

DEFINITION Integrative and conjugative element ICE_1

CDS complement(1..1772)
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 /note="Transposon Tn1000 resolvase, similar to AA
 sequence:UniProtKB:P03012 protein motif:CLUSTERS:PRK13413
 protein motif:Pfam:PF00239.15"
 /product="Transposon Tn1000 resolvase [DDE recombinase]"
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 /gene="tnpR""
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 /product="Helix-turn-helix domain [transcriptional
 regulator]"
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CDS complement(2580..3008)
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 /note="RNA polymerase sigma factor Sigma-70 region 4,
 protein motif:TIGRFAMs:TIGR02937 protein
 motif:Pfam:PF08281.6"
 /product="RNA polymerase sigma factor Sigma-70 region 4
 [transcriptional regulator]"
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CDS complement(3492..4472)
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 Helix-turn-helix domain, similar to AA
 sequence:UniProtKB:P28816 protein motif:CLUSTERS:PRK15121
 protein motif:Cdd:COG3449 protein motif:TIGRFAMs:TIGR04094
 protein motif:Pfam:PF12833.1"
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 Helix-turn-helix domain [transcriptional regulator]"
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 protein"
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CDS complement(5100..5393)
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 cyclase, protein motif:Cdd:COG5485 protein
 motif:TIGRFAMs:TIGR02096 protein motif:Pfam:PF07366.6"
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 cyclase [ester cyclase]"
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 regulator]"
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 similar to AA sequence: UniProtKB:Q83WC3 protein
 motif:TIGRFAMs:TIGR02021 protein motif: Pfam:PF08241.6"
 /product="Sarcosine/dimethylglycine N-methyltransferase
 [methyltransferase]"
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 /note="Potential acrAB operon repressor, similar to AA
 sequence: UniProtKB:P0ACS9 protein motif: CLUSTERS:PRK10668
 protein motif: TIGRFAMs: TIGR03968 protein
 motif: Pfam: PF00440.17"
 /product="Potential acrAB operon repressor
 [transcriptional regulator]"
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 /protein_id="gnl|SC|B40_04903"
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 AA sequence:UniProtKB:O07084 protein
 motif:CLUSTERS:PRK09509 protein motif:Cdd:COG0053 protein
 motif:TIGRFAMs:TIGR01297 protein motif:Pfam:PF01545.15"
 /product="Cadmium cobalt and zinc/H%28 %29-K%28 %29
 antiporter [heavy metal defense]"
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 /protein_id="gnl|SC|B40_04905"
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 /product="RibD %28riboflavin biosynthesis%29 family
 protein [pyrimidine reductase]"
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 CDS complement(10582..10938)
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 regulator]"
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 CDS complement(10962..11534)
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 /locus_tag="B40_04908"
 /note="Helix-turn-helix domain, protein
 motif:CLUSTERS:PRK11886 protein motif:Pfam:PF08279.6"
 /product="Helix-turn-helix domain [transcriptional
 regulator]"
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/codon_start=1
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 sequence:UniProtKB:P0A3Y5 protein motif:Cdd:COG3231
 protein motif:Pfam:PF01636.17"
 /product="Aminoglycoside 3'-phosphotransferase [antibiotic
 resistance]"
 /"ID=B40_04909
 /gene="aphA""
 /protein_id="gnl|SC|B40_04909"
 /codon_start=1
 CDS complement(12697..13239)
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 /locus_tag="B40_04910"
 /note="streptothricin N-acetyltransferase Sat4, protein
 motif:CLUSTERS:PRK10975 protein motif:TIGRFAMS:TIGR01575
 protein motif:Pfam:PF00583.18"
 /product="streptothricin N-acetyltransferase Sat4
 [antibiotic resistance]"
 /"ID=B40_04910
 /gene="sat4""
 /protein_id="gnl|SC|B40_04910"
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 /eC_number=2.7.7.-
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 adenylyl transferase, similar to AA
 sequence:UniProtKB:P17585 protein motif:Pfam:PF04439.6"
 /product="Aminoglycoside 6-adenylyltransferase
 Streptomycin adenylyltransferase [antibiotic resistance]"
 /"ID=B40_04911
 /gene="aadK""
 /protein_id="gnl|SC|B40_04911"
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 CDS complement(14177..14785)
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 /eC_number=2.1.1.-
 /note="Uncharacterized methyltransferase ycgJ , similar to

AA sequence:UniProtKB:O31474 protein
motif:CLUSTERS:PRK08317 protein motif:Cdd:COG4976 protein
motif:TIGRFAMs:TIGR02072 protein motif:Pfam:PF08241.6"
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initiation]"
/gene="repR"
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ncRNA 15682..15812
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/product="Plasmid_RNAIII [repR repressor]"
CDS complement(15919..16158)
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/locus_tag="B40_04915"
/note="Replication initiation protein RepA, protein
motif:Pfam:PF01381.16"
/product="Replication initiation protein RepA
[replication]"
/ID=B40_04915
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protein motif:Cdd:COG0030 protein motif:TIGRFAMs:TIGR00755
protein motif:Pfam:PF00398.14"
/product="rRNA adenine N-6-methyltransferase [antibiotic
resistanc]"
/"ID=B40_04917
/gene="ermB""
/protein_id="gnl|SC|B40_04917"
/codon_start=1
CDS    complement(17886..18251)
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anchor domain, protein motif:Cdd:COG4932 protein
motif:TIGRFAMs:TIGR01167 protein motif:Pfam:PF00746.15"
/product="Predicted outer membrane protein LPXTG cell wall
anchor domain [membrane protein]"
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CDS    complement(18251..19165)
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/note="ABC transporter permease, protein
motif:CLUSTERS:PRK05625 protein motif:TIGRFAMs:TIGR00227
protein motif:Pfam:PF01872.11"
/product="ABC transporter permease [transporter]"
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/protein_id="gnl|SC|B40_04919""
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/protein_id="gnl|SC|B40_04920"
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CDS    complement(19842..20687)
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 protein motif:Cdd:COG4555 protein motif:TIGRFAMs:TIGR01188
 protein motif:Pfam:PF00005.21"
 /product="ABC transporter ATP-binding protein [ATPase]"
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 CDS complement(20791..21378)
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 /locus_tag="B40_04922"
 /note="tetR/arcR family transcriptional regulator, protein
 motif:CLUSTERS:PRK09975 protein motif:TIGRFAMs:TIGR03968
 protein motif:Pfam:PF00440.17"
 /product="tetR/arcR family transcriptional regulator
 [transcriptional regulator]"
 /"ID=B40_04922
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 /codon_start=1
 CDS complement(21450..22307)
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 /locus_tag="B40_04923"
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 motif:Cdd:COG1647 protein motif:Pfam:PF12697.1"
 /product="Alpha/beta hydrolase family [hydrolase]"
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 /protein_id="gnl|SC|B40_04923""
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 CDS complement(22520..23413)
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 /locus_tag="B40_04924"
 /note="Conjugative transposon protein TcpC, protein
 motif:Pfam:PF12642.1"
 /product="Conjugative transposon protein TcpC [mating pair
 formation]"
 /"ID=B40_04924
 /gene="tcpC""
 /protein_id="gnl|SC|B40_04924"
 /codon_start=1
 CDS complement(23429..24436)
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 /locus_tag="B40_04925"

/note="Peptidase P60 bifunctional lytic
 transglycosylase/NlpC/P60 family protein, similar to AA
 sequence:UniProtKB:P21171 protein motif:CLUSTERS:PRK13914
 protein motif:Cdd:COG3584 protein motif:Pfam:PF00877.13"
 /product="Peptidase P60 bifunctional lytic
 transglycosylase/NlpC/P60 family protein [pepidase]"
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 /product="YtxH domain-containing protein MFS transporter
 membrane protein conjugative transposon protein"
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 CDS complement(26565..29015)
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 /note="Type IV secretion system protein TraC VirB4
 components, protein motif:Cdd:COG3451 protein
 motif:TIGRFAMs:TIGR02746 protein motif:Pfam:PF12846.1"
 /product="Type IV secretion system protein TraC VirB4
 components [ATPase mating pair formation]"
 /"ID=B40_04927
 /gene="traC""
 /protein_id="gnl|SC|B40_04927"
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 /note="TcpE family, protein motif:Pfam:PF12648.1"
 /product="TcpE family [mating pair formation]"
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 /gene="tcpE""
 /protein_id="gnl|SC|B40_04928"
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 /note="Antirestriction protein ArdA, protein
 motif:Cdd:COG4734 protein motif:Pfam:PF07275.5"

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/product="Antirestriction protein ArdA [anti-ristriction
modification]"
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/note="Antirestriction protein ArdA, protein
motif:Cdd:COG4734 protein motif: Pfam:PF07275.5"
/product="Antirestriction protein ArdA [anti-ristriction
modification]"
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CDS    complement(32164..32304)
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motif: Pfam:PF12664.1"
/product="Protein of unknown function DUF3789"
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 /note="DNA translocase FtsK DNA segregation ATPase FtsK/SpoIIIE and related proteins, similar to AA sequence: UniProtKB:P64165 protein motif: Cdd:COG1674 protein motif: TIGRFAMs:TIGR03924 protein motif: Pfam:PF01580.12"
 /product="DNA translocase FtsK DNA segregation ATPase FtsK/SpoIIIE and related proteins [ATPase coupling protein]"
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 /gene="ftsK""
 /protein_id="gnl|SC|B40_04935"
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 /note="Hypothetical protein"
 /product="YcxB family protein [transmembrane protein]"
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 CDS complement(35777..36319)
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 N-terminal domain, protein motif:Cdd:COG3070 protein
 motif:Pfam:PF04993.7"
 /product="Regulator of competence-specific genes TfoX
 N-terminal domain [transcriptional regulator]"
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 /note="IS3 family transposase, protein
 motif:Pfam:PF00665.20"
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 motif:Pfam:PF12663.1"
 /product="Protein of unknown function DUF3788"
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/locus_tag="B40_04943"
/note="Glyoxalase, protein motif:CLUSTERS:PRK04101 protein
motif:Pfam:PF12681.1"
/product="Glyoxalase [glyoxalase]"
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/protein_id="gnl|SC|B40_04943""
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CDS    complement(39627..40013)
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motif:Pfam:PF06125.5"
/product="Protein of unknown function DUF961"
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/protein_id="gnl|SC|B40_04944""
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CDS    complement(40027..40350)
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motif:Pfam:PF06125.5"
/product="Protein of unknown function DUF961"
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/protein_id="gnl|SC|B40_04945""
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CDS    complement(40557..43607)
/color=1
/locus_tag="B40_04946"
/note="Predicted outer membrane protein LPXTG cell wall
anchor domain, protein motif:Cdd:COG4932 protein
motif:Pfam:PF05738.7"
/product="Predicted outer membrane protein LPXTG cell wall
anchor domain [membrane protein]"
/"ID=B40_04946
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/color=1
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CDS complement(44462..45010)
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CDS complement(49350..50210)
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 sequence:UniProtKB:P0A8P8 protein motif:CLUSTERS:PRK00236
 protein motif:Cdd:COG4974 protein motif:TIGRFAMs:TIGR02225
 protein motif:Pfam:PF00589.16"
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CDS complement(50454..51641)
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 /locus_tag="B40_04952"
 /eC_number=1.1.99.28
 /note="Glucose--fructose oxidoreductase precursor, similar
 to AA sequence:UniProtKB:Q07982 protein
 motif:CLUSTERS:PRK11579 protein motif:Pfam:PF01408.16"
 /product="Glucose--fructose oxidoreductase precursor
 [oxidoreductaes]"

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/"ID=B40_04952
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motif: Pfam:PF11175.2"
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/note="Inner membrane ABC transporter permease protein
ycjP glycerol-3-phosphate transporter membrane protein,
similar to AA sequence: UniProtKB:P77716 protein
motif: CLUSTERS:PRK10973 protein motif: Cdd:COG3833 protein
motif: Pfam:PF00528.16"
/product="Inner membrane ABC transporter permease protein
ycjP glycerol-3-phosphate transporter membrane protein
[transporter]"
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secretory system conjugative DNA transfer family protein"
/product="TraM recognition domain-containing protein type
IV secretory system conjugative DNA transfer family
protein [relaxosome]"
/protein_id="gnl|SC|B40_02209"
/codon_start=1
CDS 33099..33239
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/locus_tag="B40_02210"
/note="Maff2 family protein, protein motif:Pfam:PF12750.1"
/product="Maff2 family protein"
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/codon_start=1
CDS 33389..34429
/color=7
/locus_tag="B40_02211"
/note="Transcriptional repressor DicA helix-turn-helix,
protein motif:CLUSTERS:PRK09706 protein motif:Cdd:COG3800
protein motif:TIGRFAMs:TIGR03070 protein
motif:Pfam:PF12844.1"
/product="Transcriptional repressor DicA helix-turn-helix
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/protein_id="gnl|SC|B40_02211""
/codon_start=1
CDS 34596..35039
/color=7
/locus_tag="B40_02212"
/note="RNA polymerase sigma factor Sigma-70 region 4,
protein motif:CLUSTERS:PRK11924 protein
motif:TIGRFAMs:TIGR02937 protein motif:Pfam:PF08281.6"

/product="RNA polymerase sigma factor Sigma-70 region 4
 [transcriptional regulator]"
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 /codon_start=1
 CDS 35032..35232
 /color=7
 /locus_tag="B40_02213"
 /note="helix-turn-helix domain-containing protein, protein
 motif: Pfam:PF12645.1"
 /product="helix-turn-helix domain-containing protein
 [transcriptional regulator]"
 /"ID=B40_02213
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 CDS 35288..35659
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 /product="hypothetical protein"
 /protein_id="gnl|SC|B40_02214"
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 CDS 36276..36671
 /ID=B40_02215
 /color=4
 /locus_tag="B40_02215"
 /note="plasmid mobilization relaxosome protein MobC"
 /product="Plasmid mobilization relaxosome protein MobC
 [relaxosome]"
 /protein_id="gnl|SC|B40_02215"
 /gene="mobC"
 /codon_start=1
 CDS 36634..38265
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 motif: Pfam:PF03432.8"
 /product="Relaxase/Mobilisation nuclease domain
 [relaxase]"
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 /color=10
 /locus_tag="B40_02218"
 /note="phage replisome organizer N-terminal region,
 protein motif:TIGRFAMs:TIGR01714 protein
 motif: Pfam:PF09681.4"
 /product="phage replisome organizer N-terminal region
 [replication]"
 /"ID=B40_02218
 /protein_id="gnl|SC|B40_02218""
 /codon_start=1
 CDS 39392..40249
 /color=10
 /locus_tag="B40_02219"
 /note="Primosomal protein Dnal ATP binding protein,
 similar to AA sequence:UniProtKB:P06567 protein
 motif:CLUSTERS:PRK08116 protein motif:Cdd:COG1484 protein
 motif: Pfam:PF01695.11"
 /product="Primosomal protein Dnal ATP binding protein
 [replication]"
 /"ID=B40_02219
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 /gene="dnal"
 /codon_start=1
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 /ID=B40_02220
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 /locus_tag="B40_02220"
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 /product="Transposon-encoded protein TnpW"
 /protein_id="gnl|SC|B40_02220"
 /gene="tnpW"
 /codon_start=1
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 /color=9
 /locus_tag="B40_02221"

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    /gene="tnpX"
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    /color=9
    /locus_tag="B40_02222"
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    /product="Serine recombinase [recombinase]"
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    /protein_id="gnl|SC|B40_02222""
    /codon_start=1
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    /color=9
    /locus_tag="B40_02223"
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    /product="Transposon-encoded protein TnpW"
    /protein_id="gnl|SC|B40_02223"
    /gene="tnpW"
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CDS    complement(43122..43364)
    /color=7
    /locus_tag="B40_02224"
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    motif: Pfam:PF12645.1"
    /product="helix-turn-helix domain-containing protein
    [transcriptional regulator]"
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    /codon_start=1
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    /color=7
    /locus_tag="B40_02225"
    /note="RNA polymerase sigma factor Sigma-70 region 4,
    protein motif: CLUSTERS:PRK11924 protein
    motif: TIGRFAMs:TIGR02937 protein motif: Pfam:PF08281.6"
    /product="RNA polymerase sigma factor Sigma-70 region 4
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    /"ID=B40_02225
    /protein_id="gnl|SC|B40_02225""
    /codon_start=1
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 motif:CLUSTERS:PRK14469 protein motif:TIGRFAMs:TIGR00048
 protein motif:Pfam:PF04055.15"
 /product="23S rRNA
 %28adenine%282503%29-C%282%29%29-methyltransferase RlmN
 [methyltransferase]"
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 /gene="rlmN"
 /codon_start=1
 CDS 45843..46199
 /color=7
 /locus_tag="B40_02227"
 /note="helix-turn-helix, protein motif:CLUSTERS:PRK08154
 protein motif:Cdd:COG3800 protein motif:Pfam:PF12844.1"
 /product="helix-turn-helix [transcriptional regulator]"
 /"ID=B40_02227
 /protein_id="gnl|SC|B40_02227""
 /codon_start=1
 CDS 46401..46730
 /color=4
 /locus_tag="B40_02228"
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 protein motif:Pfam:PF05713.5"
 /product="Plasmid mobilization relaxosome protein MobC
 [relaxosome]"
 /"ID=B40_02228
 /protein_id="gnl|SC|B40_02228""
 /gene="mobC"
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 CDS 46691..48025
 /color=4
 /locus_tag="B40_02229"
 /note="Relaxase/Mobilisation nuclease domain, protein
 motif:Pfam:PF03432.8"
 /product="Relaxase/Mobilisation nuclease domain
 [relaxase]"
 /"ID=B40_02229
 /protein_id="gnl|SC|B40_02229""
 /codon_start=1

CDS complement(48227..48436)
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 /note="putative tranposon-transfer assisting protein
 TTRAP"
 /product="Putative tranposon-transfer assisting protein
 TTRAP"
 /protein_id="gnl|SC|B40_02230"
 /codon_start=1

CDS complement(48441..51788)
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 /locus_tag="B40_02231"
 /note="Antirestriction protein ArdA, protein
 motif: Pfam:PF07275.5"
 /product="Antirestriction protein ArdA [anti-ristriction
 modification]"
 /"ID=B40_02231
 /protein_id="gnl|SC|B40_02231""
 /gene="ardA"
 /codon_start=1

CDS complement(51914..52282)
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 /locus_tag="B40_02232"
 /note="conjugal transfer protein Cysteine-rich VLP"
 /product="conjugal transfer protein Cysteine-rich VLP"
 /protein_id="gnl|SC|B40_02232"
 /codon_start=1

CDS complement(52279..54354)
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 sequence: UniProtKB:P14294 protein motif: CLUSTERS:PRK07726
 protein motif: Cdd:COG0550 protein motif: TIGRFAMs:TIGR01056
 protein motif: Pfam:PF01131.14"
 /product="Type IA DNA topoisomerase [topoisomerase]"
 /"ID=B40_02233
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 /codon_start=1

CDS complement(54351..55100)
 /color=1
 /locus_tag="B40_02234"

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CDS    complement(55090..55356)
/ID=B40_02235
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/product="hypothetical protein DUF4315 containing
protein"
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CDS    complement(55363..56085)
/color=8
/locus_tag="B40_02236"
/note="phosphoadenosine phosphosulfate reductase, protein
motif:CLUSTERS:PRK13794 protein motif:Cdd:COG5270"
/product="phosphoadenosine phosphosulfate reductase
[reductase]"
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/protein_id="gnl|SC|B40_02236""
/codon_start=1
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/color=8
/locus_tag="B40_02237"
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/note="D-gamma-glutamyl-meso-diaminopimelic acid
endopeptidase CwIS , similar to AA
sequence:UniProtKB:O31852 protein motif:CLUSTERS:PRK13914
protein motif:Cdd:COG3584 protein motif:TIGRFAMs:TIGR02594
protein motif:Pfam:PF00877.13"
/product="D-gamma-glutamyl-meso-diaminopimelic acid
endopeptidase CwIS [pepidase]"
/"ID=B40_02237
/protein_id="gnl|SC|B40_02237""
/gene="cwIS"
/codon_start=1
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/color=8
/locus_tag="B40_02238"
/eC_number=2.1.1.72

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/note="Adenine specific DNA methyltransferase, similar to
 AA sequence:UniProtKB:P09358 protein
 motif:CLUSTERS:PRK11524 protein motif:Cdd:COG2189 protein
 motif:Pfam:PF01555.12"
 /product="Adenine specific DNA methyltransferase
 [methyltransferase]"
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 /protein_id="gnl|SC|B40_02238""
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 CDS complement(59019..61415)
 /color=4
 /note="Type IV secretory system protein TraC VirB4
 components AAA domain, protein motif:Cdd:COG3451 protein
 motif:TIGRFAMs:TIGR02746 protein
 motif:Pfam:PF12846.1locus_tag=B40_02239product=Conjugal"
 /product="Type IV secretory system protein TraC VirB4
 components AAA domain [ATPase mating pair formation]"
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 /gene="traC""
 /protein_id="gnl|SC|B40_02239"
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 /color=4
 /locus_tag="B40_02240"
 /note="PrgI family protein Type IV secretion system,
 protein motif:Pfam:PF12666.1"
 /product="PrgI family protein Type IV secretion system"
 /"ID=B40_02240
 /protein_id="gnl|SC|B40_02240""
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 CDS complement(61769..62317)
 /color=8
 /locus_tag="B40_02241"
 /note="Transcriptional activator adenine-specific DNA
 methyltransferase, protein motif:Cdd:COG4725 protein
 motif:Pfam:PF05063.8"
 /product="Transcriptional activator adenine-specific DNA
 methyltransferase [methyltransferase]"
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 CDS complement(62328..63191)
 /ID=B40_02242
 /color=1

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conjugative transposon protein"
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/gene="tnpW"
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CDS    complement(65338..66195)
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/note="Primosomal protein Dnal ATP binding protein,
similar to AA sequence: UniProtKB:P06567 protein
motif: CLUSTERS:PRK08116 protein motif: Cdd:COG1484 protein
motif: Pfam:PF01695.11"
/product="Primosomal protein Dnal ATP binding protein
[replication]"
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/gene="dnal"
/codon_start=1
CDS    complement(66192..66950)
/color=10
/locus_tag="B40_02246"
/note="phage replisome organizer protein, protein
motif: TIGRFAMs:TIGR01714 protein motif: Pfam:PF09681.4"
/product="phage replisome organizer protein [replication]"
/"ID=B40_02246

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 motif: Pfam:PF03432.8"
 /product="Relaxase/Mobilisation nuclease domain
 [relaxase]"
 /protein_id="gnl|SC|B40_02247"
 /codon_start=1
 CDS complement(68912..69310)
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 /product="Plasmid mobilization relaxosome protein MobC
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 /protein_id="gnl|SC|B40_02248"
 /gene="mobC"
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 CDS complement(69844..70047)
 /color=7
 /locus_tag="B40_02249"
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 motif: Pfam:PF12645.1"
 /product="helix-turn-helix domain-containing protein
 [transcriptional regulator]"
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 /color=2
 /locus_tag="B40_02250"
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 transposon Tn916, similar to AA sequence: UniProtKB:P21598
 protein motif: CLUSTERS:PRK13351 protein motif: Cdd:COG0050
 protein motif: TIGRFAMs:TIGR00484 protein
 motif: Pfam:PF00009.21"
 /product="Tetracycline resistance protein tetM from
 transposon Tn916 [antibiotic resistance]"
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/gene="tetM"
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 CDS 72713..73951
 /color=2
 /locus_tag="B40_02251"
 /note="tetracycline efflux MFS transporter Tet40, protein motif:CLUSTERS:PRK10054 protein motif:TIGRFAMs:TIGR00880 protein motif:Pfam:PF07690.10"
 /product="tetracycline efflux MFS transporter Tet40 [antibiotic resistance]"
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 /gene="tet40"
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 /locus_tag="B40_02252"
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 /product="type IV secretion system protein TraG VirD4 components [coupling protein]"
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 /gene="traG"
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/codon_start=1
 CDS complement(75672..75863)
 /ID=B40_02255
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 /note="transposon-encoded protein TnpW"
 /product="Transposon-encoded protein TnpW"
 /protein_id="gnl|SC|B40_02255"
 /gene="tnpW"
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 CDS complement(75907..76770)
 /color=10
 /locus_tag="B40_02256"
 /note="DNA replication protein dnaC ATP binding protein,
 similar to AA sequence:UniProtKB:POAEF0 protein
 motif:CLUSTERS:PRK08116 protein motif:Cdd:COG1484 protein
 motif:TIGRFAMs:TIGR00362 protein motif:Pfam:PF01695.11"
 /product="DNA replication protein dnaC ATP binding
 protein [replication]"
 /"ID=B40_02256
 /protein_id="gnl|SC|B40_02256""
 /gene="dnaC"
 /codon_start=1

CDS complement(76767..77519)
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 /locus_tag="B40_02257"
 /note="phage replisome organizer putative N-terminal
 region, protein motif:TIGRFAMs:TIGR01714 protein
 motif:Pfam:PF09681.4"
 /product="phage replisome organizer putative N-terminal
 region [replication]"
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 /codon_start=1

CDS complement(77633..78031)
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 /product="Cysteine-rich VLP domain-containing protein"
 /protein_id="gnl|SC|B40_02258"
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CDS complement(78012..78188)

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 /product="hypothetical protein"
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 /color=4
 /locus_tag="B40_02260"
 /note="Plasmid mobilization system relaxase MobA/MobL family, similar to AA sequence:UniProtKB:P07112 protein motif:CLUSTERS:PRK13889 protein motif:TIGRFAMs:TIGR02768 protein motif:Pfam:PF03389.9"
 /product="DNA strand transferase Plasmid mobilization system relaxase MobA/MobL family [relaxase]"
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 /protein_id="gnl|SC|B40_02260""
 /gene="mobA"
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 CDS complement(79921..80217)
 /color=1
 /locus_tag="B40_02261"
 /note="Protein of unknown function DUF3847, protein motif:Pfam:PF12958.1"
 /product="Protein of unknown function DUF3847"
 /"ID=B40_02261
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 /codon_start=1
 CDS complement(80157..80696)
 /color=7
 /locus_tag="B40_02262"
 /note="RNA polymerase sigma factor Sigma-70 region 4, protein motif:TIGRFAMs:TIGR02937"
 /product="RNA polymerase sigma factor Sigma-70 region 4 [transcriptional regulator]"
 /"ID=B40_02262
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 CDS complement(80693..81154)
 /color=7
 /locus_tag="B40_02263"
 /note="RNA polymerase sigma factor Sigma-70 region 4, protein motif:TIGRFAMs:TIGR02937 protein

motif: Pfam:PF08281.6"
 /product="RNA polymerase sigma factor Sigma-70 region 4
 [transcriptional regulator]"
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 CDS complement(81165..81617)
 /color=7
 /locus_tag="B40_02264"
 /note="RNA polymerase sigma factor Sigma-24, protein
 motif: CLUSTERS:PRK11924 protein motif: TIGRFAMs:TIGR02937"
 /product="RNA polymerase sigma factor Sigma-24
 [transcriptional regulator]"
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 CDS complement(81721..82134)
 /color=7
 /locus_tag="B40_02265"
 /note="RNA polymerase sigma factor Sigma-70 region 4,
 protein motif: TIGRFAMs:TIGR02937 protein
 motif: Pfam:PF08281.6"
 /product="RNA polymerase sigma factor Sigma-70 region 4
 [transcriptional regulator]"
 /"ID=B40_02265
 /protein_id="gnl|SC|B40_02265""
 /codon_start=1
 CDS complement(82624..84279)
 /color=8
 /locus_tag="B40_02266"
 /note="ABC-F family ATP-binding cassette domain-containing
 protein, similar to AA sequence: UniProtKB:P63389 protein
 motif: CLUSTERS:PRK11819 protein motif: Cdd:COG4555 protein
 motif: TIGRFAMs:TIGR03719 protein motif: Pfam:PF00005.21"
 /product="ABC-F family ATP-binding cassette
 domain-containing protein [transporter]"
 /"ID=B40_02266
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 /codon_start=1
 CDS complement(84598..84951)
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 /locus_tag="B40_02267"
 /note="transposon-encoded TnpV family protein"

/product="Transposon-encoded TnpV family protein"
 /protein_id="gnl|SC|B40_02267"
 /gene="tnpV"
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 CDS complement(84978..86858)
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 /product="Serine recombinase [recombinase]"
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 CDS complement(86932..87906)
 /color=4
 /locus_tag="B40_02269"
 /note="type IV secretion system protein TraG VirD4
 components, protein motif:CLUSTERS:PRK13876 protein
 motif:Cdd:COG3505 protein motif:Pfam:PF02534.8"
 /product="type IV secretion system protein TraG VirD4
 components [coupling protein]"
 /"ID=B40_02269
 /protein_id="gnl|SC|B40_02269""
 /gene="traG"
 /codon_start=1
 CDS complement(87903..88376)
 /color=1
 /locus_tag="B40_02270"
 /note="uncharacterised PcfB family protein, protein
 motif:Pfam:PF12687.1"
 /product="uncharacterised PcfB family protein"
 /"ID=B40_02270
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 CDS complement(88413..89357)
 /ID=B40_02271
 /color=7
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protein motif:Pfam:PF00589.16"
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 protein motif: Pfam:PF01381.16"
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protein, similar to AA sequence:UniProtKB:Q44642 protein
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 CDS complement(15149..17068)
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 protein motif:CLUSTERS:PRK13351 protein motif:Cdd:COG0050
 protein motif:TIGRFAMs:TIGR00484 protein
 motif:Pfam:PF00009.21"
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 /codon_start=1
 CDS complement(18048..19103)
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 /note="PHP polymerase and histidinol phosphatase
 domain-containing protein"
 /product="PHP %28polymerase and histidinol phosphatase%29
 domain-containing protein"
 /protein_id="gnl|SC|C83_00278"
 /codon_start=1
 CDS complement(19133..20179)
 /color=8
 /locus_tag="C83_00279"
 /note="Fic Filamentation induced by cAMP family protein,
 similar to AA sequence:UniProtKB:Q9K0V1 protein
 motif:Cdd:COG2184 protein motif:TIGRFAMs:TIGR02613 protein
 motif:Pfam:PF02661.12"
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 protein [post-translational modification]"

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/note="Cysteine hydrolase family protein
Nicotinamidase-related amidase, protein
motif:CLUSTERS:PRK11609 protein motif: Pfam:PF00857.14"
/product="Cysteine hydrolase family protein
Nicotinamidase-related amidase [hydrolase]"
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CDS    complement(20912..21571)
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/locus_tag="C83_00281"
/note="Transcriptional regulator Uncharacterized conserved
protein Uncharacterized conserved protein DUF2174, protein
motif:Cdd:COG4832 protein motif: Pfam:PF09942.3"
/product="Transcriptional regulator Uncharacterized
conserved protein Uncharacterized conserved protein
%28DUF2174%29"
/"ID=C83_00281
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/protein_id="gnl|SC|C83_00281"
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CDS    complement(21574..22491)
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/locus_tag="C83_00282"
/note="YafY family transcriptional regulator HTH and WYL
domain-containing, protein motif: Pfam:PF08279.6"
/product="YafY family transcriptional regulator HTH and
WYL domain-containing [transcriptional regulator]"
/"ID=C83_00282
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/protein_id="gnl|SC|C83_00282"
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/note="Serine recombinase, protein motif: Pfam:PF07508.7"

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        /gene="tnpW"
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        /locus_tag="C83_00286"
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        similar to AA sequence:UniProtKB:P06567 protein
        motif:CLUSTERS:PRK08116 protein motif:Cdd:COG1484 protein
        motif:TIGRFAMs:TIGR00362 protein motif:Pfam:PF01695.11"
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        [replication]"
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        /protein_id="gnl|SC|C83_00286"
        /gene="dnal"
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CDS     complement(25991..26842)
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        /locus_tag="C83_00287"
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[relaxosome]"
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/gene="mobC"
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CDS    complement(29727..29939)
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[transcriptional regulator]"
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protein motif:TIGRFAMs:TIGR03001"
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sequence:UniProtKB:P36571 protein motif:CLUSTERS:PRK08317
protein motif:Cdd:COG4106 protein motif:TIGRFAMs:TIGR02072
protein motif:Pfam:PF12847.1"
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/gene="bioC"
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CDS    complement(31344..33263)
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transposon Tn916, similar to AA sequence:UniProtKB:P21598
protein motif:CLUSTERS:PRK13351 protein motif:Cdd:COG0050
protein motif:TIGRFAMs:TIGR00484 protein
motif:Pfam:PF00009.21"
/product="Tetracycline resistance protein tetM from
transposon Tn916 [antibiotic resistance]"
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/gene="tetM_2"
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/note="Maff2 family conjugal transfer protein, protein motif: Pfam:PF12750.1"
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 /protein_id="gnl|SC|C83_00298"
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 /note="Type IV secretion system protein TraG VirD4 component [coupling protein], protein

motif:CLUSTERS:PRK13876 protein motif:Cdd:COG3505 protein
 motif:TIGRFAMs:TIGR02759 protein motif:Pfam:PF02534.8"
 /product="Type IV secretion system protein TraG VirD4
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 protein motif:Pfam:PF12957.1"
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 /locus_tag="C83_00304"
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 nuclease domain [partitioning system], similar to AA
 sequence:UniProtKB:Q83AH2 protein motif:CLUSTERS:PRK13832
 protein motif:TIGRFAMs:TIGR00180 protein
 motif:Pfam:PF02195.12"
 /product="ParB/RepB/Spo0J family partition protein
 ParB-like nuclease domain [partitioning system]"
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 /protein_id="gnl|SC|C83_00304"
 /gene="parB"
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 CDS complement(40599..41423)
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 system], similar to AA sequence:UniProtKB:P37522 protein
 motif:CLUSTERS:PRK13869 protein motif:Cdd:COG2894 protein
 motif:TIGRFAMs:TIGR03453 protein motif:Pfam:PF01656.17"
 /product="plasmid-partitioning protein A [partitioning
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 /gene="parA"
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 CDS complement(41436..42329)
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 protein motif:Pfam:PF06970.5"
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CDS    43106..44287
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/note="ISL3 family transposase [DDE recombinase], protein
motif:Cdd:COG3464 protein motif:Pfam:PF01610.11"
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/note="DUF5131 family protein, protein motif:Cdd:COG4422
protein motif:Pfam:PF07505.5"
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/note="Integrase Tyrosine recombinase [recombinase],
similar to AA sequence:UniProtKB:P22886 protein
motif:CLUSTERS:PRK00236 protein motif:Cdd:COG4974 protein
motif:TIGRFAMs:TIGR02224 protein motif:Pfam:PF00589.16"
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CDS    complement(47791..48414)
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/note="DNA binding domain excisionase family
Helix-turn-helix domain [excisionase], protein
motif:Cdd:COG3311 protein motif:TIGRFAMs:TIGR01764 protein
motif:Pfam:PF12728.1"
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Helix-turn-helix domain [excisionase]"
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CDS    complement(48532..48768)
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Helix-turn-helix domain [excisionase], protein
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Helix-turn-helix domain [excisionase]"
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CDS complement(48775..49182)
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 /product="Type II toxin-antitoxin system PemK/MazF family toxin MazF [toxin-antitoxin]"
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 /gene="mazF"
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CDS complement(49697..49912)
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 /note="Antitoxin PezA XRE family HTH domain [toxin-antitoxin], similar to AA sequence:UniProtKB:Q97QZ2 protein motif:CLUSTERS:PRK08154 protein motif:Cdd:COG3800 protein motif:TIGRFAMs:TIGR03070 protein motif:Pfam:PF12844.1"
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 /gene="pezA"
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CDS complement(50264..50827)
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 /note="Phage transcriptional regulator ArpU family [transcriptional regulator]"
 /product="Phage transcriptional regulator ArpU family [transcriptional regulator]"
 /protein_id="gnl|SC|C83_00318"
 /codon_start=1

CDS 51114..51563
 /color=7
 /locus_tag="C83_00319"
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regulator], protein motif:CLUSTERS:PRK09706 protein
motif:Pfam:PF12844.1"
/product="helix-turn-helix %28HTH%29 transcriptional
regulator containing a XRE family HTH domain
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CDS    51615..52169
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AA sequence:UniProtKB:P96630 protein motif:Pfam:PF06114.7"
/product="ImmA/IrrE family metallo-endopepidase
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/gene="immA"
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CDS    complement(52314..53285)
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/note="Alpha/beta hydrolase [hydrolase], similar to AA
sequence:UniProtKB:Q01609 protein motif:Cdd:COG4925
protein motif:Pfam:PF12695.1"
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CDS    complement(53288..53899)
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/note="4-carboxymuconolactone decarboxylase
[carboxy-lyase], protein motif:TIGRFAMs:TIGR02425 protein
motif:Pfam:PF02627.1"
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/gene="pcaC"
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 /protein_id="gnl|SC|C83_00323"
 /codon_start=1

CDS complement(54056..54595)
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CDS 54702..55139
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 /note="HTH-type transcriptional regulator AdhR response to aldehyde stress [transcriptional regulator], similar to AA sequence:UniProtKB:O06008 protein motif:CLUSTERS:PRK09514 protein motif:Cdd:COG4978 protein motif:TIGRFAMs:TIGR02043 protein motif:Pfam:PF00376.17"
 /product="HTH-type transcriptional regulator AdhR response to aldehyde stress [transcriptional regulator]"
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 /gene="adhR"
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CDS complement(55272..56690)
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CDS complement(57909..58256)
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 /note="MmcQ/YjbR family DNA-binding protein, protein
 motif:CLUSTERS:PRK10250 protein motif:Cdd:COG2315 protein
 motif:Pfam:PF04237.7"
 /product="MmcQ/YjbR family DNA-binding protein"
 /"ID=C83_00328
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 /protein_id="gnl|SC|C83_00328"
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CDS complement(58295..61357)
 /color=8
 /locus_tag="C83_00329"
 /eC_number=3.1.21.3
 /note="Type 1 restriction endonuclease subunit R, similar
 to AA sequence:UniProtKB:Q7A801 protein
 motif:TIGRFAMs:TIGR00348 protein motif:Pfam:PF11867.2"
 /product="Type 1 restriction endonuclease subunit R
 [restriction modification]"
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 /gene="hsdR"
 /codon_start=1

CDS complement(61471..62652)
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 /locus_tag="C83_00330"
 /note="Type I restriction enzyme EcoKI subunit S
 [restriction modification], protein
 motif:CLUSTERS:PRK09737 protein motif:Cdd:COG1708 protein
 motif:Pfam:PF01420.13"
 /product="Type I restriction enzyme EcoKI subunit S
 [restriction modification]"
 /"ID=C83_00330
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    /eC_number=2.1.1.72
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to AA sequence:UniProtKB:Q89Z59 protein motif:Cdd:COG0286
protein motif:TIGRFAMs:TIGR00497 protein
motif:Pfam:PF02384.10"
    /product="Type I restriction enzyme EcoKI subunit M
[restriction modification]"
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CDS     complement(64236..64448)
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containing a XRE family HTH domain [transcriptional
regulator], protein motif:Cdd:COG3655 protein
motif:Pfam:PF01381.16"
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containing a XRE family HTH domain [transcriptional
regulator]"
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motif:Pfam:PF00239.15"
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protein motif: CLUSTERS:PRK11924 protein
motif: TIGRFAMs:TIGR02937 protein motif: Pfam:PF08281.6"
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/eC_number=2.1.1.192
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to AA sequence: UniProtKB:Q7A600 protein
motif: CLUSTERS:PRK14469 protein motif: TIGRFAMs:TIGR00048
protein motif: Pfam:PF04055.15"
/product="23S rRNA
%28adenine%282503%29-C%282%29%29-methyltransferase RlmN
[methyltransferase]"
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/gene="rlmN"
/codon_start=1
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protein motif:Pfam:PF01610.11"
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Superfamily [antibiotic resistance], similar to AA
sequence:UniProtKB:P64783 protein motif:CLUSTERS:PRK10489
protein motif:Cdd:COG2814 protein motif:TIGRFAMs:TIGR00900
protein motif:Pfam:PF07690.10"
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Superfamily [antibiotic resistance]"
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/product="Conjugative transposon membrane protein"
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/note="Conjugal transfer protein Maff2 family, protein
motif:Pfam:PF12750.1"
/product="Conjugal transfer protein Maff2 family"
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/codon_start=1
CDS    complement(73709..75109)
/color=4

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component [coupling protein], protein
motif:CLUSTERS:PRK13850 protein motif:Cdd:COG3505 protein
motif:TIGRFAMs:TIGR02759 protein motif:Pfam:PF02534.8"
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component [coupling protein]"
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CDS      complement(75288..77189)
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/note="Replication initiation protein RepA [replication],
protein motif:CLUSTERS:PRK11823 protein motif:Cdd:COG0358
protein motif:TIGRFAMs:TIGR02237"
/product="Replication initiation protein RepA
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/color=4
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/note="MobA/MobL family protein DNA strand transferase
MobA [relaxase], similar to AA sequence:UniProtKB:P07112
protein motif:CLUSTERS:PRK13889 protein
motif:TIGRFAMs:TIGR02768 protein motif:Pfam:PF03389.9"
/product="MobA/MobL family protein DNA strand transferase
MobA [relaxase]"
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/gene="mobA"
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CDS      complement(78945..79250)
/color=8
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/note="DUF3847 domain-containing protein AAA family
ATPase, protein motif:Pfam:PF12958.1"

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 guanine-N-methyltransferase , similar to AA
 sequence:UniProtKB:P36999 protein motif:CLUSTERS:PRK11088
 protein motif:TIGRFAMs:TIGR02072 protein
 motif:Pfam:PF08241.6"
 /product="23S rRNA methyltransferase
 %28guanine%28745%29-N%281%29%29-methyltransferase
 [methyltransferase]"
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 /gene="rlmA"
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 /locus_tag="C83_00347"
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 /gene="tnpW"
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 /note="Site-specific recombinase DUF4368

domain-containing protein [recombinase]"
 /product="Site-specific recombinase DUF4368
 domain-containing protein [recombinase]"
 /protein_id="gnl|SC|C83_00349"
 /codon_start=1
 CDS complement(81928..82941)
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 motif: Pfam:PF07508.7"
 /product="Serine recombinase [recombinase]"
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 /protein_id="gnl|SC|C83_00350"
 /codon_start=1
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 component [coupling protein]"
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 component [coupling protein]"
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 /gene="traG"
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 CDS complement(83293..83766)
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 protein, protein motif: Pfam:PF12687.1"
 /product="PcfB family protein DUF3801 domain-containing
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 CDS complement(83803..84231)
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 /note="Phage replication protein Helix-turn-helix
 domain-containing protein [replication]"
 /product="Phage replication protein Helix-turn-helix

domain-containing protein [replication]"
 /protein_id="gnl|SC|C83_00353"
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 CDS complement(84342..85589)
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 /note="ISL3 family transposase [DDE recombinase], protein
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 /product="Conjugative transposon protein helix-turn-helix
 domain-containing protein"
 /protein_id="gnl|SC|C83_00355"
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 CDS complement(86218..86436)
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 /locus_tag="C83_00356"
 /note="Helix-turn-helix domain-containing protein
 [transcriptional regulator]"
 /product="Helix-turn-helix domain-containing protein
 [transcriptional regulator]"
 /protein_id="gnl|SC|C83_00356"
 /codon_start=1
 CDS complement(86536..87927)
 /color=8
 /locus_tag="C83_00357"
 /note="Group II intron-encoded protein LtrA [reverse
 transcriptase], similar to AA sequence:UniProtKB:POA3U1
 protein motif:Cdd:COG3344 protein motif:PFam:PF00078.21"
 /product="Group II intron-encoded protein LtrA [reverse
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 /"ID=C83_00357
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/gene="ltrA"
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 /color=1
 /locus_tag="C83_00358"
 /product="group-II-D1D4-1"
 ncRNA complement(88086..88279)
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 /product="group-II-D1D4-3"
 CDS complement(88556..88876)
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 /note="Transcriptional regulator containing a XRE family
 HTH domain [transcriptional regulator], protein
 motif: Pfam:PF12844.1"
 /product="Transcriptional regulator containing a XRE
 family HTH domain [transcriptional regulator]"
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 /protein_id="gnl|SC|C83_00361"
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 /protein_id="gnl|SC|C83_00362"
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 CDS complement(90136..90483)
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 /note="helix-turn-helix transcriptional regulator

containing a HxIR family HTH domain [transcriptional regulator], similar to AA sequence:UniProtKB:P37486
 protein motif:Pfam:PF01638.11"
 /product="helix-turn-helix transcriptional regulator
 containing a HxIR family HTH domain [transcriptional
 regulator]"
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 CDS 90625..91020
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 /note="Pyridoxamine 5'-phosphate oxidase family protein
 [oxidase], protein motif:Cdd:COG5015 protein
 motif:TIGRFAMs:TIGR03618 protein motif:Pfam:PF01243.14"
 /product="Pyridoxamine 5'-phosphate oxidase family protein
 [oxidase]"
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 ncRNA 91035..91149
 /ID=C83_00365
 /color=1
 /locus_tag="C83_00365"
 /product="FMN"
 CDS 91227..91826
 /color=8
 /locus_tag="C83_00366"
 /note="Riboflavin ECF transporter S component RibU
 [transporter], similar to AA sequence:UniProtKB:E5QVT2
 protein motif:Cdd:COG4720 protein motif:Pfam:PF12822.1"
 /product="Riboflavin ECF transporter S component RibU
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 /protein_id="gnl|SC|C83_00366"
 /gene="ribU"
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 CDS 91842..92465
 /color=8
 /locus_tag="C83_00367"
 /note="4Fe-4S dicluster domain-containing protein

[electron transfer], similar to AA
sequence:UniProtKB:P00195 protein motif:CLUSTERS:PRK07118
protein motif:Cdd:COG5015 protein motif:TIGRFAMs:TIGR04105
protein motif:Pfam:PF00037.21"
/product="4Fe-4S dicluster domain-containing protein
[electron transfer]"
/"ID=C83_00367
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/protein_id="gnl|SC|C83_00367"
/codon_start=1
CDS 92470..93249
/color=8
/locus_tag="C83_00368"
/eC_number=3.5.1.-
/note="O-acetyl-ADP-ribose deacetylase, similar to AA
sequence:UniProtKB:P0A8D6 protein motif:CLUSTERS:PRK04143
protein motif:Pfam:PF01661.15"
/product="O-acetyl-ADP-ribose deacetylase [hydrolase]"
/"ID=C83_00368
/protein_id="gnl|SC|C83_00368""
/gene="ymdB"
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CDS 93194..94069
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/color=8
/locus_tag="C83_00369"
/note="Silent information regulator family NAD-dependent
deacetylase Sir2 [deacetylase]"
/product="Silent information regulator family
NAD-dependent deacetylase Sir2 [deacetylase]"
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/gene="sir2"
/codon_start=1
CDS complement(94141..95541)
/color=4
/locus_tag="C83_00370"
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protein motif:Pfam:PF03432.8"
/product="Relaxase/Mobilisation nuclease domain
[relaxase]"
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CDS complement(95596..95862)
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/protein_id="gnl|SC|C83_00371"
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CDS complement(95877..96161)
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CDS complement(96383..97816)
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/codon_start=1

CDS complement(97940..99400)
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/note="Lsa family ABC-F type ribosomal protection protein [transporter], similar to AA sequence: UniProtKB:P45127 protein motif: CLUSTERS:PRK11819 protein motif: Cdd:COG4586 protein motif: TIGRFAMs:TIGR03719 protein motif: Pfam:PF00005.21"
/product="Lsa family ABC-F type ribosomal protection protein [transporter]"
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/protein_id="gnl|SC|C83_00374"
/codon_start=1

CDS complement(100062..100394)
/ID=C83_00375
/color=4
/locus_tag="C83_00375"

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/note="plasmid mobilization relaxosome protein MobC
[relaxosome]"
/product="plasmid mobilization relaxosome protein MobC
[relaxosome]"
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/codon_start=1
CDS    complement(100394..108523)
/color=10
/locus_tag="C83_00376"
/note="DEAD/DEAH box helicase family protein Superfamily
II DNA/RNA helicase SNF2 family [helicase], protein
motif:Cdd:COG4646 protein motif:PFam:PF00176.17"
/product="DEAD/DEAH box helicase family protein
Superfamily II DNA/RNA helicase SNF2 family [helicase]"
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/protein_id="gnl|SC|C83_00376"
/codon_start=1
CDS    complement(108540..108749)
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%28TTRAP%29"
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%28TTRAP%29"
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CDS    complement(108746..109339)
/ID=C83_00378
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/product="DUF4316 domain-containing protein"
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CDS    complement(109351..109962)
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/color=1
/locus_tag="C83_00379"
/note="DUF3848 DUF4316 domain-containing protein"
/product="DUF3848 DUF4316 domain-containing protein"
/protein_id="gnl|SC|C83_00379"

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 /eC_number=5.99.1.2
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 sequence:UniProtKB:P14294 protein motif:CLUSTERS:PRK07726
 protein motif:Cdd:COG0550 protein motif:TIGRFAMs:TIGR01056
 protein motif:Pfam:PF01131.14"
 /product="DNA topoisomerase III [topoisomerase]"
 /"ID=C83_00380
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 /gene="topB"
 /codon_start=1
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 /note="DUF4366 domain-containing protein, protein
 motif:TIGRFAMs:TIGR04211 protein motif:Pfam:PF08239.5"
 /product="DUF4366 domain-containing protein"
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 /color=1
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 /product="DUF4315 domain-containing protein"
 /protein_id="gnl|SC|C83_00383"
 /codon_start=1
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 /color=4
 /locus_tag="C83_00384"
 /eC_number=3.4.-.-

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/note="NlpC/P60 family pepidase, similar to AA
sequence:UniProtKB:P21171 protein motif:CLUSTERS:PRK13914
protein motif:Pfam:PF00877.13"
/product="NlpC/P60 family pepidase [pepidase]"
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/protein_id="gnl|SC|C83_00384"
/codon_start=1
CDS    complement(116343..118730)
/color=4
/locus_tag="C83_00385"
/note="Type IV secretion system protein TraC VirB4
components [ATPase mating pair formation], protein
motif:Cdd:COG3451 protein motif:TIGRFAMs:TIGR02746 protein
motif:Pfam:PF12846.1"
/product="Type IV secretion system protein TraC VirB4
components [ATPase mating pair formation]"
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/gene="traC"
/protein_id="gnl|SC|C83_00385"
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CDS    complement(118690..119124)
/color=4
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protein motif:Pfam:PF12666.1"
/product="PrgI family protein Type IV secretion system"
/"ID=C83_00386
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/protein_id="gnl|SC|C83_00386"
/codon_start=1
CDS    complement(119141..120007)
/ID=C83_00387
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transfer family protein"
/product="Membrane protein trbL/VirB6 plasmid conjugal
transfer family protein"
/protein_id="gnl|SC|C83_00387"
/codon_start=1
CDS    complement(120033..120248)
/color=4

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motif: Pfam:PF12750.1"
/product="Conugal transfer protein Maff2 family"
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/protein_id="gnl|SC|C83_00388"
/codon_start=1
CDS    complement(120392..120703)
/ID=C83_00389
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/locus_tag="C83_00389"
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[transcriptional regulator]"
/product="helix-turn-helix domain-containing protein
[transcriptional regulator]"
/protein_id="gnl|SC|C83_00389"
/codon_start=1
CDS    121129..122430
/color=9
/locus_tag="C83_00390"
/note="Transposase IS116/IS110/IS902 family [DDE
recombinase], protein motif: Pfam:PF02371.10"
/product="Transposase IS116/IS110/IS902 family [DDE
recombinase]"
/"ID=C83_00390
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/protein_id="gnl|SC|C83_00390"
/codon_start=1
CDS    complement(122539..124290)
/color=4
/locus_tag="C83_00391"
/note="Type IV secretion system protein TraG VirD4
component [coupling protein], protein
motif: CLUSTERS:PRK13876 protein motif: Cdd:COG3505 protein
motif: TIGRFAMs:TIGR02759 protein motif: Pfam:PF02534.8"
/product="Type IV secretion system protein TraG VirD4
component [coupling protein]"
/"ID=C83_00391
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/gene="traG"
/protein_id="gnl|SC|C83_00391"
/codon_start=1
CDS    complement(124290..124775)

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 /locus_tag="C83_00392"
 /note="PcfB family protein DUF3801 domain-containing protein, protein motif: Pfam:PF12687.1"
 /product="PcfB family protein DUF3801 domain-containing protein"
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 CDS complement(124810..125121)
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 /locus_tag="C83_00393"
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 /product="hypothetical protein"
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 CDS complement(125131..125772)
 /color=1
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 /product="DUF3846 domain-containing protein"
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 CDS complement(125827..126342)
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DEFINITION Integrative and mobilisable element IME_8

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DEFINITION Integrative and mobilisable element IME_9

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 protein motif:Pfam:PF00012.14"
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 motif:TIGRFAMs:TIGR01764 protein motif:Pfam:PF12728.1"
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 recombinase]"
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 protein motif:Cdd:COG4974 protein motif:TIGRFAMs:TIGR02224
 protein motif:Pfam:PF00589.16"
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 Helix-turn-helix domain , protein motif:TIGRFAMs:TIGR01764
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 Helix-turn-helix domain, protein motif:TIGRFAMs:TIGR01764
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 protein motif:Pfam:PF01807.14"
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/note="MarR family transcriptional regulator winged
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 /gene="traG"
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 secretion-system VirD4 components , protein
 motif:Cdd:COG3505 protein motif: Pfam:PF10412.3"
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 secretion-system VirD4 components [coupling protein]"
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 adenylyltransferase, similar to AA
 sequence:UniProtKB:P17585 protein motif:Pfam:PF04439.6"
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 Streptomycin adenylyltransferase [antibiotic resistance]"
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 protein motif:Pfam:PF00583.18"
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motif:Cdd:COG0117 protein motif:TIGRFAMs:TIGR00227 protein
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 motif: CLUSTERS:PRK08317 protein motif: Cdd:COG4106 protein
 motif: TIGRFAMs:TIGR02072 protein motif: Pfam:PF08241.6"
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 protein motif: Pfam:PF05738.7"
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CDS 7237..7623
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CDS 7625..8269
 /color=8
 /locus_tag="F51_03068"
 /note="Class D Sortase cysteine transpepidase , protein
 motif:Cdd:COG3764 protein motif:TIGRFAMs:TIGR01076 protein
 motif:Pfam:PF04203.7"
 /product="Class D Sortase cysteine transpepidase
 [transpepidase]"
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CDS 8280..8582
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CDS 8586..8804
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 /note="DUF4236 domain-containing protein"
 /product="DUF4236 domain-containing protein"
 /protein_id="gnl|SC|F51_03070"
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CDS 8868..9632

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 /eC_number=2.1.1.72
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 methylase, similar to AA sequence:UniProtKB:P04043 protein
 motif:CLUSTERS:PRK10904 protein motif:Cdd:COG0338 protein
 motif:TIGRFAMs:TIGR00571 protein motif:Pfam:PF02086.9"
 /product="Modification methylase DpnIIA DNA adenine
 methylase [methyltransferase]"
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 CDS 9944..10255
 /ID=F51_03073
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 /note="TcpK chain A:2.60"
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 /gene="tcpK"
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 CDS 10631..11431
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 protein motif:TIGRFAMs:TIGR02249 protein
 motif:Pfam:PF00589.16"
 /product="Tyrosine recombinase [recombinase]"
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 /note="DNA translocase FtsK DNA segregation ATPase

FtsK/SpoIIIE and related proteins , similar to AA
 sequence:UniProtKB:P64165 protein motif:CLUSTERS:PRK10263
 protein motif:Cdd:COG1674 protein motif:TIGRFAMs:TIGR03928
 protein motif:Pfam:PF01580.12"
 /product="DNA translocase FtsK DNA segregation ATPase
 FtsK/SpoIIIE and related proteins [ATPase coupling
 protein]"
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 CDS 13259..14338
 /color=4
 /locus_tag="F51_03077"
 /note="Conjugative transposon protein TcpC, protein
 motif:Pfam:PF12642.1"
 /product="Conjugative transposon protein TcpC [mating pair
 formation]"
 /"ID=F51_03077
 /gene="tcpC""
 /protein_id="gnl|SC|F51_03077"
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 CDS 14350..14685
 /color=4
 /locus_tag="F51_03078"
 /note="Conjugative transposon protein TcpD, ab initio
 prediction:Prodigal:2.60"
 /product="Conjugative transposon protein TcpD [mating pair
 formation]"
 /"ID=F51_03078
 /gene="tcpD""
 /protein_id="gnl|SC|F51_03078"
 /codon_start=1
 CDS 14697..15065
 /color=4
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/note="Conjugative transposon membrane protein TcpE,
 protein motif:Pfam:PF12648.1"
 /product="Conjugative transposon membrane protein TcpE
 [mating pair formation]"
 /"ID=F51_03079
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 CDS 15123..15290
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 /product="hypothetical protein"
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 /codon_start=1
 CDS 15341..17863
 /color=4
 /locus_tag="F51_03081"
 /note="ATPase conjugation protein TcpF, protein
 motif:Cdd:COG3451 protein motif:Pfam:PF12846.1"
 /product="ATPase conjugation protein TcpF [ATPase mating
 pair formation]"
 /"ID=F51_03081
 /gene="tcpF""
 /protein_id="gnl|SC|F51_03081"
 /codon_start=1
 CDS 17863..18867
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 /locus_tag="F51_03082"
 /note="Conjugation-related peptidoglycan hydrolase TcpG,
 similar to AA sequence:UniProtKB:P40767 protein
 motif:CLUSTERS:PRK05684 protein motif:Cdd:COG3951 protein
 motif:TIGRFAMs:TIGR02541 protein motif:Pfam:PF01832.14"
 /product="Conjugation-related peptidoglycan hydrolase TcpG
 [pepidase]"
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 /protein_id="gnl|SC|F51_03082"
 /codon_start=1
 CDS 18970..21468
 /color=4
 /locus_tag="F51_03083"
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protein motif:Cdd:COG5027"
 /product="Conjugation pore-forming membrane protein TcpH
 [mating pair formation]"
 /"ID=F51_03083
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 /protein_id="gnl|SC|F51_03083"
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 CDS 21471..21965
 /color=4
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 /note="Predicted membrane-bound metal-dependent hydrolase
 TcpI, similar to AA sequence:UniProtKB:P64481 protein
 motif:CLUSTERS:PRK11648 protein motif:Pfam:PF04307.8"
 /product="Predicted membrane-bound metal-dependent
 hydrolase TcpI [regulator]"
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 CDS 21974..22732
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 /color=4
 /locus_tag="F51_03085"
 /note="Type 4 prepilin-like proteins leader
 peptide-processing enzyme TcpJ"
 /product="Type 4 prepilin-like proteins leader
 peptide-processing enzyme TcpJ
 [pepidase/methyltransferase]"
 /gene="tcpJ"
 /protein_id="gnl|SC|F51_03085"
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 CDS 23681..23986
 /ID=F51_03086
 /color=1
 /locus_tag="F51_03086"
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 CDS 24001..25020
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 /note="DNA cytosine-5--methyltransferase HhaI, similar to

AA sequence:UniProtKB:P05102 protein
 motif:CLUSTERS:PRK10458 protein motif:TIGRFAMs:TIGR00675
 protein motif:Pfam:PF00145.11"
 /product="DNA %28cytosine-5-%29-methyltransferase Hhal
 [methyltransferase]"
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 /protein_id="gnl|SC|F51_03087"
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 CDS 25037..25210
 /ID=F51_03088
 /color=1
 /locus_tag="F51_03088"
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 CDS 25207..26229
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 /locus_tag="F51_03089"
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 /protein_id="gnl|SC|F51_03089"
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 CDS 26324..27730
 /color=8
 /locus_tag="F51_03090"
 /note="Putative amidoligase enzyme SWIM zinc finger
 domain protein, protein motif:Pfam:PF12224.2"
 /product="Putative amidoligase enzyme SWIM zinc finger
 domain protein"
 /"ID=F51_03090
 /protein_id="gnl|SC|F51_03090""
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 CDS 28318..28719
 /ID=F51_03091
 /color=10
 /locus_tag="F51_03091"
 /note="Putative C-terminal domain of type IA
 topoisomerase"
 /product="Putative C-terminal domain of type IA
 topoisomerase"
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CDS /codon_start=1
 28817..29128
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 /locus_tag="F51_03092"
 /note="hypothetical protein"
 /product="hypothetical protein"
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CDS complement(29440..29673)
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CDS complement(29698..30600)
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 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03094"
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CDS 30730..31137
 /ID=F51_03095
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 /locus_tag="F51_03095"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03095"
 /codon_start=1

CDS 31201..32058
 /color=9
 /locus_tag="F51_03096"
 /note="Rpn family recombination-promoting
 nuclease/putative transposase, protein
 motif:TIGRFAMs:TIGR01784 protein motif:Pfam:PF12784.1"
 /product="Rpn family recombination-promoting
 nuclease/putative transposase [DDE transosase]"
 /ID=F51_03096
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 /codon_start=1

CDS 32075..32164
 /ID=F51_03097
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 /locus_tag="F51_03097"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03097"
 /codon_start=1

CDS 32813..34075
 /color=2
 /locus_tag="F51_03098"
 /note="Tetracycline efflux MFS transporter TetA , protein
 motif:CLUSTERS:PRK11646 protein motif:Cdd:COG2814 protein
 motif:Pfam:PF07690.10"
 /product="Tetracycline efflux MFS transporter TetA%28P%29
 [antibiotic resistance]"
 /ID=F51_03098
 /protein_id="gnl|SC|F51_03098""
 /gene="tetA"
 /codon_start=1

CDS 34059..36017
 /color=2
 /locus_tag="F51_03099"
 /note="Tetracycline resistance protein tetM from
 transposon Tn916, similar to AA sequence:UniProtKB:P21598
 protein motif:CLUSTERS:PRK13351 protein motif:Cdd:COG0050
 protein motif:TIGRFAMs:TIGR00484 protein
 motif:Pfam:PF00009.21"
 /product="Tetracycline resistance protein tetM from
 transposon Tn916 [antibiotic resistance]"
 /ID=F51_03099
 /gene="tetM""
 /protein_id="gnl|SC|F51_03099"
 /codon_start=1

CDS 36209..36487
 /ID=F51_03100
 /color=1
 /locus_tag="F51_03100"
 /note="YcxB family protein"
 /product="YcxB family protein"
 /protein_id="gnl|SC|F51_03100"
 /codon_start=1

CDS 36938..37807
 /color=7


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/locus_tag="F51_03101"
/note="AraC family transcriptional regulator
Helix-turn-helix domain-containing protein, similar to AA
sequence:UniProtKB:P28816 protein motif:CLUSTERS:PRK10219
protein motif:Cdd:COG3449 protein motif:TIGRFAMs:TIGR04094
protein motif:Pfam:PF12833.1"
/product="AraC family transcriptional regulator
Helix-turn-helix domain-containing protein [transcriptional
regulator]"
/"ID=F51_03101
/protein_id="gnl|SC|F51_03101""
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CDS    38355..38507
/ID=F51_03102
/color=8
/locus_tag="F51_03102"
/note="Cytochrome c551 product=Cytochrome c551 [eletron
transfer]"
/protein_id="gnl|SC|F51_03102"
/codon_start=1
CDS    39587..40321
/color=9
/locus_tag="F51_03103"
/note="Serine recombinase, similar to AA
sequence:UniProtKB:P20384 protein motif:CLUSTERS:PRK13413
protein motif:Pfam:PF00239.15"
/product="Serine recombinase [recombinase]"
/"ID=F51_03103
/protein_id="gnl|SC|F51_03103""
/codon_start=1
CDS    40342..40449
/ID=F51_03104
/color=8
/locus_tag="F51_03104"
/note="Signal pepidase"
/product="Signal pepidase"
/protein_id="gnl|SC|F51_03104"
/codon_start=1
CDS    complement(40579..40758)
/ID=F51_03105
/color=1
/locus_tag="F51_03105"
/note="hypothetical protein"
/product="hypothetical protein"

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 /note="Beta2 toxin"
 /product="Beta2 toxin [virulence]"
 /protein_id="gnl|SC|F51_03106"
 /codon_start=1
 CDS complement(41758..42399)
 /ID=F51_03107
 /color=1
 /locus_tag="F51_03107"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03107"
 /codon_start=1
 CDS complement(42403..42726)
 /color=7
 /locus_tag="F51_03108"
 /note="PadR family transcriptional regulator, protein
 motif:CLUSTERS:PRK09416 protein motif:TIGRFAMs:TIGR03433
 protein motif:Pfam:PF03551.8"
 /product="PadR family transcriptional regulator
 [transcriptional regulator]"
 /ID=F51_03108
 /protein_id="gnl|SC|F51_03108""
 /codon_start=1
 CDS 42949..43419
 /ID=F51_03109
 /color=1
 /locus_tag="F51_03109"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03109"
 /codon_start=1
 CDS 43486..44016
 /color=7
 /locus_tag="F51_03110"
 /eC_number=3.4.21.88
 /note="LexA repressor SOS-response repressor and protease
 LexA , similar to AA sequence:UniProtKB:P31080 protein
 motif:CLUSTERS:PRK00215 protein motif:TIGRFAMs:TIGR00498"

protein motif:Pfam:PF01726.10"
 /product="LexA repressor SOS-response repressor and
 protease LexA [transcriptional regulator]"
 /"ID=F51_03110
 /gene="lexA""
 /protein_id="gnl|SC|F51_03110"
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 /ID=F51_03111
 /color=1
 /locus_tag="F51_03111"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03111"
 /codon_start=1
 CDS 44595..45089
 /ID=F51_03112
 /color=7
 /locus_tag="F51_03112"
 /note="DNA-binding protein Helix-turn-helix
 domain-containing protein"
 /product="DNA-binding protein Helix-turn-helix
 domain-containing protein [transcriptional regulator]"
 /protein_id="gnl|SC|F51_03112"
 /codon_start=1
 CDS 45220..45309
 /ID=F51_03113
 /color=9
 /locus_tag="F51_03113"
 /note="IS256-like element ISCpe3 family transposase"
 /product="IS256-like element ISCpe3 family transposase
 [DDE recombinase]"
 /protein_id="gnl|SC|F51_03113"
 /codon_start=1
 CDS 45473..45769
 /color=8
 /locus_tag="F51_03114"
 /note="Histidinol-phosphatase PHP domain-containing
 protein, protein motif:CLUSTERS:PRK07328 protein
 motif:Cdd:COG1387 protein motif:TIGRFAMs:TIGR01856"
 /product="Histidinol-phosphatase PHP domain-containing
 protein [phosphatase]"
 /"ID=F51_03114
 /protein_id="gnl|SC|F51_03114""

CDS /codon_start=1
 45899..46255
 /color=10
 /locus_tag="F51_03115"
 /note="Replication initiation protein RepA, protein
 motif:CLUSTERS:PRK07328 protein motif:Cdd:COG1387 protein
 motif:TIGRFAMs:TIGR01856"
 /product="Replication initiation protein RepA
 [replication]"
 /"ID=F51_03115
 /protein_id="gnl|SC|F51_03115""
 /gene="repA"

CDS /codon_start=1
 46826..47104
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 /locus_tag="F51_03116"
 /note="Acyl carrier protein, protein
 motif:CLUSTERS:PRK07639"
 /product="Acyl carrier protein"
 /"ID=F51_03116
 /protein_id="gnl|SC|F51_03116""
 /gene="acpP"

CDS /codon_start=1
 47116..49683
 /color=8
 /locus_tag="F51_03117"
 /note="Alpha/beta hydrolase, protein motif:Pfam:PF00561.1"
 /product="Alpha/beta hydrolase [hydrolase]"
 /"ID=F51_03117
 /protein_id="gnl|SC|F51_03117""
 /codon_start=1

CDS /ID=F51_03118
 49716..50666
 /color=1
 /locus_tag="F51_03118"
 /note="hypothetical protein"
 /product="hypothetical protein"
 /protein_id="gnl|SC|F51_03118"
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CDS /ID=F51_03119
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 /color=1
 /locus_tag="F51_03119"
 /note="hypothetical protein"

/product="hypothetical protein"
 /protein_id="gnl|SC|F51_03119"
 /codon_start=1
 CDS 51502..52305
 /color=8
 /locus_tag="F51_03120"
 /note="ABC-2 type transport system permease protein,
 protein motif:Cdd:COG4587 protein motif:Pfam:PF06182.5"
 /product="ABC-2 type transport system permease protein
 [transporter]"
 /"ID=F51_03120
 /protein_id="gnl|SC|F51_03120""
 /codon_start=1
 CDS 52307..53101
 /color=8
 /locus_tag="F51_03121"
 /note="ABC-2 type transport system permease protein,
 protein motif:Cdd:COG4587 protein motif:Pfam:PF06182.5"
 /product="ABC-2 type transport system permease protein
 [transporter]"
 /"ID=F51_03121
 /protein_id="gnl|SC|F51_03121""
 /codon_start=1
 CDS 53104..54090
 /color=8
 /locus_tag="F51_03122"
 /note="ABC-2 type transport system ATP-binding protein,
 similar to AA sequence:UniProtKB:O07190 protein
 motif:CLUSTERS:PRK13636 protein motif:Cdd:COG4586 protein
 motif:TIGRFAMs:TIGR01188 protein motif:Pfam:PF00005.21-"
 /product="ABC-2 type transport system ATP-binding protein
 [transporter]"
 /"ID=F51_03122
 /protein_id="gnl|SC|F51_03122""
 /codon_start=1
 CDS 54096..55139
 /color=1
 /locus_tag="F51_03123"
 /note="hypothetical protein, ab initio
 prediction:Prodigal:2.60"
 /product="hypothetical protein"
 /"ID=F51_03123
 /protein_id="gnl|SC|F51_03123""
 /codon_start=1

CDS 55136..56626
 /color=8
 /locus_tag="F51_03124"
 /eC_number=6.2.1.3
 /note="Long-chain-fatty-acid--CoA ligase, similar to AA
 sequence:UniProtKB:P69451 protein motif:CLUSTERS:PRK07656
 protein motif:Cdd:COG4340 protein motif:TIGRFAMs:TIGR01923
 protein motif:Pfam:PF00501.22"
 /product="Long-chain-fatty-acid--CoA ligase [ligase]"
 /"ID=F51_03124
 /gene="fadD""
 /protein_id="gnl|SC|F51_03124"
 /codon_start=1

CDS 56619..56864
 /color=8
 /locus_tag="F51_03125"
 /note="Acyl carrier protein, similar to AA
 sequence:UniProtKB:P80918 protein motif:CLUSTERS:PRK00982
 protein motif:Cdd:COG0236 protein motif:TIGRFAMs:TIGR00517
 protein motif:Pfam:PF00550.19"
 /product="Acyl carrier protein"
 /"ID=F51_03125
 /gene="acpP""
 /protein_id="gnl|SC|F51_03125"
 /codon_start=1

CDS 56883..58142
 /color=8
 /locus_tag="F51_03126"
 /note="phenylacetate-CoA ligase family protein, protein
 motif:TIGRFAMs:TIGR02155"
 /product="phenylacetate-CoA ligase family protein"
 /"ID=F51_03126
 /protein_id="gnl|SC|F51_03126""
 /codon_start=1

CDS 58221..58841
 /color=8
 /locus_tag="F51_03127"
 /eC_number=3.1.3.5
 /note="5'-nucleotidase YjjG HAD superfamily HAD-IA family
 hydrolase, similar to AA sequence:UniProtKB:POA8Y1 protein
 motif:CLUSTERS:PRK09449 protein motif:Cdd:COG5610 protein
 motif:TIGRFAMs:TIGR02253 protein motif:Pfam:PF00702.1"
 /product="5'-nucleotidase YjjG HAD superfamily%29 HAD-IA
 family hydrolase [hydrolase]"

/"ID=F51_03127
 /gene="yjjG""
 /protein_id="gnl|SC|F51_03127"
 /codon_start=1
 CDS 58871..60739
 /color=8
 /locus_tag="F51_03128"
 /note="Non-ribosomal peptide synthetase amino acid
 adenylation domain-containing protein, similar to AA
 sequence:UniProtKB:POC061 protein motif:CLUSTERS:PRK12467
 protein motif:Cdd:COG0147 protein motif:TIGRFAMs:TIGR01733
 protein motif:Pfam:PF00501.22"
 /product="Non-ribosomal peptide synthetase amino acid
 adenylation domain-containing protein [peptide
 synthetase]"
 /"ID=F51_03128
 /protein_id="gnl|SC|F51_03128""
 /codon_start=1
 CDS 60912..61979
 /ID=F51_03129
 /color=1
 /locus_tag="F51_03129"
 /note="Radical SAM protein"
 /product="Radical SAM protein"
 /protein_id="gnl|SC|F51_03129"
 /codon_start=1
 CDS 61999..64239
 /color=8
 /locus_tag="F51_03130"
 /eC_number=4.1.2.9
 /note="Phosphoketolase, similar to AA
 sequence:UniProtKB:Q937F6 protein motif:CLUSTERS:PRK05261
 protein motif:Cdd:COG3957 protein motif:TIGRFAMs:TIGR00232
 protein motif:Pfam:PF09364.4"
 /product="Phosphoketolase"
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