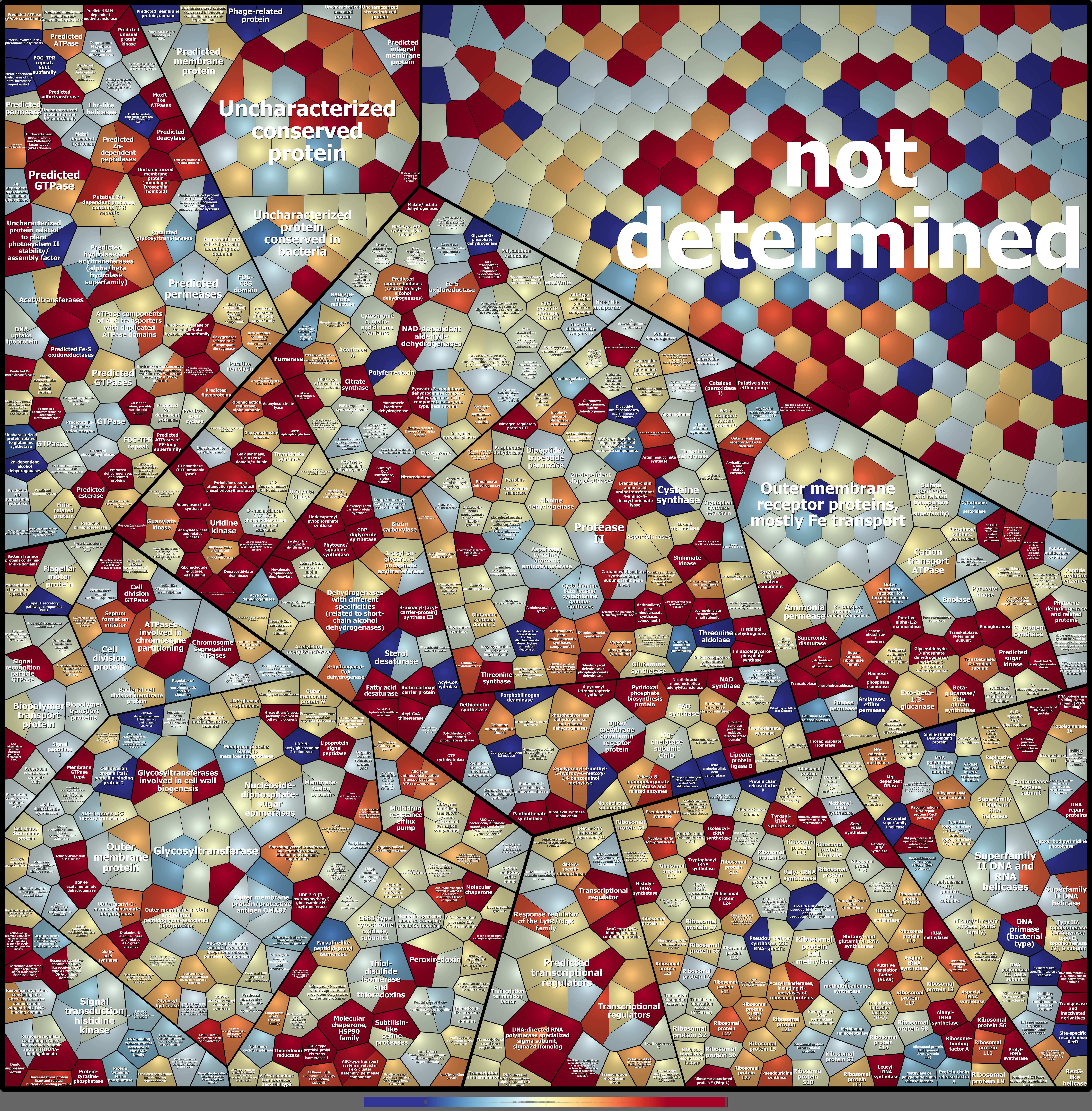

Predicted ATPase (AAA+ superfamily)
Predicted membrane-bound metal-dependent hydrolases
Predicted SAM-dependent methyltransferase
Predicted membrane protein/domain
Uncharacterized protein conserved in bacteria containing a pentein-type domain
Phage-related protein
Uncharacterized secreted protein
Uncharacterized stress-induced protein
Protein involved in sex pheromone biosynthesis
Predicted ATPase
Isopenicillin N synthase and related dioxygenases
Predicted unusual protein kinase
Uncharacterized homolog of PSP1
Predicted membrane protein
Predicted integral membrane protein
FOG-TPR repeat, SEL1 subfamily
Predicted nucleoside-diphosphate sugar epimerase
Predicted membrane-associated, metal-dependent hydrolase
Metal-dependent hydrolases of the beta-lactamase superfamily I
ATPase components of various ABC-type transport systems, contain duplicated ATPase
Predicted sulfurtransferase
MoxR-like ATPases
Predicted permease
Uncharacterized proteins of the AP superfamily
Lhr-like helicases
Predicted metal-dependent hydrolase of the TIM-barrel fold
Uncharacterized conserved protein
Predicted methyltransferases
Uncharacterized protein with a von Willebrand factor type A (vWA) domain
Metal-dependent hydrolase
Predicted Zn-dependent peptidases
Predicted deacylase
Exopolyphosphatase-related proteins
Uncharacterized homolog of plant Iojap protein
Zn-dependent hydrolases, including glyoxylases
Predicted GTPase
Uncharacterized membrane protein (homolog of Drosophila rhomboid)
Putative Zn-dependent protease, contains TPR repeats
Uncharacterized protein SCO1/SenC/PrrC, involved in biogenesis of respiratory and photosynthetic systems
Uncharacterized protein related to plant photosystem II stability/assembly factor
Uncharacterized protein conserved in bacteria
Malate/lactate dehydrogenases
2-oxoglutarate dehydrogenase complex, dehydrogenase (E1) component, and related enzymes
F0F1-type ATP synthase, alpha subunit
Glycerol-3-phosphate dehydrogenase
Predicted hydrolases or acyltransferases (alpha/beta hydrolase superfamily)
Predicted glycosyltransferases
Hemolysins and related proteins containing CBS domains
Heme/copper-type cytochrome/quinol oxidase, subunit 3
Na+-transporting NADH:ubiquinone oxidoreductase, subunit NqrC
Cbb3-type cytochrome oxidase, cytochrome c subunit
Polysulphide reductase
Na+-transporting NADH:ubiquinone oxidoreductase, subunit NqrB
Na+-transporting NADH:ubiquinone oxidoreductase, subunit NqrF
Predicted oxidoreductases (related to aryl-alcohol dehydrogenases)
Fe-S oxidoreductase
Flavodoxin reductases (ferredoxin-NADPH reductases) family 1
Malic enzyme
Acetyltransferases
Predicted permeases
FOG-CBS domain
NAD(P)H-nitrite reductase
Cytochrome c, mono- and diheme variants
Pyruvate/2-oxoglutarate dehydrogenase complex, dihydrolipoamide dehydrogenase (E3) component, and related enzymes
F0F1-type ATP synthase, subunit a
ABC-type Na+ efflux pump, permease component
Na+/H+ antiporter
ATPase components of ABC transporters with duplicated ATPase domains
ABC-type (unclassified) transport system, ATPase component
Predicted exporters of the RND superfamily
Predicted esterase of the alpha-beta hydrolase superfamily
Heme/copper-type cytochrome/quinol oxidases, subunit 1
Phosphoenolpyruvate carboxylase
NAD-dependent aldehyde dehydrogenases
Na+-transporting NADH:ubiquinone oxidoreductase, subunit NqrA
Na+/H+-dicarboxylate symporters
3-dehydroquinate synthetase
Proline dehydrogenase
DNA uptake lipoprotein
Predicted Fe-S oxidoreductases
Dioxygenases related to 2-nitropropane dioxygenase
Beta-propeller domains of methanol dehydrogenase type
Fumarase
F0F1-type ATP synthase, delta subunit (mitochondrial oligomycin sensitivity protein)
Aconitase A
Polyferredoxin
Pyruvate/2-oxoglutarate dehydrogenase complex, dihydrolipoamide acyltransferase (E2) component, and related enzymes
F0F1-type ATP synthase, gamma subunit
ATP phosphoribosyltransferase
Phosphoribosylformimino-5-aminoimidazole carboxamide ribonucleotide (ProFAR) isomerase
Cu/Zn superoxide dismutase
Predicted O-methyltransferase
Large extracellular alpha-helical protein
Predicted GTPases
Uncharacterized conserved protein (some members contain a von Willebrand factor type A (vWA) domain)
Predicted nucleotide-utilizing enzyme related to molybdopterin-biosynthesis enzyme MoeA
Putative hemolysin
Aspartate carbamoyltransferase, catalytic chain
Alcohol dehydrogenase, class IV
F0F1-type ATP synthase, beta subunit
Citrate synthase
Pyruvate/2-oxoglutarate dehydrogenase complex, dehydrogenase (E1) component, eukaryotic type, beta subunit
Succinate dehydrogenase/fumarate reductase, flavoprotein subunit
Succinate dehydrogenase/fumarate reductase, Fe-S protein subunit
Putative threonine efflux protein
ABC-type dipeptide transport system, periplasmic component
Asparagine synthase (glutamine-hydrolyzing)
Methionine synthase I (cobalamin-dependent), methyltransferase domain
Methionine synthase I, cobalamin-binding domain
Cysteine sulfinate desulfinase/cysteine desulfurase and related enzymes
Catalase (peroxidase I)
Putative silver efflux pump
Aminopeptidase N
Ferredoxin subunits of nitrite reductase and ring-hydroxylating dioxygenases
Membrane protein involved in the export of O-antigen and teichoic acid
Predicted S-adenosylmethionine-dependent methyltransferase
Predicted periplasmic solute-binding protein
Zn-ribbon protein, possibly nucleic acid-binding
Predicted Zn-dependent protease
Predicted ester cyclase
Predicted flavoproteins
Ribonucleotide reductase, alpha subunit
Adenylosuccinate lyase
F0F1-type ATP synthase, subunit b
Monomeric isocitrate dehydrogenase
Succinyl-CoA synthetase, beta subunit
Indole-3-glycerol phosphate synthase
Glutamate dehydrogenase/leucine dehydrogenase
Dipeptidyl aminopeptidases/acylaminoacyl-peptidases
Asparaginase
Fe2+ transport system protein B
Mg/Co/Ni transporter MgtE (contains CBS domain)
Predicted Fe-S-cluster redox enzyme
GTPase
Uncharacterized protein related to glutamine synthetase
GTPases
FOG-TPR repeat
Predicted ATPases of PP-loop superfamily
Phosphoribosylpyrophosphate synthetase
Deoxynucleoside kinases
dGTP triphosphohydrolase
F0F1-type ATP synthase, subunit c/Archaeal/vacuolar-type H+-ATPase, subunit K
Electron transfer flavoprotein, alpha subunit
Inorganic pyrophosphatase
Nitrogen regulatory protein PII
Acetylglutamate semialdehyde dehydrogenase
ABC-type dipeptide/oligopeptide/nickel transport systems, permease components
Phosphoribosylanthranilate isomerase
Na+/alanine symporter
Outer membrane receptor for Fe3+-dicitrate
Predicted phosphohydrolases
Zn-dependent alcohol dehydrogenases
Predicted membrane-associated HD superfamily hydrolase
Predicted dehydrogenases and related proteins
ABC-type uncharacterized transport system, ATPase component
Dihydroorotate dehydrogenase
GMP synthase, PP-ATPase domain/subunit
Thymidylate synthase
Heme/copper-type cytochrome/quinol oxidases, subunit 2
Fe-S-cluster-containing hydrogenase components 1
Cytochrome c2
ABC-type spermidine/putrescine transport systems, ATPase components
Prephenate dehydratase
Dipeptide/tripeptide permease
Argininosuccinate synthase
Threonine dehydratase
Arylsulfatase A and related enzymes
Predicted HD superfamily hydrolase
Predicted aminopeptidases
Predicted esterase
Predicted metal-dependent membrane protease
CTP synthase (UTP-ammonia lyase)
Pyrimidine operon attenuation protein/uracil phosphoribosyltransferase
IMP dehydrogenase/GMP reductase
Uridylate kinase
FAD/FMN-containing dehydrogenases
Succinyl-CoA synthetase, alpha subunit
Nitroreductase
Aspartate-semialdehyde dehydrogenase
Prephenate dehydrogenase
Pyrroline-5-carboxylate reductase
Zn-dependent oligopeptidases
Branched-chain amino acid aminotransferase/4-amino-4-deoxychorismate lyase
Cysteine synthase
Ketol-acid reductoisomerase
Tryptophan synthase beta chain
Outer membrane receptor proteins, mostly Fe transport
Sulfate permease and related transporters (MFS superfamily)
Cytochrome c peroxidase
Pirin-related protein
Predicted phosphoesterase
Adenylosuccinate synthase
Enoyl-[acyl-carrier-protein] reductase (NADH)
3-oxoacyl-(acyl-carrier-protein) synthase
Long-chain acyl-CoA synthetases (AMP-forming)
Homoserine acetyltransferase
3-deoxy-D-arabino-heptulosonate 7-phosphate (DAHP) synthase
3'-phosphoadenosine 5'-phosphosulfate sulfotransferase (PAPS reductase)/FAD synthetase and related enzymes
Alanine dehydrogenase
Protease II
Aspartokinases
Di-and tripeptidases
Phosphate/sulphate permeases
Na+/H+ antiporter NhaD and related arsenite permeases
Uncharacterized Zn-ribbon-containing protein involved in phosphonate metabolism
HD superfamily phosphohydrolases
Predicted hydrolase of the alpha/beta-hydrolase fold
Guanylate kinase
Adenylate kinase and related kinases
Uridine kinase
5'-nucleotidase/2',3'-cyclic phosphodiesterase and related esterases
Undecaprenyl pyrophosphate synthase
CDP-diglyceride synthetase
Biotin carboxylase
O-acetylhomoserine sulfhydrylase
5-enolpyruvylshikimate-3-phosphate synthase
Aspartate/tyrosine/aromatic aminotransferase
N-Dimethylarginine dimethylaminohydrolase
Gamma-glutamyltransferase
Uncharacterized protein, possibly involved in aromatic compounds catabolism
Putative multicopper oxidases
Cation transport ATPase
GTPases-Sulfate adenylate transferase subunit 1
Type II secretory pathway, component PulF
Bacterial surface proteins containing Ig-like domains
Flagellar motor protein
Nucleotide-binding protein implicated in inhibition of septum formation
Actin-like ATPase involved in cell morphogenesis
AICAR transformylase/IMP cyclohydrolase PurH (only IMP cyclohydrolase domain in Aful)
Dihydroorotase and related cyclic amidohydrolases
Adenine/guanine phosphoribosyltransferases and related PRPP-binding proteins
(acyl-carrier-protein) S-malonyltransferase
Phytoene/squalene synthetase
1-acyl-sn-glycerol-3-phosphate acyltransferase
Ornithine/acetylornithine aminotransferase
Carbamoylphosphate synthase large subunit (split gene in MJ)
Putative periplasmic protein kinase ArgK and related GTPases of G3E family
Shikimate kinase
5,10-methylenetetrahydrofolate reductase
Acetolactate synthase, small (regulatory) subunit
Co/Zn/Cd efflux system component
Na+/melibiose symporter and related transporters
ABC-type transport system involved in resistance to organic solvents, ATPase component
Peptide arylation enzymes
Muramidase (flagellum-specific)
Type II secretory pathway, component PulD
Membrane-bound metallopeptidase
Cell division GTPase
Actin-like ATPase involved in cell division
Ribonucleotide reductase, beta subunit
Deoxycytidylate deaminase
Mevalonate pyrophosphate decarboxylase
Acetyl-CoA carboxylase alpha subunit
Isopropylmalate/homocitrate/citramalate synthases
Xaa-Pro aminopeptidase
Cystathionine beta-lyases/cystathionine gamma-synthases
Anthranilate/para-aminobenzoate synthases component I
Carbamoylphosphate synthase small subunit
3-isopropylmalate dehydratase small subunit
Glycine cleavage system T protein (aminomethyltransferase)
Tetrahydrodipicolinate N-succinyltransferase
Ammonia permease
K+ transport systems, NAD-binding component
Outer membrane receptor for ferrienterochelin and colicins
Enolase
Pyruvate kinase
ABC-type sugar transport system, periplasmic component
Phytoene dehydrogenase and related proteins
NAD/FAD-utilizing enzyme apparently involved in cell division
Septum formation initiator
ATPases involved in chromosome partitioning
Chromosome segregation ATPases
Predicted ATPase involved in cell division
Acyl-CoA dehydrogenases
Isopentenyldiphosphate isomerase
Dehydrogenases with different specificities (related to short-chain alcohol dehydrogenases)
3-oxoacyl-[acyl-carrier-protein] synthase III
Anthranilate phosphoribosyltransferase
Argininosuccinate lyase
Glutamate synthase domain 2
Chorismate synthase
Acetylornithine deacetylase/Succinyl-diaminopimelate desuccinylase and related deacylases
Anthranilate/para-aminobenzoate synthases component II
Diaminopimelate epimerase
Tryptophan 2,3-dioxygenase (vermilion)
Glycine/D-amino acid oxidases (deaminating)
Threonine aldolase
Histidinol dehydrogenase
Imidazoleglycerol-phosphate synthase
Imidazoleglycerol-phosphate dehydratase
Sulfite reductase, beta subunit (hemoprotein)
Superoxide dismutase
Beta-galactosidase/beta-glucuronidase
Pentose-5-phosphate-3-epimerase
Sugar kinases, ribokinase family
Putative alpha-1,2-mannosidase
Phosphomannose isomerase
Predicted xylanase/chitin deacetylase
Glyceraldehyde-3-phosphate dehydrogenase/erythrose-4-phosphate dehydrogenase
Transketolase, N-terminal subunit
Transketolase, C-terminal subunit
Endoglucanase
Glycogen synthase
Predicted sugar kinase
Predicted N-acetylglucosamine kinase
ABC-type transport system involved in resistance to organic solvents, permease component
ABC-type transport system involved in resistance to organic solvents, periplasmic component
Flp pilus assembly protein TadD, contains TPR repeats
Preprotein translocase subunit SecD
Preprotein translocase subunit YajC
Signal recognition particle GTPase
Preprotein translocase subunit SecA (ATPase, RNA helicase)
Cell division protein
DNA segregation ATPase FtsK/SpoIIIE and related proteins
Predicted ATPase of the PP-loop superfamily implicated in cell cycle control
Phosphatidylglycerophosphate synthase
Acetyl-CoA carboxylase beta subunit
Acetyl-CoA acetyltransferase
3-hydroxyacyl-CoA dehydrogenase
Sterol desaturase
Phosphatidylserine decarboxylase
3-isopropylmalate dehydratase large subunit
Glutamine amidotransferase
Threonine synthase
Dihydrodipicolinate synthase/N-acetylneuraminate lyase
NADPH-dependent glutamate synthase beta chain and related oxidoreductases
Dihydroxyacid dehydratase/phosphogluconate dehydratase
Glutamine synthetase
2-succinyl-6-hydroxy-2,4-cyclohexadiene-1-carboxylate synthase
Transaldolase
6-phosphofructokinase
Mannose-6-phosphate isomerase
Exo-beta-1,3-glucanase
Beta-glucanase/Beta-glucan synthetase
Fructose/tagatose bisphosphate aldolase
3-phosphoglycerate kinase
DNA polymerase sliding clamp subunit (PCNA homolog)
Biopolymer transport protein
Biopolymer transport proteins
Bacterial cell division membrane protein
Regulator of cell morphogenesis and NO signaling
Prolipoprotein diacylglyceryltransferase
Outer membrane protein W
Fatty acid desaturase
Biotin carboxyl carrier protein
Acyl-CoA hydrolase
Porphobilinogen deaminase
6-pyruvoyl-tetrahydropterin synthase
Pyridoxal phosphate biosynthesis protein
Nicotinic acid mononucleotide adenylyltransferase
NAD synthase
Fucose permease
Arabinose efflux permease
Cellulase M and related proteins
Beta-glucosidase-related glycosidases
Phosphomannomutase
Triosephosphate isomerase
Bacterial nucleoid DNA-binding protein
A/G-specific DNA glycosylase
Topoisomerase IA
Transcription-repair coupling factor (superfamily II helicase)
Single-stranded DNA-binding protein
RecA/RadA recombinase
Nuclease subunit of the excinuclease complex
Holliday junction resolvasome, endonuclease subunit
Exonuclease III
Holliday junction resolvasome, DNA-binding subunit
Sec-independent protein secretion pathway component TatC
Signal peptidase I
dTDP-4-dehydrorhamnose 3,5-epimerase and related enzymes
Predicted S-adenosylmethionine-dependent methyltransferase involved in bacterial cell division
Periplasmic protein involved in polysaccharide export
UDP-glucose 4-epimerase
Small-conductance mechanosensitive channel
Glycosyltransferases, probably involved in cell wall biogenesis
Predicted membrane-associated Zn-dependent proteases 1
3-deoxy-D-manno-octulosonic acid (KDO) 8-phosphate synthase
Enoyl-CoA hydratase/carnithine racemase
Acyl-CoA thioesterase
Long-chain fatty acid transport protein
Dethiobiotin synthetase
Thiamine monophosphate kinase
S-adenosylhomocysteine hydrolase
Phosphoglycerate dehydrogenase and related dehydrogenases
Outer membrane cobalamin receptor protein
Mg-chelatase subunit ChlD
FAD synthase
Protoheme ferro-lyase (ferrochelatase)
Nicotinate-nucleotide pyrophosphorylase
Dihydroxynaphthoic acid synthase
Siroheme synthase (precorrin-2 oxidase/ferrochelatase domain)
Isochorismate synthase
Uroporphyrinogen-III synthase
Phosphoserine aminotransferase
1,4-dihydroxy-2-naphthoate octaprenyltransferase
Lipoate-protein ligase B
Delta-aminolevulinic acid dehydratase
Coproporphyrinogen III oxidase and related Fe-S oxidoreductases
Predicted N6-adenine-specific DNA methylase
N6-adenine-specific methylase
DNA polymerase III, alpha subunit
ATPase involved in DNA replication initiation
Replicative DNA helicase
Excinuclease ATPase subunit
ATPase related to the helicase subunit of the Holliday junction resolvase
Membrane GTPase LepA
Cell division protein FtsI/penicillin-binding protein 2
Glycosyltransferases involved in cell wall biogenesis
Membrane proteins related to metalloendopeptidases
UDP-N-acetylglucosamine 2-epimerase
Lipoprotein signal peptidase
Organic solvent tolerance protein OstA
Na+-driven multidrug efflux pump
ABC-type antimicrobial peptide transport system, permease component
ABC-type antimicrobial peptide transport system, ATPase component
3,4-dihydroxy-2-butanone 4-phosphate synthase
GTP cyclohydrolase I
Coproporphyrinogen III oxidase
Membrane-associated lipoprotein involved in thiamine biosynthesis
Pyrimidine reductase, riboflavin biosynthesis
Geranylgeranyl pyrophosphate synthase
Glutamate-1-semialdehyde aminotransferase
2-polyprenyl-3-methyl-5-hydroxy-6-metoxy-1,4-benzoquinol methylase
7-keto-8-aminopelargonate synthetase and related enzymes
Mg-chelatase subunit ChlI
Panthothenate synthetase
Riboflavin synthase alpha chain
Protein chain release factor B
Ribosomal protein S18
tRNA and rRNA cytosine-C5-methylases
Lysyl-tRNA synthetase (class II)
Methionyl-tRNA synthetase
Predicted EndoIII-related endonuclease
Mg-dependent DNase
ATP-dependent exoDNAse (exonuclease V) beta subunit (contains helicase and exonuclease domains)
Alkylated DNA repair protein
Superfamily I DNA and RNA helicases
DNA repair proteins
Preprotein translocase subunit SecY
Lipid A disaccharide synthetase
Predicted S-adenosylmethionine-dependent methyltransferase involved in cell envelope biogenesis
ADP-heptose-LPS heptosyltransferase
Nucleoside-diphosphate-sugar epimerases
Membrane-fusion protein
dTDP-4-dehydrorhamnose reductase
Acyl-[acyl carrier protein]--UDP-N-acetylglucosamine O-acyltransferase
Multidrug resistance efflux pump
ABC-type multidrug transport system, ATPase and permease components
ABC-type bacteriocin/lantibiotic exporters, contain an N-terminal double-glycine peptidase domain
Cell shape-determining protein
UDP-N-acetylglucosamine-LPS N-acetylglucosamine transferase
UDP-N-acetylmuramoylalanine-D-glutamate ligase
Periplasmic protease
Lauroyl/myristoyl acyltransferase
Membrane carboxypeptidase (penicillin-binding protein)
Tetraacyldisaccharide-1-P 4'-kinase
Outer membrane protein
Glycosyltransferase
Phosphoglycerol transferase and related proteins, alkaline phosphatase superfamily
UDP-N-acetylmuramyl pentapeptide phosphotransferase/UDP-N-acetylglucosamine-1-phosphate transferase
Organic radical activating enzymes
Thiol-disulfide interchange protein
Predicted metalloendopeptidase
Conserved domain frequently associated with peptide methionine sulfoxide reductase
Type I site-specific restriction-modification system, R (restriction) subunit and related helicases
Beta-lactamase class C and other penicillin binding proteins
Putative stress-responsive transcriptional regulator
DNA or RNA helicases of superfamily II
SAM-dependent methyltransferases related to tRNA (uracil-5-)-methyltransferase
tRNA delta(2)-isopentenylpyrophosphate transferase
Ribonucleases G and E
Tyrosyl-tRNA synthetase
Dimethyladenosine transferase (rRNA methylation)
Seryl-tRNA synthetase
Inactivated superfamily I helicase
Recombinational DNA repair protein (RecF pathway)
DNA polymerase III, epsilon subunit and related 3'-5' exonucleases
Type IIA topoisomerase (DNA gyrase/topo II, topoisomerase IV), A subunit
Deoxyribodipyrimidine photolyase
UDP-3-O-acyl-N-acetylglucosamine deacetylase
Sugar transferases involved in lipopolysaccharide synthesis
UDP-N-acetylmuramate dehydrogenase
UDP-N-acetyl-D-mannosaminuronate dehydrogenase
Outer membrane protein and related peptidoglycan-associated (lipo)proteins
Outer membrane protein/protective antigen OMA87
UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase
ATP-dependent Zn proteases
Peptide methionine sulfoxide reductase
ABC-type transport system involved in Fe-S cluster assembly, ATPase component
Molecular chaperone
Cation/multidrug efflux pump
DNA-binding HTH domain-containing proteins
Methionyl-tRNA formyltransferase
Peptide chain release factor RF-3
Isoleucyl-tRNA synthetase
Ribosomal protein S1
Translation elongation factor P (EF-P)/translation initiation factor 5A (eIF-5A)
Ribosomal protein L4
Ribosomal protein L14
Ribosomal protein L16/L10E
Peptidyl-tRNA hydrolase
DNA-directed RNA polymerase, beta subunit/140 kD subunit
dsRNA-specific ribonuclease
Ribosomal protein L10
Tryptophanyl-tRNA synthetase
Ribosomal protein S12
Ribosomal protein S13
Valyl-tRNA synthetase
Ribosomal protein L19
Ribosomal protein L18
Polyribonucleotide nucleotidyltransferase (polynucleotide phosphorylase)
Recombinational DNA repair ATPase (RecF pathway)
DNA polymerase III, gamma/tau subunits
Superfamily II DNA and RNA helicases
Predicted membrane GTPase involved in stress response
Large-conductance mechanosensitive channel
D-alanine-D-alanine ligase and related ATP-grasp enzymes
Uncharacterized protein involved in outer membrane biogenesis
Cbb3-type cytochrome oxidase, subunit 1
Membrane protease subunits, stomatin/prohibitin homologs
ATP-dependent protease Clp, ATPase subunit
Deoxyhypusine synthase
Response regulator of the LytR/AlgR family
Transcriptional regulator
Histidyl-tRNA synthetase
Translation initiation factor 2 (IF-2; GTPase)
Glycyl-tRNA synthetase (class II)
Ribosomal protein L24
Predicted tRNA(5-methylaminomethyl-2-thiouridylate) methyltransferase, contains the PP-loop ATPase domain
16S rRNA uridine-516 pseudouridylate synthase and related pseudouridylate synthases
N-formylmethionyl-tRNA deformylase
Threonyl-tRNA synthetase
Ribosomal protein L6P/L9E
Superfamily II DNA helicase
cAMP-binding proteins-catabolite gene activator and regulatory subunit of cAMP-dependent protein kinases
Signal transduction histidine kinase involved in nitrogen fixation and metabolism regulation
Sialic acid synthase
Protein-L-isoaspartate carboxylmethyltransferase
Ribosomal protein L1
Ribosomal protein S7
Ribosome-associated heat shock protein implicated in the recycling of the 50S subunit (S4 paralog)
Pseudouridylate synthases, 23S RNA-specific
Ribosomal protein L11 methylase
Glutamyl- and glutaminyl-tRNA synthetases
Ribosomal protein L15
rRNA methylases
Mismatch repair ATPase (MutS family)
DNA primase (bacterial type)
Type IIA topoisomerase (DNA gyrase/topo II, topoisomerase IV), B subunit
Bacteriophytochrome (light-regulated signal transduction histidine kinase)
Response regulator containing CheY-like receiver, AAA-type ATPase, and DNA-binding domains
Spore coat polysaccharide biosynthesis protein F, CMP-KDO synthetase homolog
Predicted sugar phosphate isomerase involved in capsule formation
3-deoxy-D-manno-octulosonic-acid transferase
Predicted UDP-glucose 6-dehydrogenase
Parvulin-like peptidyl-prolyl isomerase
Trypsin-like serine proteases, typically periplasmic, contain C-terminal PDZ domain
Peroxiredoxin
FKBP-type peptidyl-prolyl cis-trans isomerase (trigger factor)
Phenylalanyl-tRNA synthetase alpha subunit
Ribosomal protein S5
Ribosomal protein L28
Ribosomal protein L21
Ribosomal protein L2
DNA mismatch repair enzyme (predicted ATPase)
Putative translation factor (SUA5)
Arginyl-tRNA synthetase
Aspartyl/asparaginyl-tRNA synthetases
DNA polymerase III, delta subunit
Predicted site-specific integrase-resolvase
DNA polymerase I - 3'-5' exonuclease and polymerase domains
Response regulators consisting of a CheY-like receiver domain and a winged-helix DNA-binding domain
Signal transduction histidine kinase
Guanosine polyphosphate pyrophosphohydrolases/synthetases
O-Glycosyl hydrolase
Predicted pyridoxal phosphate-dependent enzyme apparently involved in regulation of cell wall biogenesis
UDP-N-acetylmuramyl tripeptide synthase
Predicted nucleoside-diphosphate sugar epimerases
Regulatory P domain of the subtilisin-like proprotein convertases and other proteases
Thiol-disulfide isomerase and thioredoxins
Polyprenyltransferase (cytochrome oxidase assembly factor)
Transcription termination factor
Predicted transcriptional regulators
Ribosomal protein S11
tRNA nucleotidyltransferase/poly(A) polymerase
Acetyltransferases, including N-acetylases of ribosomal proteins
2-methylthioadenine synthetase
Ribosomal protein L3
Aspartyl-tRNA synthetase
Single-stranded DNA-specific exonuclease
Holliday junction resolvasome, helicase subunit
Transposase and inactivated derivatives
Response regulator containing a CheY-like receiver domain and an HTH DNA-binding domain
DNA-binding transcriptional activator of the SARP family
Predicted signal transduction protein with a C-terminal ATPase domain
CMP-2-keto-3-deoxyoctulosonic acid synthetase
UDP-N-acetylglucosamine enolpyruvyl transferase
Chaperonin GroEL (HSP60 family)
Uncharacterized protein required for cytochrome oxidase assembly
Molecular chaperone, HSP90 family
Subtilisin-like serine proteases
Peptidyl-prolyl cis-trans isomerase (rotamase)-cyclophilin family
Thioredoxin-like proteins and domains
Predicted ATP-dependent serine protease
Transcriptional regulator/sugar kinase
DNA-directed RNA polymerase specialized sigma subunit, sigma24 homolog
Translation elongation factor Ts
Translation elongation factors (GTPases)
Ribosomal protein S15P/S13E
Ribosomal protein L20
Phenylalanyl-tRNA synthetase beta subunit
Translation initiation factor 3 (IF-3)
Ribosomal protein L17
Alanyl-tRNA synthetase
Ribosomal protein S6
DNA polymerase III, alpha subunit (gram-positive type)
Site-specific recombinase XerD
Transcriptional regulators
Ribosomal protein S2
Ribosomal protein L22
Methionine aminopeptidase
Ribosomal protein S8
Ribosomal protein S14
Ribosome-binding factor A
Ribosomal protein L11
Prolyl-tRNA synthetase
DnaK suppressor protein
Universal stress protein UspA and related nucleotide-binding proteins
Protein-tyrosine-phosphatase
Protein tyrosine/serine phosphatase
Predicted periplasmic ligand-binding sensor domain
Predicted ATPase related to phosphate starvation-inducible protein PhoH
Phosphate starvation-inducible protein PhoH, predicted ATPase
ABC-type transport system involved in cytochrome c biogenesis, permease component
Glutamine cyclotransferase
ATP-dependent Lon protease, bacterial type
Thioredoxin reductase
FKBP-type peptidyl-prolyl cis-trans isomerases 1
ABC-type transport system involved in Fe-S cluster assembly, permease component
ATPases with chaperone activity, ATP-binding subunit
Predicted redox protein, regulator of disulfide bond formation
DnaJ-class molecular chaperone with C-terminal Zn finger domain
tmRNA-binding protein
Transcription antiterminator
DNA-directed RNA polymerase, alpha subunit/40 kD subunit
Predicted transcriptional regulator containing an HTH domain and an uncharacterized domain shared with the mammalian protein Schlafen
Transcription elongation factor
DNA-directed RNA polymerase, sigma subunit (sigma70/sigma32)
DNA-directed RNA polymerase, beta' subunit/160 kD subunit
Exoribonuclease R
GTPases - translation elongation factors
Ribosomal protein S9
Ribosome-associated protein Y (PSrp-1)
Ribosomal protein L5
Ribosomal protein L27
Pseudouridine synthase
Ribosomal protein S4 and related proteins
Ribosomal protein S10
Ribosomal protein S3
Ribosomal protein L13
Leucyl-tRNA synthetase
Ribosomal protein L25 (general stress protein Ctc)
Methylase of polypeptide chain release factors
Protein chain release factor A
Ribosomal protein L9
Predicted GTPase, probable translation factor
ATP-dependent exoDNAse (exonuclease V), alpha subunit - helicase superfamily I member
RecG-like helicase
not determined