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pStW16.1 fl-ident ified endo symbiont of G. puriforme-----
pStW16.3 fl-----
pStW15.1 v-----
pStW16.2 v-----
pStW19.2 v-----
pStW18.1 v-----
pStW12.141 v-----
pStW18.2 v-----
pStW15.2 h-----
pStW15.3 h-----
pStW14.1 h-----
NewSpeci#1-----
pStW16.1 f-----
pStW19.141-----
pStW12.241h-----
pStW11.2ca#1-verm-K contaminant e-----
pStW9.1ca fl-verm-K contaminant e-----
pStW2.1ca fl-verm-K contaminant e-----
pStW1.1ca fl-verm-K contaminant e-----
S.persE09-unident ified endo symbiont of S. persica E09-----
S.persE28-unident ified endo symbiont of S. persica E28-----
S.persBEG1-unident ified endo symbiont of S. caitan ea BEG1-----
G.marg_neu-unident ified endo symbiont of G. margar ita str. W20A-5-----
G.marg_alt-unident ified endo symbiont of G. margar ita-----
B.flavescere-Pseudomonas flavescens str. B62-----
unid_beta#1-beta proteobacterium str. AI 020-----
Ultra MW14-Ultramicrobacterium str. MY 4-----
Dechloro-Dechloromonas sp. str. SDU-----
Ultra D-7-Ultramicrobacterium str. D-7-----
Ultra D-6-Ultramicrobacterium str. D-6-----
unid_beta-unident ified beta proteobacterium str. 1275-----
unid_prot-uncultured proteobacterium str. OC57-----
Dechlor_JM-Dechloromonas sp. str. JM-----
uncul_beta-uncultured beta proteobacterium str. BRH147-----
uncul_beta1-uncultured bacterium str. S1 A-109-----
Herba GB41-Herbaspirillum sp. str. GB41-----
unid_beta2-beta proteobacterium str. Wu ba26-----
Herba MM41-Herbaspirillum sp. str. MM41-----
Dechlor_JJ-Dechloromonas sp. str. JJ-----
P.testostea-Comanonas (Pseudomonas) testostea-----
N.gonorrho-Neisseria gonorrhoea str. CTX 83789-----
A.tolulyt-Aeromonas toluolyticus str. T1-----
F.philomir-Franseisella philomiragia str. ATCC 250 17, FSC 15 3-----
N.punctifo-Nostoc punctiforme str. FCC7 3102-----
N.specSV2-Nostoc sp. str. SV 224-----
N.specAW2-Nostoc sp. str. AW 2 02-----
N.spec152-Nostoc sp. str. 15 2-----
N.specATCC-Nostoc sp. str. ATCC 53789-----
N.specFCC7-Nostoc sp. str. FC 7 02-----
P.modestum-Protophormium modestum-----
F.necropho-Fusobacterium neoprophorum str. B Isol. F68-40-----
H.halodeni-Halomonas (Halomonas) halodentificans str. ATCC 19511-----
F.aerugino-Pseudomonas aeruginosa str. ATCC 27819-----
S.lyticum-Sarcobolus lyticus (Legionella lytica) str. PCM22 98-----
D.nodosus-Dichelobacter nodosus str. 1 98A/ ATCC 27521-----
A.pleuropho-Actinobaculum pleuropneumoniae str. S Hpa64074-----
F.vulgaris-Ferroglobus vulgaris str. FV 1 731 Clone. F04-----
V.vulnifico-Vibrio vulnificus str. ATCC 27562 T-----
V.furnissii-Vibrio furnissii str. ATCC 3 5016 T-----
V.cholerae-Vibrio cholerae str. CCT 514 T-----
E.coli#2-Escherichia coli str. K12 str. B-----
T.mixta-Telluria mixta str. ACM17-----
T.chitino1-Telluria chitinolytica-----
B.pyrrrocin-Burkholderia pyrrocinia str. ATCC 15019 TP-----
B.pickettii-Ralstonia (Burkholderia) pickettii str. MSP3-----
B.glathei-Burkholderia glathei str. ATCC 29195 T-----
B.covevone-Burkholderia gladioli (Covovone) str. ATCC 3 3664-----
B.phenzin-Burkholderia phenziniana str. ATCC 316 66 T-----
B.cepacia-Burkholderia cepacia str. ATCC 25419 T-----
R.basilens-Ralstonia basiliensis str. RK 1-----
B.caryophy-Burkholderia caryophylli str. ATCC 254 18 T-----
B.kururien-Burkholderia kururubensis-----
B.pseudoma-Burkholderia pseudomallei-----
B.gliadioli-Burkholderia gladioli str. NIAS 1065-----
B.brasilen-Burkholderia brasiliensis str. M130-----
B.plantari-Burkholderia plantarii str. IM9035 T-----
B.giumae-Burkholderia glumae str. IMG 2196 T-----
B.thailand-Burkholderia thailandensis str. E264-----
B.vietname-Burkholderia vietnamiensis str. TV70-----
B.andropog-Burkholderia andropogonis str. ATCC 23 061-----
B.graminis-Burkholderia graminis str. A 935-----
B.multivor-Burkholderia multivorans str. LMG 1801 0 T-----
B.noisbeier-Burkholderia (Randallia) noisbeieri-----
unid_T34-unident ified bacterium clone T34-----
B.solanace-Burkholderia (Ralstonia) solanacearum str. CIP21 0-----
R.metallic-Ralstonia metallica str. CH34-----
R.paucula-Ralstonia paucula str. LMG 3 43-----
B.mallei-Burkholderia mallei str. ATCC 23344-----
Pseudomonas-Pseudomonas woodii str. ATCC 19311 T-----
D.zoogloeo-Dugesiella zoogloea str. IAM12670-----
Z.ramigera-Zooglossa ramigera str. ATCC 2333-----
B.fungorum-Burkholderia fungorum str. LMG 16225-----
B.fungora1-Burkholderia fungorum str. LMG 16307-----
M.tinosae-Mugilogibba tinosae 1011 Tinosae-----
uncul_euba-uncultured eubacterium str. WD285-----
uncul_bact-uncultured rape rhizosphere bacterium str. vr004 0-----
B.bronchis-Bordetella bronchiseptica str. S-1-----
B.holmesii-Bordetella holmesii str. CDC 85101-----
J.lividum-Kinshipia bacterium lividum str. DSM 152 2 T-----
K.criethidi-Kinshipia bacterium criethidi-----
beta_B1-beta proteobacterium B1-----
P.lemigne-Pseudomonas (Pseudomonas) lemignei str. LMG 1648 0-----
O.fornigen-Oxalobacter formigenes str. BL55-----
uncul_beta2-uncultured beta proteobacterium clone 10.40-----
Thermococcus-Thermococcus caldophilus-----
Sulfobobus-Sulfobobus sulfobobus-----
Methanosar0-Methanosaeta arcina fri sius-----

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pStW19.2 @=@-----
pStW18.1 @=@-pege nsequenzie ran-----
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pStW11.2ca @=@-----
pStW9.1ca @=@-----
pStW2.1ca @=@-----
pStW1.1ca @=@-----
S.persE09 @=@-----
S.persE28 @=@-----
S.persBEG1 @=@-viele-CAF-----
G.marg_neu @=@-----
G.marg_alt @=@-----
B.flavescere @=@-----

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Ultra_MY14-----
Dechloromo-----
Ultra_D-7-----
Ultra_D-6-----
unid_beta-----
unid_prot-----
Dechlor_3M-----
uncul_beta-----
uncul_beta1-----
Herba_G8A1-----
unid_beta2-----
unid_beta3-----
Herba_NAH4-----
Dechlor_3J-----
P.testoste-----
N.gonorrho-----
A.toluolyt-----
F.philomir-----
N.punctifo-----
N.specGSV2-----
N.specAW2-----
N.spec152-----
N.specATCC-----
N.specPCC7-----
F.modestum-----
F.necropho-----
H.halodeni-----
P.aerugino-----
S.lyticum-----
D.nodosus-----
A.pleuropn-----
P.vulgaris-----
V.vulnific-----
V.furnissii-----
V.cholerae-----
E.coliK12-----
T.mitra-----
T.chitinol-----
B.pyrocin-----
B.plicketti-----
B.glathei-----
B.cocovene-----
B.phenazin-----
B.cepacia-----
R.basilens-----
B.caryophy-----
B.kururien-----
B.pseudoma-----
B.gladiosi-----
B.brasilen-----
B.plantar-----
B.glumae-----
B.thailand-----
B.vietname-----
B.andropog-----
B.graminis-----
B.multivor-----
B.norriber-----
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B.solanace-----
R.metallid-----
K.paucula-----
B.mallei-----
Pseudomon-----
D.zoogloeo-----
Z.ramigera-----
B.fungorum-----
B.fungor#1-----
M.timonae-----
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uncul_bact-----
B.bronchia-----
B.hoimesii-----
J.lividum-----
K.cerithidi-----
beta_B1-----
P.lemigne-----
O.formigen-----
uncul_beta2-----
Thermococc-----
Sulfolobus-----
Methanosar-----

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S.persiE28-----
S.persiB01-----
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G.marg_alt-----
B.flavesce-----
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Ultra_MY14-----
Dechloromo-----
Ultra_D-7-----
Ultra_D-6-----
unid_beta-----
unid_prot-----
Dechlor_3M-----
uncul_beta-----
uncul_beta1-----
Herba_G8A1-----
unid_beta2-----
unid_beta3-----
Herba_NAH4-----
Dechlor_3J-----
P.testoste-----
N.gonorrho-----
A.toluolyt-----
F.philomir-----
N.punctifo-----
N.specGSV2-----
N.specAW2-----
N.spec152-----
N.specATCC-----
N.specPCC7-----
F.modestum-----
F.necropho-----
H.halodeni-----
P.aerugino-----
S.lyticum-----
D.nodosus-----

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V.vulnific-----
V.furnissi-----
V.cholerae-----
E.coliK12-----
T.mixta-----
T.chitinol-----
B.pyrrocin-----
B.picketti-----
B.glathei-----
B.cocovene-----
B.phenazin-----
B.cepacia-----
R.basilens-----
B.caryophy-----
B.kururien-----
B.pseudoma-----
B.giadioli-----
B.brasilen-----
B.plantari-----
B.glumae-----
B.thailand-----
B.vietname-----
B.andropog-----
B.graminis-----
B.mullivor-----
B.norimber-----
unid_T34-----
B.solanace-----
R.metallid-----
R.paucula-----
B.mallei-----
Pseudomon-----
D.zoogloeo-----
Z.ramigera-----
B.fungorum-----
B.fungi41-----
M.timonae-----
uncul_euba-----
uncul_bact-----
B.bronchis-----
B.holmesii-----
J.lividum-----
K.citridi-----
beta_B1-----
P.lemoine-----
O.formigen-----
uncul_beta2-----
Thermococc-----
Sulfolobus-----
Methanosar-----

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MASK vorne000000000 000000000 000000000 000000000 000000000 000000000
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S.pers1E09 -----
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S.persBE01 -----
G.marg_neu -----
G.marg_alt -----
B.flavesce -----
unid_beta1 -----
Ultra_WT14 -----
Dechloromo -----
Ultra_D-7 -----
Ultra_D-6 -----
unid_beta -----
unid_prote -----
Dechlor_JM -----
uncul_beta -----
uncul_beta1 -----
Herba_G8A1 -----
unid_beta2 -----
unid_beta3 -----
Herba_N8H4 -----
Dechlor_JJ -----
P.testoste -----
N.gonorrho -----
A.toluolyt -----
F.philomir -----
N.punctifo -----
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N.spec152 -----
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P.modestum -----
F.necropho -----
H.halodeni -----
P.aerugin -----
S.lyticum -----
D.nodosus -----
A.pleuropn-----
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V.furnissi-----
V.cholerae-----
E.coliK12-----
T.mixta-----
T.chitinol-----
B.pyrrocin-----
B.picketti-----
B.glathei-----
B.cocovene-----
B.phenazin-----
B.cepacia-----
R.basilens-----
B.caryophy-----
B.kururien-----
B.pseudoma-----
B.giadioli-----
B.brasilen-----
B.plantari-----
B.glumae-----
B.Chailand-----
B.vietname-----
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B.graminis-----
B.mullivor-----
B.norimber-----
unid_T34-----
B.solanace-----
R.metallid-----

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R.paucula  
 B.mallei  
 Pseudomon.  
 D.zoogloeo  
 Z.ramigera  
 B.fungorum  
 B.fungor#1  
 M.timonae  
 uncul\_euba  
 uncul\_bact  
 B.bronchis  
 B.holnessii  
 J.lividum  
 K.criithidi  
 beta\_B1  
 P.lemoigne  
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 uncul\_be#2  
 Thermococc  
 Sulfolobus  
 Methanosar

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pStW9.1ca						
pStW2.1ca						
pStW1.1ca						
S.persiE09						
S.persiE18						
S.persBEG1						
G.marg_neu						
G.marg_alt						
B.flavacea						
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Ultra MY14						
Dechlor_omb						
Ultra D-7						
Ultra D-6						
unid_beta						
unid_proté						
Dechlor_3M						
uncul_beta						
uncul_be#1						
Herba GR1						
unid_beta#2						
unid_beta#3						
Herba NAM4						
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D.nodosus						
A.pleuropn						
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V.furnissi						
V.cholerae						
E.coliK12						
T.mixta						
T.chitinol						
B.pyrocin						
B.picketti						
B.glathei						
B.cocovene						
B.phenzin						
B.cepcasia						
R.basilens						
B.caryophy						
B.kururien						
B.pseudoma						
B.gladiali						
B.brasillen						
B.plantari						
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B.thailand						
B.vietname						
B.andropog						
B.graminis						
B.multivor						
B.norimber						
unid_r34						
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B.mallei						
Pseudomon.						
D.zoogloeo						
Z.ramigera						
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M.timonae						
uncul_euba						
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B.holnessii						
J.lividum						
K.criithidi						
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O.formigen						
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Thermococc						
Sulfolobus						
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S.persBE91 -----
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G.marg_alt -----
B.flavesce -----
unid_beta1 -----
Ultra MY14 -----
Dechloromo -----
Ultra_D-7 -----
Ultra_D-6 -----
unid_beta -----
unid_prote -----
Dechlor_3M -----
uncul_beta -----
uncul_be#1 -----
Herba_G841 -----
unid_beta2 -----
unid_beta3 -----
Herba_NAH4 -----
Dechlor_JJ -----
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H.halodeni -----
P.aerugino -----
S.lyticum -----
D.nodosus -----
A.pleuropn -----
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V.vulnicif -----
V.furnissai -----
V.cholerae -----
E.coliK12 -----
T.mikta -----
T.chitinol -----
B.pyrocin -----
B.pickett -----
B.glaethel -----
B.cocovene -----
B.phenazin -----
B.cepacia -----
R.basilens -----
B.caryophy -----
B.kururien -----
B.pseudoma -----
B.gladlioli -----
B.brasillen -----
B.plantari -----
B.glumae -----
B.thailand -----
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B.graminis -----
B.multivor -----
B.norimber -----
unid_T34 -----
B.solanace -----
R.metallid -----
R.paucula -----
B.mallai -----
pseudomon -----
D.zoogloeo -----
Z.ramigera -----
B.fungorum -----
B.fungor#1 -----
M.timonae -----
uncul_euba -----
uncul_bact -----
B.bronchis -----
B.holmesii -----
J.lividum -----
K.criithidi -----
beta_B1 -----
P.lemigne -----
O.fornigen -----
uncul_be#2 -----
Thermococc -----
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Methanosar
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MSK E 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000
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S.persiE28 -----
S.persBE91 -----
G.marg_neu -----
G.marg_alt -----
B.flavesce -----
unid_beta1 -----
Ultra MY14 -----
Dechloromo -----
Ultra_D-7 -----
Ultra_D-6 -----
unid_beta -----
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Dechlor_3M -----
uncul_beta -----

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unid_beta2-----
unid_beta3-----
Herba_NAH#4-----
Dechlor_JJ-----
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A.toluolyt-----
F.philomir-----
N.punctifo-----
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N.specATCC-----
N.specPCC7-----
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F.necropho-----
H.halodeni-----
P.aerugino-----
S.lyticum-----
D.nodosus-----
A.pleuropn-----
P.vulgarisTGGCACTCCG AAGACGATA TCTCTAAAT ATTAGATTA TCAATCTTC AAGAGTAAAC
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V.furnissi-----
V.cholerae-----
E.coliK12-----
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T.chitinol-----
B.pyrocin-----
B.picketti-----
B.glathei-----
B.copovene-----
B.phenazin-----
B.cepacia-----
R.basilens-----
B.caryophy-----
B.kururien-----
B.pseudoma-----
B.gladoli-----
B.brasilen-----
B.plantari-----
B.glumae-----
B.thailand-----
B.vietname-----
B.andropog-----
B.graminis-----
B.multivor-----
B.norimber-----
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B.solanace-----
R.metallid-----
R.paucula-----
B.mallei-----
Pseudomon-----
D.zoogloeo-----
Z.ramigera-----
B.fungorum-----
B.fungor#1-----
M.timonae-----
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uncul_bact-----
B.bronchis-----
B.holmesii-----
J.lividum-----
K.criethid-----
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P.lemoine-----
O.formigen-----
uncul_beta2-----
Thermococc-----
Sulfobolus-----
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S.persiE28-----
S.persBEG1-----
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G.marg_ait-----
B.flavesce-----
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Ultra_W14-----
Dechlorono-----
Ultra_D-7-----
Ultra_D-6-----
unid_beta-----
unid_prot-----
Dechlor_JM-----
uncul_beta-----
uncul_beta1-----
Herba_GB#1-----
unid_beta2-----
unid_beta3-----
Herba_NAH#4-----
Dechlor_JJ-----
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N.gonorrho-----
A.toluolyt-----
F.philomir-----
N.punctifo-----
N.specGSV2-----
N.specAWT2-----
N.spec152-----
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N.specPCC7-----
P.modestum-----
F.necropho-----
H.halodeni-----
P.aerugino-----
S.lyticum-----
D.nodosus-----
A.pleuropnACTTATT AAAAAACA A-TAACTTA GTATACAA ATATTAAAGC ATTAACATTT
P.vulgarisAGAAATTA AATTCATTTA T-ATAACTA AATTTCCAT TCTTTTAC ATACAACT
V.vulnific-----
V.furnissi-----
V.cholerae-----
E.coliK12-----
T.mixta-----
T.chitinol-----
B.pyrocin-----

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B.picketti-----
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B.cocovene-----
B.phenazin-----
B.cepacia-----
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B.caryophy-----
B.kururien-----
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B.gliadioli-----
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Z.ramiager-----
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M.timonae-----
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uncul_bact-----
B.bronchia-----
B.holmesii-----
J.lividum-----
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P.lemigne-----
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Sulfolobus-----
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pStw1.1cs-----GA GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
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S.persi228-----
S.persBEG1-----GA GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
G.marg_neu-----
G.marg_alt-----
B.flavesc-----A GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
unid_bef1-----A GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
Ultra_MY14-----
Dechliocmo-----TT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
Ultra_D-7-----
Ultra_D-6-----
unid_Beta-----
unid_prote-----A GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
Dechlior_m-----
uncul_beta-----
uncul_bef1-----GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
Herba_SG#1-----TA GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
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unid_bef3-----
Herba_M#4-----
Dechlior_UJ-----TT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
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N.specPC7-----
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F.necropho-----A GACTT TGA TC AT T G GCTC A G-A -TAAAGC T G ACAAA
H.halodeni-----A GACTT TGA TC CT T G GCTC A GNC TTAAGC T G CGGCA
P.aeruginosTACTGAA GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
S.lyticum-----A GACTT TGA TN(N) T G GCTC A GAT -TAAAGC T G CGGCA
D.nodosus---AACTGAA GACTT TGA TT CT T G GCTC A GAT -TAAAGC T G CGGCA
A.pleuropnTTAATTGAA GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
P.vulgaristTAATTGAA GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
V.vulnific-----A GACTT TGA TN(N) T G GCTC A GAT -TAAAGC T G CGGCA
V.cholerae-----A GACTT TGA TN(N) T G GCTC A GAT -TAAAGC T G CGGCA
E.coliK12---AAATTGAA GACTT TGA TC AT T G GCTC A GAT -TAAAGC T G CGGCA
T.maksa-----CACTGAA GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
T.chitinol---CAACTGAA GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
B.pyrrrocin-----
B.picketti-----
B.glathei-----GA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
B.cocovene-----
B.phenazin-----TT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
R.cepacia-----
R.basilens-----
B.caryophy-----
B.kururien-----TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
B.pseudomaTGCCTTAG GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
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B.plantari-----
B.glumae-----
B.thailand-----
B.vietname-----
B.andropog---NNNNNNN NN(N)N T G GCTC A GAT -TAAAGC T G CGGCA
B.graminis-----
B.multivor-----
B.norimber-----
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R.metallid-----A GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGTA
R.paucula-----
B.mallei-----
Pseudomon-----
D.roogloeo-----
Z.ramiager-----A GACTT TGA TN(N) T G GCTC A GAT -TAAAGC T G CGGCA
B.fungorum-----
B.fungor#1-----
M.timonae-----A GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA
uncul_euba-----A GACTT TGA TC CT T G GCTC A GAT -TAAAGC T G CGGCA

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B.holmesii-----TAA [GATT] TGA TC (C) T G GCTC A GAT -TAAAGC T G GC6CA  
J.lividum-----[-----][---(-)-]---[TAAAGC T G GC6CA  
K.cerithidi-TTAATCCA [GATT] TGA TC (C) T G GCTC A GAT -TAAAGC T A GC6AA  
beta\_B1-----[-----][---(-)-]---[TAAAGC T G GC6CA  
P.lemoine-----[-----][---(-)-]---[AT -TAAAGC T G GC6CA  
O.formigen-----AA [GATT] TGA TC (C) T G GCTC A GAT -TAAAGC T G GC6CA  
uncul\_bef2-----[-----][---(-)-]---[A TTN -GAACGN T G GC6CA  
Thermococc-----[-----][---(-)-]---[ATTC C GGT -TATC-C T G GC6CA  
Sulfolobus-----[-----][---(-)-]---[ATTC C GGT -TATC-C T G GC6CA  
Methanosarcina [GATA] CAT TA A C A A AT T G GGT -TATC-C T G GC6CA

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S.pers1828T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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G.marg\_pneu-----[-----][---(-)-]---[C AACGC AAC-ACAGG TGA-AAA-C-  
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B.flavescens CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
unid\_bef1T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Ultra MY14T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
DechloromT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Ultra D-7 T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Ultra D-8 T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
unid\_Beta T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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uncul\_bef1T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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unid\_Bef2T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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P.necrophoT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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P.aeruginos CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
S.lyticum T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
D.nodosus T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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P.vulgaris CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
V.vulnific CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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V.cholerae CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
E.coliK12 CCTA- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
T.mikta T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
T.chitiniT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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B.pickettT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
B.glahei T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
B.cocoveneT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
B.phenazinT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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B.caryophy-----[-----][---(-)-]---[ATTC C GGT -TATC-C T G GC6CA  
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B.pseudomT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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B.plantari-----[-----][---(-)-]---[ATTC C GGT -TATC-C T G GC6CA  
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B.fungorumT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
B.fungosinT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
M.timonae T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
uncul\_eubaT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
uncul\_bactT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
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B.holmesiiT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
J.lividum T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
K.cerithidiT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
beta\_B1 T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
P.lemoineT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
O.formigenT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
uncul\_bef2T CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Thermococc CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Sulfolobus CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-  
Methanosarcina TTAAT CCTT- A CACAT C AA GTCC AACGGG AAC-ACAGG TGA-AAA-C-

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NewSpeci#1-----



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pStw19.1#1 -----
pStw12.2#1 -----
pStw11.2#s -----
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pStw12.1cs TCC---TTC TC-----T TGA-GAG--CGGC GGAC GG (GT) A3--TAATG CCTA
S.pers1E09---AA---C T----AGG TGGCAG--TGGC GAAC GG (GT) A3--TAAA CATC
S.pers1E28---A---C T----AGG TGGCAG--TGGC GAAC GG (GT) A3--TAAA CATC
S.persBE01---A---C T----GGG TGGCAG--TGGC GAAD GG (T) A3--TAAA CATC
G.marg\_neu---AA---C T----GGG TGGCAG--TGGC GAAC GG (GT) A3--TAAA CATC
G.marg\_ait---AA---C T----GGG TGGCAG--TGGC GAAC GG (GT) A3--TAAA CATC
B.flavescens T-C-----C TCC-T-GA TGGCAG--TGGC GAAC GG (GT) A3--TAATG CCTA
Ultra\_beta1 T-C-----G T-C-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Ultra\_My14 T-C-----C TCC-T-A TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Dechloro---AA---C TCC-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Ultra\_D-7 TCC-----C TCC-T-GA TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Ultra\_D-6 TCC-----C TCC-T-GA TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
unid\_beta T-C-----C TCC-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
unid\_prote---AA---C --C-T-GG CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Dechlor\_3M T-C-----G T-C-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
uncul\_beta1 T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
uncul\_beta1 T-C-----C TCC-T-A AACTGA--TGGC GAAC GG (GT) A3--TAATG TATC
Herba\_68#1---AA---C TCC-T-W CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
unid\_beta2---AA---C --C-T-GG CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
unid\_beta3---C---G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Herba\_68#4---AA---C TCC-T-W CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Dechlor\_JJ---AA---C TCC-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
P.testoste T-C-----G --A-T-CG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
N.gonorrho T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
A.toluolyt T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
F.philomir T-C-----G --A-T-CG TGGCAG--TGGC GGAC GG (GT) A3--TAACG CCTA
N.punctifor T-C-----G --G---G ACAC-AG--TGGC GAAC GG (GT) A3--TAACG CCTA
N.spec12 T-C-----G --G---G ACAC-AG--TGGC GGAC GG (GT) A3--TAACG CCTA
N.specAWT2 T-C-----G --G---G ACAC-AG--TGGC GGAC GG (GT) A3--TAACG CCTA
N.spec152 T-C-----G --G---G ACAC-AG--TGGC GGAC GG (GT) A3--TAACG CCTA
N.specATCT T-C-----G --G---G ACAC-AG--TGGC GGAC GG (GT) A3--TAACG CCTA
N.specPCT T-C-----G --G---G ACAC-AG--TGGC GGAC GG (GT) A3--TAACG CCTA
P.modestum T-C-----G --G---G T-GA TACTAG--TGGC GGAC GG (GT) A3--TAACG CCTA
F.necrophor T-C-----G --A-T-TGG TGGCAG--TGGC GAAC GG (GT) A3--TAACG CCTA
H.haldemir T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
P.aeruginos T-C-----G TCC-TGA --TTCA--CGCC GGAC GG (GT) A3--TAATG TATC
S.lyticum TCC-----TAG AC---GGG TGGCAG--TGGC GAAC GG (GT) A3--TAACG CCTA
D.nodosus TCC-----TAT -----T AACTGA--TGGC GGAC GG (GT) A3--TAATG TATC
A.pleuropog T-C-----T TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
P.vulgaris TCC-----TT TC-TT-CG TGGCAG--CGCC GGAC GG (GT) A3--TAATG TATC
V.vulnific T-C-----TT TCTC-GGG TGGCAG--CGCC GGAC GG (GT) A3--TAATG CCTG
V.furnissat T-C-----GAT TT-TT-GGG CCGCAG--CGCC GGAC GG (GT) A3--TAATG CCTG
V.chokerae T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
E.coliK12 TCC-----TT --CTTT-CG TGGCAG--TGGC GGAC GG (GT) A3--TAATG TATC
T.mixta TCC-----TCC -----G TGGCAG--TGGC GGAC GG (GT) A3--TAATG ATCT
T.chitino1 T-C-----G --C---C TGGCAG--TGGC GGAC GG (GT) A3--TAATG ATCT
B.pyrrhocin T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.picketti T-C-----G T AATT-GA TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.glahei ---AA---C --CCT-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.cocovense T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.phenazin---AA---C --CCT-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.cepacia T-C-----G CACC-TGG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
K.basilens ---AA---C TCC-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.caryophy---AA---C --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.kururien T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.pseudoma T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TTATG TATC
B.gladoliol T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.basilens T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.plantari T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.glumae TCC-----TCC -----C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.thalanti T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.vietname T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.andropog T-C-----G TCC---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.graminis ---AA---C TCC-T-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.multivort T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.norisbert T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
unid\_T34 TCC-----TTT TC---T-CG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.solanace T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.metalloid T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
R.paucula T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.mallei T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Pseudomon T-C-----G TCC---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
D.zoogloa ---AA---C --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Z.ramigera ---AA---C --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.fungorum ---AA---C --CCT-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.fungor11 ---AA---C --CCT-GG TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
W.timonae TCC-----TCC -----C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
uncul\_beta T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.bronchiat T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
B.holmesii T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
J.lividum TCC-----TCC -----C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
K.cithidit T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
beta\_#1 ---AA---C --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
P.lemoine T-C-----G --C---C CCGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
O.formigen ---AA---C --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
uncul\_beta2 T-C-----G --C---C TGGCAG--TGGC GAAC GG (GT) A3--TAATG TATC
Thermococe ---G---G TCC---C CCGCAG--CGCC GGAC GG (GT) A3--TAATG CCTG
Sulfolobus ---ACA-C TCCCGGT AAGGAGT GTCCG GGAC GG (GT) A3--TAATG CCTG
Methanosar ---ATTA CCAAT-AC A-----TGGC GTAC TG CTC A3--TAATG CCTG

661 671 681 691 701 711
MASK hinte000000000 0000000000 0000000000 0000000000 0000000000 0000000000
MASK 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000
MASK vorse000000000 0000000000 0000000000 0000000000 0000000000 0000000000

BLO-PRIM -----
pStw19.1 -----
pStw16.1 -----
pStw16.3 -----
pStw15.1 -----
pStw16.2 -----
pStw19.2 -----
pStw18.1 -----
pStw12.1#1 GG-AATC TCCCTGG TAG T GG GGGATAAC GT-TTC GAA A GGAAGCC
pStw18.2 -----
pStw15.2 -----
pStw15.3 -----
pStw14.1 -----
NewSpec1#1 -----
pStw16.1 -----
pStw19.1#1 -----
pStw12.2#1 -----
pStw11.2#s -----
pStw9.1cs GG-AATC TCCCTGG TAG T GG GGGATAAC GT-CCG GAA A CCGAGCC
pStw12.1cs GG-AATC TCCCTGG TAG T GG GGGATAAC GT-CCG GAA A CCGAGCC
S.pers1E09---AACT TCCCTGG TAG T GG GGGATAAC CC-GGG GAA A CCGGAT
S.pers1E28---AACT TCCCTGG TAG T GG GGGATAAC CC-GGG GAA A CCGGAT
S.persBE01---AACT TCCCTGG TAG T GG GGGATAAC CC-GGG GAA A CCGGAT
G.marg\_neu---AACT TCCCTGG TAG T GG GGGATAAC CC-GGG GAA A CCGGAT
G.marg\_ait---AACT TCCCTGG TAG T GG GGGATAAC CC-GGG GAA A CCGGAT
B.flavescens ---AAT TCCCTAT TAG T GG GGGATAAC GT-TTC GAA A GGAAGCC
unid\_beta1 GG-AACA TACCCTA GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
Ultra\_My14---AACT TCCCTTA GAG T GG GGGATAAC TA-CTC GAA A GATTACC
Dechloro---AACT TCCCTTT GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
Ultra\_D-7 GG-AACT TCCCTTA GAG T GG GGGATAAC TA-CTC GAA A GATTACC
Ultra\_D-6 GG-AACT TCCCTTA GAG T GG GGGATAAC TA-CTC GAA A GATTACC
unid\_beta GG-AACT TACCCTA GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
unid\_prote---AACT TACCCTT GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
Dechlor\_3M---AACT TACCCTT GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
uncul\_beta GG-AACT TACCCTT GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
uncul\_beta1---AACT TACCCTA GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
Herba\_68#1---AACT TACCCTA GAG T GG GGGATAAC TA-CTC GAA A GATTACC
unid\_beta2---AACT TACCCTA GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
unid\_beta3---AACT TACCCTA GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
Herba\_68#4---AACT TACCCTA GAG T GG GGGATAAC TA-CTC GAA A GATTACC
dechlor\_JJ---AACT TACCCTT GAG T GG GGGATAAC GT-AAC GAA A GTTAGCC
P.testoste---AACT TCCCTAG TAG T GG GGGATAAC TA-CTC GAA A GATTACC
N.gonorrho---AACT TACCCTG TAG T GG GGGATAAC TA-CTC GAA A GATTACC
A.toluolyt---AACT TACCCTG TCA T GG GGGATAAC TA-CTC GAA A GATTACC

F.philomir<sup>90</sup>-AATC TCCCAT TTGAG GGGATACC AG-TTG GAA A CCACTCT  
N.punctifoA<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
N.specGSV2A<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
N.spec152 A<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
N.specATCCAG<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
N.specPC7A<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
P.modestumA<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
F.necrophoA<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
H.halodenti<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
P.aeruginos<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
S.lyticum<sup>90</sup>-AATA TACCTA AAGTAG GGGACAAC TT-GGG GAA A CCGTGGC  
D.nodosus<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
A.pleuropn<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
P.vulgaris<sup>90</sup>-AATC TGGCTT AGG TCT GGGACAAC CA-CTG GAA A CCGTGGC  
V.vulnific<sup>90</sup>-AAAT TCCCTG ATG TGG GGGATAAC CA-TTG GAA A CCGTGGC  
V.furnissi<sup>90</sup>-AAAT TCCCTG ATG TGG GGGATAAC CA-TTG GAA A CCGTGGC  
V.cholerae<sup>90</sup>-AAAT TCCCTG ATG TGG GGGATAAC CA-TTG GAA A CCGTGGC  
E.coliH12<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
T.mixta<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
T.chitinol<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.pyrocin<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.picketti<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.gliathe<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.cocovene<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.phenazi<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.cepacia<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
R.basilens<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.caryoph<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.kururiem<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.pseudoma<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.gliadiol<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.brasilen<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.plantari<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.glumae<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.thailand<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.vietname<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.andropog<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.graminis<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.multivor<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.novimber<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
unid\_T34<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.solanace<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
R.metallic<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
R.pauula<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.mallei<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
Pseudomon<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
D.zoogloeo<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
Z.ramipera<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.fungorum<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.fungor1<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
M.timonae<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
uncul\_euba<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
uncul\_bactr<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.bronchis<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
B.holmsli<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
J.lividum<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
K.cerithid<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
beta\_B1<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
P.lentigin<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
O.iformigen<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
uncul\_be2<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
Thermococ<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
Sulfobolus<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC  
Methanosar<sup>90</sup>-AAAT TCCCTA AAGTAG GGGATAAC TA-CTG GAA A CCGTGGC

721 731 741 751 761 771  
MASK hinte000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
MASKE 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
MASK vzorn0000000000 0000000000 0000000000 0000000000 0000000000 0000000000

BL0-FRM  
pstW19.1 ----- (-) -----  
pstW16.1 ----- (-) -----  
pstW16.3 ----- (-) -----  
pstW15.1 ----- (-) -----  
pstW16.2 ----- (-) -----  
pstW19.2 ----- (-) -----  
pstW18.1 ----- (-) -----  
pstW12\_H1TAATACC (C) ATAGC T CC TAGC GG A GAAA GCA GGGGACC --TTCC--  
pstW18.2 ----- (-) -----  
pstW15.2 ----- (-) -----  
pstW15.3 ----- (-) -----  
pstW14.1 ----- (-) -----  
NewSpeci#1 ----- (-) -----  
pstW16.1 ----- (-) -----  
pstW19.1#1 ----- (-) -----  
pstW12.2#1 ----- (-) -----  
pstW11.2cs ----- (-) -----  
pstW9.1cs TAATACC (C) ATAGC T CC TAGC GG A GAAA GCA GGGGACC --TTCC--  
pstW2.1cs TAATACC (C) ATAGC T CC TAGC GG A GAAA GCA GGGGACC --TTCC--  
pstW1.1cs TAATACC (C) ATAGC T CC TAGC GG A GAAA GCA GGGGACC --TTCC--  
S.pers1E09TAATACC (C) ATAGC T CC AAAA (GA G) GAAG (GC) GGGGACC GATGG (GT)  
S.pers1E28TAATACC (C) ATAGC T CC AAAA (GA G) GAAG (GC) GGGGACC GATGG (GT)  
S.pers1E31TAATACC (C) ATAGC T CC AAAA (GA G) GAAG (GC) GGGGACC GATGG (GT)  
G.marg\_neuTAATACC (C) ATAGC T CC AAAA (GA G) GAAG (GC) GGGGACC GATGG (GT)  
G.marg\_alitTAATACC (C) ATAGC T CC AAAA (GA G) GAAG (GC) GGGGACC GATGG (GT)  
B.flavescenTAATACC (C) ATAGC T CC TAGC GG A GAAA GCA GGGGACC --TTCC--  
unid\_beta1TAATACC (C) ATAGC A AC TAAG (GT T) GAAA (GT) GGGGATC --TTCC--  
Ultra\_MY14TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
DechloromTAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --GCAA--  
Ultra\_D-7 TAATACC (C) ATAGC A TC TAGC (GA G) GAAA (GT) GGGGATC --GCAA--  
Ultra\_D-6 TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
unid\_beta TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --TTCC--  
Dechlor\_3MJAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --GCAA--  
uncul\_betaTAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --GCAA--  
uncul\_beta1TAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --GCAA--  
Herba\_G81TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
unid\_beta2TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --TTCC--  
unid\_beta3TAATACC (C) ATAGC A AC TAAG (GT T) GAAA (GT) GGGGATC --GCAA--  
Herba\_NAH4TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
Dechlor\_J0TAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --GCAA--  
P.test084TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (CA) GGGGATC --TTCC--  
N.gonorhoTAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGACC --TTCC--  
A.tolulytTAATACC (C) ATAGC C CC TAGC (GG G) GAAA (GC) GGGGATC --GCAA--  
F.philomirTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --TTCC--  
N.punctifoTAATACC (C) ATAGC C CC TAGC (GT G) AAAA (TT A) -----  
N.specGSV2TAATACC (C) ATAGC C CC TAGC (GT G) AAAA (TT A) -----  
N.specAW2TAATACC (C) ATAGC C CC TAGC (GT G) AAAA (TT A) -----  
N.spec152 TAATACC (C) ATAGC C CC TAGC (GT T) -----  
N.specATCCTAATACC (C) ATAGC C CC TAGC (GT G) AAAA (TT A) -----  
N.specPC7TAATACC (C) ATAGC C CC TAGC (GT G) AAAA (TT T) -----  
P.modestumTAATACC (C) ATAGC A TC TAGC (GT T) GCAA (GT) GGGGATC AT-AAA GGC  
F.necrophoTAATACC (C) ATAGC T CC TAGC (GG A) GAAA (CA) GGGGATC --TTCC--  
H.halodentiTAATACC (C) ATAGC T CC TAGC (GG A) GAAA (CA) GGGGATC --TTCC--  
S.lyticum TAATACC (C) ATAGC T CC TAGC (GG A) GAAA (GC) GGGGATC --TTCC--  
D.nodosus TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --GAAA--  
A.pleuropnTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--  
P.vulgarisTAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --TTCC--  
V.vulnificTAATACC (C) ATAGC A CC TAGC (GT T) GAAA (CA) GGGGATC --TTCC--  
V.furnissiTAATACC (C) ATAGC A CC TAGC (GT T) GAAA (CA) GGGGATC --TTCC--  
V.choleraeTAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --TTCC--  
E.coliH12 TAATACC (C) ATAGC T CC TAGC (GA G) GAAA (CA) GGGGATC --TTCC--  
T.mixta TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
T.chitinolTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GT) GGGGATC --GCAA--  
B.pyrocinTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--  
B.pickettiTAATACC (C) ATAGC C CC TAGC (GT T) GAAA (GT) GGGGATC --GCAA--  
B.gliathe TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--  
B.cocoveneTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--  
B.phenaziTAATACC (C) ATAGC C CC TAGC (GA G) GAAA (GC) GGGGATC --TTCC--  
B.cepacia TAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--  
R.basilensTAATACC (C) ATAGC A CC TAGC (GT T) GAAA (GC) GGGGATC --TTCC--  
B.caryophTAATACC (C) ATAGC C CC TAGC (GA G) GAAA (GC) GGGGATC --TTCC--  
B.kururiemTAATACC (C) ATAGC C CC TAGC (GA G) GAAA (GC) GGGGATC --TTCC--  
B.pseudomaTAATACC (C) ATAGC A TC TAGC (GA T) GAAA (GC) GGGGATC --TTCC--

B.gladiali1TAATACC(G)C)ATAGG(A)TC)CAGG(GA)T)GAAA(GCG)GGGACC)---TTCC)---  
 B.brasilen1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.plantari1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTTC)---  
 B.glumae TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.thailand1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.vietname1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.andropog1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.graminis1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.multivor1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.norimber1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 unid\_T34 TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.solanace1TAATACC(G)C)ATAGC(A)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 R.metallid1TAATACC(G)C)ATAGC(A)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 R.paucula TAATACC(G)C)ATAGC(A)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.mallei TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 Pseudomon. TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 D.zoogloeo1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 Z.ramigera1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.fungorum1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.fungor11TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 M.timonae TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 uncul\_euba1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 uncul\_bact1TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.bronchis1TAATACC(G)C)ATAGC(C)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 B.holmesii1TAATACC(G)C)ATAGC(C)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 J.lividum TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 K.citridi1TAATACC(G)C)ATAGC(C)CC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 beta\_B1 TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 P.lemoine1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 O.formigen1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 uncul\_be21TAATACC(G)C)ATAGC(A)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 Thermococo1TAATACC(G)C)ATAGC(C)TC)TAG(G)G)GAAA(GCG)GGGACC)---TTCC)---  
 Sulfolobus1TAATACC(G)C)ATAGC(G)AA)TAG(TC)C)TGG(A)AT)CTTTC)CCCTAA)AGG  
 Methanosar1TAATACC(G)C)ATAGC(G)CA)TAT(TC)C)TGG(A)AT)CTTTC)CCCTAA)AGG

781 791 801 811 821 831  
 MSK hinte000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
 MSKE 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
 MSK vorne0000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
 BLO-PRIM -----  
 pStw19.1 -----  
 pStw16.1 -----  
 pStw16.3 -----  
 pStw15.1 -----  
 pStw16.2 -----  
 pStw19.2 -----  
 pStw18.1 -----  
 pStw12.141 -----G GCCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 pStw19.2 -----  
 pStw15.2 -----  
 pStw15.3 -----  
 pStw14.1 -----  
 NewSpec141 -----  
 pStw16.1 -----  
 pStw19.141 -----  
 pStw12.241 -----  
 pStw11.2cs -----  
 pStw9.1cs -----G GCCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 pStw2.1cs -----G GCCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 pStw1.1cs -----G GCCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 S.persiE09ACCA -----TTGG GCCTTCG)G) CTAGAGGGG TGG-CCG ATG)T) CGGA  
 S.persiE28ACCA -----TTGG GCCTTCG)G) CTAGAGGGG TGG-CCG ATG)T) CGGA  
 S.persiBEG1ACCA -----TTGG GCCTTCG)G) CTAGAGGGG TGG-CCG ATG)T) CGGA  
 G.marg\_neubACA -----TTGG GCCTTCG)G) CTAGAGGGG TGG-CCG ATG)T) CGGA  
 G.marg\_altACCA -----TTGG GCCTTCG)G) CTAGAGGGG TGG-CCG ATG)T) CGGA  
 B.flavesc -----G GCCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_beta1 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Ultra\_WV14 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Dechloromo -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Ultra\_D-7 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Ultra\_D-6 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_beta -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_prote -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Dechlor\_JM -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 uncul\_beta -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 uncul\_be1 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Herba\_G81 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_beta2 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_beta3 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Herba\_NH4 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Dechlor\_JJ -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 P.ceastoste -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.gonosrno -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 A.toluolyt -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 F.philomir -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.punctifo -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.specGSV2 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.specAWT2 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.spec152 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.specATC -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 N.specPC7 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 P.modestumTAT -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 F.necrophoTA -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 H.haldeni -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 P.aerugino -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 S.lyticum -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.nodosus -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 A.pleuropn -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 P.vulgaris -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 V.vulnific -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 V.furnissi -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 V.cholerae -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 E.coliK12 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 T.milka -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 T.chitino1 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.pyrocin -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.picketti -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.glathei -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.coccovene -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.phenazin -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.cepacia -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 R.basilien -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.caryophy -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.kururien -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.pseudoma -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.gladiali -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.brasilen -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.plantari -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.glumae -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.thailand -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.vietname -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.andropog -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.graminis -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.multivor -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.norimber -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 unid\_T34 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.solanace -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 R.metallid -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 R.paucula -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.mallei -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Pseudomon -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 D.zoogloeo -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 Z.ramigera -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.fungorum -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.fungor11 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 M.timonae -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 uncul\_euba -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 uncul\_bact -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.bronchis -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 B.holmesii -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 J.lividum -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 K.citridi -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 beta\_B1 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 P.lemoine -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 O.formigen -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA  
 uncul\_be2 -----G ACCTTCG)G) CTATCAGAT GAG-OCT AGG)T) CGGA

Thermococcus-----TCTCCCG|G|CCGAGGATGGGCGCGCG|CCGA  
SulfolobusCTATAGGCTATTCCCGTTTATAGCG|G|CCGAGGATGGGCGCTACG|CCCA  
Methanosarcina-----TCTCTCT|G|CCGAGGATGGGCGCTACG|CCTA

841 851 861 871 881 891  
MASK hinte000000000 000000000 000000000 000000000 000000000 000000000  
MASKE 000000000 000000000 000000000 000000000 000000000 000000000  
MASK vorne000000000 000000000 000000000 000000000 000000000 000000000

BLO-PRIM  
pStw19.1 ----- (-) ----- (-) -----  
pStw16.1 ----- (-) ----- (-) -----  
pStw16.3 ----- (-) ----- (-) -----  
pStw15.1 ----- (-) ----- (-) -----  
pStw16.2 ----- (-) ----- (-) -----  
pStw19.2 ----- (-) ----- (-) -----  
pStw18.1 ----- (-) ----- (-) -----  
pStw12.141TTA<CCT A<TTGGTCA G(G)T AAT (G)GCTCACC AAGCGACG ATCCG TA  
pStw18.2 ----- (-) ----- (-) -----  
pStw15.2 ----- (-) ----- (-) -----  
pStw15.3 ----- (-) ----- (-) -----  
pStw14.1 ----- (-) ----- (-) -----  
NewSpeci#1 ----- (-) ----- (-) -----  
pStw16.1 ----- (-) ----- (-) -----  
pStw19.141 ----- (-) ----- (-) -----  
pStw12.241 ----- (-) ----- (-) -----  
pStw11.2c8 ----- (-) ----- (-) -----  
pStw9.1cs TTA<CCT A<TTGGTGG G(G)T AAT (G)GCTCACC AAGCGACG ATCCG TA  
pStw2.1cs TTA<CCT A<TTGGTGG G(G)T AAT (G)GCTCACC AAGCGACG ATCCG TA  
pStw1.1cs TTA<CCT A<TTGGTGG G(G)T AAT (G)GCTCACC AAGCGACG ATCCG TA  
S.pers1E09TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
S.pers1E28TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
S.pers1E01TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
G.marq\_neuTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
G.marq\_alTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
B.flavesceTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_beta1TTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Ultra\_M14TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
DechloromTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Ultra\_D-7 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Ultra\_D-6 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_beta TTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_protetTTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Dechlor\_JMTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
uncul\_betaTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
uncul\_beta1TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Herba\_g8A1TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_beta2TTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_beta3TTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Herba\_hm4TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Dechlor\_JJTTA<CCT A<TTGGTCA G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
P.testosteTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGATG ATCCG TA  
N.gonorhoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
A.toluylTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
F.philomTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.punctifoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.pers1E09TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.specAW2TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.spec152 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.specACTTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
N.specCC7TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
P.modestumTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
F.necrophoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
H.halodenTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
F.aerulinoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
S.lyticum TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
D.nodosus TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
A.pleuropnTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
F.vulgarisTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
V.vulnificTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
V.furnissTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
V.choleraTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
E.colliK12 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
T.milxta TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
T.chitinoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.pyrociTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.pickettTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.glathei TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.cooventTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.phenazTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.cepacia TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
R.basilensTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.caryophTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.kuramTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.pseudomaTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.gladio1TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.basilentTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.plantarTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.glumae TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.thailandTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.vietnameTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.andropogTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.graminisTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.multivoTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.noribetTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
unid\_r34 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.solancaTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
R.metalliTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
R.paucis TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.mallei TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Pseudomon.TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.rosigloTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
Z.ramigerTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.fungoruTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.fungo#1TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
W.limosa TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
uncul\_eubaTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
uncul\_bactTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.bronchiTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
B.humilisTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
J.lividum TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
K.cerithiTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
beta\_#1 TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
P.lesmignTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
O.iformigenTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
uncul\_beta2TTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
ThermococcusTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
SulfolobusTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA  
MethanosarcinaTTA<CCT A<TTGGTGG G(G)T AAA (G)GCTCACC AAGCGACG ATCCG TA

901 911 921 931 941 951  
MASK hinte000000000 000000000 000000000 000000000 000000000 000000000  
MASKE 000000000 000000000 000000000 000000000 000000000 000000000  
MASK vorne000000000 000000000 000000000 000000000 000000000 000000000

BLO-PRIM  
pStw19.1 ----- (-) ----- (-) -----  
pStw16.1 ----- (-) ----- (-) -----  
pStw16.3 ----- (-) ----- (-) -----  
pStw15.1 ----- (-) ----- (-) -----  
pStw16.2 ----- (-) ----- (-) -----  
pStw19.2 ----- (-) ----- (-) -----  
pStw18.1 ----- (-) ----- (-) -----  
pStw12.141ACTGGTCT G A(A)GGATG ATCAATCAC A CTG#A A CTG#ACACG G TCCAG A  
pStw18.2 ----- (-) ----- (-) -----  
pStw15.2 ----- (-) ----- (-) -----  
pStw15.3 ----- (-) ----- (-) -----  
pStw14.1 ----- (-) ----- (-) -----  
NewSpeci#1 ----- (-) ----- (-) -----  
pStw16.1 ----- (-) ----- (-) -----  
pStw19.141 ----- (-) ----- (-) -----  
pStw12.241 ----- (-) ----- (-) -----  
pStw11.2c8 ----- (-) ----- (-) -----  
pStw9.1cs ACTGGTCT G A(A)GGATG ATCAATCAC A CTG#A A CTG#ACACG G TCCAG A  
pStw2.1cs ACTGGTCT G A(A)GGATG ATCAATCAC A CTG#A A CTG#ACACG G TCCAG A  
pStw1.1cs ACTGGTCT G A(A)GGATG ATCAATCAC A CTG#A A CTG#ACACG G TCCAG A  
S.pers1E09CGGGTCT G A(A)GGATG ATCCCCAC A CTGG A CTG#ACACG G CCGCA A  
S.pers1E28CGGGTCT G A(A)GGATG ATCCCCAC A CTGG A CTG#ACACG G CCGCA A



H.halodeniCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
P.aeruginosCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
S.lyticum CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
D.nodosus CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
A.pleuropnCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
P.vulgarisCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
V.vulnificCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
V.furnissiiCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
V.choleraeCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
E.coliK12 CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
T.mikta CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
F.chitinolCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.pyrococinCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.pickettiCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.glathei CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.cocoveneCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.phenazinCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.cepacia CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
R.basilensCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.caryophyCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.kururienCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.pseudomaCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.giadioliCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.brasiliensCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.plantariCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.glumae CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.thailandCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.vietnameCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.andropogCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.graminisCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.multivorCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.norimberCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
unid\_T34 CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.solanensCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
R.metallidCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
R.paucula CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.mallei CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
Pseudomon CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
D.zoogloeoCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
Z.ramigeraCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.fungorumCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.fungorfiCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
M.timonae CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
uncul\_eubaCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
uncul\_bactCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.bronchisCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
B.holmesiiCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
J.lividum CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
K.citridiCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
beta\_B1 CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
P.lemoineCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
O.formigenCTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
uncul\_beta2CTCC TAGC [GGAG]GCA[G] (C)A[GT]GG GAATA TT GCACAAATG GGC (-GAAA)  
ThermococoCTCC TAGC [GGGC]GCA[G] (C)A[GC]GC GAATC CT CCCCATA GGC (-GAAA)  
SulfolobusCTCC TAGC [GGGC]GCA[G] (C)A[GC]GC GAATC CT CCCCATA GGC (-GAAA)  
MethanosarCTCC TAGC [GGGC]GCA[G] (C)A[GC]GC GAATC CT TACATA GGC (-GAAA)

1021 1031 1041 1051 1061 1071  
MASK hinte000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
MASK vomeXXXXXX0000 XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX  
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BLO-PRIM -----  
pstw19.1 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw16.1 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw16.3 GCCTATC CAG CCA TCCGCC GT GTGTAAG AGGCC TTC G GATTTA  
pstw15.1 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw16.2 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw19.2 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw18.1 GTCTAGC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw12.141 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw19.2 GTCTAGC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Stw15.2 -----  
pstw15.3 -----  
pstw14.1 -----  
NewSpec11 -----  
pstw16.1 -----  
pstw19.141 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw12.241 -----  
pstw11.2as -----  
pstw19.1es GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
pstw12.1es GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
S.pers1809 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
S.pers1828 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
S.pers1860 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
G.marg\_nu GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
G.marg\_alt GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.flavesce GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
unid\_beta1 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Ultra\_MV4 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Dechloro GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Ultra\_D-7 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
unid\_beta GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
unid\_prot GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Dechloro\_3 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
uncul\_beta GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
uncul\_beta1 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Herba\_g81 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
unid\_beta2 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
unid\_beta3 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Herba\_NM4 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
Dechloro\_3 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
P.teastote GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
N.gonozho GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
A.toluly GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
F.philomi GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
N.punc16 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
N.spec102 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
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N.spec155 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
N.spec156 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
P.modestum GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
F.necropho GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
H.halodeni GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
P.aeruginos GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
S.lyticum GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
D.nodosus GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
A.pleuropn GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
P.vulgaris GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
V.vulnific GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
V.furnissii GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
V.cholerae GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
E.coliK12 GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
T.mikta GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
F.chitinol GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.pyrococin GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.picketti GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.glathei GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.cocovene GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.phenazin GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.cepacia GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
R.basilens GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.caryophy GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.kururien GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.pseudoma GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.giadioli GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.brasiliens GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.plantari GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.glumae GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.thailand GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.vietname GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.andropog GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.graminis GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA  
B.multivor GCCTATC CAG CCA TCCGCC GT GATTAAG AGGCC TTC G GATTTA



pStw19.1 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw16.1 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw16.3 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw15.1 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw16.2 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw19.2 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
pStw18.1 CTTGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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pStw15.2 -----  
pStw15.3 -----  
pStw14.1 -----  
NewSpeci#1 -----  
pStw16.1 -----  
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pStw12.241 -----  
pStw11.2cs -----  
pStw9.1cs TTTGACT TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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S.pers1E28 ATGACGG TATCGGAA GA AAAAG CACC GGC TAA CTACG TCCGACA G  
S.pers1B91 ATGACGG TATCGGAA GA AAAAG CACC GGC TAA CTACG TCCGACA G  
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G.marg\_alt ATGACGG TATCGGAA GA AAAAG CACC GGC TAA CTACG TCCGACA G  
B.flavescens ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_beta1 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Ultra\_MV14ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Dechloromo ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Ultra\_D-7 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Ultra\_D-6 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_beta ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_prot ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Dechloro\_beta ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
uncul\_beta ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
uncul\_beta1 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Herba\_NAH ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_beta2 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_beta3 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Herba\_NAH ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Dechloro\_beta ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.testost ATGACGG TACCGTAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.gonorho ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
A.toluly ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
F.philom ATGACGG TACCGTAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.punctif ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.specSV2 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.specHW2 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.spec15 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.specATCC ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
N.specCC7 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.modesum ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.necroph ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
H.halodeni ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.aerugin ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
S.lyticum ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
D.nodosus ATGACGG TACCGTAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
A.pleurop ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.vulgaris ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
V.vulnicif ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
V.furniss ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
V.cholerae ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
E.coliK12 ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
T.mixta ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
T.chitino ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.pyzrocin ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.pickett ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.gliathel ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.cocovene ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.phenazin ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.cepacia ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
R.basilens ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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B.kururien ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.pseudom ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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B.brasilen ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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B.glumae ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.thailand ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.vietname ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.andropog ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.graminis ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.multivor ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.norinber ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
unid\_T34 ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.solanace ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
R.metallid ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
R.paucula ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
R.mallei ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Pseudomon ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
D.zoogloeo ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Z.ramiger ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.fungorum ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.fungus#1 ATGACGG TACCGACA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
M.timonae ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
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B.bronchis ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
B.holmesii ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
J.lividum ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
K.orithidi ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
beta\_B1 AATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
P.lemigne ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
O.forniger ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
uncul\_beta2 ATGACGG TACCTGAA GA ATAAI CACC GGC TAA CTACG TCCGACA G  
Thermococ --- TCCGG GAA-TAA G G CTGGG CAA- GGC --- --CGG TCCGACC G  
Sulfolobus --- CCGGG GAA-TAA G G CCGGG CAA- GTC --- --TGG TCCGACC G  
Methanosar --- TCCCT TA-CGAA G G CCGGG CAA- GAC --- --CGG TCCGACC G

1201 1211 1221 1231 1241 1251  
MSK hinte 000000000 000000000 000000000 000000000 000000000 000000000  
MSKE \*00XXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX  
MSK vorne \*00XXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX  
BLO-PRIM -----  
pStw19.1 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
pStw16.1 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
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pStw15.2 --  
pStw15.3 --  
pStw14.1 --  
NewSpeci#1 -----  
pStw16.1 -----  
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pStw11.2cs CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
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pStw1.1cs CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
S.pers1E09 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
S.pers1E28 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
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G.marg\_neu CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
G.marg\_alt CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
B.flavescens CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
unid\_beta1 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
Ultra\_MV14 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
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Ultra\_D-7 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA  
Ultra\_D-6 CC CCGGTAA TA CCTAG GGTG CA A- GCGTTAATC GGAATTA CT GGGC GTAA



unid\_beta CC GCGTAA TA CCTAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
unid\_proteCC GCGTAA TA CCTAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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N.specATCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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S.lyticum CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
D.nodosus CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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B.cepacia CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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B.glumae CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
B.thailandCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
B.vietnameCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
B.andropogCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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B.norimberCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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R.pauca CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
B.mallei CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
Pseudomon.CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
D.zoogloeoCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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M.timonae CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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B.holmes1CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
J.lividum CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
T.critidicCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
beta\_B1 CC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
P.lemigneCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
O.foergerCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
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ThermococCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
SulfolobusCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
MethanosarCC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA

1261 1271 1281 1291 1301 1311  
MASK hinte000000000 0000000000 0000000000 0000000000 0000000000 0000000000  
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MASK vorse00000000 0000000000 0000000000 0000000000 0000000000 0000000000  
BLO-PRIM 1p, 10% G/ C GC-CC G(TTTT)T AACTCT-CT C-----  
pStw19.1 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCT-CT CTTAAAC CCGGGG CT  
pStw16.1 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCT-CT CTTAAAC CCGGGG CT  
pStw16.3 A-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw15.1 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCT-CT CTTAAAC CCGGGG CT  
pStw16.2 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw19.2 A-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw18.1 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw12.11A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw18.2 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw15.2 -----  
pStw15.3 -----  
pStw14.1 -----  
NewSpecif1 -----  
pStw16.1 -----  
pStw19.11A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCT-CT CTTAAAC CCGGGG CT  
pStw12.241 -----  
pStw11.20A-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw9.1cs A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw12.1cs A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
pStw1.1cs A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
S.pers1E09A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
S.pers1E28A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
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G.marg\_11A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
B.flavescA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
unid\_beta1A-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
Ultra\_M11A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
DechloromoxC GCGTAA TA CCGAG | GGTGCAAA GCGTAACT | GGAATTA CT GGGC-CTAA  
Ultra\_D-7 A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
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Dechlor\_JJA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
P.testostea-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
N.gonorrhoe-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
A.toluolytA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
F.philomirA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
N.punctiflA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
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F.necrophoA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
H.haioideaA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
P.aeruginosA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
S.lyticum A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
D.nodosus A-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
A.pleuropmA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
P.vulgarisA-CC(GTCC GCAAG-CC) G(TTTAT)T AACTCA-CA TTTAAAC CCGGGG CT  
V.vulnificA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
V.furnissiaA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT  
V.choleraeA-CC(GTCC GCAAG-CC) G(TTTT)T AACTCA-CA TTTAAAC CCGGGG CT

E.coliK12 A-GC(GCAC GCAAG--C) G(GTTTTT AAATCA--GA TGTAAATC CCGGG) CT  
T.mixta A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
T.chitinolA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.pyrococA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.pickettA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.glathei A-GC(GTCC GCAAG--C) G(GTTTTT AAATCA--GA TGTAAATC CCGGG) CT  
B.cocoveneA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.phenazA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.cepacia A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
R.basilensA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.caryophA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.kururiensA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.pseudomaA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.gladliolA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.brasillensA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.plantariA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.glumae A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.thailandA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
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B.multivorA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.noisibeerA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
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B.solanaceA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
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R.paucula A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.mallei A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
PseudomonA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
D.zoogloeaA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
Z.ramigerA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.fungorumA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
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M.tilimosa A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
uncul\_eubaA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
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B.bronchisA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
B.holmesiiA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
J.lividum A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
K.citridiaA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
beta\_B1 A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
P.lemoigneA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
O.formigenA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
uncul\_beta2A-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
ThermococA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
SulfolobusA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT  
MethanosarA-GC(GTCC GCAAG--C) G(GTTTTT AAATCT--GT CTAATAAC CCGGG) CT

1321 1331 1341 1351 1361 1371  
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J.lividium CAA CCT-GG GAATCGA TTTTAC TCCAGGCT AGAATCT GGCAGGG  
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beta\_B1 CAA CCT-GG GAATCGA ATGGAAC TCCAGGCT AGAATCT GGCAGGG  
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1381 1391 1401 1411 1421 1431  
MSK hinte00000000 000000000 000000000 000000000 000000000 000000000  
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S.lyticum GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
D.nodulos GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
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B.graminis GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.multivor GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.norimber GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
unid\_T34 GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.solanace GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
R.metallid GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
R.pauca GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.mallei GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
Pseudom GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
D.zoogloeo GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
Z.ramigera GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.fungum GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.fungor1 GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
M.timonae GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
uncul\_euba GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
uncul\_bact GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
B.bronchisAGGT GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA  
B.holmesiiAGGT GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA  
J.lividium GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
K.citridiitAGGT GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA  
beta\_B1 GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
P.lemigne GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
O.fornigen GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
uncul\_be2 GGGGT AGAATCCAGC TGTAGCA GTTAAA TCCTAATA TGTGAGGA  
ThermococGGGG GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA  
SulfolobusGGGG GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA  
MethanosarTAAAG GGGGATCCGCT TGTAGCT GTTAAA TCCTAATA TGTGAGGA

1441 1451 1461 1471 1481 1491  
MSK hinte00000000 000000000 000000000 000000000 000000000 000000000  
MSKE XXXX000X XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX  
MSK vorne00XXXX00 XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX  
BLO-PRIM -----

pStw19.1 AC ACC-=- ATG GCG GAA G GCG A GCC CCC-TGGG TCAAATT GAC GCTC  
pStw16.1 AC ACC-=- ATG GCG GAA G GCG A GCC CCC-TGGG TCAAATT GAC GCTC  
pStw16.3 AT ACCNA TTG GCG GAA G GCG A GCC CCC-TGTT AT-GCAAT GAC GCTC  
pStw15.1 AC ACC-=- ATG GCG GAA G GCG A GCC CCC-TGGG TCAAATT GAC GCTC  
pStw16.2 AC ACC-=- ATG GCG GAA G GCG A GCC CCC-TGGG TCAAATT GAC GCTC  
pStw19.2 AT ACC-=- ATG GCG GAA G GCG A GCC CCC-TGGG ATAAACT GAC GCTC  
pStw18.1 AC ACC-=- ATG GCG GAA G GCG A GCC ACC-TGGA CATAACT GAC GCTC  
pStw12.141a acc-a GTG GCG GAA G GCG A GCC ACC-TGGA CATAACT GAC GCTC  
pStw16.2 AC ACC-=- ATG GCG GAA G GCG A GCC ACC-TGGA CATAACT GAC GCTC



Dechlor\_JJATGCAC|GA AA|GCTGGG TAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
P.testosteATGCAC|GA AA|GCTGGG GAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
N.gonorrhoATGCC|GA AA|GCTGGG TAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
A.toluolyATGCAC|GA AA|GCTGGG GAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
F.philomiATGGAC|GA AA|GCTGGG GATCAA CAGGATTA GATAC|CCTG GTAATCCA  
N.punctifoAGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
N.specSVZAGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
N.specNWZAGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
N.spec12 AGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
N.specATCCAGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
N.specPCTAGGAC|GA AA|GCTAGG GAGCAA TGGGATTA GATAC|CCCA GTAATCCT  
P.modestumAAGCC|GA AA|GCTGGG GAGCAA CAGGATTA GATAC|CCCG GTAATCCA  
F.necrophoAAGCC|GA AA|GCTGGG TAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
H.halodeniAGTCC|GA AA|GCTGGG TAGCAA CAGGATTA GATAC|CCTG GTAATCCA  
F.aeruginosaTCC|GA AA|GCTGGG GAGCAA CAGG