

Abbv	Domain	phylum	class	Order	family	species name
Aerpe	Archaea	Crenarchaeota	Thermoprotei	Desulfurococcales	Desulfurococcaceae	<i>Aeropyrum pernix</i>
Sulso	Archaea	Crenarchaeota	Thermoprotei	Sulfolobales	Sulfolobaceae	<i>Sulfolobus solfataricus</i>
Pyrae	Archaea	Crenarchaeota	Thermoprotei	Thermoproteales	Thermoproteaceae	<i>Pyrobaculum aerophilum</i>
Arcfu	Archaea	Euryarchaeota	Archaeoglobi	Archaeoglobales	Archaeoglobaceae	<i>Archaeoglobus fulgidus</i>
Halma	Archaea	Euryarchaeota	Halobacteria	Halobacteriales	Halobacteriaceae	<i>Haloarcula marismortui</i>
Halob	Archaea	Euryarchaeota	Halobacteria	Halobacteriales	Halobacteriaceae	<i>Halobacterium sp</i>
Metth	Archaea	Euryarchaeota	Methanobacteria	Methanobacteriales	Methanobacteriaceae	<i>Methanothermobacter thermautotrophicus</i>
Metja	Archaea	Euryarchaeota	Methanococci	Methanococcales	Methanocaldococcaceae	<i>Methanocaldococcus jannaschii</i>
Metac	Archaea	Euryarchaeota	Methanomicrobia	Methanosarcinales	Methanosarcinaceae	<i>Methanosarcina acetivorans</i>
Metka	Archaea	Euryarchaeota	Methanopyri	Methanopyrales	Methanopyraceae	<i>Methanopyrus kandleri</i>
Theko	Archaea	Euryarchaeota	Thermococci	Thermococcales	Thermococcaceae	<i>Thermococcus kodakarensis</i>
Pyrab	Archaea	Euryarchaeota	Thermococci	Thermococcales	Thermococcaceae	<i>Pyrococcus abyssi</i>
Picto	Archaea	Euryarchaeota	Thermoplasmata	Thermoplasmatales	Picrophilaceae	<i>Picrophilus torridus</i>
Theac	Archaea	Euryarchaeota	Thermoplasmata	Thermoplasmatales	Thermoplasmataceae	<i>Thermoplasma acidophilum</i>
Naneq	Archaea	Nanoarchaeota	-	-	-	<i>Nanoarchaeum equitans</i>
Symth	Bacteria	Actinobacteria	Actinobacteria	-	-	<i>Symbiobacterium thermophilum</i>
Trowh	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Cellulomonadaceae	<i>Tropheryma whipplei</i>
Corgl	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium glutamicum</i>
Leixy	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Microbacteriaceae	<i>Leifsonia xyli</i>
Mycle	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Mycobacteriaceae	<i>Mycobacterium leprae</i>
Myctu	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Mycobacteriaceae	<i>Mycobacterium tuberculosis</i>
Strco	Bacteria	Actinobacteria	Actinobacteria	Actinomycetales	Streptomycetaceae	<i>Streptomyces coelicolor</i>
Biflo	Bacteria	Actinobacteria	Actinobacteria	Bifidobacteriales	Bifidobacteriaceae	<i>Bifidobacterium longum</i>
Aquae	Bacteria	Aquificae	Aquificae	Aquificales	Aquificaceae	<i>Aquifex aeolicus</i>
Bacth	Bacteria	B/C ¹	Bacteroides	Bacteroidales	Bacteroidaceae	<i>Bacteroides thetaiotaomicron</i>
Porgi	Bacteria	B/C ¹	Bacteroides	Bacteroidales	Porphyromonadaceae	<i>Porphyromonas gingivalis</i>
Chlte	Bacteria	B/C ¹	Chlorobia	Chlorobiales	Chlorobiaceae	<i>Chlorobium tepidum</i>
Chlmu	Bacteria	C/V ²	Chlamydiae	Chlamydiales	Chlamydiaceae	<i>Chlamydia muridarum</i>
Chltr	Bacteria	C/V ²	Chlamydiae	Chlamydiales	Chlamydiaceae	<i>Chlamydia trachomatis</i>
Chlpn	Bacteria	C/V ²	Chlamydiae	Chlamydiales	Chlamydiaceae	<i>Chlamydophila pneumoniae</i>
Parac	Bacteria	C/V ²	Chlamydiae	Chlamydiales	Parachlamydiaceae	<i>Parachlamydia species</i>
Dehet	Bacteria	Chloroflexi	Dehalococcoidetes	-	-	<i>Dehalococcoides ethenogenes</i>
Glovi	Bacteria	cyanobacteria	-	Chroococcales	-	<i>Gloeobacter violaceus</i>
Synec	Bacteria	cyanobacteria	-	Chroococcales	-	<i>Synechocystis species</i>

Theel	Bacteria	cyanobacteria	-	Chroococcales	-	<i>Thermosynechococcus elongatus</i>
Nosto	Bacteria	cyanobacteria	-	Nostocales	Nostocaceae	<i>Nostoc species</i>
Proma	Bacteria	cyanobacteria	-	Prochlorophytes	Prochlorococcaceae	<i>Prochlorococcus marinus</i>
PromM	Bacteria	cyanobacteria	-	Prochlorophytes	Prochlorococcaceae	<i>Prochlorococcus marinus</i>
Deira	Bacteria	Deinococcus-Thermus	Deinococci	Deinococcales	Deinococcaceae	<i>Deinococcus radiodurans</i>
Theth	Bacteria	Deinococcus-Thermus	Deinococci	Thermales	Thermaceae	<i>Thermus thermophilus</i>
Bacha	Bacteria	Firmicutes	Bacilli	Bacillales	Bacillaceae	<i>Bacillus halodurans</i>
Bacsu	Bacteria	Firmicutes	Bacilli	Bacillales	Bacillaceae	<i>Bacillus subtilis</i>
Oceih	Bacteria	Firmicutes	Bacilli	Bacillales	Bacillaceae	<i>Oceanobacillus iheyensis</i>
Lisin	Bacteria	Firmicutes	Bacilli	Bacillales	Listeriaceae	<i>Listeria innocua</i>
Staa	Bacteria	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	<i>Staphylococcus aureus</i>
Entfa	Bacteria	Firmicutes	Bacilli	Lactobacillales	Enterococcaceae	<i>Enterococcus faecalis</i>
Lacla	Bacteria	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	<i>Lactococcus lactis</i>
Strpn	Bacteria	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	<i>Streptococcus pneumoniae</i>
Strpy	Bacteria	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	<i>Streptococcus pyogenes</i>
Cloac	Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae	<i>Clostridium acetobutylicum</i>
Clote	Bacteria	Firmicutes	Clostridia	Clostridiales	Clostridiaceae	<i>Clostridium tetani</i>
The	Bacteria	Firmicutes	Clostridia	Thermoanaerobacteri ales	Thermoanaerobacteriac eae	<i>Thermoanaerobacter tengcongensis</i>
Oniye	Bacteria	Firmicutes	Mollicutes	Acholeplasmatales	Acholeplasmataceae	<i>Phytolasma asteris</i>
Mycge	Bacteria	Firmicutes	Mollicutes	Mycoplasmatales	Mycoplasmataceae	<i>Mycoplasma genitalium</i>
Mycpe	Bacteria	Firmicutes	Mollicutes	Mycoplasmatales	Mycoplasmataceae	<i>Mycoplasma penetrans</i>
Mycpn	Bacteria	Firmicutes	Mollicutes	Mycoplasmatales	Mycoplasmataceae	<i>Mycoplasma pneumoniae</i>
Mycpu	Bacteria	Firmicutes	Mollicutes	Mycoplasmatales	Mycoplasmataceae	<i>Mycoplasma pulmonis</i>
Ureur	Bacteria	Firmicutes	Mollicutes	Mycoplasmatales	Mycoplasmataceae	<i>Ureaplasma parvum</i>
Mesfl	Bacteria	Firmicutes	Mollicutes	Entomoplasmatales	Entomoplasmataceae	<i>Mesoplasma florum</i>
Fusnu	Bacteria	Fusobacteria	Fusobacteria	Fusobacteriales	Fusobacteriaceae	<i>Fusobacterium nucleatum</i>
Pirel	Bacteria	Planctomycetes	Planctomycetacia	Planctomycetales	Planctomycetaceae	<i>Rhodopirellula baltica</i>
Caucr	Bacteria	proteobacteria	alpha	Caulobacterales	Caulobacteraceae	<i>Caulobacter crescentus</i>
Braja	Bacteria	proteobacteria	alpha	Rhizobiales	Bradyrhizobiaceae	<i>Bradyrhizobium japonicum</i>
Rhopa	Bacteria	proteobacteria	alpha	Rhizobiales	Bradyrhizobiaceae	<i>Rhodopseudomonas palustris</i>
Brume	Bacteria	proteobacteria	alpha	Rhizobiales	Brucellaceae	<i>Brucella melitensis</i>
Meslo	Bacteria	proteobacteria	alpha	Rhizobiales	Phyllobacteriaceae	<i>Mesorhizobium loti</i>
Agrtu	Bacteria	proteobacteria	alpha	Rhizobiales	Rhizobiaceae	<i>Agrobacterium tumefaciens</i>
Sinme	Bacteria	proteobacteria	alpha	Rhizobiales	Rhizobiaceae	<i>Sinorhizobium meliloti</i>
Anama	Bacteria	proteobacteria	alpha	Rickettsiales	Anaplasmataceae	<i>Anaplasma marginale</i>
Ricco	Bacteria	proteobacteria	alpha	Rickettsiales	Rickettsiaceae	<i>Rickettsia conorii</i>

Ricpr	Bacteria	proteobacteria	alpha	Rickettsiales	Rickettsiaceae	<i>Rickettsia prowazekii</i>
Wolba	Bacteria	proteobacteria	alpha	Rickettsiales	Rickettsiaceae	<i>Wolbachia pipientis</i>
Zymmo	Bacteria	proteobacteria	alpha	Sphingomonadales	Sphingomonadaceae	<i>Zymomonas mobilis</i>
Borbr	Bacteria	proteobacteria	beta	Burkholderiales	Alcaligenaceae	<i>Bordetella bronchiseptica</i>
Ralso	Bacteria	proteobacteria	beta	Burkholderiales	Burkholderiaceae	<i>Ralstonia solanacearum</i>
Neime	Bacteria	proteobacteria	beta	Neisseriales	Neisseriaceae	<i>Neisseria meningitidis</i>
Niteu	Bacteria	proteobacteria	beta	Nitrosomonadales	Nitrosomonadaceae	<i>Nitrosomonas europaea</i>
Bdeba	Bacteria	proteobacteria	delta	Bdellovibrionales	Bdellovibrionaceae	<i>Bdellovibrio bacteriovorus</i>
Desps	Bacteria	proteobacteria	delta	Desulfobacterales	Desulfobulbaceae	<i>Desulfotalea psychrophila</i>
Desvu	Bacteria	proteobacteria	delta	Desulfovibrionales	Desulfovibrionaceae	<i>Desulfovibrio vulgaris</i>
Geosu	Bacteria	proteobacteria	delta	Desulfuromonadales	Geobacteraceae	<i>Geobacter sulfurreducens</i>
Sheon	Bacteria	proteobacteria	gamma	Alteromonadales	Alteromonadaceae	<i>Shewanella oneidensis</i>
Blofl	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Blochmannia floridanus</i>
Buchn	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Buchnera aphidicola</i>
Escco	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Escherichia coli</i>
Salen	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Salmonella enterica</i>
Wiggl	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Wigglesworthia glossinidia</i>
Yerpe	Bacteria	proteobacteria	gamma	Enterobacteriales	Enterobacteriaceae	<i>Yersinia pestis</i>
Coxbu	Bacteria	proteobacteria	gamma	Legionellales	Coxiellaceae	<i>Coxiella burnetii</i>
Haein	Bacteria	proteobacteria	gamma	Pasteurellales	Pasteurellaceae	<i>Haemophilus influenzae</i>
Pasmu	Bacteria	proteobacteria	gamma	Pasteurellales	Pasteurellaceae	<i>Pasteurella multocida</i>
Acine	Bacteria	proteobacteria	gamma	Pseudomonadales	Moraxellaceae	<i>Acinetobacter species</i>
Pseae	Bacteria	proteobacteria	gamma	Pseudomonadales	Pseudomonadaceae	<i>Pseudomonas aeruginosa</i>
Fratu	Bacteria	proteobacteria	gamma	Thiotrichales	Francisellaceae	<i>Francisella tularensis</i>
Vibch	Bacteria	proteobacteria	gamma	Vibrionales	Vibrionaceae	<i>Vibrio cholerae</i>
Vibpa	Bacteria	proteobacteria	gamma	Vibrionales	Vibrionaceae	<i>Vibrio parahaemolyticus</i>
Xanax	Bacteria	proteobacteria	gamma	Xanthomonadales	Xanthomonadaceae	<i>Xanthomonas axonopodis</i>
Xylfa	Bacteria	proteobacteria	gamma	Xanthomonadales	Xanthomonadaceae	<i>Xylella fastidiosa</i>
Camje	Bacteria	proteobacteria	epsilon	Campylobacterales	Campylobacteraceae	<i>Campylobacter jejuni</i>
HelpJ	Bacteria	proteobacteria	epsilon	Campylobacterales	Helicobacteraceae	<i>Helicobacter pylori</i>
Helpy	Bacteria	proteobacteria	epsilon	Campylobacterales	Helicobacteraceae	<i>Helicobacter pylori</i>
Wolsu	Bacteria	proteobacteria	epsilon	Campylobacterales	Helicobacteraceae	<i>Wolinella succinogenes</i>
Lepin	Bacteria	Spirochaetes	Spirochaetes	Spirochaetales	Leptospiraceae	<i>Leptospira interrogans</i>
Borbu	Bacteria	Spirochaetes	Spirochaetes	Spirochaetales	Spirochaetaceae	<i>Borrelia burgdorferi</i>
Trede	Bacteria	Spirochaetes	Spirochaetes	Spirochaetales	Spirochaetaceae	<i>Treponema denticola</i>
Trepa	Bacteria	Spirochaetes	Spirochaetes	Spirochaetales	Spirochaetaceae	<i>Treponema pallidum</i>
Thema	Bacteria	Thermotogae	Thermotogae	Thermotogales	Thermotogaceae	<i>Thermotoga maritima</i>

Table 1. List of the organisms (sorted by their taxonomy) used to compare gene order and to identify all orthologs.

¹**B/C = Bacteroidetes/Chlorobi group**

²**C/V = Chlamydiae/Verrucomicrobia group**