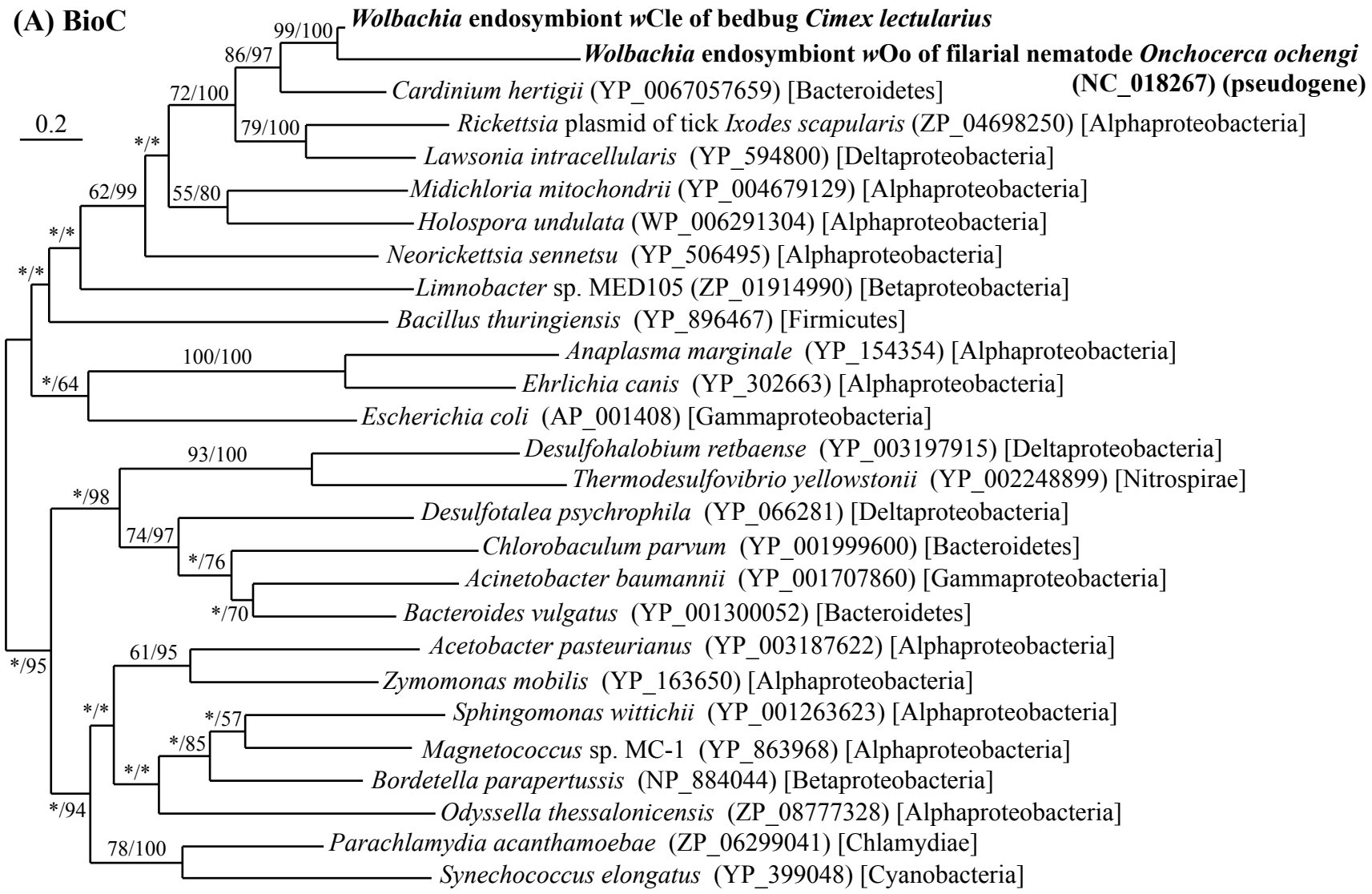
(A) BioC
0.2
Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi (NC_018267) (pseudogene)
Cardinium hertigii (YP_0067057659) [Bacteroidetes]
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698250) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594800) [Deltaproteobacteria]
Midichloria mitochondrii (YP_004679129) [Alphaproteobacteria]
Holospora undulata (WP_006291304) [Alphaproteobacteria]
Neorickettsia sennetsu (YP_506495) [Alphaproteobacteria]
Limnobacter sp. MED105 (ZP_01914990) [Betaproteobacteria]
Bacillus thuringiensis (YP_896467) [Firmicutes]
Anaplasma marginale (YP_154354) [Alphaproteobacteria]
Ehrlichia canis (YP_302663) [Alphaproteobacteria]
Escherichia coli (AP_001408) [Gammaproteobacteria]
Desulfohalobium retbaense (YP_003197915) [Deltaproteobacteria]
Thermodesulfovibrio yellowstonii (YP_002248899) [Nitrospirae]
Desulfotalea psychrophila (YP_066281) [Deltaproteobacteria]
Chlorobaculum parvum (YP_001999600) [Bacteroidetes]
Acinetobacter baumannii (YP_001707860) [Gammaproteobacteria]
Bacteroides vulgatus (YP_001300052) [Bacteroidetes]
Acetobacter pasteurianus (YP_003187622) [Alphaproteobacteria]
Zymomonas mobilis (YP_163650) [Alphaproteobacteria]
Sphingomonas wittichii (YP_001263623) [Alphaproteobacteria]
Magnetococcus sp. MC-1 (YP_863968) [Alphaproteobacteria]
Bordetella parapertussis (NP_884044) [Betaproteobacteria]
Odyssella thessalonicensis (ZP_08777328) [Alphaproteobacteria]
Parachlamydia acanthamoebae (ZP_06299041) [Chlamydiae]
Synechococcus elongatus (YP_399048) [Cyanobacteria]
99/100
86/97
72/100
79/100
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62/99
55/80
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100/100
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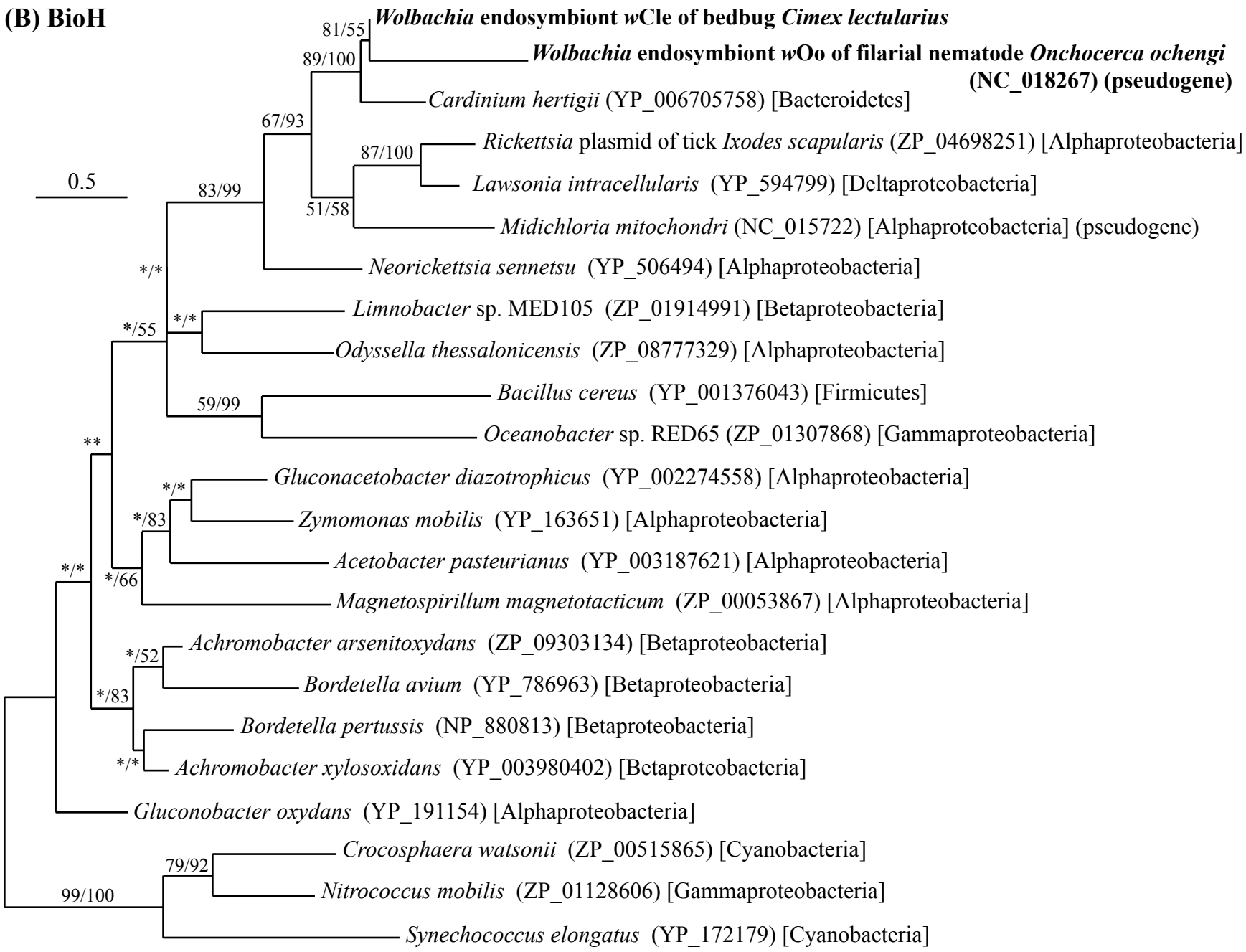
78/100

(B) BioH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67/93
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51/58
83/99
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59/99
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*/83
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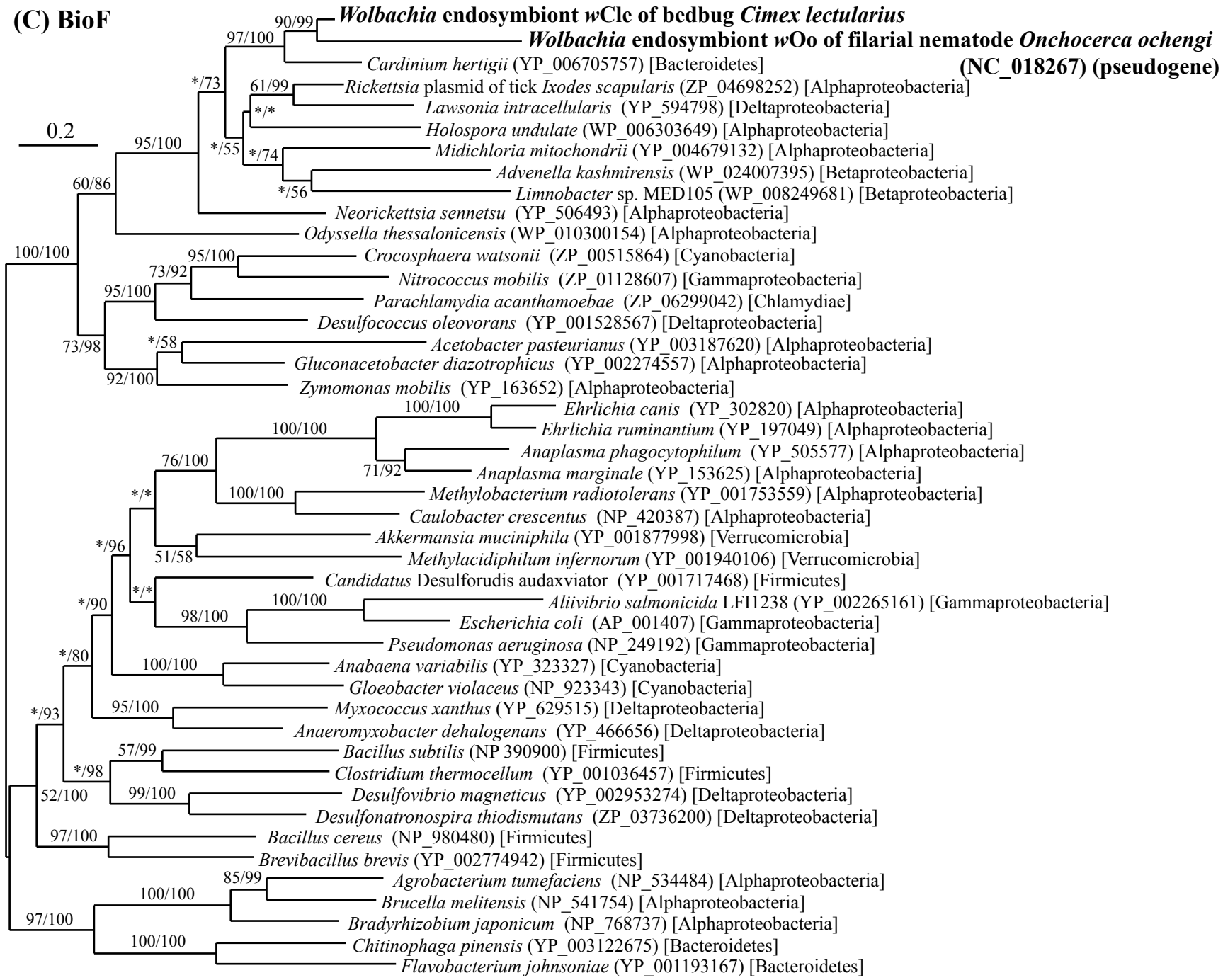
79/92
99/100
Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi (NC_018267) (pseudogene)
Cardinium hertigii (YP_006705758) [Bacteroidetes]
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698251) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594799) [Deltaproteobacteria]
Midichloria mitochondri (NC_015722) [Alphaproteobacteria] (pseudogene)
Neorickettsia sennetsu (YP_506494) [Alphaproteobacteria]
Limnobacter sp. MED105 (ZP_01914991) [Betaproteobacteria]
Odyssella thessalonicensis (ZP_08777329) [Alphaproteobacteria]
Bacillus cereus (YP_001376043) [Firmicutes]
Oceanobacter sp. RED65 (ZP_01307868) [Gammaproteobacteria]
Gluconacetobacter diazotrophicus (YP_002274558) [Alphaproteobacteria]
Zymomonas mobilis (YP_163651) [Alphaproteobacteria]
Acetobacter pasteurianus (YP_003187621) [Alphaproteobacteria]
Magnetospirillum magnetotacticum (ZP_00053867) [Alphaproteobacteria]
Achromobacter arsenitoxydans (ZP_09303134) [Betaproteobacteria]
Bordetella avium (YP_786963) [Betaproteobacteria]
Bordetella pertussis (NP_880813) [Betaproteobacteria]
Achromobacter xylosoxidans (YP_003980402) [Betaproteobacteria]
Gluconobacter oxydans (YP_191154) [Alphaproteobacteria]
Crocosphaera watsonii (ZP_00515865) [Cyanobacteria]
Nitrococcus mobilis (ZP_01128606) [Gammaproteobacteria]
Synechococcus elongatus (YP_172179) [Cyanobacteria]


(C) BioF
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Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi
(NC_018267) (pseudogene)
Cardinium hertigii (YP_006705757) [Bacteroidetes]
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698252) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594798) [Deltaproteobacteria]
Holospora undulate (WP_006303649) [Alphaproteobacteria]
Midichloria mitochondrii (YP_004679132) [Alphaproteobacteria]
Advenella kashmirensis (WP_024007395) [Betaproteobacteria]
Limnobacter sp. MED105 (WP_008249681) [Betaproteobacteria]
Neorickettsia sennetsu (YP_506493) [Alphaproteobacteria]
Odyssella thessalonicensis (WP_010300154) [Alphaproteobacteria]
Crocosphaera watsonii (ZP_00515864) [Cyanobacteria]
Nitrococcus mobilis (ZP_01128607) [Gammaproteobacteria]
Parachlamydia acanthamoebae (ZP_06299042) [Chlamydiae]
Desulfococcus oleovorans (YP_001528567) [Deltaproteobacteria]
Acetobacter pasteurianus (YP_003187620) [Alphaproteobacteria]
Gluconacetobacter diazotrophicus (YP_002274557) [Alphaproteobacteria]
Zymomonas mobilis (YP_163652) [Alphaproteobacteria]
Ehrlichia canis (YP_302820) [Alphaproteobacteria]
Ehrlichia ruminantium (YP_197049) [Alphaproteobacteria]
Anaplasma phagocytophilum (YP_505577) [Alphaproteobacteria]
Anaplasma marginale (YP_153625) [Alphaproteobacteria]
Methylobacterium radiotolerans (YP_001753559) [Alphaproteobacteria]
Caulobacter crescentus (NP_420387) [Alphaproteobacteria]
Akkermansia muciniphila (YP_001877998) [Verrucomicrobia]
Methylacidiphilum infernorum (YP_001940106) [Verrucomicrobia]
Candidatus Desulforudis audaxviator (YP_001717468) [Firmicutes]
Aliivibrio salmonicida LFI1238 (YP_002265161) [Gammaproteobacteria]
Escherichia coli (AP_001407) [Gammaproteobacteria]
Pseudomonas aeruginosa (NP_249192) [Gammaproteobacteria]
Anabaena variabilis (YP_323327) [Cyanobacteria]
Gloeobacter violaceus (NP_923343) [Cyanobacteria]
Myxococcus xanthus (YP_629515) [Deltaproteobacteria]
Anaeromyxobacter dehalogenans (YP_466656) [Deltaproteobacteria]
Bacillus subtilis (NP 390900) [Firmicutes]
Clostridium thermocellum (YP_001036457) [Firmicutes]
Desulfovibrio magneticus (YP_002953274) [Deltaproteobacteria]
Desulfonatronospira thiodismutans (ZP_03736200) [Deltaproteobacteria]
Bacillus cereus (NP_980480) [Firmicutes]
Brevibacillus brevis (YP_002774942) [Firmicutes]
Agrobacterium tumefaciens (NP_534484) [Alphaproteobacteria]
Brucella melitensis (NP_541754) [Alphaproteobacteria]
Bradyrhizobium japonicum (NP_768737) [Alphaproteobacteria]
Chitinophaga pinensis (YP_003122675) [Bacteroidetes]
Flavobacterium johnsoniae (YP_001193167) [Bacteroidetes]
90/99
97/100
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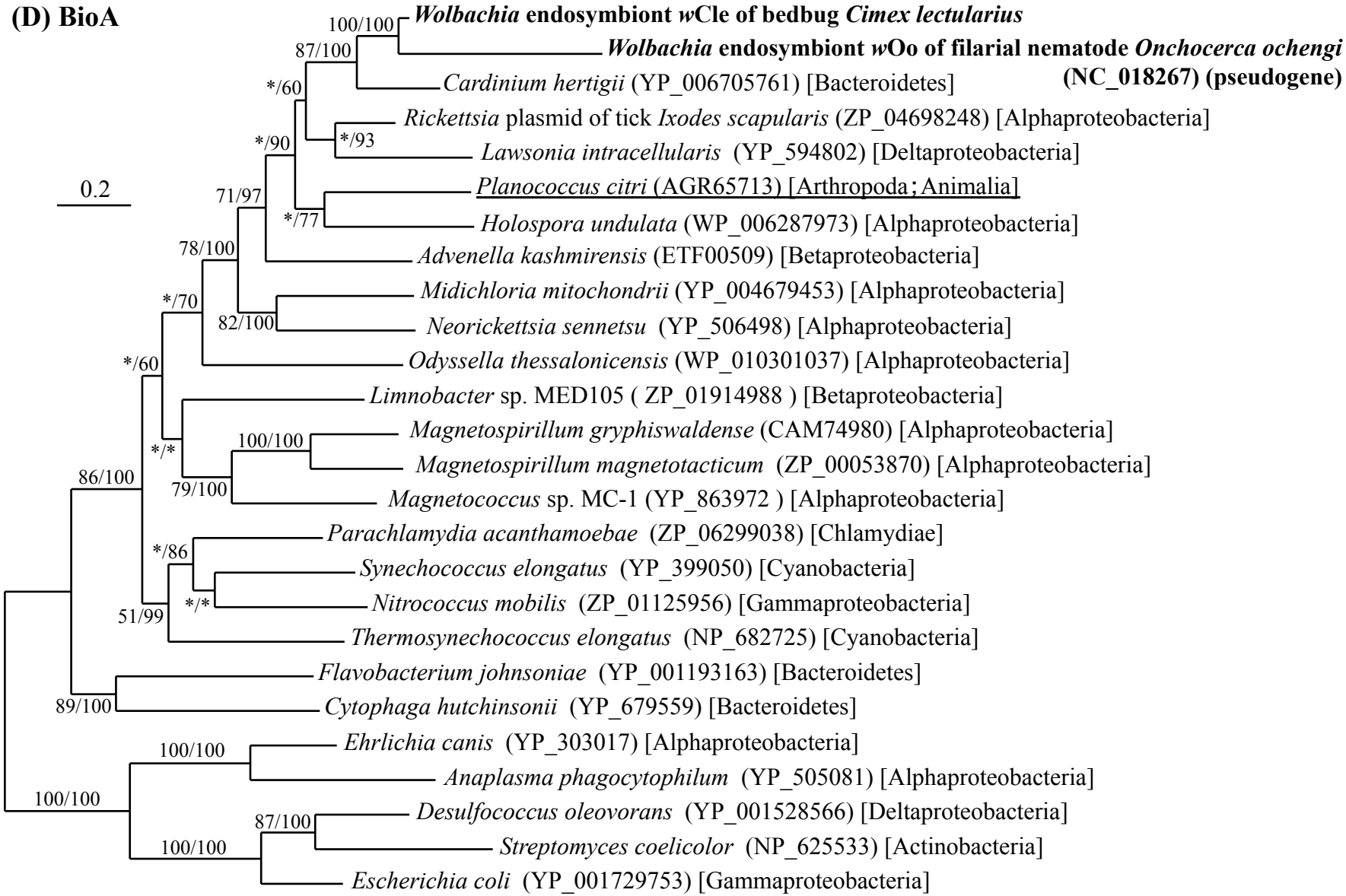
100/100

(D) BioA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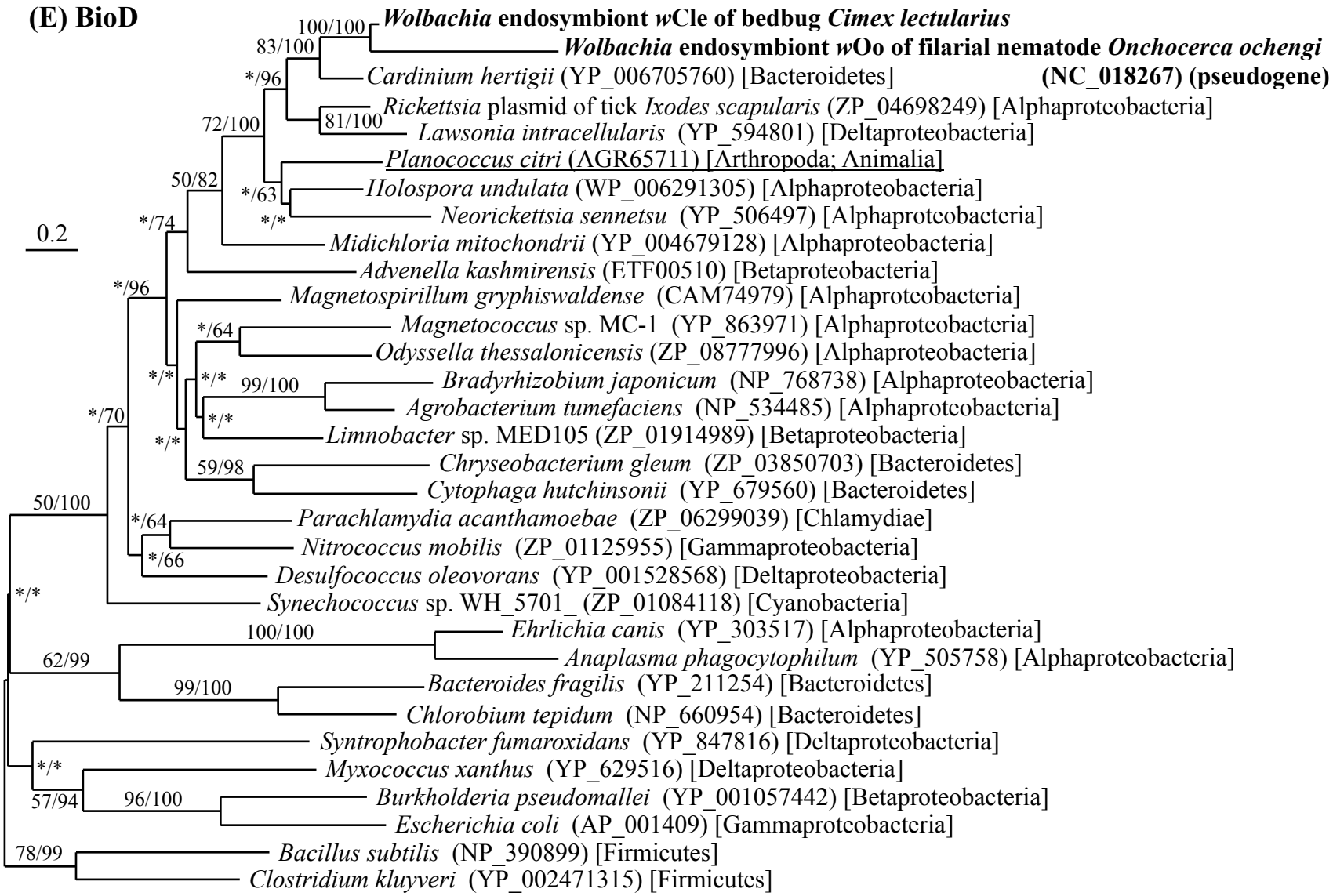
100/100
Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi (NC_018267) (pseudogene)
Cardinium hertigii (YP_006705761) [Bacteroidetes]
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698248) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594802) [Deltaproteobacteria]
Planococcus citri (AGR65713) [Arthropoda;Animalia]
Holospora undulata (WP_006287973) [Alphaproteobacteria]
Advenella kashmirensis (ETF00509) [Betaproteobacteria]
Midichloria mitochondrii (YP_004679453) [Alphaproteobacteria]
Neorickettsia sennetsu (YP_506498) [Alphaproteobacteria]
Odyssella thessalonicensis (WP_010301037) [Alphaproteobacteria]
Limnobacter sp. MED105 (ZP_01914988) [Betaproteobacteria]
Magnetospirillum gryphiswaldense (CAM74980) [Alphaproteobacteria]
Magnetospirillum magnetotacticum (ZP_00053870) [Alphaproteobacteria]
Magnetococcus sp. MC-1 (YP_863972) [Alphaproteobacteria]
Parachlamydia acanthamoebae (ZP_06299038) [Chlamydiae]
Synechococcus elongatus (YP_399050) [Cyanobacteria]
Nitrococcus mobilis (ZP_01125956) [Gammaproteobacteria]
Thermosynechococcus elongatus (NP_682725) [Cyanobacteria]
Flavobacterium johnsoniae (YP_001193163) [Bacteroidetes]
Cytophaga hutchinsonii (YP_679559) [Bacteroidetes]
Ehrlichia canis (YP_303017) [Alphaproteobacteria]
Anaplasma phagocytophilum (YP_505081) [Alphaproteobacteria]
Desulfococcus oleovorans (YP_001528566) [Deltaproteobacteria]
Streptomyces coelicolor (NP_625533) [Actinobacteria]
Escherichia coli (YP_001729753) [Gammaproteobacteria]

(E) BioD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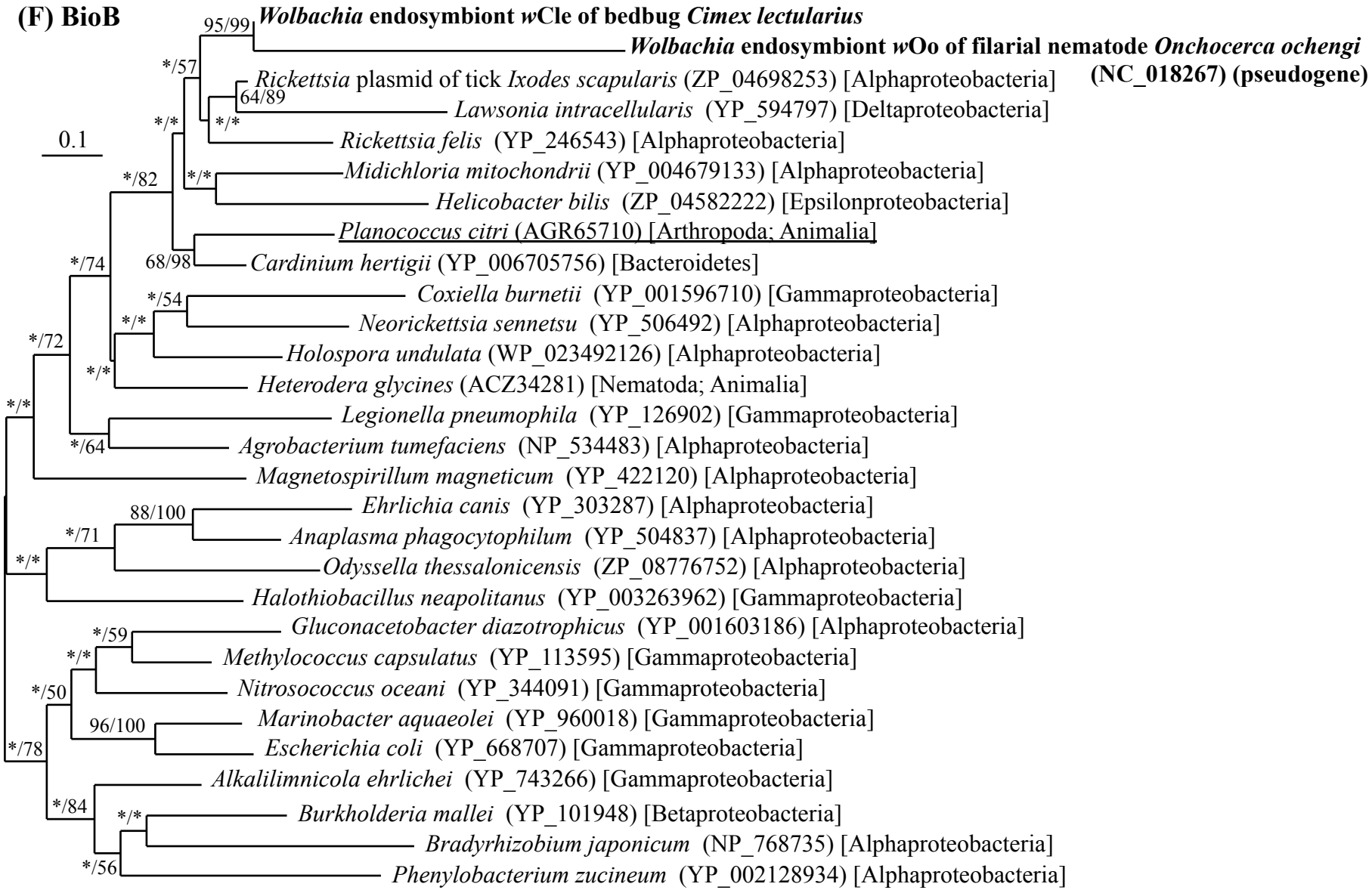
57/94
96/100
78/99
Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi
(NC_018267) (pseudogene)
Cardinium hertigii (YP_006705760) [Bacteroidetes]
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698249) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594801) [Deltaproteobacteria]
Planococcus citri (AGR65711) [Arthropoda; Animalia]
Holospora undulata (WP_006291305) [Alphaproteobacteria]
Neorickettsia sennetsu (YP_506497) [Alphaproteobacteria]
Midichloria mitochondrii (YP_004679128) [Alphaproteobacteria]
Advenella kashmirensis (ETF00510) [Betaproteobacteria]
Magnetospirillum gryphiswaldense (CAM74979) [Alphaproteobacteria]
Magnetococcus sp. MC-1 (YP_863971) [Alphaproteobacteria]
Odyssella thessalonicensis (ZP_08777996) [Alphaproteobacteria]
Bradyrhizobium japonicum (NP_768738) [Alphaproteobacteria]
Agrobacterium tumefaciens (NP_534485) [Alphaproteobacteria]
Limnobacter sp. MED105 (ZP_01914989) [Betaproteobacteria]
Chryseobacterium gleum (ZP_03850703) [Bacteroidetes]
Cytophaga hutchinsonii (YP_679560) [Bacteroidetes]
Parachlamydia acanthamoebae (ZP_06299039) [Chlamydiae]
Nitrococcus mobilis (ZP_01125955) [Gammaproteobacteria]
Desulfococcus oleovorans (YP_001528568) [Deltaproteobacteria]
Synechococcus sp. WH_5701_ (ZP_01084118) [Cyanobacteria]
Ehrlichia canis (YP_303517) [Alphaproteobacteria]
Anaplasma phagocytophilum (YP_505758) [Alphaproteobacteria]
Bacteroides fragilis (YP_211254) [Bacteroidetes]
Chlorobium tepidum (NP_660954) [Bacteroidetes]
Syntrophobacter fumaroxidans (YP_847816) [Deltaproteobacteria]
Myxococcus xanthus (YP_629516) [Deltaproteobacteria]
Burkholderia pseudomallei (YP_001057442) [Betaproteobacteria]
Escherichia coli (AP_001409) [Gammaproteobacteria]
Bacillus subtilis (NP_390899) [Firmicutes]
Clostridium kluyveri (YP_002471315) [Firmicutes]

(F) BioB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88/100
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96/100
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Wolbachia endosymbiont wCle of bedbug Cimex lectularius
Wolbachia endosymbiont wOo of filarial nematode Onchocerca ochengi (NC_018267) (pseudogene)
Rickettsia plasmid of tick Ixodes scapularis (ZP_04698253) [Alphaproteobacteria]
Lawsonia intracellularis (YP_594797) [Deltaproteobacteria]
Rickettsia felis (YP_246543) [Alphaproteobacteria]
Midichloria mitochondrii (YP_004679133) [Alphaproteobacteria]
Helicobacter bilis (ZP_04582222) [Epsilonproteobacteria]
Planococcus citri (AGR65710) [Arthropoda; Animalia]
Cardinium hertigii (YP_006705756) [Bacteroidetes]
Coxiella burnetii (YP_001596710) [Gammaproteobacteria]
Neorickettsia sennetsu (YP_506492) [Alphaproteobacteria]
Holospora undulata (WP_023492126) [Alphaproteobacteria]
Heterodera glycines (ACZ34281) [Nematoda; Animalia]
Legionella pneumophila (YP_126902) [Gammaproteobacteria]
Agrobacterium tumefaciens (NP_534483) [Alphaproteobacteria]
Magnetospirillum magneticum (YP_422120) [Alphaproteobacteria]
Ehrlichia canis (YP_303287) [Alphaproteobacteria]
Anaplasma phagocytophilum (YP_504837) [Alphaproteobacteria]
Odyssella thessalonicensis (ZP_08776752) [Alphaproteobacteria]
Halothiobacillus neapolitanus (YP_003263962) [Gammaproteobacteria]
Gluconacetobacter diazotrophicus (YP_001603186) [Alphaproteobacteria]
Methylococcus capsulatus (YP_113595) [Gammaproteobacteria]
Nitrosococcus oceani (YP_344091) [Gammaproteobacteria]
Marinobacter aquaeolei (YP_960018) [Gammaproteobacteria]
Escherichia coli (YP_668707) [Gammaproteobacteria]
Alkalilimnicola ehrlichei (YP_743266) [Gammaproteobacteria]
Burkholderia mallei (YP_101948) [Betaproteobacteria]
Bradyrhizobium japonicum (NP_768735) [Alphaproteobacteria]
Phenylobacterium zucineum (YP_002128934) [Alphaproteobacteria]