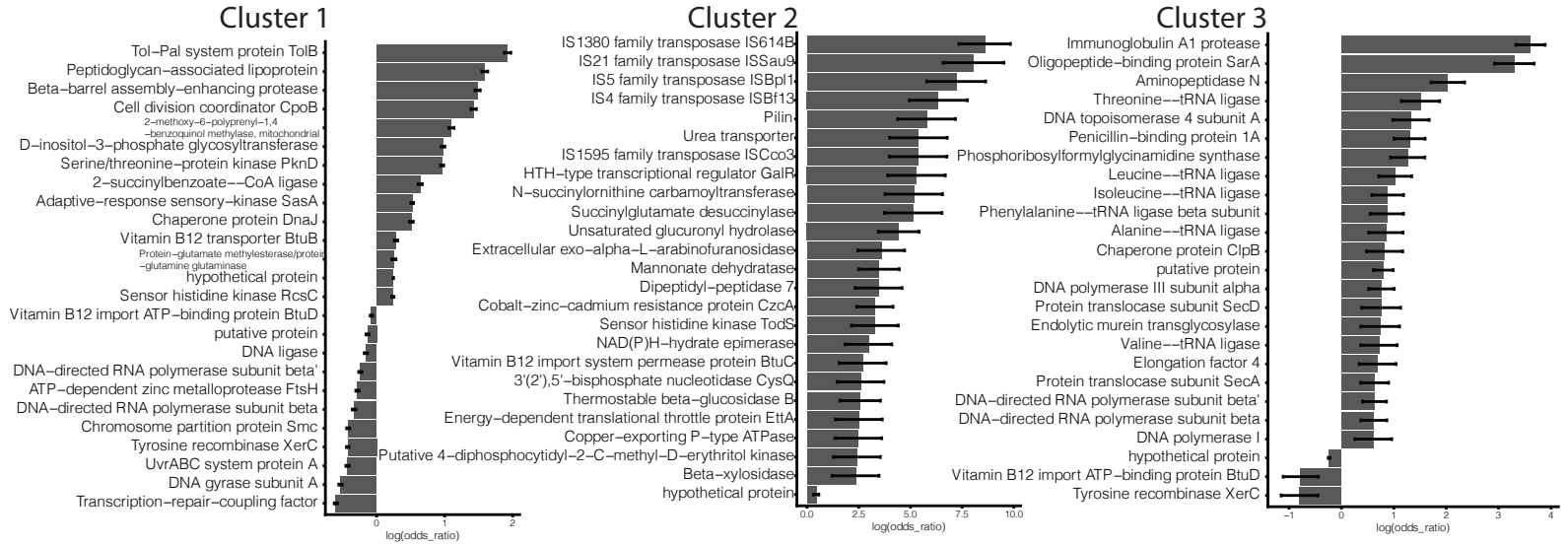
Cluster 1
Tol–Pal system protein TolB
Peptidoglycan–associated lipoprotein
Beta–barrel assembly–enhancing protease
Cell division coordinator CpoB
2–methoxy–6–polyprenyl–1,4 –benzoquinol methylase, mitochondrial
D–inositol–3–phosphate glycosyltransferase
Serine/threonine–protein kinase PknD
2–succinylbenzoate––CoA ligase
Adaptive–response sensory–kinase SasA
Chaperone protein DnaJ
Vitamin B12 transporter BtuB
Protein–glutamate methylesterase/protein –glutamine glutaminase
hypothetical protein
Sensor histidine kinase RcsC
Vitamin B12 import ATP–binding protein BtuD
putative protein
DNA ligase
DNA–directed RNA polymerase subunit beta'
ATP–dependent zinc metalloprotease FtsH
DNA–directed RNA polymerase subunit beta
Chromosome partition protein Smc
Tyrosine recombinase XerC
UvrABC system protein A
DNA gyrase subunit A
Transcription–repair–coupling factor
0
1
2
log(odds_ratio)
Cluster 2
IS1380 family transposase IS614B
IS21 family transposase ISSau9
IS5 family transposase ISBpl1
IS4 family transposase ISBf13
Pilin
Urea transporter
IS1595 family transposase ISCco3
HTH–type transcriptional regulator GalR
N–succinylornithine carbamoyltransferase
Succinylglutamate desuccinylase
Unsaturated glucuronyl hydrolase
Extracellular exo–alpha–L–arabinofuranosidase
Mannonate dehydratase
Dipeptidyl–peptidase 7
Cobalt–zinc–cadmium resistance protein CzcA
Sensor histidine kinase TodS
NAD(P)H–hydrate epimerase
Vitamin B12 import system permease protein BtuC
3'(2'),5'–bisphosphate nucleotidase CysQ
Thermostable beta–glucosidase B
Energy–dependent translational throttle protein EttA
Copper–exporting P–type ATPase
Putative 4–diphosphocytidyl–2–C–methyl–D–erythritol kinase
Beta–xylosidase
hypothetical protein
0.0
2.5
5.0
7.5
10.0
log(odds_ratio)
Cluster 3
Immunoglobulin A1 protease
Oligopeptide–binding protein SarA
Aminopeptidase N
Threonine––tRNA ligase
DNA topoisomerase 4 subunit A
Penicillin–binding protein 1A
Phosphoribosylformylglycinamidine synthase
Leucine––tRNA ligase
Isoleucine––tRNA ligase
Phenylalanine––tRNA ligase beta subunit
Alanine––tRNA ligase
Chaperone protein ClpB
putative protein
DNA polymerase III subunit alpha
Protein translocase subunit SecD
Endolytic murein transglycosylase
Valine––tRNA ligase
Elongation factor 4
Protein translocase subunit SecA
DNA–directed RNA polymerase subunit beta'
DNA–directed RNA polymerase subunit beta
DNA polymerase I
hypothetical protein
Vitamin B12 import ATP–binding protein BtuD
Tyrosine recombinase XerC
−1
0
1
2
3
4
log(odds_ratio)
Cluster 4
putative protein
DNA polymerase III subunit alpha
Vitamin B12 import ATP–binding protein BtuD
DNA topoisomerase 3
DNA primase
Protein translocase subunit SecA
Vitamin B12 transporter BtuB
hypothetical protein
DNA gyrase subunit A
Transcription–repair–coupling factor
ATP–dependent helicase/nuclease subunit A
ATP–dependent zinc metalloprotease FtsH
DNA mismatch repair protein MutS
DNA ligase
Tyrosine recombinase XerC
HTH–type transcriptional activator RhaR
Peptidoglycan D,D–transpeptidase MrdA
Carbamoyl–phosphate synthase large chain
TonB–dependent receptor SusC
Chaperone protein DnaJ
Beta–galactosidase
D–inositol–3–phosphate glycosyltransferase
Adaptive–response sensory–kinase SasA
Serine/threonine–protein kinase PknD
Sensor histidine kinase RcsC
−0.8
−0.4
0.0
0.4
log(odds_ratio)
Cluster 5
mRNA endoribonuclease toxin LS
Tyrosinase
Spore germination protein A3
Formate–dependent nitrite reductase complex subunit NrfG
Flagellar transcriptional regulator FlhC
Putative 2,3–dihydroxypropane–1–sulfonate exporter
Cellulose synthase operon protein C
Outer membrane usher protein PapC
Malate:quinone oxidoreductase
Sensor histidine kinase DcuS
Mannose–6–phosphate isomerase
3–oxo–tetronate kinase
N–acetylgalactosamine–6–phosphate deacetylase
Protease 3
Mechanosensitive channel MscK
Protein RhsD
Phosphoglycerol transferase I
Alpha–2–macroglobulin
putative ABC transporter ATP–binding protein YheS
ATP–dependent DNA helicase RecQ
RNA polymerase sigma factor RpoD
Beta–galactosidase
DNA mismatch repair protein MutS
DNA–directed RNA polymerase subunit beta
hypothetical protein
0.0
2.5
5.0
7.5
log(odds_ratio)
Cluster 6
Multifunctional–autoprocessing repeats–in–toxin
Hemolysin transporter protein ShlB
Nucleoside permease NupC
Poly–beta–1,6–N–acetyl–D–glucosamine export protein
Cyanate hydratase
Putative secretin GspD
Outer membrane usher protein YraJ
Autonomous glycyl radical cofactor
DNA adenine methylase
putative protein YbdM
TDP–N–acetylfucosamine:lipid II N–acetylfucosaminyltransferase
FhuE receptor
Outer membrane usher protein PapC
3–oxo–tetronate kinase
1,2–phenylacetyl–CoA epoxidase, subunit E
Ferrichrome outer membrane transporter/phage receptor
HTH–type transcriptional regulator YidZ
putative TonB–dependent receptor
Xaa–Pro dipeptidyl–peptidase
50S ribosomal protein L1
Glutamate––tRNA ligase
Phosphoribosylformylglycinamidine synthase
TonB–dependent receptor P26
UvrABC system protein C
hypothetical protein
0.0
2.5
5.0
7.5
log(odds_ratio)
Cluster 7
TonB–dependent receptor SusC
TonB–dependent receptor P3
ATP–dependent helicase/deoxyribonuclease subunit B
Beta–galactosidase
DNA polymerase III PolC–type
DNA topoisomerase 3
ATP–dependent helicase/nuclease subunit A
HTH–type transcriptional activator RhaR
1,4–alpha–glucan branching enzyme GlgB
putative ABC transporter ATP–binding protein
HTH–type transcriptional activator RhaS
ATP–dependent RecD–like DNA helicase
DNA polymerase III subunit alpha
Transcription–repair–coupling factor
DNA mismatch repair protein MutS
DNA gyrase subunit A
Tyrosine recombinase XerC
UvrABC system protein A
Chromosome partition protein Smc
ATP–dependent zinc metalloprotease FtsH
DNA–directed RNA polymerase subunit beta'
DNA ligase
putative protein
hypothetical protein
Adaptive–response sensory–kinase SasA
0.0
0.5
1.0
1.5
2.0
log(odds_ratio)