d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Moraxellaceae;g Acinetobacter;s d_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas;s_ d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Moraxellaceae;g Psychrobacter;s d Bacteria;p Campylobacterota;c Campylobacteria;o Campylobacterales;f Campylobacteraceae;g Campylobacter;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales; ; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Pseudomonadaceae; ; d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Listeriaceae;g Brochothrix;s d Bacteria:p Proteobacteria:c Gammaproteobacteria: : : d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Carnobacteriaceae;g Carnobacterium;s d Bacteria;p Firmicutes;c Bacilli;o Bacillales;f Planococcaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Enterobacteriaceae; ; d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Vagococcaceae;g Vagococcus;s d Bacteria;p Firmicutes;c Bacilli;o Staphylococcales;f Staphylococcaceae;g Macrococcus;s d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Weeksellaceae;g Chryseobacterium;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Shewanellaceae;g Shewanella;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Morganellaceae;g Morganella;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Morganellaceae;g Providencia;s d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Flavobacteriaceae;g Flavobacterium;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Oxalobacteraceae; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Morganellaceae;g Proteus;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales; ; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales;f Micrococcaceae; ; d__Bacteria;p__Firmicutes;c__Bacilli;o__Lactobacillales;__;__;_ d Bacteria;p Actinobacteriota;c Actinobacteria;o Propionibacteriales;f Propionibacteriaceae;g Cutibacterium;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Streptococcaceae;g Lactococcus;s d Bacteria;p Firmicutes;c Bacilli;o Bacillales;f Bacillaceae; ; d_Bacteria;p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Enterococcaceae;g_Enterococcus;s_ d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Streptococcaceae; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Corynebacteriales;f Corynebacteriaceae; ; d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Streptococcaceae;g Streptococcus;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Listeriaceae;g Listeria;s d Bacteria;p Firmicutes;c Bacilli;o Bacillales;f Bacillaceae;g Bacillus;s Unassigned; ; ; ; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Corynebacteriales;f Corynebacteriaceae;g Turicella;s d_Bacteria;p_Firmicutes;c_Bacilli;o_Staphylococcales;f_Staphylococcaceae;g_Staphylococcus;s_ d Bacteria;p Deinococcota;c Deinococci;o Deinococcales;f Trueperaceae;g Truepera;s

d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Weeksellaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Vibrionaceae;g Salinivibrio;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Lactobacillaceae;g Lactobacillus;s d Bacteria;p Firmicutes;c Bacilli;o Erysipelotrichales;f Erysipelotrichaceae; ; d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Flavobacteriaceae; ; d Bacteria;p Firmicutes;c Clostridia;o Peptostreptococcales-Tissierellales;f Family XI;g Ezakiella;s d Bacteria;p Bdellovibrionota;c Oligoflexia;o 0319-6G20;f 0319-6G20;g 0319-6G20;s d Bacteria;p Deinococcota;c Deinococci;o Thermales;f Thermaceae;g Thermus;s d Bacteria; ; ; ; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Pasteurellaceae;g Haemophilus;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Sphingomonadales;f Sphingomonadaceae; ; d Bacteria;p Actinobacteriota;c Actinobacteria; ; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Vibrionaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Comamonadaceae; ; d_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;_;_ d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Rhodobacterales;f Rhodobacteraceae; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Neisseriaceae;g Uruburuella;s d Bacteria;p Firmicutes;c Bacilli;o Bacillales; ; ; d Bacteria;p Actinobacteriota;c Thermoleophilia;o Gaiellales; ; ; d Bacteria;p Firmicutes;c Clostridia;o Clostridia vadinBB60 group;f Clostridia vadinBB60 group;g Clostridia vadinBB60 group;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales; ; ; d Bacteria;p Firmicutes;c Bacilli;o Exiguobacterales;f Exiguobacteraceae;g Exiguobacterium;s d Bacteria;p Actinobacteriota;c Thermoleophilia;o Solirubrobacterales;f 67-14;g 67-14;s d_Bacteria;p_Actinobacteriota;c_Actinobacteria;o_Propionibacteriales;f_Propionibacteriaceae;_;_ d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Halomonadaceae;g Halomonas;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales;f Microbacteriaceae; d Bacteria;p Firmicutes;c Clostridia;o Peptostreptococcales-Tissierellales;f Peptostreptococcaceae;g Peptostreptococcus;s d Bacteria;p Fusobacteriota;c Fusobacteriia;o Fusobacteriales;f Fusobacteriaceae;g Fusobacterium;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Corynebacteriales; ; ; d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Flavobacteriaceae;g Imtechella;s d Bacteria;p Firmicutes;c Bacilli;o Staphylococcales;f Staphylococcaceae;g Jeotgalicoccus;s d Bacteria;p Bacteroidota;c Bacteroidia; ; ; ; d_Bacteria;p_Cyanobacteria;c_Cyanobacteriia;o_Pseudanabaenales;f_Pseudanabaenaceae;g_Pseudanabaena_PCC-7429;s_ d Bacteria;p Campylobacterota;c Campylobacteria;o Campylobacterales;f Arcobacteraceae; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales;f Micrococcaceae;g Rothia;s d Bacteria;p Firmicutes;c Bacilli; ; ;

- d Bacteria;p Chloroflexi;c Chloroflexia;o Thermomicrobiales;f JG30-KF-CM45;g JG30-KF-CM45;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Moraxellaceae;g Alkanindiges;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales;f Brevibacteriaceae;g Brevibacterium;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Carnobacteriaceae; ; d Bacteria;p Actinobacteriota;c Acidimicrobiia;o Actinomarinales; ; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Nitriliruptorales;f Nitriliruptoraceae;g Nitriliruptoraceae;g d Bacteria;p Chloroflexi;c Gitt-GS-136;o Gitt-GS-136;f Gitt-GS-136;g Gitt-GS-136;s d Bacteria;p Verrucomicrobiota;c Verrucomicrobiae;o Chthoniobacterales;f Chthoniobacteraceae;g Candidatus Udaeobacter;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Carnobacteriaceae;g Alloiococcus;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Enterobacteriaceae;g Escherichia-Shigella;s d Bacteria;p Firmicutes;c Bacilli;o Bacillales;f Bacillaceae;g Geobacillus;s d Bacteria;p Firmicutes;c Clostridia;o Peptostreptococcales-Tissierellales;f Family XI;g Anaerococcus;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Acetobacterales;f Acetobacteraceae; ; d Bacteria;p Actinobacteriota;c Thermoleophilia;o Solirubrobacterales;f Solirubrobacteraceae; ; d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Rickettsiales;f Mitochondria;g Mitochondria;s d Bacteria;p Acidobacteriota;c Blastocatellia;o Pyrinomonadales;f Pyrinomonadaceae;g RB41;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Aeromonadaceae;g Oceanisphaera;s d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;__;__;__; d Bacteria;p Firmicutes;c Bacilli;o Staphylococcales;f Staphylococcaceae; ; d Bacteria;p Actinobacteriota;c Actinobacteria;o Streptomycetales;f Streptomycetaceae;g E1B-B3-114;s d Bacteria;p Firmicutes;c Clostridia;o Lachnospirales;f Lachnospiraceae; ; d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Sphingobacteriales;f__Sphingobacteriaceae;g__Pedobacter;s__ d Bacteria;p Actinobacteriota;c Thermoleophilia;o Gaiellales;f uncultured;g uncultured;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Propionibacteriales;f Nocardioidaceae;g Nocardioides;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Pasteurellaceae;g Avibacterium;s d Bacteria;p Gemmatimonadota;c AKAU4049;o AKAU4049;f AKAU4049;g AKAU4049;s d Bacteria;p Verrucomicrobiota;c Verrucomicrobiae;o Verrucomicrobiales;f Rubritaleaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Morganellaceae;g Moellerella;s d Bacteria;p Cyanobacteria;c Cyanobacteriia;o Chloroplast;f Chloroplast;g Chloroplast;s d Bacteria;p Patescibacteria;c Parcubacteria;o Candidatus Kaiserbacteria;f Candidatus Kaiserbacteria;g Candidatus Kaiserbacteria;s d__Bacteria;p__Firmicutes;c__Bacilli;o__Lactobacillales;f__Enterococcaceae;__;_ d Bacteria;p Firmicutes;c Bacilli;o Staphylococcales;f Gemellaceae;g Gemella;s d Bacteria;p Synergistota;c Synergistia;o Synergistales;f Synergistaceae;g Jonquetella;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Rhizobiales;f Rhizobiaceae; ; d Bacteria;p Bacteroidota;c Bacteroidia;o Sphingobacteriales;f Sphingobacteriaceae; ; d Bacteria;p Dependentiae;c Babeliae;o Babeliales;f Vermiphilaceae;g Vermiphilaceae;s
- file:///C:/Users/JePriestley/OneDrive University of Lincoln/Downloads/level-7-legend (2).svg

d Bacteria:p Gemmatimonadota:c Gemmatimonadetes:o Gemmatimonadales:f Gemmatimonadaceae: : d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Pseudomonadales;f Nitrincolaceae;g Nitrincola;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Pseudoalteromonadaceae;g Pseudoalteromonas;s d Bacteria;p Planctomycetota;c Planctomycetes;o Pirellulales;f Pirellulaceae;g Pirellula;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Neisseriaceae; ; d Bacteria:p Proteobacteria:c Gammaproteobacteria:o Burkholderiales: : : d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Pasteurellaceae; d Bacteria;p Actinobacteriota;c Actinobacteria;o Bifidobacteriales;f Bifidobacteriaceae;g Bifidobacterium;s d Bacteria;p Firmicutes;c Negativicutes;o Veillonellales-Selenomonadales;f Veillonellaceae;g Veillonella;s d Bacteria;p Bacteroidota;c Bacteroidia;o Flavobacteriales;f Flavobacteriaceae;g Myroides;s d Bacteria;p Patescibacteria;c Parcubacteria;o Candidatus Campbellbacteria;f Candidatus Campbellbacteria;g Candidatus Campbellbacteria;s d Bacteria; p Proteobacteria; c Alphaproteobacteria; o Rhizobiales; ; ; d Bacteria;p Firmicutes;c Bacilli;o Mycoplasmatales;f Mycoplasmataceae;g Mycoplasma;s d Bacteria;p Patescibacteria;c Parcubacteria; ; ; d Bacteria:p Proteobacteria:c Gammaproteobacteria:o Xanthomonadales:f Xanthomonadaceae: : d Bacteria;p Firmicutes;c Clostridia;o Lachnospirales;f Lachnospiraceae;g [Eubacterium] hallii group;s d Bacteria;p Patescibacteria;c Saccharimonadia;o Saccharimonadales; ; ; d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Caulobacterales;f Caulobacteraceae; ; d Bacteria;p Bacteroidota;c Bacteroidia;o Chitinophagales;f Chitinophagaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Comamonadaceae;g Schlegelella;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Idiomarinaceae;g Aliidiomarina;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Enterobacterales;f Alteromonadaceae;g Rheinheimera;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Xanthomonadales;f Xanthomonadaceae;g Vulcaniibacterium;s d Bacteria;p Campylobacterota;c Campylobacteria;o Campylobacterales; ; ; d_Bacteria;p_Bacteroidota;c_Bacteroidia;o_Flavobacteriales;f_Flavobacteriaceae;g_Gillisia;s_ d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Alcaligenaceae;g Alcaligenes;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Burkholderiaceae;g Ralstonia;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Corynebacteriales;f Corynebacteriaceae;g Corynebacterium;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Alcaligenaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Legionellales;f Legionellaceae; d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Rhizobiales;f Beijerinckiaceae; ; d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Azospirillales;f uncultured;g uncultured;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Propionibacteriales;f Nocardioidaceae;g Aeromicrobium;s d Bacteria;p Actinobacteriota;c Actinobacteria;o Micrococcales;f Intrasporangiaceae;g Aquipuribacter;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Neisseriaceae;g uncultured;s d Bacteria;p Chloroflexi;c KD4-96;o KD4-96;f KD4-96;g KD4-96;s

d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Aerococcaceae;g Aerococcus;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Aerococcaceae;g Abiotrophia;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Lactobacillaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Burkholderiaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Neisseriaceae;g Vitreoscilla;s d Bacteria;p Cyanobacteria;c Cyanobacteriia;o Leptolyngbyales;f Leptolyngbyaceae; ; d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Burkholderiales;f Hydrogenophilaceae;g Hydrogenophilus;s d Bacteria;p Actinobacteriota;c Acidimicrobiia;o Microtrichales;f uncultured;g uncultured;s d Bacteria;p Proteobacteria;c Gammaproteobacteria;o Xanthomonadales; ; ; d Bacteria; Proteobacteria; ; ; ; d Bacteria;p Firmicutes;c Clostridia;o Peptostreptococcales-Tissierellales;f Family XI;g Finegoldia;s d Bacteria;p Actinobacteriota;c Acidimicrobiia;o Microtrichales;f Ilumatobacteraceae; ; d Bacteria;p Firmicutes;c Bacilli;o Bacillales;f Planococcaceae;g Lysinibacillus;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Caulobacterales;f Hyphomonadaceae;g SWB02;s d Bacteria;p Actinobacteriota;c Coriobacteriai;o Coriobacteriales;f Coriobacteriaceae;g Collinsella;s d Bacteria;p Actinobacteriota;c Thermoleophilia;o Solirubrobacterales; ; ; d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Acetobacterales;f Acetobacteraceae;g Craurococcus-Caldovatus;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Reyranellales;f Reyranellaceae;g Reyranella;s d Bacteria;p Proteobacteria;c Alphaproteobacteria;o Rhizobiales;f Hyphomicrobiaceae; ; d Bacteria;p Fusobacteriota;c Fusobacteriia;o Fusobacteriales;f Fusobacteriaceae; d Bacteria;p Firmicutes;c Clostridia;o Oscillospirales;f Hungateiclostridiaceae; d__Bacteria;p__Firmicutes;c__Clostridia;__;__;__;__ d Bacteria;p Firmicutes;c Clostridia;o Oscillospirales;f Ruminococcaceae;g Faecalibacterium;s d Bacteria;p Firmicutes;c Clostridia;o Clostridiales;f Clostridiaceae;g Clostridium sensu stricto 5;s d Bacteria:p Bacteroidota:c Rhodothermia:o Rhodothermales:f Rhodothermaceae: : d Bacteria;p Bacteroidota;c Bacteroidia;o Bacteroidales;f Bacteroidaceae;g Bacteroides;s d Bacteria;p Sumerlaeota;c Sumerlaeia;o Sumerlaeales;f Sumerlaeaceae;g Sumerlaea;s d Bacteria;p Firmicutes;c Bacilli;o Lactobacillales;f Lactobacillaceae;g Levilactobacillus;s d Bacteria;p Firmicutes;c Bacilli;o Erysipelotrichales;f Erysipelatoclostridiaceae;g Erysipelotrichaceae UCG-003;s d Bacteria;p Acidobacteriota;c Vicinamibacteria;o Vicinamibacterales;f uncultured;g uncultured;s d_Bacteria;p_Firmicutes;c_Bacilli;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Erysipelothrix;s_ d Bacteria;p Bdellovibrionota;c Bdellovibrionia;o Bdellovibrionales;f Bdellovibrionaceae;g Bdellovibrio;s d Bacteria;p Bacteroidota;c Bacteroidia;o Sphingobacteriales;f Sphingobacteriaceae;g Sphingobacterium;s