE		Temporarly Down Regulated	d
glgA	947932 Glycogen synthase 947724 Glutamate synthase [NADPH] large chain		Temporarly Up Regulated  Down Regulated	
gltB	947724 Giulamale synthase in ADPHHarde Chain			
	047723 Clutamate synthase [NADDH] small chain			
gltD	947723 Glutamate synthase [NADPH] small chain		Down Regulated	
gltD speE	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase		Down Regulated Down Regulated	
gltD speE ampE	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE		Down Regulated Down Regulated Ambiguous/Unsorted	
gltD speE	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase		Down Regulated Down Regulated	
gltD speE ampE lptB	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 9466761-phosphofructokinase 947720 Protein-export membrane protein secG		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated	
gltD speE ampE lptB fruK secG npr	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted	
gltD speE ampE lptB fruK secG npr yeiP	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 94676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC bioH	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC bioH fruA	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 94678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 94678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 94676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Up Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated	
gltD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 94678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 94676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase		Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Up Regulated	
gttD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lpIT	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947317 Lysophospholipid transporter lpIT	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Negulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated	
gttD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lplT kdul yafC rsxE	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947729 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947517 L-arabinose isomerase 947517 Lysophospholipid transporter lplT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein rmE	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated	
gttD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lplT kdul yafC rsxE galR	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947517 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein mfE 947314 HTH-type transcriptional regulator galR	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated	d
gitD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lplT kdul yafC rsxE ggalR gmlP	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 94678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947517 Lysophospholipid transporter lpIT 947317 Lysophospholipid transporter lpIT 9473194-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein rnfE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated	d
gitD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lpIT kdul yafC rsxE galR malP malQ	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947729 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947517 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein mfE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Up Regulated Down Regulated	d
gttD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lpIT kdul yafC rsxE galR malP malQ gntT	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947517 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein rmfE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase 947923 4-alpha-glucanotransferase 947924 High-affinity gluconate transporter	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Down Regulated	d
gitD speE ampE lptB fruK secG npr yeiP lptC bbioH fruA aes araA lplT kdul yafC rsxE galR malP malQ gntT kdsC	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein mfE 947921 Phosphorylase; Maltodextrin phosphorylase 947923 4-alpha-glucanotransferase 947924 High-affinity gluconate transporter 9477173-deoxy-D-manno-octulosonate 8-phosphate phosphatase	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated	d
gitD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lpIT kduI rsxE galR malP malQ gntT kdsC hpf	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947729 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947511 A-cetyl esterase 947511 L-arabinose isomerase 947317 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947509 Electron transport complex protein mfE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase 947923 4-alpha-glucanotransferase 947924 High-affinity gluconate transporter 9477173 -deoxy-D-manno-octulosonate 8-phosphate phosphatase 947718 Probable sigma(54) modulation protein	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Down Regulated	d
gitD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lpIT kdul yafC rsxE galR malP malP malQ gntT kdsC lpf pspB	947723 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947729 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947517 L-arabinose isomerase 947517 L-ysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947519 Electron transport complex protein rmE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase 947924 High-affinity gluconate transporter 947717 3-deoxy-D-manno-octulosonate 8-phosphate phosphatase 94718 Probable sigma(54) modulation protein	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Temporarly Up Regulated Up Regulated Down Regulated	d
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gttD speE ampE lptB fruK secG npr yeiP lptC bioH fruA aes araA lplT kdul yafC rsxE galR malP malQ gntT kdsC hpf pspB speD lptA speB yeiH ybjQ rpoN nfo yrbD mlaD ybjS aat	947726 Glutamate synthase [NADPH] small chain 947726 Spermidine synthase 946678 Protein ampE 947725 Lipopolysaccharide export system ATP-binding protein lptB 946676 1-phosphofructokinase 947720 Protein-export membrane protein secG 947914 Phosphocarrier protein NPr 946674 Elongation factor P-like protein 947722 Lipopolysaccharide export system protein lptC 947916 Carboxylesterase bioH 946672 PTS system fructose-specific EIIBC component 947514 Acetyl esterase 947511 L-arabinose isomerase 947517 Lysophospholipid transporter lpIT 947319 4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase 947507 Uncharacterized HTH-type transcriptional regulator yafC 947509 Electron transport complex protein mfE 947314 HTH-type transcriptional regulator galR 947922 Phosphorylase; Maltodextrin phosphorylase 947923 4-alpha-glucanotransferase 947923 4-lipha-glucanotransferase 947917 3-deoxy-D-manno-octulosonate 8-phosphate phosphatase 947927 Brosable sigma(54) modulation protein 947919 S-adenosylmethionine decarboxylase proenzyme 947920 Lipopolysaccharide export system protein lptA 947715 Agmatinase 946668 UPF0324 inner membrane protein yeiH; Probable endonucle 945493 UPF0145 protein ybjQ 947714 RNA polymerase sigma-54 factor 94669 Endonuclease 4; Probable endonuclease 4 947712 Uncharacterized protein yrbD 947495 Uncharacterized protein yrbD 947495 Uncharacterized protein ybjS 945495 Uncharacterized protein ybjS	ease 4	Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated	d
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yohD	946661 Inner membrane protein yohD		Ambiguous/Unsorted
thrC	945198 Threonine synthase		Down Regulated
pbpG	946662 D-alanyl-D-alanine endopeptidase		Ambiguous/Unsorted
ybjD	945498 Uncharacterized protein ybjD		Temporarly Up Regulated
entD	9451944'-phosphopantetheinyl transferase entD		Temporarly Up Regulated
rpmA	945190 50S ribosomal protein L27		Down Regulated
cusA	945191 Cation efflux system protein cusA		Down Regulated
phoP	945697 Transcriptional regulatory protein phoP		Ambiguous/Unsorted
yiaC	946460 Uncharacterized N-acetyltransferase yiaC		Temporarly Down Regulated
nudF	947519 ADP-ribose pyrophosphatase		Down Regulated
hsIR	947912 Heat shock protein 15		Ambiguous/Unsorted
potC	945691 Spermidine/putrescine transport system permease protein po		Down Regulated
ymdC	947321 Uncharacterized protein ymdC		Down Regulated
ompR	947913 Transcriptional regulatory protein ompR		Temporarly Up Regulated
hflD			Temporarly Down Regulated
dusB	947707 tRNA-dihydrouridine synthase B		Down Regulated
prmA	947708 Ribosomal protein L11 methyltransferase		Down Regulated
artP	945489 Arginine transport ATP-binding protein artP		Ambiguous/Unsorted
ygjD	947578 Probable O-sialoglycoprotein endopeptidase		Ambiguous/Unsorted
murJ	945487 Virulence factor mviN homolog		Down Regulated
potF	945480 Putrescine-binding periplasmic protein		Temporarly Up Regulated
ybjC	945481 Uncharacterized protein ybjC	['Energy production and conversion', 'Translation ribosomal structure and biogenesis', 'Energy metabolism carbon', 'Building bl	
dnaG	947570 DNA primase		Up Regulated
gmr	945868 Protein gmr		Down Regulated
rimK	945484 Ribosomal protein S6 modification protein		Down Regulated
holA	947573 DNA polymerase III subunit delta		Down Regulated
potl	945485 Putrescine transport system permease protein potl		Temporarly Up Regulated
csrD	947702 Uncharacterized protein yhdA		Temporarly Down Regulated
murA	947703 UDP-N-acetylglucosamine 1-carboxyvinyltransferase		Down Regulated
btuF	947574 Vitamin B12-binding protein		Down Regulated
srlA	947575 Glucitol/sorbitol permease IIC component		Temporarly Up Regulated
yhhQ	947984 Inner membrane protein yhhQ		Ambiguous/Unsorted
ymjA ribE	945874 Uncharacterized protein ymjA		Ambiguous/Unsorted
	946453 6,7-dimethyl-8-ribityllumazine synthase		Down Regulated
yhhS	947982 UPF0226 protein yhhS		Temporarly Down Regulated
potG	945476 Putrescine transport ATP-binding protein potG		Temporarly Up Regulated
tyrR	945879 Transcriptional regulatory protein tyrR		Up Regulated
ftsX	947969 Cell division protein ftsX		Down Regulated
ybjl	945470 Phosphatase ybjl		Up Regulated
ybjJ	945471 Inner membrane protein ybjJ		Temporarly Down Regulated
ihfA	945472 Integration host factor subunit alpha		Down Regulated
ybjK	945473 Uncharacterized HTH-type transcriptional regulator ybjK		Up Regulated
puuD	945882 Gamma-glutamyl-gamma-aminobutyrate hydrolase		Down Regulated
yhhN	947973 Uncharacterized membrane protein yhhN		Ambiguous/Unsorted
ybaV	945884 Uncharacterized protein ybaV		Up Regulated
pspA	945887 Phage shock protein A		Up Regulated
puuR	945886 HTH-type transcriptional regulator puuR		Ambiguous/Unsorted
ygdR	947304 Uncharacterized lipoprotein ygdR		Temporarly Up Regulated
hemD	948587 Uroporphyrinogen-III synthase		Down Regulated
livJ	947971 Leu/Ile/Val-binding protein		Down Regulated
rpoH	947970 RNA polymerase sigma-32 factor; RNA polymerase sigma fa		Up Regulated
ascG	947305 HTH-type transcriptional regulator ascG		Temporarly Down Regulated
ygiF	947554 Uncharacterized protein ygiF		Temporarly Down Regulated
ylil	945467 Soluble aldose sugar dehydrogenase ylil		Up Regulated
ygiM	947555 Uncharacterized protein ygiM		Down Regulated
rimO	945465 Ribosomal protein S12 methylthiotransferase rimO		Down Regulated
yliF	945463 Uncharacterized membrane protein yliF	['Signal transduction mechanisms', ' Type of regulation', 'two component signal transduction system phosphorelay ', 'transcription	
bacA	947551 Undecaprenyl-diphosphatase		Down Regulated
gsiC	945460 Glutathione transport system permease protein gsiC		Ambiguous/Unsorted
gsiD	945461 Glutathione transport system permease protein gsiD		Down Regulated
ribC	945848 Riboflavin synthase alpha chain		Ambiguous/Unsorted
yrbA	947958 Uncharacterized protein yrbA		Down Regulated
trpE	945846 Anthranilate synthase component 1		Down Regulated
livM	947966 High-affinity branched-chain amino acid transport system pe		Temporarly Up Regulated
ampG	946438 Protein ampG		Down Regulated
yjcĒ	948577 Uncharacterized Na(+)/H(+) exchanger yjcE		Down Regulated
livH	947965 High-affinity branched-chain amino acid transport system pe		Temporarly Up Regulated
ydgD livG	946436 Uncharacterized serine protease ydgD		Up Regulated
livG	947967 High-affinity branched-chain amino acid transport ATP-binding		Temporarly Up Regulated
livF	947961 High-affinity branched-chain amino acid transport ATP-binding		Down Regulated
yhhK	947963 Uncharacterized protein yhhK		Down Regulated
ybeY	946430 Putative metalloprotease ybeY		Temporarly Up Regulated
ghra	946431 Glyoxylate/hydroxypyruvate reductase A		Down Regulated
yjcH	948574 Inner membrane protein yjcH		Ambiguous/Unsorted

	04545701 + 11 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1		Davis Davidated	
gsiA	945457 Glutathione import ATP-binding protein gsiA		Down Regulated	
gsiB	945459 Glutathione-binding protein gsiB	a footor	Down Regulated	tod
rpoD	947567 RNA polymerase sigma factor rpoD; RNA polymerase sigma 945454 Molybdopterin biosynthesis protein moeA	a ractor	Temporarly Down Regulat	lea
moeA dacC	945455 D-alanyl-D-alanine carboxypeptidase dacC		Down Regulated Temporarly Up Regulated	
iaaA	945456 Isoaspartyl peptidase		Down Regulated	-
folC	945451 Bifunctional protein folC		Down Regulated	
moeB	945452 Molybdopterin biosynthesis protein moeB		Ambiguous/Unsorted	
mug	947560 G/U mismatch-specific DNA glycosylase		Ambiguous/Unsorted	
ggt	947947 Gamma-glutamyltranspeptidase		Up Regulated	
yciW	945859 Uncharacterized protein yciW	['Lipid transport and metabolism']	Down Regulated	
proB	946425 Glutamate 5-kinase	Empereum operation in the metabolism j	Ambiguous/Unsorted	
ујсВ	948569 Uncharacterized protein yjcB	П	Down Regulated	
mb	945864 Exoribonuclease 2		Down Regulated	
soxR	948566 Redox-sensitive transcriptional activator soxR		Up Regulated	
fecA	946427 Fe(3+) dicitrate transport protein fecA		Down Regulated	
soxS	948567 Regulatory protein soxS		Temporarly Up Regulated	i
yrbB	947954 Uncharacterized protein yrbB	['Cell wall membrane envelope biogenesis', 'Macromolecules cellular constituent biosynthesis', 'cell cycle', 'cell division']	Down Regulated	
mlaB	947954 Uncharacterized protein yrbB		Down Regulated	
ugpC	947953 sn-glycerol-3-phosphate import ATP-binding protein ugpC		Temporarly Up Regulated	1
ydfl	945861 Uncharacterized oxidoreductase ydfl	[' Carbon compound utilization']	Temporarly Down Regulat	
yciN	945860 Protein yciN		Temporarly Up Regulated	
рдрВ	945863 Phosphatidylglycerophosphatase B		Down Regulated	
topA	945862 DNA topoisomerase 1		Down Regulated	
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 pr		ted
alr	948564 Alanine racemase, biosynthetic; Alanine racemase		Down Regulated	
yjcD	948565 Putative permease yjcD		Temporarly Up Regulated	<u>i</u>
dapF	948364 Diaminopimelate epimerase		Down Regulated	
ydgC	945156 Inner membrane protein ydgC		Temporarly Down Regulat	
ydgJ	947164 Uncharacterized oxidoreductase ydgJ	<u>U</u>	Temporarly Down Regulat	ted
glnL	948360 Nitrogen regulation protein NR(II); Sensor protein		Down Regulated	
glnG	948361 Nitrogen regulation protein NR(I)		Down Regulated	
hemN	948362 Oxygen-independent coproporphyrinogen-III oxidase 945941 Transcriptional activator feaR		Down Regulated	
feaR			Ambiguous/Unsorted Ambiguous/Unsorted	
emrB yihl	947167 Multidrug resistance protein B 948363 UPF0241 protein yihl		Up Regulated	
luxS	947168 S-ribosylhomocysteine lyase		Down Regulated	
iclR	948524 Acetate operon repressor		Down Regulated	
yihL	948368 Uncharacterized HTH-type transcriptional regulator yihL	['Amino acid transport and metabolism', ' Carbon compound utilization', ' Central intermediary metabolism', ' Primary Active Transp		
rfbA	945154 Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymidylyltransferase;		Down Regulated	
ubiE	948926 Ubiquinone/menaquinone biosynthesis methyltransferase ut		Down Regulated	
typA	948369 GTP-binding protein typA/BipA; GTP-binding protein typA/bi		Down Regulated	
prfB	947369 Peptide chain release factor 2		Down Regulated	
yccJ	948930 Uncharacterized protein yccJ	[' Macromolecules cellular constituent biosynthesis']	Temporarly Up Regulated	1
malY	945937 Protein malY		Temporarly Up Regulated	
ybqS	945356 Uncharacterized protein ybgS	['Inorganic ion transport and metabolism', ' Electrochemical potential driven transporters', 'ion transport']	Temporarly Up Regulated	
ybgS Cyca	948725 D-serine/D-alanine/glycine transporter		Down Regulated	
fkIB	948726 FKBP-type 22 kDa peptidyl-prolyl cis-trans isomerase		Down Regulated	
ybiO	945935 Uncharacterized mscS family protein ybiO		Temporarly Up Regulated	
ytfB	948727 Uncharacterized protein ytfB	[Replication recombination and repair', 'DNA recombination', 'DNA integration']	Ambiguous/Unsorted	
galE	945354 UDP-glucose 4-epimerase		Ambiguous/Unsorted	
rpsR	948721 30S ribosomal protein S18		Down Regulated	
priB	948722 Primosomal replication protein n		Down Regulated	
fdx	947160 2Fe-2S ferredoxin		Temporarly Down Regulat	ted
mngB	945359 Alpha-mannosidase mngB		Up Regulated	
rpsF	948723 30S ribosomal protein S6		Down Regulated	
ygfA	945167 Uncharacterized protein ygfA	['cell cycle', 'cell division']	Up Regulated	
dtd	948378 D-tyrosyl-tRNA(Tyr) deacylase		Down Regulated	
dbpA	947153 ATP-independent RNA helicase dbpA		Down Regulated	
ycfL	948539 Uncharacterized protein ycfL	[Nucleotide transport and metabolism', 'Cell wall membrane envelope biogenesis', 'Building block biosynthesis']	Down Regulated	
yfgl malE	945168 Uncharacterized protein yfgl	['Lipid transport and metabolism', ' Building block biosynthesis']	Temporarly Up Regulated	
maiL	948538 Maltose-binding periplasmic protein		Temporarly Up Regulated	<u> </u>
malK	948537 Maltose/maltodextrin import ATP-binding protein malK	la de la companya de	Down Regulated	
ygaC	947156 Uncharacterized protein ygaC	N. 4750, 75004, Fool (2702) FOOD 4007, FOOD 4544, FOF500 4772, FOOD 400, FOF51 5070, FOURTH 5720	Up Regulated	tod
cpdB		/N_4750; Z5824; EcolC_3793; ECS88_4807; E2348C_4544; EC55989_4773; ECDH10B_4408; ECED1_5072; ECH74115_5730;		iea
trkG	945932 Trk system potassium uptake protein trkG	I consent	Up Regulated	
ascF	947154 PTS system arbutin-, cellobiose-, and salicin-specific EIIBC	component	Up Regulated	
feaB malF	945933 Phenylacetaldehyde dehydrogenase 948532 Maltose transport system permease protein malF		Up Regulated Down Regulated	
	948531 Aspartokinase; Lysine-sensitive aspartokinase 3		Down Regulated  Down Regulated	
			Down Negulated	
lysC ngi∆			Ambiguous/Lincorted	
pqiA malG	944999 Paraquat-inducible protein A		Ambiguous/Unsorted	
pqiA malG ytjC			Ambiguous/Unsorted Temporarly Up Regulated Temporarly Down Regulat	

maaB	045164 Magralida ayaart ATD hinding/parmagaa protain magD		Temporarly Down Regulated
macB ybcL	945164 Macrolide export ATP-binding/permease protein macB 945165 UPF0098 protein vbcL		Up Regulated
yigP	948915 Uncharacterized protein yigP	['protein secretion']	Down Regulated
yjtD	948924 Uncharacterized tRNA/rRNA methyltransferase lasT	[ protein accretion]	Ambiguous/Unsorted
ytfH	948730 Uncharacterized HTH-type transcriptional regulator ytfH	n	Up Regulated
yqeA	947358 Carbamate kinase-like protein yqeA	U 	Temporarly Up Regulated
mocA	947356 Uncharacterized protein ygfJ		Temporarly Up Regulated
ygfJ	947356 Uncharacterized protein vgfJ	['electron transport']	Temporarly Up Regulated
glnA	948370 Glutamine synthetase	[ closed a damport ]	Down Regulated
ytfJ	948737 Uncharacterized protein ytfJ	"Energy production and conversion', 'Secondary metabolites biosynthesis transport and catabolism'	Up Regulated
ytfL	948735 UPF0053 inner membrane protein ytfL	[	Temporarly Down Regulated
modF	945368 Putative molybdenum transport ATP-binding protein modF		Down Regulated
vaiZ	947355 Uncharacterized protein yaiZ		Ambiguous/Unsorted
gltK	947354 Glutamate/aspartate transport system permease protein glth	U  	Down Regulated
qorB	948731 Uncharacterized oxidoreductase ytfG		Up Regulated
ygeR	947352 Uncharacterized lipoprotein ygeR		Ambiguous/Unsorted
ygbA	947187 Uncharacterized protein ygbA	['Energy production and conversion', ' Primary Active Transporters']	Up Regulated
msrB	947188 Peptide methionine sulfoxide reductase msrB		Ambiguous/Unsorted
fdol	948383 Formate dehydrogenase, cytochrome b556(fdo) subunit		Down Regulated
malM	948547 Maltose operon periplasmic protein		Temporarly Up Regulated
allS	945139 HTH-type transcriptional activator allS		Up Regulated
ydjA	945964 Putative NAD(P)H nitroreductase ydjA		Down Regulated
yddB	945961 Uncharacterized protein yddB	['Cell wall membrane envelope biogenesis', 'translation', 'ion transport']	Temporarly Up Regulated
hinT	948549 HIT-like protein hinT		Down Regulated
ybdJ	947183 Uncharacterized protein ybdJ	[' Protection', 'ion transport', 'iron ion transport']	Up Regulated
nuoN	945136 NADH-quinone oxidoreductase subunit N		Down Regulated
MItB	947184 Membrane-bound lytic murein transglycosylase B		Temporarly Down Regulated
lamB	948548 Maltoporin		Down Regulated
frvX	948388 Putative frv operon protein frvX		Ambiguous/Unsorted
yfiL	947106 Uncharacterized protein yfiL	['Replication recombination and repair', 'DNA recombination']	Temporarly Up Regulated
norR	947186 Anaerobic nitric oxide reductase transcription regulator norR		Up Regulated
tus	945135 DNA replication terminus site-binding protein		Up Regulated
recN	947105 DNA repair protein recN		Ambiguous/Unsorted
pmrD	945130 Signal transduction protein pmrD		Ambiguous/Unsorted
ffh	947102 Signal recognition particle protein		Temporarly Down Regulated
rimM	947101 Ribosome maturation factor rimM		Down Regulated
dgkA	948543 Diacylglycerol kinase		Ambiguous/Unsorted
mtn	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida		Down Regulated
mtn ylaB	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB	se ['Signal transduction mechanisms', ' Type of regulation', 'two component signal transduction system phosphorelay ', 'transcription'	Down Regulated Up Regulated
mtn ylaB yibA	948542[5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA		Down Regulated Up Regulated Up Regulated Up Regulated
mtn ylaB yibA visC	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
mtn ylaB yibA visC efeU	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10		Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated
mtn ylaB yibA visC efeU hypE	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated
mtn ylaB yibA visC efeU hypE ubiH	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_1C 947182 Hydrogenase isoenzymes formation protein hypE 9473882-octaprenyl-6-methoxyphenol hydroxylase	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947382-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948851 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO ffnIA thiL lyxK	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-1-gulonate kinase	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted
mtn ylaB yibA visC efeU hypE ubiH ybbO fnIA thiL lyxK sapF	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 9473882-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 945335 Peptide transport system ATP-binding protein sapF	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL ljxK sapF ppa	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 945335 Peptide transport system ATP-binding protein sapF 948748 Inorganic pyrophosphatase	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL lyxK sapF ppa allR	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAl39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 945335 Peptide transport system ATP-binding protein sapF 948748 Inorganic pyrophosphatase 945333 HTH-type transcriptional repressor allR	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO ffnIA thiL ljyxK sapF ppa allR ygfZ	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182   hydrogenase isoenzymes formation protein hypE 947388   2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181   Formate hydrogenlyase transcriptional activator 947387   Thiamine-monophosphate kinase 945335   Peptide transport system ATP-binding protein sapF 948748   Inorganic pyrophosphatase 945333   HTH-type transcriptional repressor allR 947384   tRNA-modifying protein ygfZ	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL lyxK sapF ppa allR	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAl39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 945335 Peptide transport system ATP-binding protein sapF 948748 Inorganic pyrophosphatase 945333 HTH-type transcriptional repressor allR	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'	Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL lyxK sapF ppa allR ygfZ selB	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948951 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein visC 948956 ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_10 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 945335 Peptide transport system ATP-binding protein sapF 948748 Inorganic pyrophosphatase 945333 I+TH-type transcriptional repressor allR 947384 IRNA-modifying protein ygfZ 948103 Selenocysteine-specific elongation factor	[Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription' 89; EC55989_1127; b4490; ECED1_1172; ECIAI1_1062; E2348C_1067  []	Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated
mtn ylaB yibA visC efeU hypE ubiH ybbO fhIA thiL lyxK sapF ppa allR ygfZ selB yjhW	948542 5'-methylthioadenosine/S-adenosylhomocysteine nucleosida 948851 Uncharacterized protein ylaB 948108 Protein yibA 947389 Protein yibA 947182 Hydrogenase isoenzymes formation protein hypE 947388 2-octaprenyl-6-methoxyphenol hydroxylase 945337 Uncharacterized oxidoreductase ybbO 947181 Formate hydrogenlyase transcriptional activator 947387 Thiamine-monophosphate kinase 948101 L-xylulose/3-keto-L-gulonate kinase 948339 Peptide transport system ATP-binding protein sapF 948748 llnorganic pyrophosphatase 945333 HTH-type transcriptional repressor allR 947384 ltRNA-modifying protein ygfZ 948103 Selenocysteine-specific elongation factor 948381 Uncharacterized HTH-type transcriptional regulator yihW	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription'   1989; EC55989_1127; b4490; ECED1_1172; ECIAI1_1062; E2348C_1067  [] [] [Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependence of the component signal transduction system phosphorelay', 'transcription system phosphorelay', 'transcription', 'regulation of transcription system syste	Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated
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flaf 98135ADP-heptose-LPS heptosyltransferase 2   Down Regulated   GevP 947394(Gytine dehytrogenase (decarboxylating)   Down Regulated   Down Regulated   Part of the property	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated
SevP   947394(Glycine dehydrogenase [decarboxylating]   Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro djepptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated
faC 948136 Lipopolysaccharide hepfosyltransferase 1 Down Regulated   Fabruary Up Regulated   Fabruary	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein yibN 948135 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated
Special Section   Special Se	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose—LPS heptosyltransferase 2	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated
Septiment   Sept	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating]	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated
gcvH 947393(Glycine cleavage system H protein   Down Regulated   ylbN 948131 Uncharacterized protein yibN   Gl   grxC 948132 (Glutaredoxin-3   Down Regulated   gryC 948132 (Glutaredoxin-3   Down Regulated   gryC 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamoyltransferase   Temporarly Down Regulated   gryC 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamoyltransferase   Temporarly Down Regulated   ylgM 948772 (Uncharacterized protein ylgD   ylgM 948772 (Uncharacterized N-acetyltransferase ylgM   Gl   Temporarly Up Regulated   ylgM 948372 (Uncharacterized N-acetyltransferase ylgM   Gl   Temporarly Up Regulated   ylgM 94838(3-amino-3-ketbothyrate coenzyme A ligase   uvrD 94838(3-amino-3-ketbothyrate coenzyme A ligase   uvrD 948347 (DNA helicase II   rdoA 948349 (Protein rdoA   mobA 948349 (Molybdopterin-guanine dinucleotide biosynthesis protein A   ylgC 948907 (Acyl-CoA thioester hydrolase ybgC   ylhD 948348 (Protein ydA   ylhD 948348 (Protein ydA   yafD 946286 (UpF0294 protein yafD   ygaW 947147 (Uncharacterized protein ygaW   ygaW 947143 (RNA (uracii-5-)-methyltransferase   ygaW 947143 (RNA (uracii-5-)-methyltransferase   ylaG 94850 (Uncharacterized protein ygaW   ygaW 947143 (RNA (uracii-5-)-methyltransferase   ylaG 94850 (Uncharacterized protein ygaW   yl	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro djepptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yibN 94813   Uncharacterized protein yibN   948173   Uncharacterized protein yigN   948774   Omithine carbamoyltransferase chain  ; Ornithine carbamoyltransferase   1	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated
grxC 948132 Glutaredoxin-3 Down Regulated arg! 948774 Ornithine carbamoyltransferase chain!; Ornithine carbamoyltransferase chain!; Ornithine carbamoyltransferase chain!; Ornithine carbamoyltransferase (arg.) Up Regulated 1948772 Uncharacterized protein yigD	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
Segi	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine delayding system H protein	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
rraB 948773 Uncharacterized protein yigD yigM 948772 Uncharacterized N-acetyltransferase yigM [] Temporarily Up Regulated yigM 948773 Uncharacterized N-acetyltransferase yigM [] Temporarily Up Regulated the 948138 2-amino-3-ketobutyrate coenzyme A ligase kbl 948138 2-amino-3-ketobutyrate coenzyme A ligase uvrD 948347 DNA helicase II Down Regulated rdoA 948346 Protein rdoA  948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A ybgC 948907 Acyt-CoA thioester hydrolase ybgC yihD 948348 Protein yihD  948348 Protein yihD  948348 Protein yihD  946286 UPF0294 protein yafD  Up Regulated ygaW 947147 Uncharacterized protein ygaW []  SppA 946281 Protease 4  Down Regulated sppA 946282 Nucleoside permease nupG  946282 Nucleoside permease nupG  947144 Uncharacterized protein ygaU []  Ambiguous/Unsorted trmA 947143 ItRNA (uracit-5)-methyltransferase yiaG 948501 Uncharacterized protein yiaG []  948502 Endonuclease V  Down Regulated  Jown Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein yibN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lippoplysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ydB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein	['Nucleotide transport and metabolism']	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated
yigM 948772 Uncharacterized N-acetylfransferase yigM [] Temporarly Up Regulated tith 948138 L-threonine 3-dehydrogenase kibl 948138 2-amino-3-ketobutyrate coenzyme A ligase UvrD 948347 DNA helicase II Down Regulated Protein rdoA 948346 Protein rdoA 948349 Molybdopterin-quanine dinucleotide biosynthesis protein A pown Regulated Protein rdoA 948349 Molybdopterin-quanine dinucleotide biosynthesis protein A pygC 948907 Acyl-CoA thioester hydrolase ybgC 948907 Acyl-CoA thioester hydrolase ybgC 948907 Acyl-CoA thioester hydrolase ybgC yihD 948348 Protein yihD 948348 Protein yihD 948348 Uprotein yafD Down Regulated yggW 947147 Uncharacterized protein yggW 947147 Uncharacterized protein yggW [] Down Regulated pygW 947147 Uncharacterized protein yggW [] Down Regulated pygW 946281 Protease 4 Down Regulated pygW 947144 Uncharacterized protein yggW [] Down Regulated pygW 947145 [] Ambiguous/Unsorted pown Regulated pygW 947145 [] Down Regulated pygW 947145 [] Down Regulated pygW 947145 [] Ambiguous/Unsorted protein yggW [] Down Regulated pygW 947145 [] Ambiguous/Unsorted protein yggW [] Down Regulated pygW 947145 [] Down Regulated protein yggW [] Down Regulated pygW 947145 [] Down Regulated pown Regulated pown Regulated pown Regulated pygW 948502 [] Down Regulated pown Regulate	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 (Glycine dehydrogenase (decarboxylating) 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 (Glycine cleavage system H protein 948131 Uncharacterized protein ybN 948132 Glutaredoxin-3	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
idh     948139 L-threonine 3-dehydrogenase       kbl     948138 2-amino-3-ketobutyrate coenzyme A ligase       lwrD     948347 DNA helicase II       rdoA     948346 Protein rdoA       mobA     948349 Molybdopterin-guanine dinucleotide biosynthesis protein A       ybgC     948907 Acyt-CoA thioester hydrolase ybgC       yihD     948348 Protein yihD       yafBoy     9494907 Acyt-CoA thioester hydrolase ybgC       yihD     948348 Protein yihD       yafD     946286 UFF0294 protein yafD       ygaW     947147 Uncharacterized protein ygaW       sppA     946281 Protease 4       nupG     946282 Nucleoside permease nupG       ygaU     947144 Uncharacterized protein ygaU       trmA     947143 RNA (uracil-5)-methyltransferase       yjaG     948501 Uncharacterized protein yjaG       yjaG     948501 Uncharacterized protein yjaG       yjaG     948502 Endonuclease V	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lippoplysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoy/ltransferase chain I; Ornithine carbamoy	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
kbl 948138 2-amino-3-ketobutyrate coenzyme A ligase   Temporarly Up Regulated   UvrD 948347   DNA helicase II   Down Regulated   Down Regulate	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 Glycine dehydrogenase (decarboxylating) 948136 Lippoplysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Up Regulated
uvrD     948347 DNA helicase II     Down Regulated       rdoA     948346 Protein rdoA     Down Regulated       mobA     948349 Molybdopterin-guanine dinucleotide biosynthesis protein A     Temporarly Up Regulated       ybgC     948907 Acyl-CoA thioester hydrolase ybgC     Temporarly Down Regulated       yihD     948348 Protein yihD     Down Regulated       yafD     946286 UPF0294 protein yafD     Up Regulated       ygaW     947147 Uncharacterized protein ygaW     Up Regulated       sppA     946281 Protease 4     Down Regulated       nupG     946282 Nucleoside permease nupG     Down Regulated       ygaU     947144 Uncharacterized protein ygaU     Down Regulated       trmA     947143 IRNA (uracit-5-)-methyltransferase     Ambiguous/Unsorted       trmA     948501 Uncharacterized protein yjaG     Temporarly Down Regulated       nfi     948502 Endonuclease V     Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 (Glycine dehydrogenase (decarboxylating) 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 (Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamo) 948773 Uncharacterized protein yigD 948773 Uncharacterized protein yigD	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated
rdoA 948346 Protein rdoA mobA 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A ybgC 948907 Acyl-CoA thioester hydrolase ybgC yihD 948348 Protein yihD Down Regulated yifD 946286 UPF0294 protein yafD ygaW 947147 Uncharacterized protein ygaW [] sppA 946281 Protease 4 nupG 946282 Nucleoside permease nupG ygaU 947144 Uncharacterized protein ygaU [] trmA 947143 IRNA (uracit-5)-methyltransferase yifG 948501 Uncharacterized protein ygaU [] trmA 947143 IRNA (uracit-5)-methyltransferase yifG 948501 Uncharacterized protein yifG [] bown Regulated Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yjgM tdh	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein yibH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 [Joppolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized response resulatory protein ypdB 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yigD 948772 Uncharacterized h-acetyltransferase yigM 948139 L-threonine 3-dehydrogenase	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted
mobA 948349[Molybdopterin-guanine dinucleotide biosynthesis protein A ybgC 948907 Acyl-CoA thioester hydrolase ybgC Temporarly Description and Pown Regulated Pown Pown Regulated Pown Reg	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB yigM tdh kbl	945390 UPF0052 protein ybhK 945391 Uncharacterized protein yciD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized Protein yigD 948772 Uncharacterized N-acetyltransferase yigM 948138 L-threonine 3-dehydrogenase 948138 L-threonine 3-dehydrogenase	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated
ybgC 948907 Acyl-CoA thioester hydrolase ybgC yihD 948348 Protein yihD Down Regulated yafD 946286 UPF0294 protein yafD Up Regulated yagW 947147 Uncharacterized protein ygaW [] Down Regulated sppA 946281 Protease 4 Down Regulated nupG 946282 Nucleoside permease nupG ygaU 947144 Uncharacterized protein ygaU [] Down Regulated trmA 947143 tRNA (uracil-5-)-methyltransferase yiaG 948501 Uncharacterized protein yiaG [] Down Regulated nfi 948502 Endonuclease V  Temporarly Down Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB yjgM tdh kbl uvrD	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ydbB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Omithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yigD 948773 Uncharacterized rotein yigD 948773 Uncharacterized N-acetyltransferase yigM 948139_L-threonine 3-dehydrogenase 948134 2-amino-3-ketobutyrate coenzyme A ligase	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Down Regulated
yihD         948348 Protein yihD         Down Regulated           yafD         946286 UPF0294 protein yafD         Up Regulated           yaW         947147 Uncharacterized protein ygaW         Down Regulated           sppA         946281 Protease 4         Down Regulated           nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Down Regulated           trmA         947143 tRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yigM tdh kbl uvrD rrdoA	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 (Glycine dehydrogenase (decarboxylating) 948136 Lipopolysaccharide heptosyltransferase 1 9473935 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 (Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 (Glutaredoxin-3 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 (Uncharacterized protein yigD 948772 (Uncharacterized Protein yigD 948772 (Uncharacterized N-acetyltransferase yigM 948138 (L-amino-3-ketobutyrate coenzyme A ligase 948347 (DNA helicase II 948347 (DNA helicase II	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
yafD         946286 UPF0294 protein yafD         Up Regulated           ygaW         947147 Uncharacterized protein ygaW         Down Regulated           spA         946281 Protease 4         Down Regulated           nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Ambiguous/Unsorted           trmA         947143 IRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB yigM tdh kbl uvrD rdoA mobA	945390 UPF0052 protein ybhK  945391 Uncharacterized protein ycfD  948126 Serine acetyltransferase  948128 Uncharacterized protein yibQ  947119 Uncharacterized protein ybbN  948335 Xaa-Pro dipeptidase  946279 Uncharacterized protein ybbJ  945126 Inner membrane protein ybbJ  945128 Outer membrane protein W  947390 Aminomethyltransferase  948135 ADP-heptoseLPS heptosyltransferase 2  947394 Glycine dehydrogenase [decarboxylating]  948136 Lipopolysaccharide heptosyltransferase 1  947395 Uncharacterized response regulatory protein ypdB  948134 ADP-L-glycero-D-manno-heptose-6-epimerase  947393 Glycine cleavage system H protein  948131 Uncharacterized protein yibN  948132 Glutaredoxin-3  948774 Omithine carbamoyltransferase chain I; Ornithine carbamoy  948773 Uncharacterized protein yigD  948772 Uncharacterized protein yigD  948139 L-threonine 3-dehydrogenase  948138 2-amino-3-ketobutyrate coenzyme A ligase  948347 DNA helicase II  948346 Protein rdoA  948349 Molybdopterin-guanine dinucleotide biosynthesis protein A	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated
ýgaW         947147 Uncharacterized protein ygaW         Down Regulated           sppA         946281 Protease 4         Down Regulated           nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Ambiguous/Unsorted           trmA         947143 IRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yigM tdh kbl uvrD rdoA mobA ybgC	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Omithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yigD 948773 Uncharacterized rycein yigD 948730 L-threonine 3-dehydrogenase 948138 2-amino-3-ketobutyrate coenzyme A ligase 948349 Protein rdoA 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated
SppA         946281 Protease 4         Down Regulated           nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Ambiguous/Unsorted           trmA         947143 tRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC yydB rfaD gcvH yibN grxC argI rraB yigM tdh kbl uvrD rdoA mobA ybgC yihD	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 (Glycine dehydrogenase (decarboxylating) 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 (Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yigD 948772 Uncharacterized Protein yigD 948772 Uncharacterized N-acetyltransferase yigM 948138 L-threonine 3-dehydrogenase 948138 - aranino-3-ketobutyrate coenzyme A ligase 948347 (DNA helicase II) 948374 (DNA helicase II) 948374 (Sychoca thioester hydrolase ybgC 948348 (Protein yihD	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated
nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Ambiguous/Unsorted           trmA         947143 tRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yigM tdh kbl uvrD rdoA mobA ybgC yihD yafD	945390 UPF0052 protein ybhK  945391 Uncharacterized protein ycfD  948126 Serine acetyltransferase  948128 Uncharacterized protein yibQ  947119 Uncharacterized protein ybbN  948335 Xaa-Pro dipeptidase  946279 Uncharacterized protein yibJ  945126 Inner membrane protein ybbJ  945128 Outer membrane protein W  947390 Aminomethyltransferase  948135 ADP-heptose-LPS heptosyltransferase 2  947394 Glycine dehydrogenase [decarboxylating]  948136 Lipopolysaccharide heptosyltransferase 1  947395 Uncharacterized response regulatory protein ypdB  948134 ADP-L-glycero-D-manno-heptose-6-epimerase  947393 Glycine cleavage system H protein  948131 Uncharacterized response resulatory protein ypdB  948131 Uncharacterized protein yibN  948132 Glutaredoxin-3  948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy  948773 Uncharacterized Protein yjgD  948772 Uncharacterized protein yjgD  948772 Uncharacterized Protein yigD  948138 2-amino-3-ketobutyrate coenzyme A ligase  948347 DNA helicase II  948346 Protein rdoA  948349 Molybdopterin-guanine dinucleotide biosynthesis protein A  948348 Protein yihD  946286 UPF0294 protein yafD	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
nupG         946282 Nucleoside permease nupG         Down Regulated           ygaU         947144 Uncharacterized protein ygaU         Ambiguous/Unsorted           trmA         947143 tRNA (uracil-5-)-methyltransferase         Temporarly Down Regulated           yjaG         948501 Uncharacterized protein yjaG         Down Regulated           nfi         948502 Endonuclease V         Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB yigM tdh kbl uvrD rdoA mobA ybgC yihD yafD ygaW	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycifD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948135 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lippoplysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948136 Lippoplysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized N-acetyltransferase yigM 948138 L-threonine 3-dehydrogenase 948138 2-amino-3-ketobutyrate coenzyme A ligase 948347 DNA helicase II 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948907 Acyl-CoA thioester hydrolase ybgC 948348 Protein yihD 946286 UPF0294 protein yafD	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
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nfi 948502 Endonuclease V Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argl rraB yigM tdh kbl uvrD rdoA mobA ybgC yihD yafD ygaW sppA nupG ygaU	945390 UPF0052 protein ybhK 945391 Uncharacterized protein yciD 948126 Serine acetyltransferase 948128 Uncharacterized protein ybbQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized protein yibN 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yjgD 948773 Uncharacterized N-acetyltransferase yjgM 948138 2-amino-3-ketobutyrate coenzyme A ligase 948347 DNA helicase II 948349 Protein rdoA 948348 IProtein yipD 946281 IProtease 4 946282 Nucleoside permease nupG 947144 Uncharacterized protein yggU	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated
nfi 948502 Endonuclease V Down Regulated	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yjgM tdh kbI uvrD rdoA mobA ybgC yihD yafD ygaV sppA nupG ygaU trmA	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 (Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized protein yigD 948772 Uncharacterized N-acetyltransferase yigM 948139_L-threonine 3-dehydrogenase 948348 2-amino-3-ketobutyrate coenzyme A ligase 948348 Protein rdoA 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948348 Protein rdoA 948348 Protein rdoA 948348 Protein yihD 946286 UPF0294 protein yafD 947147 Uncharacterized protein ygwU 946281 Protease 4 946282 Nucleoside permease nupG 947144 Uncharacterized protein yggU 947144 Uncharacterized protein yggU	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated
proW 947145 [Glycine betaine/L-proline transport system permease protein proW Ambiguous/Unsorted	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yibN grxC argI rraB yigM tdh kbl uvrD rrooA mobA ybgC yihD yafD yafD ygaW sppA nupG ygaU trmA yjaG	945390 UPF0052 protein ybhK 945391 Uncharacterized protein ycfD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptose-LPS heptosyltransferase 2 947394 (Glycine dehydrogenase (decarboxylating) 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 (Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 (Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized Protein yigD 948772 Uncharacterized N-acetyltransferase yigM 948138 L-threonine 3-dehydrogenase 948138 -threonine 3-dehydrogenase 948349 Molybdopterin-guanine dinucleotide biosynthesis protein A 948307 NA helicase II 948307 Protein rdoA 948308 (Protein rdoA 948308 (Protein rdoA) 948308 (Protein rdoA) 948309 Protein yihD 946286 (UPF0294 protein yafD 947147 (Uncharacterized protein ygaW) 946281 Protease 4 946282 Nucleoside permease nupG 947144 (Uncharacterized protein yjaG	['Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated
	ybhK ycfD cysE yibQ ybbN pepQ ynjH ybbJ ompW gcvT rfaF gcvP rfaC ypdB rfaD gcvH yibN grxC argI rraB yigM tdh kbI uvrD rdoA mobA ybgC yihD yafD ygaW sppA nupG ygaU trmA yjaG nfi	945390 UPF0052 protein ybhK 945391 Uncharacterized protein yciD 948126 Serine acetyltransferase 948128 Uncharacterized protein yibQ 947119 Uncharacterized protein ybbN 948335 Xaa-Pro dipeptidase 946279 Uncharacterized protein ynjH 945126 Inner membrane protein ybbJ 945128 Outer membrane protein W 947390 Aminomethyltransferase 948135 ADP-heptoseLPS heptosyltransferase 2 947394 Glycine dehydrogenase [decarboxylating] 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948136 Lipopolysaccharide heptosyltransferase 1 947395 Uncharacterized response regulatory protein ypdB 948134 ADP-L-glycero-D-manno-heptose-6-epimerase 947393 Glycine cleavage system H protein 948131 Uncharacterized protein yibN 948132 Glutaredoxin-3 948774 Ornithine carbamoyltransferase chain I; Ornithine carbamoy 948773 Uncharacterized Protein yigD 948772 Uncharacterized N-acetyltransferase yigM 948138 2-amino-3-ketobutyrate coenzyme A ligase 948138 2-amino-3-ketobutyrate coenzyme A ligase 948347 DNA helicase II 948349 Protein ridoA 948349 Protein yidD 947147 Uncharacterized protein ygdD 947147 Uncharacterized protein ygdW 946281 Proteise 4 946282 Nucleoside permease nupG 947144 Uncharacterized protein ygaU 947143 (RNA (uracil-5-)-methyltransferase 948501 Endonuclease V	[Nucleotide transport and metabolism']  ['Amino acid transport and metabolism']  []  []  []  []  []  []  []  []  []	Temporarly Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated

Ferral I	040500 Dif ti		Dayin Degulated
purH	948503 Bifunctional purine biosynthesis protein purH		Down Regulated
ygiS purD	947140 Putative binding protein ygiS		Temporarly Down Regulated
	948504 Phosphoribosylamineglycine ligase 948506 Sensor protein; Sensor protein zraS		Down Regulated
zraS ybjE	947142 Uncharacterized protein ybjE	[' Building block biosynthesis', 'metabolic process']	Ambiguous/Unsorted Temporarly Down Regulated
zraP	948507 Zinc resistance-associated protein	Building block biosynthesis , metabolic process	Temporarly Up Regulated
holC	948787 DNA polymerase III subunit chi		Down Regulated
yfcD	946783 Uncharacterized Nudix hydrolase yfcD	['tricarboxylic acid cycle', 'response to antibiotic']	Down Regulated
yqhG	945919 Uncharacterized protein yqhG	[Replication recombination and repair, 'Carbon compound utilization', 'DNA recombination']	Up Regulated
yccU	949008 Uncharacterized protein yccU	In	Temporarly Up Regulated
folX	946781 D-erythro-7,8-dihydroneopterin triphosphate epimerase	<u>U</u>	Ambiguous/Unsorted
rfe	948789 Undecaprenyl-phosphate alpha-N-acetylglucosaminyl 1-pho	sphate transferase	Temporarly Down Regulated
rfaY	948145 Lipopolysaccharide core biosynthesis protein rfaY		Down Regulated
	945374 UPF0092 membrane protein yajC		Down Regulated
yajC rfaL	948148 O-antigen ligase		Down Regulated
rpsl	949000 30S ribosomal protein S9		Down Regulated
DeoB	948910 Phosphopentomutase		Temporarly Up Regulated
ybhA	945372 Phosphatase ybhA		Down Regulated
yfcl	946787 Uncharacterized protein yfcl	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid metabolic process', 'aromatic amino acid family	Up Regulated
radA	948912DNA repair protein radA		Temporarly Up Regulated
mngR	945371 Mannosyl-D-glycerate transport/metabolism system repress		Ambiguous/Unsorted
intB	948782 ECDH10B_4464; ECIAI39_4743; UTI89_C4878; b4271; EC	ED1_5125; EC55989_4829; ECUMN_4803	Temporarly Up Regulated
nadR	948911 Transcriptional regulator nadR		Down Regulated
valS	948785 Valyl-tRNA synthetase		Down Regulated
serB	948913 Phosphoserine phosphatase		Temporarly Down Regulated
yfcH	946784 Epimerase family protein yfcH		Up Regulated
yeaG	946297 Uncharacterized protein yeaG	μ	Up Regulated
YigA	948359 Uncharacterized protein yigA		Down Regulated
recR	945100 Recombination protein recR		Down Regulated
yihA	948358 Probable GTP-binding protein engB		Down Regulated
yigB	948357 Uncharacterized protein yigB	μ	Down Regulated
ygaV	947136 Probable HTH-type transcriptional regulator ygaV		Up Regulated
tomB	945106 Uncharacterized protein ybaJ 948513 Homoserine O-succinyltransferase		Up Regulated
metA yjaB	948514 Uncharacterized N-acetyltransferase yjaB	n	Temporarly Up Regulated Up Regulated
dnaX	945105 DNA polymerase III subunit tau	U.	Down Regulated
polA	948356 DNA polymerase I		Down Regulated
ftsK	945102 DNA translocase ftsK		Temporarly Down Regulated
aceA	948517 Isocitrate lyase		Temporarly Up Regulated
pagB	948518 Uncharacterized protein yjbD		Ambiguous/Unsorted
yjbD	948518 Uncharacterized protein yjbD		Ambiguous/Unsorted
xerC	948355 Tyrosine recombinase xerC		Down Regulated
ybaB	945104 UPF0133 protein ybaB		Down Regulated
asr	945103 Acid shock protein		Temporarly Up Regulated
dsbA	948353 Thiol:disulfide interchange protein dsbA		Down Regulated
yicC	948154 UPF0701 protein yicC		Down Regulated
idnT	948798 Gnt-II system L-idonate transporter		Ambiguous/Unsorted
purF	946794 Amidophosphoribosyltransferase		Down Regulated
truA	946793 tRNA pseudouridine synthase A		Down Regulated
yjaH	948508 Uncharacterized protein yjaH	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	Down Regulated
pyrE	948157 Orotate phosphoribosyltransferase		Down Regulated
ynaJ	945901 Uncharacterized protein ynaJ	['Replication recombination and repair', 'DNA recombination']	Temporarly Down Regulated
bioC	945388 Biotin synthesis protein bioC		Down Regulated
slmA	948158 HTH-type protein slmA		Temporarly Down Regulated
uspE	945904 Universal stress protein E		Temporarly Up Regulated
rph	948156 Ribonuclease PH		Temporarly Down Regulated
folK	948792 2-amino-4-hydroxy-6-hydroxymethyldihydropteridine pyroph	osphokinase	Down Regulated
accD	946796 Acetyl-coenzyme A carboxylase carboxyl transferase subun	it beta	Down Regulated
ydaM	945909 Uncharacterized protein ydaM		Up Regulated
uxuB	946795 D-mannonate oxidoreductase		Up Regulated
ybhJ	945380 Uncharacterized protein ybhJ	[Energy production and conversion', ' Energy metabolism carbon ', 'glycolysis', 'tricarboxylic acid cycle']	Up Regulated
deoC	948902 Deoxyribose-phosphate aldolase		Down Regulated
dedA	946798 Protein dedA		Down Regulated
deoA	948901 Thymidine phosphorylase		Down Regulated
tolQ	948900 Protein tolQ 945382 Phenylalanyl-tRNA synthetase beta chain		Down Regulated
pheT		logo autumit C	Down Regulated
nuoG	946762 NADH-quinone oxidoreductase; NADH-quinone oxidoreduct		Down Regulated Up Regulated
ydcD CARA	946958 Uncharacterized protein ydcD 949025 Carbamoyl-phosphate synthase small chain	[Cell wall membrane envelope biogenesis']	Temporarly Up Regulated
yacL	944809 UPF0231 protein yacL		Temporarly Up Regulated Temporarly Up Regulated
nuoA	946764 NADH-quinone oxidoreductase subunit; NADH-quinone oxid	I Moreductase subunit ∆	Down Regulated
yehU	949027 Inner membrane protein yehU	MICHAELES SUMINEA	Ambiguous/Unsorted
mutM	946765 Formamidopyrimidine-DNA glycosylase		Temporarly Up Regulated
idi	949020 sopentenyl-diphosphate Delta-isomerase		Up Regulated

yfbS	946766 Uncharacterized transporter yfbS	ln	Temporarly Down Regulated	4
vfbU	946767 UPF0304 protein yfbU		Down Regulated	1
selD	946768 Selenide, water dikinase		Down Regulated	
IrhA	946769 Probable HTH-type transcriptional regulator IrhA		Up Regulated	
ftsL	944803 Cell division protein ftsL		Ambiguous/Unsorted	
yicl	948169 Alpha-xylosidase		Temporarly Up Regulated	
fruR	944804 Fructose repressor		Ambiguous/Unsorted	
yfdC	944801 Inner membrane protein yfdC		Up Regulated	
gltS	948166 Sodium/glutamate symport carrier protein		Ambiguous/Unsorted	
ydfJ		1671; ECDH10B 1674; ECH74115 2159; EC55989 1684; ECS88 1623; EcE24377A 1752; EcSMS35 1621; ECED1 1674;		
fkpB	944807 FKBP-type 16 kDa peptidyl-prolyl cis-trans isomerase		Down Regulated	
nuoH	946761 NADH-quinone oxidoreductase subunit H		Down Regulated	
recG	948162 ATP-dependent DNA helicase recG		Down Regulated	
rpoZ	948160 DNA-directed RNA polymerase subunit omega		Temporarly Down Regulated	t
trmH	948161 tRNA guanosine-2'-O-methyltransferase		Temporarly Down Regulated	t
maeA	946031 NAD-dependent malic enzyme		Down Regulated	
ydhF	946960 Oxidoreductase ydhF		Up Regulated	
adhP	946036 Alcohol dehydrogenase, propanol-preferring		Temporarly Up Regulated	
nuoC	946759 NADH-quinone oxidoreductase subunit C/D		Down Regulated	
ackA	946775 Acetate kinase		Down Regulated	
yfbV	946774 UPF0208 membrane protein yfbV		Up Regulated	
ymdA	949012 Uncharacterized protein ymdA	<u>[0                                    </u>	Down Regulated	
yfbT	946777 Phosphatase yfbT		Down Regulated	
pta	946778 Phosphate acetyltransferase		Down Regulated	
yicN	948173 Uncharacterized protein yicN	[Carbon compound utilization', 'regulation of transcription']	Temporarly Down Regulated	1
yicL	948176 Uncharacterized inner membrane transporter yicL	[regulation of cell shape']	Ambiguous/Unsorted	
nlpA	948175 Lipoprotein 28		Down Regulated	
ygfT	949018 Uncharacterized protein ygfT	[[electron transport]]	Temporarly Up Regulated	
yicH	948171 Uncharacterized protein yicH	['Energy production and conversion']	Up Regulated	
IspA	944800 Lipoprotein signal peptidase		Down Regulated	
yfgD	946974 Uncharacterized protein yfgD	Ш	Temporarly Down Regulated	1
rhsE	946026 ECDH10B_1586; EC55989_0238; b1456	Marian add to a sand and and the Care	Ambiguous/Unsorted	
ymbA	946972 Uncharacterized lipoprotein ymbA	['Amino acid transport and metabolism']	Temporarly Up Regulated	
uraA	946978 Uracil permease 949043 HTH-type transcriptional regulator galS		Down Regulated	
galS	946746NADH-quinone oxidoreductase subunit E		Temporarly Up Regulated  Down Regulated	
nuoE yeiB	949044 Uncharacterized protein yeiB	['two component signal transduction system phosphorelay ']	Down Regulated	
lacin I				
		[ the component digital transduction system phosphoretay ]		
yeiG	949045 S-formylglutathione hydrolase yeiG	[www.domponent.org.nat.aumoddonor.org.nat.phoophotetay.]	Down Regulated	
yeiG artQ	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ	[ (Wo component signal autoaccion system photopholeia) ]	Down Regulated Down Regulated	
yeiG artQ dfp	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC	[wo component organic admoducion system proception only]	Down Regulated Down Regulated Down Regulated	
yeiG artQ dfp menE	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase	[ We compensation united action by semi-procedure [ ]	Down Regulated Down Regulated Down Regulated Temporarly Up Regulated	
yeiG artQ dfp menE gltI	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 9467412-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein	[ We component organic transaction system procedure [ ]	Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated	
yeiG artQ dfp menE gltI ftsQ	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ	[ (We component eight at the detection by seem proception et a)	Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG	[ We component signal admoducion system prosprioretaly ]	Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Town Regulated Down Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated	
yeiG artQ dfp menE gltI ftsQ yadG can gnsb secM	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Cenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944832 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl ffsQ yadG can gnsb secM gcd	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Ccenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb secM gcd tmcA	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb secM gcd tmcA ivbL	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IIvBN operon leader peptide		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl fftsQ yadG can gnsb secM gcd tmcA ivbL nuoB	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IIVBN operon leader peptide 946738 NADH-quinone oxidoreductase subunit B 946941 50S ribosomal protein L28 946739 Uncharacterized protein yfaZ		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb secM gcd tmcA ivbL nuoB rpmB	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Coenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944832 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IIVBN operon leader peptide 946738 NADH-quinone oxidoreductase subunit B 946941 50S ribosomal protein L28 946739 Uncharacterized protein yfaZ 946737 NADH-quinone oxidoreductase subunit I		Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Ambiguous/Unsorted Temporarly Up Regulated Down Regulated	
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yeiG artQ dfp menE gltI fftsQ yadG can gnsb secM gcd tmcA ivbL nuoB rpmB yfaZ nuol ubiX purE yfcE nuoJ nuoF yeiA ppiB nadE thyA murD surA murF murD surA murF mraY wzzE uidC ddpB secA	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Cenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944833 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IlvBN operon leader peptide 946738 NADH-quinone oxidoreductase subunit B 946941 50S ribosomal protein L28 946739 Uncharacterized protein yfaZ 946757 NADH-quinone oxidoreductase subunit I 949033 3-octaprenyl-4-hydroxybenzoate carboxy-lyase 949031 Phosphoribosylaminoimidazole carboxylase catalytic subuni 946755 Phosphodiesterase yfcE 946756 NADH-quinone oxidoreductase subunit F 949038 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 940948 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 940948 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 944813 UDP-N-acetylmuramoyl-pentapeptideD-alanyl-D-alanine ligase 944813 UDP-N-acetylmuramoyl-pentapeptide-transferase 944815 Lipopolysaccharide biosynthesis protein wzzE 944820 Membrane-associated protein uidC 944821 Protein translocase subunit secA	['Nucleotide transport and metabolism'] s isomerase	Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltl ftsQ yadG can gnsb secM gcd tmcA ivbL nuoB rpmB yfaZ nuol ubiX purE yfcE nuoJ nuof ubiX purE yfcE nuoJ nuoF yeiA paiB paiB paiB murD surA murF mraY wzzE uidC ddpB secA libpB	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Cenezyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944833 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IlvBN operon leader peptide 946738 INADH-quinone oxidoreductase subunit B 946941 50S ribosomal protein L28 946739 Uncharacterized protein yfaZ 946757 NADH-quinone oxidoreductase subunit I 949033 3-octaprenyl-4-hydroxybenzoate carboxy-lyase 949031 Phosphoribosylaminoimidazole carboxylase catalytic subunit 946755 Phosphodiesterase yfcE 946756 NADH-quinone oxidoreductase subunit J 946753 NADH-quinone oxidoreductase subunit F 949037 Uncharacterized protein yeiA 949038 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 946946 NH(3)-dependent NAD(+) synthetase 944818 UDP-N-acetylmuramoyl-tripeptide—D-alanyl-D-alanine ligase 944813 UDP-N-acetylmuramoyl-tripeptide—D-alanyl-D-alanine ligase 944813 UDP-N-acetylmuramoyl-tripeptide—D-alanyl-D-alanine ligase 944814 Probable D,D-dipeptide transport system permease protein of 944820 Membrane-associated protein uidC 946044 Probable D,D-dipeptide transport system permease protein of 944821 Protein translocase subunit secA	['Nucleotide transport and metabolism'] s isomerase	Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated	
yeiG artQ dfp menE gltI fftsQ yadG can gnsb secM gcd tmcA ivbL nuoB rpmB yfaZ nuol ubiX purE yfcE nuoJ nuoF yeiA ppiB nadE thyA murD surA murF murD surA murF mraY wzzE uidC ddpB secA	949045 S-formylglutathione hydrolase yeiG 949046 Arginine transport system permease protein artQ 949047 Cenzyme A biosynthesis bifunctional protein coaBC 946741 2-succinylbenzoate—CoA ligase 946938 Glutamate/aspartate periplasmic-binding protein 944823 Cell division protein ftsQ 944833 Uncharacterized ABC transporter ATP-binding protein yadG 944833 Carbonic anhydrase 2 946054 Protein gnsB 944831 Secretion monitor 944830 Quinoprotein glucose dehydrogenase 946053 Uncharacterized protein ypfl 948181 IlvBN operon leader peptide 946738 NADH-quinone oxidoreductase subunit B 946941 50S ribosomal protein L28 946739 Uncharacterized protein yfaZ 946757 NADH-quinone oxidoreductase subunit I 949033 3-octaprenyl-4-hydroxybenzoate carboxy-lyase 949031 Phosphoribosylaminoimidazole carboxylase catalytic subuni 946755 Phosphodiesterase yfcE 946756 NADH-quinone oxidoreductase subunit F 949038 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 940948 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 940948 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-tran 944813 UDP-N-acetylmuramoyl-pentapeptideD-alanyl-D-alanine ligase 944813 UDP-N-acetylmuramoyl-pentapeptide-transferase 944815 Lipopolysaccharide biosynthesis protein wzzE 944820 Membrane-associated protein uidC 944821 Protein translocase subunit secA	['Nucleotide transport and metabolism'] s isomerase	Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated	

	946954 Lipoprotein 34		Down Regulated
bamC gcvR	946950 Glycine cleavage system transcriptional repressor		Temporarly Up Regulated
yebQ	946048 Uncharacterized transporter yebQ		Temporarly Down Regulated
yfcN	944847 UPF0115 protein yfcN	57	Temporarly Down Regulated
ybgJ	945311 Uncharacterized protein ybgJ		Down Regulated
sucC	945312 Succinyl-CoA ligase [ADP-forming] subunit beta		Down Regulated
yadB	944846 Glutamyl-Q tRNA(Asp) synthetase; Insertion element IS150	uncharacterized 14 kDa protein	Ambiguous/Unsorted
hrpB	944845 ATP-dependent RNA helicase hrpB		Temporarly Down Regulated
ybgK	945317 Uncharacterized protein ybgK	IU	Down Regulated
lpxA	944849 Acyl-[acyl-carrier-protein]UDP-N-acetylglucosamine O-acyl	transterase	Down Regulated
yjgR	948978 Uncharacterized protein yigR	Ц	Temporarly Up Regulated
rffD glpQ	948977 UDP-N-acetyl-D-mannosamine dehydrogenase 946725 Glycerophosphoryl diester phosphodiesterase		Down Regulated Temporarly Up Regulated
pinR	948973 Putative DNA-invertase from lambdoid prophage Rac		Up Regulated
coaE	949060 Dephospho-CoA kinase		Up Regulated
clcA	946715 H(+)/Cl(-) exchange transporter clcA		Down Regulated
dksA	944850 DnaK suppressor protein		Temporarly Up Regulated
sucB	945307 Dihydrolipoyllysine-residue succinyltransferase component of	of 2-oxoglutarate dehydrogenase complex	Down Regulated
hisJ	945309 Histidine-binding periplasmic protein		Temporarly Down Regulated
lpd	944854 Dihydrolipoyl dehydrogenase		Down Regulated
HtpX	946076 Probable protease htpX		Ambiguous/Unsorted
ydhC	946077 Inner membrane transport protein ydhC		Down Regulated
mhB	944852 Ribonuclease HII		Down Regulated
aceE	944834 Pyruvate dehydrogenase E1 component		Down Regulated
lptG	945324 Lipopolysaccharide export system permease protein lptG		Ambiguous/Unsorted
sdhD	945322 Succinate dehydrogenase hydrophobic membrane anchor s	udunit	Down Regulated
panB	9448393-methyl-2-oxobutanoate hydroxymethyltransferase		Down Regulated
toIR yjhQ	945328 Protein toIR 949059 Uncharacterized N-acetyltransferase yjhQ	['Translation ribosomal structure and biogenesis', 'translation']	Down Regulated Up Regulated
	949055 Major curlin subunit	Translation ribosomal structure and biogenesis, translation	Up Regulated
csgA glpC	946735 Anaerobic glycerol-3-phosphate dehydrogenase subunit C		Up Regulated
trxB	949054 Thioredoxin reductase		Down Regulated
menC	946734 o-succinylbenzoate synthase		Down Regulated
lpxH	949053 UDP-2,3-diacylglucosamine hydrolase		Down Regulated
Irp	949051 Leucine-responsive regulatory protein		Down Regulated
cydD	949052 ATP-binding/permease protein cydD		Down Regulated
rluE	945701 Pseudouridine synthase; Ribosomal large subunit pseudouri	idine synthase E	Down Regulated
hipA	946064 Protein hipA		Temporarly Up Regulated
ygbL	947197 Putative aldolase class 2 protein ygbL		Temporarly Up Regulated
manA	944840 Mannose-6-phosphate isomerase		Temporarly Down Regulated
ybgL	945318 UPF0271 protein ybgL		Down Regulated
	0.474000 : #1 : 1 : 1 : 1		
pphB	947196 Serine/threonine-protein phosphatase 2	Il Corte abusiness transport and match allows	Temporarly Up Regulated
ygbK	947199 Uncharacterized protein ygbK	['Carbohydrate transport and metabolism']	Temporarly Up Regulated Up Regulated
ygbK ydeJ	947199 Uncharacterized protein ygbK 946067 Protein ydeJ		Temporarly Up Regulated Up Regulated Up Regulated Up Regulated
ygbK ydeJ yacH	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH	['Carbohydrate transport and metabolism'] ['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated
ygbK ydeJ yacH argP	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor		Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted
ygbK ydeJ yacH argP caiB	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase		Temporarly Up Regulated
ygbK ydeJ yacH argP caiB eco	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor		Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin		Temporarly Up Regulated
ygbK ydeJ yacH argP caiB eco symE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL		Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA	['Signal transduction mechanisms', ' Type of regulation', 'signal transduction']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Up Regulated Opun Regulated Ambiguous/Unsorted Down Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ		Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted
ygbK ydeJ yacH argP ccaiB eco symE ymdB bamB der yfgJ cdsA	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylytransferase	['Signal transduction mechanisms', ' Type of regulation', 'signal transduction']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Temporarly Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG	['Signal transduction mechanisms', ' Type of regulation', 'signal transduction']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 IDNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yagR	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated
ygbK ydeJ yacH argP caiB eeo symE ymdB bamB der yfgJ cdsA dinaE yfgG yfgM ygaR glnH	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ygbK ydeJ yacH argP caiB ees symE ymdB bamB der yfgJ cdsA dnaE yfgM yaeR gjinH fihE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgM 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated
ygbK ydeJ yacH argP caiB eeco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR glnH fihE prc bamA	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Fiagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB esymE ymdB bamB der yfgJ cdsA dnaE yfgM yaeR gjinH fihE prc bamA rseP	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc bamA rseP ynfN	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Fiagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc bamA rseP ynfN	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944871 Regulator of sigma E protease 944871 Regulator of sigma E protease	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB ecco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR gjinH fihE prc bamA rseP ynfN osmE sucA	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cylidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944975 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944871 Regulator of sigma E protease 946097 Uncharacterized protein ynfN 945095 Uncharacterized protein gasembly factor yaeT	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdA dnaE yfgG yfgM yaeR glnH flhE pre bamA rseP ynfN osmE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgG 946987 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein ynfN 945303 Cosmotically-inducible lipoprotein E 945303 Cosmotically-inducible lipoprotein E 945301 Aerotaxis receptor	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ygbK ydeJ ydeJ yacH argP caiB eco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc bamA rseP ynfN osmE sucA ulaF aer	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein ynfN 945305 Osmotically-inducible lipoprotein E 9453013 Coxoglutarate dehydrogenase E1 component	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Ambiguous/Unsorted Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated
ygbK ydeJ yacH argP caiB esco symE ymdB bamB der yfgJ cdsA dnaE yfgG yfgM yaeR gjinH fihE prc bamA rseP ynfN oosn sucA ulaF aer erpA yjfY	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yaeR 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944870 Outer membrane protein assembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein ynfN 945305 Osmotically-inducible lipoprotein E 945301 Aerotaxis receptor 944857 Incharacterized protein protein erpA 948713 Uncharacterized rosein protein erpA 948713 Uncharacterized protein protein erpA	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Ambiguous/Unsorted Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Temporarly Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated
ygbK ydeJ ydeJ yacH argP caiB eco symE ymdB bamB dder yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc bamA rseP ynfN osmE sucA uilaF aer erpA yjfY kdpE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944872 Glutamine-binding periplasmic protein 946094 Fiagellar protein flhE 946096 Tail-specific protease 944870 Uncharacterized protein ssembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein protein E 945303 Cosmotically-inducible lipoprotein E 945301 Aerotaxis receptor 944871 Uncharacterized protein protein erpA 948713 Uncharacterized protein protein erpA 94871 Uncharacterized protein protein erpA 94871 Uncharacterized protein yffY 945302 KDP operon transcriptional regulatory protein kdpE	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated
ygbK ydeJ yacH argP caiB eco symE ymdB bamB dder yfgJ cdsA dmaE yfgG yfgM yaeR glnH fihE pr bamA rseP ynfN osmE sucA ulaF aer erpA yjfY kdpE yciM	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPFO189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyttransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944872 Glutamine-binding periplasmic protein 946094 Flagellar protein flhE 946096 Tail-specific protease 944871 Regulator of sigma E protease 944870 Outer membrane protein assembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein ynfN 945305 Osmotically-inducible lipoprotein E 945303 2-oxoglutarate dehydrogenase E1 component 948711 L-ribulose-5-phosphate 4-epimerase ulaF 944871 Incharacterized protein protein erpA 948713 Uncharacterized protein yifY 945302 KDP operon transcriptional regulatory protein kdpE 944856 Uncharacterized protein yifM	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Down Regulated Up Negulated Up Regulated Temporarly Up Regulated
ygbK ydeJ ydeJ yacH argP caiB eco symE ymdB bamB dder yfgJ cdsA dnaE yfgG yfgM yaeR glnH flhE prc bamA rseP ynfN osmE ssucA ulaF aer erpA yjfY kdpE	947199 Uncharacterized protein ygbK 946067 Protein ydeJ 944868 Uncharacterized protein yacH 944868 Uncharacterized protein yacH 944867 Chromosome initiation inhibitor 948997 Crotonobetainyl-CoA:carnitine CoA-transferase 946700 Ecotin 949088 Endoribonuclease symE 946987 UPF0189 protein ymdB 946982 Lipoprotein yfgL 946983 GTP-binding protein engA 946984 Uncharacterized protein yfgJ 944876 Phosphatidate cytidylyltransferase 944877 DNA polymerase III subunit alpha 946980 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944875 Uncharacterized protein yfgG 946981 UPF0070 protein yfgM 944872 Glutamine-binding periplasmic protein 946094 Fiagellar protein flhE 946096 Tail-specific protease 944870 Uncharacterized protein ssembly factor yaeT 944871 Regulator of sigma E protease 946097 Uncharacterized protein protein E 945303 Cosmotically-inducible lipoprotein E 945301 Aerotaxis receptor 944871 Uncharacterized protein protein erpA 948713 Uncharacterized protein protein erpA 94871 Uncharacterized protein protein erpA 94871 Uncharacterized protein yffY 945302 KDP operon transcriptional regulatory protein kdpE	['Signal transduction mechanisms', 'Type of regulation', 'signal transduction']  ['Type of regulation']	Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Ambiguous/Unsorted Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated

sbcC apbE loIA betA xdhD flgH	949076 Nuclease sbcCD subunit C 946711 Thiamine biosynthesis lipoprotein apbE 948989 Outer-membrane lipoprotein carrier protein 945716 Choline dehydrogenase		Down Regulated Temporarly Down Regulated Down Regulated
loIA betA xdhD flgH	948989 Outer-membrane lipoprotein carrier protein		
betA xdhD flgH			
xdhD flgH	9457 folknoline denydrogenase		
flgH			Down Regulated
	949079 Probable hypoxanthine oxidase xdhD 946996 Flagellar L-ring protein		Up Regulated
			Down Regulated
sseA	946993 3-mercaptopyruvate sulfurtransferase		Temporarly Up Regulated
glpT	946704 Glycerol-3-phosphate transporter		Up Regulated
sseB	946994 Protein sseB		Down Regulated
ulaR	948706 HTH-type transcriptional regulator ulaR		Up Regulated
rodZ	946992 Cytoskeleton protein rodZ		Temporarly Down Regulated
acnB	944864 Aconitate hydratase 2		Down Regulated
yjfP	948707 Esterase yjfP	D. Olding block bigger attential time to a contract to	Ambiguous/Unsorted
yjfN	948709 Uncharacterized protein yjfN	[' Building block biosynthesis', 'ion transport']	Up Regulated
tsf	944866 Elongation factor Ts		Down Regulated
pinQ	946088 Putative DNA-invertase from lambdoid prophage Qin		Up Regulated
yebR	946086 UPF0067 protein yebR		Down Regulated
skp	944861 Chaperone protein skp		Down Regulated
dcp	946084 Peptidyl-dipeptidase dcp		Ambiguous/Unsorted
fabZ	944888 (3R)-hydroxymyristoyl-[acyl-carrier-protein] dehydratase	EDliti	Down Regulated
yhfY	947888 Uncharacterized protein yhfY	['Replication recombination and repair', ' Carbon compound utilization']	Temporarly Up Regulated
yhfX	947889 Uncharacterized protein yhfX	['Replication recombination and repair', ' Carbon compound utilization']	Up Regulated
lpxD	944882 UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferas	5 <b>C</b>	Down Regulated
map DHAR	947882 Methionine aminopeptidase	protoin	Ambiguous/Unsorted
	945743 PTS-dependent dihydroxyacetone kinase operon regulatory		Up Regulated
yjiX	949090 Uncharacterized protein yjiX	['Signal transduction mechanisms', ' Adaptation to stress', 'response to stress']	Down Regulated
cysG	947880 Siroheme synthase		Down Regulated
umuD	945746 Protein umuD		Up Regulated
minE	945740 Cell division topological specificity factor		Down Regulated
kdsB	945539 3-deoxy-manno-octulosonate cytidylyltransferase		Down Regulated
folM	949096 Dihydrofolate reductase folM		Temporarly Up Regulated
hupB	949095 DNA-binding protein HU-beta		Ambiguous/Unsorted
rbfA	947685 Ribosome-binding factor A		Down Regulated
ycbC	945546 Uncharacterized protein ycbC	['regulation of cell shape', 'peptidoglycan biosynthetic process']	Ambiguous/Unsorted
infB	947684 Translation initiation factor IF-2		Down Regulated
arnA	947683 Bifunctional polymyxin resistance protein arnA		Up Regulated
mukF	945548 Chromosome partition protein mukF		Down Regulated
nusA	947682 Transcription elongation protein nusA		Down Regulated
smtA	945547 Protein smtA		Down Regulated
uxaB	945542 Altronate oxidoreductase	TIDALA P. C. D.	Up Regulated
ycbB	945541 Uncharacterized protein ycbB	['DNA replication']	Temporarly Up Regulated
rimP	947680 b3170	The state of the s	Down Regulated
yegX	945543 Uncharacterized protein yegX	['translation']	Up Regulated
nuoL	945540 NADH-quinone oxidoreductase subunit L		Down Regulated
rlmE	947689 b3179		Down Regulated
yhbY	947688 RNA-binding protein yhbY		Down Regulated
truB	947687 tRNA pseudouridine synthase B		Down Regulated
sufD	944878 Protein sufD		Up Regulated
rpsO	947686 30S ribosomal protein S15		Down Regulated
PabA	947873 Para-aminobenzoate synthase glutamine amidotransferase	component II	Ambiguous/Unsorted
metQ	944893 D-methionine-binding lipoprotein metQ		Down Regulated
rpsB	947874 30S ribosomal protein S2	4 - Lab -	Down Regulated
accA	944895 Acetyl-coenzyme A carboxylase carboxyl transferase subuni	It alpha	Down Regulated
yejH	945529 Uncharacterized protein yejH	[' Building block biosynthesis', 'amino acid biosynthetic process']	Temporarly Down Regulated
serC	945527 Phosphoserine aminotransferase		Down Regulated
pnp	947672 Polyribonucleotide nucleotidyltransferase		Down Regulated
yhbQ	947671 UPF0213 protein yhbQ		Up Regulated
deaD	947674 Cold-shock DEAD box protein A		Down Regulated
cmk	945535 Cytidylate kinase		Temporarly Down Regulated
nlpl	947673 Lipoprotein nlpl		Temporarly Down Regulated
ihfB	945533 Integration host factor subunit beta	n .	Down Regulated
ycal	945531 Uncharacterized protein ycal	<u>U</u>	Up Regulated
rssA	945725 NTE family protein rssA		Temporarly Down Regulated
mtr	947675 Tryptophan-specific transport protein	n .	Temporarly Up Regulated
yhbW	947677 Uncharacterized protein yhbW	<u>U</u>	Down Regulated
ymgE	945760 UPF0410 protein ymge		Up Regulated
clpA	945764 ATP-dependent Clp protease ATP-binding subunit clpA		Temporarly Up Regulated
	945765 Peptidyl-tRNA hydrolase		Ambiguous/Unsorted
pth			Down Regulated
pth fabD	945766 Malonyl CoA-acyl carrier protein transacylase	Har 1 11	
pth fabD	945767 Uncharacterized protein ycgV	['Amino acid transport and metabolism', ' Building block biosynthesis']	Up Regulated
pth fabD ycgV trpB	945767 Uncharacterized protein ycgV 945768 Tryptophan synthase beta chain	['Amino acid transport and metabolism', ' Building block biosynthesis']	Up Regulated Down Regulated
pth fabD ycgV trpB rlmL	945767 Uncharacterized protein ycgV 945768 Tryptophan synthase beta chain 945564 Ribosomal RNA large subunit methyltransferase L	['Amino acid transport and metabolism', ' Building block biosynthesis']	Up Regulated Down Regulated Down Regulated
pth fabD ycgV trpB	945767 Uncharacterized protein ycgV 945768 Tryptophan synthase beta chain	['Amino acid transport and metabolism', ' Building block biosynthesis']	Up Regulated Down Regulated

	945567 Ribosome modulation factor		Temporarly Up Regulated
rmf gph	947895 Phosphoglycolate phosphatase		Down Regulated
rpe	947896 Ribulose-phosphate 3-epimerase		Down Regulated
yhfZ	947897 Uncharacterized protein yhfZ	['Replication recombination and repair', ' Carbon compound utilization', 'DNA replication']	Up Regulated
dadA	945752 D-amino acid dehydrogenase small subunit		Temporarly Down Regulated
sufB	945753 Protein sufB		Temporarly Up Regulated
mukB	945549 Chromosome partition protein mukB		Down Regulated
ldcA	945756 Muramoyltetrapeptide carboxypeptidase		Temporarly Down Regulated
treA dam	945757 Periplasmic trehalase; Putative periplasmic trehalase 947893 DNA adenine methylase		Up Regulated Down Regulated
trpS	947894 Tryptophanyl-tRNA synthetase		Down Regulated
ompF	945554 Outer membrane protein F		Down Regulated
dhaM	945749 PTS-dependent dihydroxyacetone kinase, phosphotransfe	rase subunit dhaM	Down Regulated
dhaL	945748 PTS-dependent dihydroxyacetone kinase, ADP-binding su		Down Regulated
glmM	947692 Phosphoglucosamine mutase		Down Regulated
aspC	945553 Aspartate aminotransferase		Down Regulated
folP	947691 Dihydropteroate synthase		Down Regulated
ycbW	945552 Uncharacterized protein ycbW	[['Nucleotide transport and metabolism', ' Building block biosynthesis']	Ambiguous/Unsorted
dhaK dacB	945747 PTS-dependent dihydroxyacetone kinase, dihydroxyacetol 947693 D-alanyl-D-alanine carboxypeptidase dacB	ie-oinaing subunit anak	Down Regulated Down Regulated
ybaN	947693D-alanyi-D-alanine carboxypeptidase dacb		Down Regulated  Down Regulated
greA	947696 Transcription elongation factor; Transcription elongation fa	Lor greA	Down Regulated
yhdJ	947695 Uncharacterized adenine-specific methylase yhdJ	g	Up Regulated
yhbE	947699 Uncharacterized inner membrane transporter yhbE	[' Type of regulation']	Down Regulated
ycbL	945551 Uncharacterized protein ycbL		Temporarly Down Regulated
mukE	945550 Chromosome partition protein mukE		Down Regulated
pyrC	945787 Dihydroorotase		Down Regulated
yjiM	945789 Uncharacterized protein yjiM		Up Regulated
ychA	945784 Protein sirB1	la de la companya de	Down Regulated
yeeO	946506 Uncharacterized transporter yeeO	0	Temporarly Up Regulated
hisF	946516 Imidazole glycerol phosphate synthase subunit hisF	619; ECIAI1 3285; ECDH10B 3308; ECIAI39 3636; b3135; ECS88 3523	Down Regulated Ambiguous/Unsorted
agaA garP	947642 Probable galactarate transporter	019, ECIATI_3289, ECDF110B_3306, ECIAT39_3030, U3139, EC366_3323	Temporarly Up Regulated
yeeR	946512Inner membrane protein yeeR		Down Regulated
dmsC	945502 Anaerobic dimethyl sulfoxide reductase chain C		Up Regulated
rihA	945503 Pyrimidine-specific ribonucleoside hydrolase rihA		Down Regulated
cydC	945504 ATP-binding/permease protein cydC		Temporarly Up Regulated
grxB	946926 Glutaredoxin-2		Temporarly Up Regulated
yfiH	947089 UPF0124 protein yfiH		Down Regulated
hemA	945777 Glutamyl-tRNA reductase		Temporarly Down Regulated
ycgM	946115 Uncharacterized protein ycgM		Ambiguous/Unsorted
aroF lolB	947084 Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensi 945775 Outer-membrane lipoprotein IoIB	tive	Down Regulated Down Regulated
ispE	9457744-diphosphocytidyl-2-C-methyl-D-erythritol kinase		Down Regulated
bamD	947086 UPF0169 lipoprotein yfiO		Down Regulated
agp	945773 Glucose-1-phosphatase		Up Regulated
prs	945772 Ribose-phosphate pyrophosphokinase		Down Regulated
rluD	947087 Pseudouridine synthase; Ribosomal large subunit pseudo	uridine synthase D	
cysB			Ambiguous/Unsorted
0,00	945771 HTH-type transcriptional regulator cysB		Ambiguous/Unsorted Ambiguous/Unsorted
ychM	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM		Ambiguous/Unsorted Ambiguous/Unsorted
ychM agaR	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated
ychM agaR yhaV	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated
ychM agaR yhaV cbl	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated
ychM agaR yhaV cbl nac	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081P-protein		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Up Regulated Up Regulated Temporarly Up Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yheZ uxuA ypeA	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946501 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX	[ Building block biosynthesis']	Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Town Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX pfiA	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 linner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA yyeA bisC yfeX pflA yypiD	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypjD		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX pflA ypjD trpC	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypjD 945519 Tryptophan biosynthesis protein trpCF		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX pfilA ypjD trpC rspB	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypiD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA yyeA bisC yfeX pflA ypjD trpC rspB rplS	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypjD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 94709650S ribosomal protein L19		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA yyeA bisC yfeX pflA ypjD trpC rspB rrplS sufC	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946917 Incharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypiD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 947096 50S ribosomal protein L19 946128 Probable ATP-dependent transporter sufC		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX ypiA ypiD trpC rspB rplS sufC trmD	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypiD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 94709650S ribosomal protein L19 947099tRNA (guanine-N(1)-)-methyltransferase	[ Building block biosynthesis ]	Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Down Regulated Up Regulated Down Regulated Down Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yyfeZ uxuA ypeA bisC yfeX pfiA ypjD trpC rspB rplS sufC trmD ydhK	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 linner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypjD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 947096 50S ribosomal protein L19 946128 Probable ATP-dependent transporter sufC 947099 IRNA (guanine-N(1)-)-methyltransferase		Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX pfiA ypjD trpC rspB rrpIS sufC trmD ydhK sbcB	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 Inner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypiD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 947096 50Sr ibosomal protein L19 946128 Probable ATP-dependent transporter sufC 947099 (tRNA (guanine-N(1)-)-methyltransferase 946529 Uncharacterized transporter ydhK	[ Building block biosynthesis ]	Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Temporarly Up Regulated
ychM agaR yhaV cbl nac efeB pheA pheL yfeZ uxuA ypeA bisC yfeX pfilA ypjD trpC rspB	945771 HTH-type transcriptional regulator cysB 945770 Putative sulfate transporter ychM 947636 Putative aga operon transcriptional repressor 947638 Uncharacterized protein yhaV 946502 HTH-type transcriptional regulator cbl 946501 Nitrogen assimilation regulatory protein nac 946500 Peroxidase ycdB 947081 P-protein 947080 Phe operon leader peptide 946918 linner membrane protein yfeZ 947082 Mannonate dehydratase 946917 Acetyltransferase ypeA 946915 Biotin sulfoxide reductase 946913 Uncharacterized protein yfeX 945517 Pyruvate formate-lyase 1-activating enzyme 947098 Inner membrane protein ypjD 945519 Tryptophan biosynthesis protein trpCF 946127 Starvation-sensing protein rspB 947096 50S ribosomal protein L19 946128 Probable ATP-dependent transporter sufC 947099 IRNA (guanine-N(1)-)-methyltransferase	[ Building block biosynthesis ]	Ambiguous/Unsorted Ambiguous/Unsorted Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated

vodE	046536	Uncharacterized protein yadE	[Coll wall membrane envelope biogenesis! !linenelygescharide biogynthetic process.]	Up Regulated
yadE		Uncharacterized protein yadE UPF0718 protein yraQ	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	
yraQ				Up Regulated
yajO		Uncharacterized oxidoreductase yajO	U	Temporarly Up Regulated
ycaK		Uncharacterized NAD(P)H oxidoreductase ycaK	['amino acid transport']	Up Regulated
yajG		Uncharacterized lipoprotein yajG	[Posttranslational modification protein turnover chaperones', 'Electrochemical potential driven transporters']	Down Regulated
yraN		UPF0102 protein yraN	IIDALA and Kanting II	Down Regulated
yraM		Uncharacterized protein yraM	['DNA replication']	Down Regulated
ivy		Inhibitor of vertebrate lysozyme		Temporarly Up Regulated
ycaP		UPF0702 transmembrane protein ycaP		Ambiguous/Unsorted
hcr		NADH oxidoreductase hcr		Up Regulated
diaA		DnaA initiator-associating protein diaA		Down Regulated
rsxC		Electron transport complex protein rnfC		Down Regulated
rhmT		Inner membrane transport protein yfaV		Ambiguous/Unsorted
yfaV		Inner membrane transport protein yfaV		Ambiguous/Unsorted
yafS	944903	Uncharacterized protein yafS	['DNA replication']	Down Regulated
serS	945506	Seryl-tRNA synthetase		Temporarly Down Regulated
rarA	945505	Replication-associated recombination protein A		Down Regulated
ychN	945794	Protein ychN		Temporarly Up Regulated
dkgB	944901	2,5-diketo-D-gluconic acid reductase B		Up Regulated
yafJ		Putative glutamine amidotransferase yafJ		Ambiguous/Unsorted
queA		S-adenosylmethionine:tRNA ribosyltransferase-isomerase		Down Regulated
cobU		Bifunctional adenosylcobalamin biosynthesis protein cobU		Up Regulated
ynfD		Uncharacterized protein ynfD	['Energy production and conversion', ' Electrochemical potential driven transporters', 'response to stress']	Up Regulated
rsxD		Electron transport complex protein rnfD	and desired the second	Down Regulated
chaB		Cation transport complex protein mib		Temporarly Up Regulated
chaA		Calcium/proton antiporter		Down Regulated
рохВ		Pyruvate dehydrogenase [cytochrome]		Up Regulated
mreC		Rod shape-determining protein mreC	I midazala 4 aerbevenida isomorosa	Down Regulated
hisA		1-(5-phosphoribosyl)-5-[(5-phosphoribosylamino)methyliden Cobalamin synthase	icanimoj iniidazoic <del>i i -</del> -calbuxamide isoniciase	Down Regulated
cobS				Temporarly Up Regulated
yraJ		Uncharacterized outer membrane usher protein yraJ	['Amino acid transport and metabolism', 'Coenzyme transport and metabolism', 'Central intermediary metabolism', 'translation']	Up Regulated
yeeE		UPF0394 inner membrane protein yeeE		Down Regulated
yraH		Uncharacterized fimbrial-like protein yraH	<u> </u>	Up Regulated
hslJ		Heat shock protein hslJ		Temporarly Up Regulated
yafK		Uncharacterized protein yafK		Temporarly Down Regulated
ycaD		Uncharacterized MFS-type transporter ycaD	['translation']	Temporarly Up Regulated
yhgE	947651	Uncharacterized protein yhgE	In .	Temporarly Up Regulated
			ļū	
focA	945513	Type-1 fimbrial protein, C chain; Probable formate transporte	104 Pr 1	Temporarly Down Regulated
	945513		er 1 	
focA	945513 946551	Type-1 fimbrial protein, C chain; Probable formate transporte	r1 	Temporarly Down Regulated
focA hisC	945513 946551 946552	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase	er 1	Temporarly Down Regulated Down Regulated
focA hisC hisB	945513 946551 946552 948691	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated
focA hisC hisB mutL yjeT	945513 946551 946552 948691 948696	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL		Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated
focA hisC hisB mutL	945513 946551 946552 948691 948696 948490	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT		Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated
focA hisC hisB mutL yjeT rplJ hflK	945513 946551 946552 948691 948696 948490 948698	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated
focA hisC hisB mutL yjeT rplJ hflK yjfC	945513 946551 946552 948691 948696 948490 948698 948699	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC		Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Up Regulated Up Regulated
focA hisC hisB mutL yjeT rplJ hflK yjfC exuT	945513 946551 946552 948691 948696 948490 948698 948699 947601	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC Hexuronate transporter	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated
focA hisC hisB mutt. yjeT rplJ hflK yjfC exuT rplE	945513 946551 946552 948691 948696 948699 948699 948699 947601 947800	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidino biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yieT 50S ribosomal protein L10 Protein hiR Uncharacterized protein yifC Hexuronate transporter 50S ribosomal protein L50 Protein hiR Uncharacterized protein yifC Hexuronate transporter 50S ribosomal protein L5	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated
focA hisC hisB mutt. yjeT rpIJ hflK yjfC exuT rpIE rpsN	945513 946551 946552 948691 948696 948490 948698 947601 947800 947801	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase BINA mismatch repair protein mut.  Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hliK  Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L50 SIOS ribosomal protein L50 SIOS ribosomal protein L5 30S ribosomal protein L5	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
focA hisC hisB mutL yjeT rpIJ hflK yjfC exuT rpIE rpsN rpsH	945513 946551 946552 948691 948696 948490 948698 947601 947800 947801	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase DNA mismatch repair protein mutt.  Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S14 30S ribosomal protein S8	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Up Negulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated
focA hisC hisB mutt. yjeT rpiJ hflK yjfC exuT rpIE rpsN rpsH umuC	945513 946551 946552 948691 948696 948490 948699 947601 947800 947802 946359	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S8 Protein umuC	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated
focA hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF	945513 946551 946552 948691 948696 948490 948699 947601 947800 947802 946359 947803	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hliK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S4 Protein umuC 50S ribosomal protein S8 Protein umuC 50S ribosomal protein L6	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated
focA hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB	945513 946551 946552 948691 948696 948699 947601 947800 947801 947803 947803 947803 947803 947803	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase DNA mismatch repair protein mutt.  Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hfiK  Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S8 Protein umuC 50S ribosomal protein L6 Protease 2	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated Ambiguous/Unsorted
focA hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB yoaB	945513 946551 946552 948691 948696 948699 947601 9478001 947802 946359 947803 946358	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase DNA mismatch repair protein mutt.  Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S8 Protein umuC 50S ribosomal protein L6 Protease 2 UPF0076 protein yoaB	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated
focA hisC hisB mutL yjeT rplJ hflK yffC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA	945513 946551 946552 948696 948696 948698 948699 947601 947800 947802 946359 947803 946359 946359	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yieT 50S ribosomal protein L10 Protein hlfK Uncharacterized protein yifC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S8 Protein umuC 50S ribosomal protein L6 Protein umuC 50S ribosomal protein L6 Protein 20 Uncharacterized protein L6 Protein 20 Uncharacterized protein L6 Protein 20 Uncharacterized S2 UUFF0076 protein yoaB Serine/threonine-protein phosphatase 1	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated
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focA hisC hisB mutt. yjeT rpiJ hflK yjfC exuT rpiE rpsN rpsH umuC rpiF ptrB ptrB pdxA cdh pdxA cyoD yebW queC pfkA fieF fipr uspD yiiS hemE	945513 946551 946552 948696 948698 948698 948699 947601 947800 947800 947802 946359 947803 946358 948410 947039 944919 944919 947034 948414 948415 948415 948416 948416 948416 94849 948419	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase DNA mismatch repair protein mut. Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hfiK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein S14 30S ribosomal protein S14 30S ribosomal protein S8 Protein umuC 50S ribosomal protein S8 Protein umuC 50S ribosomal protein S8 Protein umuC 50S ribosomal protein S8 Protein yoaB Serine/threonine-protein phosphatase 1 CDP-diacylglycerol pyrophosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queusine biosynthesis protein queC 6-phosphofructokinase; 6-phosphofructokinase isozyme 1 Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D UPF0381 protein yiiS Uroporphyrinogen decarboxylase	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
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focA hisC hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA cdh pdxJ pdxA cyoD yebW queC pfkA fieF fpr uspD yiiS hemE yebO yiiR hupA	945513 946551 946551 948696 948696 948698 948699 9476011 947800 947801 947802 946359 946359 946357 946356 948410 947039 944918 946954 944918 948414 948415 948416 948417 948417 948417 948417 948417 948417 948417 948417 948417 948417 948417	Type-1 fimbrial protein, C chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase Phistidinol-phosphate aminotransferase DNA mismatch repair protein mut. Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S8 Protein umuC 50S ribosomal protein S9 Protein umuC 50S ribosomal protein yoaB Serine/threonine-protein phosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queuosine biosynthesis protein queC 6-phosphofructokinase; 6-phosphofructokinase; 6-phosphofructokinase; 6-phosphofructokinase; 1 Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D UPF0381 protein yiiiS Uroporphyrinogen decarboxylase Uncharacterized protein yebO Uncharacterized protein yiiR DNA-binding protein HU-alpha	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']  ['electron transport', 'metabolic process']  []  []	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated
focA hisC hisC hisB mutt. yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA cdh pdxJ pdxA cyoD yebW queC pfkA fieF fpr uspD yiiS hemE yebO yiiR hupA menA	945513 946551 946552 948696 948698 948698 948698 947601 947800 947800 947803 946358 946358 946359 944919 944918 946354 947034 948412 948412 948415 948416 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidinol-phosphate aminotransferase Phistidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutt. Uncharacterized protein yigT 50S ribosomal protein L10 Protein hfiK Uncharacterized protein yifC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S8 Protein umuC 50S ribosomal protein Hosphatase 1 CDP-diacylglycerol pyrophosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queuosine biosynthesis protein quC 6-phosphofructokinase; 6-phosphofructokinase isozyme 1 Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D UPF0381 protein yiiS Urroporphyrinogen decarboxylase Uncharacterized protein yebO Uncharacterized protein yiiR DNA-binding protein HU-alpha 1,4-dihydroxy-2-naphthoate octaprenyltransferase	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']  ['electron transport', 'metabolic process']  []  []	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
focA hisC hisB mutL yjeT rplJ hflK yflC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA cdh pdxJ pdxA cyoD yebW queC pfkA fieF fpr uspD yiiS hemE yebO yiiR hupA menA nudC	945513 946551 946552 948696 948698 948699 947601 947800 947802 946359 947803 946358 946357 946356 948410 947034 947034 948415 948415 948415 948417 948419 948419 948419 948411 948411 948411 948419 948419 948419 948411 948411 948411 948419 948419 948419 948419 948419 948411 948411	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjeC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S8 Protein umuC 50S ribosomal protein S8 Protein umuC 50S ribosomal protein L6 Protease 2 UPF0076 protein yoaB Serine/threonine-protein phosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queuosine biosynthesis protein queC 6-phosphofructokinase; 6-phosphofructokinase isozyme 1 Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D UPF0381 protein yiiS Uroporphyrinogen decarboxylase Uncharacterized protein yebO Uncharacterized protein yebO Uncharacterized protein yiiR DNA-binding protein HU-alpha 1,4-dihydroxyt-2-naphthoate octaprenyltransferase NADH pyrophosphatase	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']  ['electron transport', 'metabolic process']  []  []	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated
focA hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA cdh pdxJ pdxA cyoD yebW queC pfkA fieF fpr uspD yiiS hemE yebO yiiR hupA menA nudC yafQ	945513 946551 946552 948696 948696 948698 948699 947601 947800 947800 947803 946356 946357 946356 948410 947034 947034 944918 948413 948413 948415 948415 948416 948417 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419 948419	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mut. Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hfiK Uncharacterized protein yjfC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S8 Protein umuC 50S ribosomal protein S9 Protein umuC 50S ribosomal protein yoaB Serine/threonine-protein phosphatase 1 CDP-diacylglycerol pyrophosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queuosine biosynthesis protein queC 6-phosphofructokinase; 6-phosphofructokinase; 6-phosphofructokinase; 6-phosphofructokinase; 1 Ferrous-iron efflux pump fieF Ferredoxin-NADP reductase Universal stress protein D UPF0381 protein yiiS Uroporphyrinogen decarboxylase Uncharacterized protein yebO Uncharacterized protein yiiR DNA-binding protein HU-alpha 1,4-dihydroxy-2-naphthoate octaprenyltransferase NADH pyrophosphatase Uncharacterized protein yafQ	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']  ['electron transport', 'metabolic process']  []  []	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Down Regulated
focA hisC hisC hisB mutL yjeT rplJ hflK yjfC exuT rplE rpsN rpsH umuC rplF ptrB yoaB pphA cdh pdxJ pdxA cyoD yebW queC pfkA fieF fpr uspD yiiS hemE yyebO yiiR hupA menA nudC	945513 946551 946552 948696 948698 948698 948698 947601 947800 947800 947803 946358 946358 946359 944919 944918 944918 944919 944919 944919 944919 944919 944919 944919 948412 948412 948418 948418 948419	Type-1 fimbrial protein, Č chain; Probable formate transporte Histidinol-phosphate aminotransferase Histidine biosynthesis bifunctional protein hisB DNA mismatch repair protein mutL Uncharacterized protein yjeT 50S ribosomal protein L10 Protein hflK Uncharacterized protein yjeC Hexuronate transporter 50S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein L5 30S ribosomal protein S8 Protein umuC 50S ribosomal protein S8 Protein umuC 50S ribosomal protein L6 Protease 2 UPF0076 protein yoaB Serine/threonine-protein phosphatase 1 CDP-diacylglycerol pyrophosphatase Pyridoxine 5'-phosphate synthase 4-hydroxythreonine-4-phosphate dehydrogenase Cytochrome o ubiquinol oxidase protein cyoD Uncharacterized protein yebW Queuosine biosynthesis protein queC 6-phosphofructokinase; 6-phosphofructokinase isozyme 1 Ferrous-iron efflux pump fieF FerredoxinNADP reductase Universal stress protein D UPF0381 protein yiiS Uroporphyrinogen decarboxylase Uncharacterized protein yebO Uncharacterized protein yebO Uncharacterized protein yiiR DNA-binding protein HU-alpha 1,4-dihydroxyt-2-naphthoate octaprenyltransferase NADH pyrophosphatase	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']  ['electron transport', 'metabolic process']  []  []	Temporarly Down Regulated Down Regulated Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Down Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Down Regulated

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zapA	947404 Cell division protein zapA		Temporarly Up Regulated
yeeX	946541 UPF0265 protein yeeX		Ambiguous/Unsorted
hfq	948689 Protein hfq		Down Regulated
sbmC	946546 DNA gyrase inhibitory protein		Temporarly Up Regulated
hisL	946547 His operon leader peptide		Ambiguous/Unsorted
hflX	948688 GTP-binding protein hflX		Down Regulated
hisG	946549 ATP phosphoribosyltransferase		Down Regulated
hisH	946544 Imidazole glycerol phosphate synthase subunit hisH		Down Regulated
yeeA	946545 Inner membrane protein yeeA		Up Regulated
ygbJ	947200 Uncharacterized oxidoreductase ygbJ	Ш	Up Regulated
rpml	946349 50S ribosomal protein L35		Down Regulated
rsmF	946348 Ribosomal RNA small subunit methyltransferase F		Temporarly Down Regulated
rpIL	948489 50S ribosomal protein L7/L12		Down Regulated
yeeD	946539 UPF0033 protein yeeD		Temporarly Up Regulated
dsbB	946344 Disulfide bond formation protein B		Down Regulated
yebV	946347 Uncharacterized protein yebV	['Replication recombination and repair']	Up Regulated
yoaH	946346 UPF0181 protein yoaH		Down Regulated
yfiC		1_3956; ECS88_2749; ECDH10B_2743; ECUMN_2898; ECIAI39_2780; UTI89_C2897; EC55989_2864; pC15-1a_066; Z3857; b	
rplK	948484 50S ribosomal protein L11		Down Regulated
rpIA	948483 50S ribosomal protein L1		Down Regulated
rlmA	946340 b1822		Ambiguous/Unsorted
cpxR	948404 Transcriptional regulatory protein cpxR		Down Regulated
yobD	946343 UPF0266 membrane protein yobD		Down Regulated
rhtA	947045 Inner membrane transporter rhtA		Temporarly Up Regulated
ygbM	947207 Protein ygbM		Temporarly Up Regulated
manZ	946342 Mannose permease IID component		Temporarly Up Regulated
rpoB	948488 DNA-directed RNA polymerase subunit beta		Down Regulated
bolA	947043 Protein bolA		Temporarly Up Regulated
dinB	944922 DNA polymerase IV		Ambiguous/Unsorted
nusG	948485 Transcription antitermination protein nusG		Temporarly Down Regulated
yiiM	948406 Protein yiiM		Down Regulated
lepB	947040 Signal peptidase I		Down Regulated
pgk	947414 Phosphoglycerate kinase		Down Regulated
mscS	947416 Small-conductance mechanosensitive channel		Down Regulated
cpsG	946574 Phosphomannomutase		Temporarly Down Regulated
fbaA	947415 Fructose-bisphosphate aldolase class 2		Down Regulated
ugd	946571 UDP-glucose 6-dehydrogenase		Temporarly Up Regulated
argO	947418 Arginine exporter protein argO		Up Regulated
rpoE	947050 RNA polymerase sigma factor; RNA polymerase sigma-E fac	tor	Up Regulated
rpID	947818 50S ribosomal protein L4		Down Regulated
rpIC	947817 50S ribosomal protein L3		Down Regulated
yggF	947410 Uncharacterized protein yggF	['Replication recombination and repair', ' Central intermediary metabolism', 'DNA recombination']	Temporarly Down Regulated
yhaH	947617 Inner membrane protein yhaH		Temporarly Up Regulated
hsIU	948430 ATP-dependent hsl protease ATP-binding subunit hslU		Down Regulated
yebC	946379 UPF0082 protein yebC		Down Regulated
ruvC	946378 Crossover junction endodeoxyribonuclease ruvC		Down Regulated
rpIB	947820 50S ribosomal protein L2		Down Regulated
metF	948432 Methylenetetrahydrofolate reductase; 5,10-methylenetetrahy	drofolate reductase	Temporarly Up Regulated
surE	947211 Multifunctional protein surE		Down Regulated
yciS	944936 Inner membrane protein yciS		Down Regulated
ruvB	946371 Holliday junction ATP-dependent DNA helicase ruvB		Temporarly Down Regulated
truD	947214 tRNA pseudouridine synthase D		Down Regulated
rseB	947054 Sigma-E factor regulatory protein rseB		Temporarly Down Regulated
rseA	947053 Sigma-E factor negative regulatory protein		Ambiguous/Unsorted
metB	948434 Cystathionine gamma-synthase		Down Regulated
znuA	946375 High-affinity zinc uptake system protein znuA		Ambiguous/Unsorted
ydeA	947218 UPF0401 protein yubL; Probable sugar efflux transporter; Su	gar efflux transporter	Up Regulated
metJ	948435 Met repressor		Temporarly Up Regulated
srmB	947055 ATP-dependent RNA helicase srmB		Down Regulated
rsmA	944939 b0051		Down Regulated
cysN	947219 Sulfate adenylyltransferase subunit 1		Down Regulated
yciH	947058 Uncharacterized protein yciH	[Translation_ribosomal structure and biogenesis', 'translation']	Down Regulated
nagE ycfQ	945292 PTS system N-acetylglucosamine-specific EIICBA compone	nt	Up Regulated
ycfQ	947425 Uncharacterized HTH-type transcriptional regulator ycfQ		Up Regulated
FldA	945293 Flavodoxin-1		Down Regulated
rdgB	947429 Nucleoside-triphosphatase; Nucleoside-triphosphatase rdgB		Down Regulated
insE	944952 Transposase insE for insertion sequence IS3A/B/C/D/E/fA/fE	3; Transposase insE for insertion sequence IS3	Up Regulated
fur	945295 Ferric uptake regulation protein		Ambiguous/Unsorted
entE	947426 Enterobactin synthetase component E		Temporarly Up Regulated
ybaO	945091 Uncharacterized HTH-type transcriptional regulator ybaO	[' Metabolism of other compounds']	Up Regulated
rpmC	947807 50S ribosomal protein L29		Down Regulated
rpIP	947806 50S ribosomal protein L16		Down Regulated
rpmJ	947805 50S ribosomal protein L36 2; 50S ribosomal protein L36; 50S	6 ribosomal protein L36 1	Down Regulated
yegH	946566 UPF0053 protein yegH		Ambiguous/Unsorted

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rpIR	947804 50S ribosomal protein L18		Down Regulated
murR	946568 b2427		Down Regulated
tktA	947420 Transketolase 1		Down Regulated
rpIN	947809 50S ribosomal protein L14		Down Regulated
rpsQ	947808 30S ribosomal protein S17		Down Regulated
marA	947613 Multiple antibiotic resistance protein marA		Up Regulated
yqjF	947608 Inner membrane protein yqjF		Up Regulated
eda	946367KHG/KDPG aldolase		Down Regulated
glpF	948422 Glycerol uptake facilitator protein		Up Regulated
zapB	948420 Cell division protein zapB		Up Regulated
purT	946368 Phosphoribosylglycinamide formyltransferase 2		Down Regulated
rpIV	947813 50S ribosomal protein L22		Down Regulated
rpsC	947814 30S ribosomal protein S3		Down Regulated
rpsS	947811 30S ribosomal protein S19		Down Regulated
cysC	947221 Adenylyl-sulfate kinase		Down Regulated
hslV	948429 ATP-dependent protease hslV		Down Regulated
eamB	947065 Cysteine/O-acetylserine efflux protein		Temporarly Up Regulated
ybgF	947227 Uncharacterized protein ybgF		Down Regulated
cytR	948427 HTH-type transcriptional repressor cytR		Down Regulated
	946361 Exodeoxyribonuclease 10		
exoX			Down Regulated
selU	947063 tRNA 2-selenouridine synthase		Up Regulated
maa	945096 Maltose O-acetyltransferase		Up Regulated
pagP	946360 Protein crcA		Up Regulated
kgtP	947069 Alpha-ketoglutarate permease		Temporarly Up Regulated
yebF	946363 Protein yebF		Up Regulated
adk	945097 Adenylate kinase		Down Regulated
edd	946362 Phosphogluconate dehydratase		Temporarly Down Regulated
hha	945098 Hemolysin expression-modulating protein		Up Regulated
yfiD	947068 Autonomous glycyl radical cofactor		Temporarly Down Regulated
insF	944948 Transposase insF for insertion sequence IS3A/B/C/D/E/fA		Up Regulated
ung	947067 Uracil-DNA glycosylase		Down Regulated
htpG	945099 Chaperone protein htpG		Down Regulated
glpK	948423 Glycerol kinase		Up Regulated
yebG	946364 Uncharacterized protein yebG	['Translation ribosomal structure and biogenesis', 'Replication recombination and repair']	Up Regulated
glpX	948424 Fructose-1,6-bisphosphatase class 2		Temporarly Up Regulated
vfiF	947066 Uncharacterized tRNA/rRNA methyltransferase yfiF	п	Down Regulated
speA	947432 Biosynthetic arginine decarboxylase; Arginine decarboxylase	3	Down Regulated
vacJ	945582 Lipoprotein vacJ		Down Regulated
mlaA	945582 Lipoprotein vacJ		Down Regulated
CHIA	947837 Probable bifunctional chitinase/lysozyme		Up Regulated
mpaA	945969 Protein mpaA		Up Regulated
tufA	947838 Elongation factor Tu 2; Elongation factor Tu; Elongation factor	TO TU 1	Down Regulated
bfr	947839Bacterioferritin		Up Regulated
суоА	945080 Ubiquinol oxidase subunit 2		Down Regulated
yfaL	946595 Uncharacterized protein yfaL		Up Regulated
dtpA	947436 Tripeptide permease tppB		Ambiguous/Unsorted
tppB	947436 Tripeptide permease tppB		Ambiguous/Unsorted
cof	945089 HMP-PP phosphatase		Ambiguous/Unsorted
mdlB	945088 Multidrug resistance-like ATP-binding protein mdlB		Temporarly Down Regulated
glnK	945087 Nitrogen regulatory protein P-II 2		Down Regulated
yijO	948451 Uncharacterized HTH-type transcriptional regulator yijO	[' RNA related', ' Type of regulation', ' Genetic unit regulated', 'regulation of transcription DNA dependent']	Down Regulated
lon	945085 ATP-dependent protease La		Ambiguous/Unsorted
clpX	945083 ATP-dependent Clp protease ATP-binding subunit clpX		Ambiguous/Unsorted
argC	948455 N-acetyl-gamma-glutamyl-phosphate reductase		Temporarly Down Regulated
ykgA	944956 UTI89_C0322; ECS88_0301; APECO1_1693; E2348C_0262	2; c0416; ECIAI39_0385; ECIAI1_0298; ECUMN_0338; b0300; EC55989_0303; Z0376; ECDH10B_0289	Ambiguous/Unsorted
ycfJ	945977 Uncharacterized protein ycfJ		Temporarly Up Regulated
argE	948456 Acetylornithine deacetylase		Down Regulated
ydcU	945976 Inner membrane ABC transporter permease protein ydcU		Temporarly Up Regulated
rpmG	94631850S ribosomal protein L33		Down Regulated
ppc	948457 Phosphoenolpyruvate carboxylase		Down Regulated
fusA	947847 Elongation factor G		Down Regulated
		l 10B 4143; ECIAI1 4163; EC55989 4437; Z5513; ECS88 4410; UTI89 C4546; c4914; ECIAI39 3034	Down Regulated
yijP mcG	947846 30S ribosomal protein S7	100_4174, E01/111_4100, E030303_4431, 20310, E0300_4410, U1103_0430, U4314, E01/1103_0034	
rpsG yeaQ	946311 UPF0410 protein yeaQ		Down Regulated
		[[Coll year   manhana anyalana hiaranasial Imatahalia arasasi!	Temporarly Up Regulated
yeaY	946312 Uncharacterized lipoprotein yeaY	['Cell wall membrane envelope biogenesis', 'metabolic process']	Up Regulated
yqgE	947442 UPF0301 protein yqgE		Down Regulated
ompA	945571 Outer membrane protein A		Temporarly Up Regulated
cusS	945978 Sensor kinase cusS; Sensor protein		Down Regulated
rpIM	947828 50S ribosomal protein L13		Down Regulated
ydbK	946587 Probable pyruvate-flavodoxin oxidoreductase		Up Regulated
tehB	945979 Tellurite resistance protein tehB		Temporarly Down Regulated
gspB hspQ	947826 Protein pioO		Ambiguous/Unsorted
hspQ	945578 Heat shock protein hspQ		Temporarly Up Regulated
asmA	946582 Protein asmA		Down Regulated

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SigA   947869   Protein tsgA   Sheat	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp	944987   9449867   9449867   9449867   948477   946331   948477   946332   945990   947013   947013   947013   947014   946335   947863   947865   947865   946333   945995   946334   946334   946334   946339   947867   947867   945998   947867   945998   947867   945998   947867   945998   947867   945998   947867   945998   947867   945998   945998   947867   945998   945998   947867   945998	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdX -serine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein ync.J Putative sensor-like histidine kinase yfhK; Sensor protein PEF0053 inner membrane protein yell Methyl-accepting chemotaxis protein III Nitrogen regulatory protein P-II 1 Putative sensor-like protein P-II 1 Putative sensor-like protein P-II 1 Putative sensor-like protein protein cspC Putative sensor-like p		Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Down Regulated Temporarly Down Regulated	ated ated
yobF 946338 Uncharacterized protein yobF ['RNA related', 'Type of regulation', 'Adaptation to stress', 'transcription', 'regulation of transcription DNA dependent'] Down Regulated   Temporarly Up Regulated   Up Regula	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL	944987 F 9449867 F 9449867 F 948331 L 948477 F 946331 L 945990 L 947013 F 945065 2 947014 L 946330 L 946330 L 947363 E 947068 F 947068 F 947069 E 947864 F 946334 F 946334 F 946339 C 945998 F 948479 F	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdXserine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein yncJ Putative sensor-like histidine kinase yfhK; Sensor protein sensor protein yfhK; Sensor prot	ninopimelate aminotransferase	Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula	ated ated ated
yhdH 947848 Putative quinone oxidoreductase yhdH Temporarly Up Regulated SlyX 947849 Protein slyX Temporarly Up Regulated YngA 947462 Uncharacterized protein yqgA Ip Regulated YngB 944990 Methylisocitrate lyase YngB 944990 Methylisocitrate lyase YngB 944991 Sensor protein torS; Sensor protein Sensor pr	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA ydcH	944987 F 9449867 F 948477 F 946331 L 948470 L 946332 L 9450852 947013 F 947013 F 947014 L 946330 L 946330 L 947863 L 947863 L 947863 L 947865 F 947865 F 947865 F 947865 F 947865 F 947865 F 947867 C 945988 F 947869 F	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdXserine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein yncJ Putative sensor-like histidine kinase yfhK; Sensor protein Putative sensor-like histidine kinase ydhK; Sensor protein ydhK; Sensor ydhK; Sensor protein ydhK; Sensor ydhK	ninopimelate aminotransferase	Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Temporarly Down Regula Temporarly Down Regula	ated ated ated
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bry B         944990   Methylisocitrate lyase         Up Regulated           borS         945595   Sensor protein torS; Se	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA ydcH tsgA yobF	944987   9449867   9449867   9449867   948477   946331   948470   946332   945990   947013   947013   947013   947014   946335   947863   947865   947865   946334   947864   946339   947864   946339   947867   947867   947869   947869   947869   947869   947869   947848	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdX -serine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein ync.J Putative sensor-like histidine kinase yfhK; Sensor protein ydch Protein tsgA Putative quinone oxidoreductase yhdH Protein slyX	ninopimelate aminotransferase ['Channel type Transporters']	Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Down Regulated Temporarly Down Regulated Up Regulated Temporarly Down Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Down Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated Temporarly Up Regulated	ated ated ated ated ated ated ated ated
frmB     944991 S-formylglutathione hydrolase frmB     Temporarly Down Regulated       cbpM     945597 Chaperone modulatory protein cbpM     Up Regulated       codB     944994 Cytosine permease     Down Regulated	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA yobF yhdH slyX	944987   9449867   9449867   9449867   948477   946331   9484770   945990   947013   945995   947013   945995   947016   946330   945995   947016   946336   945995   947865   946333   945997   945997   945997   945997   945997   945997   947869   947848   946338   947848   947849   947846   947849   947849   947849   947849   947849   947849   947849   947846   947849   947846   947849   947846   947849   947849   947846   947848	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdXserine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein ync.J Putative sensor-like histidine kinase yfhK; Sensor protein Putative sensor-like histidine kinase Protein sensor sensor protein ydcH Protein sensor s	ninopimelate aminotransferase ['Channel type Transporters']	Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Up Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated	ated ated ated ated ated ated ated ated
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codB 944994 Cytosine permease Down Regulated	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA ydcH tsgA yobF yhdH slyX yqgA prpB	944987   9449867   9449867   9449867   9484777   946331   94847013   945990   947013   947013   947013   947014   946330   945995   947863   947863   947865   947865   947867   945995   947867   945997   947867   945997   947869   947848   946334   946338   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947849   947859555	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdX -serine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein ync.J Putative sensor-like histidine kinase yfhK; Sensor protein Perotaracterized protein yebY Jncharacterized protein yebY Jncharacterized protein yebY Jncharacterized protein protein yoaE JPF0270 protein yheU Methyl-accepting chemotaxis protein III Nitrogen regulatory protein P-II 1 Exodeoxyribonuclease 7 small subunit Protease degS Peptidase T Succinylornithine transaminase; Acetylornithine/succinyldian PTS system mannose-specific EIIAB component Cold shock-like protein cspC Catabolite gene activator Ribosomal-protein-serine acetyltransferase Pantothenate kinase Jncharacterized protein ydcH Protein tsgA Jncharacterized protein ydpA Methylisocitrate lyase Sensor protein torS; Sensor protein	ninopimelate aminotransferase ['Channel type Transporters']	Up Regulated Down Regulated Down Regulated Down Regulated Up Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Ambiguous/Unsorted Down Regulated Temporarly Up Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated	ated ated ated ated ated ated ated ated
	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA ydcH tsgA yobF yhdH slyX yqgA prpB	944987   9449867   9449867   9449867   948477   946331   9484770   946331   9487013   947013   947013   947013   947013   947013   945995   947016   946335   947865   947865   947867   945995   947867   945986   947869   947869   947869   947849   945995   9459915   945995   9459915	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdX serine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein ync.J Putative sensor-like histidine kinase yfhK; Sensor protein yebY Jncharacterized protein protein P-II 1 Exodeoxyribonuclease 7 small subunit Protease degS Peptidase T Succinylornithine transaminase; Acetylornithine/succinyldian PTS system mannose-specific EIIAB component Cold shock-like protein cspC Catabolite gene activator Ribosomal-protein-serine acetyltransferase Pantothenate kinase Jncharacterized protein ydcH Protein tsgA Jncharacterized protein ydbF Putative quinnon oxidoreductase yhdH Protein slyX Jncharacterized protein yqgA Methylisocitrate lyase Sensor protein torS; Sensor protein S-formylglutathione hydrolase frmB	ninopimelate aminotransferase ['Channel type Transporters']	Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Temporarly Down Regula Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Down Regulated Temporarly Up Regulated Up Regulated Up Regulated Up Regulated Temporarly Down Regulate Temporarly Down Regulate	ated ated ated ated ated ated ated ated
glCC 947466 Gic operon transcriptional activator   Temporarly Up Regulated	frmR ycdX sdaA murB manY yncJ qseE glrK panE yebY nudL yoaE yheU trg glnB xseB degS pepT argD manX cspC crp rimL coaA ydcH tsgA yobF yhdH slyX yqgA prpB torS frmB cbpM	944987   9449867   9449867   944986331   948477   946331   948470   946332   947013   947013   947013   947013   947013   947013   945395   947016   946333   945995   947016   946333   947864   947867   945997   947867   947869   947869   947869   947849	Propionate catabolism operon regulatory protein Transcriptional repressor frmR Putative hydrolase ycdXserine dehydratase 1 JDP-N-acetylenolpyruvoylglucosamine reductase Mannose permease IIC component Jncharacterized protein yncJ Putative sensor-like histidine kinase yfhK; Sensor protein Protein sensor-like histidine kinase yfhK; Sensor protein ydcH Protein tsgA Putative quinone oxidoreductase yhdH Protein slyX Jncharacterized protein ydgA Methylisocitrate lyase Sensor protein tors; Sensor protein Schormylglutathione hydrolase frmB Chaperone modulatory protein cbpM	ninopimelate aminotransferase ['Channel type Transporters']	Up Regulated Down Regulated Down Regulated Up Regulated Up Regulated Temporarly Down Regulated Temporarly Down Regulated Down Regulated Down Regulated Down Regulated Down Regulated Up Regulated Ambiguous/Unsorted Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Down Regulated Ambiguous/Unsorted Ambiguous/Unsorted Down Regulated Temporarly Down Regula Up Regulated Temporarly Down Regula Temporarly Up Regulated Up Regulated Up Regulated Temporarly Down Regula	ated ated ated ated ated ated ated ated
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proY	945050 Proline-specific permease proY		Temporarly Down Regulated
frmA	944988 S-(hydroxymethyl)glutathione dehydrogenase		Down Regulated
argH	948463 Argininosuccinate Iyase		Ambiguous/Unsorted
sthA	948461 Soluble pyridine nucleotide transhydrogenase		Down Regulated
nusB	945054 N utilization substance protein B homolog; N utilization substance	stance protein B	Down Regulated
oxyR	948462 Hydrogen peroxide-inducible genes activator		Temporarly Down Regulated
glyA	947022 Serine hydroxymethyltransferase		Down Regulated
yphH	947023 Uncharacterized protein yphH	['Carbohydrate transport and metabolism', 'Transcription', 'carbohydrate metabolic process']	Ambiguous/Unsorted
murG	946321 UDP-N-acetylglucosamineN-acetylmuramyl-(pentapeptide	pyrophosphoryl-undecaprenol N-acetylglucosamine transferase	Down Regulated
mdh	947854 Malate dehydrogenase		Ambiguous/Unsorted
ftsW	946322 Cell division protein ftsW		Temporarly Down Regulated
yajR	945058 Inner membrane transport protein yajR		Up Regulated
ddlB	946324 D-alanineD-alanine ligase B		Down Regulated
yheO	947851 Uncharacterized protein yheO	['protein folding']	Down Regulated
yfhR	945059 Uncharacterized protein yfhR		Ambiguous/Unsorted
kefG	947857 Glutathione-regulated potassium-efflux system ancillary pro	tein kefG	Up Regulated
yheS	947856 Uncharacterized ABC transporter ATP-binding protein yheS		Temporarly Down Regulated
rnd	946328 Ribonuclease D		Ambiguous/Unsorted