

Supplementary Table 3. List of genes (in alphabetic order) constituting a core genome of misID streptococci and reference strains of *S. pneumoniae*, *S. pseudopneumoniae*, *S. mitis* and the 596553 strain.

Gene	Annotation (PROKKA)
accA	Acetyl-coenzyme A carboxylase carboxyl transferase subunit alpha
accC	Biotin carboxylase
acpA	Acyl carrier protein
acpS	Holo-[acyl-carrier-protein] synthase
adcB	putative zinc transport system permease protein AdcB
adcC_1	putative zinc transport system ATP-binding protein AdcC
adcR	Transcriptional repressor AdcR
adk	Adenylate kinase
agaC	PTS system N-acetylgalactosamine-specific EIIC component 1
alaA	Glutamate-pyruvate aminotransferase AlaA
aldC	Alpha-acetolactate decarboxylase
alsT	Amino-acid carrier protein AlsT
amyS	Alpha-amylase precursor
ansB	L-asparaginase 2 precursor
apt	Adenine phosphoribosyltransferase
argR_1	Arginine regulator
argR_2	Arginine hydroxamate resistance protein
arlR_2	Response regulator ArlR
aroB	3-dehydroquinate synthase
aroC	Chorismate synthase
aroD	3-dehydroquinate dehydratase
aroE	Shikimate dehydrogenase
aroF	Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensitive
aroG	Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensitive
artM	Arginine transport ATP-binding protein ArtM
artM_1	Arginine transport ATP-binding protein ArtM
asnA	Aspartate--ammonia ligase
asnS	Asparagine--tRNA ligase
aspS	Aspartate--tRNA ligase
atpA	ATP synthase subunit alpha
atpD	ATP synthase subunit beta
atpG	F-ATPase gamma subunit
atpH	F-type ATPase subunit delta
axe1-6A_1	Carbohydrate acetyl esterase/feruloyl esterase precursor
bgIK_2	Beta-glucoside kinase
braC	Leucine-, isoleucine-, valine-, threonine-, and alanine-binding protein precursor
carA	Carbamoyl-phosphate synthase small chain
carB	Carbamoyl-phosphate synthase large chain
cca	CCA-adding enzyme
cdsA	Phosphatidate cytidyltransferase
clpE	ATP-dependent Clp protease ATP-binding subunit ClpE
clpP	ATP-dependent Clp protease proteolytic subunit
clpX	ATP-dependent Clp protease ATP-binding subunit ClpX
cmk	Cytidylate kinase
coaA	Pantothenate kinase
coaBC_2	DNA/pantothenate metabolism flavoprotein

codY	GTP-sensing transcriptional pleiotropic repressor CodY
corA	Magnesium transport protein CorA
csbB	Putative glycosyltransferase CsbB
csd	putative cysteine desulfurase
cshA_2	DEAD-box ATP-dependent RNA helicase CshA
ctsR	Class three stress gene repressor
cysA	Sulfate/thiosulfate import ATP-binding protein CysA
cysB	Cys regulon transcriptional activator
cysE	Serine acetyltransferase
cysK	Cysteine synthase
dapB	4-hydroxy-tetrahydrodipicolinate reductase
dapE	Succinyl-diaminopimelate desuccinylase
dapH	2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-acetyltransferase
ddl	D-alanine--D-alanine ligase
degA	Degradation activator
deoB	Phosphopentomutase
dexB	Glucan 1,6-alpha-glucosidase
dltA	D-alanine--poly(phosphoribitol) ligase subunit 1
dltC	D-alanine--poly(phosphoribitol) ligase subunit 2
dnaC	Replicative DNA helicase
dnaD	DNA replication protein DnaD
dnaK	Heat shock protein 70
dnaN	DNA polymerase III subunit beta
dnaX_1	DNA polymerase III subunit tau
dsbD_2	Thiol:disulfide interchange protein DsbD precursor
dut	Deoxyuridine 5'-triphosphate nucleotidohydrolase
ecfA1	Energy-coupling factor transporter ATP-binding protein EcfA1
ecfA2	Energy-coupling factor transporter ATP-binding protein EcfA2
ecfT_1	Energy-coupling factor transporter transmembrane protein EcfT
efp	Elongation factor P
endA	Competence-specific nuclease
engB	putative GTP-binding protein EngB
epsF	type IV pilin biogenesis protein
era	GTPase Era
exoA	Exodeoxyribonuclease
fabF	3-oxoacyl-[acyl-carrier-protein] synthase 2
fabH	3-oxoacyl-[acyl-carrier-protein] synthase 3
fabM	Trans-2-decenoyl-[acyl-carrier-protein] isomerase
fabZ	3-hydroxyacyl-[acyl-carrier-protein] dehydratase FabZ
fieF	Ferrous-iron efflux pump FieF
fmt	Methionyl-tRNA formyltransferase
frr	Ribosome-releasing factor
ftsE	Cell division ATP-binding protein FtsE
ftsK	DNA translocase FtsK
ftsY	Signal recognition particle receptor FtsY
galK_1	Galactokinase
galK_2	Galactokinase
gap	Glyceraldehyde-3-phosphate dehydrogenase
gatB	Aspartyl/glutamyl-tRNA(Asn/Gln) amidotransferase subunit B
gatC_1	Glutamyl-tRNA(Gln) amidotransferase subunit C

glcK	Glucokinase
glgA	Glycogen synthase
glgD	Glycogen biosynthesis protein GlgD
glmU	Bifunctional protein GlmU
glnH	Arginine-binding extracellular protein ArtP precursor
glnP_2	Glutamine transport system permease protein GlnP
glnR	HTH-type transcriptional regulator GlnR
gloA	Lactoylglutathione lyase
glpK	Glycerol kinase
glpO	Alpha-glycerophosphate oxidase
gltC	HTH-type transcriptional regulator GltC
glyS	Glycine--tRNA ligase beta subunit
gmk	Guanylate kinase
gmuF	putative mannose-6-phosphate isomerase GmuF
gnd	6-phosphogluconate dehydrogenase, decarboxylating
gph	Phosphoglycolate phosphatase
gpmA_1	2,3-bisphosphoglycerate-dependent phosphoglycerate mutase
gpmA_2	2,3-bisphosphoglycerate-dependent phosphoglycerate mutase
gpsA	Glycerol-3-phosphate dehydrogenase [NAD(P)]
graR	Glycopeptide resistance-associated protein R
graS	Sensor histidine kinase GraS
groL	Stress protein H5
group_1492	R3H domain protein
group_1515	coproporphyrinogen III oxidase
group_1588	hypothetical protein
group_1767	DegV domain-containing protein
group_1816	S4 domain protein YaaA
group_1818	Putative glutamine amidotransferasec
group_1831	UGMP family protein
group_1859	hypothetical protein
group_1894	putative integral membrane protein
group_1910	putative ABC transporter ATP-binding protein
group_1974	phosphodiesterase
group_2013	hypothetical protein
group_2136	DNA-directed RNA polymerase subunit beta
group_2154	hypothetical protein
group_2155	hypothetical protein
group_2157	hypothetical protein
group_2241	Colicin V production protein
group_2253	RmuC family protein
group_23020	hypothetical protein
group_23071	preprotein translocase subunit SecG
group_23093	putative ABC transporter ATP-binding protein
group_23095	FeS assembly SUF system protein
group_23100	ABC-type uncharacterized transport system, permease component
group_23112	Phosphotransferase enzyme family protein
group_23121	preprotein translocase subunit SecE
group_2396	Putative peptidyl-prolyl cis-trans isomerase
group_2419	putative membrane protein
group_2436	phosphoglycolate phosphatase

group_2611	Putative O-methyltransferase/MSMEI_4947
group_2637	putative response regulatory protein
group_2649	DNA-binding transcriptional repressor PuvR
group_2652	hypothetical protein
group_2654	putative cyanate transporter
group_2741	DNA-binding transcriptional repressor FabR
group_2753	D-alanyl-lipoteichoic acid biosynthesis protein DltB
group_2783	hypothetical protein
group_2803	putative membrane protein
group_3002	Putative hydrolase
group_3004	hypothetical protein
group_3049	GTPase YqeH
group_3076	carboxylate/amino acid/amine transporter
group_3216	putative ABC transporter ATP-binding protein
group_3311	hypothetical protein
group_3355	hypothetical protein
group_3455	hypothetical protein
group_3488	putative peroxidase-related enzyme
group_3496	putative alkylphosphonate utilization operon protein PhnA
group_3497	hypothetical protein
group_3512	hypothetical protein
group_3601	ABC-type uncharacterized transport system, periplasmic component
group_3603	37-kD nucleoid-associated bacterial protein
group_3749	putative bicarbonate transporter, IctB family
group_3992	hypothetical protein
group_4247	hemolysin
group_4248	Ribosome-associated factor Y
group_4307	Putative universal stress protein
group_4625	hypothetical protein
group_4678	glmZ(sRNA)-inactivating NTPase
group_4687	Putative tRNA (cytidine(34)-2'-O)-methyltransferase
group_4702	hypothetical protein
group_5030	transcriptional repressor DtcA
group_5059	LemA family protein
group_528	putative PEP-CTERM system TPR-repeat lipoprotein
group_5435	hypothetical protein
group_5462	hypothetical protein
group_5470	Calcium-transporting ATPase
group_5504	hypothetical protein
group_5555	hypothetical protein
group_5556	Nitronate monooxygenase
group_5978	putative DNA-binding protein
group_5982	hypothetical protein
group_6037	Cobalt-dependent inorganic pyrophosphatase
group_6085	Flavodoxin
group_6129	lineage-specific thermal regulator protein
group_6669	hypothetical protein
group_6798	putative RNA-binding protein (contains KH domain)
group_6809	hypothetical protein
group_6813	Initiation-control protein YabA

group_6823	putative ribosomal protein
group_701	CutC-like protein
group_770	putative ABC-type exoprotein transport system, permease component
group_7802	hypothetical protein
group_7803	hypothetical protein
group_7865	preprotein translocase subunit SecA
group_7887	hypothetical protein
group_7918	hypothetical protein
group_794	Farnesyl diphosphate synthase
group_7985	putative ABC transporter ATP-binding protein
group_859	hypothetical protein
grpE	HSP-70 cofactor
gtaB_1	UTP--glucose-1-phosphate uridylyltransferase
guaA	GMP synthase [glutamine-hydrolyzing]
guaB	Inosine-5'-monophosphate dehydrogenase
guaB_2	putative manganese-dependent inorganic pyrophosphatase
guaC	GMP reductase
hflK	Modulator of FtsH protease HflK
hflX	GTP-binding protein HflX
hom	Homoserine dehydrogenase
hprK	HPr kinase/phosphorylase
hpt	Hypoxanthine-guanine phosphoribosyltransferase
hrcA	Heat-inducible transcription repressor HrcA
hslO	hypothetical protein
hslR	Heat shock protein 15
ileS	Isoleucine--tRNA ligase
ilvE	Branched-chain-amino-acid aminotransferase
ilvH	Putative acetolactate synthase small subunit
infA	Translation initiation factor IF-1
infB	Translation initiation factor IF-2
infC	Translation initiation factor IF-3
iscS_1	Cysteine desulfurase
iscS_2	Cysteine desulfurase
ispD2	Putative 2-C-methyl-D-erythritol 4-phosphate cytidylyltransferase 2
lacB	Galactose-6-phosphate isomerase subunit LacB
lacC_1	Tagatose-6-phosphate kinase
lacD	Tagatose 1,6-diphosphate aldolase
lacR_3	Lactose operon repressor
lagD	Lactococcin-G-processing and transport ATP-binding protein LagD
lcnD	Lactococcin A secretion protein LcnD
lgt	Prolipoprotein diacylglyceryl transferase
liaS	Sensor histidine kinase LiaS
livF	LIV-I protein F
livH_1	LIV-I protein H
livH_2	LIV-I protein H
lon2	DNA repair protein RadA
lptB	Lipopolysaccharide export system ATP-binding protein LptB
lspA	Lipoprotein signal peptidase
luxS	S-ribosylhomocysteine lyase
lysA	Diaminopimelate decarboxylase

lysS	Lysine--tRNA ligase
malQ	4-alpha-glucanotransferase
manX_1	EIIAB-Man
manZ_1	PTS system mannose-specific EIID component
map	Methionine aminopeptidase 1
marR	Multiple antibiotic resistance protein MarR
mecA	Adapter protein MecA
mepA_2	Multidrug export protein MepA
metF	5,10-methylenetetrahydrofolate reductase
metK	S-adenosylmethionine synthase
metQ	D-methionine-binding lipoprotein MetQ precursor
mfd_1	Transcription-repair-coupling factor
mgIA	Galactose/methyl galactoside import ATP-binding protein MglA
mglC	Galactoside transport system permease protein MglC
mgsR	Modulator of the general stress response
miaA	tRNA dimethylallyltransferase
misCB	Membrane protein YidC 1
mnmA	tRNA-specific 2-thiouridylase MnmA
mnmG	Glucose-inhibited division protein A
mntB	Manganese transport system membrane protein MntB
moeZ_1	putative adenylyltransferase/sulfurtransferase MoeZ
mraY	Phospho-N-acetylmuramoyl-pentapeptide-transferase
mreC	Cell shape protein MreC
mrnC	Mini-ribonuclease 3
mshA	D-inositol 3-phosphate glycosyltransferase
msrAB	Peptide methionine sulfoxide reductase MsrA/MsrB
mtnN	5'-methylthioadenosine/S-adenosylhomocysteine nucleosidase
murA1	UDP-N-acetylglucosamine 1-carboxyvinyltransferase 1
murC	UDP-N-acetylmuramate--L-alanine ligase
murI	Glutamate racemase
mutX_2	8-oxo-dGTP diphosphatase
nadE	NH(3)-dependent NAD() synthetase
nagA	N-acetylglucosamine-6-phosphate deacetylase
nanA_2	N-acetylneuraminate lyase
nfrA2	FMN reductase [NAD(P)H]
nifU	NifU-like protein
nrdD_1	Anaerobic ribonucleoside-triphosphate reductase
nrdE2	Ribonucleoside-diphosphate reductase subunit alpha 2
nrdF	Ribonucleoside-diphosphate reductase 2 subunit beta
nrdH	Glutaredoxin-like protein NrdH
nrdR	Transcriptional repressor NrdR
nusA	hypothetical protein
obg	Spo0B-associated GTP-binding protein
opuCA	Carnitine transport ATP-binding protein OpuCA
pabA	Para-aminobenzoate synthase glutamine amidotransferase component II
pacS	Cation-transporting ATPase PacS
panT	Pantothenic acid ECF transporter S component PanT
parE	DNA topoisomerase 4 subunit B
patA	Putative N-acetyl-LL-diaminopimelate aminotransferase
patB	Cystathionine beta-lyase PatB

pbpF_2	Penicillin-binding protein F
pdg	UV-endonuclease
pdp	Pyrimidine-nucleoside phosphorylase
pdxK	Pyridoxine kinase
pdxS	Pyridoxal biosynthesis lyase PdxS
pepA_2	Glutamyl aminopeptidase
pepN	Aminopeptidase N
pfkA	6-phosphofructokinase
pflA_1	Pyruvate formate-lyase 1-activating enzyme
pflA_2	Pyruvate formate-lyase-activating enzyme
pgcA	Phosphoglucomutase
pgk	Phosphoglycerate kinase
pgl	6-phosphogluconolactonase
pglF	UDP-N-acetyl-alpha-D-glucosamine C6 dehydratase
pgsA	CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase
pheA	Prephenate dehydratase
plsX	Phosphate acyltransferase
plsY	G3P acyltransferase
pncB2	Nicotinate phosphoribosyltransferase pncB2
pnp	Polyribonucleotide nucleotidyltransferase
potB	Spermidine/putrescine transport system permease protein PotB
pox5	Pyruvate oxidase
ppaC	putative manganese-dependent inorganic pyrophosphatase
ppnK	putative inorganic polyphosphate/ATP-NAD kinase
prfA	Peptide chain release factor 1
prfB	Peptide chain release factor 2
priA	Primosomal protein N'
prmA	Ribosomal protein L11 methyltransferase
proA	Gamma-glutamyl phosphate reductase
proB	Glutamate 5-kinase 1
prs	Ribose-phosphate pyrophosphokinase
prs2	Ribose-phosphate pyrophosphokinase 2
psaA	Pneumococcal surface adhesin A
pspB	Putative phosphoserine phosphatase 2
pstA	Phosphate transport system permease protein PstA
pstB3_2	Phosphate import ATP-binding protein PstB 3
pth	Peptidyl-tRNA hydrolase
ptsH	Phosphocarrier protein HPr
puck	Uric acid permease Puck
purA	Adenylosuccinate synthetase
purC	Phosphoribosylaminoimidazole-succinocarboxamide synthase
purE	N5-carboxyaminoimidazole ribonucleotide mutase
purF	Amidophosphoribosyltransferase precursor
purK	N5-carboxyaminoimidazole ribonucleotide synthase
purL	Phosphoribosylformylglycinamide synthase
purM	Phosphoribosylformylglycinamide cyclo-ligase
purR	Pur operon repressor
pyrB	Aspartate carbamoyltransferase
pyrC	Dihydroorotase
pyrH	Uridylate kinase

pyrK	Dihydroorotate oxidase B, electron transfer subunit
pyrR	Bifunctional protein PyrR
queA	S-adenosylmethionine:tRNA ribosyltransferase-isomerase
rarA	Replication-associated recombination protein A
rbgA	Ribosome biogenesis GTPase A
recA	Recombinase A
recF	DNA replication and repair protein RecF
recG	ATP-dependent DNA helicase RecG
recN	Recombination protein N
recO	Recombination protein O
recR	Recombination protein RecR
rex	Redox-sensing transcriptional repressor rex
ribU	Riboflavin ECF transporter S component RibU
rimN	t(6)A37 threonylcarbamoyladenosine biosynthesis protein RimN
rimP	hypothetical protein
rlmH	Ribosomal RNA large subunit methyltransferase H
rlmI	Ribosomal RNA large subunit methyltransferase I
rlmL	Ribosomal RNA large subunit methyltransferase K/L
rluB	Ribosomal large subunit pseudouridine synthase B
rluD_1	Ribosomal large subunit pseudouridine synthase D
rluD_2	Ribosomal large subunit pseudouridine synthase D
rnc	Ribonuclease 3
rnhC	Ribonuclease HIII
rnjA	Ribonuclease J 1
rnjB	Ribonuclease J 2
rnmV	Ribonuclease M5
rnpA	Ribonuclease P protein component
rnr	Ribonuclease R
rny	Ribonuclease Y
rnz	Ribonuclease Z
rodA	Rod shape-determining protein RodA
rpiA	Ribose-5-phosphate isomerase A
rplA	50S ribosomal protein L1
rplB	hypothetical protein
rplC	50S ribosomal protein L3
rplD	50S ribosomal protein L4
rplE	50S ribosomal protein L5
rplF	hypothetical protein
rplI	hypothetical protein
rplJ	50S ribosomal protein L10
rplK	50S ribosomal protein L11
rplL	50S ribosomal protein L7/L12
rplM	50S ribosomal protein L13
rplN	50S ribosomal protein L14
rplO	50S ribosomal protein L15
rplP	50S ribosomal protein L16
rplQ	hypothetical protein
rplR	hypothetical protein
rplS	50S ribosomal protein L19
rplT	50S ribosomal protein L20

rplU	50S ribosomal protein L21
rplV	50S ribosomal protein L22
rplW	50S ribosomal protein L23
rplX	50S ribosomal protein L24
rpmA	50S ribosomal protein L27
rpmB	50S ribosomal protein L28
rpmC	50S ribosomal protein L29
rpmD	50S ribosomal protein L30
rpmE2	50S ribosomal protein L31 type B
rpmH	50S ribosomal protein L34
rpmI	50S ribosomal protein L35
rpmJ	Ribosomal protein II
rpoA	DNA-directed RNA polymerase subunit alpha
rpoC	DNA-directed RNA polymerase subunit beta'
rpoZ	DNA-directed RNA polymerase subunit omega
rpsA_2	30S Ribosomal protein S1
rpsB	30S ribosomal protein S2
rpsC	hypothetical protein
rpsD	30S ribosomal protein S4
rpsE	hypothetical protein
rpsF	30S ribosomal protein S6
rpsG	30S ribosomal protein S7
rpsH	30S ribosomal protein S8
rpsJ	hypothetical protein
rpsK	30S ribosomal protein S11
rpsL	30S ribosomal protein S12
rpsM	hypothetical protein
rpsP	30S ribosomal protein S16
rpsQ	hypothetical protein
rpsR	30S ribosomal protein S18
rpsS	30S ribosomal protein S19
rpsT	30S ribosomal protein S20
rsfS	Ribosomal silencing factor RsfS
rsgA	Putative ribosome biogenesis GTPase RsgA
rsmA	Ribosomal RNA small subunit methyltransferase A
rsmC	Ribosomal RNA small subunit methyltransferase C
rsmD	Ribosomal RNA small subunit methyltransferase D
rsmF	Ribosomal RNA small subunit methyltransferase F
rsmH	Ribosomal RNA small subunit methyltransferase H
rsml	Ribosomal RNA small subunit methyltransferase I
ruvA	Holliday junction ATP-dependent DNA helicase RuvA
ruvB	Holliday junction ATP-dependent DNA helicase RuvB
scpA	Segregation and condensation protein A
scpB	Segregation and condensation protein B
sdhA	L-serine dehydratase, alpha chain
sdhB	L-serine dehydratase, beta chain
serS	Serine--tRNA ligase
sigA	Sigma-A
skfE	SkfA peptide export ATP-binding protein SkfE
smpB	SsrA-binding protein

spsB	Signal peptidase IB
spxA_2	Regulatory protein spx
ssb_1	Helix-destabilizing protein
ssuC	Putative aliphatic sulfonates transport permease protein SsuC
sufB_1	FeS cluster assembly protein SufB
sugC	Trehalose import ATP-binding protein SugC
suhB	Inositol-1-monophosphatase
tadA	tRNA-specific adenosine deaminase
tcyN	L-cystine import ATP-binding protein TcyN
tdk	Thymidine kinase
tgt	Queueine tRNA-ribosyltransferase
thil	putative tRNA sulfurtransferase
thiN	Thiamine pyrophosphokinase
thrB	Homoserine kinase
thrC	Threonine synthase
thyA	Thymidylate synthase
tig	Trigger factor
tkt	Transketolase
tlyA	Hemolysin A
topA	DNA topoisomerase 1
tpiA	Triosephosphate isomerase
tqsA_2	pheromone autoinducer 2 transporter
trkA	Trk system potassium uptake protein TrkA
trmB	tRNA (guanine-N(7)-)-methyltransferase
trmFO	Methylenetetrahydrofolate--tRNA-(uracil-5-)-methyltransferase TrmFO
trpB	Tryptophan synthase beta chain
trpC	Indole-3-glycerol phosphate synthase
trpD	Anthranilate phosphoribosyltransferase
trpE	Anthranilate synthase component 1
trpS2	Tryptophan--tRNA ligase 2
truA	tRNA pseudouridine synthase A
truB	tRNA pseudouridine synthase B
trxA	Thioredoxin
tsf	Elongation factor Ts
tyrS	Tyrosine--tRNA ligase
udk	Uridine kinase
ung	Uracil-DNA glycosylase
uppP	Undecaprenyl-diphosphatase
uppS	Isoprenyl transferase
uvrA	Excinuclease ABC subunit A
uvrB	Excinuclease ABC subunit B
uvrC	Excinuclease ABC subunit C
wcaJ	UDP-glucose:undecaprenyl-phosphate glucose-1-phosphate transferase
xerS	Tyrosine recombinase XerS
xseB	Exodeoxyribonuclease 7 small subunit
yabJ	Enamine/imine deaminase
yajL	Chaperone protein YajL
ybaK	Cys-tRNA(Pro)/Cys-tRNA(Cys) deacylase YbaK
ybeY	Endoribonuclease YbeY
ybjI	Flavin mononucleotide phosphatase YbjI

ychF	Ribosome-binding ATPase YchF
ydcV	Inner membrane ABC transporter permease protein YdcV
ydfG	NADP-dependent 3-hydroxy acid dehydrogenase YdfG
ydjZ	SNARE associated Golgi protein
yecS_1	Inner membrane amino-acid ABC transporter permease protein YecS
yeeN	putative transcriptional regulatory protein YeeN
yfcE	phosphodiesterase
yfiC	N5-glutamine S-adenosyl-L-methionine-dependent methyltransferase
yhaM	3'-5' exoribonuclease YhaM
yhbY	RNA-binding protein YhbY
yheH	putative multidrug resistance ABC transporter ATP-binding/permease protein YheH
yheI_1	putative ABC transporter ATP-binding protein
yheS_1	putative ABC transporter ATP-binding protein YheS
yigZ	IMPACT family member YigZ
yjbM	GTP pyrophosphokinase YjbM
yjjP	Inner membrane protein YjjP
ykuL	CBS domain-containing protein YkuL
ykuR	N-acetyldiaminopimelate deacetylase
ykuT	putative MscS family protein YkuT
yrkK	Putative Holliday junction resolvase
ytpP	Thioredoxin-like protein YtpP
ytrA	HTH-type transcriptional repressor YtrA
yumC	Ferredoxin--NADP reductase 2
ywnA	Putative HTH-type transcriptional regulator YwnA
yycF	Transcriptional regulatory protein YycF
yycJ	Putative metallo-hydrolase YycJ
zwf	Glucose-6-phosphate 1-dehydrogenase