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<210> 6129
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<212> DNA
<213> Odoribacter splanchnicus

<400> 6129
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<210> 6130
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<212> DNA
<213> Odoribacter splanchnicus

<400> 6130
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<211> 1538
<212> DNA
<213> Odoribacter splanchnicus

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agtcgtagct gccaaataag tagcatacga cattccggtt gatcagcgtt ctttcttcct 480

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taaatttata aaaataaagt atttgtttat tattttta 1538

<210> 6132
<211> 400
<212> DNA

<213> Odoribacter splanchnicus

<400> 6132
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actcccattt acgacatcaa gccttatctg ccgcatatcg acagccaccc ggaagccaca 180

ggaggttttg ctttatccgt aagcagtgaa cagttagaag ttatttttcc agaccatctg 240

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caacccatgc tacaacaaaa ttaccaatag cagataagaa catccatttc caaccaccag 240

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ttacagacat agcaaaaatt attgtacctg cttttatgag ataaccttta cctttatccc 660

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<210> 6134
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actgcacact cactaaagtc caccccaata caaaacaggc caaaaacacg acagccccat 180

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<210> 6136
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<213> Odoribacter splanchnicus

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<400> 6137
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aaccacctga aagcatggga cgaatgggaa tgcgaagccg agaatgctac aatggaaatc 360

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gcctatatag aacaaattgg tttggcaaat cttacgactg agcatttgaa aactctggtg 540

gaaaaatgtt ttaatctgta aggttaagtt atgctgacca aaagaaaacc c 591

<210> 6138
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<212> DNA
<213> Odoribacter splanchnicus

<400> 6138
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<211> 586
<212> DNA
<213> Odoribacter splanchnicus

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ccatgatttt caattgcttg tatttctccc ggttttcggg ggtaagtatg tccccaccgg 180

tttcaaacaa cagtgtatgt gtacacgaag tggtatcaca gaatatcgga atccgtcctc 240

cgcccgacca tttataaaaa ctttctatcg tacggttggc ggtcaaccgc tgtcccgcag 300

gatttccctt atgttcccaa atctgtgaac aacacaaccc atgcgcctct tctggcagac 360

ttacccgaat cccggcttta ccggccaacc gcagtactac tgtgatcaaa tcgtctttat 420

gcaaacccga agcaccgaaa atacgggtga cacaagccgg gaaataaaca aaatcgggat 480

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cctgatgcga tatcctgtgt aaaaaatcgg tagcccaaag cagagg 586

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<211> 448
<212> DNA
<213> Odoribacter splanchnicus

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aatatatagc ctgcatacaa gcaagactcc ggaatccgat atccacgtag catataggga 240

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agaagctaca tttgccgata ttgccgga 448

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<212> DNA
<213> Odoribacter splanchnicus

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cgtagcgaat tagctgatag agtgttcgtt acgctttgtt tttctatggg gcagagccaa 120

cgaaatacca cctcgaagcc aaacagcgca agagttcagt taccacctca ttacccccgt 180

aacgggtgtg aatttcttgc taaatggttc tgtttctgtg atttgcgtaa ttttgcatag 240

cagtcggtaa ctcactaata actaattttg taac 274

<210> 6144
<211> 446
<212> DNA
<213> Odoribacter splanchnicus

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aagattcttt gaggatcggt taatggccaa tgcttgtttt aagaaacgtt ccgcttgttg 180

aaattcatta atataggtat gtataatacc acggttgtta tagcataaag ctaaattaag 240

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ataatctccc aagttgcagt atcctacact cattaaatta tagatatgcc ctttcaagtc 360

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<211> 580
<212> DNA
<213> Odoribacter splanchnicus

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<210> 6146
<211> 287
<212> DNA
<213> Odoribacter splanchnicus

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ctgttgcaat acaatactac cctgcaaatc gggcgccggg accggaaagt ctctgaattg 180

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tacaaccgca ccaaatctcc ggcctcggtc acttccctca accgttc 287

<210> 6147
<211> 582
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<213> Odoribacter splanchnicus

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ctttccgctg aatttccact tatgatactc gatccatcta tacttcactt gatccttctc 180

tgcctcgaaa tgacgatttg agaacaagga atacggcggg gtcaatgtca atgaaaatgt 240

gaattcacta cccattcttg taaatagcgg gttgtcaata gaacttctct tgataaccgt 300

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<211> 417
<212> DNA
<213> Odoribacter splanchnicus

<400> 6148
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tagacacctt ttaatatctt caggatttta tcctgtttca ttacaatttc ttcagttccc 360

gttacatatc ccaacaaccc acagcctccg ctgagaattt gacatttaca ccggaaa 417

<210> 6149
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<213> Odoribacter splanchnicus

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tgtcgcttta caacaacagg tttcacggga acttgacgaa ttcgagcgtt ggatgaattt 300

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<210> 6150
<211> 1114
<212> DNA

<213> Odoribacter splanchnicus

<400> 6150
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agaatattga ggtggattca tttcggatag ttcctcttga aactacttcc ggtagtgtct 120

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ggcttttgtg ttttgattat tctggaaaat ttttgtatcc cataggagta aaagggcggg 240

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tcaggagtta agtttgaacg gaacggatga acaa 1114

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<212> DNA
<213> Odoribacter splanchnicus

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<211> 661
<212> DNA
<213> Odoribacter splanchnicus

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gaaaataacc tcttgcctat aagagaaaag gtgggcatgg tatttcaaaa ccctgataac 540

cagatagttg caactatcgt ggaggaggac gtggctttcg cccttgaaaa tatgggcgtc 600

gagccgaatg agatacgcag gcgtgttgac gaggctctta aaaccgtcgg tatgtatgaa 660

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<210> 6153
<211> 1176
<212> DNA
<213> Odoribacter splanchnicus

<400> 6153
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ggatgaatgt gaatcgacta aatttacgat ataaataaaa taaaatgaaa acaacacctt 120

ttacccattt tcatgaagct ttgggagcac gtatggctcc gtttgcagga tataatatgc 180

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<213> Odoribacter splanchnicus

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cgactatgac acagccgcaa taagcggaca agaacgaaag tcgcatccga cagtatg 537

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tctgtacaaa atatgga 137

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caacgacgag gccgtgcaga agctcctcga caaccgccgc atcgagatcg gcaacgtgga 120

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gggatatagg aaggatcgat ggcgat 206

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<212> DNA
<213> Odoribacter splanchnicus

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<211> 413
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<210> 6182
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<212> DNA
<213> Odoribacter splanchnicus

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gcgaagttca ttatagataa tgttttccat aatgtgcgtt tcttcctgct gtcgatagtt 180

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<210> 6184
<211> 3335
<212> DNA

<213> Odoribacter splanchnicus

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catacaggtg actatcgggg gaaacaatgt atacgaaaat gtagagattg attatcgtat 3240

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gcccacggta atcgaatcta ctgagaacga caacc 3335

<210> 6185
<211> 239
<212> DNA
<213> Odoribacter splanchnicus

<400> 6185
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aagcaaaaga gttcttaaag atattgaaag gtttgaaaca aacagcaagt gcgagtccga 120

gaataaattc gacggatata atgactgagc gaaagagata cttttaaaaa gttttattac 180

tatgaagagt ttgatcctgg ctcaggatga acgctagcga caggcttaac acatgcaag 239

<210> 6186
<211> 386
<212> DNA
<213> Odoribacter splanchnicus

<400> 6186
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tcaagggact gttttcaaaa gcccgaaatg ttccactgcg aggtatttac ttcattcttt 180

tacagtctgt tgcgctattt tacataacag ggttctcggt tcgatttcct aactttgtat 240

cattaaaaat tgagccgtat ggaaagaaaa agattcagcg tgttgttctt catcaagcgt 300

agcaaactgt taaaaaacgg ggaagcaccc gtgcgtgtgc gtgtcactta tgaccgccta 360

tacgtggaac ttcaactaaa gcggag 386

<210> 6187
<211> 1068
<212> DNA
<213> Odoribacter splanchnicus

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cgtccgctga actccaagaa atagatattc cggtagttcc agttaaggcg ggcaaacata 120

cccattgtag cccagtgcga ccgagcttcg gctgcatagg gagttccatt ggcattatca 180

aaagagtaaa tatcctcgct caacataccg tccttataca tatactcact ggagttttcc 240

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gtgacacggc ttggcgacat attagctatc gttccataaa aaatagtctg gtttgccaaa 720

ggtcgtttca aaagactcaa cgacacatta ttattgaaat tgaacttcag ccaatctgta 780

gcacgtatgg aaaacttagt gttcacatta tacttctcca aatcatcctg caccttatcc 840

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ccctgtatac tgatattatg agaatggcgg atagcacggt ccttgaaata ataatcgaac 960

cagtcggtat tggcatactg cgcattatcg gctgccgccc aaccgtcacc cgactgattg 1020

acatctatac cgggaaactc ggcagaataa ggattctgca taaaacct 1068

<210> 6188
<211> 669
<212> DNA
<213> Odoribacter splanchnicus

<400> 6188
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gttgaatgtc agtcaattta tagccgacca cataacgggc cggcaaaaga gcatgttcgc 120

agcggacatt gaggcgaacc gggataagct tcgcgcggaa atagaaggta aacgtgtttt 180

ggtgatcggc ggtgccggga cgatcggttc gtcgtatatc cgggcggtgc tgcctttccg 240

tccttcaaag ctggtggttg tggacatcag tgagaacggg ctggcggaac tgacgaggga 300

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tcatttcttc tgcgtgtcga cggataaggc tgccaatcct gtaaatatca tgggagccag 600

caagaagatc atggaggaaa tgatcatggc ctattcttcg cggttcaaaa tatcgacggc 660

ccgttttgc 669

<210> 6189
<211> 470
<212> DNA
<213> Odoribacter splanchnicus

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gatttttgaa aagttacggc ttttatctgt aggaaaaagt tcgatgtagg ttatgtcgtt 120

gcccgtgctg accagttttt ggtcgaatcc ttggttgtgg atatcgaaaa gtgtcgtcgg 180

attcaacatc tcttcttctt cattgggatt tttgatgttg acttcctgta cttccggcat 240

ataggtatag atatttttcc cgtcgtaata gttttcaacg tccatcacgt tgagtttata 300

aagatttccc ttcatccagg cttttccttc gtgcatttca tggatatttt cgctggggtt 360

ttccatcgtt agggtaaagt cgatttctgc tgccgggtaa gctttgaatt ttgcagctgc 420

tttatccaat atttcttttg ctttcgggtc gttttgtgca aatactgcat 470

<210> 6190
<211> 902
<212> DNA
<213> Odoribacter splanchnicus

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aaattctatc agatttacca agacttggaa ctggagggaa agattatctc cgcacgtgcc 120

atagtgaacc gctatcaggg aaaggacgaa actttcaaga cattatacaa tgtgttcaag 180

gagcataacg acaactgccg gaagctaatc gggacggact atgccgacat caccgtaaga 240

cgttacgata actgccttaa atatctcatg gaactggtta aacgtgacta caagatagat 300

gatatactac tacgtgaggt aaacggggaa ctggtgcgta aattcgattt atacctaaag 360

acagaaaagc attgcgcaca aaataccgtt atccggtaca tgaaatgctt caaaaaagtg 420

ataaaccttg ccattgccaa cgagtggctg acaaagaacc catttgccgg aatcaagttt 480

cacgaggtag aggtaaacaa acagttccta agccaatccg agataaaccg gatatggcag 540

aaagagttca agattgaacg gctggaactg gtacgggatg tttttatctt ttgcgtatat 600

accgggctgg cattcataga cgtgtataat ctgcaccccg aacatatttc cgaggacggc 660

aacggtaatc tgtggatagt gaaaccccgt gaaaagacaa ataacctttg taacatcccg 720

cttttgagca ttcccaaaca aatacttgaa aagtacaagg ataaccccta ctgcatggat 780

aaaggaactt tattacccgt tccctgcaat cagaagatga acagctacct gaaagagatt 840

gccgacctgt gcggtatcaa aaagaacctg accacgcaca cagcccgcca tagtttcgca 900

tc 902

<210> 6191
<211> 315
<212> DNA
<213> Odoribacter splanchnicus

<400> 6191
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gtcaaggaac taggcaaaat agtcctgtaa cttcgggaaa aaggacgctc tagtgataga 120

gccgcagagt aatggcccag gcgactgttt accaaaaaca catggctatg ccaaatcgaa 180

agatgacgta tatggcctga cacctgcccg gtgccggaag gttaagagga gagctcatcg 240

gaaacgagaa ggtttgaatt gaagccccgg taaacggcgg ccgtaactat aacggtccta 300

aggtagcgaa attcc 315

<210> 6192
<211> 565
<212> DNA
<213> Odoribacter splanchnicus

<400> 6192
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agcctgacca cccggaatga tccgcgtgta ttgcctttcg gccgtttttt gcggaagacg 120

aagatcaatg aattgccgca gatattgaat gtactcagtg gaacgatgag tatcgtaggg 180

ccgcgtccgc agatgaaggt ggatttcgaa cgttttccgg aacatgtaca acgggtgatt 240

tataatgtgc ggccgggaat cacggggctc ggctcgattg ttttccggga tgaggagcgg 300

ttgttgtcgc aaccggggat cgatcctgtc gtgttttata cggagaaaat cgctccgtat 360

aaaggtgaac tggaaatctg gtaccaacag catgcttcgt tatggctgga tattaaactg 420

atcttcctga cggcctgggt gatcgtgaag ccggaaagtg agctgccttt ccgttggctg 480

aaaggactgc cggagcggcc ggagtatttg aaataatttc ttacctgaat ttgaaatcaa 540

attaaaatta agcagatgtt gaatg 565

<210> 6193
<211> 948
<212> DNA
<213> Odoribacter splanchnicus

<400> 6193
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acaaattatc tcttcattga aaaaagaaga taaacttcca ataaataaat atgctacccc 120

attattattc acaacagatt caaacaatat tatacaaaat gtattcattc cagataaaga 180

caatatagaa tcgctaagaa actatttaaa aagaatgaaa ataattttta gcaataatag 240

ataatctgat taaatcgtag actatatacc aaagaaacaa gatatggcat ttgattacta 300

tagatttgaa cattttgcag aaaaaagagc tgagagtagc taaaatcgaa acttattttc 360

aaaatgatat cgattattgg atgtcacccg attattccta tcttgtagat aatgctttga 420

tttatagcat acttccttca aaagttgtag ataatagttc aagttcaaat acattaattt 480

caaactataa taaaacagta atagagaaat taatcagtca gactaaaata gacgataatc 540

caatcattat gttatgccat ctaaaataat ctaaatgaaa aacatttttt atattctatt 600

tattgctttt tatatcaatg tactaataat gtggactttt ataatcaagc attacagaag 660

agtactttta atctagattc aacagaaata attatattag ttccaggctc aggatgctca 720

ggttgtataa ctaaagcaga acattttatt gccaaatatt tcaataagct caataaggtg 780

aaatttatat taacaaatat tcaatcatat aaaatattaa gattaaaact tggagaagaa 840

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gaaaataata tttatcctca agtattattt ataaacaata aaaaaaat 948

<210> 6194
<211> 7763
<212> DNA
<213> Odoribacter splanchnicus

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<213> Odoribacter splanchnicus

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cctgaaccgt tattccatc 739

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<213> Odoribacter splanchnicus

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<213> Odoribacter splanchnicus

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<213> Odoribacter splanchnicus

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gtcatcatct gctctgctcc cagtttcggg aaaaagatct cccggttctg ccccagaatg 180

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ccgttcgaaa aagccacatt ggcaaaacgg gccgtcgata ttttgaaccg cgaagaatag 360

gccatgatca tttcctccat gatcttctt 389

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<211> 443
<212> DNA
<213> Odoribacter splanchnicus

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cagctgattg taaaagatgt tttggaaaga gtgaaaaacg gcggtacaaa ccaattacag 360

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<211> 313
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<213> Odoribacter splanchnicus

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attcggagtt tgg 313

<210> 6213
<211> 644
<212> DNA
<213> Odoribacter splanchnicus

<400> 6213
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<210> 6214
<211> 137
<212> DNA
<213> Odoribacter splanchnicus

<400> 6214
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ggcggccaag gatgaatcct tgagaaaggt tctcagaagt gaactctcca aagaaagggc 120

caccaggctt gaaggca 137

<210> 6215
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<212> DNA
<213> Odoribacter splanchnicus

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<210> 6216
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<212> DNA
<213> Odoribacter splanchnicus

<400> 6216
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<210> 6217
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<212> DNA
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<210> 6218
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<212> DNA

<213> Odoribacter splanchnicus

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<211> 282
<212> DNA
<213> Odoribacter splanchnicus

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<210> 6240
<211> 191
<212> DNA
<213> Odoribacter splanchnicus

<400> 6240
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tttaaggcga tgggaaccta cacggcgccg ctgcccggcc agatcgaggc gatggaggca 180

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<210> 6241
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<212> DNA
<213> Odoribacter splanchnicus

<400> 6241
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<211> 691
<212> DNA
<213> Odoribacter splanchnicus

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cgaccggtgg tgtctgacga acgtagtgag gagttccgcc ggtcagtgaa ggaaagcctt 180

agcggaccgg tccaggcgaa ccggtctgac ggtataaaac ccgaaatcgg aatagataga 240

aaaaaataaa cctaggttta tttcgttatt tatttgtctt cggttattgt gatcgtcgag 300

tgtgctatgg tgggaaagtg tttgagcttc gtgacacacc cgccgatcac gatagccgtt 360

gctcacgtcc tgatgggagc agttatgaag actgcgctct gagagcatta aactttcaaa 420

accttgtttg cccaagccct gtaaaccttg ttcaccattt gtgatttcgg agattatttc 480

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ctcatccaca ctatcggctc gaacccgata aaataaaaag accggaaaaa aatccgatct 660

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<210> 6243
<211> 167
<212> DNA
<213> Odoribacter splanchnicus

<400> 6243
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ctttccttca ctgaccggcg gaactcctca ctacgttcgt cagacaccac cggtcgggcg 120

ttcggaaaac ctaaccggat cctcgttccc gctccaatgg tcttccg 167

<210> 6244
<211> 216
<212> DNA
<213> Odoribacter splanchnicus

<400> 6244
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ggttacctga ccggattatt cctataaaat accgattact gaattaattc cgaaggtaag 180

ggttcagaaa aacagctgtt tgatagaagt ttatac 216

<210> 6245
<211> 337
<212> DNA
<213> Odoribacter splanchnicus

<400> 6245
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ccggtcggtc gttcagaaaa ggcaagacga cactcgccag agctccaatg gtccccgaac 120

acgaacacct ccgactcacg ttatcacggc atggaaaacg aactgtgacc tgaaaggtat 180

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gtattttata ggaataatcc ggtcaggtga cccaggtatc cgtactccgg tcagggtggc 300

ctgccctttc attcaataaa actttccttc tttgccc 337

<210> 6246
<211> 418
<212> DNA
<213> Odoribacter splanchnicus

<400> 6246
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gcgcaacgga ttgccaacta tctgcttagg aagagaataa agctctcagg catgacggtg 360

tggcgtgtgt tgaaaagcat caggtcaaag ctgttgtgaa acgttgcgag aaatttat 418

<210> 6247
<211> 296
<212> DNA
<213> Odoribacter splanchnicus

<400> 6247
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tgaccctgta acttcgggat aaagggtccc tcctcgcaag agagggcgca gagaataggt 180

ccaggcaact gtttaacaaa aacacagggc tgtgcgaata tgaaagtaga agtatacagc 240

ctgacacctg cccggtgctg gaaggttaag aggagatgtc atcgcaagag aagcat 296

<210> 6248
<211> 189
<212> DNA
<213> Odoribacter splanchnicus

<400> 6248
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gttcctgctc caatggtctt ccgccataaa accctgcatc ttccgtcagc actacagggc 180

aaagaagga 189

<210> 6249
<211> 137
<212> DNA
<213> Odoribacter splanchnicus

<400> 6249
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actcccagct tgcccgg 137

<210> 6250
<211> 950
<212> DNA
<213> Odoribacter splanchnicus

<400> 6250
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cgaacggctg ttcagcgagt acgaccagag aacaaaattc tacaacaaga agaaagagct 120

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caacgagcag cgcagcgatt ggtctggcaa ggcaaaactg aaatgcactg 950

<210> 6251
<211> 544
<212> DNA
<213> Odoribacter splanchnicus

<400> 6251
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<210> 6252
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<213> Odoribacter splanchnicus

<400> 6252
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tgcatccaga cacaaacaat accaatctgt ttttacaccg atccgtgtcc caacgatatc 1680

gcctgcttca gcgataaata ccatcggacg gtcgaaatcc tccggcaaat aagcaggatt 1740

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<210> 6263
<211> 179
<212> DNA
<213> Odoribacter splanchnicus

<400> 6263
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aggtttggaa gccaaaacgg gggaaatttt ccaacaaaga tatggcaaaa gtacaaaata 120

tttcggaaat tcaccctact ttgggcttta cagaatttga tattatagaa aaatatcgc 179

<210> 6264
<211> 267
<212> DNA
<213> Odoribacter splanchnicus

<400> 6264
taactcgtaa tacgaggaca ctgattggtg ggtagtttga ctggggtggt cgcctccaaa 60

agtgtaacgg aggcttctaa aggtgccctc agaccgattg gtaaccggtc tcagagtgta 120

atggcataag ggcgcttgac tgggagacta acaagtcgag caggtaggaa actagagcat 180

agtgatccgg tgtttccgca tggaagggac atcgctcaaa ggataaaagg tactccgggg 240

ataacaggct gatccctccc aagagct 267

<210> 6265
<211> 195
<212> DNA
<213> Odoribacter splanchnicus

<400> 6265
gtttgagggg gaagagtatc gatagcttga tggagaatcc gcaaagtttc ctgataggtg 60

atttcatgca gaaaatccgg gtcctctgct ttcgataccg attgtgtctg ttggtattgt 120

tgttttattt tctggtgttt aagatgatcc agacagagat tccgggctgt gatatagata 180

aaagattttg ctttt 195

<210> 6266
<211> 139
<212> DNA
<213> Odoribacter splanchnicus

<400> 6266
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tttgaaggca ggaaggtcag ggaccgcatc gtcagcattg accgtcatta tgtacgtccc 120

attgtaagag gcaaggaaa 139

<210> 6267
<211> 239
<212> DNA
<213> Odoribacter splanchnicus

<400> 6267
acagtctttg ctatatgctc aaatggaaat accgaatgaa gcctgccaag ctcactctca 60

tgaaaacttt tgcggtatct ttccagaata tcaaattctg taaaccccaa agtagggtga 120

atttctgaaa tattttgtat cttagccata tcttagtcag ggtatttccc ccgttttggc 180

tgccaaacct tatttgcggg ggaataccta aagatacaaa aaagccaact aattcgcaa 239

<210> 6268
<211> 485
<212> DNA
<213> Odoribacter splanchnicus

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caaattgcag ctttggaagg atatgactat tatcttctca aatttggtaa ctccgaatat 120

tgttcggcag aattagaaat gacttattat aagttggcaa ctatggcagg tataaatatg 180

atgccgtcaa tgttatattc agtggatgga aacaatcatt ttttaaccag acggtttgat 240

cgtaatggtg gaaaaaagat tcatacacag actttggcag ccatatatcc cgatgcagag 300

agttatgagc aattgatatc tgtttgccgt aagctccgtc tgcctgatgc ggattgtcag 360

gaagtatttc gaagaatggt cttcaatatt ctgtcgaata acacagacga ccataacaag 420

aacttttcat ttattatgaa tgaagatggt gcctggcgtc ttgctcctgc atacgatatt 480

accta 485

<210> 6269
<211> 137
<212> DNA
<213> Odoribacter splanchnicus

<400> 6269
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gctcccaaga tcatggcggc cagcattgct ttaccggaag cgatacccc tgcagcgatc 120

agcggaaggc ggcaatg 137

<210> 6270
<211> 2279
<212> DNA
<213> Odoribacter splanchnicus

<400> 6270
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gaaacagaga ctcccaatcc ggataagtca gcttatcaaa atcaggaaat acttgcgcta 120

ccacctttgc aagcaaagtt ctttgatgtt gcccttcgga acggtcggca aggaaatata 180

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cgcacagaat ccgtgtcaag tgttcatgtt tcatgcattg aacctcgtag agtaaatact 600

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ttgcatatta tatgatatgt tgtgatagag tattttcagt tatttgaatt tttcgaata 2279

<210> 6271
<211> 252
<212> DNA
<213> Odoribacter splanchnicus

<400> 6271
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atgttgtgat agagtatttt cagttatttg aatttttcga ataactgaaa atactgattt 120

ttaccattac ataattatcg taacgcaaac atcgtaataa tcacccagca tcctcattgt 180

aaaggggttt tcttttggtc agcataactt aaccttacag attaaaacat ttttccacca 240

gagttttcaa at 252

<210> 6272
<211> 277
<212> DNA
<213> Odoribacter splanchnicus

<400> 6272
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aagcgtagag aattagctga tacagcgttc gttacgcttt gtttttctat gggacagagc 120

caacgaaaag ccagtatgaa gccaaatagc gcaagagttc agttaccacc tcattacccc 180

cgtaatgggt gcggatttct tgctaaatag ttctgtttct gtgatttgcg taattttgca 240

tagcagtcgg taactcacta ataactaatt ttgtaac 277

<210> 6273
<211> 191
<212> DNA
<213> Odoribacter splanchnicus

<400> 6273
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atcgccttga agtcagccgt cacaaggttg acgggaggca gggcgatggt cacgtccttg 120

gcggcgagaa cgccgtccac atagacggta tcggcgagga tggggccctt caggtcgagc 180

cacaggtttg c 191

<210> 6274
<211> 4402
<212> DNA

<213> Odoribacter splanchnicus

<400> 6274
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tatccctatt taacaaattg aagttttccc gctaaaaccg gacttcaacc tgttaaatag 120

ctttcctatc aggtaaaccc caattcttag ttcattctca tagcacggaa tactttccct 180

ccgcttcgtt tttccccttc tttattatat ttttcttctt ccatcttgga tttatcggct 240

cccagcgtgt caccgatctt ggtttgcaga cgagctttgg aattcatcag atttgctttg 300

gagaaaaaat ccggcgtcac cgcacaaacc tcgtcaatcc atttgattcc ctcttccacc 360

aaagccttgt catcgcaaag tgtaagggct tcgatattgt tctggaaata attcaggtca 420

gctccagagc ggaacatatt ataactcaac acttccttca ttttatccag taaaccgcgg 480

aaatctcctt tccggatata agcagccgta taaagctgtg ccaaagctgc cggaactcct 540

gcataatcga cactgagcag atagccgatc aattcttcat tccgcttttc atcaaaagtc 600

tgccccatgc ccggacgcca atgtgtcaat gccattgtcg cccccataat actattgtct 660

aatttatagt caaccacctc tttaccggcc accgcataaa atttatcccg gctctgcatg 720

actttttca aaggttctga caacggatca ctgacatact ttttcaccaa atcccagttc 780

tctttggtag ccaactgctc ctcagaaagg gtattcaggt attcggaagc cacctttccc 840

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gtcaggtttt gaaatactgt tt 4402

<210> 6275
<211> 497
<212> DNA
<213> Odoribacter splanchnicus

<400> 6275
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ccatcaaagc agtccgcaag tcggacgtgc ttaacgacta cgagttgtgt cgctacatgc 360

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<210> 6276
<211> 30079
<212> DNA
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<400> 6276
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<213> Bacteroides cellulosilyticus

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<211> 159
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<213> Bacteroides cellulosilyticus

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gaaaacgatg cttttgctta ttgtacaagt cttacttcc 159

<210> 6625
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<212> DNA
<213> Bacteroides cellulosilyticus

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<211> 137
<212> DNA
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<213> Bacteroides cellulosilyticus

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ataggattac aattggaaat atacatgaat acagagtttg aagtaaaata atctccctat 15420

gaaagctgga aatatggatc aagtcaaaaa gtgtgtgggc ataatatttt gaaaaaaatc 15480

gggttactta ttattcttgg agatttaaat atcatatcac aaacaaaggg aagaataagc 15540

cgtttcccaa ggtcggccaa ggtcttttga acggaagatt attacagtct gcggcaatag 15600

actgtacagt ccactatagc agactgtacg gtccactata gcagactgta cggtccacta 15660

tagcagactg tacgg 15675

<210> 6831
<211> 588
<212> DNA
<213> Bacteroides vulgatus

<400> 6831
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ggcttaggaa gctcaaaaac acatacaggg attggaaacc ggagtagaca acatcagggg 120

acagatgttt gattcatatg ttaaattctt catattcagg ctggctatgc tatacgctta 180

aaagaaagct tgccaaccgg gaaaatccgc tgagccagca aaggtatatg catgaaggga 240

attgacaaaa cttaatcccc caagaattac aactgagcca tacagacaat taaccagaat 300

cgcataatcg ctgataaaga gaaactaaaa cagcataagc ataacgcaaa ggctcggcaa 360

tacagaagtt cacgcctaat aaatcaaggt gtttgtcctc aatgcggagg acatctcatt 420

ttgaggaaag gcaagtacgg cactttctat ggatgttcaa actttcccac atgcaagttt 480

accataaact cataaatagc aatccttgtt ttatatagta tcagaacata aaactaaacc 540

ctttctttcg tgatacattg aatcgttcaa tttctataga aagtgatt 588

<210> 6832

<211> 859
<212> DNA
<213> Bacteroides vulgatus

<400> 6832
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ccggagaaac cggagcagaa atagaattcg tcgattgatg atgccataag ggagtgaaga 120

atgcgagaat ctcagttcgg ttttcattcc ataccagttc gaatgatttg catttttga 180

tgtattccaa tatgtccgaa gtatgtatgg tttttagtgc cagacaaatt tgatagaggt 240

tgttgatggg gtatactcca tcttcattca tgaaatgggg catacccaga tagagatcca 300

gtaatttcag acaggcagag tcgctgactc cccatgcctt ccattggtga atcattttct 360

gtatttcacg gatggatacg ttttgtttca gtgcttttat agccataaga gatattgttt 420

taagttaatt cttgcgaagt taggaaagaa taagttggta ttacttcccg ctagggagaa 480

gtaaagacac gtttgttgta tataattaac aattaataaa agaaagtaag atgaagaaca 540

gacagttcga tacagagaag ttggcagcaa gcatcaaagt gcttgttaaa gctgccggat 600

tgcgtaattc agaggtttgt aaagacgttc gtatgagtcc ctcttgttac tacaggactc 660

ttaaaggtaa actgatgatt tgagttttta tgctgttatt attcattttc tgattatcaa 720

ctgccgtgat tgcggtgtgg agactcagat ggaagcggtg aaacgtgaat ggtggaatgt 780

ggtaatggag aatgaatggg agttaaaaac ggtagataaa aagaaagata aattggaaga 840

aatataacct gtttttaa 859

<210> 6833
<211> 344
<212> DNA
<213> Bacteroides vulgatus

<400> 6833
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gccaccgtgg acggcctgtt caacatgagc agcctgttct gcggaagcaa tcccgaacgt 120

ttcttcaatg cacgccttat cgcgggggta ggttacaacc ggacctttga cgagggtgca 180

agcagcttca tggcaagact gggtcttcag gcaagcttcc gcctgaacaa agccttcgat 240

ttcaatgttg aagccctggc aaacggtgtt tccgaccgct ggaaccgccg ggacgaccac 300

agcttcgatt cctattacaa cgtgctggtg ggcatcacct acaa 344

<210> 6834
<211> 730
<212> DNA
<213> Bacteroides vulgatus

<400> 6834
agaataaagt gaaacgagaa tatatttttg cggctccaaa tatgccatat gcttatttcg 60

ctttattcca gtcgttgaat gggtatatga tttttgatcc tttgacaaat aaggaggatg 120

tgaagtgttt cgctgcggtg gctacgagtc tgaataatgc ttatccacat gccgaccgtt 180

cacgcaactt gtacaatatg gttataaaag gaatgaagaa tacccgtact ccccgtcagc 240

agaccatgga aattcctgaa gataaaatca aggaagccag cattattgat attcagctga 300

aagacttgaa aggcaataca cgcagtctga ccgatttgaa gggtaaagtg gtgctgatcg 360

attttactgt atataacaat gcaatgtctg ctgcacataa tttggcgtta cgtgaacttt 420

ataataagta tgcttctcaa gggttcgaga tttaccagat ttcactggat ggtgatgaac 480

acttttggaa aacatctgca gataatctgc cttgggtctg tgtacgtgac gctaatggcg 540

cttattcttc atacatttca ttatataatg taactaatct gccttcggta tttttggtaa 600

atcgtaataa tgaattaagt gcccgtggtg agaatattaa agatttggat gaagccatta 660

aaaaactctt gtaaaaagct aattatgagt tgaatttgtt taaacatgtt acatagcatc 720

cttataaact 730

<210> 6835
<211> 739
<212> DNA
<213> Bacteroides vulgatus

<400> 6835
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gtccattccc ggtttcacaa aaaacatgat ttcaaaggct tcgttgcttc taccttcggg 120

tatcgtcatg ttgatttctc cattgcgggc tgttcctctt cccgtattga aacctaagtc 180

ttcgtccgca taggcgtaat ggaattccac atccggaaat atctcggaaa gtttttggat 240

aagcagtggc actccattcc atgccgtatc gaaccaaagt atgttcggct cttcaaagtc 300

ttggtgatag gcattccatt ttgtacccca tgtggcggta gaccactcgt accaagtggg 360

ataaccgtac tttttccgat tttccaaata cgatgctcca agttgcagcg cttcttttct 420

gtccttttcc gccaatcctt ctatccattg aatggttctc aaagcatcat cgtccaataa 480

aaaatagaat ggcttcaact gcattgcttc aaggtatttc atacccaaat ctccactgct 540

gctttttct atcaacagtt cttcaggcat aggaatgatg ttgttgaagt cgatgtaaca 600

aggcgtattg tcatcatcgg ttttaccttt taagaaattc attacttttt gtactgtttc 660

ccggtctgcg tttatttcta aacggtttgt cacatgatta ggcataatct tagtttttg 720

aaattgttaa tacttattt 739

<210> 6836
<211> 746
<212> DNA
<213> Bacteroides vulgatus

<400> 6836
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catcgggtct atggtagttg cggaggaaaa ttatggagaa ggttccagtc gtgaacatgc 120

tgctatggag cctcgttttc tgaatgtaaa ggttattctg gcgaagagtt ttgcccgcat 180

ccatgaaacg aatctgaaga agcagggaat gttggcggtg acttttatag acaaagcgga 240

ctatgacaag attcaagaac atgatttgat taccgtcagc ggattggcgg actttgctcc 300

cggaagaaat ctgactgtga ctttacacca tgaagatggc actcaggatg gttttgaagt 360

acagcatact tataatgaac agcagatagg ttggttccgt gccggctctg ctttaaatgc 420

aagataaaag atgaaaaaga cagtacctta tattacagga gacggagtgg gagcagaaat 480

tactcccgct atgcaagcca tagtgaatgc ggccgtgaag aaggcgtatg gcaatgaaca 540

tgaaatagaa tggatggaag tactggcagg tgaacgtgct ttcaacgaaa caggttcctg 600

gttgccggat gagacgatgg aggctttcaa gaaatatggt gtgggtataa aaggtccgtt 660

gactactccg gtaggaggtg gtatccgttc cttgaatgtg gctttgcgcc agacgctgga 720

tctgtatgtg tgtctgcgcc ccgtac 746

<210> 6837
<211> 242

<212> DNA
<213> Bacteroides vulgatus

<400> 6837
actcaggttt cctgatcaac gctaatcgga tcagggtcag tcgggtccta aggctcagcc 60

gaacggcgag gccgatggca gaaccggtta atattccggt actacccttt ggggtgacgt 120

ggagacgcag ttgtgacaat gccgccagct gacggaatag ctggttaaag ggtgtagaag 180

ttgattgtgg caggcaaatc caccacaaga ttcgaacctg acagtatgga gcgtccttcc 240

gg 242

<210> 6838
<211> 895
<212> DNA
<213> Bacteroides vulgatus

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ttaaaaacat caccatcttt tttaaaaagc ccggtatgtt tttatgtaag ggaagatgga 120

accaccctca ccaagtcggt cattccttct tttccgttca ttcttacatt ttatccaaaa 180

catgcggata atcagtctgt taagaatgac aggacatccc ctcatcctcc tttcattcgt 240

gcttcccgag tcctttcaca agcagccttc agcaattccc ttgtgtactt tctacacctc 300

tttttagact accgtaaatg aaagcgttat cgaaacagtt caaaatccgg aagaagtttt 360

acaaatgaaa ggaggctgaa agggggatga aacgatgtcc cttcacaacc gaaaccccca 420

tcggcaggac gtttcagcag tagatgaaag gaggaaggaa gaaacaggtt tccgcttgta 480

gggcgaaaaa acgcagttat ttttatggat tcagtcattg cacgacaagc catttcaggt 540

atttcacggt tactgcttat tttcctcccc ctcttgcggt ggattcaaag aaacagtagg 600

cagcaatagc agatagagcc ccaaagttct ttgaactcaa cataccgtcg atgcacgata 660

agaacgatgc atttgtcgga tgaaccatac ccttctacgt gcgcatacat gcgcgcccgc 720

aatataatta tgtgtattcc atttccttcc tgttctgttg ttttcaaaaa gtctttgttc 780

tgtgttgttg taaatcagcg tgttacaaac aagtttcaaa aaagtgtaag aaaaatcaga 840

tgatatgttt ggcagttagg ttgaaaccgc ctacctttgc atccgcaatc gagag 895

<210> 6839
<211> 989
<212> DNA
<213> Bacteroides vulgatus

<400> 6839
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ctcgctgcct ttcttcacgt aaaataatac cttgaatgta ctacgcataa ctcactcctt 120

ttttggttac aaaattagtt attagtgagt taccgacagc tatgtaaatc gatgcaaaac 180

gcagaaacag aaccgtttag caagaaatct gcacccgtta cgggagtaac gaggtggtaa 240

ctgaacttct gcaccgtttg gcttcgaggt ggtatttcgt tggctctgtc ccatagaaaa 300

acaaagcgta acgaacgctc tatcagctaa ttcgctacgc tctgcccaaa tttacttttt 360

cgctatgtgt ttattttatt ttcagacgac tccatatcga ccttaccatt ttgcgtacag 420

tttttcaaga acagaagcac ccttcccacc cggcaacatt aacgatttcc gatatacctc 480

cggggagcga gaccgcagat ttacctcaag ttccggcttc cgcagccaaa acaaagaagc 540

aacatacctt attaattata gaagaccatc tggagatacg cctttacctg aagctgatat 600

tcagcaacga atacaaccta ctaatggccg aaaatggtga agagggtttt aaaaaagcat 660

gtgaaggagt acccgactta attattaccg atatcatcat gccggtaatg gacggtttca 720

aatgctgcca attgataaaa gaaaacctca ccacctgcca catccccgtc attctgctga 780

ctgccctcac ctcagaaaca gatataatga aaggcattga actgggggcc gatgattata 840

tccagaaacc tttcaacccc aacatcctgc gcactaaagt agggacattt attaaatatt 900

acaaaatcag ccaactaatt catacacaaa gtattgcgag ttagttggct tttttgtatc 960

tttaggtatt cccccgaaaa taaggtttg 989

<210> 6840
<211> 1454
<212> DNA
<213> Bacteroides vulgatus

<400> 6840
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tcgccatgtg aaacgtcaga aacaggacaa gggcgatacc tgtgacactc atcaccactt 120

tccttccaat agatgaatta cttaaccaca taaatgattg aatttaaatt atttaattgt 180

tagaactaaa aattccgtta aaagctgtgt attcacgatg caaaagtaaa ggaattctag 240

cgataataca aggaattatg gaaattattc tttaatcagc ctaggaacaa agagaagaaa 300

acataatttc ctatctttgc ggcagcaaac tataaaatat acaatgaaaa aaagtatctt 360

tctgcttcta agcttatgcc tcagcatgca actatctgcg caaaactggg acatcaacac 420

ggtgaagacc atcaacaaat gggatgtaca cggcctcagc cgtggattgt cagcaagcgg 480

cgttatcctg cctgtaggag tgcccgccgc catgggaatt tatgcattga taaaaaaaga 540

ccagccgtta ctgaaagatg ccatttatat cggtacaagc gtgattgaag cagtaggcat 600

cacctacgca gccaagcaca tcataggacg cgaccgccct tttgtaaagt accccgataa 660

gattcatgtt tacggagcac cggatgcaga cagcccgtca ttcccatcag gtcacacagc 720

tgccgccttt tccctggcaa catctctttc aatcacttat cccaaatggt atgtcatcgc 780

tccttcggca gtgtgggctt gcggagtagg gtttgcccgg ataaaccaag gagtacatta 840

tccaagcgat gtagtggcag gagctgccat cggagtggga tgcgcttttg caaatattta 900

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ggggcgaggt tcgctcgccc gaaaacagtt tactttgtgt cttcgggcag gcaaaccatg 1140

cccttctata agtttgtcat tctgcgcacc acaagaatct cagaatgaca aacttaccat 1200

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cagttccaaa gccttcctga tgctttcgtt agcatcatta ataacgtgat aatattcatt 1320

catatcccat aaatcacgag ctatcaacgc tttcatctgc aatttcagca aaggcagggc 1380

tttttgatat tcttcctcat tatattccac gcccatctct tttcctgtcg ctaccaattg 1440

ccgaagcata tccg 1454

<210> 6841
<211> 344
<212> DNA
<213> Bacteroides vulgatus

<400> 6841

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ttccagcggt cggaaacacc gtttgccagg gcttcaacat tgaaatcgaa cgctttgttc 120

aggcggaagc ttgcctgaag acccagtctt gccatgaagc tgctcgcccc ctcgtcaaaa 180

gtccggttgt aacctacccc cgcgataagg cgtgcattga agaaacgttc ggggttgctt 240

ccgcagaaca ggctgctcat gttgaacagg ccgtccacgg tggccgcacc atagtagaac 300

ccctcggcgg gcctgctgcc gcttccggcc cttcccctcc agcc 344

<210> 6842
<211> 15507
<212> DNA
<213> Bacteroides vulgatus

<400> 6842
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tactatttct tttacaaaga gaattctttt ctaaagaaat cattttgttg tatcgctcaa 120

aattatatct tgcccctaaa ctctttttc cgtcagatta ataggttttt acggtatgat 180

taagtacttt tgtactgaat actaagacag actccgccaa cagactgtac agtccgttac 240

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attaacatga cagcaaagta tgatttcaaa acgtcacccg acatacaggg ggacaaggag 420

caggctactc tgtatccgca acttgtagta tcgggcacga aagacctgac agatttggct 480

aaggagatag cccgacgttc caccatcaag gaaggaacgg ttatgggact gttctgtgac 540

ctggaaaaca ttatcgccaa ttatctggca gacggttata acgtaaaatt gggagagctg 600

ggcactttgt ccgccaccct gacctgtcgc aaagtggcgg acaaacgcga gatacgcgcc 660

gcatcggtac actttgacaa cgtgaaattc aaacctaccc ggcaattccg caaggagata 720

cgtgccaaag gtgaattgga acgcgcagaa tatggcttcc gggtttcttc ctcccaatat 780

tcggaagaag aacgctttgc attactgacg gtctatctga aggaacattc cgtcattaac 840

tgcaaagagt attgcaaact tacgggactg ctgaagacaa aagcgggcat ggaactgcgc 900

cggtgggaca acgaaaaaaa gatagtaaga gagggacgga cccctcacgt gatatacagg 960

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atattgcgtt atctttttga acagcctctt gcaagaaggt tattcgcccc tcttatttgg 1140

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aaggcttatc cttatcctgt acgcctgcat cactgttcag ccgaacactc ttctcaaatt 1920

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agaaatttat cttatctatt tttagacttt ctgaaatgta gtaagttccc tccttcacat 2580

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ttatcgttat atccagagta cgtacagcca tcatattcca atcctgatca gggtcaatat 3000

cctttatcgg aaaattttct tttgcttctt ctttcactcg ccctgaatcg aacaaatctt 3060

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attgtatggt tctgtgccca gtttgcaaag taacgataaa gagcggttat ctgattacgc 3360

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taaaagtctc cattgtcttt caatgtaccg gttatagtga tttccttttc tacagaagta 3540

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ccgttcgtcg tataatcata gccacatccg accggttctc ctaatcgtac ttgttctact 3900

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caaaacaggg ccttttcatc tgaaccgact ccggtcacat caacctttcc attctggtat 4080

tccacgttgt cttttacatg gaatacactc ttggaaccta acctcaaagg tatattccca 4140

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ccacccgaag agttagatgc ccccgcaaca gtaattttcc ccttattgta taaagaacaa 4500

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atgagtaaga tcccttagta tcct 624

<210> 6874
<211> 271
<212> DNA
<213> Bacteroides vulgatus

<400> 6874
taaccggttt gggctcttcc ccgttcgctc gccactactg ggggaatcat tattattttc 60

ttttcctgca ggtactaaga tgtttcagtt ccctgcgtta gcctccaact gagttggata 120

atatctcttc aagatattgg gttgtcccat tcggaaatct ccggatcaaa ggttatttgc 180

acctccccga agcttatcgc agcttatcac gtccttcatc gcctccgaga gccaaggcat 240

ccgccatgcg cccttgctta ctttctttat t 271

<210> 6875
<211> 300
<212> DNA
<213> Bacteroides vulgatus

<400> 6875
actgtcttcc tgcggaagca tataaaatct tccgtcgtat ggaaaactca tgaccgcatt 60

ccctttttctt atggcatcaa cagcttccag tatttgctct ttcggaagca gcacatcggt 120

atcccatata ccgacaatcg ctccctcagc ttcctgcatc agttggttca gatatttggt 180

tctgtggaag acgggggagg catccctcac aaaagtcttg tgtatatgtt catcgctgat 240

tttcaattca taatgcggat gttcatcggc ctcaagaatt cttatctcca tccggatgga 300

<210> 6876
<211> 221
<212> DNA
<213> Bacteroides vulgatus

<400> 6876
gcaatggcca ggatgttgac ctgctggtcc tcggcgatgt ccgtctttgc cagcccgaag 60

gaaacgtggc ttttgatgcc cggcacgctc ttttccacct cgggacacgg aaccggttcg 120

ggacacttat ggctgtcgat tgcgccctgc agctcgttga tcctgtcatt gagcgacttc 180

acgtatgact cgctgtaacg ttcgttcctg tacgccaccg g 221

<210> 6877
<211> 374
<212> DNA
<213> Bacteroides vulgatus

<400> 6877
aagatcactt tctataatct cttaatacct tttaattctg atttatcttt tacctcttta 60

atgctgattg cataaccacc accgcttgct gcgtgtaagt tcagtttgct tttgttggtc 120

acaatgcctt tacggatggt atatgcctgc ggattatctt tccagtcggc atcttttgcg 180

tctgcatata cagttgcgat gtattttttg tccggatcaa ggaaatcaaa tatcagtttt 240

gaagaatgac cgttctcatc tgccgtacag ccgatatacc agtcgttggt tcctttagct 300

ttgcgggcaa tggtaatata gtctcccggt tcggcttcca gatatttggt ttcatcccag 360

tcaatggcta catc 374

<210> 6878
<211> 221
<212> DNA
<213> Bacteroides vulgatus

<400> 6878
aataatggga attccaccgg cacattaccg gaagcggagg gaaaaagctg cggaaacctg 60

ttccggcctc tccgggacaa tggaaaactc attgggaaag aatgaaatac atcaacagca 120

ggtcatataa atcaatgaaa ccaagtcctt taaaaacgat aaacaaattg agtttttaaa 180

tttataaatt taaagttttt ctattatgaa caaaaaattt t 221

<210> 6879
<211> 551
<212> DNA
<213> Bacteroides vulgatus

<400> 6879
gtattaagga cttggtttct cataatctcc tgcatggata cgggtttgga gaatatgtcc 60

tctttttcca ggaaaacttg ttcctcaaag aaaggcagat tggtgttatc gtatacaggc 120

tctatcttgt agtgctgcag ctcataccgg tctatcaggc tggagaccgt ttccaattca 180

tcttccgtat gcaccctgaa tatccacgag acggaactgt tgccggcatg gggcaggttt 240

cctgccggaa tatcttccgc attcattatg attgttgccg gttcattgat tccgtgcctg 300

tcattgaaag ccaactccgc tttcatcatc cattccacgc aaccggttgc ctcttcatga 360

ttttccagcc atgtccgcaa ggtttgaagt tgtgatgcgg tgtagatgat gatacataaa 420

tgcttcaggc tgccggaacg gacctgttcc cagacctcat ccatcagcgc acacaatgct 480

tccccttcca gctcttcaat atctaccgtt attttataca ggtaggtaaa catcttggtt 540

cccacataac c 551

<210> 6880
<211> 572
<212> DNA
<213> Bacteroides vulgatus

<400> 6880
agctgaccgt ccactatatt gctccgttcc agcatagcca tatcaatgaa gttgattcca 60

gcagtgaagt aggagaatgt aaacaggtct atcaccaaac attccatgtc agacttgcct 120

ttataattga caatcttttg aatgtcatgt ttggatattg ctctcttggc tgtctgctga 180

ttcacctttg acaacttgta ggaactgaaa ggataggcgg tggtctgctt ggattcaata 240

gctctgttga acactgcacg caaatgtcta agtcgtgtgc ctatcgtatt tatggcgtaa 300

tggtttgact tcatccattg ctcatatttc tttaaccaag caacatcaat atcagagaat 360

ggtatgtcaa gatgcttgtt gaacttgata aaagatgagt aggacacttc aaacattcct 420

gcatatctga gcctgttctc atttttaaga gcttgaatat agcttagaaa tccttctcca 480

acagatacgg ggggcttgga ttggaaggtg tctgtggatt ggagtagggt tgtagcagta 540

aactctacgt tattgacttt cttattcaag at 572

<210> 6881
<211> 221
<212> DNA
<213> Bacteroides vulgatus

<400> 6881
tacgccctgt tcagactcgc tttcgcttcg gatacgtgtg tcgtcacact taaccttgcc 60

ggcaaaggca actcgtaggt tcattatgca aaaggcacgc cgtcactcat caacgagctc 120

cgaccgcttg taggcgcacg gtttcaggaa ctatttcact cttctgttcg aagtgctttt 180

cacctttccc tcacggtact ggttcgctat cggtctctcg g 221

<210> 6882
<211> 911
<212> DNA
<213> Bacteroides vulgatus

<400> 6882
agaactttaa tgtaaaaatg ttggcggagc aattgaatat gagtcagcct acccttttata 60

gaaaaataaa gcaacgtagc gaactggctg ctattgatat gattcggagt gtacggatga 120

gcaaggctgc ctctctaatt atggagaaca gatattccat tcaagaaata gccgaaatgg 180

taggttatag cgacacccgc acactccgaa aacatttcac tgagcaattc ggagtgtcgc 240

catccaagta tattgataag cctgaaatac aagggagtta gccgaaacag attcccattc 300

gttttccttg gacaatcagg tcatggtttt cgtctaccag ctttaatttg ccggctacct 360

cattcaaaga aacagagcct atctgagctc cttgcaagga aaccattcgt ccgaattgtc 420

cggaagcaat cagttctgtg gcatgtcctc ccattcgggt ggcaaggtta cggtcgtatg 480

gagtggggga gccgccacgc tggatatatc ccagtacagt ttcacgggtc tcaaatccgg 540

tttcatattc tatttcttcg gctatgtatt cggcagcttt tttgccgttg atggtttgga 600

taccttctgc cacaacgacg atggagtagg gttttccttt tttcagtctt tcgataatgg 660

tgttgccgat gttgtggata ttatagggta gttccgggat gagaataaca tcaccgccgc 720

ctgccatgcc tgagtaaagg gcaatccatc cggctttatg tcccatcact tcaataacca 780

tgacacgctg gtgcgaactg gcagtcgaat gcaaacggtc gatggcatcg gttgcaatcg 840

ttacggcaga atcgaatccg aaagaaacat cggttcccca tacatcgtta tcgatggttt 900

taggaacaga t 911

<210> 6883
<211> 2335
<212> DNA
<213> Bacteroides vulgatus

<400> 6883
acattaatgc cggtttgtct tcggaagcgg cagacagacg ctttttaaat ggtttttcac 60

gtgaagttcc aagaatggtt cctcctaaat taagcaaacc cgataacgat ttttctgtta 120

aaggttctat atcgttgtcc agtaagcctc gaaatccgct tcggattcca aatacttcca 180

tgccgtagtg atttatggct gttttacaaa ctcctctgat agtggcgttt attccgggac 240

agtctcctcc tgatgtcaaa attcctatct tcatagcctc tgatgttaag ttgtaagcgt 300

gcgtaaagat aagaaaaaat aaaagtaatg cagaaatcta taaaaaaaat aatgttataa 360

ggcttattaa tacagaaaag gttaattttg caggatataa cgaattgtat attaacggaa 420

atgaattcga ccaaactaat tagtacacta ttcaaaccca gacaggcagc tacagcattg 480

tatgccactc aagcggaagc tattcaggca aaggtcttta aacgtcttat caaagacgct 540

gccaatacgg aatggggatt ggagtatagc tataaagaca taaagagtta tcaggattat 600

caacgtgttc ctttgcagac ttatgaggaa ataaagccat acgtggagcg catgcgccgg 660

ggagaaaaaa atgtgttgtg gccgggtgaa gttatttggt ttgcaaagtc ttcgggtacg 720

acaaatgata agagcaagtt tattcctgtc agcaaggaag gattgcacga tatccattat 780

gccggcggta tggatgccgt cgcgctttat ttgcagcaaa atcccgatag ccgtttttt 840

tcgggaaaag ggctgatttt gggaggtagt catgcttcca attataatct gaagcggagt 900

ttggtgggtg acttgtctgc cattctgatt gagaatgtca atccattggt caaccttatt 960

cgtgtgcccg aaaagaaaat cgcattgttg agtgactttg aggaaaaggt ggaaaagatt 1020

gcgcgtagca cgatgaacaa gaatgtgacc aatctgtcgg gagtgccttc gtggatgttg 1080

gctgttgtca gacatatcat ggaaatcaag ggcacagata atctggcgga ggtatggcct 1140

aatctggaag tgttctttca tggaggagtg gcatttaccc cttatcgcga acaatacaag 1200

cagattatcc gcagtgataa aatgcactac atggagactt acaatgccag tgaaggtttc 1260

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gcagacgtgg agctgaacaa gaactatgca atggttatca gtacgtcttg cggtttgtgg 1440

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acgggccgca ccaagcattt cattaatgct tttggtgaag aactgatggt ggacaatgcc 1560

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gtggcccgtc ctaacctgtt ccatgattgg ttgaaagaga aaggtaagct gggaggacaa 1860

cacaaagtac ctaggctgag caatacacgt gaatatatag aagaaatgct aagcttgaac 1920

aagtaaagaa atgaattgga atagacataa attacctgct ttgctgatgt tgatgattgt 1980

ggtgtactca tgcgccagca tgggaaaccc cgatggtggt ccgtatgatg aagaaccgcc 2040

aaagtttatc cggagtactc ctaaaccatt tgccatcaat agtaaagaga aaaaagtaac 2100

tattgaattt gatgaattta tcaagctgga aaaggctgcg gagaaagtgg ttgtatctcc 2160

tccccagttg gaacagcctg aaatcaaagc cagtgggagg aaagtagtgg taggactggt 2220

ggattcgtta agaccgaata ctacttatac tattgacttc gcggatgcta ttgttgacaa 2280

caacgagggt aatccactag gtaattatgc ctttaccttt tctaccggta cgact 2335

<210> 6884
<211> 965
<212> DNA
<213> Bacteroides vulgatus

<400> 6884
caccattcga gcatcctcga cgagagagag cggaaaacga gactcgaact cgcgacccta 60

accttggcaa ggttatgctc taccaactga gctatttccg cgttttgttt taacgggtgc 120

aaagataagc cattttataa taccaaccaa actttacacc catttttta ttcacaatcg 180

taaaattccc tctatttcgg tcaattctgc atcagtaaag gccaaattat ccaacgcatg 240

aagattatct gccagctgtt ttacagaact tgcccccaca ataacagagg tcatccgttc 300

gtctttcaag acccatgcca atgccatctc agccaaagtc tgcccacggc gtacagccac 360

ctcattcagc cgaagtgctt tttccacttt atcttctgtc acttggtcta ctttcaaaaa 420

cccagtagca cgagccgcac gagagtgttc cggaatacca tgcaaatatt tattggtcag 480

caatccttgt gccaaaggcg aaaatgcaat aaagccggag ccttgttcag cggccaacgg 540

caatacctcc tcctccacag cacgatcaaa catactataa cgatattggc tgatcaaaca 600

cggcacaccg gcacttctca atatttcata agccaccttt gcctgcatag gcggatactt 660

tgaaataccc acatacaatg cttttccttg cttcactata tcaatcaacg cttgcatcgt 720

ttcctcaacc ggggtcacgc catcataacg gtgactataa aatatatcaa agtaatccaa 780

accggtacgg cacaggcttt ggtcgatact ggccattaaa ttcttacgcg aactgtttcc 840

cccataaggt ccattccaca tttcgtgtcc tgcttttgag gaaataatca attcatcacg 900

gtaaccttgg aaatgctcct tcagaatttt accgaaatta atctcagcac ttcccggaac 960

aggac 965

<210> 6885
<211> 366
<212> DNA
<213> Bacteroides vulgatus

<400> 6885
aatccattga taacaaataa gttaattaat aaagtttagc agaataaaat aggtcaagta 60

gctgattttc attatcttta atggtatctc accacacatt aaagcaatga acagaacagc 120

acttgaccaa tatgaggaaa tcgtaaccga tgctttgaaa agttgttcag caaagttacg 180

caaaagtttt aaaacggcat tcatccaaat catgattttg tatatgatac tgccaagaaa 240

gattaatttc acccaaatgg gccgttactc ggacagctcg gaacaacgct tccggcagtt 300

gttcgaacgt gagtttgact ggatgcagtt caatctcttc cttatgcggc agcggtttgg 360

agaaag 366

<210> 6886
<211> 643
<212> DNA
<213> Bacteroides vulgatus

<400> 6886
aaagccattg ccatagacgc gagctacatt tcaaagtcgg gaaagaagac tccttatatc 60

ggcaagttct ggtcgggatg tgcttctcag gtgaaacggg gactggaaat tctcggcatc 120

ggcattatcg acattgacag tcgggactgc atgatgctgc gtgcggaaca gacaccggac 180

aaggcgtatc tggaaaagca aggcgaagat tacaatcttg tggactggta tcttgacgta 240

ctccgcaaat acaaggacaa gctgctccgc ataacacgtt atgtcgtcgc agatgcctgg 300

ttctcaaagg cgaagttcgt gggtgaagcc tgcctgctgg gattccatgt catcagccgc 360

ctgcgtgatg atgccgcctt gtggtatgca catgacggtg tccgcacagg caagcgggga 420

cggccgcgta tcaaaggcga gaagattgat tttgaaaacc tcgaccttca gcgttgcgag 480

attctcgaca tcgaaggagg aagggcttac tcagtcaagg catattcaaa ggcaatgaaa 540

cgcaacatca aagtcgtggt ccattatccg gaatcgggag gacataaaat ctatttctcc 600

accgaccttg acatggcggc caaagacatc atcgaatact acc 643

<210> 6887
<211> 221
<212> DNA
<213> Bacteroides vulgatus

<400> 6887
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agccgctgac agccaggcgg gcacccacat aaggattgaa gtacttgccg gcagcaatct 120

gtcctgccgg agaaatcagt ttgccgatac ccgtgccgtc cagcgaatag gaggcaccaa 180

gctggccctg gaggaaccag ttgtcatccg tactctgagc g 221

<210> 6888
<211> 1323
<212> DNA
<213> Bacteroides vulgatus

<400> 6888
ataaaactat ggaataagag agcgattttt cacaaggtac atcattttga ttcttatttg 60

ttcatgctta ccaaatatac cgtttttaat tatatcacaa ctaaaaaagt ttcccggttt 120

acaagcgaag ataatgttcc cgagatttct gatgaatata ctccttatga taaattgata 180

gcgaaagatt tgcaattatt aattgatatg gtagtgaatg agatgcctcc taaaaggaaa 240

atgatatata agttgagtcg gataaaagga ctttctaacg aacaaatagc agagaaactg 300

gggatacaga aaaaaacggt ggagaatcat ttgaatatcg ctttaaatga actgagagac 360

gctttggctc tttctatttt agtttattta atactgtcgg tttaggtata tcataagata 420

gaactgtctt ttttatataa aatgtgaaaa tgaataatta tatacataag ataatagact 480

ttttctttca tcatgaagtc tctgatgaga taacagaacg tgtttataat cgtatggttt 540

ttcctgtgga agataaagca agagaagaag ctgtttcaca aatttgggat aaactggacg 600

atgcttcttg ctctgacgaa aaaatagaga aggcttttta taatttggag acctctttag 660

aatttaaaaa agaagaacag actatcgaat ttgtacatcg ggaacatata agaaatacga 720

aaagaataaa ttgggggaga gtagctgcta tttggactat tcctttcatt atggtgtgtg 780

tttcggctta ccattattat tctgcaaagg attatgtgaa ggagacgttg tctgaagtga 840

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cttttattgt cactaccaac catttagagt tggaagtgct tggtacgaca ttcaatattt 1080

cggcgtatcc ggacaataat cagataatgg ctacattgga aaccggcagg ttacaggtaa 1140

aggtaaataa acaaccggat aaatattttc tggaacccaa tgaccagttg atatatactc 1200

cttccacagg gacagtacag cagcataaag tgaatgctgt ttcccactcc gattggcgta 1260

tgggagggtt gttctttggc aatgtgccgt ttaatgatgt tcttcatact ttggaacgtg 1320

tgt 1323

<210> 6889
<211> 690
<212> DNA
<213> Bacteroides vulgatus

<400> 6889
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cgttaataaa tctaatatga aatgaacaag aaatttattc gagtgttggg gcttggtgtt 120

ggtttatttc tggccggcag cctctctgtt aatgcacaga aagtttcctt caatggggaa 180

cgtctttctt taaagcaagc gtttgagaaa attgaatctg tttcgaagta taagattgct 240

tataacactt cacaactgga tgtcaataag caagttgtct tgaatcaaaa gaatcaggat 300

gtattgcaaa ttctgtcgga tttgctaaaa ggaactaatt gtgtctatca agtgaataac 360

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aaagattcgg ccggggaacc tattattggt gccaatgtaa ctttaaaagg agatgccact 480

gtaggaagta ttacagatat agatggtaac tttgatttgt ccgttccaag caatgctact 540

ttgcaagttt cttatattgg ttataatact caagatattc cggtaggaaa taaatctttc 600

cttaatatta ctctgaaaga agatacagaa acactagatg aagtggtggt tgtaggttat 660

ggatctcaaa agaaagtgaa tctaacaggt 690

<210> 6890
<211> 222
<212> DNA
<213> Bacteroides vulgatus

<400> 6890
attcacttga tagacacaat tagttccttt tagcaaatcc gacagaattt gcaatacatc 60

ctgattcttt tgattcaaga caacttgctt attgacatcc agttgtgaag tgttataagc 120

aatcttatac ttcgaaacag attcaatttt ctcaaacgct tgctttaaag aaagacgttc 180

cccattgaag gaaactttct gtgcattaac agagaggctg cc 222

<210> 6891
<211> 578
<212> DNA
<213> Bacteroides vulgatus

<400> 6891
gtctcaaaga tgctaaccca caagaacgtt tccactactc aaatctacgc agatttggtc 60

aatgtaaaga aacgagagac agccaataag atttcactga aataaattac ggctatgaaa 120

cgaggaatca taacaaacaa cggacatggc atccatattt ctgatggaga agtatggatg 180

accgtttggg agattgccga cttgttctat acaacagttg gatcaatcaa ttcccgttta 240

aaagcaatat tgaaagccaa tgtcttaaaa aagtatgaca tctgccaatg tataaagttg 300

gaaaatggga atagtgccga tgtgtataat ctcaacatga ttatagccct atcctatcaa 360

atagacactg gacattctgc ttcattcaga aaatggctta tcagtaaagt tgcttccaaa 420

caaaagggca tatctctctt tattcctata agcgcagcta acatatataa ttgctaatac 480

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cagttgacct agaataatgc tacctttttgg tgacaaat 578

<210> 6892
<211> 1241
<212> DNA
<213> Bacteroides vulgatus

<400> 6892
tatataatct atttcttttc atttttattt caatttaaat ttagccaata ccgggttgct 60

gtcttctttc aaatcaggga aaggaggctt cgcaccttct tcaaagaact tgaaagcatc 120

taccaacata tagagataac cgttcttgca aaaaagagag cttatgttca tcggtatact 180

gaaatcaatg gaaggacaat atttgtctac atcattcttg aacaatttgg aataggtctt 240

agcttttcca tcagcaggac agaaaccgta tccgcttttt tcttcacctt gaaaataggc 300

atacaataag ccgctcttta atgcccatac atctgataat tgcttcttat taagaagttc 360

actcatagag taattattta ctcctgccca acatattgta agccattcat agtctgccgc 420

gtctggagac tgttttatga tatagaatgg acgcaaatct ttccagtttg ttgtacaaaa 480

gaccgtatcc acatgtaccg gttttaccca taataatgaa tcacttataa tgcccctata 540

ggccggagca gcttgaataa caatgcgggg accaattact tctcccttaa tgtcaaaatg 600

gtgattcttt aacctgaaaa tgacagaatc cgtatccaag tctcgaactg tgaaaaaata 660

cagactgtct ggattaactt tagaatgttg gtcataagga gcatttctta tataactata 720

aagctcggca tttttccaaa aagcaaatat gtcttttgat acagcctcta gttggtatgg 780

ttcagttcct agaaaatcac cgtttaatga gaatttttga taatccattc taccataatc 840

tgtaaccaat acatagtttt tatctatatt aaaaatcgat tttccaattt tgaaggcaat 900

ctctcccggg ccttgtcctt ttttgaagag tgatttcaca tattgaccac ttggagtata 960

tttatgaata ccatcactgc tatccaaata caaatttcct tcattatcct caaccggata 1020

tgtaagggct aaatcaggaa tcaacggttc ttccgaaaat tttacatatt ctatgctttc 1080

tacaaaatcg gacaacagtt gtggctcttc cgaatactcc gctttactta aatcaatgat 1140

gcgtggtttg tattcctgct gtatagcgtc aggtttactc ccttttttgtt ggcacgaagc 1200

caccaataaa aagaagaaaa tatagaatat gatttttgtt t 1241

<210> 6893
<211> 1522
<212> DNA
<213> Bacteroides vulgatus

<400> 6893
tggatacccc atcttcatct gtcattctta gttcaacaag tagcttttga ttggtgatta 60

caccatcatc atttttacta ggttcatcat catcactgca agaagcaaaa ctcacacata 120

cggctaataa agccattcca attaatctaa aagttctcat ttctgtttga tatttaagtt 180

attaattatg ttgattaaat cactggatat ttatctttgg ttatagcgtc taagtattct 240

gcttcttaat ctaatatcaa ttattatagc aataacacca aaaagcaata ttggagaaca 300

gaatgtaaaa agcatttcta taaaacttct aaggttatgt gttggaggat aataaataat 360

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<211> 1047
<212> DNA
<213> Bacteroides vulgatus

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tatcacattc caacagatta gaaacttaaa cagtcataag tatttagtag ttcttcctgc 180

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<211> 394
<212> DNA
<213> Bacteroides vulgatus

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tggtgacaag gacggaaggg gaggaaaagg gaacggcact cgccctggaa ccggcgcccg 180

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gggacgggaa cctgggcttt atcacgctga ttct 394

<210> 6896
<211> 476
<212> DNA
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ggacttggtt tcattgattt atatgacctg ctgttgacgt atttcattct ttcccaatga 180

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<211> 524
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<213> Bacteroides vulgatus

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<210> 6898
<211> 221
<212> DNA

<213> Bacteroides vulgatus

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acggcattgc atgaaaacag cagagaagaa ctttctggaa agaaagacca tagagcatga 180

tagttgcgta ttcgaatgtt gtcgaagcat agtagtatcc t 221

<210> 6899
<211> 244
<212> DNA
<213> Bacteroides vulgatus

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tataaattta aaaaactaaa attggttata cataatttat tgattctgag tgctgtgctc 180

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<210> 6900
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<212> DNA
<213> Bacteroides vulgatus

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<211> 709
<212> DNA
<213> Bacteroides vulgatus

<400> 6901

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catgatattc gggatggtgt tccaaaaaag aggcaaatcc ataaagacgg tgcaaaatac 180

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<210> 6902
<211> 1089
<212> DNA
<213> Bacteroides vulgatus

<400> 6902
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<210> 6903
<211> 20699
<212> DNA
<213> Bacteroides vulgatus

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<211> 363
<212> DNA
<213> Bacteroides vulgatus

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aaagttcaga atgataaaaa tgaaatgata gcatttcaga gtcttgatat actcttttgt 180

atttatttat ttattaatga tttccatttg ttgccttacg ctttcttcgt ggatggcttc 240

gaatactttt ttaatgaatt ctgaatccat gccgcacaat gaaccttgtg caccgcgctt 300

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tgt 363

<210> 6905
<211> 393
<212> DNA
<213> Bacteroides vulgatus

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agaaccccga ttgcgaaggc agcttgctaa actgtaactg acgttcatgc tcgaaagtgt 180

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<213> Bacteroides vulgatus

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atataggtaa ggataaggac ggcaaaatat actgcgccag cgagttgaaa gccctcgaag 360

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<210> 6907
<211> 394

<212> DNA
<213> Bacteroides vulgatus

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attgtgccat acggcaagta cagatactgt caaacagata ctatcaaaaa aataggtttt 180

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cctcaattta agtttgccta cccatttaaa ggag 394

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<211> 979
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<213> Bacteroides vulgatus

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tattacattt aaacaaatga aaagtttatg aggattcttc taaatcataa gacatggaga 180

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agcacgatga gacagtggc 979

<210> 6909
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atagaagagg atgtcaaagc ttcaacaaga cttttggcat cctctttttt atttcatccg 180

taaagatggc ttatcaacat gcggcacaac acgtcaccgc ccaagatgcc gacaagtacc 240

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<210> 6910
<211> 221
<212> DNA
<213> Bacteroides vulgatus

<400> 6910
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tctttcccaa tgagttttcc attgtcccgg agaggccgga acaggtttcc gcagcttttt 180

ccctccgctt ccggtaatgt gccggtggaa ttcccattat t 221

<210> 6911
<211> 221
<212> DNA
<213> Bacteroides vulgatus

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taatccaacg ctccgatgcc ggtcaccatc catgccgaac g 221

<210> 6912
<211> 608
<212> DNA
<213> Bacteroides vulgatus

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cagtttgtac aatggatatt gaaaataaag agtaatattg actcaggaac tttccgcccc 480

atgcaactgg ccgccgcaca agcttacaac aacagtgtgg aatggcacga agaagcgaac 540

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<210> 6913
<211> 359
<212> DNA
<213> Bacteroides vulgatus

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agatattacg gcaagaacta ttcgctgcag acgctccgcg aacgctcctt catcacacgc 180

gagggggtat ccatgctggg catcagtgac gcggcggaat ccatcggttt ccgcacatcg 240

ggagtgcgta ttaccctgaa gcaactggag gaagacgtgc cgcttccgtg catcctgcac 300

tggaaccaga accacttcgt ggtgtgctat gacatcagga agaaaaggaa cggatacag 359

<210> 6914
<211> 27075
<212> DNA
<213> Bacteroides vulgatus

<400> 6914
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ccgtcgaaca atatcctgat attgctccgc ccaccattca ggtaagtacc tcttattttg 180

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<212> DNA
<213> Bacteroides vulgatus

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attactttaa atgcaacttt aagacattgg tgaaca 336

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<212> DNA
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tttagcggaa cggccttttg ttatttacta cgtaaacggg ttacgtcaga a 351

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<212> DNA
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cagtcagact t 251

<210> 6921
<211> 606
<212> DNA
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<210> 6923
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cagaaagttc t 251

<210> 6924

<211> 251
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<210> 6925
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<213> Bacteroides vulgatus

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<210> 6927
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<212> DNA
<213> Bacteroides vulgatus

<400> 6927

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gccaggtatt ccggcttacg gaacatgata tccgtggcac attcgatctg ctgaaccgtc 420

caggtataac ccagcccgag agattccgga acgggactgt agcgtctggc aaagacatcg 480

agaactttat ggagcccttg cgggttgata cggtcagaaa gtttctgagc agtttcaata 540

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<213> Ruminococcus gnavus

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<212> DNA
<213> Ruminococcus gnavus

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ctattttctc agattacaaa atgaacctct tggaagtacg ggattcagac cgatatgtgt 420

tcaataatac agatgttcaa agtgtttttg aaattaccag ggaaatcttt gccggccatt 480

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ttggtcagat gacaggatca aaggaactga ttcgtatgag tagaaatatg gaggtaaaca 600

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<211> 1938
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gaaaatgatg catatgatac caatgctctt ttgaaggcac tgatgcagat tcaggatcga 180

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<211> 364
<212> DNA
<213> Ruminococcus gnavus

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<213> Ruminococcus gnavus

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<210> 7050
<211> 1269
<212> DNA
<213> Ruminococcus gnavus

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atatgaattt gcccagtggc tggaagtgac gaaagcagac ggagaagaag tacttacacc 180

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acagaccgaa tatgtatcga aggatgcaga atatcagttt acggtgacaa agaacaccga 480

actgatcgga gaattcaaag cagtggaagc accggatgtt ccgagtgcac agaaaatctt 540

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cagaatgcct ccagtatcgg cttctccttt tcaagacgga actgttttct ctgctccgca 540

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<211> 1618
<212> DNA
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cgatgcgaaa gacagtcggg gaagatcaag gacatcaggt actaagatgt ggaagaccac 720

ctgtctggag tgcaacatat tattggttct atcgtgccaa gaagacagga acggttttag 780

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aagagttgat tgaagagagc agagaacgag aaataaaagc aaaagaggat ttggacaata 540

aaaaagacaa aaagtacgag aaatacagaa aacgggacag ctatctggaa atggaaacag 600

aacaatttgt gttgagactt ccgaaacgga tccatgaaat caggcaggag ggaaatgcca 660

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tcctgagaaa gaagcaggat ccggagacgc cgttttacac catggaggta aacaatgggg 780

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<210> 7078
<211> 2262
<212> DNA
<213> Ruminococcus gnavus

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<213> Ruminococcus gnavus

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<210> 7080
<211> 814

<212> DNA
<213> Ruminococcus gnavus

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gactgtgcag cattattagc ttcattcttt gcagcgccca tgctcttcat tgtcgggaag 780

gccagaacat cacgaattgc tgcagaatct gtca 814

<210> 7081
<211> 2320
<212> DNA
<213> Ruminococcus gnavus

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<211> 800
<212> DNA
<213> Ruminococcus gnavus

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<212> DNA

<213> Ruminococcus gnavus

<400> 7083
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cttcagattg tgcaccggat ttgcctgatg cactcctacc tcgcttgtac cggtttttcc 120

attcccggct tatgctctct gtctgcgtcc ccacagttct gttatgatat agtacaggaa 180

tctttacctg ttatccatcg actacgtctt tcgacctcgc cttaggcccc gacttaccca 240

gagcagatca gctttactct ggaaacctta gatattcggc cgga 284

<210> 7084
<211> 818
<212> DNA
<213> Ruminococcus gnavus

<400> 7084
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agcccatcat cacatccaca tttacaagaa ataatcattt cggaattatc tgacactttt 120

aatactgcca tgcaaaccac ccactttcac ttttttcttg aataaccttg ttaaaaatgg 180

tatattatat tcaaaggaac aaccgcccac aaggggttga cctcatagca ttagtgacaa 240

atcataggat tgccaccctc ggcactcggt caaagtttag agggtggttt ttctatgctc 300

aaaacattat ctgataaacg taaatacgaa tgccagaatg aacattccaa atgccataag 360

atctttaaaa tcaaacggtt tcttgtccat cagcaccacc cccattctat gtagaataga 420

ggtcagccac cctgtaacac ggttgttctg ttttttatca tatcacgctt ttttgcatgg 480

ttcaatctat tttattcttt cttcccgatc tgcttaatgg tctgattcac atatgtactc 540

aatccagctg ttaaaattcc ctgtataatc gccgtgaata ccgccattgc gatctcctgc 600

ccggtactaa tcggacaaga agcaaacacc catactgcac acagggcaat gccaagcccg 660

cccaaaataa gcgggatgta cttatccttt actgtctgag actatttcag tccagttcca 720

ataaaataca gtaccactgc tacaacaatc agttccggtt ttacataatt catgatccgt 780

tccatcattc ctcacctttc ctctccaaat cctcaatt 818

<210> 7085
<211> 264
<212> DNA

<213> Ruminococcus gnavus

<400> 7085
tactttaaac caattcctta cgattggcag aatacttcga aaaagagttt acagtattca 60

gatgccacag gctgttattc tggatctgga ttccactctt cttgatgcat acggtaaaca 120

ggaaggcaga gcctttaact ttcattatcg gagcaatgga taccatccac ttgtctgtta 180

tgatggaatg actggggatc tgataaaaat ccaacttcgt gatggaacac agtattcctg 240

cactggagtg gttgacttcc tgca 264

<210> 7086
<211> 687
<212> DNA
<213> Ruminococcus gnavus

<400> 7086
tttaaacgga cggtatctat gcgttgtttt cgcatgtttg ctgataacgc caatcgtcta 60

aaccaattaa atatgttata cgcaagagcg tgtacctgaa gtctgttggc atttacgatt 120

ctagcatggc tacttacaga agcgaaatca aaaccagatt tgctttcttt gatgaagttt 180

tccatccgtc ctcttttgca gtaaaatttt atgagatact ctggtgagga atccatgttt 240

gtgacaacaa atgtgtacat gtaaaccatc tggttttccg gcttttcaac cttgcaaacc 300

acacgccttt cataaggcca tggacctgct ttgtacatga attcaccata aactaccgca 360

taatcaactt tgttattcct ggtgatttca tcaagctcat ccacaagatg ggatgctttt 420

tcacggagaa taccattctc cttcagccgg atgacatagc ttgtgccatt ttcctcgcac 480

tgcttgtaaa ggtcaggcgt agcaaaaccg ctgtcacccc gaagcagaat ttggattgtt 540

ggataatcat tcagatattc atcaagtatc agttgcagga agtcaaccac tccagtgcag 600

gaatactgtg ttccatcacg aagttggatt tttatcagat ccccagtcat tccatcataa 660

cagacaagtg gatggtatcc attgctc 687

<210> 7087
<211> 1491
<212> DNA
<213> Ruminococcus gnavus

<400> 7087
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acttcttctt gtgggtgcaa atcccagctt gattttttc atgattcagt ctcctttcac 120

ataccctttg tatttgtgta ttttgctttt tctttcaagg attttcttgt tgttttctaa 180

cttcagtata gcttcgcaga aactcaattt catccaataa ttaagtattt ttcacttaat 240

tattaactta attattgttt tttctttgta tctggttcat aataaattca gaacacaaaa 300

caacaattcg aaaggatcat atatgggaat tacagcaaag gaacttgcaa gaaaattaaa 360

tctttctgcc gccgctgtct ccatggcact gaaccacaaa ccaggagtca gcactgcaac 420

acggcagctc gtcctggatg ccgcagaaaa atatggatat gatttttccc ggatcgcgga 480

aaaacatacc acttccgggg cgatttattt tgttatctat aaaaaacatg gaacagttgt 540

tgcagatacc ccgtttttct ctcaggtttc cgagggaatt tcacagggat gcaaaaagaa 600

tgactatcgt ctgaagatca gctatattta tgaagatgag gatacgatca cgaaacagat 660

tgaagaaatt cagtattctg actgtgcagg aattattctg cttggaacag aaatggaagc 720

cggagatctg aaaccgtttt taaatcttcc gatcccggtt gtccttctgg atgcttattt 780

tgagacagtt ccctgtaact gcgttctgat caacaatgtg cagggtgcat atctggcagc 840

cagacacctg atccggactt gtaaaacaca gcccggttat cttagatccg cctaccagat 900

cagcaacttt gcagagcgtt cctcaggttt ttacaaggca gtgcgcgcgg ctggtatgtc 960

ctcctcccgc tcgatcgtcc acagcctgac cccttccatg gaaggggcat ataccgacat 1020

gctggaactg atcaaaaatg gagaagaact ggcctcttgc tactttgcag acaacgatct 1080

gattgcagta ggcgccatga aagccttaaa agaaagcgga tatcggatcc cgcaggatat 1140

cggtatcgtc ggattcgaca acctccctct tggtagcgtc gttgagcccg cactgacaac 1200

catccatgtc ccgaaacagt atatgggaga agctgctgcg caaaaactca tcgatctttt 1260

aaatacaccc ggacagcctc cgacaaagac agaggtgtct actatgcttg tgaagagggg 1320

gacggtgtaa gccgcccttc cctctgcgcg gggtcacgtg gaaagatgga gtgaaaacat 1380

cagtcatcct gcaggatgct cagatccatc tggtaaatat aatcttccgg taatctctgc 1440

tttttcagca tccccacaag ataaatcgga caatacagca ccttatcctt t 1491

<210> 7088
<211> 532

<212> DNA
<213> Ruminococcus gnavus

<400> 7088
gcagatggga acggtcacaa tggatcctgc aaatgaagga aacatctaca aagagggaac 60

agagatcacg gtgaaagcag agccgaagga tggatatgag tttacccagt ggctggaagt 120

gacagaagca gatggagaag aagttctgac accagtagaa ggcgctcagg cagaatacaa 180

atttcatgca gagtcagacc gtgtactgcg tgccgagttt agactggctc cggttccgga 240

aacatactac cgtgttgtgg tacagtccaa tgatgagaac atgggaaggg tttccatgga 300

taaagaggat ggcacataca aagagggtgc gacagcatct gtgaaggcag aagccaaaga 360

aagatttgaa tttgtgggct ggaaagaaaa aggacagacc gaatatgtat cgaaggatgc 420

agaatatcag tttaaagtga caaagaacat cgagctgacc ggagaattca aagccgtgga 480

agtgccgcat attccgagtg cacaggaaat cttagatgac attctggcaa ac 532

<210> 7089
<211> 284
<212> DNA
<213> Ruminococcus gnavus

<400> 7089
aatagcggct tttcttggca gccagctcac atacttccgg ctttacgccc cacatcacgt 60

cttcagattg tgcaccggat ttgcctgatg cactcctacc tcgcttgtac cggtctttcc 120

attcccggct tatgctctct gtctgcgtcc ccacagttct gttatgatac agtacaggaa 180

tctttacctg ttatccatcg actacgtctt tcgacctcgc cttaggcccc gacttaccca 240

gagcagatca gctttactct ggaaacctta gatattcggc cgga 284

<210> 7090
<211> 250
<212> DNA
<213> Ruminococcus gnavus

<400> 7090
gtagcgtctg gcaaagacat cgagaacttt atggagccct tgcgggttga tacggtcaga 60

aagtttctga gcagtttcaa tatcggagat ttcaaggaac gcgttgtcct gcatccggta 120

agaaagctgt tttttatcaa gcttataggc gagcaggtta tgaccgttca tgtaaaactg 180

aagacggaaa ggcggccatg tagggacacg aagatagcaa aggccaagtt ccctgtcgat 240

aaaatagaaa 250

<210> 7091
<211> 931
<212> DNA
<213> Ruminococcus gnavus

<400> 7091
ctctgcgacc aacaatctac gcaacatttc tgtctgtccg gtatctcctt tataaaattc 60

atacaaaatt tcagaaccgc cttgttccag aaatgtctgg atatttgctt catgatctct 120

gataaacgaa tcggagaaag caaaagtgct cttcatccat tcccagtgag gatcattttt 180

taatagttca gcataggcag actgaaaatt tgggtatcca cttaattttt ctttatttgc 240

tatcaaatac cgcagttgga aaccattttt cacttctgga agaaaacgta caacttcttc 300

ccaggaaaga aacaaatcta gtatatccat ccctactagg ccggaaatat ttcccaattc 360

ttctttcacc cacttagata atggtttgtg ggataaaaaa gccgcaactc tttccagcgt 420

ttcttcgcta gttaccttgt ccaagagtct ctttttcacc acttcctgca taactctcaa 480

ccgatcgtct acccttctat aatttagttt gtggtacaaa cggatatact ctctgtcagg 540

acagacagca aataatttta tttccgcaaa agtatactct ttttgtatca tatctgtctt 600

ttctatagca gaacattcct ttatttttct gcattccttt aaattttgaa aatttaatgt 660

atttagattg acatactcct cataaaatgc tttttgaaat aaaatagaat tccatggaag 720

ttcaagaaac agttctgtat tttcttcata caacttcaaa aagtgttttt tctgatgttt 780

gactgcataa agaagtactg actcctgata atatttcaat cggtccaccg cttttatggc 840

ataccggtaa acctcctgta tataccctgc tcttgtatag aaattccctt gcgaaatcca 900

tccttgtctt acaaatctgt ttaaatcaaa c 931

<210> 7092
<211> 377
<212> DNA
<213> Ruminococcus gnavus

<400> 7092
taatcggtcc accgctttta tggcataccg gtaaacctcc tgtatatacc ctgctcttgt 60

atagaaattc ccttgcgaaa tccatccttg tcttacaaat ctgtttaaat caaacaataa 120

ctgttcattc tccagccacc ttgtcaaaaa acaagatcgt atgcctttat gtaaacgagg 180

catgatttct cttaatagcg gataaagttc ttctgcattt ttaacaatct gtctgtatgc 240

ctctttactt agcatcggca attgaaactt tgacaaatac ttcaaaagtt ccaatacatt 300

cacttttcct gaatcctgaa agaagtgttc ttctccaatc acttctccta aaaagacacc 360

tgtaaaaatc ggttctt 377

<210> 7093
<211> 795
<212> DNA
<213> Ruminococcus gnavus

<400> 7093
ataaacgccg aagcggctat atcatttcca taactgctaa atggggaata aaataaataa 60

catagttatc tacagcagta catacaccac gagtccttat tagcagtcaa tactttctta 120

catatattcg gatgtgtata cagtccctat ttgtgaactt aacgggatag tttattttac 180

aatccaagta tttgtctttt cttaatttca aactcatctc tcgtaattat tccttgatca 240

agaagtgact tgaatttcaa aatttcatct gcaccactta cgttcgatga ctgaacaact 300

ggggaagatt gaaatttgta agagtctata gctgcattaa gtgaatctac aaaagaacca 360

atgcatcctt tatctatatt ttcgattttt atggcagatg caccatcttg tattgtaatt 420

gaaccgagta ataatccgcg tttttgtgag atgctgttga ttttatcgag cggcagctcc 480

ctttgcttta atccgtatag cattcctttg tctaagaaaa tcactcttct atctgttagt 540

gcaataatcc acgtgtttcc atcaagaaat ccggagatca gtccaagaac acgttcatcc 600

gggttgagaa tttctggaag atacgaaacc tctttcttgg ttccaaacat attgaatgta 660

ggtaattgct tcaattctct cattacgctt tgcttttctc tcatactaaa actccttttc 720

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aactgctaaa ttagg 795

<210> 7094
<211> 1506
<212> DNA
<213> Ruminococcus gnavus

<400> 7094
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gtctccaacc tttaatggtt ttcctgcact gtctactttt acatttttac ccatttttac 120

aatctcaccg gttccctcgt gtccgagtgc taccgggatc aggctaaatg gatctttttt 180

aaactcatga gcatctgttc cacagatacc gcatccttct acttttacaa gaatatctcc 240

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tgctacatgt gctgtctttg gaattccatt gctttctgtg tttgcttttg cagctgcagg 360

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aacacttgct gaattcattt ccatgtttgt ttcctcctat ttatacttcc tgacgaaact 480

gtctgcattc cattaacgaa tgcacaggct gtctgtcatt acgcaacgtc ttctctttgt 540

gaatgtgctt gcgcttgtga gtccttcgcc agttctgctt gcgatcgtaa acgtacaata 600

tccttctccg ccgaatccaa gggctgcata agatggtccg tttttcacaa gaattgctgt 660

atcgattgct tttgcatatt ttgtaatgtt atccacattc ttagagtgaa tgtgagcgga 720

atgtctgttg ccgtgttcca gccatactgc ctgttctacc gcatcatcaa aatctttcgc 780

tcttacaact ccaagaattg gcatcatcag ctcttctgca atcagaggat gttccttcgg 840

tccttcaaat gtaatgcatc tgatgttatc cggaactgtg attccaatca ttccaagaag 900

tgtctttgca tcacgtccta cacattttct gttcaaacgt ccgcctttta acacaacttc 960

tgtcagagca tcctgctctt ctttggaaat catgtaacat ccctgttcat tcaccatgta 1020

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aaggttgtta tcaaatgtac atccgtttac gatgtcttct gctgcttttc tgatgtctgc 1140

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agaaagaacc gctgtcacaa cccccggtcc tccggttgct gcgatcagat gaatgtcttt 1260

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atccggtccc ccaacttcaa cagaagcctc attgatcaga ttcactgcat aaatagatgt 1380

tttgatcgct gccggatgcg gattaaatac aactgtattt cctcctgcca gcataccgat 1440

cgtattacag agaacagttt cacttgggtt cgtacatgga gtgatcgctc cgatcacacc 1500

gaacgg 1506

<210> 7095
<211> 498
<212> DNA
<213> Ruminococcus gnavus

<400> 7095
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cagcttctcc tgttcttccg gatgagattt ccccggagca agtcctgtat gtcagtgctg 120

ccgcgggaac acagattcac gaactgaaag agctgcttgc aaaacagctc ggacagacac 180

caaaaacacg aaaaatcgtg ggagatctca tccatcccgg agactttgtc gtactggtca 240

ttcccattga caaagctgct ccgaaaggcc gtcttatcct gcctcagcag cagaccatcc 300

gggatattct cgatcacgga gcaaccgcaa ttgcagtgag agacagtgag ctttcagaaa 360

cgcttaagaa ccttggaaaa tcacctgctc ttgtcatcac agacagccag gtctttgatg 420

ccgttgccaa aatcgtacca aaagaggtac cgctgacctc tttttccatc ttgtttgcca 480

gatataaggg aaatcttg 498

<210> 7096
<211> 1279
<212> DNA
<213> Ruminococcus gnavus

<400> 7096
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ccttcataaa ctggcagatc ttctgtcatt tcatgaggtg gcagttggag gaacccttcc 120

ccagacagag tattatcgtg aaaagctgaa aagactgcat cctatgcaga tgctttcgtc 180

gaacatactg ctgccactat atgaaatttc tctttcttat atgacagtaa ggggaaatta 240

caggcaggcg aaaaaatatg ctttcctggc agagtacagc gaagtagatt ttgaggcaga 300

acttttatta aaggactgga ttgcggaaca gaatgccaga aaaccttacc gcaaaatttc 360

caatgtacaa attctggaaa ttcaaaaaat tgcgtatggg atactggata tccggtcgta 420

aaagtgttcc actttttctt atcctgagaa attcaggttg ctgcttagga aaaccggcca 480

ttgcgggctt gtttttcgaa agtgaaggtc aggcagtgta aaaagacaca cctacaagca 540

tggcttttcc gtttagagca aactttttgt aaagaacgga gaaaagatgg aacagttaag 600

ttttttagc attgaaaaga aaatccaaaa cgccataacc ctgttaaaaa tgtttgaagc 660

aaaagccata gagatgcatc cggaagggta ctatttatgt tttagcggtg ggaaagacag 720

tcaggtaatt tatgaactgg caaaacaggc aaaagtaaag tttcaggctt attataatgt 780

tacaaccgta gatcccccgg aattggtcta ttttatccga aaaatgtatc ctgcggttat 840

tatcaatcag cctgatacaa ccatgtggga actgattagc caaaagcatt atccgcccac 900

acgaagaatg cgttattgct gctctgaatt gaaagaaaga ggaggaaaag gacggtttgt 960

agtcactggt gtgcgttggg cagaaagcag gaaacgaaga aaaagaggat ttgcagaaat 1020

acaaggaccg tctgaaccaa aggttatttt aaacagcgac aatgacgaaa aaagaaggca 1080

gatagaaaat tgccagataa aaggaaaacg ggtgttaaat ccaatcttgg attggacaga 1140

tgatgaggtg tggcagttta tccatacaca tatccgaact tattgcagcc tttatgatga 1200

gggctttaca aggattggct gtattgggtg tccactggct tccaccaagc agcgggagaa 1260

agaactggcg cgctatcct 1279

<210> 7097
<211> 1136
<212> DNA
<213> Ruminococcus gnavus

<400> 7097
caaatttagg aggatggcaa aatgaataaa aatacagcgt taggagcaag tgaggttacg 60

aaaaacataa tttttcaagg agagatgcat aagaaatttt ttctgcttta tttaccggaa 120

tgtagaaacg aagatgtgta tcatcaggca ttgatctatt gtcttggaat cagtcgagat 180

acacgagaac atgtggaaga aatttatgat tttgaaacag gatgcgtcaa aacagaatgc 240

atgagtgccg gatggcagac aagtgggagt ctgaaaatca ttcggatggc atttaatctt 300

tactgcaatg gcacaccgac tgtatatgaa aaggaaggtg tagaaggtaa attaaaagag 360

tgtgagcatt atacggtaga ggatctgttt tgttgtgagt atgcgccata tttctggcag 420

gcgattcaac ttcgttatcc agagtattgc ggaatgtgag gtgaaacatg ttaaaaatca 480

gattacaggg aactaccaat gatattaagt ggttcaaaaa aatattggag agagacaaaa 540

ggattgctct tttggaaatt tcacaaccat ttccgaataa gggaacgaaa aaatattttc 600

gtgtgtatgc agaggtagaa agaggaacga aataagcgga gggaaagtta tgtgtaaagt 660

aatcgcagta gcaagccaaa aaggcggagt cggaaagaca acaacctgca tcaatcttgg 720

tgcagcatta gcaaaagcag gaaacaaagt gttgcttgtg gataatgatc cacaagggca 780

cttgaccata ggattgggat tttccaaaaa gcagagagtg acactgaaaa cagttctgga 840

aaatcagata gaggaactgg aacatccatt aaaaggtgcg attctgaact atggtgaaaa 900

tctggacatc ataccggcca ataaaacgtt aggaatgatg gggatttatc tgtcaacggt 960

agaagaaggg gaactggtac ttggtcaggc attagaagaa gtcaaaggaa aatatacgta 1020

tattttaatt gactgtggtc cgtcactggg ggcattgtca atcaatgcat tggtagctag 1080

tgacagtgtt ttgattccag tggaattgga taagtttgct acagatggat tggaag 1136

<210> 7098
<211> 1857
<212> DNA
<213> Ruminococcus gnavus

<400> 7098
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atgtgtatat ttttaaatct tatgttccca aaacagtacg gattaaagaa gcgcccaatt 120

ttggtttaag cgttttggaa tatgaaccaa aaagcgaaag tgtccggcag tacctgtccc 180

tgatggagga ggtggcaagt catgaataaa agaaaagcag tcatttctct tgccgggtat 240

gaggacattt ttgaggattc tatggaaaac ggggaaaggg aagaagttgt cagactcccc 300

atcagtcagt ttcatatgtt tcggaaccat ccttttcgtg tggtggacga tgaaaaaatg 360

gaggaaacgg taaagagtgt taagcaatat ggtattctga tcccgggaat tgttcgtccg 420

cttaatacgg gaggatatga agtaatcgca gggcatcgta gatggagggc ctgtgaattg 480

gcaggattga aagaaatgcc agtgcttgtc cggaacatga cagatgaaga agctacggtg 540

attatggttg atactaacat ccaaagagaa gatattttgc caagtgagaa agcaaaggca 600

tataagatga aatatgaagc catgaagcat cagggaagca aaggggaaaa gtttacggcg 660

gatttggtag gagaagctgc tggtgaaagt ggaagaactg tgcagagata tatccggttg 720

acagaattga ttgcagaact cttagatgct gtggatcaca aagtgatttc tatgaaagtt 780

ggagaaaaac tatcctattt atccgtggaa gaacaaggct gggtatggga ttgtgtgaaa 840

acgtcatctg tacagattca ggacagacaa gcagaatgtt tgaaagcgca gagcaaacag 900

ggattgctgt atccggccat ggttcaggat atcctgatga agaaaacaag gagccgggga 960

caggtgacga ttccagaaaa aaggattgca gattattttc cggcaactta caacaaacag 1020

cagatcgagg aagtgattta tctgttattg gaacagtgga aaaaacgaca ggaaggtgag 1080

aaggatggag agcacaataa aatttgacta ttttaggggg atggaagcgg aacagtatac 1140

gttctatcgg attccgaagg tcttgtttac cgcagaatgt ttccgctcac tttcctgtga 1200

agcaaaagtt ttgtacggtc ttttattaga ccgtatggga ctgagtatta agaaccggtg 1260

gtttgatgaa gaggacaggg tttatattat ctttaccgta gaggaacttg cagaattatt 1320

aaactgtgga actcagaagg ttgtgcgtct tttaaaagaa ctggatgtaa aaagtggaat 1380

tggactgatt gagaagaagc gtctggggtt gggaaaacca aatgtgatct atgtgaaaaa 1440

ctttatgatt caggaattga caagggcaga aaaacaggat ttagaggcgg aaacccttga 1500

aaatacactg aatggtgaaa atcacaattc aagaaatgtg aaaatcacaa ttcaagaaag 1560

tgcaaaatca caattcaaga atgatgaaaa tcacaattca ggaaatgtga aaatcacaat 1620

tcaagaaagt gcaaaatcac aattcaagaa tagtgaaaat catcattcaa gaatagtgaa 1680

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<213> Ruminococcus gnavus

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aacatacccg gaggaatata ccggagggaa aaactggaca attttacatg gagatacgct 180

gaaactggtg aaagcatttc agccggggat ctttgatgca gtgattaccg atccgcctta 240

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<211> 278
<212> DNA
<213> Ruminococcus gnavus

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atcaccggca cttcattcag cacttcctgt tttggattca cagttacata aatcgtcttt 180

gttgtacttg ctccctgact gtctgttact ttatacgtca cttcatagat accaactttt 240

gttgtatcca cttcattatt caacacttca atacttcc 278

<210> 7112
<211> 757
<212> DNA
<213> Ruminococcus gnavus

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cagaaatccg ggcagaggat gaaaagacaa agaggtaagg cagtatggca attggaattc 660

aggatcagta ttttggtaca gagattgaga tgacagggat caccaggcag agggctgcgg 720

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<212> DNA

<213> Ruminococcus gnavus

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ccgacaacgg ttcgttccag aaaaaagaga gccctggaga agatgcgagt ggttcttcag 180

gaagtggagg tataaggatg gaaaataaaa gagacagaca ttttacagaa gaggaaataa 240

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ctctcttctg tccaagaaat ttctcatg 568

<210> 7115
<211> 310
<212> DNA
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agataaattc aaggtatctg taattcgcag atttcaggat tgtgaataac tgatataagc 180

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<210> 7118
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<213> Ruminococcus gnavus

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acaaactatt accaacgcat gtaacgctat acatgtgtag atgagagacc aacccgtgtt 180

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tgaaagacgt gataagctgc gaaaagcttc ggggaggagc aaatatccat tgatccggag 300

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<210> 7119
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<213> Ruminococcus gnavus

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<213> Ruminococcus gnavus

<400> 7121
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gttatagtta cggccgccgt ttactggggc ttaagttcaa agcttcgcct tacgactaac 120

ctctcccctt aaccttccag caccgggcag gcgtcagccc atatacctca cctttcggtt 180

ttgcatagac ctgtgttttt gctaaacagt tgcttgggcc aattctctgc ggccactttt 240

acatggcact ccttctcccg aagttacgga gtcattttgc cgagttcctt aacaatgctt 300

ctcccgtcgg ccttaggatt ctctcctcat ccacctgtgt cggtttacgg tacgggt 357

<210> 7122
<211> 1220
<212> DNA
<213> Ruminococcus gnavus

<400> 7122
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taatgacatc tcttgttctg gataacgttt ccttataatc ttttaattga atgacaccgg 120

aaacatccgt atccatttca tgcaatgcct ctggcttaat aacctctttt cctccaaaca 180

caactacatt gaaaagatcg gcaaaccgtt cattattccg ccaaaaatat ttaaatataa 240

tatctgcttt tgtatgttcc acgtaaattc ctctcttttc tacaaccagt cactctcttg 300

ttacgattat tatatcaaac ttcataggac ctgacaaatt gaattttcta tgatatttca 360

gagaattcct ctccctccat tctttcataa tcacactttt ccggggatat tggacggaag 420

accgatgctt gcaggtattt tccttcagaa gcaattccat gatttccacc tagagaatcc 480

aaatactgct cttttccttt ggtagccgag atatagatgt atctgctctc tttttgaaac 540

cgtccacttg gaatgttccc aaagtaatca cgactgatta acaatgagat gttgagtctt 600

cctgcttttt cctttaccat acgaaaaaga agcttaaaca tctcctgttc caatctgtct 660

gaaatccctt ttacataggc tttttccaaa aacagaacca gttgctctgg tttctttttc 720

tttcccgtat cctttgtaaa atctacaaat tgaaattctt tgttctccct ttccattttt 780

tcttcagatg cttttgtaag ccgaaggatt gccctaagga caatcttacc ttgataagaa 840

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gtcttgtaac tcaaacaggt tttatccggc agctccccaa tctgcatcac cggaagaaaa 960

cggtcttctt cccagatctt ccattccttt ctctgaagtt gcagattttc tgcccacagt 1020

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tgtccggtat ctcctttata aaattcatac aaaatttcag aaccgccttg ttccagaaat 1200

gtctggatat ttgcttcatg 1220

<210> 7123
<211> 594
<212> DNA
<213> Ruminococcus gnavus

<400> 7123
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agtggggaac aggaaaaccg atacttggat ttctggcaga gtatgacgct cttccgggtc 180

ttggccagaa gccggtctgc acgtatcagc cgctgaaaac gccggggcac ggatgcggac 240

acaatctgct tggcacagcc tgcgcggggg cagcctgtgc cttgaaagag cggatggaaa 300

aagcgcagct ttccggaaca atccgggtgt atggctgccc ggcagaagaa atcatcatcg 360

gaaagatcca gatgaatgaa gcgggggtgt ttgatgatct ggatgcggcg atcacctggc 420

atccttttga ccggaatcgg gtcagttatg acatctggca ggcgcaggat atgaagaatt 480

ataagtttta cggagtcaaa gcccatgcct ccaaacatcc ggagcttgga agaagtgctc 540

tggatgccgc agaactgatg aatgtgggag tcaattacct aagagagcat gtgg 594

<210> 7124
<211> 229
<212> DNA
<213> Ruminococcus gnavus

<400> 7124
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tacctacagg ccctggcatg ataaaacaac tgggaagacc ttcctgaagt ttgagcagag 120

caagtgtctt cattactatt tctattttat cgacagggaa cttggccttt gctatcttcg 180

tgtccctaca tggccgcctt tccgtcttca gttttacatg aacggtcat 229

<210> 7125
<211> 264
<212> DNA
<213> Ruminococcus gnavus

<400> 7125
tactttaaac caattcctta cgattggcag aatacttcga aaaagagttt acagtattca 60

gatgccacag gctgttattc tggatctgga ttccactctt cttgatgcat acggcaaaca 120

ggaaggccga gcctttaact ttcattatca gagcaatgga taccatccac ttgtctgtta 180

tgatggaatg actggggatc tgataaaaat ccaacttcgt gatggaacac agtattcctg 240

cactggagtg gttgacttcc tgca 264

<210> 7126
<211> 426
<212> DNA
<213> Ruminococcus gnavus

<400> 7126
tgttgagaca gtgcccaaat cattacgcct ttcgtgcggg tcggaactta cccgacaagg 60

aatttcgcta ccttaggacc gttatagtta cggccgccgt ttactggggc ttaaattcaa 120

ggcttcgatt gctctgacct ctcctcttaa ccttccagca ccgggcaggc gtcagcccat 180

atacctcacc tttcggtttt gcatagacct gtgtttttgc taaacagttg cttgggccaa 240

ttctctgcgg ctcttatttc taagagcacc ccttctcccg aagttacggg gtcattttgc 300

cgagttcctt aacaatgctt ctcccgccgg ccttaggatt ctctcctcat ccacctgtgt 360

cggtttacgg tacgggtaca ttaaacacaa tagcggcttt tctcgacagc cggtaagcat 420

gcttcg 426

<210> 7127
<211> 449
<212> DNA
<213> Ruminococcus gnavus

<400> 7127
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aaccggtttc cagtctgtat caattttata gcccagattc aaaagcacat ttaacaattt 120

ttccgtatgt tgagcatcaa aatttatatc tatatctcta tgaattcttg tttgtttacc 180

agctaaaata tctacacccc atccgccatc caaccagtat gtaattccag tattttcgaa 240

taattctatt actttcatta aatcttcttt tgttgttatt tcttttctac ccatacaaag 300

tctcctttac aacttctata taattgttta gttaagtcaa tatcaatatc taattgccaa 360

ggctcaaaat caaaaatcat ggtcatcaca ctccttttta aaattccaat ttgttattct 420

cattttacca tactgctcct gtgttttct 449

<210> 7128
<211> 480
<212> DNA
<213> Ruminococcus gnavus

<400> 7128
gaaatttgtc tttgcgtgta tctcctcctc aaactgaaac ctgcttgact ttatcgtaag 60

cctgagtaaa ttataaaaac gccaaataaa aatactaata aagcaacaac ctctatacga 120

aaatcaaagc atttgaaaac ctcatttcca tatttttcat tcttaaatac agaaatttct 180

tttccaacct tcctctttcc caatgataaa aagaaacaac catgtgcagt ataatacttt 240

ttgtttttaa tcttcactat ataagcatgc tttttaacat taacaccacc tactgaataa 300

ccagcatttt gttctacaat gtcgattatt ttccctttgc atttttcgcc agtaaaaaca 360

accctatatt ttagatatag aactaatagc gatgtgatta taaaaatact ccctaaaagc 420

cacatttaat acactcctat aattaaatct tattcttatt aaattcttta ggttagaatc 480

<210> 7129
<211> 626
<212> DNA
<213> Ruminococcus gnavus

<400> 7129
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aattatgagg gttcatcaag aactcaactt ttttggtggc gatgcgctca gggggaacac 120

ccgtacccat cccgaacacg atggttaaga cctgagcggc cgatggtact gcactggaga 180

cggtgtggga gagtaggtgg ccgccaaaac aaaaaaagaa tatgggctta tagctcagcc 240

ggttagagcg cacgcctgat aagcgtgagg tcggtggttc gagtccactt aagcccatat 300

ctataaattg aatatggggg attagctcag ttgggagagc gcctgccttg caagcaggag 360

gtcacgagtt cgaatctcgt attctccact tgattctatt aatgtagaat cagatgtacc 420

ttgaaaattg catacaaaga gaaatatctt atgaaaataa gagagttgaa ttgattcaac 480

aagacatccg aggtaatgtt aacaacatta taaaaaaaca aactattacc aacgcatgta 540

acgctataca tgtgtagatg agagaccaac ccgtgtttct tgtcagttgg ttatgctaat 600

aagagcgtat ggtggatgcc ttggca 626

<210> 7130
<211> 2171
<212> DNA
<213> Ruminococcus gnavus

<400> 7130
ccttggtgca tatctgtcat aagaactacc gcagcagatt ccatttatat atattttatc 60

agcgtctgta aacgctccca taagaatttc tgcaggtgta actgcctgtt cttctgtaat 120

aaagaacttc ttttccagta aaactgttcc acagaaatct ctcatgtttc ctttccatat 180

accgggaata cttattttat aaaaactatc tgtcctttga tcaaaagact gatccgcttt 240

tttcatccag tatttttctc tttcaatttc tattttctgc gtacataaaa catagtcttc 300

attttacat ttttccaact catctgtata aaaacccata tgccttattg tctcttcact 360

acaccatgct ttcaccggcg ttccctccac agcagtctgg atcagcccga ccgggacatc 420

atttttttct cgaagagaca atgccataaa cagtcctaaa gcgctgaatt caaggaccga 480

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atattctttc ggaacatcaa actttctgat aaacgaatca tttattttct ttatttcatc 600

tgcaaaccgc tctgttacaa attttattcg caattccata ttggactgac cgcccagaag 660

aaatacatcc ccactcataa tgtttctaat tacacgcttc tcgtcaccgt ttatttccat 720

acaatacgga ccaccaaccg gaagatccgg aagttctgcc acaaacattc catgtgtatc 780

tgccttagta ttaaacttcc tgccatcgag tattcccgtt actataattt cagggctcgt 840

ctctccccaa atataattcc tttttcctcg ttgcaatacc atcccatcac tgaacaaata 900

tgataacttc aatccttttc cccctagcga tattttatca tgcgtctata attccccaaa 960

aagctggttt ttcgttacag gcatcatcaa atggcaacgg catctgaggt ctgtttccat 1020

cagatccacc tcctaccaaa gcagcttcct gtagccacga aactgagtca tgggtgcccc 1080

agaatgtgat acctgtaata ttaattttat cttccttatc aagactataa attgttcgaa 1140

acaactcttt ataccttgct ccctctctct ctaactccaa ctcgcggtct gatccgtcat 1200

aacttttgct tgactgcata tcaaattccg taaactgaat ttcatttaca atagatgaat 1260

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gcattcccat cccatcaata cgtgctccct ttgtatcctt aatctgcctg agcaaaacac 1380

aaatagcatc ccttttacc ggatccgcat cattgtaatc attataaaat aacttgatat 1440

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gaaaaatatt ataccaaccc gtattcttgt tattacatgt atagcgcact gatcctgggt 1560

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ttgtatcatc tggatttttc tcattatgtt tttttataaa atccataatt ttatctgcct 1860

tgctgaaatc aagtgttaaa accggatcgc cattttcatc taaacatata cttccttcag 1920

tatcaacact gaatacagga acatctccca aaattatttc tggtttcatc tcgttttcac 1980

atgtaatact attatagtgc tttattacaa gattccttat cttctcgtca tttagcatgt 2040

ctgacataat tgcaacgcca gccttcccat taattgctga tttctgttcc agacgttttt 2100

ttatcgacat tatatccttc atattatccc tcctgctttt tacatatatg tctaaatagt 2160

gtctactgat t 2171

<210> 7131
<211> 267
<212> DNA
<213> Ruminococcus gnavus

<400> 7131
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attttcttat tactgtcaaa gcaggatagc agacactttc gatacattcc tgtcttgtaa 120

ctcaaacagg ttttatccgg cagctcccca atctgcatca ccggaagaaa acggtcttct 180

tcccagatct tccattcctt tctctgaagt tgcagatttt ctgcccacag tttcatctgt 240

ttttctgaaa tcggaaaagc aagttcc 267

<210> 7132
<211> 772
<212> DNA
<213> Ruminococcus gnavus

<400> 7132
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ggtagagtcg ttagggaacg tcccagacaa aggctgccac aggcagccag tacgatgctg 120

gtgatcagca acatcttgtt tcgtttttc atggattcgc actccctcct aaaaggcagt 180

gcgtgtttcc actacctttg tattcactgc cagccgcttg ggggtctgga aatatcccac 240

acaggtcaca agcgtcaccc tggctgtatc ctgaccctgg ctctccctac tggaaaaaca 300

gggatcatct gcctgcagat acttccagcc ttccacctgc agtttccgga cacgctccgg 360

cgtatacaga taggcttccg gatttgctgc cagaaacgca tcgttcgtga attgtttcag 420

gctcccgaac atctgtccgg aagccatgtt gtgggcaaac agatacacct gactgtccga 480

aaacctggct ccggcaaatg taaaaatact ccccagcggg ctgtatgccc cttcaaaatc 540

tttggtcagg tattctgtat ctgtctgtcc cgtcaggatg gggctgtcta ccccaatctg 600

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cgtacgttcc atgggatctg ccccctggct gacagtctct tgtaccacca gtttctgcag 720

cgcctcccct ttgactttga tctcctggaa tggttcctgt tcccggtatg cc 772

<210> 7133
<211> 708
<212> DNA
<213> Ruminococcus gnavus

<400> 7133
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atagaagtca cagaaatttt atgatttgtt agaaaaaaga tgaagtaggc acaagtaata 120

ctgttccgaa tttcggaaca acagaataag gagaaaaaaa tgagagatcc attgtatttt 180

tatggagatg aaccatatga agcagatgaa aatgcaatac tgattccaaa ggaattggta 240

tttacagaag catttgcaaa gctacccgga gacgcacaga tcttatattt tgtaatgttg 300

gaatatctga atgatgcaga agagaaaggg tggattgatg aagaaggaaa gctctatatt 360

gagtttccaa tccaggagat tatgaatcta ctccattgca gcgaaagaaa agcaatccgg 420

ttattggaag aattggatga acaaaaaggg cttgggttga tcaagaaaaa aacacagggt 480

ggcaagaaac caaacaggct gtatttaaag ccacttgcaa aggtgttaaa ggaactgaaa 540

gaaaagtaat gttccgaaat tcggaacgga acaggagcag atatggggaa actatcaaaa 600

cacacgagaa aaagacttat caagttattg acagcaatgg ggatgtttgg actgatggca 660

gtatgggatt gggcaatccc gcaaaataca gcatggaaat tggtggtc 708

<210> 7134
<211> 229
<212> DNA
<213> Ruminococcus gnavus

<400> 7134
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agcaatgact gcctatatga aactcaacgg tatccgtatt tttgattatc ccactagttt 120

ctcccagccc cttacggaac aggtccgtca gaatgcggaa aagattgctc acgaaaatgg 180

aatggaaatt gagttcatcc gaaaactcca tgcttttcga aaagatgac 229

<210> 7135
<211> 229
<212> DNA
<213> Ruminococcus gnavus

<400> 7135
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ttcataatcc tcggatgccg gcactgcact caccttgatc tcggttcctg cctcgtaggt 120

atcctgctgc ggttctactg caacgcttcc catcttctca tcatttgctg caacagagaa 180

tgtatatttt tctgcaggga tcttttcaaa gtttgcagtc agatccaga 229

<210> 7136
<211> 611
<212> DNA
<213> Ruminococcus gnavus

<400> 7136
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ggcttgtttc cactcataag agcaggtcac cagcgtcaga gttttctcac aacctatgcc 120

atctacccct gtttcaaaca acgacagcgc ttttgcctgc gctacataag cctccaattc 180

ctgtggactc tgaaaagatg tcctctggaa gtcgaacatg gacacatcgg ctttcaaaac 240

tgccgctatc cggtactcct ccatccctcc cggtgtctga aagaacaccc tgggatgtgc 300

tttccagtaa tcataggagg cgtactgatc cagattcccg aacattgccc cgctgttcat 360

gttgtgaccg tagatggtca gatttcccga ttctcccaga atacagtctg cctggaggaa 420

caaacttcca ttgatgtcgt agtttccccg gtaatccctc ggcagataat actccggttc 480

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<210> 7137
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<212> DNA

<213> Ruminococcus gnavus

<400> 7137
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acttccggaa attcagatag agaaatgcct ctttatcaat ttcccgataa tagattgtgt 120

catccttttt tgccatctct ttgtacgctt cgctttgttc tttactcaaa aattggatct 180

gctttttcgt ttcaatcgta aaataggttc gtttttcttc gtcaaatatc acttttaccg 240

aatgatgata tccgtcttct ccagctaatt tttccatttc cttccaccgt ggtgtctgga 300

atggaattgc cttttgatca aaaaccggat attgcccctc gatgaaaaga atacaatcct 360

tccgcctcat tcttttcaca gccgccggtg tcatcagact tcttcctaat ttctgattct 420

gtatatttgc atttccatgg gctccatagg tacggccatc attccgcacg tcaatggtca 480

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gtctgacatg aatcggaagt gcccctccat actcatgatc tgcagcatga atcagtacat 780

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gcattgcgtt taccatcaaa atgacgcagc tgacggtttc ctgggcttcc atattgcctt 1020

ttagtttccg gtaatcacgc actggtggat aatctgcacc atattttctg gcaagatcat 1080

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ccaatgctaa aacccgtggc aatgtggccg cctgatattg gtccggatgc tctttttct 1200

cccgttcttg ccgcagccat tcataggaga aaagagacat cagatacaag ctcactgcct 1260

gatcccagaa aggatctccc ttcatcgcat ccggcggttt taccgcctcc tgcagattgg 1320

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attcttccgg attgatcagg ttaaacactt tgattgcaac accttgattc tctaaatatc 1440

ttcctgtttt t 1451

<210> 7138
<211> 1418
<212> DNA
<213> Ruminococcus gnavus

<400> 7138
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ctcagatcca tactccacac cgatctgtcg gttgcgataa tagtccataa gatatgttac 180

aatgccaatc catacaatca gcgcaattcc aagaaacgta aaggtcagat cgttccacca 240

gttttgaagt ggatggagaa tcacatacag cagtttgtcc tgccagtttg ccaatgtcac 300

tccatctaat gttgtcaaac cacttagaaa gtaagagata acaagcaatc ctaccagaag 360

agctgccagc atcccccatg gcaattttcg cttttctacc atacattaca tccccttttcg 420

cggcatggct gggagtttct gcgggacttg tcctaccact tttttgattg cttctttctg 480

cacattttct ttctgcagca attctttctt tttaaacatg cgatccactt tctcatagtt 540

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tggaactcgg ctggcaaaca tccctttttgc ctctacttcc ggattctttt ctctggcaat 780

cctggattga tcgatcaggg tttccctatt gatcgtgatt tccacataat ccggatgatt 840

atggagttcc tgataccgtt cattgctgat ggatttgatg gaattttccg tttccaacac 900

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cccggatgca gtatccacat aagcctcttc attcattgtc cctgtttccc gatactgacc 1020

catgtcaatt gtctcgaagt ctttgatctc tttgccttct gacaggcatt tttcctgcaa 1080

cattcgatac cagtgttcta ccttgggaag atcggcgttt gcaacgacca cctggatttc 1140

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ggtaaggtta tttaagttct gcagttcatg ctccccgccc tgcattcttg ccatcagaaa 1320

ccggtcatac catccctgaa aattcagctg gtcttcccca taaacagcca gctgcacaaa 1380

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<210> 7139
<211> 550
<212> DNA
<213> Ruminococcus gnavus

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tgtttccact gttgttgtca tttccgccgt tgttatcatt tccgttgttg ttatcatttc 180

cgttgttatc gtcgtccgga tctgcttttt ctcctctgac cagaaccttc acatcagctt 240

tggctgttgc tccgtttgta tccgttacct gaatggtcac gatcacatcc gtatcgtttt 300

ccggtgttgt tacctttcca tccagtccga tgattccttc cggattcact gccacgatct 360

cgatcttgct tccttccgga acttccggca gaaccagagt ttctgttcct gctttcactt 420

ctgatggaat cttatggttt gccagaatgt catctaagat ttcctgtgca ctcggaatat 480

gcggcacttc cacggctttg aattctccgg tcagctcgat gttctttgtc actttaaact 540

gatattctgc 550

<210> 7140
<211> 470
<212> DNA
<213> Ruminococcus gnavus

<400> 7140
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ccaacaccat cagcaagaaa atccgtgcaa aaatccaggc aagcaggcgc tgggtagaga 120

aaatgaatgc acttatggag tctatgcaga cctccagcgg actgaagctg agcctgcgtt 180

ggaaaaataa aagagcagaa aaggaagaac agttagacac cagggctttg gtggaattat 240

tgcagaagga tgcagaaatc atgcgtacgg aagagataga aatgctctcc cggcatttcc 300

gttccaagat tgaggaagca aggaaaatcg caggggatat gggagctgtg cagtctttcc 360

atgcaaccat gcgtgaggtt ctggattacc ggaagtggtt cgaattccag ttggagtgtc 420

agaagacagg agagaagaag aaagaactga cagaccgggt cttctttacc 470

<210> 7141
<211> 511
<212> DNA
<213> Ruminococcus gnavus

<400> 7141
acttacatta tcctgattca acacaggttg aaaccataca tcatccatat gtacatccgg 60

tatcgctttc aaagtaacat ttctaaagat tccaaaaaag cggaaaaagt cctgatcctc 120

taaaaatgct gctgtgctca tcttgtgaac ctgaactgcc agtacatttc ccttttcttt 180

tatatacggt gtcaggtcaa actcagaagg cgtaaaacta tcttctgcat agcctacaaa 240

ctgaccatta agccacagat acatcgcttc ttctacacct tcaaaacaaa tatggattct 300

tttcccacac atgctcttat ccaagtcgaa gtatttgata taagaaccta ccggattgta 360

ctctgcttct gaaaacattc ctttttctgc tccggttgcc tccatgctgt aagctcctct 420

gtggtactct tttccttccc acggatacat ggtgttaatg tagcggatct tatcatatcc 480

agccagttca atatgtcccg gaaccataat t 511

<210> 7142
<211> 949
<212> DNA
<213> Ruminococcus gnavus

<400> 7142
ggataccaag aatcctttag acggtgcagt gtatggcatt tatacagaca gcaagtgtga 60

gcatcttttg atggaaatgc cagtcaccgg ggaagaggga aaagcagtca gtgattattt 120

tgaggcagcc atcaaaacag tatatgtgaa ggagatcaag gctccagaca agtatgcaca 180

gagtgatgtg atccataagg tggatgtgga agccggaaag acggtcacca tctcagcaac 240

cgatgagagg gtgaaaggtg ctgtccatat ccaaaagatc gataaggaga cacaggcttt 300

tcttccccag ggagatagtt cccttgccgg ggctgtgtat ggtctgtatg ccagagagga 360

tatcgtccac ccggatggaa agacgggggt tctgttcaaa aaagacagcc tcatcgcaca 420

gggcgtgatc aaggaggatg gtaccttaga tttttccaaa ttgtatctgg ggaaaatgta 480

tgtgaaagag atcactccgc cggaaggcta tacggtagat ccaacagagt atgaggtgga 540

ccttgcttac gaaggacagg aagtggcaga ggtaaccagg gacctgacgg tacaggaaca 600

ggtgaaaaag caggcgttcc agctgatcaa gatcagcgaa gatggagacc agacagaaac 660

agaccttgtg gaaggagcag gttttaaggt gtatctgatc agcagccttt ccaaagtaga 720

gagtggggaa ttacagccat ccaatgggga tcagtttact gcggaagatt tccgaggtta 780

tgatttcagt aaggaagagg tggcagtgac ctatgtggat ggcaaggctg tcccggtaca 840

ggagcttatt acagataaaa aaggatatgc tctcagtccg gagcttccgt atggtcttta 900

tgtggtagag gaaagcaccg taccggagaa cttgaaagcc atcgatccg 949

<210> 7143
<211> 327
<212> DNA
<213> Ruminococcus gnavus

<400> 7143
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tttttgttaa aaatcgtgaa aaaggatgca cagacaggca atccggtttt aaaagcagga 120

gcttcctata aaatctttga catggaaaaa gaggaatatg tagagcagac ggtattctat 180

ccgaagaaag agaccatcag cgtttttaag accaatgagg aaggctatct ggtaacaccg 240

gaagaattga aatgttctac ttaccggatc gaagaagtga aagcaccgga agggtttgta 300

agacagggat atgagagttc cttgtat 327

<210> 7144
<211> 316
<212> DNA
<213> Ruminococcus gnavus

<400> 7144
ccggggcagt catcgtggaa gtcgagcagc caaacgatga gcaggtggga agcctgacac 60

tgaccaaaac cggggaacag ccagtggaag tgaaggggga ttccctgctt gcaaaggcaa 120

agagactggc aggaaagatc aaagatgcag tgaccggaga ggataccgat accggagtgt 180

tccatgattt tgtctatgaa gaatccggtg tggaaggggc agcctttgaa ctgtatgcca 240

aggacaccat ttattccccg gacggagcaa aggatgagca aggcaatccg gtcatccgtt 300

atgaaaaaga cgatct 316

<210> 7145
<211> 1226
<212> DNA
<213> Ruminococcus gnavus

<400> 7145
tggcaacttt agtgaccgat tcagaaggaa aggcagtggt aaataatctt ccattgggtt 60

cttattatct gaaagaaacg gtggcaggtg accatttcgt attgaacccg gaacagaaag 120

aatttaccct gaccgtagag gatgatactc aggcagttgt ttatgaaggg gttgcttata 180

aaaatgagcg acagaagatt tccatttctg tagaaaagaa ggatgcagtc acagaagaga 240

agctggaagg cgtgatcttt ggattgtatg ccaaagaaga tatcctctcc cagcagggtg 300

aggttcttgt ggaaaaggac actctgctgg agaagaaagc aacggatgag aagggacagc 360

ttacctttga cagcgacctc tatcatggga aatattatgt aaaagaggaa gtgagaaaac 420

cgggatatct tccaaatgaa gaaatctggg agatggatgc ctcttacaca gaccagaacc 480

ttgcagaaat caagctgaca aaagaagtgg aaaaccagcc gactgagagc caatttacga 540

aaaccgatgc aacaaccggg gaagaactgg aaggcgcgaa gcttcagatc atcgataaag 600

agggcaacat cgtagaagag tggatcagtg caaaagaacc acacgtagtt tatggactgc 660

cagaaggaac gtatatcctt cacgaagaac tgccgcctta tgcagagggc tatgtatctg 720

cagaagatat cgagtttgaa gtaaaagaag atggcagtgt gaccaaggtg gagatgaagg 780

atgattattc caaagtggaa atttccaaga cggatattac cacaggcgag gaactggaag 840

gtgccaagct gcagatctta aataaagagg gtgagattct ggaagagtgg gtaacggatg 900

gaaagcctca tctggtagag aaacttccgg taggggaaga actgactttg cgcgagatca 960

cagcgccgga aggttatgag attgcagaag atgtgaaatt cacattggaa gataccatgg 1020

aaatccagaa ggtggaaatg aaagatgcaa gaacaccgga aacaccgggt gtaccgcaga 1080

caggggatga ccactggaaa ccaatcctgc tgtttgttct tctgggagca tcagcagccg 1140

gactcatggc aaccatgatt tataagaaga aacatggaaa gacagaaaaa gcagatgaaa 1200

cgaaaaaaga agagtaggct gtggat 1226

<210> 7146
<211> 561
<212> DNA

<213> Ruminococcus gnavus

<400> 7146
ctctatgttg atcagggaat catcgcggga tgtgcaggtg gtggatttga aaatatctgt 60

gcagcagcgg atattataaa aggaagaaac atcggtgcgg atgagtttac attcagtgta 120

tatccggcaa gtacaccgat ttatatggaa cttgtgaaaa atggagcaat cgcagatctg 180

atggaagcag gaacagttgt aaagactgca ttctgcggac catgttttgg cgccggagat 240

actcctgcaa ataatgcatt ctctatccgt catacaacaa gaaacttccc gaacagagaa 300

ggttccaagc tccagaacgg tcagatttct tctgttgcac tgatggatgc ccgttcaatc 360

gcggcaacgg cggcaaacaa aggattcctg acaccggcga cagcaatgga tgtcgagtac 420

aagggacaga aatatcactt tgatcagaat atttacgcaa accgcgtctt cgacagcaaa 480

ggtgtggcag atccgggcgt agaaattaag tttggaccaa atatcaagga ctggccggaa 540

atgtcagcac ttccacagaa t 561

<210> 7147
<211> 754
<212> DNA
<213> Ruminococcus gnavus

<400> 7147
atgtgtatgc ttggagattg acacccacag acccgacacc aaaggaaaaa cgggaaaaac 60

cctcacttcg tgaactggaa cagcagataa gacgggatat tgaggacggt atcgacagca 120

caggcaagaa aatgacgctt tgccaactct atgccaaaca gaacttacag agggcgaatg 180

tgaagaaaag cacacaaaaa caacgggaac aactcatgcg gttattgaaa gaggacaagt 240

tgggtgctag gagcattgat gcgataaaac cctctgacgc taaggaatgg gcgttacgca 300

tgaaagataa aggcttttcc tataacacca ttaacaacca taaacgctcg ttaaaagcgt 360

cattctatat cgccatacaa gacgattgtg taaggaagaa ccctttttgat tttaagttaa 420

gtgaagtcct agaaaatgat accaaagaga aagtcgcatt gacagaggaa caggaacaag 480

ccttactctc atttatcaag acagacaatg tgtatcacaa gcattatgat gatgtgctga 540

tactgttaaa gactggactt cgtatctcgg aactgtgcgg actgacagta gctgatattg 600

atttcaagaa tgaagttgta attatcgacc accagttact aaagagcaag gaacagggct 660

attatattga aacgcctaag acgaaaagcg gaataagaca agtgccatta agtagagaaa 720

caatacaggc atttcaacgg gttatgaaga aacg 754

<210> 7148
<211> 457
<212> DNA
<213> Ruminococcus gnavus

<400> 7148
atatggtatg gacgatcttc tatgaccagc cgaacaaaag gagatgtaat cagatcacca 60

tggggctttt gcttcttcag cttttaaatc atatggaccg gatggagacc ggaacagctg 120

cttttgaccg ggagctgacg ggaagtgtat ttaattatat tgaagagcac tataaaaacg 180

gaagtctttc cgaactggcg gagatcatgg gatatgatgt atactggttg agccgggaga 240

tcaaaaaacg gacgggaaag acgtataaag agctgcttca gtcgagaaga atgcgtcagg 300

cggcatattt gctgaagaac agcaggctgt cggtggcgga tatcatagag tcggtggggt 360

atgacaatac cagttatttt tttcggaaat ttaaggagtg ttatggagtc agcccgaagg 420

ggtatcggga tatgtgagaa agtgaaagaa aagcaag 457

<210> 7149
<211> 397
<212> DNA
<213> Ruminococcus gnavus

<400> 7149
agtctgactc ccggcaatca gtttcatggc attcggagtt tgatattctt cggtaggctt 60

tgacgccccc taggaaattc agtgctctac ctccataaac ctttgccgag gctagcccta 120

aagctatttc gaggagaacc agctatctcc gggttcgatt ggaatttctc ccctatccac 180

acctcatcgc cacccttttc aacggatgtg cgttcggtcc tccattgcct tttacggcag 240

cttcaacctg gacatggata gatcacccgg tttcgggtct gcacatactg actctggccc 300

tgttaagact tggtttccct acggctccgc acctttggtg cttaaccttg ccagtatgca 360

caactcgccg gaccgttcta caaaaagtac gcggttc 397

<210> 7150
<211> 845
<212> DNA

<213> Ruminococcus gnavus

<400> 7150
cttttccgt caaataatgt gctgccttat attcatatcc ataaaaagcc cgattcgtag 60

acgttccgaa aaagtagaga gaagtttttt gtcctgtttc ccggatatat ttggcggctg 120

tcagtccaca attatctatc gtatcttcca aaaacacgat atccatagga ctttgttcat 180

ttgctttgcg caaagcctct atcgtagaat attcataaat cgcatatatg ttatctggct 240

gacacgcttc ctttcggatc ttctttcgta tatcatccaa aagcttgctt tctttctggt 300

aaaatattgc aattttcatc atttgtattc cctccccttt ttcttttaga atagcatgct 360

ccggtaaaac cacaaggttc tttgtttaaa ttgccttttt tattgcgtaa ttggctgttc 420

atggtatttt ttagggggca tgtcaccgac acacccccgc catcatcaaa tttctatgct 480

acaaatgtga aaaatttttc ttccacattc acacgacaga ctctgtcatt ttccagttca 540

cgatacagta tggaaaatac ttccactact tcctgaatgc tcaatccttg aatttctatg 600

tttcgaaaaa gctctcccaa acatacatcg gaatctctat atgcttgccg tacaaggtta 660

caggcatctt ctatcgtctt caccgtaata cagatttctt ccactatatg ctcacccttt 720

ctttttactg ccagctctgt tttagggcct tttagtaaaa tgcccatttt cagcatatcc 780

tgtttccagt cctgatagaa aggatattcc tgtttattaa catatttgcg aaacagtctg 840

tatac 845

<210> 7151
<211> 1036
<212> DNA
<213> Ruminococcus gnavus

<400> 7151
ctttcagcac atctgacaga tactggccct gatattttcc acctctcatc accacatgat 60

ccttataagc agcagaaagc tccgcagtcc atagtgtaac ctgcgttttt gtaggatctt 120

tttcctggtt ccttatcttt ttcaatacat tctttttcca tttctttaaa aatggttctg 180

cctcttcata gtcctctccc gttctgttat agtccttact tttttgtaca atgtttccat 240

ctggttcaat ttccatcgta taaaattcct tttccaattc ttcctgtctg cgtaagaaaa 300

caatataaga ggtttttctg ctgatccggt caaaatagca ttcctgagta cctacacaat 360

gatgcaatgc ttttccttct tttataatat cttcaatctt ttgaggaacc agcactgcat 420

atttttcatc tttcagtgac tgatagatgg gcgtgatttc cctacaaacc ttttccagat 480

ttggaaattt ctcccgtagt tcctctgctc tctgctttgt gtctatttcc tgcagggcta 540

ttaccgcctc atcatgcctt ctttctaact cccgtggtct ataaacgatg gagtccttta 600

gattttctcc tattttttt gccatggaca gataatctct ccatatcgtc aaaatcttct 660

ctacgggcag cccgctttcc ttttccattc ttcttaaata atggtaaatc tgctgtggcg 720

acatttgatt ttcaataaag gcaacatcta ttgtggaaat attatgtttt tcaaaataac 780

gaagtatatc ctctgaaatc cacttttgtg tattcttcat cttttgcagc caggataaac 840

cagctattcc gccgtccatt ttcaccaact gctttagcag gcaactattg attcccaaaa 900

tttccatcag ttttctgtga tttggaagtc ggctcttttt atggatgctt tggatcacaa 960

actttttcaa tcccgccttt gcagctttct caatagccgg acaatgataa cggtataata 1020

aatacgtttc cggttc 1036

<210> 7152
<211> 378
<212> DNA
<213> Ruminococcus gnavus

<400> 7152
tcaacataat catctttagt catgccaaat aaacccttta attcttttgt agttactccg 60

aatactcctt ttgtactcca acgcatcagt tgctgatata taatcattga aaacttgctt 120

ttgaatgata tggcgtcatc actaagtaag cgagtaaagc caggttgcag ttgaatcaac 180

aaaggaatat atttagctgc tatagtgacg taaactttct tttttgttgt tctaatcgct 240

gaaatcaaaa aaccgtcatc aaatatttcg tcatcaccga actctatcca tgaagccatt 300

gcaagttttt tgaacatacc tctaattctt gaataatagt gatgtgattt aaagcccaac 360

atatcaaaca ttgctttt 378

<210> 7153
<211> 238
<212> DNA
<213> Ruminococcus gnavus

<400> 7153

ccacccttt caacggatgt gggttcggtc ctccattgcc ttttacggca acttcaacct 60

ggacatggat agatcacccg gtttcgggtc tactccgact gactatttcg ccctcttcag 120

acttggtttc ccttcggctc caggccttca gcccttaacc tcgccagcca gcgtaactcg 180

ccggaccgtt ctacaaaaag tacgcggttc atcatataaa gatgttccac agcttgta 238

<210> 7154
<211> 416
<212> DNA
<213> Ruminococcus gnavus

<400> 7154
attaatgtga attacaatgt aataaaaaag taaacgcaaa atagcgagta ccttgacatt 60

tttaggcggc tgctttgcag ccaccgatat ttaagctttg cggatccctg ccggaagttt 120

tcctgaccag ggcagaagat cttccagaaa agaacaatcc ttatcattca tgtgtttcgg 180

aatctcttcc aggagatgct gcacataatc aaaaggtttc agattattgg cttttgcagt 240

ttctacaata ctgtaaatga ttgcggaaga tttggatcca tgaatcgtat cgatcatctg 300

ccagttcttc tttccgatac agaaaccccg gattgccctt tcggatgcat tattatcaat 360

cggaacatct ccatctgtga gaaatacccg gagatatttt tcctgattca gtgcat 416

<210> 7155
<211> 363
<212> DNA
<213> Ruminococcus gnavus

<400> 7155
acccgtaccg taaaccgaca caggtggatg aggagagaat cctaaggccg acgggagaag 60

cattgttaag gaactcggca aaatgactcc gtaacttcgg gagaaggagt gccagtgaga 120

gctggccgca gagaattggc ccaagcaact gtttagcaaa aacacaggtc tatgcaaaac 180

cgaaaggtga agtatatggg ctgacgcctg cccggtgctg gaaggttaag gggagaggtt 240

agcagtaatg cgaagctttg aacttaagcc ccagtaaacg gcggccgtaa ctataacggt 300

cctaaggtag cgaaattcct tgtcgggtaa gttccgaccc gcacgaaagg cgtaatgatt 360

tgg 363

<210> 7156

<211> 469
<212> DNA
<213> Ruminococcus gnavus

<400> 7156
atataaagaa acagaatgga attatacaga aaaggctgcc tgcaggaaaa cggggtttca 60

ttgtgcagaa aacccgctgg actgtctgat ttactatagc aatccggatt tagcacagta 120

ttgtgtggtt gaagttgccg gagaacgcca ggaagagggc gatgacagca aaattgcctg 180

cacacagctt cggattgtca gaagactgac gttattggaa cttttaatag aaggggttgc 240

atatatgctc cagtatccac acagaaggcc gagtaaaatc atacagatag aaaaaggaag 300

ttccatgggt ggatttacag tggtgcgtgg gaaacatccc atcggaaaag ggaggaaaga 360

tacaatcctt cttctcatca gggaagatat taagggaaat atcgttaatt tttcagtcat 420

cataattgac ggaaaagaat atgttccaaa tgtttattat gattttgat 469

<210> 7157
<211> 441
<212> DNA
<213> Ruminococcus gnavus

<400> 7157
agagattaca aaagaaaatg aaaatgagga agtttgaata tgaagtatct gtaaagattt 60

gtaaaaaagg ggagattttg gcagtttcat ttttcaggat aaaagaaatg cttgccggac 120

aagtgcagcc ggagatagtt gtattcttaa ataaaaagga gcgtacctat ctttcgtacc 180

ttccaagaga agcaaagtgg agaacagcca caattataaa gattatgggc tatttttatg 240

ggagttttta tcactgtacc aaaagagatt gggcattatt ccggaaatat tttgacacag 300

aatgtagcag atggacacct ttaaaagtta gttctatcag aagtattata gaagagtttc 360

aaacggatat tttatgggat aggatagagg aaaggcgcag acaagaaacc aatgaatggg 420

atcaggtaat gtcccaaatt c 441

<210> 7158
<211> 858
<212> DNA
<213> Ruminococcus gnavus

<400> 7158
caggagattc gggataatgc aggagggaga attacaatct ttggagaata cagatcttac 60

aatgaaaagg atggagaaag aaatcatttg aaattgtatg tatttgtaaa aggaatcagc 120

aaagctggtg aagcggatca aaacagaatt gatctgattg gatatatctg taaacagccg 180

ctctatcgag agacaccact cggaaaagaa atcacggata ttttaattgc agtaaacagg 240

aaacacagaa aaagtgatta tctcccggca atttgctggt attcgaacgc aaggctggca 300

gcagggcttc cagtcggaac aaaagtgaga gccatgggaa tgatacagag caggatctat 360

gtaaaaggag acagcgagag aacagcttat gaagtctcaa taagagagat ggaagtgatt 420

gaatagtgga aggttacgaa aaatacgaat ccaggatcca ggaactttta tttgatggga 480

tggatgtaca cgaagcatgg gtctacatga aagtcatgtt ccagatcgag aaaagtgaaa 540

tttgctttcg ggcatatctg gagagatcgg gactgatctg gtttgcggaa gcgggcagca 600

gaagacaggt caaggtaccg gatctgctgg agacaaagag aaaactggaa atgaatcgaa 660

cgaaaatttc aaagccgctc tgtaaatatc cggattgttt ccgatgtgta tatccggatt 720

gcacatgtaa tgaaggcctt acgaaaaaag ggaatgatga actggttcgg gagttggcga 780

agcgataggg gaaaaagatt aatggatgag gaaaacacgg agaggaaaag aagtgatttt 840

tgcgtatgta cattgccg 858

<210> 7159
<211> 529
<212> DNA
<213> Ruminococcus gnavus

<400> 7159
ccgtgtatta aagagcgatg cgtagcgtac aaggatggaa agtgtatgaa atacgacaat 60

gaagtggaga gggaaagtgg aagaacgaac atttgaagat atcctgtata tgattaaaag 120

atcgtgcgac aagaattttt ataaaggcac tgattacgat ggattaaaac cggagattgt 180

aagatgcgcc acaaacattt acatagagca gatgcgacag aacggaggaa aagaagatga 240

atagagaaat cctttttaaa gcaaagagaa aaagctggaa agaacttccg aaagaggaat 300

ggtgggttga aggatattta tttgatgatg gaatgccaga accgaaacat tattttattg 360

gcgggataat cgttaaaccg tatgaaggca cagcatgcga caaatggaat gtagttggca 420

ttgatttttg tgagattgat ataaacaccc tctgccagta cacaggactg accgacaaga 480

acgacaagaa aatctgggag aatgatattg tagaacttcc agacgaaga 529

<210> 7160
<211> 884
<212> DNA
<213> Ruminococcus gnavus

<400> 7160
aatgaaacaa atcctgaatg aaagaggagg ggtatggtga aacgaaaagt aggagcgata 60

ttagttattg taggaatgca gttgcttata tttggagtaa tatgttcaca atgggtttat 120

atacgtatag gattagggaa tcaatacata ttagggagat cattattatc gacactagga 180

atcctgttta tgatactcgg aaatgccttt tacagagtgt tgtatagacc acatgaggag 240

catgcctcaa ccaaagaaaa gtatggaaaa ccaaagaacg tgctattacg aatagagtgg 300

aaaaagtggt atccattaaa gaaatttatt gcttttctgt tgtggaatat ctgtttgttt 360

acagtattga taagtacgat attttattgt tctgagcaag aaacagattc taagacattg 420

tttggctaca tcatttttat aatcactaca attgctacat tttcacctat gagaaagtat 480

gtaagtccca aatatcgttg ccttcctcac atcggagatg tgcttagcaa aacagaactg 540

aataaaatgc tgggggatga ggattttcag ggaatagaga aatttaaaga aatgtccatc 600

tatccatacg taaaagaaag tagaaattgg ttctggattg gtggactgct gttgcacaaa 660

aagatggtgg tggcaataga ttttggattg aggacatccc ctaatcatat gcattcacaa 720

attaaattga tgtacgtgga tggagaagta ggagaaatta ttttgtctga cctatattat 780

gaaagaagca cggaactata tgggtattta tggaaaaaag caggaatttt aggaggcaac 840

gttgcgggaa ttccgtggta tagaaaaaat actgaaatag ctag 884

<210> 7161
<211> 424
<212> DNA
<213> Ruminococcus gnavus

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cattctattg cagcagatat gcttcatatt ggaaatatga agtcctggat tgttaagggg 180

cagtttcact gcacttccag taagacacag tattccggaa aacccttttat tcctattgtg 240

acggaaacac tggtgctttt tcaaaaagaa gaaattcttc ttgtaccatt ttcaattaga 300

agggaaggaa tattccagat acaagaacag gactccattg cactgacgtg gtttcattta 360

ttgcggatga cactggaaca gttaaatgga catgcaacgt taaagcagct atatcaggaa 420

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<212> DNA
<213> Ruminococcus gnavus

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gcaaactttg gggagtttta atggctgatt ccaaaactta tgcagcaatc ggaggactct 180

ctgcgatagt aggaggtgga gctgccgcat taggagcatt aagtaatgct tactgttata 240

taggtgttac agagcaacat ttgaattttg ttgttgtaga ctctgtaaat gttcgtaata 300

ttaaaaacag aatatctatt ccaatggaat gtatcacaaa agcagaagtg aagggtgggc 360

tcttgccggg aagaaaggtt gtaacggtat attttgaaaa aaacaaatta aaaatttccc 420

ttatgaataa tgcaatcggt tctgatattc agggacaaaa agagaatgta gagcgatttt 480

gtcagatgat tcaaaaggct tgtaaaaact aaaaatcagc cgttggtcat aaagaaggtg 540

attcatgatg cgtgataaat tgaaaaagga agaatttttc agaaaatcat tgctttttac 600

agatgagtgt atcagtgagt ttgagaaaat acttccggaa attatgaaac aagatggaac 660

taagtctcaa agggtg 676

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<212> DNA
<213> Ruminococcus gnavus

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gttcagttcc cgcatataat cctgatagtt ctggtttaac cgaatgaaat cattgttcaa 120

atcgttccac caggcatgca gtttttcatc ctcttttaca gacatttctt ccagttttcc 180

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caggtttccc caggaggcca gggctgtaag gtcctgctgg cactgttcca tggtataatc 420

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<213> Ruminococcus gnavus

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tattaatttc ttttgtaaaa agaaggagct gctgatttga aaatcctaaa atctcctgcc 180

agccaagtcc ttccaacccc ttaataattt ccatgtgttc cttcactgtc gtaaacatct 240

tctacctccg tttttatcaa ccactctttt atagttgcaa tctctatccc ttctttttc 300

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<211> 344
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gcgcagctgt tccagttcca gacggctctt catcagcagt tcctgttgct gtccttcata 180

gagcttcttg gtctgttcaa agtcctgttt ttcacgctgc agagcttcct gttccttccg 240

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tgcagcgctg cagcgcatca atccggaaat cgtgggatgg ctgtatgtac cccagattgg 180

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tgtccggaaa ctgcaggtgg aagactggac gtatctgcag gcggatgatc cctgcttttc 480

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gtcccaaaac agatcagatg caagagtcta aaa 753

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caactacatt gaaaagatcg gcaaaccgtt cattattccg ccaaaaatct ttaaatataa 240

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ttacgattat tatatcaaac ttcataggac ctgacaaatt gaa 343

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gctcccatgg cgattgccgc tgccagaaat gtccagttgt ctcttccaaa atgtgtcact 420

cc 422

<210> 7170
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<212> DNA
<213> Ruminococcus gnavus

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tctgcatgct tttgaatgta tttgtggagg gcggtcaaag tccaaagttc ctgtgcatag 360

ccgagttctg ttggtctctg acatgc 386

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<213> Ruminococcus gnavus

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caagtgtctt cattactatt tctattttat cgacagggaa cttggccttt gctatcttcg 180

tgtccctaca tggccgcctt tccgtcttca gttttacatg aacggtcat 229

<210> 7172

<211> 229
<212> DNA
<213> Ruminococcus gnavus

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tggttatgct aataagagcg tatggtggat gccttggcac taagagccga tgaaagacgt 180

gataagctgc gaaaagcttc ggggaggagc aaatatcctg agatccgga 229

<210> 7173
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<212> DNA
<213> Ruminococcus gnavus

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caatgtctta ttttatctac gccagaaaat ccagaaaaga cgccgaactg gaagcgctag 240

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<213> Clostridiales bacterium

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<213> Clostridiales bacterium

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<210> 8378
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<212> DNA
<213> Bacteroides xylanisolvens

<400> 8378
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cgtagtatat gttcctctgg aagtcccggc aggttgcttg aaatggagca atcggggaat 180

aatttctatt ttacaattca tcgtgaataa tttttcaatt caccacagaa taacacagag 240

cctcacgaag ttttaacaag ttatatctct tgcagttctc ctaccattct ctcctccaca 300

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<210> 8379
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<212> DNA
<213> Bacteroides xylanisolvens

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<210> 8380
<211> 675
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8380
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tccagttgtt gcatattgaa ggagtcgtcc aggaaactgt aaaactcgtc ccattggtcg 180

actacccgtt tccagctcgc ccatccccag atggaaaagg tggtggcgaa gaaatagtcg 240

gatggcatat cctgggtgat ttcttcgggg ttgaatccgg caatcatgct gatgcgggtg 300

tcgtgttcgt atttatccag catctccttg cagaattgga aaaaggagac ggagggcaca 360

tcgtcgtctt ccaatacgat gcacttgtcg actttggaga aggcccattt ctgcgaaatg 420

tactccgaag ggtcgcagcc gaaattcttt tcctgataaa gccgttctac ttcacattcc 480

cagtctatct gtgatacgat ttcacggcag gcttctattc cgggcaggtc acgttcgttt 540

cgtgctccgt cctgatagag gaagaggcgg gacggacgcg ctttcttcac ttgctcgaac 600

acttgcgaca actgttgcgg gcggttgaag aacaggataa gtaccgggac gtctactaaa 660

gcggatttca tattc 675

<210> 8381
<211> 819
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8381
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ccaaaaagaa agaatcaagg ctgcgttttt ccggctactc cggtgcttcc tccggctaaa 180

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gcatgaagaa ctttcagcat aaaaagcaca ttatctaaag aactttacat attacaaatg 480

ctactaataa aaatgctttg ttatataaaa gccgtagacg ttatacgact aaatatagca 540

aagctgaata atatataata gagatataga atacgagata atagagatag tagagataga 600

aaaatagaaa gatacagaga gttccttcct aataccccctc acgaacatca tacagcgaac 660

cagccggcgg ctttctccgg cctacttttt tctccgtcag gcgagcgccc gtaacgtagc 720

gttaagaagg gcagactgtt tgagcgtagc gagtttctgc cctttagcga agtgaaggaa 780

gcgagtagga gaaaaaagtc agccttgaat ttttctttg 819

<210> 8382
<211> 1926
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8382
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agttgaaata aatatcttac cttctgcaga ttgtttagaa cccatataat cagttacgcc 180

tgttttcctt attgattcgt tataagccgt ttctacatta tattcatatt agataagagt 240

gttttatttt tcaatggcat agtgttatct tattctatat taaaaagcgg caataggacg 300

tacgtagtaa ggcgtcgata tataggactg cgcggtgctc gtgcttacca aacctacact 360

ccacgaatct ccacttccat tttggacgga ttgccaatat ctgcccgaat tataattagt 420

gaaaacagtt tttttgatta actctcctct tgtatttctc aactccagca tctgtcctcc 480

ggctgggaaa aaccatccgc tggttttagc atctgcggca ggcgagtagc tgatacatgc 540

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attaaaatat ccgtacggac tacttccgtt acgattggaa tccaaagcga acttcttgtt 660

cccccacttg atggctgctc cattatttgc atctttcagt gccactgtat atccattaat 720

gttagtcatc ggctctccgt taccattgac atattcacta tcatccgctg taaatcgccc 780

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acaaatatta gacaagaatg ttttgttttt taacggcata gtgttctctt atttattgta 1860

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aaactt 1926

<210> 8383
<211> 1002
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8383

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gcctgacgca gacgagagtc atacattgtc agtaagaaac cttcgatttc taaagccgga 420

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gaaataagtg ataaatcctt agagcgccta cgaaaaaaga ga 1002

<210> 8384
<211> 316
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8384
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tcatgttctt gagggcgcag ctttctgctc aaatggcaac tattgcagac tttctcgtta 180

cgattcttct ggtcaggctg tttgatgtct actatgtata tgccaccctg gcgggagcta 240

tctatggagg aatcgttaat tgcgttatca actataaatg gacttttaaa tcgaaaggaa 300

agaaaacaca cgttgc 316

<210> 8385
<211> 967
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8385
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cttccggctc tttcctcgca gaactttcta aacgcttcga cattcccaga tgatagaata 120

aactcggtcg ctatttcttt cgctgtcatc tcctcggtca cccgtctata taaacgcctc 180

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ccgtaac 967

<210> 8386
<211> 2652
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8386
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atcgccaccc ctttaaatta ccgtctcggt cccggtgatg aagtgattat cgatatctgg 180

ggagccagtc agaacactat ccgccaacag atttctcctg atggcacgat caacattcag 240

aaaataggtc ccgttaacct gaatggtctg actatttctg aagccaatga ctatctcaag 300

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cgtctgactt tggggagcat ccgtactatc cagatcaatg tgatgggtga agtagtccag 420

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tttatcgaag at 2652

<210> 8387
<211> 996
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8387
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tatgtcactc ttgctgaaca acagactttc agtcagatca gtcgtcctct atatgtagag 180

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<210> 8388
<211> 1650
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8388
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ccggatgtga atttctgctt gctgtttacg ctttccggtt ggaagttgaa gttgctcaat 180

ccgaagtttc cggcaatatt taagtccagt ttattaaatt ggtgtgtgta atctacattt 240

gcgcgtgtgc gataataaaa tgcattccat ttttctccat ctgtgaaggg aagagttaac 300

ttaccatcca ttccatccat ttggaaacgt acattcaatt tgtctttctg cgacagacgg 360

aatagataat tggcaagaat atccaaattg ccataattac catatccggc acgtacatat 420

cccggggtag tgccgggttg aacttctttt ccggtatagg ggcgcatcag gcctgccgga 480

acggaagtgg ccggaaagaa tgttgtagca tactctactt ctttcttgct cactgtcggt 540

tcttctactt taggcaggac gtttactttc gaggcgtcca taatgtccgg gttatattct 600

tgttccacaa cgaccgtgcg ggtcattgtg gtatccttcg gttgggtggt ttgggcttga 660

aggctggatg gcattgacat agccaatgcg agtcctccta ttatataatg agatcgtttc 720

atacttttct atttttaat tctcaattct caactttcaa tttactaagt ctgctttcaa 780

tcatgctttc aatatcgtca ttcccttgat aattttgttg cagacttagc agatattggc 840

gtgcgtccag atctttaccc gtagcatgat agacgtcgga tagaaggata aaactgcgcg 900

ctagccaata agcatgtggc gtactctgtt ctatatagtt gagcaactct ttctctgcag 960

cggcatattc ttttgcgtcg tagagagatt gtgcaacttg atatttagct tcggcaccgt 1020

aagagttgcg cgtgtctttg gccagttcac gatagtcttc cattgctttc ttgtcagcct 1080

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cttcagcacg caagatcagt gcttcttctg caaacggatt gttaggatat tccagcagtt 1380

taccggaatg gagaagaatc atatcataat ttttctgctc gtttccgatc aggcagagat 1440

aataatgtgc gttcaggctg aaggctcctt ccgggaaagt ttgcaggtat ttgttgaggc 1500

ttgttttggc ttcttccatt ctgcctcgtg cataaatctt ttctgcggcg gcatacgtaa 1560

gcgagtcttg ttcgttagca tcgaaacgga tgtgtcctgg catggcattt gctaaagcag 1620

caaattcgtc gatgcggttg agatccacat 1650

<210> 8389
<211> 1370
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8389
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cttgcttcgc gatttattga aaaactatct tccggccggt gaatcattgc ctgaactccc 120

cgctgctttg cctgttattg agattcccga aattcatttt aataaagtgg ctccactatt 180

ctcgaatttg ccggaagcca aacaaacagt ggatattcaa ccgatggaac aattcaatca 240

gggatgggga actattctgt atcggaccac actgtctgaa gcgacccccg caggaaccgt 300

tttgaagatt acggaagtgc acgactgggc gcaaatctat gccgacggca aacttctggc 360

gcgtttggac cgtcgcaaag gagaatttac tacgacttta cccgcactga aaaaaggtac 420

gcaactggat attctggtgg aagcaatggg acgtgtcaac tttgacaaat ccatccacga 480

ccgcaaaggt attacagaaa aggtggaact agtttcgggt aaccaggcta aggaattgaa 540

aaactggact gtgtacaact tcccggtaga ttattctttt attaaagaca agaaatataa 600

cgatacaaaa atactaccgg ctatgcctgc ttactacaag agcactttta aactggataa 660

agtaggagat acatttctgg atatgagcac atggggtaaa ggtatggttt gggtgaatgg 720

tcatgcaatg gggcgtttct gggaaatcgg tccgcaacag accctcttta tgccgggttg 780

ctggctcaaa gaaggagaga atgaaattct cgtattggat ttgaaaggtc cagccaaggc 840

ttctatcaaa ggcttgaaga aacctattct tgatgtgctt cgtgaaaaag ctcccgaaac 900

acaccgcaag gatggagaaa aactgaaact ggcaggtgag aaagtaatac atgaaggtgc 960

tttcactccg ggcaacggct ggcaggaagt acgatttgct gctccggcaa aaggacgtta 1020

tttctgtctg gaagcacttt ctccgcaagc aaatgataac atcgcagcag tggcagagtt 1080

cgatgttctg ggagccgatg gcaaaccggt atctcgtgag cattggaaaa ttcgttatgc 1140

cgatagcgaa gaaacgcgta gcggcaaccg tacagccgac aagatattcg acttgcagga 1200

atctactttc tggatgactg tggataatgt tccttatcct catcaattgg tgattgactt 1260

gagtaaagtg gaaatagtga ccggcttccg ctatctgccc cgtgccgaaa aagaatatcc 1320

gggcatgatt aaagaatata gaatattcat taaaaaagag gatttttaat 1370

<210> 8390
<211> 210
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8390
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ggtggctacc aaactccagt cacgactata tgtctgtcca gtggatggat ctttccagcg 120

acgacgcttg atacgtaaat aaacggcttt accacggata gggaagtcct gaacttcaat 180

ctcagggagg aaacctttg agtgaagatg 210

<210> 8391
<211> 610
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8391
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tgaaccttat gtagacgatg ccatgcctac tgacgtgcca aagtcttccg aagtggagat 120

tctggaacaa attaaaagtg atgtacgtgc agcattggca actgatgccg ctaaagaaac 180

atttaacgga acatgggcta ctaaaggacg tgctaccaaa tgggctctat atgcactaat 240

ggcggaaacc tgtctttggg cggaagatta tgaagaatgt gttacatacg ctgattactt 300

gattaactcc acagctccca tacgtcccgt gtttatgtca acacctggac aatggtacaa 360

tatgttttat cctggtaata gtaatgaatc tatctttgag atacagtatg acgaaacgaa 420

ttatgcacaa ggaggcggaa gtccgtcaaa acttcttcct tatggctctg atgtcacggt 480

caatacttat atgtattcag aaccgatgac tatccgcttg ataaatgaat tctaccaaaa 540

tcaggatgaa gtaaatcgta cctattatgg ttcgtttgct ggtataactt ataccagcta 600

tccggaaaat 610

<210> 8392
<211> 623
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8392
ctccgcgatg tttaacgggt gcaaaggtac ggctttttt gaaacaaaca aataattcgc 60

tgaatatttt tcgaataaat catcactttt ttcttattag gttgagaatg aacgaaataa 120

tgatgaaact ttttcttagc acctattaat atacaaatgt taatattctc tctgttttct 180

tgtatggtct aaagaaaaga attacttttg ctcaaaatat tcagcaatgt gcaatttgta 240

acctatgacc gtatccaaga caaaagccaa gttagtagat gtagcccgtc agctttttgc 300

gaagatgggg gtagaaaata cgactatgaa cgatatcgct cttgcttcta aaaaagggag 360

acgaacgctc tatacttatt ttaaaagtaa ggatgaaatc tatttggctg ttgtggaatc 420

ggaattggat atattgtcgg atatgatgaa gcgggtagcc gagaaaaaca tttctccgga 480

cgaaaaactg ctggagttga tatatacccg attagatgca gtgaaagagg tggtctatcg 540

gaacgggacg ttgcgtgcta actttttccg tgatatatgg cgggtggaga aggtgcgtaa 600

gaaattcgac gcaaaggaaa tac 623

<210> 8393
<211> 601
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8393
aaaacggact ttgtcccaag atagcataag ttcctgtcag ccatgaggct gcgtccgctt 60

cattcttgaa gtagttttca ggagtagtgt acgtcggatc tttctccagg aaatcgcagg 120

aagtcaggtt aagtccgaca agaagtgata tgatgattat ctttattgtt ttcatatacg 180

taattgtttg aaggatgatt gattagaaac ctaagtttat accaaaactg atagagtagg 240

ctctcggata agcggagaag tccagtcccg gagtcagtgc gccttcacgg atcgatactt 300

ccgggtcata accggaatat cctgtacatg tccatagatt ttgaccggca acgaatacac 360

gtgcattgtc tatcttccat ttcttggtca gttgtttcgg cagtgtatat cctaaagata 420

cggttttcag acgaaggaaa gagccatctt cgataatgcg tgtagagaac actttgttag 480

aaccggagtc ggtagctctc ggaatattac tattcggatt ttctggtgtc cagcggtctg 540

cgtaacttgc atattgattc aagtcgcgtg ccttattgct attttcgaag aataagcggt 600

t 601

<210> 8394
<211> 357
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8394
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aggcacggat ggaaataacc gatgccgttc agatgaactt ggcgtccttc cgccaattcc 120

tgtcccatga tgtgcgaaag cgcatcaagt acggctgtga cgtctgtttc tgtcagtgag 180

caacgttcct gaatacggcg gcgtagtacg tcggtcccta tggaaccgtt gtatttgatg 240

cgtggatgca gggtgttttc gttttcttcc tgctgtttgt ttgaaggctt cgggtcttca 300

taccaatcga ataatattgc catagctcta tatttcctct atgaaaagca agaccgc 357

<210> 8395
<211> 1903
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8395
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ggctttatgc agttcgactt ttgctcaatg gaaacctgcc ggtgacaaaa tcaaaacatc 120

gtggggagaa cagcttgacc ctaaaaacgt attgccggaa tatccgcgtc ctatcatgga 180

gcgcaacgac tggaaaaacc tgaacgggct ttggaaatat gcaatcactc ccaaaggtac 240

tcctgcacct gctgcttacc aaggcgatat tcttgttcct tttgccgtag aatcgtcttt 300

atcaggcgta ggcaaaatga taaacgagaa agaagaactg tggtaccaac gtactttcga 360

cgttccttct gcctggcgtg gtaaacaaat cctgttgcat ttcggagcag tagactggaa 420

agcagaagtt tgggtgaatg atgtaaaagt aggtgaacac acaggcggat ttactccttt 480

ctatttcgat attacttctg tacttaataa aggaaataat gacctggtag taaaagtatg 540

ggacccttca gatcgtggcg aacaacccag aggaaagcaa atagcaaatc ctcatggcat 600

ttggtacact ccggttacag gtatctggca aacagtgtgg ttggaaccag tagcaacaca 660

atacatcact aatctgaaaa ctactcctga tattgacaat aattctgtta aggtagaagt 720

tgctgccaat acaacttctg cagataaagt agaagtaaaa gtattcgatg gcaagaacct 780

tgtagccaaa ggcgcagcgt tgaacggagt acctgttgaa ctggcaatgc cggctaatgc 840

taaactgtgg tctccggact ctcctttcct ctacaatatg gaagtgactc tgtataaaga 900

cggaaaagca atagaccagg taaagagtta tacggctatg cgtaaatatt ctatccgcaa 960

aggtcagaat ggcatcactc gcctgcaatt gaacaacaaa gactatttcc agttcggtcc 1020

gctcgaccag ggatggtggc ctgacggttt gtatactgca ccgacagacg aagcattggt 1080

ttatgacttg aagaagacga aagattttgg ctacaacatg gtacgtaagc acgtcaaagt 1140

agaacctgca cgctggtaca ctcattgcga ccaattagga ttgatcgtat ggcaagatat 1200

gccgaacggt ggtcctagcc cacagtggca ggcacgcaac tactttaacg gcagagaagt 1260

gattcgttct gctgcttcgg aagctaacta tcgcaaagag tggaaagaaa tcatcgactg 1320

tctgtattct tatccgagta tcgccgtatg ggttcctttc aatgaagcat ggggacaatt 1380

caagactccg gaaatcgtag catggaccaa agaatacgat cctagccgcc tggtgaaccc 1440

tgccagtggt ggtaatcact atacttgtgg cgatattctc gaccttcacc actatccggg 1500

cccgaacatg ttcctttacg atccgagacg cgctaccgta ttgggtgaat atggaggtat 1560

cggcttggta gtagaaggaa acacttgggt gaatgacaag aaaaactggg gttatgtgaa 1620

gttcaataca tcggacgaag taacgaacga atacattaag tatggcaaac atctgttgga 1680

attgatccag aaaggattct ctgctgccgt atatacccag acaacagacg tagaaggtga 1740

aatcaacggt ctgatgactt atgaccgtaa agttatcaag atgaatgaag ctaaagtcag 1800

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tactcttttc cttgttgaat atcaagacag cacctttgaa ttt 1903

<210> 8396
<211> 1044
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8396
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gaaatgaata agaaaaaagg agccgtagag caactgaatt atctatataa agaatgtatc 120

aagaccaatc agcagattta tctgttcatt gacgaatacg accattttac aaacaaaatc 180

ttatcagaac cttcctgttt ggaagattac aagagcgaga catacggaac aggttatcta 240

cgcagtttct tcgatacggt gaaagcaggc acggactcca ctatcaaacg ttgcttcgtg 300

acaggtgtca gccccgttac aatggacgat ctcaccagcg gattcaatat cggaaccaat 360

tattcgctct ctccggaatt taatgaaatg accggattca acgaagaaga ggtacgcgca 420

atgctggatt attatgccac tacctgccag tttcaccact ctaccaacga gctgatagaa 480

gctatgaaac cttggtatga caactactgt ttttcagaga aaagttatgg cggtactaca 540

atgtataact ccaatatggt actctacttt gtggataatt acatccgaaa cggaggagaa 600

atgcccgata agatggtaga agaaaacatc cgcgtggatt acaacaaact acgaatgttg 660

atccgcaagg acaaagaatt tgctcatgac gcctcaacta tccagacatt ggtgcaacaa 720

ggatacatca ccggtgaatt gaaaactggc ttccctgccg aaacaattgc agaaccggat 780

aactttatca gcctattatt ctatttcgga atgttgacta tcagcggtac taaacgaggc 840

aagacattat tgaccattcc caatcaagta gtacgtgagc aactgtacag ttacttacta 900

gatacttaca acgaagcgga cctccgcttt gacaactggg aaaaagggaa actggcatcc 960

gctatggctt atcgtggcga ctggaaagcc tacttcgact atatcgccga atgtctgcac 1020

cgatattctt cccagagaga caag 1044

<210> 8397
<211> 1692
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8397
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gttccaacga cgactcggca tatcacaggc ttcacgtccg cgtaccactt gtgtaaaata 120

cttctgacca ctgaacagta tttcaatatc ttcatgcaga cggccaccac cgttgaaacg 180

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atgatcgaac ggacctttt ctattatttc agcaatctgc attccttttc cctgataatt 600

ccagtcgaac aagagtccga gattagaagt gacatctcct tttcctttgg gagaataacg 660

tcctccggta tgtgaaacat tcagctcacc caaccactca ctcaataatt ctgcaaagtc 720

ataattgtta tcaatatgag gcaggaactt acgataagca ttagtcatag catcccagtc 780

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catcgtttca cgttcggcag ccaaatccat tttcatttca gcctgatagc tgatggactt 900

caacgcatcc gacttggcat ccatcttttg cataatccgg cttcccaaca aaaagatatc 960

tcctttttg tccaacatca acgatgccca accggtattg agtttgtgca gacgcttcgt 1020

atctttttca cggagattca ttttccaaag gtcatatcca tcttcgaacg cagagaaata 1080

gtaaagatct tccccgtctt ttgaaagtat ggcactaccc aagtcggatg aattgggagt 1140

cagacgtacg atacggtctt caatgccgtt cagctcgaca agtatctctt tttggtctgc 1200

cttatcctcg tcgatcttgt ctttgtcagc atttccttta tctgcttttt ccgccttaga 1260

cttctttccg tctttcgtct tctcatcgtc tttctccttt gccttcttct gttccttttc 1320

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attgagaaac accaacatca catcttgctg cgatccccag gaagcatgcg cacgcatacc 1440

atagcgttcg gtttggaaaa gaatagcatt cccatcgagt acccaacgcg gagcaccact 1500

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atccgaataa ggatcgtggc ggttgcctat aaattcgaga gtgaaccatt taccatcagg 1620

cgaccattcg taatcgaatc cacctccggt gttataccat gtagaaccat ccgttacctg 1680

acgtaccttt tt 1692

<210> 8398
<211> 2922
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8398
caatgaaact aaaccacgac agacaaatga gaaagagtat tgctataatt ataacatcta 60

tattagtact atcaggatgc aacaaacaac aatccgtatc tgacagacta ctaaatgaag 120

taggaaaggt tattgccata aatcctgaca gtgcatccaa cctactaaaa ggtatatcat 180

ctcctgaaaa actagacgac aaaacctttg cacgctggtg tatgttatca ggaaagatta 240

cagacgagat tttcaccacc atcctaccaa cttatcaatt agagagggct tatgactggt 300

attcctcgca tggtagtcct gatgaacaag tgcaaattct gatttattta ggtcgctctt 360

attttgcaga tggagattat gataaagcaa tgtcaatata tactaatgct ttggatattg 420

cagaaaagaa taagcttaat aacctcaccg gatatacata tagctatata ggcgatttat 480

atggagagaa attcatgcgg acagaagcta tcaaaagata taaggctgct gccgaatgct 540

tcaaaaaaga aaataataca gatagctatg cttgcgcatt aagagatgta ggacgcgaat 600

atgcatgcat agactcgtta tcacgcgctt taaaaattct aactatagct gattctgtag 660

cacgtaatac taaaaatatc gaagtcactg catcaataga caatgcctta gggaatattt 720

atgcaatgca aaataaatat gataaagctg aagaatactt tctcaaagca ttggtaggaa 780

gagaaacaat gcccgattat atggcactga tagacttata tattgcatcg gaggctatta 840

acaaagcaaa agagctacta tccaaaatac cacaagataa tccaaagtat acatacagca 900

ttaaatattt atactaccaa atctataatg aagaaaagaa ttataaagaa gctcttacta 960

atctgaaaga atacgtcgaa ataactgatt caatcatata tgctgataac caatctaaga 1020

tattgaacat agagtctaaa tataatcatt taaagatcag caaagaagta gatagattaa 1080

aaattaaaca gcaaagctac attatagttt tagttatatg cattggaatc ctattattaa 1140

taataatagg atatctacta tatcgaaaga aagcaaaaga gaaaatccaa agacaacaag 1200

aagagttgaa ccgaataaag acagatttgc tttatgtttc tttagaactg gaaaagaaaa 1260

aaagattgtt agatacattt aaggagaaaa atgagagcta tgaggaaatg caggaagaaa 1320

taagtctcct aaccaccaac tataaacaat tgcaaaataa aattctagag aattcacctt 1380

tacataaaga actaatacac ctagccaacc aaaataagcc cagaaataac aagccattaa 1440

taacagacaa gcaatggaaa ctcattgcag atgaaataac atatatttat ccgaatttac 1500

gtaaatacat atatagtcga tgcccagatt taccagagca agacttttgg tattgctgtt 1560

tatatatatc agggtttgac actaacacag aagcaaagtt actaaacatt acagtcgact 1620

cagtaagaaa aaaaagactc agacttagac aaaaactgaa tataatatta ccagataata 1680

atgctacatt gtatgattat ttaattgaaa acatgcacta atatcctctt cttaggaaga 1740

aataatcagc aacataaaag gatgtccacg caaaacatca taagcgactg attatcaagc 1800

actgtttgtc cacgctgaaa aacttctttt atttgcattc cccctcatat ctccataaat 1860

ttgcaaaaaa caatcaaaga tatgagaaaa ctaagcattt tactattatt aattggcatt 1920

ccattcataa taatagaagc caataatcta tcaacacaaa gaactaaaat tataagatgg 1980

cataaatgcc aaaaaacacc aaattctatc ccaatagaag ctatccaaga cgaaaactct 2040

attgaagttc gttttcttga agacatcgac gatcaagtta ctttccaagt aaaagatcaa 2100

ctgggaaata ttatcttcca agatgtgata ttaactccta atgagcaaaa aacttataag 2160

attgatttga aaggctacag agtcggtcat tatgaacttc tctacataga agaagacata 2220

actttcattg gagagtttga aatcgaataa tcaacgataa ataataaaaa tatcaaactt 2280

tataaaccct ataaaactaa taattatggg aaacattttt agattcttat tggtgctgcc 2340

ttgcatcacc ttgttattgt actcttgcga aagtgagatt gaaaatgaga tccagtcatc 2400

tacagaaaaa ctgaacttat caggattgga atcggatagc cttcaattag aaagttatga 2460

attgtctgaa atgacagatg agctaaaagc attaaaagaa aggatagatg aactaaagaa 2520

agcgaagaca cgatcagtag cttcaagtaa ctatagccaa tatttttcag aaaatatgtg 2580

ggctattaga gagttaccct tcacacttag cactggaggt ggatatttat catgtactgg 2640

ttggggacag agagtgacct atgagggata taatcctggc tcttatggta aattctatgt 2700

ccaaattccc tcatcaatta ccggcatacc ctatttaatt tattcaaact actcgaaaac 2760

tcgtctagct gtaggacatt acactagtaa tccggaatca aaaatattac ttgcaatgag 2820

cagtaattcc actacaggag ccatggattc ctgggacatt atacctgcta ctaataatcc 2880

aggaacttat gtccttcaaa atgagctata tcttggccaa gg 2922

<210> 8399
<211> 482
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8399
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tatttatgtg tatacaatga gagtacaacc gaaagactaa ccgtttaagc aatagagaga 120

ggataattag cctttaccct ctctccaatt ctatcagaaa caaatattta ttattaccta 180

attaattcca tcccgggttc tgatgtcctt ccaacgcagg attagcctga atttcatcta 240

acgggatagg ccataacaaa gcatattcag gaatggcacc agctcttgtg cttccatctg 300

gcttgttttg gatttgagcc gatgcaagag cagtccattt caattttcct gattctgtag 360

atgcttccgg atacaaacga gtacggcgaa tgtcatccca aatcttaaat tccaacggta 420

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<210> 8400

<211> 720
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8400
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acacgcctgg gaatacggat gcagcggaag ccgtggcgat atccgcgaac ttatcattga 180

agaatttatc aaattcgaca gcgaaatcac cctgctcacc gttactcaaa agaacggtcc 240

caccctgttc tgccctccta tcggacacgt gcagaaaggt ggcgactatc gcgaaagttt 300

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aacccgcgcg ctgacaggcg caggactttg gggagttgag ttcttcctaa gccatgaaaa 420

cggagtctat ttctccgaac tttctccacg tccgcacgat accggcatgg tgactttggc 480

aggaacacaa aatctgaatg aatttgaatt gcacctgcgt gccgtgctcg gtctgcctat 540

tccgggcatc aagcaagaac ggataggcgc aagtgccgtc atcctctctc cgattgccag 600

tcaggaacgc cctcaatatc gtggactgga agaagtgacc aaagaagaag atacctatct 660

acgtatattc ggcaaaccgt ttacacgcgt caaccgtcgt atgggtgtgg tgctttgcta 720

<210> 8401
<211> 1452
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8401
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acaaataagg aacgcgttcg aaatgtgtga aatcttaaaa ttattttatt atggcaatga 120

cagtaactta ttcagtagtg ccgcgcaaga atcctgccaa aaaggatgag tcggcaaagt 180

attacgcgca ggcacaggct tcgggagagt tggattttga agagttgtgc gagggaatca 240

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agatcgggtt gaacagtgaa ggagctgtgt cggtcaagga gttttcaagt tcgctgatta 420

cggctgccca tattattttc cgtcccggaa agacgttggc ggacatcacg aagattctta 480

gctaccagca agtaacgacg cgtgcagtgg cccaaacggg cggtagcggc aatgaaggag 540

aggacgatga caaaggttcc ggtggcggtt cagacggtgg tggaagcgga gaagctccgg 600

atccggcagc atgataactt taatattgga tcaaatgaaa gaaattgtaa ctaagatttt 660

ggatgtaatc atgttccttg tgcctttctt cggaaaaaga aagcggaaca gaattgtgag 720

agaggtgcgc ttcaatgcta cccataagga agtgtgtaat gtgaaaacga cggaaaggga 780

gaaggacgat gagaaagatt agtctgattg tgattcactg ctctgctacc cgtgtcgatc 840

gcgacttcac ggcgaaggat gtggacactg cccatcgctt tcggggcttt tcgtgttggg 900

ggtatcatta ttatatccgc aagtcgggac agatagaacc gatgagggat gaagatacgg 960

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agagcctctc ct 1452

<210> 8402
<211> 636
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8402
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tggacaaaac gttgctggta gtctataaaa aatttattaa atgcattcaa atcaatgctc 180

attgcctatc aaaccgtatt aaataaaagg agaataatgg tacaaagtta ctacaaaaaa 240

gtgaaatgcg gaaagatata gtgatagaat tgagttacaa gggttttagt tgaagtggcg 300

ataattcgtg aagccattac aatccctgcc gaagccaaat cctgacgccg caacgttact 360

tgttcgtaac catgcccgaa aatgcgacaa acgggcacgg agggcgaaac aagacactaa 420

ggaatagtga gttaccgaca actcacgcga aaaatccggt tacggaaaaa gattgcgccg 480

ttcctctccg ttttgcgtac cgacaccgga ctcttcacca actaattttg aaaccaaaaa 540

attaaggaca atgaagagta cattttcagt aatctactac ctcaagcgtc aggtagtgaa 600

aaaggacggg acagttcccg tcatgggacg catcac 636

<210> 8403
<211> 1171
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8403
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catctgtgat aattccctcg tttcaccacg aaagccatgc gtttgagccc aaccggtcac 180

tccaggtttt ataaagtgcc gcaccatata cttatcaatc aaacgggcat aagtctccgt 240

atgggctaac atgtgtggac ggggaccaac tatcgacata tcacccttaa agacattgat 300

aaactgagga agttcatcaa tattagaacg acggagaaaa tctccgaatc ttgttttacg 360

gggatcatca accgtagcct gtttactgtc ggcttcatta ttcactttca tcgaacgaaa 420

tttataacac acaaaatcca caccattcaa acccgtacgc atttgcttaa agaatacagg 480

accgggagaa gtcaacttta tgatacttcc aactatgaga taaataaagg ggaaaacagt 540

aaccagaaaa agaccggaga aaacaacatc aaacatccgt ttcaacatac ggttctccat 600

cttacccaaa ggttcataac gcagattcaa gataggcata ttgccaacca tactgtgcca 660

aatacgacga ggaaaacctt tacagacatt aggaacacca tgaaaataaa gaagatggtt 720

ttcacagtga ttcataatag aaaaattata acgtccctcc tccatcgata aagaacaaaa 780

aacatgcttg attcctgggt gggcgaacat aaaatctgaa aaatcgtcgg gattacctag 840

ataggaacat tgggaggaaa aggcttcatt cggttttata tcaaaatagc ctacgacctc 900

atacagcgaa gacgccagag aactctccat ctcctcatac aacacctgca tattgttacc 960

tcctcctata aaaacagcat aacgcctatg cttgccctta gcacaataga ctatcaggaa 1020

atggcgaata ataatgcgat aaatacttaa gatgacaaag agaaaagaga aatatgcgac 1080

aaagaaaaga ggagaataga tagagattcc actaaaagtc atgatacatg cccaaaagat 1140

ggaaaaagct ataatattct tcaacacgcg c 1171

<210> 8404
<211> 587
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8404
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agataaattg ctttcaagca aaggtttgac ctcactattc caatccaact tacccaaacc 180

tgcacctatt ttcgggagcg acacagtttt aatacctctg ctttcgcata ctttttttcaa 240

gcgtttcaag cctttattca gatatgtaag ttctgcatga tacatatccg gttgtgtagc 300

gatgtagatt atacccggag agaaaccttt gatttctcct ataaacatat caccagcttg 360

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tatgtactca tctttgcttt gcaatatatc tcccgaaatg tattttatca tattgtttcc 540

gtttttctgt tgcttataat gtctatcggc taactaactt ttcggaa 587

<210> 8405
<211> 1180
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8405
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atattcgtta aaccaatcat ctgtcataat gagataaccc tgataaccgg cagcaggccc 180

ccaactattt tcaaccatcc atttcgtcgg ttttccattt ttgtcaagat cgacggccat 240

aagagtcatg gcgtgactgg agccactggc aaaactttgg atacgttgct tcttgttcat 300

gccaaaagaa gtacccataa gagattcgta gtcgtagttt ttgacatcca gtagaccacg 360

gtcagagttt agaaacttac ctacatcgca agaaaaatac atcattgtgc tatccttgag 420

agaagaaata gccatttctt tgatatcctc gatggggaga ttgacatacg tccagttttt 480

gccgtcgtaa cggtggcggt cgtagtctat ctcataacac ttataatatt cacggctcgg 540

atcgttcatt aacatgacat aattatcaat cagtttttcg tcaccatact ttttcaggaa 600

agaaagtgga gtgtaagttt cggtagacac aggctcaccc ttagcgttat attcagtcca 660

ggtaaattca gtaggaggaa caccgagatt caacactaac atgcggtaga tggtgctcaa 720

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tttctccagt tggtcgaaga agaaaggata agtttgcgag aattcgaagg aaccgaggtt 1080

atgcttggcg atcgctttgg cacgcatcac attcaaacct gtaaaaagcc agcaacgacc 1140

agaagatttt tggtcggtga tacctttaga agacactttg 1180

<210> 8406
<211> 611
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8406
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aggtaaatgg gcgattcttt tcttctatcc tgctgatttt acttttgtat gtcctactga 120

attggtggat atggctgaaa agtacgatca gttcaaggcg atgggtgtag aaatctattc 180

ggtaagtact gactctcatt tcgtgcacaa agcttggcat gatgcttctg aaagtattcg 240

caagattcaa tacccgatgt tggcagaccc gactggcgct ttgagccgtg cactgggtgt 300

atatatcgaa gaagaaggta tggcttatcg cggtacattc gttgtcaatc cggaaggaaa 360

gattaaagtg gtggaactga atgataacaa tattggccgt gatgcaagtg aattgcttcg 420

taaagtggaa gctgcacagt ttgtagccag ccatgacgga gaagtttgcc cggctaaatg 480

gaagaagggt gagtctacct tgaaaccaag catcgacctg gtaggtaaga tttgatagat 540

cttgataatg gtgattatgg gaggccggta acgggagacg ctgccggcct ttcttttaaa 600

aaaatgaaag g 611

<210> 8407
<211> 896
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8407
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ttagggttat aagccgaaaa ataaataaaa gaaatatgac taaatccgat ttattaccaa 180

ataaagaaag tacctttacc ccaataatta ataaaaaatg gaaataaccg atttaaaaca 240

aatgacaaag gaagaagttt ttaatttcat cagacaacgc ctttctttca gtaaagaact 300

gcaagaacaa ttcaggcatg tgaataaaga cgatctcgca aaagaacatc gcagattcga 360

aatgtccgga aatgaatcaa agacaggcca atgcacgatt ttcaacacag cgattctgaa 420

cgagtttgcc gatcttggca tctatgatta tacttcttat ctttttctcg acttccacaa 480

tggcactcca accgtttatc tcaaatattt ctccgaaaat gaaaatttgg aatatacatt 540

taccggatat accacaacgg aaatcatctt tgcaattctt gaactgacta tcttctccgg 600

aaagcccaaa agaaatcgca gctaaaaaaa gaattgcacg gaaagacaat gcgaggtcaa 660

aagactttta tggctttcat ttaggcacgg attacacgga tttcacggtt ccattagact 720

aaaaccgtga aactcgtgta atccgtgcct aaataatatc aatctaatag atggttttac 780

ttttggctcc ctccttttta ttatcacatt atatttgcca cccgtatagc atatttacca 840

tctttatacc atactctcta ttctcatacc atatttcctg catttatttc ctcttt 896

<210> 8408
<211> 1067
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8408
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cgccggaata agaatacggg agataaaaat gaaggatttg aaaattgatg aatctacggg 120

attagtgttg gaaggtgggg gaatgcgcgg agtattcacc tgcggtgtgc ttgattattt 180

tatggatcac aatatccggt ttccctatgc gataggagtg tctgccggtg cgtgcaacgg 240

gttgtcgtat gcatcacggc aacggggacg tgccaagtac agcaacattg acttgttgga 300

gaagtataat tatatcggtc tgaaacattt gttcaaaaag cgtaatatat tggactttga 360

tctattattc aatgagttcc ccgaacatat tcttccttac gattatgaaa catactttgc 420

ttcaccggaa cgttttgtga tggtgactac gaattgcatc acgggagaag ccaactattt 480

cgaagagaaa aaagacagtc gcagggtgat tgatattgtc cgcgcatcca gcagtctccc 540

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ccgtaaccgg gggtatcgga aagattcgaa agacattcgt atcccttcgt ttgtatatcg 720

gaaatatccg aagttgcgcg aagcgttaag tcggcggtgt gctgtttata atgagcagtt 780

ggaaatggta gagcgcatgg aggatgaagg acagattatc gttattcgcc cgttaaaacc 840

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ccctttcat tttgaatggg tatattgttc agcagccttt tttagtt 1067

<210> 8409
<211> 1121
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8409
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tcccaaggag aaagagctaa aacttataaa aatatatatg tatatctgcg atgtttatca 240

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tcaaacattc aactatcggc tgaacctgat gagtgaggcg attaatgaac tggtgaagca 480

tctcattact ttctttaaac caacagattg cgattctatg atatcactta ttgactccat 540

gcccatcatt acttgtgcag gaaagaacaa aaccggaaaa gtggctactg aaattgccac 600

taaaggatac tgctctacaa agaacatgta ttatttcggg ctcaaacttc acaccttagc 660

tttccgcagg gaaggaacca ttccattccc cgaaatgatc atcttatcat cggcagagga 720

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<210> 8410
<211> 725
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8410
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tgcaaaggaa agtgcgaacc gattctgcaa cacatgttgc aaggattgga ggtagacgag 180

aatcctctgc tgaaccctgt tcatgaagag gaagaactgg aaatcgtgtt tgaggatgaa 240

tggttactgg tagtcaataa accggcaggg atgttgtccg ttccgggaaa agcagaggac 300

agagattcag tctatcatcg tttgaagaag aagtatcccg aagctaccgg ccccatgatt 360

gtacaccggc tcgatatggc tacttcagga ttattgctcg ttgccaaaac aaaagaggta 420

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ttggatgggg tgatagtgca gacagagaag gagaaggaaa caaaaccaat agcagaggaa 540

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gatttagcac tagaaaatac agaactaaga ccagaaagga cagaaaaagt agaaaaagac 660

aaaaagacaa aaagaacaga aagaacagga aatacaggaa gaatcgaact ccctctttgt 720

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<210> 8411
<211> 1389
<212> DNA
<213> Bacteroides xylanisolvens

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acattagcag atctggcgct tgccgcagct gccaactcgc acggtacact agctttctct 180

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aagtcgtccg tcacgaagaa agtaatcacc tccttttctt ttcctttctt atcatattct 720

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gcggttctg 1389

<210> 8412
<211> 1198
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8412
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gacaatgcgc tggtagcttt cgctattata aaatatatca agtgcctgta gactggaaat 180

atgcagacgg gtagcaagaa gttctacaat gctgtaatat ttgccttgca ttacaatatc 240

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taagtgttcg tcaactactt tttggttcgt aatacaaatt tgattattag gctcttgatg 360

aatcaaacgt gacaatgctt cttcacgagt gtaatcacca cgcatataaa ggtcaatagt 420

acgtatcaca cggtcatctg ctataccgcc ttctattatg tcataatcct gccatataac 480

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caaataatga aaagaagagt tacggcaggc atctatatcc aatgaataaa tattgagcca 600

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taaatcagta agataaaagc ccactccgaa atcaagattt ggtcggcata ctccagctaa 720

tggttgttct acacggtaag tagaaccatg ataaacagtt aacatgactt atctcctttt 780

tgctgtgtcg aaacttgaaa aggacgataa tctttcggta accattgtgg atcacgatga 840

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tgtttttctt taagggtcat attattttct cctttcttat cttaatccat tagcgaaaaa 1080

gattaatatt agcaaagata gaaaagttcc ttctttcttc caattaattg gtatagtata 1140

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<210> 8413
<211> 829
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8413
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<213> Bacteroides xylanisolvens

<400> 8419
atcgacttgt ttacccgtgc tgccggaata actccggctt tgaatgtcgg cagcaaagaa 60

ggacaaattc gtttcgtgac ggattcttct tttaaaaccg aagcatatct gttggagatt 120

acaccgcaac agatacttat taaagcttcg gatacaaagg gtttcttcta tgccctgcaa 180

tctatccgcc aactcctgcc tgctgccata gaatcagagc aaccggtaca gaatatcgct 240

tggaacgttc ccgcaatgac agttcgggat gagccccgtt ttggtttcag aggattactt 300

ttggatccgg tacgttgctt tattcccaaa gagaacgtac tgcgaatcat cgactgtatg 360

gcgatgctga aaataaacaa acttcatttt catctgacgg acgataacgg ctggcggatt 420

gaaataaaga aatatcctcg tttgacagaa gtaggagcgt ggagagtaga ccgtacggat 480

gtaccttttc actcacgccg taacccggag cgtggagagc ttactccaat aggtggtttc 540

tatacacagg aggagattcg ggaaattgta gct 573

<210> 8420
<211> 965
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8420
ttttaacttc ggcaaatcat gttttatcac gtcataaaca atttcagcat ctaaatcaaa 60

ataatgatgt gcgattatat ccctcattcc cattacacct ttccaatcca tctctggata 120

gaaagataat aactttttat ctgttaattt atcaacacct ttcactcctt caccgatggc 180

tattaataac atacaagtac tctctagtct ttccattccg gatggagtca ataaataaaa 240

agaaggggaa gtaatagttt ccgagttcgc taatatcctt tccaccgttt ggaaaatttt 300

ctttagcaat gattctatta tctgactttt acacataaat tccatcttta ttgatacacc 360

ctctcaataa ttcatccata ttatttcgca accgaaccag atcaacaggg catttcaata 420

gtttttccaa ttcttcttta atatgaacta aagtaaagat agaaggtcta tcaatttcaa 480

cacaaatatc gacatcacta ccctcatgtt gttcaccacg agcaacggag ccaaatatcc 540

ccatgcgaga aataccatat ttagcagcat tcttgcgcat atactcacga agcaaagata 600

agtattctac agtagtcaac ataataaatt gcttttatct atattacaaa gaaatgcatt 660

ttctttcaaa aacacaatag ataatcaata aaaaatattc taattctttc tattatacaa 720

aactagaaat ctgaatatta tctttaatca ataagcatgg tattaaaaaa acaatatatc 780

aacgatcttc acagacagtt gatatattta gaatacatat cagcattttg ccaatatgag 840

gggacagatc aggaatatac cgctgtattt ttcccaacct gcagaatgta ggggattcat 900

gtgtgtagca tgaagttagg gacctacata tttcgttata ttataggcta ataatcttca 960

gaagt 965

<210> 8421
<211> 382
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8421
aattcccatt taactgctaa attcccatta ataaaacaac caatccattg tctcttcatc 60

cccggcaagc ccggcattac gaactttcgt ttccgcagcc gtgaatccta acacttgcag 120

atagcctttg ggtaacatca acgtatgctt tccagccgga aaactatatg catgcacatt 180

tgccaaaggc attccattga tacggacagc attcgtcaat acaggttccg cctgaccgta 240

atcattggct gacgcatcga tttccagttt cggagctttt gcatactttt tctggtcgtc 300

tttgaaataa gcgactaaca atttcaccgg agcatccgtt tcgaaagtga tgcttgtgcc 360

tttctctctc tgctcatttc ca 382

<210> 8422
<211> 673
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8422
agtccgctcc tgtttccgca aggcatctcg tgtaatagac cggttccaca tccagaaatt 60

agcttgcgat gcagtgcagg aaatgcgtat caaactccgc tgggacgcaa tccaggaagc 120

caatgatgag atggaagaag caaagcagaa aggggaatca tatgtgccta tgagatatga 180

aaatggagat tcaaagaaag aactgttggc aagaagccgc tatctgctgt ttaaatcctc 240

cgaaaaatgg accccagcac aaaaacaaag agccaaaatt ctttttaagg aatatccgga 300

attgggacag gcgtatggat tatgtcattc actcagaatg attcttgcca aaaatacaat 360

caaagatgcg gcaagattga gtatggctaa atggtataat aaagtggaag aggcaggctt 420

tcatgctttc aatgtaattg cagcaacctt ctatgaacat tatgatgata ttcttaactt 480

ttataataaa agatcctcta atgcggcggc tgaatccttt aatgcgaaaa tcaaacaatt 540

cagaaccgca ttaagaggag tagtggatga gaaattcttc ctctttagac tggctaagat 600

ttatgcatac ccccaatgat tatcgggtga gccaatataa accttatcta catttaaatc 660

agtagatgta taa 673

<210> 8423
<211> 561
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8423
tgctataacc acctgaataa ggttatgaca tgatgaaaag taaaatctca agttattact 60

actatgtttc tgttctctgt ttccagtttc tgtatcagta atccgctaaa cgtatatacc 120

caaccggtac atatttgaaa gaaagtgaac gggcaattag taatgctcgg ctttgatgtt 180

accaccttta cacctgcatc ctatcaacgt catcgtcttt aacgacccta agaaatctaa 240

tcttgtggct ggcttcgtac ttagatgctt tcagcactta tccaatcccg acttagatac 300

ccagcgatgc acctggcggc acaactggta aaccagcggt cagtccaaca cggtcctctc 360

gtactagtgt cagagccacg caaatttcat acgcccacga tagatagaga ccgaactgtc 420

tcacgacgtt ctgaacccag ctcgcgtgcc actttaatgg gcgaacagcc caacccttgg 480

gaccttctcc agccccagga tgtgacgagc cgacatcgag gtgccaaacc actccgtcga 540

tatgagctct tgggagggat c 561

<210> 8424
<211> 489
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8424
agtatgtaag gatgtgccgt atcttttcca ttcatgaaga tacgtggatg caacgcttct 60

tcttcttccg aagaggcatt aggattttca taccaatcaa acacaatagc cattacttct 120

tatcaattta agtgtgtaac ttcatcatag gacaacttta gttggctatt cggacgactg 180

gaatcggctg ttcagccaac tattgtcagc caaccggaca actccagtcg gcttctctta 240

aacaagtact aaagatacga caaagtaacg acttatcccc ataagaaagc ttgtttttca 300

tttcaggaga aaataaacat tttcttagtt aaatacttgc aaaccccata tttcatgtta 360

taccttagca gcatcaaccg gtcgaaaaaa caacatttat tcatttaaaa agaagaaaaa 420

tatgaagaca ttagaatata actcgaaacg tttggcgaaa agaatacggg tattaatgaa 480

agaatcgtc 489

<210> 8425
<211> 882
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8425
accatggaaa atattcatcc ttaataactt ccggacatgg ataatttttc atccaatcgg 60

tgaaaacttc tttccaagac agtatgtatt tctcgtcttt agtcatgtaa tacgctttag 120

cttgaggtac catccactga tgacgatgac gctgatattt gaactcatta tctgttatgc 180

cgtcaacctt taagtcccaa tttattgttc catcactatt tttgaaagaa tagtaaatat 240

ctttcgactc gtctctaact ccatcggttt ctcctctagt ttcagggaag ttccttacat 300

aaaagcgata gtccagagct tgatttgcaa tgtttagttc cactgctgat gctgtagttc 360

ctaaaagagt tacattcggg tttactacat ctgtacgcat gcgataataa tctagtaatg 420

cattagcagc taattgatag tttcctgctt catagtactg ttttactttt tctagacctt 480

tataatctag attgataact tcaaatagtt ttttttcaat tccttcacct tcatcgggaa 540

gaatgttttc tttgtcgttg ttgggttctc caatgattaa ttcgtctttg tcgtctgtgc 600

aattagacag aaagaacatt gcgaataaac aaataaagat gttcttcata ctttattagg 660

ttttaattat taaaagttat attttactgt ttgcaaatgt aatctgttta tttagaaatg 720

atgatttgtc ctgttcacac tttgttcaaa aaatgatttt ttgatattaa tattgttgaa 780

tcatatatta ataatgttta gaaaaacggt ttttaggctg atattaagct ttttatacat 840

cataatgtaa ctttcatcct attcttttat gaaatgaact aa 882

<210> 8426
<211> 2173
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8426
gcgtatggcg gtacctacat atattttgat agtagccatg ttacgccatg ccgtagaatc 60

catgttacct attttgcgaa gatatgcaaa gaaagacagg agaaattcat gggtaatctc 120

tgaaaataca aggccggggg cgaatgtttc cagtttcttg atgatagaaa cgtgatgttt 180

ccaggtaccg aaagaaattg ttttgctaat ttgtttgagg taaacccgtg caaaatcaaa 240

gaaggtacca aaatcggaag gattgttata ctggcggaag aaactttctt ttgtcagcgt 300

ctcattttta agacgggcac gaacaaatat gtcgcttaca cgtgaccgga tgtttgagat 360

gattaaattt ttgtctttac tctctttgtc ccggcctttt atcacttcgt tttgctcgtc 420

ccattctttg gacgtgacac ttaaccttac cgcgatcctt attttctcac ggttgatata 480

aaattccaca tacaggggga gccggtcggt tttgcctttt ttgccttgtc ttacaactct 540

tattgccgtc atttttatat gcctatttta tgcctgtaga ggggatatgc ctacaaatat 600

gcctacacag gcaggttatt aaaagttaaa cggggcgaaa gtaaaacgtt taatatcagc 660

tatttaaaag aaaaatccga taacatttaa ctgttaccgg atgttaatag tgattccgaa 720

gcgattcgaa cgcttgaccc acgccttaga agggcgttgc tctatccagc tgagctacgg 780

aaccagcctt atttgcggat gcaaaggtag tgctttttat gaaaattcaa aaactttccg 840

gcactttttt attcatattt ttctttatgg ctatgaatca gtaatttata aaagagaaat 900

attttgttta gttatatggt ttgggatgaa taaataggaa aacgtcattt ttacgaagaa 960

taacgaaagt tatataggtt tcaaaaaggt caaaaaaata aaatacggtt gtgtttttct 1020

attataactt ctacttttgg acgataaaca actaaaaaac acataaagtt atgaagaaat 1080

tgatttttt atttgcattt tgtattgtag tgactaatgt ttttgcacaa accgccccag 1140

agcaattgaa aaaagaagga aatgatgcat ttaatgctaa aaattatcca gtagcgtatg 1200

cgaagttcag cgaatatctg aaacagacta ataatcaaga ttctgcaaca gcttactatt 1260

gtggtatagc agcagacgaa gtgaaaaagt atgcggaagc cgtgaccttt ttcgatattg 1320

ctattcagaa aaaatttaat ataggaaatg cgtatgctcg taaagctttg gctttagatg 1380

cacaaaagaa gactgctgaa tatgtagcta cattagaaga agggctgaaa gtcgatccta 1440

agaataagac aatggtgaag aattatggtc ttcattatct aaaagcagga cttgcagcac 1500

agaaagctgg aaaagcagaa gaagcagaag attgtttcaa gaaagtaatt ccgttggatc 1560

acaaacagta taaaacaaat gcattgtaca gtttaggagt tttgtgttat aatgacggag 1620

ctaatatcct gaagaaagct gctcctttgg caaattcaga tgcagacaaa tatgctgcag 1680

aaaaagcaaa agcggatgga agatttaaag aagcattaga ctatttggaa gaggctgcta 1740

agatctctcc ggaaaatgaa aatgtgaaaa agatgcttcc tcaagtgaaa gctgttatga 1800

agtaatttga ccaatcttat aaatgataaa gggttgccgg tatgatacgt cgggcaaccc 1860

tttttattg ctatcttttt ctaatctata ctttttgcgt acatttgcca ttcctaaacg 1920

ctgaaatatt ttatgcactt atataataag gaacaggcca tcaaacggat gaatcagttt 1980

ggacaacacc atcgtccttt tgtttttatt attaattatc tgcaggatgc atcttatata 2040

gaagaggttg ctgctgttga ttctactgaa cttttgtata atttgaatgg atttaccaat 2100

caagctacgt caactgaaaa gtatacacct tctttttctg ctaaaccagc gaactctatc 2160

cattggcagc ctt 2173

<210> 8427
<211> 476
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8427
caatccggac gttttagtta agtttatgct gaatgaaaaa gacctccggt tgccgttgga 60

agcggttgaa gcatcttatt acaaatggaa tgaggtttat aaattctata tagaacattg 120

cgacaaggtg gaaaaatcac ttgccgaaac attgaaatta tcgtatgaag acttttaatt 180

ataatcgtgc tgaaataaag gccggaatag tacatttcgg cgttggaaac ttccatcgtg 240

cacatctcga agcttacaca aatctattac ttgaagatcc gtcacagaga tgctgggggg 300

tattcggagc catgattatg cctacggacg gggtcttgtt caacgccctc aagaaagacg 360

acggcatata tcaattgacg acatgcagcc cttccggcga acaggatagt atgctgattg 420

gttcgcttgt agaactggca tgggggggaaa tagatagtga gcctatcatc gctaaa 476

<210> 8428
<211> 1026
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8428
cgcgaatgga caaaaccgtt ccatgaagcc ggtattcaaa cccacatgct cgaccgcgca 60

ctgaacggac tccgtatgag ccccgttccg gcagacgtcc gcaaattatt ctacaaagta 120

aagaaagcac aaggaacaga cattacccgt acgttctgcg gattgaacga cgtgcgtaac 180

attgctcctt ccatcacata cgcaaaggaa gcaggcatga tttcgcaatg ctcgctttgc 240

atcactcatt cgcctatcca taccgtagag tactacacca atatggcgct ggaacttatc 300

aaactgggag cagacgaaat ctgtatcaaa gacatggcag gtatcggccg tcctgtatcg 360

ttaggtaaga tcgtagcaaa tatcaaggcg gcacatcccg aaatccccgt tcagtatcac 420

agtcatgcag gtcccggatt caatatggca agcatcctcg aagtatgcga agccggttgc 480

gactacatcg acgtaggcat ggaaccacta tcatggggaa caggccatgc tgacttgctt 540

agtgtgcagg cgatgctgaa agacgccgga tatcaagtgc ccgaaatcaa tatggaagcc 600

tacatgaaag tgcgcggcat gattcaggaa tttatggacg acttcctcgg cttgtatatc 660

agcccgaaaa accgtctgat gaactctttg ctgattgctc ccggacttcc cggcggtatg 720

atgggtagtt tgatggccga tctcgaatcc aatctggaat caatcaataa atataaggca 780

aaacacaatc tgccgtttat gacgcaagac cagcttctta tcaagctgtt tgatgaagtg 840

gcatacgtat ggcctcgtgt cggttatcct ccattggtga ctccgttcag ccaatacgtg 900

aagaacctcg ccatgatgaa tgtgatggct atggaaaaag gaaaagaacg ttggggaatg 960

attgccgatg atatctggga tatgattctg ggtaaagccg gacgtctgcc gggcaaactt 1020

gctccc 1026

<210> 8429
<211> 756
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8429
cttatgggtt attacagatg aatgatatgc atcaatagat actgatgaca cttcatcccc 60

agccagtccc tgtgctttca gaaacaaata ggccatgacc atctgtccgt cattatccgg 120

atgaattcta tctatcctgc agaatgtaaa tgtagaatct gcctcctgct cttttctgct 180

tatctcacgc atcggttggt taaaatcaac aaaaccccag ccattctttt tagccgatgt 240

acgttgggca tctatgattt ttaaaatggc gttgttctta ttatgcaata taaaattatt 300

aaaccgggaa gtctcatcat aaggagaacc accaatcaaa actttcttta ttttattttt 360

agccagtaag cgttcttcta tttcccgata gctttccaat gactttgcaa tccgttgttc 420

cgacagttct tttgcatcgt ctttcatgta aatatcataa ccggtatcat tcataccgaa 480

agttagagtc acataagttg gtttcctgtt gaaaacatca tagtccaagc gatccttcat 540

atcccacgca ctctctccac caattccggc attcatgata gtaatcggtt tatccgggaa 600

acgagtcatg taatacaacc agataaatga atgataatgt ccgccgtgag taatgctgtt 660

tcctacaaat accacacgtt ccccttcttc aaaccgaggt attgttgttt gtgcctgtaa 720

gtaatcgcaa tttatataaa ctaaagataa caacaa 756

<210> 8430
<211> 614
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8430
gttagttcaa cttagtgttt atttggggac cttagctgat ggtctggatt cttctccttt 60

aggacatgga ccttagcacc catgccctca ctcctgagat agaactaatg cgcattcgga 120

gtttatcaag acttgatagg cggtgaagcc ctcgcatctt atcagtcgct ctacctcaca 180

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ggtcctccag ttagtgttac ctaaccttca acctgcccaa gggtagatca cttggtttcg 360

cgtctactcc ttccgactat ccgccctgtt cagactcgct ttcgcttcgg atccacatct 420

caagatgctt aaccttgccg gaaaaagtaa ctcgtaggtt cattatgcaa aaggcacgcc 480

gtcacagctg aagctgctcc gaccgcttgt aggcgcatgg tttcagggac tatttcactc 540

ttctattcga agtgcttttc acctttcctt cacagtactg gttcgctatc ggtctctcgg 600

gagtatttag cctt 614

<210> 8431
<211> 2221
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8431
cccgtaaaat catattccgt tcgtcctgcc tgtacgtttt tcagcacgcc cgacaactta 60

tccattgtaa tctgtgcggc taccggaata taaggattta tactctcact ctgtatgcca 120

tcctttctta cattgttgtt tctaattgtt gagacagcat acaatagaat gaatactaca 180

atagggatta taaattttaa aatcttggtt tgcttaatca tatttattgc tattctatat 240

actttcattt tttactctgt tggtaatgtt cggcaaataa tcgaatatta aggtgcttta 300

tctgtttgtt agcaatctat ttcatttcca tttaatgatt ctatatctcc taatgcttta 360

tattctctgt ccaaatcttc ttttgtgaat aggtaatagt tatcctcaaa tcttggcata 420

tcatatcctt ttacaaaaga taagaaagag aatatttttg catctatatc tataccttga 480

ttacccttgt tgtccaaagt aaataataga ttatcagctt tcatcgaaac tctatttcta 540

atgccttcta cattatattc ttcgttatca ggtaactctt taagtatctg atagaagttt 600

attatctgtt gttttacttt cattcttaat ttgattagtg atatgctaat gcttgacagc 660

gtgccgcttt aagcggtatg ctgtttgtta gtaacccatt tcaccattct tcaaagttct 720

cttctataaa aacttcaagt gatgaagcta aaatttcatt ctctccatta tcatgataaa 780

atattagcac ttctccttta ggattaatca taattggatt tcctgctcca tcatctgcaa 840

cagcatagtt ttctgaagtt tccgcatgaa cttctctcaa agattgagta taacctacaa 900

cagtttcatt accttcaaaa gcaaaaattt caatgtctgc ccaagcacga ccaaagtgtt 960

tgataaaatc aatatagtca gaactaaact ttacattcaa cactttttcg gcttgttcta 1020

tttgttcgtc cgtagcggga gtaccacgca ttttatgttt attgagaaat gtactcaatc 1080

gttctataag tttttgtttc atattcttcg ctatttttat ggttactaat gtccggcagc 1140

gttccgctta ttcagtcggt tagctatgtg ttatcggtat ccaaatattt ttataattag 1200

tttttcatta tcaatatcat attcaaattt cccaatcttt tcaattaaat ctttcattct 1260

ggataattcg tttattgatt caaaggggat aatgacatat tctatattct tagtccttat 1320

tgccccagct atgccatctg ctgtgtattt cccattccca agataatctg caagaagtat 1380

atgccaaaga gtatcacaca caagatcttt tgcaaggact tcacttgcaa tgtacttaat 1440

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ttttaaagtt actgctcttt tagtcatttt atcatagttc ttcatctata atatgaaatt 1560

ggattattct cattatttta ataccgataa tggctggcga ataactgatt gttagggcag 1620

ttcattcgct tgttagcaat aacttattat aatccaaaat accattccaa aaaagaattg 1680

aagtctttcc attgtggaga caactttcca ttctgaaaat tgattagttt ctctcccaat 1740

tcaatttcaa gaacttctcc tgtattacgg ttatagaaaa aaccgccttc accttcaaag 1800

ctatcaagag gtaagtattc ggagggaatg cctaacactg cttgcctttc tataccataa 1860

cttaaatcat tagagtaaat tttaaaccaa cacacattat agatttcgcc acattgtcct 1920

cgaaatgtta tttcggtagt atttagatta aacagtgcaa aatcactatt taaatcaatt 1980

cctaaatcaa tcaaagcctt tttatatgct ttatcttctt tttctgaata tacaccttgt 2040

ttattcaaat agtctatcac tttattactt agcatgattt gatgatattt tatttgtttt 2100

actttattgc taatgtcagt ggctaaccga ctttttgggg cggttaagcc atttgttaat 2160

cgttttacaa aacctctaag tcatttattt ttatcttatt ctcatttttg aaacaagaaa 2220

g 2221

<210> 8432
<211> 457
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8432
cggatcattc tcgacatccc cttcgtgatg aaatagtttt tcatattcat acaggccata 60

gggactgttt tcgatgatat attcactcgt ttttgcagct agttcccatc tttcgttttg 120

caaggcaata cgtgccaata tggctaaagc gccccaacgg tcgagtcttc ccagtttgtc 180

gcctgtatac ctttcttcag gcatgcgctc tgccgcccat ttcaaatcct cgacgagctg 240

gtcaatgact ttctctctgg gagtacgttc gatatatgca tcttcgggct ggatgacttc 300

tcctacccaa ggtacatcac cccaaaacac cgtaaggtaa aagtacataa gcgcccggat 360

cgtttttact tctgcggcat aaacgtcctt cttattttga gctacctgcg ctttattata 420

gttgtccaga aaattattgc agcgataaat atagcta 457

<210> 8433
<211> 427
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8433
tggcaggagg tcggaataga cttcacagaa gaagtcgaag cggatttggc aatgtgcatc 60

cagtcctttt cgataatcgt tcagttcgcc ggtgatacct gaaaagttga ggtaaagcac 120

cagatagctg ttgcggtttg ctgtgggatg cttcccaatg tagaggtcgc cgaataagtc 180

gttgaactta tcgcgggtac gcacatcgta gtagtgttgc agtacgttca gcgtgaggct 240

tttgccgaag cggcggggac ggatgaagaa aaagaaccgg tctgcctgct ctatcatagg 300

aatgaagcgg gttttgtcta cataataata gtcttcgcgg cggatgactg cgaagttcat 360

cataccgtaa ggtaaacgct ttctgttggg tactatatat tccattggat ccatcttctg 420

tcctcct 427

<210> 8434
<211> 1051
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8434
tgtgaaagca ctgaaaggtc cgatacatct gaccacttat gtttcgttga cttgtacgaa 60

ctgccctgac gtagtgcagg ctctgaatgc aatgaccact ttgaatcctg ctattgcgca 120

tgaaatggta gacggtgcgc tttatcagga cgaagtagat gcactgaaga tacaaggagt 180

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tgcgggaaag acgacattgt tccgcctgat tatgggattg gaaacagtgg ataaaggaga 1260

atttgaagta ggagagactg taaaggtggc gtatgtagac cagcaacaca gagatattga 1320

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aaaactctgc ggtgtattgt ccggtggtga aagaaaccgt ttacacttgg cgatggcttt 1500

gaaagaagaa ggtaatgtac tgttgctcga tgagcctacc aatgatatcg acgtaaacac 1560

tctgcgtgct ttggaagaag gtttggaaga tttcgccggc tgtgcagtag ttatctcgca 1620

cgaccgttgg ttcctcgacc gtatctgtac acatatcctt gcttttgaag gagactccaa 1680

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<210> 8448
<211> 682
<212> DNA
<213> Bacteroides xylanisolvens

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ttgcttcaca atactttgat acttatccgc cgcctgcaac atagcctgtg aagcggaagc 180

attccaataa accgcatcgc tctgataatg aatctggtcg atggtaagct cctcatttag 240

ttgattcagc ttttcatccg ctttggcaat cttgtgctgg gcgttgagtg ccccgcccgt 300

gtacaacggt tgcgagacga taaatacacc ttgataggtg tggttgcggt attcgcctac 360

cggttcgttc caggcattaa ggtcgctcat gttgagagtc ccgtccgcat tgacatcaat 420

ttttggcaag aatcccgtgt gagcaatctt ccgtgcttcc gtacttgcca tcgtctttag 480

tttctgttgc ttcagaattt gactgtaagc ttccacttta tcccggtaag cttcccggct 540

aagatagggc tgctgtgccc cggctgtgag gccgaggagc agcagagaca gagttataag 600

ttgagttttc attttattca atctaaacaa taaattcaag tttcatataa gagaaggcaa 660

ttagcctttg attctttgaa tg 682

<210> 8449
<211> 1559
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8449
atcttaatac gcattcttct cccccacaat cacattcgcc acagtcttat aaatgatata 60

taagtcaagc agcattgtcc aatgctccat ataccaaata tcagccttca cacgttcctc 120

catctgcgaa agctccttcg tttcaccacg gaaaccatgc gtttgagccc aaccggtcac 180

cccaggtttt ataaaatgcc gcaccatata tttatcaatc aaacgggcat aagtctccgt 240

atgggccaac atatgtggac gtggtcccac tattgacata tcacccttaa agacattgat 300

aaactgggga agttcgtcaa tattagaacg acgaagaaaa tctccaaatc ttgttttacg 360

gggatcatca accgtagcct gtttactgtc agcttcatca ttcactttca tagaacggaa 420

tttataacac acaaaatcta caccattcaa acctgtacgc atttgcttaa agaatacagg 480

accgggagaa gtcagcttta tgatacttcc cactatgaga taaacaaagg gaaaaactgt 540

aaccagaaaa agaccggaga aaataatatc gaatagccgt tttaaaatac ggttctccat 600

cttacctaaa ggctcataac gcagattcaa tataggcata ttgccaacca tactgtgcca 660

gatacgacga ggaaagccct tacaaacatt aggaacaccg tgaaaataaa gcaaatggtt 720

ttcacaatga ttcatgatag aaaaattata acgcccttcc tccatcgaca gagaacaaaa 780

aacatgcttg atacccgggt gtgcggacat aaaatctgag aaaccgtcag gattacccaa 840

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atatagagaa gacgccagag aactttccat ctcctcatac aacacctgca tattattgcc 960

tccacctata aaaacagcat aacgcctatg cttaccctta gcacaataga ctatcagaaa 1020

atgacggata ataatgcgat aaatacttaa gatgacaaag aggaaagaga aataagcgac 1080

aaagaaaaga ggagaataga tagagattcc actaaaagtc atgatacatg cccaaaagat 1140

ggaaaaagct ataatattct tcaacacgcg caacactagt tggtcggggc gaattccccg 1200

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tataaattta ttgatttgac tggtggttga taccatatca cattaaagat tgattttagg 1440

cacatacttc tttgaacttg ctcaaaaggt ctttcccgaa caaattccaa gagattacaa 1500

tacaaactga taggaaaaca aaaactaaaa catatacctt cctactggtt cccgaagga 1559

<210> 8450
<211> 337
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8450
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aagctgactg gcaacctgac tgtatacctg gtaagccaga ctcatgtcat tctgcaaacg 120

ttcctgttcg gtacgaacac tctgcaaaat gatattgtca tgggagtcca tatagtcggc 180

gtatttcttc tgagcgacat aatattcttg ttgacgttct ttaaacaatt tctccagata 240

gagacaatcc tctttagatt tggaagtacg ataatctatg atgtattcct gcaatttctt 300

aaccacggaa tcggctacga ctgcagcaat tttagaa 337

<210> 8451
<211> 989

<212> DNA
<213> Bacteroides xylanisolvens

<400> 8451
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ttattataat ccatacagat ataacaaagg gagcggttaa ggtaataata cccaaactca 120

ttcatagaat ttgtaatacg gtgaacagta agacagagca tcctgtccat aagccacttt 180

tccaggtcgt cccttctaaa gctatggcac ataatacacc attatagctc attaatccgg 240

catttaagtt tatagcatcc acttcaagtg aaatggctag ggggctagga agaagcgctc 300

ccaagatagt atagagactt gcctttcgag aattaatcaa aatgcctata aggaaaaata 360

atctggctag aactgtattt ccctgaaaca tgacttgccc taaacctaaa cagaaggctt 420

ggaaataagt aatattctgt gtagtatcaa taaccgtatc ggaaactaat agtaaatctg 480

gtataagcta gctgcaaact cccaacattc cccatacagc aagaatgaaa ggaactgtaa 540

agccagaaat taaacgttgc tgacagaaaa aataggcaat ccatgtggaa agggccgaag 600

cgataatcaa catgattaaa ccttctaccg ataattgtag aaatacgcca actgttatac 660

ctgctaaagt tccattaaat ctgtataatc catttttaat atcatcatac ttatatcccg 720

aaaaataggc tgtcagtata cttattatat taccgcagac tgctagtgtt cccatttgcc 780

atgagtttag aaatattcca attagcatta ataatcccga gaaagcatta ttctgaaaca 840

tcacttctcc tattccacgt tccagaatga gcaataaatt gtgtataaag gccattcgtg 900

taaattatta actaataaaa tgatgacaaa agtataatct tcagttgaga atatcaagat 960

taagaaatgt gtaataaagg attgtgata 989

<210> 8452
<211> 676
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8452
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tctccggtga catagccttc gctcaccaat gtttgtatga tggaggcatc atgagcaaac 120

tctttgtcct tccggatgag catacgcaat ttttcgtaat cgatacggat attgtcttct 180

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cagggtttca ttatttctat caattcgtcc acactgtggt tgaatggact ggtggtagaa 360

tagtaagtga gcatttggcg cacttcttct tccgtgaaac ctatcatctc gttgaattcc 420

ggcgtgagcg agtagttggt tccgatgttg aaaccgcttg tgaggtcgtc cattgtcacg 480

gggcttacac cggtaatgaa acaacgctcg atactggaat aagttccagc tttaatttta 540

ttgaagaagg cgcgcagata accttcgcca tgtgtttcgt ccgtatagcg gtgcaggctt 600

tctatatccg agaggatggc attggtgaaa tggtcgtatt cgtcaataaa aaggtaaata 660

cgttggttgg tcttat 676

<210> 8453
<211> 1067
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8453
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ttaactgatg aaaagcaggg agctattgcc gtatttgaga atcaaaacaa cctgatgagc 120

gaaaccttcc gtaatattcg aacgaatctt caatttatgc ttgaaaatga taagaaagtg 180

attttagtta cttctacagt tagtggtgaa ggtaaatctt tcatttcagc taatcttgct 240

atcagccttt ctttattagg caaaaaggtt attattgtcg gtttggatat tcgtaaaccg 300

ggtttgaata aggtatttaa tattccaaga aaagaagtgg gtataactca atacttggcc 360

aatccggaaa agaatttgat ggatttggtg cagctctctg atgttagcaa gaatttgtat 420

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tgtcgtgcag attatactca caagaatgag tatactttga tcaatgaact tgctgaaaat 660

aataaattac ctaagctgtg tactgtaatt aatggtttgg atttgaagag aagaaagtac 720

ggttattatt acggttatgg caaatatggc aagtattacg gttatggtaa acgatacggt 780

tacggttatg gatatggaga acaaactcac gacaaggaat agtaaatcca actaatataa 840

aggtaaataa acttcgatgc tggatgcata gatgagatcc attgatgacc tctattttaa 900

gttaataatg tcatagagta cttttaatac tttacacaaa agtgagatgg aatatgtagg 960

tccctaactt catgctacac acatgaagaa ccctacattt tgtggtcagg aaatatacag 1020

cggtgtattc ctgatcaacg ccctcatgtc ggtgtaaatc cgatgtg 1067

<210> 8454
<211> 342
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8454
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attctgctgg gcaaactctg taggagtgac tccaaattgt ttctgaaata ctttggcgaa 180

gtaagaaggt gactgaaatc ctaccctgtc acaaatctca ttgatgcgca gttctccctc 240

ctgcaacaat tccgcagcat gttttagccg gatgatacgg ataaaatcga gtgaagaaag 300

gtcggtcaat gccttaattt tacggtgaag gctggagcgg ga 342

<210> 8455
<211> 789
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8455
taagtccaat ccctgttgtg agccatgggt aatcagaata ttatctttat cgaaagccgt 60

gcccaaacgt tcgttcatcc ggttggcaat ccattcgcgc aaaggggcat aaccttctgt 120

tgtagtatat tggagcgctt tcgtacctgc ctctttcaat acgatctgat tgatctcatt 180

gatttcatct atcggaaaaa gttccggagc aggcagacca cctgcaaacg aaatcacatc 240

ttcctgttcg gtaactttta atatttctct tatttccgaa gcctttatat aagacattct 300

tttagcaaaa ttcaacttca taacctttaa gtatattagg agattaaaac aacactgcaa 360

agtaaatcaa aaaagaaaga cgagaacaga tacacttttt tatatattga caggtacaga 420

tgactgactt ttcaaaggat aagtatatga agttaatctc cccgattgct tatttcgtca 480

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tatggaggac tgggaaaaag tattaagaat agaatgtcag ggcatcaccc cgactgaaat 600

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agctagtaat gagctaataa cgaggcaggt cttttacttc ctcataatat ttttccactc 720

caacctcttg catccgtttg ttgatggcta caaatctctt gtataaatgc tcatcaaagc 780

ctgtattct 789

<210> 8456
<211> 717
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8456
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atttgtttcg gatatgacaa aaactgtatg gaattagata atctatttca aagtaaaaaa 120

caagaccttt gcatatcctt ctcaatacat gagaaaggaa tcaatagaaa gaggttaaaa 180

agacatggaa atgaaagaga tttttaagag gtatttagtg tttgttatcg gactctattt 240

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catcaattat gtattaagcc tgaatagtcc tttatcgttg ggtacttgca catttatcat 360

caacatggta cttatcctgg gacagttctg gttaatccga aagaatagaa cccgacagga 420

tattattgaa attcttcttc aactaccgtt ctcttttatc ttttcggcat tcattgattt 480

caatatgatg ctgacaagcg aactgcatcc cgctaattat ggtatgtcga ttgctttatt 540

acttacagga tgcatggtgc agtctatcgg agtagtgctt gaactgaaac caaaagtagc 600

catgatgagc gcagaagcat ttgtgaaata tgcatcccgc cattataaca aggaatttgg 660

aaagttcaaa gtttattttg atattacttt ggttacatta gccgtgattc tctcgct 717

<210> 8457
<211> 614
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8457
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gttctctgaa tgtagaaaca ggacgggatt ttatttctgt ctttatctta tttaccagta 180

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tcattaattt gataataatt tgttttgtca gcgtctttgt gatcgttgag actgctaaat 300

tagtcataat atccgaaacc ggcaaagaaa acaagttttt aatacagaaa attattgata 360

tatcaagcat ctctttaacc gaaagaaacg ggattgccac cactctatta cggggcaaat 420

tagttttctc tgcttgaaac tatagttcca gctaagagaa actatagttt catcggtaag 480

aaaccaatgg tttcaagtaa ttggaactag agtttcaagc ctatgaaact aaagtttcaa 540

accgcagaac caacagtttc acgccttgaa actgttagac acaactcata agtacgagga 600

taataaattg aact 614

<210> 8458
<211> 1947
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8458
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tatatccttc ttgttcatac gctttcccat atttatgaat cattgccacc aatggcctta 180

aacgttcgtc agaaaccaac atagccctat aacgcaaata ctgattatca taaagctgcc 240

ggtttccgtc cttgaggcgt ttcttcacat ccgtaggaat gaaaaattcc gcacggttgc 300

ccaatttgac atagaattca tttaaaaaga tagaaatgcc agccaaatct atgtctccga 360

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ggaaattttc tccattctct atacccacta ctacaacatc ttcaggaata cggaaatatt 540

cgtaatcctg catgaaaata gaagtgcctt gcaagggaga aagcacacat ggttcgccat 600

gaaaagtagc ttctataggc gtataacaat tgaggagaaa acctttgaac gtacgggtat 660

atctcaattt agagtccccc gccttcgcca cttgctccga acgtgacact tcatccggac 720

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tgacgccttt tctttgaata cattaatcag catgatattg accatggctt tcaccagaat 1260

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cttgaattct tctgtttttc tgatagtgga tacgatgagc gacttcaact cttccacaat 1920

aacatcgcaa tttttccgag taggctt 1947

<210> 8459
<211> 10347
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8459
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cttctccaaa gaagaaacag cttccccctc ttcttccgtc agtcgggtga gacggtcggt 120

acagagttgc cgggctgctt gttgcctatc gcgctcctgc ttcatttcct cgggagtgcg 180

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gaaacagaaa gcccgggccg aatgccgaat gataggtttt caggaaactc aagtaatcaa 2280

tccacttctg aattgcttcc agtttacgtt ccaaatcgac tttcgattcc ttgcgagtaa 2340

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aatcgggcaa atcttcctca atggcatcat acaagcgttt cacttgggca gagacactat 2460

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gtcggaaatt tcataagtat ccgtaaagcg aagttcgtcg gcatactgtg acgccagttg 2640

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gtcttttcat tcagttcata agggaaatct gcgaagaaag cctgcaagcg ggtaagaaaa 360

gcatcaacat caccactctc caattcacgt acaaatttac caagataaaa gccccgttca 420

tcatctacca ctgatgtgta ataaggaacc aaaaaatcca taaatccata tcgtacttca 480

tcattgggaa atttcagcag gtagtttcca aaacgcttgt catacccctt tatagtcaaa 540

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gaagaagcat tggcttctac cccatcaatc aacgtacgca aatcatactc actcttttta 660

agcagttcga ctaaaaaagt aggagtaccg gtttggaacc aataattact aaacttatac 720

ccgtcaaaaa cgttaagcac actgaatgga ttgaatactc cttccgcaaa ctcacaaaaa 780

tgataaccgt catataaagc cgtcatctta tttaatgttt cttcacaagt cagttcattt 840

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gcgtcatcac ccaatgcctg caacaaaggt ttatcatatt catccaccaa gactacgact 1140

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taaagataat ctccttcgcg aagtttctca aaagtctgta ttccaatagg aagtttacgt 1560

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aatacacata caaactccac aaaaaagtac acagtttcac agacagcact accatgactc 1680

catttttcat caaaactaac tttgtaccag acaaacaaca tctcacttcc tcttcacttt 1740

gcaaatccaa cacacaataa ccagaaccag caaaataatt ccgtaccaat accaacctcc 1800

ggttgtccta ttag 1814

<210> 8472
<211> 1498
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8472
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taaacgtcct gttccaaaca tactacccga cagtccttcg tttgaaatca tggaagcctc 120

gtcgacaata aacaatgtat tggtagctaa attgtcattg atcgaaaagt tactaagctc 180

attagaaaaa gattgttgtc tatatatttt tttatgaata gtaaaagccg gatgtcctgc 240

atacgctgaa aaaacttttg ccgcacgtcc tgtaggagcc aacaatacag atttctgctg 300

cagctgatcc atcgttttca ccaatgcccc taccaacgat gttttaccag taccagcata 360

gcctcttaag ataaagactt catctgccag tgtggacagc agaaactctg aaagagattt 420

tacagcaatt tcctgctcta aagttggctg ataaggaaaa ttttccttaa tttgcctttc 480

taaatagtta tttatcattt ttgtacgaga aaaaagttcg aggaactatc gtatttaaat 540

ttatttattc tatttttgcg atgcgaatat aacaactaaa aacataattt atcatgaaaa 600

cagtatttaa tattgtattg gtgctttgtg ctgctgcact gatttacatc tgttacacca 660

gcattatggg tcctatcaat tttgaaaacg caaaaaaaga aagagaaaaa gcagtcattg 720

cccgtttgat cgacatccgt aaggcacagc aggaataccg ttcgctgcac cgcggaatgt 780

atgcacccaa attagacaca ctgattgatt tcgttaaaaa tcaaaaattg ccgttcgtta 840

tgaagatggg aatgttaact gacaagcaat tggaagacgg actgactgaa aagaaagcca 900

tggctatcat cgaaaaagca aagaaaaccg gtagatacga tgaagttaag aaatggggac 960

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acgtgaaaaa tgacactgcc aagtctggtg ctccagtata tttgttcgaa gtgaaagctc 1140

catacgaaac ttatttgagc ggacttgaca aacaagaaat catcaaccta aaagacctgg 1200

attctaaact aggtaaatat agcggcttga tggtaggttc tatcgatact ccaaacaatg 1260

gtgctggtaa ctgggaataa tgattgattt tactaaatca aaacaatata ctttatccat 1320

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ttcaataata gagaaagaga tagacacatc tctatccctt acagccaatc taaaggcggt 1440

ctttcacgaa tcggacttcc taaatcatcc ttacaaacgg gtaaatataa tgatggca 1498

<210> 8473
<211> 369
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8473
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aaaagagaaa acgaaacggt gctctataat attctaagaa agaataatgt agctgtcatc 120

ttcggcatag acaaaagcgc acagaccttt ttgaatgaac aatatcccga agctcgtttc 180

tattctcaat ctactccatt catcgattat ttttctgtaa aaagcagatt gggaaacagt 240

aagaagatgt atgcttctgt acgcaaagac ggtattgaca tctattgttt tgaacgagga 300

catctgcttc tggctaattc ctttgaatgt acgcacacag aagaccgtat ttactattta 360

ttgtacgcc 369

<210> 8474

<211> 469
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8474
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tatttcaaat ctgccaacca tctccaaatg cctcaacttc aacacagcga ttggactctt 120

gacggagaca ccgcaggagt ggatacattg ggcaatatag gttattcaaa aaacaggcaa 180

agcatcaata gcggaaacaa tgcggaaata aaaaaacgca ttatacacga tttctcttgc 240

tattatgcca tttatacctt ctgctacaac atgaaacaag ccataactaa aggatacaaa 300

ggagaaggtt tgctaaccct caccgaagaa cttgtagaaa atgacgattt acttgtcatc 360

tccaataccg aatttaaatg gttattgcaa caattcgatt tctcaaactt ctctcgacta 420

ttacaggcat acgcaagtgg caacaggagc ttcaggagtg atttcaccg 469

<210> 8475
<211> 1160
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8475
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ttccggaaaa tcatcggata tatcaatctg tgctgtcaaa gggcggccga tgtaatgaca 120

aagattcata cttgcaagac ggagggcgtt atcagccttt cgcaaagaaa gttcactctc 180

gttgagcttc acttgcactt tcagtacatc attttgcggt ttcatgccat gccgatgagc 240

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catctccttg gctttcacta actgcacgta tgctttatct gtattcagaa taacttccga 360

agtagttaaa gcttcgttca aatgtgccat ttcctttccc aatagtgaca ttttataggc 420

ggcacggatt tttcctccca tataaagagg ttgctccact tgtacaccgc ccgagtaaac 480

agttccgacc ttatagtcca gattcagtcc gggaaaataa gcgaaaccgc tcgataccag 540

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aagagaaacc gacaggccga acaatacacc cgctacacta atggctacaa gaatttcttt 840

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aacgttatca acgtgccgaa cagcaaccca cccataatag aagccgccaa cgaaccgaac 960

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ggacggagac gactttgcga actgtctatc aatgccgtca caggttctac tccctgatta 1080

atctgcaaag tgatctcatc catcaataca ataccattct taataatcat gccgatcaat 1140

cccaatgtac cgacgatagc 1160

<210> 8476
<211> 1241
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8476
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aaggtggtaa agtccgtccg gcgtctcttc cgacgaacgt gaaggagccg tccgcccgta 120

ggtggtctgg ctataatttc ccagcatatc ttccgtaaca gtgaaacctt tcagcgtggc 180

tgccgccaat tcatcggggg aggaaatgat tgtgcgtgtt tccacacgtg tctttttgtc 240

cacacgcgtc tccactttgc gggcatatgc ttccagtgtc tcataactgt tgccacggaa 300

agcaatgttg ctgaaatcgt tgaacgaacg gttgaagaca atgatgtcat acactcccat 360

cggcaggcgt actgcgtcgc ccgaacggtc acccatcatg aagattttcg gttcgccgcc 420

attccgcgga tagaacacgg ctgtggcacc gtatttttgc tctttgtcgt ccaatcccga 480

atcattccag tcggcagtta gggtaatctc cgatacttca tagtaggtca ggtcacgacg 540

ctcgcaggag acaagcagga tggaaacaca taagagacag aagaacagta gctgtccgtt 600

gcttgttatt aaccacttat cactcatttt atacctcctt tcctcacttt acggttcaac 660

agccagacga gagagagctt ggcttttgta gggccgaacc aggtgtattt gccattctcc 720

tgccagagca aggtctggta gttgtcccgt gcatggtaat gccggtaatc ggtacgtagc 780

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caacgtttgc cgatggggac ttctatttct atattcggca tcatggcgac gtcgaacaga 1140

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acttgctcca tagttcgcct tgtttcttct gtcaagggat t 1241

<210> 8477
<211> 1307
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8477
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ttttgtttgg gcaggttcgc gtcttctgct atcatacggc gtaattcctg ccagttttca 120

ccttgcggac acggaaggat acggcacttg tcgaggtggg gatatttcca tatcaggtaa 180

ttcctcaccg catgagaacg ccgcattgcc aggcggttgt tgtaggatgg aacaccttcg 240

ggcgaagcga aagacagtat gtatattgaa tctatccgtg cggtcggaat actgtccgag 300

aaaagttcat ctaaacggcg taatgtgcgt ccattgtcca tatagccact gtctaccaaa 360

gctttgtcaa agcggaaata aagcaaggca ggcttgacag aaatttcttc ggtatgctcc 420

ttctgtgcaa agatatcagc agaaagggat aatagtaaac cgaaaagaaa agcgaggcgt 480

tttaaatatg taggtttatt tttcataagt tgatgtgtgt catttttatg tgtactatac 540

ggttaccagt cggatatttt gattcctgtc agaagcatcc gcgtaacctg gttgagcacg 600

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caataaatag gttcgcccaa tgcttcaagt atatctaata aggaaaggtc gttcaaggag 720

cggcacaata cgtaggatga tattatgttt gcttcacagt tcggtaacaa tcgtataata 780

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ggggcgtatg cccttaagaa gcatagtcgt gataatatgt tgttttgtca ggttttgtgt 1140

cagtatatag ttctttaata ttgaaaataa aagaagattt tacaatatat atttggatat 1200

atgaagaaat attcactact ttgcatcgta aaacgtccgt tacttggtaa gtaattcaga 1260

ctggtatttc cgttacttgg taagtaatag tttctcttct aatctgt 1307

<210> 8478
<211> 292
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8478
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tccggtgacg gactcggtat cggtgcagtg gaactcttct gtcagcagtc tggatagctt 120

ttgcggatgg actccggtct ccatggagtt gagatagaag ccttgcagtc cagcttccat 180

ataaccgatg cgtagtccct tctttttctc tgttccgagg atgagattca gagggttgtg 240

attgaatcgt aaggttctcg tgtaagcgtc catccttaat acctccataa ag 292

<210> 8479
<211> 459
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8479
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gtatacattg cattcacgaa atatgtactt ttttctgttc ctccttgaat attaagatta 120

tagcgttgac tccatcggat atccttcaaa tatttatcag cccaatctac attgggatat 180

aaaatggaat taggatcatt cttagcataa ttcattatat catagttcga atacaaggga 240

tccagattat cattatggcg ggctatgttg tgctgtcttg cataatcggc tgcgtttaat 300

gactttaatt ctttaagtgg ttgttgagct ataatttgag ctgtcaattc aacctgcggt 360

ttcccctttg ctcccttacg agttgtaacc agaatagctc cactgcctgc acgcattcca 420

tataaggctg ttgctgcagc atctttcaat acggtaatt 459

<210> 8480
<211> 1141
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8480
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gttgaaggtt ttacttatca ttttctaaac ttccgtgatt ttcaaaatat tattactatt 120

ttctattatt caattgctta aaccctttt gtatatctca tctaattgtt tttcctactt 180

tagatatctt gatagcatgt tttatagggt agaattcata atcttattta gtacaaagtt 240

aactttttg tatgcaaaaa tactgcatac cacctaaata tattaattta tagcaatttt 300

ttttatgtgt gcaacgtttc tgcatacttc accattattt ttgcacactc attttaacat 360

tctattggtc atggcataca aaaaaaatcc aaagaaaaaa gatgctctca atataaagag 420

agctgtagaa tctctgcgtt tccaaattga ttggggttta aaactacttg gcgcaaagaa 480

aggagatcta tttcatcaat tagcaaaagt agaggttgat ctcatctcag agctcaacct 540

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tgcctcaatt agccacctta acaacataag tttaccagaa tcatggagag accagataga 720

gaaaaagttg cttacaatct attatccaga aaagctgcgt aacaaaatcg tagattgggc 780

aaaagcgaac ggttacagca cctccaatta ccttggccgt ccaatcgtga aattcaacca 840

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tttttacaaa atacgctcat tccatattaa acattccatt ctactaccga taaatatcca 960

tccagttaca acaaataaga actttcatga tcatctttac attgaattta tacgcaaaag 1020

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gacagagatg aaatcgttaa aaagagactt gttagacagt cccctaaaat ctttattagg 1140

t 1141

<210> 8481
<211> 312
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8481
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atttataaaa gagtttcaat tagggaaaaa tttctctaat accttcttcc tttccaaaga 120

aagtattact tttgtagccg gatttacaag gggctatcca aagctcccca tgttaaggtg 180

aaaagagata gaaaacaaaa taccaatttt aattaattca aagaaaatgg caaatttaga 240

tttaagcaag tacggcatca caggtgtgac cgagattttg cacaatccgt cttatgatgt 300

tttgttcgct ga 312

<210> 8482
<211> 206
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8482
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cttgattcct ttatgcaaag ctatgggata attgggatca ctctatggag aatttgtggt 120

gtctctacgg ggaaacgaca gtatccttac gtagaaactg tagtgtcccg ccttagaaac 180

tctcgtttcc tgccgtggaa actgta 206

<210> 8483
<211> 343
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8483
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gttaccccgc caacaaacta atggaacgca tccccatcga taaccgaaat tctttaatag 120

taaaaccatg cggttttaat atactatcgg atattaatct ttctttcgaa aggctatccc 180

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atcctgagcc aggatcaaac tcttcattgt aaaagtatct ttt 343

<210> 8484
<211> 210
<212> DNA

<213> Bacteroides xylanisolvens

<400> 8484
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aaagccgttt atttacgtat caagcgtcgt cgctgggaag atccatccac tgggcagaca 120

tatagtcgtg actggagttt ggtagccacc ggtactcgca taaccgctga gttcggtgct 180

tttttaaaag aattacttag ataatcacgc 210

<210> 8485
<211> 772
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8485
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aaaagagagc ggaagacggg gctcaaaccc gcgaccctca gcttggaagg ctaatgctct 120

atcaactgag ctacttccgc attcttgcca aagttgtcac tctgattgtg ggcaaagatg 180

gattcgaacc accgaaggcg taagccagca gatttacagt ctgccccatt tggccactct 240

ggtatttgcc cttttcaaaa tcaagaaata aaagaactat tttcaaacaa tatgataaag 300

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<210> 8486
<211> 70628
<212> DNA
<213> Bacteroides xylanisolvens

<400> 8486
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ttttcgtttg gtttatctta gaaaaaatat tcgatcatat attccaccat agtcaatcat 180

aggttgagga gtaattaatc atggattttg atacaaacca ccacttgatt atgactctcg 240

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ccttgcacaa atcccttcca ttctccaatg cattttgaaa tttaaaatag atcttgattc 540

cgggagaatt aatttctttc agtagtttca catctccttt tgcatccagt tgagtttcaa 600

taccaatcac cactccttca gaagctgcca tatctcctac ctccttcaag cgttttacaa 660

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aacactctgc aagtatcaat atccaaagga tatgtttaaa taaatttctt ctcatttttt 1140

attttattgc atacgattta catagtagac gtacggaata gatttttgta atcacctata 1200

aaacagagaa taactaaaaa tactacggag tataatttaa taaaagtaag atagtgacgg 1260

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cgtcactatt tccgatgaag taataacaga aataaatgta aaaaaatagg ctgccgaact 1380

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<212> DNA
<213> Eggerthella lenta

<400> 8572

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<210> 8575
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<211> 393
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<213> Eggerthella lenta

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ctcatgcgct accatggggg cacccgattt cagaaggagc cgacgcacgc catggacgaa 180

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<210> 8691
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<210> 8693
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<210> 8695
<211> 1492

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<213> Eggerthella lenta

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<212> DNA
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<213> Eggerthella lenta

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aagcttggcc agcgcatcgg cgggaagcgg agcatcggcc acatctctat cgtggatatc 360

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<212> DNA
<213> Eggerthella lenta

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<212> DNA
<213> Eggerthella lenta

<400> 8891
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cgcgttctgc gcgacaggcc aggaaggttt cgcgcgcaat ctcacaccgg gagaaatagt 180

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gggtcaagga gaaccgtttc tcaattacga caacaccatg gccgcattgc gcatccttaa 300

ccacaagaaa ggtcttgaaa taggagcacg ccacatcagc gtctcaacct gcgggatttt 360

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<210> 8892
<211> 1537
<212> DNA
<213> Eggerthella lenta

<400> 8892
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<400> 8893

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<213> Eggerthella lenta

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<210> 8895
<211> 1963
<212> DNA
<213> Eggerthella lenta

<400> 8895
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<210> 8896
<211> 247
<212> DNA
<213> Eggerthella lenta

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catcttcttc atcttcgcaa acatatcttc aaccgttcct ctcggcttca ggctaatcgg 240

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<210> 8897
<211> 188
<212> DNA
<213> Eggerthella lenta

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<210> 8898
<211> 12781
<212> DNA
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<213> Eggerthella lenta

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cacgatactg gcgtctttgc taaaacgtga atccagagcg tttgtcagca aaataacagg 180

gatccccagc cgcctcgcct cacgaagcgt tgtcagccct tcccggtgcg ctgatttttg 240

cgccatcatg atcagaacat cgccacgttg aagcgcgatc agttgctcgg caaggccaat 300

acccgtacgg tttagtgccg tggcaggcaa acctatgcgg ttgaatagtc gtgcggtata 360

gtccgccaga atacccgaag cgccaatgcc aaaaattgcg acttgccgtg cctgcaccaa 420

caacgctaca gcttgcgcaa gcgcgtggcg gttttcaggc tctgacagga cattacaggt 480

atacaaatgc ccttcaagaa caaagtcgat tgcggtgtta acatcgctcg tcaagttact 540

caccgtcgta gacatctttt cgctggaact aagggctgga ccaagccact gttccagagt 600

gcgtttcaga tcacgcagcc cggcaaaccc cagggcctgt atagccctga taactgtggc 660

atcggaagtg ttcaacgtgg ccgcaatttc catcgccgtt tgctcgagta ccacttcacg 720

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atcaggtcag gctttgccgc cacaatcgct 1470

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<212> DNA
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gggcgcagga tcgacgggct cgggatcgac gggcaaagga gcggactgcg aatcgacgcg 360

cgccacggct tcggccgcct cgatgaagtc gctttcgtcg ggatcgttct tcgccacgag 420

atcgcattcc gcctgcacgc cggcaacctg gaaatcggct tcgctcggct cttccacgaa 480

aacctccggc tcgatcgacg gagcctcgac gatcggaggg cgccgtcccc ctcgatctcc 540

ccgcttttcg atggcggcct cggcaagccc gccctccatc acttcgatac cc 592

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<211> 154
<212> DNA
<213> Eggerthella lenta

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gcacgcgcgt ccacgagacg gcgtccatat cctctttgag cgatacgatc ttttccgcct 120

cgcgcgccac gcgctttgcc gttgatgtgc tgaa 154

<210> 8914
<211> 313
<212> DNA
<213> Eggerthella lenta

<400> 8914
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gaccggctac gctctcgccc gcgctgcggc tcttcgcgga gccgacgtgg cgcttatttc 120

gggacccgtg tcgctgcccg ccccgcaagg cgtgcatatg gtgcacgtga agacggcgcg 180

cgacatgttc gcggcggccg aggacgcttt cgaagacgcc gatatcgcca tcttcgcggc 240

ggcggtggcg gacatgcgtc cgcgcgaggc ggccgggcat aagctgaaga agggcatcgc 300

cgacgccgag ctg 313

<210> 8915
<211> 177
<212> DNA
<213> Eggerthella lenta

<400> 8915
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agcagccgac gaaccgcccg cactgcatcc cgaaagcacc gatgcggcag caatgcccat 120

cgcgccggcg aaagcggcac cgacgaaccc ccggcgagag agatcccctt ctatacg 177

<210> 8916
<211> 2149
<212> DNA
<213> Eggerthella lenta

<400> 8916
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aaagtccgcg tgcgcttcgc accttccccc accggccgcc tgcatgtggg cggcgcacga 120

acggccatct acaactgggc gttcgcgcgc gccatgggcg gcgacttcat cctgcgcatc 180

gaagacaccg accccgagcg ttccaccgag gagaacgtgc aggtcatcct caacgcaatg 240

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gcgaacgagg gcggctacgc gggctacgac cgcacctgcc gcgacctcga tcccgccgag 480

gcggccaggc gcatcgaggc gggcgagccg cacgtgtggc gcctgcgcgt gcccgccgag 540

cgcggggcca tcgaattcga cgatgccgtg tacggccacg tcagcttccc ggccgaggtg 600

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<210> 8917
<211> 1495
<212> DNA
<213> Eggerthella lenta

<400> 8917
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cgagatgctg tacgcccacg ccgtggagac agccgaggag tggagcgggg cgaaggtagg 120

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acgaccgcta cggcagcccg tacgaatacg gaggttccta cctcttcgat gattacggct 1200

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gtaagtgctc ctcgggcgtg taccgcgtgg gcgcaggcca ggacatcgaa gcgggccgct 1380

acttcttcga gggcagcatg gacgaggaag gctacttcac cgtgttcgcg agcaacggtt 1440

cgtcgggcgg ctacgacgtg aaatcggttt tcacgtattt cggcaactat ttcgc 1495

<210> 8918
<211> 292
<212> DNA
<213> Eggerthella lenta

<400> 8918
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ccgcgcccgc gcagccgaag aagagggtgt ggccgtgggt gctctcgggc tgcctgctcg 120

ttttcctgct gggcatcggc ggatgcgtgg gctgcgtgtc gtgcgccgtc atgctggacg 180

accgctacgg cagcccgtac gaatacggag gttcctaccc cttcgatgat tacggctaca 240

gcttcccctt cgacggtttc gacggcagct ccggcggcaa ctcgaacggc tc 292

<210> 8919
<211> 3370
<212> DNA
<213> Eggerthella lenta

<400> 8919
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agatgaacga cgaggagctg gcggctgccg gcatcacgcc ggatctcatc cgcctgtcgt 120

gcggcatcga agccaccgag gacctcatcg ccgacgtcga ccaggcgctc gcggcggtgt 180

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gttcccaccg 3370

<210> 8920
<211> 2322
<212> DNA
<213> Eggerthella lenta

<400> 8920
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gcagatcagc cgcgtatgga gcagcggcgg acaaggagga gcagcgtgaa agacttcgtg 1560

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ccgagatcgc gttttgatag caaagaagag atcggatgct ggcaaatcga agccgaatca 2280

aaacgacgat caaaacggaa acaaacctgg atcaaacgaa ag 2322

<210> 8921
<211> 1640
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<213> Eggerthella lenta

<400> 8921
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atcctgtagg ctcggccatg atcacgagaa gaacgttcat acgctcctcg gcgctggttg 180

cggcgacact cgtgctgggc ggggcggcgg gcggcctcgc cggctgcgcc gcagatccca 240

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gg 542

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ttgatcagtt ctacggggtc gtgcccgtgg gcatcattcg ctacgatttg tcgggcgaca 180

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gtacgttgcg gcaggtgctg gcgaacagcg tgccgttcct cgcgt 165

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<213> Eggerthella lenta

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cagcaacacg cccgcgatgg tggagtgaac gcccgacatg aacacgcagt accacagcac 180

ggcacccacc agcagatacg gcaccaac 208

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cgacgtgccc atcgacagcg acacgaagca gctcaccacg aacagcaccg ctacggcgaa 180

ctgcacggga acgacggaaa gcagcaggta ggccacgctt tcggcgctgt cgcggcctac 240

ggtgcccacg aagatgccgg ccaccatgaa gatgagcacc atggtgacga tggtcttgtc 300

tcccatgccg 310

<210> 9200
<211> 276
<212> DNA
<213> Eggerthella lenta

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aacggacgga gacgacgcgc aaacctcgaa tgcgacgtct gcgcaggaag gtcccgcatg 180

gaacaagacc gaccacgaat ttccccccgc ttcggtgctc gaacgctatc ggcgccttct 240

gggcgacgcg ctgctggaga ggggtttcgt ggagcc 276

<210> 9201
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<212> DNA
<213> Eggerthella lenta

<400> 9201
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catcacctcg ggcatcacgc tggagttcat cggctgcatc gtgttcgcgg tggtgctggt 120

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gctggccatc gtcgtgggcc tggcgctgcc ggtgatcacg ggcatgagct acctcatggc 240

gtcgttgccg tcgtggaaca ccccgctgct gccggtgtac tacttggcga acaccgtgtt 300

catgggcggc ttgacgg 317

<210> 9202
<211> 473
<212> DNA
<213> Eggerthella lenta

<400> 9202
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ttgtaacgag ctgcggggcg ttttcttgct tggacgagac gccgggtgag acactaggga 180

cggggttggt gtcttacacg agatcgacac gagacggcat ctccgttcct ttgtctcatt 240

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cggtgatgga caggtcgttc acgtcgacgg tgacttcggc gtactgctcg tacagcggca 360

gacgctcgtc gtacagctcg cgcaggctca tgccgatgcc tcccttcagc accacgccgc 420

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<210> 9203
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<212> DNA
<213> Eggerthella lenta

<400> 9203
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gcgacggcgg caaggagatc gacatcgagc aggtcaagca tatggtagac ctgttcatgg 300

acgcgggctt cacctatttc gacacggcgc gcggctacca taacggccgg tcggaggcgg 360

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tgccggcgtg gctggcgaaa aacgccga 448

<210> 9204

<211> 720
<212> DNA
<213> Eggerthella lenta

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gattggaacg cgtcgagcgg ccccgcgtcc acgtgcgtcg ggtgcggcgc gtgcgaaagc 660

gtgtgcccgc agcatatcga gatcgtgaag gagctgggtc gcgccgccga gctgttcgag 720

<210> 9205
<211> 277
<212> DNA
<213> Eggerthella lenta

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gggcgtgcgc atcccggcgg ccctcgcgtc gctcaac 277

<210> 9206
<211> 1657
<212> DNA
<213> Eggerthella lenta

<400> 9206

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gtaacgcttg acaacacggc gattctgcag acggcgaagg aagatccggc gcttttcctg 480

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gaaatgctcg gactttcgca ttccgaggtg gctggcaccc cctcggaacc gtatctgccc 720

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<210> 9207
<211> 191
<212> DNA
<213> Eggerthella lenta

<400> 9207
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gcaacaacaa gcagttccac gagcgcaaag tggaggtgct cgccgagctg acgaagctgc 120

gccagctgtg ctgcgacccg cgccttctgt acgagaacta cgccgggcac gcggcaaagc 180

tggacgccat c 191

<210> 9208
<211> 595
<212> DNA
<213> Eggerthella lenta

<400> 9208
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catgtggttg ttggccaggt ggatgacgac gtcgttgacg gtggcgccgc cgaacggcag 120

ctcgcggatg acgcgctgct gcacggcctt gtcatcgctg aacacgtatg tggccagcgg 180

cttctcgaac gtgcgcacga tggcgaacgc ctcgtccagc gtcttgtacg tgatgaccgg 240

cagcacgggg ccgaaaatct cctcgttcat taccgggtcg tccagcgtca cgccgcgcag 300

gcacgtgggc tcgatgcgca gcgtgtcggc atcgccgtgc ccgccgaacg ccaccgtggc 360

atccgggttg cggtgctcga tcagccccat cacgcggtcg aagtggcgct gcgatatcat 420

gtgcggccac tcgtcgcacg cgaggatgtc ctcgccgtaa tactggtgga agcacgcgtc 480

cagctgccga acgaagtcgt cagccacgcg ctcgtgcacg aggaagtagt cgggcgcgac 540

gcacgtctgc ccgcagttga tgcccttgcc ccaggccacg cgctgcgctg cgcgc 595

<210> 9209
<211> 2053
<212> DNA
<213> Eggerthella lenta

<400> 9209
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gcgaggctcc gctcggaagc taacgtgtcg caaacttcct ttgccctcat ggtgggcgtt 120

agccgcaagt acctcatcga tatcgaaagc gggaaggcga accccacggt cgacatgctc 180

gaacgcatcg cgggaggcct cgacactacc gtcggtcggc tcttcgacgg gctgtgaacc 240

cctagcgttc gagatcgacg gggttccagc taccgtcgat gtcgcacagc catgcctcgg 300

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gccccgtcat atgctcgtat cctgcgcgac gcacgtcctc gttcgcctcg tccttgagga 420

cggccttgcc tcgcatgata acccagccgc tgcccggctt ccaggcggtc agctcgaact 480

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tgggagttcc tttcggttgg gagatggggc ggtttcgggt cgatcttacc aagggatgaa 720

attggttgcg atcacgcagg ccagcatcgc gacgatgacg agggtgccgt tgcgatcgag 780

gcgcgtgaac gttagcggat gcaggcgcgt gcggccgatg ccgccgtgat agcagcgcgc 840

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tgcgcggctc catggccagc acgcccgcga acgccacgcg gcgctgctgg ccgcccgaca 2040

gctcgaaggg gct 2053

<210> 9210
<211> 384
<212> DNA
<213> Eggerthella lenta

<400> 9210
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ggcgaacgcg gcatcggtgg cgtcggcgaa caacggggct tcgtcgagct acgtggcgct 120

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cctcgatccg tcctattgca tgtacgagcg cgcctctgca ttggcaggca tgagcggatc 360

ggagaacccg ctgttcagaa gcgt 384

<210> 9211
<211> 145
<212> DNA
<213> Eggerthella lenta

<400> 9211
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tgtgggcggc gacgagttcg tggcc 145

<210> 9212
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<212> DNA
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ggaaagcgtg tcgaagggac ggggggtttg acacgctttt tcccgttttg cgaggcgcgg 120

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ttagcttctt ggctcgaagg ggtcgcgagg tttctcttcc tcgc 224

<210> 9213
<211> 376
<212> DNA
<213> Eggerthella lenta

<400> 9213
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ggagaactcg aagccgtaga tccatttgat gagcgtgcgc acgaggtcgt tgccgaagcc 120

gtggaacgcg cggtcgttct cctcgccgta ggtgccgttg gacaggcggt cgcccacgct 180

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caccacgttg cccttgccct ggcggcgttc ggcccgcacc acggcgccgt gctcggccgc 360

gatggaagcg gtgccg 376

<210> 9214
<211> 955
<212> DNA
<213> Eggerthella lenta

<400> 9214
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<210> 9215
<211> 391
<212> DNA
<213> Eggerthella lenta

<400> 9215
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cgtaggcgaa cgtggaatcg cgcacctcca cgcgcgacag caccgcctcc agcaggtcgg 120

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<210> 9216
<211> 223
<212> DNA
<213> Eggerthella lenta

<400> 9216
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gaacagctcg cagccctcca cccggtggcg gctcgcgaac tccttgaacg tttctgactg 120

cgccaccgac gtggtgatct cgcggttctc gttcatgccc gacgagccgt cggcgttgaa 180

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<210> 9217
<211> 198
<212> DNA
<213> Eggerthella lenta

<400> 9217
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tatggacgat tcaggatgct tcccctccca cgtcgtcgac atggtgggcg caggcgagca 180

cgcgggccgc ttagagaa 198

<210> 9218
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<212> DNA
<213> Eggerthella lenta

<400> 9218
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ggtcgggttc gtcgactcgt tccgccacct gcatcctgac gtgacgggcg cgtactcgtg 120

gtggagctac cgcttcaaag cgcgccagac gaacgcgggg tggcgcatcg actacttcct 180

ggtcagcgac gagttggc 198

<210> 9219
<211> 270
<212> DNA
<213> Eggerthella lenta

<400> 9219
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catcaccggc accgtcggca gcccgtacgc cgcgtcgagg aacaggaaga cgggttactg 240

ggttctttta accaggtagc atttatggat 270

<210> 9220
<211> 1040
<212> DNA
<213> Eggerthella lenta

<400> 9220
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cttcttcggc gaggccgcca cggcgacgac gacc 214

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<212> DNA
<213> Eggerthella lenta

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cacggccagc acgcgcttgc cgtacttcag cgcgtcggtg ggaacaggcg tgaacgtgtc 120

ggggtccacg aggcagatga ggtcgggcac ggtggccttg atctggccgt ccaccacg 178

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aacaatctct ttcgggtccc gtcgcgaggg tccgcctggc ctcttcgccc gctgtctcag 180

catccggctt cc 192

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acgagatgct catcagctgt gcgatg 566

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atgtcgacga ctgctgcgtc gtgtgccgca attgcatgat cacgtgcccc tacggcgcgc 180

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<213> Eggerthella lenta

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acatcttgcg gatgcgccgt gcggggtcca gctcgaagta ctcgaccagc tggttcatgc 720

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ctcatcccta tcgggcttct cgctcttctc gaaaggaagg ccgtcgtgtt tcacggtgta 180

ttcgaacagg cgcctg 196

<210> 9274
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<212> DNA
<213> Eggerthella lenta

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ggccacaacc tgcacgtcgg ggttcatgcg cttgaggtac gcgcccgcgc cgctcaccgt 180

gccgcccgtg cccacgcccg ccacgaagat gtccacgtcg ccgcccgtag cctccc 236

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<212> DNA
<213> Eggerthella lenta

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gttcggcacg cctcggagaa ggagccgcgc gctgacagca cgccttccac cgccag 176

<210> 9279
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<212> DNA
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atggcgtgca tctagcgcgg atctttctcg atctgctgcg aatctcacgc atttcccacg 180

tgggttccat gccgtttgcc cctgtttcca a 211

<210> 9280

<211> 235
<212> DNA
<213> Eggerthella lenta

<400> 9280
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gtgaaacatc ggttcgtttt gtttcgggtg aaagcatttt cgcgcggtgt tgtgcgcaaa 120

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gaaggggcgg catgctgagg atttccgata cgcgcatcga cgggttcatc gcgga 235

<210> 9281
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<212> DNA
<213> Eggerthella lenta

<400> 9281
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cgaagcacgc ccaggactgc atcggctttc tcgaccaggc cgagttcgag cgcactatcc 120

agacccaccg gcccatcacc gatat 145

<210> 9282
<211> 1454
<212> DNA
<213> Eggerthella lenta

<400> 9282
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cgaggttgct cctccctccg cttctgctgc ggagtcttcc aaacgttaca tgacggcgga 180

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aaggacacgt cgacgcggcg atccatcatg ac 152

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gatcatcggc ccgctggacg gccgcgccgc gctgttggcc gtgggcgaca tgaccgacga 240

cgacatcgcg cagctgcagt tcttgcacgg ttccatgcag ctggccatcg agaagggcct 300

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caacacccgt ctgatagggc tgattcacca gatgaaccgc tacttcatga aacgggagta 420

cgccaacgtg ggcgccgacg agctggacgg cctgctgcgc aaggccaacg aagagcatgc 480

ggaa 484

<210> 9381
<211> 417
<212> DNA
<213> Eggerthella lenta

<400> 9381
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gaagagcatg cggaaatcgt caggctcttc gagctgcgcg acggcgaaga gctgcaacgg 180

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acccgcgcag cgttccacgc agaaagcgcc cgtctgtccc gtcgagcgcg agtgcggcgc 300

ctgccagcac gtgggcgttc cgtacgcgca gcagctcgca agcaaggaca cgcgtgtggc 360

cgagctgttc gccgacgtgg ccgacgcgtc cgcgttgcgg cccatcctgg gcatgga 417

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<212> DNA
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gtccgcgacc tcatgccgcg cttcggtatc gagccgtacc gcgaggattc cggcacgggc 180

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gaaggagacg cacggcctga ccgtgagcac cctgaacatc gcgcaaatga aggccgagtg 180

cggactggag atggagtgcg accgctcggg cggcaagcag cagccgaagt gtccgccc 238

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<211> 196
<212> DNA
<213> Eggerthella lenta

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cgatggcgtc gaggcggcgc acatggcgta cggcggtgcg gccgagcgcg tcgagcatgc 180

gcgggggatg gcgatc 196

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gccgctcaag cgtttgggcg ttcccaccga cgacatcgcc atggtgttct cgttgg 236

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gccgaacaac gccatgtcca cgtgggccgg cacgtccgca 220

<210> 9387
<211> 451
<212> DNA
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<400> 9387
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caacacgctg ttcgacacgg tgccgcaggt gtaccggcgt ttcgacgact gggtgctggg 420

cgaggacgcc ggcagcgtgc cgcccgtgtg c 451

<210> 9388
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<212> DNA
<213> Eggerthella lenta

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ctcgatcgtg ggaacggtgg aagccgaggc tgtcgaaggc atccaggggt tcgacggcac 120

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gaacggggcc agatgacggt cgagcttgcg gcggcgtttc cggtgctgat catcgtcgcg 360

gtcatcgcgg tgaacgcgct cgcgttcttc tcggaatgc 399

<210> 9389
<211> 218
<212> DNA
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<400> 9389
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cccaggggca tggccagcgc caacgcgtcg gccgcgtcgg tcgagagcgc cgccgtcacg 120

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ccggcggaca ccgcgaagca cgccgcgccc gcagccgc 218

<210> 9390
<211> 698
<212> DNA
<213> Eggerthella lenta

<400> 9390
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catcgtccgc atcctgctcg cccatgccac cgcctttc 698

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<211> 187
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tataaggcgg cgcgtgatag agggctcgat gagcgcatcg ccctgggcga cgacgcgcac 120

cgcggaagcg atctcgtcgg gctcggcatc tttgagcaaa aagccgctgg ccccggcggc 180

caaagca 187

<210> 9392
<211> 199
<212> DNA
<213> Eggerthella lenta

<400> 9392
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gctcgacgcc gaaaaggccg ccgcggtcga acgcgccctg gaaggcgcgt gccctctcgc 120

gttcgcttac cgccaaggcc cgcgtctcgg catcctgggc gaggcgcccg agcccgacgg 180

caacgggcct atcgtgata 199

<210> 9393
<211> 544

<212> DNA
<213> Eggerthella lenta

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<210> 9394
<211> 8153
<212> DNA
<213> Eggerthella lenta

<400> 9394
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cgagcaggcg gagctcctca ccggcgacct gaacgagaac tggcaggtgg aggcgcaagc 660

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<213> Eggerthella lenta

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<211> 207
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<211> 202
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<213> Eggerthella lenta

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tattttgctt tttgcgccca acctatactt gatggcagcg aagaggttgc cgttcgcgcc 120

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<213> Eggerthella lenta

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<210> 9480
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ggagggcgcg ggcatcaagg gcgagatcgt gctggtgatc gacggtccga gcgaggccga 120

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<210> 9481
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<212> DNA
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<210> 9482

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<212> DNA
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<210> 9485
<211> 346
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<212> DNA
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<212> DNA
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<212> DNA
<213> Eggerthella lenta

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<210> 9586
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ctttcgggcg tgtggaagga ccgtcgctgc ttggacgatc tgttccaagc ggatcgcatc 660

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<210> 9597
<211> 496
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<210> 9600
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<400> 9600
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<212> DNA
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caggctgccc agaaccggca tgagcagcgc cagcagaagc gacgccaccg tctcg 175

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<400> 9619

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acatcctcaa cacggcttca tatatgaagc cgtgttgagg attataccga ataatctgaa 10620

cgaatggatg ctgataggaa aagagtgctt ttagggagcg cgattcgcga gcgaagggag 10680

gcgcagagcc tgtctcagca gaagctcgcc ctcatgatcg gcagcagcaa atcgcacatc 10740

tggcgcatcg agtcgggacg cgtgagcgtg ggtctcgacg acctcggccg tatcgccgac 10800

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<210> 9632
<211> 254
<212> DNA

<213> Eggerthella lenta

<400> 9632
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acgagtgcgg catcggcgtc gagaagttcc aggacctcaa gatcggcgac cacatcgaag 180

gctacaccgt gaaggaagtc gagcgcaccg agtaagaaga tgaacctgcg ccgcggcgtc 240

gcggggtaat gccc 254

<210> 9633
<211> 393
<212> DNA
<213> Eggerthella lenta

<400> 9633
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gacgacgccg aggtcctttt gcagaagcgc ttgtgcgaca tcctggtgtt ttcccgcaac 120

gtggtgcgcg aggttcctcc gtatctgcgg ggaaagaacc tggttcatcg cgtgtcgttc 180

ttgaatcgag cggagggggt gagcgtggcc gaattccgtc gagagtggtg ttatgctcac 240

gcgaagctgg tggaggctgc tcccggccat gcgggctaca atcaaaacct cgtgatcgac 300

cgattcgtag acggggcgag cgtttccagc gagaagcttc cctgcgatgg catggccgag 360

ttctatttcg aggacatgga tgccttcgag tgc 393

<210> 9634
<211> 207
<212> DNA
<213> Eggerthella lenta

<400> 9634
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cgtcagcgcg ccaatagcga tgcccgcatg ggagcgtgtt gccgaaacgg ctgccgatag 120

tcgcgagggg gaagttgccg aggcgcaatt gagcgacgaa gaggtcgagc gtctgtttct 180

gacggcggta ttcgatgacg tgcgcgc 207

<210> 9635
<211> 2179

<212> DNA
<213> Eggerthella lenta

<400> 9635
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tacggcgtgg gcgcttcggt ggcgcagacc ggcagcctcg acgcgctgtt gggctacgtg 120

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tccgcggcgg gcgtggcagg gcttgcgtgc ggcatcgcgg tggcgctcgt cacgggcggc 720

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acacgttcac gcccgttccc accgacgcgc tgaagtacgg caagcgtgtg ctggccgtgg 1920

gcctggagtg cttccacctg tggcgcacgc aggcgggtct cgacctcgtg gggccgcgct 1980

acttcggcat cgataccgac tatatccccg tcgaagagcg cagcgcgcgg aaggaggcgt 2040

aaggccatgt acaaattggg catcgacgtg ggcggcacca acacggacgc cgttttgatc 2100

gacgagaacc tgaacgtggt ggcggcggtg aagaacccca cgtcggacga tatctacacg 2160

ggcatcatgg gcgcggtgg 2179

<210> 9636
<211> 2954
<212> DNA
<213> Eggerthella lenta

<400> 9636
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gccatgctgg gcaccaccca gtgcacgaac gccatcgtag agcgcaagga ccttgcgcct 180

atcgccatcc tgcgcatcgg cgcgccggcc acggtcggca tcccgccgat ggtggactgg 240

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gcgctgtacg acgtggcgcg caagttcacc gagggcttcg cggccagtct ggccgacaag 600

ggcgtgacga acgccgaagt gtacctgtcg caaaacgacg gcacgctcat gaccatggaa 660

cacgcgcgcc gctatcccat cctcaccatc gcgtgcgggc cgacgaactc catccgcggc 720

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catcgcgaag aaag 2954

<210> 9637
<211> 245
<212> DNA
<213> Eggerthella lenta

<400> 9637
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cttctcgatg gcaccctgcg ggcacttggc catgcaggcc ggcatcgcgc agtgctggca 120

gcccagcgac acgtggtagg cgaacgcgtc ggacgtgaag gtgccgtcgc ccacgtcgct 180

ccaggcgccg ccctcgtagt cgtacacctt gcggaatgcg atggtggcgg acaggtcctt 240

gtagt 245

<210> 9638
<211> 213
<212> DNA
<213> Eggerthella lenta

<400> 9638
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gctggccgtg gacagcagtt tgccgtcgac ccattcgatg agcgcgatcc ggccgaacag 120

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gcccgcgccc acggcgatgg gcgtgttggg gat 213

<210> 9639
<211> 633
<212> DNA
<213> Eggerthella lenta

<400> 9639
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cgcggcaggc cgtgcttcac gccggcgtcg ccgagcgatt ccaggaacat cgcggcgaac 120

gcggggccgc agccggcgat ggagctggcc gtggaaagca gcttgccgtc gacccactcg 180

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tggcgctgct cgcaggcgat cacgcccgcg cccacggcga tgggcgtgtt ggggatggtg 300

ctgaggtgac ggctgttcgg agcgaggacg ccctcgtaga acgcgaagtc gcgcccggcg 360

gccaccgaga tcacggcctt gtcggcaagc aggtcgcgca ccggctccac cacctgttcg 420

atgaggtagg gcttcaccgc caggacgacg aagtcgctgg ctctcaccac ctcggccgcc 480

tcgcggtagg cgttcacgcc gagcttctcg gccgaggcct gcagtttgtc gaagtgtccc 540

gcgcacgcgt ggatgtgctc gcccgaaagc gcgcccgagt ccacgaggcc ctgcgccatc 600

gcctgggcca tgttgccgaa cccgatgaag ccg 633

<210> 9640
<211> 325
<212> DNA
<213> Eggerthella lenta

<400> 9640
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atcgaacgtg gtcgttccgt cttcgaacac gtccacgatg gtgcagacga actccacctt 120

gtgagctgcg cagcgcgcga gcgcgtacga cggatcgggc agaagctgca ggtgggcgtg 180

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gcgcttctgc cggaactgcg gatcgtcgaa gacgggttcc gcgctctgtt cgtcgaccat 300

ggtcgcgtcc tttcttgctc gcagg 325

<210> 9641
<211> 958
<212> DNA
<213> Eggerthella lenta

<400> 9641
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cgcgcgggcg tcttccagat cccggtacac gtactcgggg tcggcgtagc gcgacgcgac 120

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caagccgaac agccgcgtgc gatcgatctg ctcgagctcg gccgggggct cggtggtggg 240

atcgagcggg atgttcgcca ccttgtagcc ctgctgcgac aagtagatgg acgtgggcgt 300

cttcgacgag cgcgacacgc ccagaagcac gatgtcggcc tgatgcagct cctgcgggtt 360

gcggccgtcg tcatgggcga tggtgaactc gatggcctcg atgcgccgga agtagtactg 420

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<210> 9642
<211> 211
<212> DNA
<213> Eggerthella lenta

<400> 9642
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cttcagcacc tcacgctgct cgtcggtagg cgccagcttc tcggaatcga tccacacgcc 120

ctggcccatg aggaacggtg cgttgtacac gtgcttgcgc gcctggatct cgaagcgctc 180

gtcaagctgc cccaccgcca gcgcaagctt c 211

<210> 9643
<211> 571
<212> DNA
<213> Eggerthella lenta

<400> 9643
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cacaacgggt attcgccggc ggcgttcggc tggttcagca tgaaccccat ggccagttcc 120

atgagcatgc acatgaccac ggtggcggcg aagaactgga tcccggcgct gacgagggtg 180

gcgcgccggg cgaccagcgc cgtcttgagc ggcatcagca cgagcgcgca gacgacgacg 240

cccacgccgt acacgagaaa cgggtacatc gggtcgtccc acacaagcga atcggcatcg 300

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tcggcgtcgt cgaggtcggg aagcgccacg t 571

<210> 9644
<211> 1217
<212> DNA
<213> Eggerthella lenta

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agccggcatc gtcggcgtcg tcgaggtcgg gaagcgccac gttcacgtag tacaggaaga 120

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ccttgctcag cagctgctcg agcgccgggt agatcaccca tgtcatgagc gtggccacca 240

cgccgaaggc gatggcgttc tgcaggcaca cctggcccat gaagttgcag aacatatcgg 300

agtagtccca taagggcagc ttgccgtcag ggccgggctg gttgaccatg aggcccatga 360

ccagctcgat ggccgtgcag acgagcgcgt tgacgacgaa gctgatgagc aagggcacca 420

cgcggctgcg gatgcgcttt tcgaggaagt tcttgacggg gtacagcaga agcacgcacg 480

ccacggctcc gaacccgtac acgatgaagg ggtagagcca atccgaccag atctgggaat 540

tcgggtcgta ggtgccgggt atcattccga agcggatgag cgtgcaatag gccgcctcca 600

tccagtgtcc caccacgctg aacacgcaga agtaaatgat gatgttgcgc cagaacgccc 660

aggtccgagg ctggtagcag tccaggtcct tcgcgagctc gcgttgtttg acctctgcgt 720

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ccggcggaag gcgcgtt 1217

<210> 9645
<211> 350
<212> DNA
<213> Eggerthella lenta

<400> 9645
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tatatctcgg cagaccggcg gaaggcgcgt tcggaaaggc agatgccgcg ttcgcttcgc 120

agaacgcggc gttcgtgccg ctaccagcgt ttgagcgtgg ggagcagggc gcccatgaac 180

gaaacggctt cgtcgcgcgt gatgtggcac gactcggcca tgaacggggc gcagcgctcg 240

atcagctcct cgagcgtctc gtcttccaga aacgcgccgt tcgcatagca ccacgagcag 300

tagtcggccg acagagagcc gtccgcctcg gtgccatgat ccttctcctg 350

<210> 9646

<211> 419
<212> DNA
<213> Eggerthella lenta

<400> 9646
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aaggcgcatc ggcgcctcga gcgccgcgtg gccgcgcggc gcggcgtgga aggcgcgcgc 120

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<210> 9647
<211> 193
<212> DNA
<213> Eggerthella lenta

<400> 9647
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cgatgtgaga tccttcacgc gcacgttcgc cacgtcgccc agctgccact gccgcaggta 120

gtccgtaacc gcctcgcggc gcggcttacg accgtacagc tcgaactcgg ctcccaacgc 180

atatgccgcc gtc 193

<210> 9648
<211> 195
<212> DNA
<213> Eggerthella lenta

<400> 9648
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gcgatctgcc catgctgggc atctgccgcg gcatgcaggt gctcaacgtg gcgctgggcg 120

gcacgctgta ccaggacgtg cacgcctgcg ggctcaccga cgcggcgcat cagcagaagc 180

ctccctacga cgtcg 195

<210> 9649
<211> 316

<212> DNA
<213> Eggerthella lenta

<400> 9649
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tgcgcagtgg gccgatatcc ttttgccggt gccccattcg ttcgaggtgc aggatttcga 180

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<213> Eggerthella lenta

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<213> Eggerthella lenta

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<210> 9659
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<212> DNA
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<210> 9661
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<212> DNA
<213> Eggerthella lenta

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<212> DNA
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cgtggtgttg gcggctcttg cggcggcggg tcgcatgctg ttcgctcccg ttcccgactt 480

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<210> 9813
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cggctgcccg ctggccacca cgtccgcgaa catctcgggt ctgcaagcgc cgggg 235

<210> 9815
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<212> DNA
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ccatgtcgtg caggatgcgt tcgcctcgcg gatcacggtt cgcggcgaca cggtcgagct 180

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cgtggaaggc ggcggcgagc ctacgctcga gtacgtgcgg cacgccatcg acctgttgcg 300

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<212> DNA
<213> Eggerthella lenta

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<210> 9819
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<212> DNA
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<211> 343
<212> DNA
<213> Eggerthella lenta

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catgcgggat cgcgctggta cagcgcgggc acctcgccgg cct 343

<210> 9823
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<212> DNA
<213> Eggerthella lenta

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ctcctcgaaa gcgttggata cggggatagc gaggcgtcg 159

<210> 9824
<211> 197
<212> DNA
<213> Eggerthella lenta

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tgagagccga ttcggcatcc gatcccacgt tgacgacctc gagcttcagc ccgaagctgt 180

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<210> 9825
<211> 473
<212> DNA
<213> Eggerthella lenta

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aatacaaaga tcttctcata accaactccc ttctttgtaa aaccataata ataggcagcg 120

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atataacgga tgaccaggat catcttctat cttttctcta atgttgcaga tatgtcgcat 240

aaccacatta taatcaccgg aatagggttc attccatatg atatcatata tttgttcttt 300

gctaaacact cttccgggac ttcgcattaa taaatgcaaa atttcaaact ctataaaaga 360

taaatctatt ttttcctgct ttcgaaataa ttctctttta gccaacaaaa taacaatatc 420

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<212> DNA
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<212> DNA
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gccagcggcg tcatcataga accggccata ttgaacgcgt ccg 223

<210> 9829
<211> 262
<212> DNA
<213> Eggerthella lenta

<400> 9829

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tccgccgttc gacagaacgg cg 262

<210> 9830
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<212> DNA
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<400> 9830
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gagcagacgg gcgtggaggc gaagctcatc cccgtgcgca ttccgtatcg tgagaccatc 180

cgcaagacgg ccgaggcgca gggtcgtcac aagaagcaga cgggcggcgc ggggcagttc 240

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<210> 9880
<211> 254
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<213> Eggerthella lenta

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tcgcccttcg gcatccgaag acgcgggcgt catccgcgat cgcacgtcga agcaatgtct 180

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gcgcgggaac agca 254

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<212> DNA
<213> Eggerthella lenta

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cgatgccgag caaagcgccg ccagcatcca gcagcggcag cggacgagcc tcgttcgcga 180

tggtgacgcg cacgacgtcg gagcgctcgt cgccttcgaa ccggatgtcc cagctgcacg 240

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atccctccga cgcggccgcc tgcatcacca gccgatcgta caaa 404

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<211> 234
<212> DNA
<213> Eggerthella lenta

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gacgaatcgc tgcggcttcg aggacgaccc cagcaccacg gcgtagtact tgtgcccgtc 120

tccgcggttc acggccgacg ccgcgcaggg cccggcggcc aacgtgtagc cggtcttggc 180

cgcgcacgcg cccgggtagc tgcccagcag ggcgtcggtg ttctccagcg ccag 234

<210> 9883
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<212> DNA
<213> Eggerthella lenta

<400> 9883
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caacgccgca gctcctcgtc gctcaacgga tcgggcttcg gcggacatgc agtcggcatc 180

ggagtcgtac ctgcctcctg tctgacgtcg tcgaccacta cgccgttgcg caatcctat 239

<210> 9884
<211> 169
<212> DNA
<213> Eggerthella lenta

<400> 9884
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gccgctcatc gaagccgctg gcggctcgcc cgagctcatc cgcgccatcc agagccacac 120

ctccgacttc aacccggagc tgccgaagcc cgagctgcag atggagaag 169

<210> 9885
<211> 202
<212> DNA
<213> Eggerthella lenta

<400> 9885
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gatgaggcag ttctcgtcgc ccatgcccat gtcgcccgcg ccgccttcgg cgaatacatt 120

gtcgggcgcg ccgccgttga gctcgcgctc gttggcgccc tcgccgtttc gctgcggagc 180

gccggacggc ggcgtgccgc cc 202

<210> 9886
<211> 197
<212> DNA
<213> Eggerthella lenta

<400> 9886
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gcttcttgcc cgtgccgcga aacagcgcga acacgtccca cagcacgtcg tccgcgccga 120

acacgatgaa cgcgagcgca acgaagaagc cgatccaata gacgacctgc tcgtccatgc 180

ccgcttccgc ctccttt 197

<210> 9887
<211> 199
<212> DNA
<213> Eggerthella lenta

<400> 9887
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cctttgttgc ggttccaccg gctcgttcac cttgtatggc acgtctttct cctcgaacgt 120

cgtatatcga aagtcggaac atactaccac gaggatagag ccggtcgatg attctgcact 180

tcacgtccat tcctcccga 199

<210> 9888
<211> 235
<212> DNA
<213> Eggerthella lenta

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gatgagcgtg gccagcgaac gcttctcgtt ctcgctcagc gagtcgccga acacgtcgtc 180

gatcttgagc cggatggagc ccgagccgtt cctcagggtg tgggagaacg cctcg 235

<210> 9889
<211> 185
<212> DNA
<213> Eggerthella lenta

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aatgtttcac gtgaaacatt cgcagcgcgg cgtgggcggg ttagcaggtg gtggcgatct 180

ccgtg 185

<210> 9890
<211> 175
<212> DNA
<213> Eggerthella lenta

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cggcgtcgaa tgcgcggtca ctcgtcaggc cgtcggccgc gatgacgtga ctctcggtgc 120

tgatcaggcg atctctgtgt accaggcggt ggagatggtg acgaagaacg ccgcc 175

<210> 9891
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<212> DNA
<213> Eggerthella lenta

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gcatgaccga gtccgcacgc cgatctgccg atacccggcc gcctcgtccg gcccgtcccg 180

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gcatgatccc cgaggggctc atcctgctca cgtccacggt gctggccgt 1669

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<211> 120
<212> DNA
<213> Eggerthella lenta

<400> 9892
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gatcatgaac agcctgaacc gcatcatccg gttcgtcagc ttcgtcatct tcccgctggg 120

<210> 9893
<211> 142
<212> DNA
<213> Eggerthella lenta

<400> 9893
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gctggcacgc gtggacacgc tgtgcctcga caagacgggc accatcacca caggcaagat 120

ggaggtggag gcagtgtgtc cg 142

<210> 9894
<211> 3765
<212> DNA
<213> Eggerthella lenta

<400> 9894
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<210> 9896
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<212> DNA
<213> Eggerthella lenta

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<210> 9897
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atcggcgtga cga 613

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<400> 9899
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<212> DNA
<213> Eggerthella lenta

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gcacttgtac aggaagtcca ccgtctcgtt cagctgcgtg ccgcgcacga tggaatcgtc 180

cacgaacagc agcttcttct cgttgatgag ctcggggatg tgtatttgct tcatcttcgc 240

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<213> Eggerthella lenta

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<212> DNA
<213> Eggerthella lenta

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<210> 9935
<211> 2568
<212> DNA
<213> Eggerthella lenta

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<210> 9938
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<212> DNA
<213> Eggerthella lenta

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<210> 10161
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<213> Clostridiales bacterium

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accgaatcca cagttgcggg tg 322

<210> 10247
<211> 1383
<212> DNA
<213> Clostridiales bacterium

<400> 10247
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<211> 1167
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<400> 10249

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<213> Clostridiales bacterium

<400> 10251
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<213> Clostridiales bacterium

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cagcacgccg aagacctgct ctttgatgtc aagcgtgccg cggccccaaa tatagccgtc 180

cgcgatgtcg ccggaaaagg cgggatgcgt ccagtcctgc tctgtgccct caacaacggg 240

aacgacgtcc tgatgcgaca tgtagaggca gggacgcaga gaagcgtcgc tgccggggat 300

ggtgatgagc acggcgtggt ggccgatgcg ctcaaacgtg cccacgcgca tgatgttggg 360

gtagcttgcc ttgatgtgcg cgtgcagctt gtcgaactcc gtgtagtccg tccggctgtg 420

gtcaaagtag ttgatggtct tgcac 445

<210> 10265
<211> 432
<212> DNA
<213> Clostridiales bacterium

<400> 10265
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gtaaggggcg atatcctcgg gcttgcccca acgggcagag ccgtattcca gattcttgcg 180

gaatttcttg gcgtttttgc ccttgacgta cacgataaga cggatgagca gagcggcggc 240

aacgcccgcg cacaggtcga tggggtggaa gctgggcagc gccgattgga acgcggcggc 300

aaagccctcc acgaggtgca gcgcctttcc cgagaaatcc gtgccgggcg caagccgcca 360

cgcctgtccc agcttggtgg caaagagggc gataaagaca tacgggatat tgggaagcag 420

taacttcttg at 432

<210> 10266
<211> 1209
<212> DNA
<213> Clostridiales bacterium

<400> 10266
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tgcgagcaga aggcttttca cagcggcagc atagttctcc tcgctattct tcatccagta 180

cattcttgta ctccctgtga agtaaagaaa gaagcaacac cgccctttga cgataatacc 240

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aatcaaatca gcagcaaggc tgccaacagg ctgccagagg ctgcatcata aagctactca 840

caaaagagca aaactgacca agcaaaaaac acccagacag aatttgtatt gcctaacact 900

acctatttct gcgctccctg agtggggaca gctcgtatgc acgatatcac taccaatttc 960

tgcccattac tcagagcagg ttttggtagt tgttttaatg tgatttttgg tccaggatga 1020

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atcatagtt 1209

<210> 10267
<211> 822
<212> DNA
<213> Clostridiales bacterium

<400> 10267
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cccgtctgag atcgcaggca ttcccgtgct tggaaaggtt gcggattacg caagataccc 180

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cacttgggtc ggtatcggag cggccatcag caataacata agcatttgtg accactgcac 540

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atcgctttcg gaaggacttg cttgcagcgc ttttgggtgc aggacacgag gtgtatatct 720

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cgcccatcga ccggcgcggc atgaaccctg cgcgcgatgc aa 822

<210> 10268
<211> 302
<212> DNA
<213> Clostridiales bacterium

<400> 10268
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ggcaacccga ccggcgttgt gctgagccac gaggagatgg agatgctcgt cgatgtcgca 120

cagaaacacg acctcttcct catcggcgac gaggcgtacc gcgaattcgt ctacggcggg 180

gagaagctcc agtcgtttgg cgagtttgcc gacagggcgg gtgacaacat catcgtcatc 240

gacacggtct ccaagcgctt ttccgcctgc ggcgcgcgta tcggctgcct gatctccaag 300

aa 302

<210> 10269
<211> 694
<212> DNA
<213> Clostridiales bacterium

<400> 10269

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gatgaggcgg actcttcgca gggtacgaca aaaaccgcac agaagagcac cggtaaggta 180

cgcccggagc agacgattcc aagtggcgat gacgatgacg acctccccct ctgatctgga 240

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caaaatctac atacgaaagg actgactatt tgtggctgtc aaaagccgaa ttgacgcatg 360

gaccctgctg agggttcttg ttgtaccctg tctgtttctc tgcgcgatct tcaagcgccc 420

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gctattccgc tcgcatagaa aacgctgcaa aaagatgccc gcagagcaaa aggcctttcc 540

tgcgaagcag gagaccaaac cgcttacgga gactccgcaa gaagcagatg atgacacccg 600

actgagcttg ctcagacagg tcaattatcg aatcatggag cagctgaagc agagctatcc 660

cacagtatca tggctttggg atacgcgtcc ttca 694

<210> 10270
<211> 281
<212> DNA
<213> Clostridiales bacterium

<400> 10270
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cgctgaagga aatcggcatg taccacatga tgaaggagtc cgccgtggaa aaggcaaagg 180

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atgttcatcg tatgatacgc agaccgatcc tgccagcgaa g 281

<210> 10271
<211> 787
<212> DNA
<213> Clostridiales bacterium

<400> 10271
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ccgatgtggg catgagcggt gcaaatctct atccgatctt tctggttggt gccgagagtc 180

gtattgttcc attgggatac tccattcgca ccgaacacaa gaatggcgtg gatatgcagt 240

attttgagga acagctcgga ttggtctatg cgcaatttga aaaggcactg gacaagcaag 300

tgcagcttat gaacatcgag atccgctatc ccgtcacaac actcatgcgt gttctgaaaa 360

gaatcaaggc cccgaagaaa gcctcctatg aagctatgga ctatttcgta gcaattcatg 420

gagacagtcc ttgcacggcc tatgaactct tcatgcagat gagcgatgtg atcttctctg 480

cgcagtgtga cggtgcctct gggctgagga ttgctcagtt ggaggagatt gtatctcgtg 540

ccttgaatgt gaattggcat gagtatgatc atcccggcga ctttaagtgg taagaggtgg 600

tgatctcaca tgaagaatat aaccttcgaa ggcatcagca ccttacaacg tctacacctt 660

tgctggcaga tcagaaagca gattggaaag atacatcaac ctatcaaagt tgaattccat 720

cagccgattt gccgcaagca gtattcttcc ctctggtacg gcggcctggt ggtatctatc 780

aaggtgc 787

<210> 10272
<211> 3475
<212> DNA
<213> Clostridiales bacterium

<400> 10272
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ggcccggagt tccaggtgtt gtttgcgaga ttccccagcg tttggctcat catgccgctc 120

atatccaccg tctcaacgcc ctcaggcttt gtggcagagg cggaataccg caagctgatg 180

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gtcttcaaat cgcccagcgc caccggagtc ccatccacgt cggcgatgcg ggtgagatcc 360

gtggcgggat tttccagcag ctccatgaca gccgccagtg tcaacacctg gccgtccagc 420

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atagcgttca cttccttttt gcggatgcta aaatgcagag gggtatccgt cagatgcttg 3360

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ccgggatcgc ccatgagcgc ccgaaccggg acgcgccggg gatccgcccc tcggc 3475

<210> 10273
<211> 465
<212> DNA
<213> Clostridiales bacterium

<400> 10273
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ggatatccag gtgatggaac gtccaatggg aaagagtccc cgttcctgca agggtttttt 120

cctggtttct tctcggtgca aactgattgt aatcaacagt gatttgcccg acagcattca 180

acggatcatc attgcgcacg agctggggca tgcagtcctc cacagcgatt ctgccattaa 240

caccttccat gagtttgcga tgtttgagga tacaaatcga atggagtatg aggcaaatgt 300

gtttgctgcg gagttcatgc tcagcgatga caccgtctta gaagcgctgg agatgcaaat 360

ggacttttat cagacagcga agtgtttgta tgtgccacct gagttactgg acttcaagct 420

ccggattcta caatgccaag gtgtaagaat catagctccg tatat 465

<210> 10274
<211> 567
<212> DNA
<213> Clostridiales bacterium

<400> 10274
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tatacatttt ttccctcctc acaagtttct ccaatgtcat gggctctaaa gtagatccct 120

caatggcacc tttcgttcca caaaccaacg gcctatcgta ttacccgtta gattggtgga 180

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gctgtctgat aaaagtccat ttgcatc 567

<210> 10275
<211> 1607
<212> DNA
<213> Clostridiales bacterium

<400> 10275
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tgtgactgcc gaatcgctgg attatgccat caagcaattt cagcaaaatg gtgtagtctg 180

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caaacgctga aaccccttga aaatcaagga aaatcgaagg agaatgagta caaatgaaat 300

taggtatcgt cggactgccg aatgtcggca agtccactct cttcaacgcg atcaccaacg 360

cgggcgcgga aagcgccaac taccccttct gcaccatcga gccgaacgtc ggcatggtgg 420

ccgttcccga cgagcgcctc gataagctcg ccgagatgta ccaccccaag aagaagaccc 480

ccgccgtcat cgaatttgtc gacatcgcgg gtcttgtcaa gggcgcaagt cagggtgcgg 540

gtctcggcaa caagttcctt gagaacatcc gccgcacgga cgccatcgtg cacgttgtgc 600

gctgcttcga cgatgaaaac atcatgcacg tcgtggccga cgcgagcacg aacgtccccg 660

tcgacccccct gggcgacatt gagaccatcg acctggagct catcatggca gaccttgaga 720

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aggaaaaggg attgctgcgc agcgagggca aggagtacgt cgtcaaggac ggcgacatga 1380

tctacttccg ctttaacgtg taaaattccg aaaattccat cataaatttc caaagacggt 1440

gcagctcagc tgcaccgtct tttttaagtg aaacgggtgc gctaccatgg tagcgattct 1500

gcaaaccgtt ggtatcacag gaaaaaccgc actttaaatt tttggaccgc taccaaaccg 1560

ctaccacgac tggcccgcaa agcgctggaa tacatagtat atcatac 1607

<210> 10276

<211> 229
<212> DNA
<213> Clostridiales bacterium

<400> 10276
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cacgcccacg atgaccggca gcacatagga aagcgccgcg tagtaataca caagttccgt 120

cacgagcgcg ccggaaagca gcgcgccgaa gagtcgaaag ctcatcgaga tcggcagcga 180

gaaatccttg agcgcgtgca gaaatccgcc cacgcccgcg gcgatcagt 229

<210> 10277
<211> 498
<212> DNA
<213> Clostridiales bacterium

<400> 10277
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cttgtgtggc agctattcag aaactttggg cttggactgg gccttagtgc ggaggatcca 120

gtcaagctcg ccatcaaatc cattctcttt atctttttag cactttttgc ggatcagatt 180

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tccggctcgg taagtttgat tgtactcatt ttggtgctca tcgtagcatg gaactatatc 360

aagcttctat tcgaggcagc ggagagatac attctcgtcg gcgttctgat ctacacagct 420

ccagtcgcat tcgctacagg ggcatcagaa aacacatcaa atgtctttag tgcatggtgc 480

agaatgcttg gaggccag 498

<210> 10278
<211> 705
<212> DNA
<213> Clostridiales bacterium

<400> 10278
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atggtgttag gagctgatta ttttgccaag aggaaaactg ttaaacggtc tggtgacgca 120

gcagaaggta ttgcgggcag cggtggcgct gttcctggaa aagggctaca ccagaaccac 180

caccggcgag atcgcaaagg cggcgggcat cggacagagc tcgttcttcc atgtttttcc 240

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ggcgggacag cacagcgggg aacaagaccc tgtactcctg tacgccgtgg aaacggccct 360

ccagctccac atcgctgaac tgaccgagcc gctgcgggag ctgtatgtga tggcatactc 420

cctgccctcc atcgcggcat atctttacaa aagcacaacg aaacggctgc aagttatttt 480

cggaccctat ctgccggagg cgcagcccaa ggacttctac gaaatggaga tcgcgtccgc 540

cagtatcatg cggggcttca tgtcggttcc ctgtgacgtg tatttcacga tggacgccaa 600

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<210> 10279
<211> 1551
<212> DNA
<213> Clostridiales bacterium

<400> 10279
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acagcattcg cagatgacga gaaaagaaga gaagatgttt ccccatgcag ctgtgaaacg 180

gcctgcacgg tggacaacat gaacaaggaa tgccctgtct gtggagcgga gaatgccata 240

ccgcagaact gcggtcaatc catccctgtt gaggacagaa ccggcgaaaa cggcagcacc 300

gagagagccg atgatccgaa tggtcccata gagctgagtg ccacagatca ggtacaggcc 360

atgatcgacg gtttaccgaa cgcagaagaa atcactgaag ataacgccga agaagtcaag 420

gcgcagcttg aggccatcga cgaggcgaag gagaagctct ccgacgagga aatcgatgag 480

ctggatatga cccggtatgc ggaagctgcc gctgcattgg gggcgctggc tgcgccaatg 540

ctattggcta atgattcgcc tgacgagcag ttttccctca aacccggcga cacctattac 600

tttgacctat ccggcgagga cattcccggc acagcaaaca gcggaaactc agatggtgcg 660

gtttctttgc cggatacgtc gctgcactat gttcccttta cctatgtggg aacgatagaa 720

gcctacaaac tcacgtctgc gacggtaacc accgaggagt atgcacagca gaacaaatat 780

ccccacagcc tgtttgtggc ggactatgcc gtaacgcata cggtaagctg ggatgactta 840

aatacgaaaa gtctgatttt cggcaaaaat tatgccagcg gcggcgtgga ctataccctg 900

cgcgcaccgt ctgtgggaag taactctaca ggctcgggtg agtcccaaca cgacacgccg 960

tcaaataatg aatgggacag gatactggac aagaacagcg gatatatcca aaactggaat 1020

aaaatgtatt cgtggggaca ggatacttct tctgccgccg agtcgttccg ggcgtaccgt 1080

gggtacaact cggcccgctc ctggtattac acctcgtcct cgtttcggaa cgtctacctc 1140

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gccgttaccc ttgacctgaa cggcggcaag ctgggcggca gctccgaggc tattcagatc 1260

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ggagatacag gcagctactt catgtggctc ggaagcaacg gcaagctcta cgcgcccggt 1380

gccattgttc cggcggacgt taccaagctc acggcgcagt ttgctttatc agagcagttt 1440

tccctcaaac caggcggcag atattatttt gacctctccg gcgagaacgt acccggaacg 1500

gaaaacggcg atctgccgga cagcacgctg cattatgttc cctttaccta c 1551

<210> 10280
<211> 435
<212> DNA
<213> Clostridiales bacterium

<400> 10280
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cgataccatc gtcatgatcg acaccttcct cgccaaggtc acctatgttg ctcctgccgc 120

ttatgacgct cagggccacc tgcgcaccga ggctaccatc aagctcgatg tctatgccac 180

caagggctcc actgctgcta ccacgctcac cctcaccaac ggcgaggatg cgtatccgta 240

tgctgtcggc gattacgttc tcctgaacgc ctacaccaac gcttttaaca gcgctaccga 300

gagcggcctc atcaagaccg ccgctgacaa gtacggcgag atcgtttcca aggccacttc 360

cattgacggc gctcagagcg tgatctacta caacgccaag cagcacaacg tcgagggcac 420

tgtctatgac gatgc 435

<210> 10281
<211> 760
<212> DNA
<213> Clostridiales bacterium

<400> 10281
attattacct cgcgtcaaga ctgcttttac cgcagtaccc caagttctct gtatagttga 60

agcgggagac tgtatgccag tctcccgcta tatccttatg caccttctcc ggccacgcgg 120

aagaactcat ctggcgacag aatcttgatt ccaagctcct gtgcctttgc cagcttgctt 180

ccggcgttct caccgcagat cagataatct gtcttgctgc tcaccgaact gccggcatga 240

gcccccaacg attcaatttt tgcgttgatc ccctcacggg tatatggctc caccttgccg 300

gtcaccacaa gggtcttgcc gacaaaggga ttgctcatat cggtgctggc cgcaggcggc 360

tgataggtct taatgcacac cagtcgccgc agctccgtcc agatcgtcca gttttcctcg 420

ctgcggaacc attgatggat attcctgtgc agcgtttctc cgaagtccgg gagctgtgtg 480

aaatcaaagc tctggcacac ggccgtttca aattccgcaa ggtttccgcg gaatctttgg 540

cagatggcct tgctggcggt gctgcccacc atagggatat ccatagcagt cagatactgc 600

tcaaaggtgg taatgcggct gtgctggatg gcatcccaaa gattttgcca ggatttctct 660

ccaaacccct ccatctgaac gatctccgcc ctgtgcttgt ccagagcgaa gatgtccata 720

taggagtgaa gccaaccctt tccaatgaac ttttccagga 760

<210> 10282
<211> 1486
<212> DNA
<213> Clostridiales bacterium

<400> 10282
cttcgtccgc ttggtggaat agggattcag ctcccattcc ttcggctcga tcagttccat 60

cagatccggc agcttttcaa taaagctggg aacatactct gtctccattc caagcacagt 120

ggaataccgc tctgccagca cgcgggcttt attttcaccc aagtctgcgg ggacaaagtt 180

ctgccgatcc aggttctttg gctcgacaat atccccatcg cagacgacaa atcgggcagg 240

acgatccagc atatgaagca ggcgaaacac atacggggca acatatcctc ctgtgccgcc 300

ggctcccagc atgaccacct tgaccgggcg atccgttgga aacttcatag gaacgcctcc 360

tccagaaggt cccggaagct gcgcttatcc ggctttttga atcgttcggg ctttctgctg 420

cggatgctta cctgcgccag ccattccttg ggaaacggct gctccaatcc ttccatcaca 480

atatttggat cgatggatac aaaggagtcg ccgcagaaaa tacgcgcctt gacgtccgga 540

tagaatttat caagttttcc caaaacgagg tagagtcctg tggagcgctc atcctgatca 600

tctttaccgg agaaaaaggc atccatgctg ttatgagagt ggatatccgc gtagcaaaga 660

taccgctctt catcgtcata ggggcagtca tggagatcgg cctctacttc ctccttgcac 720

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gcaaatgctt cattctcccc atgatccgtc ataaaggcac ggaaaaaggc gatgatctgt 840

cccatcagct cggcgggaat cttcggcaga gccggggaaa acccggctct gacctcagag 900

aaatccacca cattcttttt gggggcgata aactcgccct gctccatctt gcgaagctca 960

tagatcctgc cgtcgttgga ggggatcagg cagatgacct tatccgaggt gcgggcctct 1020

tccaaggtgc cgaatttccc tttataagcg gcattcccct tggttttcat ttccaccttg 1080

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tccttgcgga tgccgcagta ttccacgctc caggataccc ttttgccttc ctccagatcg 1260

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tcctctttca cgcccttgtg gtaaaatacc ggaggctttt ccaacaggcc ctttttggta 1380

ttctccgctg ttttctgctc aaaggccgcg gcaatgggat tctccgcagg agcttcggct 1440

ggcgccttgg caggcacatt gacgatgggt gcggttgctg gctggg 1486

<210> 10283
<211> 462
<212> DNA
<213> Clostridiales bacterium

<400> 10283
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gctctcgacc actgtgcggt agccgtagcc gtcgcggcgc gcgatggcgg aggggtcgtt 120

cgcttgcaaa aagcgcatct cgacgccctt gtcctgtacg gcctcgcggc agtgggccat 180

gacgctctcg accgtgtcac cgtcggcaat gcggaagttg atgaccgcgg tcatgtcctg 240

cggcatcacg ttgcacgcgg cgctgccgcc gcggatcatc gtgggcgcga tagtggtggt 300

gacaaacggg aagaggtcgg gcgagcccat gcagcaggcc gcgatggcgt ccgcgttgcc 360

cgcaacatcc tgcacgagcg ttttgagcgg ctcctgcgtg atatagggcg cgagcgtttc 420

aaacgcgccg gtcatggcgc tgttgaggcg cacggcaaac gg 462

<210> 10284
<211> 239
<212> DNA
<213> Clostridiales bacterium

<400> 10284
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gacgagggcg gctgcaaaat tgagcccggc acggccttcg gcgcgccgga gacggccatt 120

gtcagcgtgc agctgatgga aaagggctat gccgatttgg agctctccgt ccacagcatc 180

ggcgggcatt cgagccgccc ctacggcggc acgtcacttg ggcgtctctc cggtgcgat 239

<210> 10285
<211> 810
<212> DNA
<213> Clostridiales bacterium

<400> 10285
agacattcat gcgctgctgc agcagtttac cggcacaaca tcgtctcccc cgagaagtgc 60

catgtcaaga gggaacatat gtctcaacct gagcagcgtc agcacggcac tgctgaaaca 120

ggtggatctt gcggtataca gcggagaatg tctcgcgatc catacggaag accggcggct 180

gctggatgga ctgcggcaac tggctacggg acagagcgca ctgctcggcg gaaaagttct 240

gatcgatgga cagccgatcc accggccgat ggcgcgggat cagcgggtcg cctatattgc 300

agaaaatcct tcacaaatga tgctgtttca ggatatgagc tatttgcgga atctcacgtt 360

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gcgcgagctg acgccggagc ttggcgcggt ttttgataaa gacatccgtg atctgaacgc 480

acaggagaag tatgcgctga tctttcggcg ggtgctgctc cagcagcctc gtgtggtatt 540

ttttgagcag ccattttggg ggaatgacgt gctgctgcag cagcatatcg agcggcaggt 600

acagctcctt cttgacaaaa agatcgcggt ggtcgttctg atcgtcggta tctatgacgc 660

gttcccgttg gccgaaagaa cgctgattta taaaaatgga cacctgttga ctcagtaagg 720

gaacggctga caggccggat gtcttctggt acgatgtgat ttgtatcgtg taaagcaacg 780

acctgaacaa tatgttttcc atttttcaag 810

<210> 10286
<211> 422
<212> DNA
<213> Clostridiales bacterium

<400> 10286
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gactgctaac tttgaggaag agtttgtgaa atggagtccc taccacatcg aatgtaatct 120

ctataacggg aactatcatg cgggaagcaa ggtccgcttc cgcgagattg ttatggggct 180

ggactacgat gtgacaggca cgattacgga atgcgaacag gatgagaacc acttccgcat 240

tgtattccgg agcgacaaga aaacagcgtt catcaccttt gaaggaaaaa gaactgaaac 300

aggatgccat ttctctcaca ccgaggcttt cggcatgacc acgccggtaa ttggggcgat 360

catgaacttt ctgatcttca aggtgttttt caggaaaaag gcaaactggc agcttatccg 420

gg 422

<210> 10287
<211> 2181
<212> DNA
<213> Clostridiales bacterium

<400> 10287
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gcggtcatgg gcaacgagga actgaccgtg ggtctggtgg acgagattgc gctgtcggag 120

ggctttttca actatgagga gaagtacacc ttaaagacct ccgccatcca ctgtcccgcc 180

cgcatcccgc cggagaaggc ggcagagatc caggcagcgg caaaaaccat ttaccgtgcc 240

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cagggcatcg gcatttcctt tggggagctg gtgacccgcc tgatcgagtt gggggtggcg 420

ggatgagaac cgtgtcgatt ccccgggagc agatttttca ggggccgctg gtcctggtca 480

accgggcgca tcccctgcat gaaaaagagc gatctgcgct gacctcggtg gacccgcacc 540

accccgacat tcttcttgaa agccgggcac ggcagctact gtctgcctgt atccaaaagg 600

cgggggggaca gcgggagatc gtgccggtgt ccggctggcg gagccagcag gaacagcagc 660

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agcatgtacc tcgccctccc cctgtgcata gtatgccttt tttctctgct gctgggcgga 1920

aacaagggcg agtccaggaa agtccgggaa ttttccacag ccatgtatgt gctccatccc 1980

ctctgcatcg tactggtccg gggagcggca aagctactgg gactgggaga aatgctcatt 2040

gaaaacagtg ttctccattt tattgtggtg ctggcgctca gtgcgctgct ctccgcccct 2100

tgcctgctga ggcttcaaaa gaagcccagc cccaccgctc gggcctggcg ggaggtggat 2160

ctggcggccc ttgggcacaa c 2181

<210> 10288
<211> 437
<212> DNA
<213> Clostridiales bacterium

<400> 10288
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agggcggcgt gtccatgtcc atctggccct ggacacgggg atgcaccggc tgggcatcct 120

ggcggaaaac cggaaggaga tcctggaggc attccggctt ccaaacctgg tagtggacgg 180

tgtcttttct catctatacg tctcggacag cctggaagcc gaagatgttg cctacaccca 240

ggagcagctg accttgttct atgatacggt ggcctggctc cgaactgccg gatatgatcc 300

cggcaaagtt catatccagt ccagctatgg actttggaac ctcccagctc agccctgtga 360

ctatgtccgg gctggaatcg cactctatgg agttcgaagc gatgatgcgc ctgttcagcg 420

aagccttgac ctgcggc 437

<210> 10289
<211> 493
<212> DNA
<213> Clostridiales bacterium

<400> 10289
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gcaagaaacc aaactggcgg tggtcaccat cggctacgcg gacggtctgc cccgggatct 120

gcctcagcgg ggcggccagg tgctgattca gggccggcgt tgtcctatgg tggggcggat 180

gtgcatggac cagttgctgg tggacgtcag cgatctttcg gaggtcgctc ctggcgatac 240

agtgactatt atcggccggg atggcggtca ggtgattcgg gcagaggaac tggctgcatg 300

ctgtgggacg attaccaacg aactgctctc ccggttaggc atgcggttac ccattgtttc 360

tggttaaaga gcggtaggaa attttacaaa gattccggtt cggatttcaa catgaatata 420

cctttaaaca ggaatagcca ccaaccacga tgaaatggtt gatggctatt cccgtttggt 480

cgacaccaag aga 493

<210> 10290

<211> 777
<212> DNA
<213> Clostridiales bacterium

<400> 10290
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gtgggcgacg ctttttcttt cgcaggagtg gatgacctgc gtgggacgtc tcgcattccc 120

catttttgcc ttcatggcgg tggagggcta cttccacacg cacagtttca aaaaatacgc 180

gcagcggatg ctgatttttg cgttgctgtc ggaaattccc tttgacctga tgtacggcgg 240

cacgtggttc taccctgtgc accagaatgt catctggacg ctgctcatcg gccttctcgg 300

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cccgatcgag cttttcggac tggagtttga ggtctgcgag caggggcttg cactgctctc 600

gctcgtgccc atctggctct accgcgggcg gcagggacac cacagcaagg tgtttcagta 660

tgcctgctac gcgttttatc cggtacatat gctcatcctc ggccttatcc agctgtctct 720

gtaacagaat acgaaaaaag cgctgccgaa ggccgactcc gcataagaaa acatgcg 777

<210> 10291
<211> 604
<212> DNA
<213> Clostridiales bacterium

<400> 10291
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gacgacggcg atgggcagcc agcgccggat ctgcccgctg cgcagtgccg gacacagcgc 120

gagcggcacg agcatcgaca aaatcgcgct ctggctgttg gcaaagtaaa accacccgca 180

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cgcgacggcg gcgatgatcc agaaagcgat ggtgatcccg cgttccaagc tggcaaagcc 300

ctgccggcag cagcgcagaa acgtgataaa cgcgatcgta aacagcggca gctgcgcgaa 360

gcggatgaag ttggtcgcgt cggagatcag gttcgcggtc gtgaatggag cattggcgcg 420

caggcatgcc agcacgtgcc ccgcatagag cgtggcgcac acggcagcgg cgatccagta 480

aaagcgccgg cgatccgaga gcacgaagcc cgtgagcatg acgccgagaa agatcagcag 540

gcgcagcgac agcgtcagct tgctgcccca ggccaggtcc tgcgtccaga acgacagcac 600

gtcc 604

<210> 10292
<211> 2103
<212> DNA
<213> Clostridiales bacterium

<400> 10292
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tgatgcgcca ctgcagggaa agacgcttca tacttcctcg cctcccatca gatagccctc 120

gccgatgcgg ttgcggatgg ggtcatagcc cagcacggcg cggagctttt tgcgcagggc 180

ggagatgtgg acgcgaatgg aattgctgaa gctgtccaca ctgttgtccc agacatgatc 240

catcagctcc tcctggctca ctggccgccc ctgatgcacc atcaggtatt cgagtatccc 300

cgtttctttg cgggtgagcg tcagcgtctg cccgttgacg gcggcggtac gggagcgggt 360

gtcgaagctc aggcctccgc agcttagcag cacatcctgc tgggtgaact gccgcaaggt 420

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cggcagattc agatccagca gtaccagatc gtagcgctcc acgcccagca actccagagc 660

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tatttctccg tttttgtgtt gttttcatta tagcaaaaat agataaggtt tgcgttaaat 840

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ggaatcgcca tgctgtgctt cggtgtctgg cggggcgagg cggcgacggt gctgagcaaa 1020

gcaatcaaat tatgtctgga gtgtgtgggc attgggtaaa aagttttcag gcgtttcaca 1080

gaccatgtcc cgcttccggg actggatcca ggcggtggca acgctgctga ctaacctgca 1140

cctgccgaac ttcctcaagg gaggactgta tcagggcgct gggaaaaccg tctgcgtgcc 1200

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cgacgtgggc atgggagacc cgttcttctg caaatacctc tgcccccaag gcgtgctgga 1560

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cttccagatg aaggtggata agaataagtg catctcctgc ggaaaatgcg ccagagcctg 1800

caagatggat gtggatgtga cgaaaacgcc caaccacacc gagtgcatcc gctgcggaat 1860

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<210> 10300
<211> 544
<212> DNA
<213> Clostridiales bacterium

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<210> 10301
<211> 1421
<212> DNA
<213> Clostridiales bacterium

<400> 10301
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cattatccag cgctgttttc agcgcctcgt cctgcgcggc ctgcacatag cgtccggcag 180

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ggaataatga ccgtatcata ctctgagccc atggatttgt ggatcgtaat ggcataggac 840

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aggctgtcct gcgcctgacg gaagatctcg tccagcaccg tgactggcac gacgccggag 1380

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<210> 10302
<211> 1315
<212> DNA
<213> Clostridiales bacterium

<400> 10302
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tgttccagca caacagcacg gatataatgt ccgctgcact tgtccttatt gacacgatgg 660

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tgcggtgttt tcctgccctc ccgctgttta taggcggtgg gattcagcac cttctccttt 1080

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<210> 10303
<211> 544
<212> DNA
<213> Clostridiales bacterium

<400> 10303
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aacgcttcgc agatctataa ttccaccgtc ggcttcgaca cccacgtcgg cccgttcgcc 180

tacatccgtc ccggaagcag cgtcggaaac cacgtcaagg tcggcgactt cgtagagatc 240

aagaactccg tcgtggacga cggcaccaag atctcgcatc tgacctacgt cggcgacagc 300

gacgtaggca aaaacgtcaa cttcggctgc ggcaccgtca cggtcaacta tgaccgcgcg 360

aaaaaatacc gcacgaccat cggcgacaac gccttcatcg gctgcaacac caatctggtc 420

gcgccggtca cggtgggcga gggcgcttac accgccgcag gctccaccat caccgatgat 480

atcccggcca tggccctcgc catcgcgcgt gcgcgccaga ccaacaagaa ggactgggcc 540

gcaa 544

<210> 10304
<211> 540
<212> DNA
<213> Clostridiales bacterium

<400> 10304
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gcctatcacg tttctgtcat catcaatccc gaaaaacagc gtgccgccaa ttccgtttgc 180

aaaggcactg acgcttttga gccagctttt cggcttcttt acctccagcg cgaccttgaa 240

atcacattcg gtcgcttctg cgatccagcg gtcaatcatc attctcaccg tcctgtcctt 300

tattctttcc cctgctctta tagacattat actgattctt gcaccgggcg ctgcaaaatg 360

cggaattggc ccggctgccg aggaacacct tctggcagtg cttgcacagc cgcaggggtt 420

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agtcccaata gatggtgggc ttatccagca gctcaatatg atagctgggc gcaatgccgc 540

<210> 10305
<211> 871
<212> DNA
<213> Clostridiales bacterium

<400> 10305
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gggtgcaatg ccgccgaagg ccgccatgcc cttgcggtat agattccggg tgtcctcatc 360

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attatagatg tcgggtttgg cattcttccc c 871

<210> 10306
<211> 1108
<212> DNA
<213> Clostridiales bacterium

<400> 10306
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atccagcacg attcccggcg cttccttcaa gggattatag atgtcgggtt tggcattctt 120

ccccggcgtg atataccgct ttccgtctgc ggcagttttc agttcatagc ggtcataccg 180

cacccaatgg gaacgggact gctcaaagag attcttcatg gcactgttcc tctcgactcg 240

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caggttttca tggtcacgct ccctgcgctc ccggttcctg tccagcttgt tccactcgtc 840

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cgaatcctcc caatcggcaa agccgtcc 1108

<210> 10307
<211> 1365
<212> DNA
<213> Clostridiales bacterium

<400> 10307
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ctggatttga ccgatgcgga aaagaaagcc acctaccaag aaatcaaaaa ttatgtgttg 180

gagcacagcg gcttgaaagt tagcagcttg tatatcgcac aggtaaaaca gaagtgcggt 240

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ccgccagata aagaaaaagc aatcaaggag gcattgacgc acttcggcat gatttaagga 360

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tgaaattcaa cgacggcagt atgattgcca ttgacaccat tgccgtggag aacgaggttg 480

ccgacaatat gtatcagcgg tcagagttgg actggctgat ctacaatgcg ccgttggagt 540

acgccgatct gatactgaac ggcgatccgg agaagtatct gaaagcggtc acgcagtata 600

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tcaatactcc ggcaatttca tatctaccgc ctgcactctg atcttcatta gcaagtctcg 1080

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caaaccgagc tgcattccaa atcccgtagt tacctacttc ggctttatgg aagtaggttt 1320

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<210> 10308
<211> 1254
<212> DNA
<213> Clostridiales bacterium

<400> 10308
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aaaatgtggt atgagcataa gcacaaaacc accaacaacc gtgtcggaat aatctttgtc 540

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ttttctcaaa tacaactctg gctttacgag ctcgcttgag atgaaaacat cgtcgttctt 660

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aagcatatta tttgatatta taaagaaaac aggagtcttg taatagaaag gagcacagca 960

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tggactacaa gggtgtcaac aagctgccca tgcagggtgg tgccttcact ccaaaataag 1200

atttgccata aattgttcat cgcacggaaa gaacaggata atctttacaa aagt 1254

<210> 10309
<211> 983
<212> DNA
<213> Clostridiales bacterium

<400> 10309
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caccatcgac ccttttcagg cagatcagac ggtcgccgtt gctcttgcgg aaggacactg 180

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<210> 10310
<211> 379
<212> DNA

<213> Clostridiales bacterium

<400> 10310
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cgctccgcct gaggctatac gaggcggaac aacggcttga cagcaagact tttgtccgaa 180

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ggacaatttg catcacgctt tcaaacggta cggttactta tgtttcacgg cgatccgtcg 300

ccaaaatcaa acaactgtta ggaatgtgag gtggcagaaa tgaagaaaaa actgattgga 360

cgaggtgtaa ttggtttcc 379

<210> 10311
<211> 1164
<212> DNA
<213> Clostridiales bacterium

<400> 10311
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cacgcaagca attgcgaagt aaatcccgct ttgctttgca agactccacg aatcaatctc 120

ccaaataacc gaagccattg caaagcctgt gcccattatt ccgctcagac cggtttgaat 180

gagaatcgca tttaattcgc tccccatttt attcacaagc tccggattga ccggatggaa 240

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<210> 10312
<211> 247
<212> DNA
<213> Clostridiales bacterium

<400> 10312
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cgtgatgtcg gcgatcgcac cggagagacg cccaagtgac gtgccgccgt aggggcggct 180

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ctgcacg 247

<210> 10313
<211> 335
<212> DNA
<213> Clostridiales bacterium

<400> 10313
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atccagcaga ttcatgacct gtgtggcaat ccactcaaca atactgtcta agattcccat 240

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aggtagtatg ctgcggtgag gcacatggca atgcc 335

<210> 10314
<211> 1147
<212> DNA

<213> Clostridiales bacterium

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<210> 10315
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<212> DNA
<213> Clostridiales bacterium

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<210> 10316
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<210> 10317
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<212> DNA
<213> Clostridiales bacterium

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<210> 10318
<211> 1063
<212> DNA

<213> Clostridiales bacterium

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<211> 423
<212> DNA
<213> Clostridiales bacterium

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cctggcagct ttgcctctgc ggaggcggtg gcttatctgg caacgcaaaa attcgtcatg 180

tactcgccgc tgtaccgtct ggagcaggag tttaaccgcc agggcttgag gctatcccgg 240

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<210> 10320
<211> 839
<212> DNA
<213> Clostridiales bacterium

<400> 10320
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ccatccgaat ggaaagatcg ccccggagct tatccgagtt gatgagaaga atgcaatcg 839

<210> 10321
<211> 247
<212> DNA
<213> Clostridiales bacterium

<400> 10321

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catcacgcgc gcaccgtttg ccgtgcgcct caacagcgcc atgaccggcg cgtttgaaac 180

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<210> 10322
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<212> DNA
<213> Clostridiales bacterium

<400> 10322
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<210> 10323
<211> 366
<212> DNA
<213> Clostridiales bacterium

<400> 10323
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<212> DNA
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<210> 10325
<211> 898
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<213> Clostridiales bacterium

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<213> Clostridiales bacterium

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<212> DNA
<213> Clostridiales bacterium

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<210> 10333
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<212> DNA
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<213> Clostridiales bacterium

<400> 10337
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ctcgccgtcg tggatcaggc gcttgaggtt ggttttaccg gcgagcttct gattgtcgtt 120

ggcaagggca atcagaaggg cggcaagatt tttcgccccc agccctgcca gcttgagggc 180

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gcttttcacg cagggcggca gtctgctgtt ggatctccgt gctgtacttg gcttgtgctt 420

cttcaccgct ggtgttcctc ctttcttgat atagtggttt tctctgttcc tccaacaagc 480

gaatgtccca ctccagcaca cggatgcgat gctccagctc tgtggctgtg gtgattttgc 540

ttgataaaag gtatttgaat tgctgctcat accgctccaa atgaatgacc tcccgcttga 600

cggaaaaggg cagcttgggc gacggctttt tccgccttcc cccacgcagc agatagaggt 660

agcggagata gagtgcgtga aagccggtga tcttcttttt tcggacggtc gccagcctgc 720

ccttcatgcg gtaacgcttg acggtattgg tgacggtcga cggggccatg ccgccgtgcc 780

gctggcggga gagccgcaac agaatatccg cttcagtgta gccctcgccc aagctgtcta 840

ggcgaatcgc ccgctttgcg ccgggggggct tgaccgtggt gtatttccgg ttggggctgc 900

gccgcacctc gtagccgttt cgtcgcagga gcatgagaaa ggaatcgtag gtgtaggctt 960

gcccaatgat agtgtcaatg tcggtgcgga tcacgccgcg cacggtgggc ttgccgccct 1020

gctcc 1025

<210> 10338
<211> 374
<212> DNA
<213> Clostridiales bacterium

<400> 10338
ctcggcatca gcaccatcgc agctgttgtt actgcggcta ttgcgcttct tctgatgaac 60

ttctccagat ctggacgaac ggttgatgag tcccgtgcat ggttaaagcg gatcgttatt 120

acttgggcca ttctcaatag ccttggcttt atcatggcct atgtgacacc attcttttct 180

ggtggcactt ggactcccta attacgaagg agaatcaaga catgaagaat attatctgtt 240

ttttatccgg tattgtcgcc ggcattgcca tgtgcctcac cgcagcatac tacctgcctg 300

aaagtagctt cgatgatgag ttaggccact tctaagcaga tgcaggagga gccgcatggg 360

aatcttagac agta 374

<210> 10339
<211> 778
<212> DNA
<213> Clostridiales bacterium

<400> 10339
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catcccaatt ctgatccgcg agtccgaaat gtgggaactg ggagaggaac gacccgactt 120

cgtgcttcga aatatggtgg gggccagcat cgatgtgatc gtcaccaagg tggagcgtac 180

cgctaaccgt gcacaggcgt cccgccgtca ggccagtcgc agccagcgcc gctttttgc 240

tgcccgtgag gatcttcatg ctgtcggttc ccgtattacc tgcaggatgc tggcggtcgg 300

cccccgccgc tgccttgtgg actgctatgg ctacgacctt gatatgacgc agagagagat 360

ccgctacgcg gccatcccgg atcttcgcac ggagttccac ccgggctcgg agatcgactg 420

cattgtaaag gagtatcacc cccgtaccgg cgaactgatc gtctctgcca aggaaacgga 480

ggtcaatccc ttctttggtg cggaggagcg tcaccctgta ggctcccgcc gctttgcgat 540

gatctccggt aaatatggcg gcggcgtgtt ctgcaacctc cctgatggcg tgacctgtat 600

gtgcaactac tcctatcagc acgaggatgc ggacttcatg gtgggcgagc acgtcatgct 660

gatggtgcag cgctacgatc aggaaaagct ccagatgtac ggcaagatta tgagcaagtg 720

gtgatctttc gtaaacgtct tggatcttga aagcgacata aatttcctta tagtttgc 778

<210> 10340
<211> 1023
<212> DNA
<213> Clostridiales bacterium

<400> 10340
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tgtatatcaa cttcacattc ccaaagtaca atgtgcgcta tattgccatc aacgaccatt 120

ttgacaccat cgaccccaac agtaccgaca gcgatattgc gggcatcaag aactggttca 180

acgagttttt cgccaaagac accagccgca agatccgtgc tgtcaataag gcaaagggcg 240

aacgcggcgt tcctctgacc gtcaatgttc cattcggcta ccgtaaagac ccggaggaca 300

agacaaagtg ggtcgtggat gaagcggcgg cattggtagt caagcgcatt ttcaagctgt 360

gcatggaagg gcgaggcccg atgcagattg caaagctctt gcaggaggaa aaggtactta 420

accccaccgc ctacaagaag cgtgagggca tcaagacacc cagcccggaa accgctgatc 480

cgtaccattg gaacaccaac acggtcgttc acattctgga acggcgggaa tacacgggat 540

gcaccgtcaa tttcaagacc tacaccaact ccatctggaa caagaagcag cgggaaacgc 600

ctattgaaaa acaggcggtt ttctacaaca cccacccgtc gatcattgag caggaggtct 660

ttgacaaggt gcaggagatt cgccaacagc gtcaccgcag gacaaagacg ggcaagagca 720

gcctgttttc cggcatggcc tattgctctg attgtggcgc aaaaatgcgc tactgcacca 780

ccaactactt tgaaaagcgg caggatcatt ttgtatgcgc caactaccgc agcaatacgg 840

gaagctgttc ggcacacttt atccgcgcgg ttgttctgga ggaattggtc tggatgcaca 900

tgagaactgt aatttcctat gtcagccggt atgaggatca tttccgtgcc gtcatggagc 960

agaagctccg gctgtccagc gaagccgcga tccgcggaca caagaagcga ttagcacagg 1020

ctg 1023

<210> 10341
<211> 2602
<212> DNA
<213> Clostridiales bacterium

<400> 10341
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ccgaggacgg ttatagggggg cagcaaactg acaaagccta ctgccctcca atcataacaa 120

atgcaggagg aaaaagcaat gccaagaaaa gcaaatacgc gcgccgcgtc gggcgcaggc 180

agcatccggc agcgtcctga cggtcgatgg gaagcgcgcg tgaccgtcgg caatgacccg 240

ggcacaggaa agccgatccg ccgcagcatt tacggagaca cgcaagccgc cgtgcgtaag 300

cagatgacgg ccattctccg tgaaattgac cgcggtacat atctgacacc acaaaagacg 360

acagtcgcac agtggcttga tgaatggctc gacacctttg ccgccaataa gatcaagccg 420

acgacatacc ttcactatca ggcctgtatc aagaattaca tcaagccgca gatcggcgct 480

atcgagctgc aagctctgcg cggtgcgcac gtccagaagg tttataacgc catgaccaag 540

aaggggctga gcggaaagac cgtcaagaac tgcgctgccg tactgcataa ggcgctctca 600

gttgcattga aacagggaat cattgtaagt aacccctgtg acgccgcaga gcaaccgaag 660

gtggtacagc gcgaaatagc gccgctgcgt gatgaggaca ttccgaagtt tcttgaagcg 720

atcgaggaca gtccttatcg aaacgcgctt gccgtctgtc tacttgccgg tcttcgtgag 780

ggagaattgc tcggtctccc gtggtcacag gtcgactttg aaaaagggcg tatcaccgtc 840

agtcagcagc tacagcgtga gaagaaaaag aacggcgctt actacattgc cgacaccacc 900

aagagcggca agccgcgcac gatcgagccg cccccgctct gctttgaata tctccgggat 960

gaaaagcgtc ggcaggcgca aaacaagctc aaaggcggta agctatggag caacgacgac 1020

aatctcgttt ttacggatga actcggaacg catctcgcca ttcatacatt ttacaagtac 1080

tttaagaaga tcgctgccag tatcggacgc ccggacgcgc gtgtgcatga tctgcgccac 1140

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ggacacgcta ccgcaagttt cacattgaac gtctacgccc acacatcaga acagatgatg 1260

aaggacaccg cagcaagaac gcagtcatat tatgaaaagc tgaaaaaggc ataaaagaaa 1320

gctccaccag tcagccagcc ggtggagctt ctttccgcag tttttagggg taaaaaatcc 1380

aattggggta aacttagggg taaaggcatt ttctgaaatg caagaattga acttttctta 1440

gcaaaacaag acgatataaa agaaaaagca agggaaaacg caatgttttc tcttgctttt 1500

cttggcgcgg aagagaggat ttgaacctcc gcggcgcttt ttacacgccc tactccctta 1560

gcaggggagc cccttcggcc tcttgggtac ttccgcaggt cgatggaaaa attcagttgg 1620

cggagagagt gggattcgaa cccacggatg ctttcacatc gccggttttc aagaccggtg 1680

ccttcaaccg ctcggccatc tctccggata atgagttcac gtctaactct caaacgcaag 1740

aataatgtta ccatattgaa gtactgtttg tcaacataaa atacgagaat tttcatagaa 1800

tatcctgttg aataaactca gaaattcttg attcggatat ccgatctgtt tgtagtgtac 1860

ttccaactat cctgctgaat tcaattcacc ggatcgtaat gagatatgtg aaccacttta 1920

ccttatccaa tcaaaaagaa tagcctgcac tatacgatag ccgttcttcc atcaaagcaa 1980

aaagagaagc cactctcttg agtggcttct cttcatgttg gcgctaccta tctttccggg 2040

ccgtctccag ccaagtattg tcggcagaag cgagcttaac ttccgtgttc gggatgggaa 2100

cgggtggacc ctcgccctaa tcagcaccaa ctgctgtatt gcaactgtct tatacagtaa 2160

caaaccttta tccaattgtc aagtcgtgcc gagtggcacg ttcaactgtt ttgcacagca 2220

aaaccttgcc gcagggcgaa ttcatttcgc ccgaggattt tttgtcctca agggttcccg 2280

aaaaagcatt gctttttgg gatggtgacc cgtaccggat tcgaaccgat gttaacggcg 2340

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actggatggt gctcccatcc agcgggatgg tacaccttca gggactcgaa ccctggacac 2460

cctgattaag agtcaggtgc tctaccagct gagctaaagg tgcatgtctt caaatcgaac 2520

cttcaaaacc gaacaatgta acttcaaagc tcctctcaag gccttgcctg cttcattcgt 2580

aggtcaagcc ctcggactat ta 2602

<210> 10342
<211> 113
<212> DNA
<213> Clostridiales bacterium

<400> 10342
tgagctaaag gtgcatgtct tcaaatcgaa ccttcaaaac cgaacaatgt aacttcaaag 60

ctcctctcaa ggccttgcct gcttcattcg taggtcaagc cctcggacta tta 113

<210> 10343
<211> 197
<212> DNA
<213> Clostridiales bacterium

<400> 10343
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aacgcctgcg ggcgttagta cctcccgagc taaaggtgca tgtcttcaaa tcgaaccttc 120

aaaaccgaac aatgtaactt caaagctcct ctcaaggcct tgcctgcttc attcgtaggt 180

caagccctcg gactatt 197

<210> 10344
<211> 707
<212> DNA
<213> Clostridiales bacterium

<400> 10344
cgagctaaag gtgcatgtct tcaaatcgaa ccttcaaaac cgaacaatgt aacttcaaag 60

ctcctctcaa ggccttgcct gcttcattcg taggtcaagc cctcggacta ttagtaccga 120

tcagctgcac acattactgc gcttccacct tcggcctatc aaccagatcg tctttctggg 180

tccttactcc ttgaaggatg agagatctca tcttaggggg agtttcacgc ttagatgctt 240

tcagcgttta tctcgtccgt acatagctac ccagctatgc ccttggcagg acaactggtg 300

caccagaggt acgtccatcc cggtcctctc gtactaagga cagctccctt caaatctctt 360

acgcccgcaa cagataggga ccgaactgtc tcacgacgtt ctgaacccag ctcgcgtgcc 420

gctttaattg gcgaacagcc aaacccttgg gaccgaattc agccccagga tgcgacgagc 480

cgacatcgag gtgccaaacc tccccgtcgc tgtggacgct tgggggagat cagcctgtta 540

tccccagggt agcttttatc cgttgagcga tggcatttcc actcacatac caccggatca 600

ctaactccaa ctttcgttac tgctccaccc gtcggtgtcg cagttaggct cgtttatgcg 660

tttacactca ttgcacgatt tccgtccgtg ctgaacgaac ctttgag 707

<210> 10345
<211> 506
<212> DNA
<213> Clostridiales bacterium

<400> 10345
ctgcccaacg atgtagccgc tccagttata cgggttgggg aactcctcct tgcttttcca 60

gacacccttg ttctgtttgc caaagtagac cgcaggcgtg tcgatcttgt catcgaacag 120

gatgcgggcg atgtcgtagg ggcctttacc ctcaatggtc agctggaaga tacgccgcac 180

cgcggcagcc gcttcctcgt cgatcagcca gtggtatttg ttctccgggt ctttcttata 240

gccgtagatg gcacagttgg tggttggctt gccggattcc cccttgaccc gaatggcggt 300

tttctgcttg cggctcaggt cacgaagata ccattcgttc atgatgttga ggaagggcgc 360

aaactcgttg ctgttctggt catcactgtc cacgccgttg gcaatggcaa caaagtggac 420

gccatgctgc cggaagaata cctctgtgta aaagccggtt tgcagatagt cacgccccgc 480

ccggctcata tccttgacaa tgacat 506

<210> 10346
<211> 229
<212> DNA

<213> Clostridiales bacterium

<400> 10346
ctccttcgtt gcgccgtctt gccatgcgtc agcatgcccg caccgtcgcg cctcagctcc 60

gcacaaaatt tgctcttttt cggtgcaaag cagttttgcc aatgaatttt tgagatgaaa 120

tcagctgaaa aaatctcccc atactggcgt atggggagat tttttcggtt gtatttcagc 180

caaaaaggcg caggcaaaac cgcatgtttt cttatgcgga gtcggcctt 229

<210> 10347
<211> 981
<212> DNA
<213> Clostridiales bacterium

<400> 10347
tgtgcggtaa acagctctcg gcgtgtacac caccaccccg tccccaaacc gcgcacacag 60

cggctcacac gccgaaacac ggcgggttct cagggtcaat ggtgacgatg ttttcggcag 120

cggaatcatc gacaccatcg acccttttca ggcagatcag acggtcgccg ttgctcttgc 180

ggaaggacac cgtaatgccg tttctcctta gagcgtcaac gcttttacgg attcggtggg 240

agaagctgtt gggggtcagt ccctccgtac cggcagggtc gatcttttcc aacagcacct 300

tggcaggggc gctgatctcc ggctgctggc gcagcagttc agagaggaga aaaagaatcc 360

gttcactggg atgctccgtc tgttcgcagt catctgacag cagcttccag acatgatcct 420

cgccatcgaa ctccagtgcc aactcccggt aggggatgtc ccgcccggtg cagtagagcg 480

tggctgtgtt ctctctgcgc ttactcttgc ggaggacaaa gttgctgtcg gtggcaccgc 540

tgagtccggt ggtgccggag atcatgttca tgggatcatc gtcattcatc ttccgcaggt 600

gatgcaccag cagaatggcg atgcggtgct tgtccgccag cgctttcaga acgccgatgt 660

cccggtagtc gctggtatag ggatttgcgt cattgcctgc ggtgcggatg cgctggagcg 720

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acagccacag cgccagccac g 981

<210> 10348
<211> 1415
<212> DNA
<213> Clostridiales bacterium

<400> 10348
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tcacctcaac atcggccagc ccgacgtaca gactcctccc gcgtttttcg aggcagtccg 120

tcacttcgag cagccggtgc tggcctacgc gccctcgccc ggtatccccg agctgatcga 180

cgcgatccag aactactacg acaagctcga catgcacttc gacaagagcg agatctacgt 240

caccgccggc ggcagcgaag cgcttcagat cgcgctgcag tgcattcttg acgacggcga 300

cgaaattttg attcccgagc cgttctaccc gaactacaac acgatgaccc gcacctgcgg 360

tgcatcgatt cgcccgatcc cgacctgccc ggaggagggg tatcgctacg ctgaccgcga 420

gaagatcgaa tctctcatca acgagcacac gcgcgccatc atggtcacga atcccggcaa 480

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gcatgatctg ttcctcatcg gcgacgaggc gtaccgcgaa ttcgtctacg gcggggagaa 600

gctccagtcg tttggcgagt ttgccgacag ggcgggtgac aacatcatcg tcatcgacac 660

ggtctccaag cgcttttccg cctgcggcgc gcgtatcggc tgcctgatct ccaagaacag 720

ggaactgatg aaccacgcga tgaagtactg tcaggcgaga ttgtcggttg cgacgctcga 780

tcaggtcgcc tccgccgcgc tctacaccgt cggccccgag tattttgccg ccgtgcgcga 840

cgagtacaag aagcgccgcg acacgctctg ccgcaagctc ggcgagatcc ccggcgtggt 900

gttcgacgtg ccgggtggcg cgttctacgt gatggccgcg ctgccggtcg acgatgccga 960

caagttccag caatggctgc tcgaggaatt cagcgacaat ggcgagaccg tgatgatggc 1020

cccgggaggc tcgatgtacg cgacgcccgg gaagggcaaa aacgaagtcc gcatggccta 1080

cgtcctcgaa agcgacaagc tcgagcgcgc catggaaatt ctcaagaagg ccattgagga 1140

atacaatcgg attagagcgt gagacaaaag caaattagaa gttaaccatt ttccatgatg 1200

ctattgccga ccgaatgaag tcagccggca atagcggtat ggacgcacgg atttattgcg 1260

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gaacctttct cttcatttct gctcctacct aaaag 1415

<210> 10349
<211> 393
<212> DNA
<213> Clostridiales bacterium

<400> 10349
gaaaagcccg atatgaagat catcaagcgc gacgccatga gcggcaaacc gattgtcggc 60

acggtatttt cggtgaagtc tgttaccggc agctattcca cctccgtcac gaccgggacg 120

gacggttccg caacgctctc ggccattcct gccggtgtct atgttgtgcg tgaggaatcc 180

gttcccgagc cgtacatcgt aaccaatacc gagcagaccg tggcgctgcg ccccggcaaa 240

acctccgagg tcactttcgt tgactatgaa aagccgggtc ttgagatcat caagaagaac 300

atcgccaacg gagagcccat cgagggcgtg acctaccgca tcgagcagat cgacggcaac 360

ttctccacca gcgccaccac cgataaccat ggc 393

<210> 10350
<211> 6089
<212> DNA
<213> Clostridiales bacterium

<400> 10350
cgctccattg actgttttat gaacacccat ctaaacagtg gggatttttt atatcaattt 60

ataccacttg gaataagtag aacttgaggt aatccgtctc cggcacgttc cagaggatgg 120

ggtggtcaca gctctgcgtg cgcgcttcga tctgccgcag ctcgacgccc gcgtccgcgg 180

cggcggagcg cagcatccgc tcaaagcgtt cggcgggcat gaagtggctg cacgacgcgg 240

tcgcaaggta gccgccgcgc ggcagcaggc gcatcgcgcg caggttgatc tccttgtacc 300

ccttttcggc gttgttcgcc gtacggcgtg atttcgtgaa cgccggaggg tcgaggatga 360

tgaagtcata aggcttttcg tgcgcggcct cgagctgcgg gagcaggtcg aagacgtcgg 420

cggcgagaaa gtccattttg tcctcaaggc cgttgcgcgc cgcgttcgcg cgcgccattt 480

cgatggcgct ctcggacacg tccaccgccg tcacgtgctc tgcgccgcct ttggcggcgt 540

tgagcgcgaa cgagcccgtg tgcgtgaagc agtcgagcac gcgcttgccg tgcgcgaggt 600

gcgcgacggc gaggcgattg aacttctggt cgaggaaaaa gcccgtcttc tgcccgtttt 660

cgacatccac acggtagaaa acgtcgttct cgcaaatttc agtgatgggg ctctcgggcg 720

tttttttgcc ggggagggga aaccaaccct tgttctgcgt caagccctcc ttttcgcgaa 780

gcacgacatc gttgcgctca aaaaggccgt cgatcgtctc gccgtcctgc tccagcacct 840

cgacaatgag ggggaagagc atgtccttga tcttttccat gccgagcgag agcgtctgcg 900

tgacgagaag attttcaaac cggtcgaccg tcaggccggg gaaggcgtct gcctcgccga 960

agatcaggcg gcagcagccg gtctgcccgt ccatgaccgc cttgcggtag tcccaggcgt 1020

agcgtacgcg ccgccgccag aaattttcat caaagcggtc gttcgcgttg cgcgagacga 1080

tgcgcacgcg gagcttactg agtctgctca aaaagcccgt gccgagatat ttgccctttt 1140

ccgacaccac gtcgacgagc gcaccgtttt cacactcgct ctcgtccggc tcgcgggcga 1200

cgtcggagtc gtacacccag gggtggccgc tctcgagcca gcgcgtgccc ttggcggtga 1260

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gctgttcgac gccacaacga gaatgagcgg ccagaagtaa tccataaata ttccctccta 1800

ttcaaatgcc ggatgcaaaa cggcagccag acttccgcct gactgccggt aggtgcgcac 1860

ccgtaataga caagaaaagt gtatcagcgg cgcgcgctct tgtcaaggaa aatcccgccg 1920

cggcggcgat tccgacaaat ttgtaagcga cagttcatac aacctgccgc ttgtattttc 1980

cgctccgcca tgctaccata aaaatgtcat atcaatccca gccgcgcttg cggcgcagac 2040

tttaatggag gcaaattatg agctatccca agaccggcga agaagtttac gtcagcctga 2100

atctgtctaa cacgatgctc acaggtctcg gcaagggcac gatcacccgc gaggacgttt 2160

ctgtggacta cctcaagaaa ctgtttatgc agcacggcgt catcgtctcg gccaagcccg 2220

agtaccgcaa catcatggag cgcgtgaaca gcacctatga cttagggctt gaaattcccg 2280

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ctttgcccgc acggcgtatc tcgccttcgg cgacgacgag gagaccatca acttaggcgc 420

gctcgccatc gccgagcatt tgaag 445

<210> 10360
<211> 587
<212> DNA
<213> Clostridiales bacterium

<400> 10360
gcggcaacgc aacgacatgg tctgcaagga gttttcactt cctgtatttc aacccaggga 60

acaaaagcag aaaacaaaga ctatgaccat cggagagtat cacacggcgg cccgcggtca 120

gagcaagaag ctgcagctca tgaatatcat caatgactgt atgcgccacg cttccaaccg 180

cgaggagttc attgcgctga tggagagcga gggctacaag gttcgctggg aaaagtcccg 240

aaagaatatc acctatacca cgccgagtgg ctggcagtgt cgggaccgtt tgctgttcgg 300

tgacaaatat ctaaaggaga acatggaata tgaattcagg atcagagaag aaattatcta 360

tggacgagct catggccctg aaccggcccg agccttcacc gcagccgaca gcgcaggagt 420

cgagttcacc gatcacgccc attgtcatcc agtgtccgtt gccggaggct ctgacgatgc 480

tgacacagaa gacagaatcc atcgggtggg aagtgcgtgg aatgcgggag tatcttccga 540

acctgagatc acacacagac ctgacagcgg tgcagaacag catggcg 587

<210> 10361
<211> 905
<212> DNA
<213> Clostridiales bacterium

<400> 10361
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gctcatcgtg gcggcactgc tggggatggg gtatggcaca gcgacagtgg tcagcaacat 120

ccgcaacctg tttctatgaa gccgctccac gctggactgt atggtctggc ggtaactgga 180

gcgttactgg atgatggtaa cgaagatgtc gaggaacgtt accgccgtat ccaggcagaa 240

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acacaggatg agcaatcatc tacagaacag cagtggaccg aagatcagca ggcagaacaa 360

acacagcagc agaccatgta acggtctgct atttttgttg cctgactgta gcgtcagggg 420

aaaggaacga tatggcgtat aaattcaaat acaatgagcg tccccgctcc tacagtgaag 480

aaaagcatgg agatgaggat attccctctg ccaaggcagt gcgggatacc gcagtggaag 540

aaagggacga caagattata aaaagccgcc gacagcatgt atgcggcaga gagtacattg 600

tgttcgcgga attcagtttc ggaggaacgc aatctacggt cgatcttatg aaacaggtca 660

tcgacctgga gcaggacgca aaaaatattt ccgcctgaaa aacaggttcg catagacaaa 720

caaaccgatt gagggtattg tatggttgca atctctcaat cggtttggcg ttttatgaag 780

gaggtcaata tgttacagcc aaaccaaaag atcacggcgc tctattgccg tctgtcccga 840

gatgataatc tggagggcga ctccaacagt atccagaacc aaaaacttat cctgcaaaag 900

tacgc 905

<210> 10362
<211> 750
<212> DNA
<213> Clostridiales bacterium

<400> 10362
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tatatcgagg agatattccc ttccaatgat gtgcgctaca tcgctgtcaa cgacaatgtt 120

gacaccaagt atgaaaacag caacgagctg atgcctttca agaatttgtt caatgagtgg 180

cacgtgcggg actgcagccg caaggtgcgg aatgtagtga acgccaaggc acagcgggga 240

atccgggtgg ggacacgagc tccttacggc taccgcaagg gtgcaaccaa ggactctcct 300

ctgttggtgg atgaggaggc ggcggctgtc gtcaaacgca tcttcgccat gtgcgccggc 360

ggaatgggac cagcccagat tgcaaagcag ctcaagaaag aatgcatcta cagtccatcc 420

atgtacgcct atacgaaatt cggcacatcc cattccgggc tgaatgcaga gcggccctac 480

aactggactg gcgacatggt ggcggatatg cttcagaaca tggtctacct tgggcacacg 540

gtcaaccttc gctacagcac caagtcctac aaggacaaaa aacgatgtga acgccccaaa 600

tcagagtggc ttatctttga gaatactcat gaagagctgg tggatcagga aacctgggat 660

atcgtacagg aggtgcgatc tcataagcgc cgccgcacga atatggatga gcagaatatg 720

ttctctggat tggtgtattg tgcggactgc 750

<210> 10363
<211> 355
<212> DNA
<213> Clostridiales bacterium

<400> 10363
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gccgagcatg ccagcgaccg tttttgcatc tacgccgctc tgaattgcta aggttgaaaa 120

tgtatgtctc aaatcatgaa agcgaacact ttcatccact ccggcagcgg cgagcatttg 180

cttgtgtagg tggcgaagag agtctggact ccagtatcca ttggttctcg gacaccaaaa 240

catgagagga ctatcaggat gcttgttgtg ctcttctata agcacggcga cagtattctc 300

cggaagagct attgtccgaa tcgaattctc cgttttcggt acagtaacgc gtagt 355

<210> 10364
<211> 1080
<212> DNA
<213> Clostridiales bacterium

<400> 10364
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caattccaaa tagaaaagcg catagactcc aagtcgcttt gcctcatcca gatatgcacc 120

aatcttgtcc tgcggcagga catgcatttc cttcttttca cgcttcggaa ttttacagtt 180

atcgcaaggg ttgaagggaa taattcgctc cttaactgct tgttttagag ctccactcaa 240

tacagcgtga atgtgtttca cagtgctagc agacaatggc gcatatttcc gattaccatg 300

gttgtccaag cggccctgtg tatgcagatc gttgtagaat cgttgaatct ggatcgagct 360

gagttttgaa agctggatat ggcccaaaac cgggatgatg tggttctcga tcatgctcct 420

ataaccatct gctgagctgg ggcgaagatt tggctttgtg taggaatcaa accaaagccg 480

aatccatgta gaaaggggct gtgaatcata tcctttgccc ttgcgataat aaggccctgt 540

atcctgttgg atggctcgtg ccagcttcgc tgcgcattct tttcgtgtct tagcaaaaac 600

gccctttga atacgctttc ccgttagaat atcgtagccg gcagtatatc gaccttccca 660

acagccgggg tatctctctc gaatgctgcc ttcgccattc gctctttgcc taccagccat 720

aatgatctct cttttccatt tgcgtctgag catcaagcca cgagagaaat tttcctttgt 780

caatatagac cctttgacca cttaccgtat ggggaaagtc atctctcttt agaagtctat 840

atgcaaccgt aagactgcat ccgagggtct ttgcaacgag cggcatcgtc atcacatccg 900

gaagatcttc tttgcgccgg attcgcggca tcttactatc gtccatcctt gtcactccgt 960

atagaagaga gagtccttct cttctgtttg cacatttagc caggtaagga atttgtcttt 1020

cggcacgaag atacgacttc caactttgaa ggcaggaaag tcgatgcgct tcacaagctc 1080

<210> 10365
<211> 358
<212> DNA
<213> Clostridiales bacterium

<400> 10365
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ttggtagttc aaaagaacag gcctgtcgag cgaggtctcg attgcgtcat attcgcgggt 120

agggattcgt ggcgggtgga aaggtgataa tgcggcacga ttgatttcca tcgccagttc 180

atcgtggagg atgagcttca ggagagtgtc accttcctta ttattggtaa ggaacagaca 240

ttgcgcaaag aacgttgaaa cgacgaagta cttgttccca aatggctttg ctccatgaca 300

gaggcgctgt gccacactca tggtggatcc gatgacgatc tggtggattg acgtgata 358

<210> 10366
<211> 931
<212> DNA
<213> Clostridiales bacterium

<400> 10366
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ggtctcgatt gcgtcatatt cgcgggtagg gattcgtggc gggtggaaag gtgataatgc 120

ggcacgattg atttccatcg ccagttcatc gtggagaatg agcttcagga gagtgtcacc 180

ttccttgtta ttggtaagga acagacattg agcaaagaaa gtcgaaacga cgaagtactt 240

gttcccaaat ggctttgctc catgacagag gcgctgtgcc acactcatgg tggatccgat 300

gacgatctgg tggattgacg tgataccgaa acctcttgcg agcagaaggc ttttcacagc 360

ggcagcatag ttctcctcgc tattcttcat ccagtacatt cttgtgctac ctgtgaagta 420

aagaaagaag caacaccgcc ctttgacgat aataccgatt gtgcgtgagc tcttggatac 480

tgactccggg gagtactcct cgatggcgac acgcaactcg tgtgcggcgt agtaatagat 540

tttgttggga tccggcacga ccgcattcgt cgctcttttg gcaggcgaca tgagagatgg 600

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tcttgaatag atcatggaca ccgcttccgg atccctctgt gcaacatact cgaacccctt 780

ctgcgtcaag ctcattgaac gaatcacatg gcgcttatgc ttcttccgat atagccgcac 840

atagccttcc cgaatcgcac gatacatgac cctgcgattc cattcagcgc cgccaccgat 900

ccgcaccgcc agctgcgtcg gaaactcgat a 931

<210> 10367
<211> 451
<212> DNA
<213> Clostridiales bacterium

<400> 10367
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ttttggccca ggatgaaagc gtttcaggtc tcatcaggta gaactctgcg ctgtcccgat 120

cagacatcct cgtagcctgg aggaccgtgc ataggagacc gctatcattg gtcagtagca 180

tcgattcaat gacatccaaa taccgcttgg tttcaatgtt gtcatagtca cgaatgcgcc 240

tttttccaag agcagcatca tagttgtgaa caatgcagat ggcgcagcta ccaaagcgct 300

ccattgggtt ctctttgaga tagtccataa tcgcgtgccg aagtggccga gtcaaaaatg 360

cttgattatc tctctgattc cttttcggaa gaatcgcggg aactgagatc ttgagccaat 420

catgagtctc ctcgacctta atccccagca g 451

<210> 10368
<211> 244
<212> DNA
<213> Clostridiales bacterium

<400> 10368
atgaacaatg cagatggcgc agctaccaaa gcgctccatt gggttctctt tgagatagtc 60

cataatcgcg taccgaagtg gccgagtcaa aaatgcttga ttatctctct gattcctttt 120

cggaagaatc gcgggaactg agatcttgag ccaatcatga gtctcctcga ccttaatccc 180

cagcagatcc gccacctcac aatagaatgg cgccgtatca tcacgaactg ttctggcggt 240

caga 244

<210> 10369
<211> 582
<212> DNA
<213> Clostridiales bacterium

<400> 10369
tgcgggaact gagatcttga gccaatcatg agtctcctcg accttaatcc ccagcagatc 60

cgccacctca caatagaatg gcgccgtatc atcacgaact gttctggcgg tcagatttct 120

cagagtaacc gaggatactt ctgccgatcg aaccagacta aagagttttt gctgggggtt 180

atactgatcc atacgctcta agtcgctagc aacctgaaag agttcgtggc tgataccatc 240

aaaatcagaa gccacttggc gcatgacttg aatgtacttg gggttatcca tatcacacct 300

catagtttgt agatttgttc tacgccgtca gaaccagtca ggactccata atcgttatca 360

tctctgggaa tcagctcatc cagtgacttc atatcatcta cgacaatcaa acgaacggac 420

gcctctggca cgagtgtgcg agaggcgttg atcgatggaa tattgcgttg gctaccggaa 480

atcagatcat aatccttatc ggctgaagag aatgagagaa ttgccggagg ctcactcgca 540

caaaaatcca gcacatgatc tctcatctgg atgaatgccc ag 582

<210> 10370
<211> 229
<212> DNA
<213> Clostridiales bacterium

<400> 10370
ctgcttcatt cgtaggtcaa gccctcggac tattagtacc gatcagctgc acacattact 60

gcgcttccac cttcggccta tcaaccagat cgtctttctg ggtccttact ccttaaagga 120

tgagagatct catcttaggg ggagtttcac gcttagatgc tttcagcgtt tatctcgtcc 180

gtacatagct acccagctat gcccttggca ggacaactgg tgcaccaga 229

<210> 10371
<211> 452

<212> DNA
<213> Clostridiales bacterium

<400> 10371
ctcgagctgt aaacagtcct ccgccctctt gttataaaga ttcgattgag caggttgctc 60

cggctatgcc gcgtgcgcgt cacgaaccaa attgaatcgt aataagccgg tgcgaaagca 120

ttgcaatatt ttatcaggaa agaaggaatg cccatgctca gtatcgggat cgatgtgtcc 180

aaaggaaaaa gcaccgtgtg cggaatgaag ccagggggag agatcgtgta cgctccgttt 240

gaagttcagc acacaagaga aggaatgtcg gagctcgtat cgctgctgcg cagcagcggc 300

gaagaggttc gtgccgtttt ggaaagcacc ggcagctacc attgcccggt ggtggctgct 360

ttgttggaga acggaatatt cgtctccgtc atcaattcgc tgcggatgaa gcggttttgc 420

tcacaaagta tccgcaaggt gaagaccgat cg 452

<210> 10372
<211> 229
<212> DNA
<213> Clostridiales bacterium

<400> 10372
ccgatttgtg gtcaacacaa aatatggaaa tcaggacaac gcctctttct tcaactgcac 60

cgcaagcgag tacatcgcca atcggatgca gaaggccggc atcaagaagg gccgtctgat 120

cgagatcatc ggtaatctga atctgcgtcc ctacgagacg gatgagggca tccgtcagat 180

ctctgcggat gtcagtgtcc tcgagtggca ctttactggt tcaaagccg 229

<210> 10373
<211> 229
<212> DNA
<213> Clostridiales bacterium

<400> 10373
gacagaaaga taagcgcaat gagcgaaaga acatgcacct ttagctcagc tggtagagca 60

cctgactctt aatcagggtg tccagggttc gagtccctga aggtgtacca tcccactgga 120

tgggagcacc atccagtggg gaccccacga cgcaaggcat ggcccgttgg tcaagtggtt 180

aagacagcgg cctctcacgc cgttaacatc ggttcgaatc cggtacggg 229

<210> 10374

<211> 370
<212> DNA
<213> Clostridiales bacterium

<400> 10374
ctgcgggaaa agcgtgtcgc cctcggccac aagccggacg accatgaatt cgaaccgcag 60

agatacacga tgcagttcca ttgattcact aaagcacaaa gcgcgcatat tttgtgctgc 120

tgaagtcaat aaaacatttc caaaaacgca ccgctgtaaa taaagatgat tctcgaaaaa 180

gtaatagctt tcctgccaga attgtggtat gtatgttggc taccaaagga ggggtcacca 240

tgtacgacta catgaaagcc ttgcaggaac gattcgacga aaagcagccg gagcacctcg 300

tctacgccgt caaatccgcc cgagaggaac tgcggcggga catggatgcc gcagagcgta 360

agaagctgct 370

<210> 10375
<211> 857
<212> DNA
<213> Clostridiales bacterium

<400> 10375
cctactcctt cgatgccgac gaagagcaaa aaacaaagga gatgattacg aatggctaaa 60

aagcgcgcca acggcgaggg caacatccgc aagcgtgcag acgggcgttg ggaggggcgc 120

tacaccgcgg gctaccaccc cgaaacagga aagcgcatca tcaaaaatgt gctgggtaag 180

acacaggcgg aatgcaaggc gaagctcagc gccgcaatgg aggctaccag aggaatcgat 240

gtcagccgtg cggatgagta cacggtagca acttggctgc ggagctggta tgagatctac 300

gcaaaaccga atatccgcat ctcaacagca aaccgctatc aactgatggt cgagcaatac 360

acgatccccc gcatcggcaa catcaaactc accaaactga cctcgcgcga tttacaaaag 420

ctctacaaag atctgatgga aaacggtcgc atcgaccgca aaagcggtca cggcaatcca 480

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gacaggagag gactgctccc gatgttctat ctggaattgg tcacgggctt gcggaagggc 720

gagatcacgg cgcttctctg gagtgacctc gacatccaaa acaaaaccat ctccgtcagc 780

aaacaatatg taaagaatcc caatggcgaa ctgacgctct cccgtcccaa aacggaaacc 840

tcagttagaa aaatatc 857

<210> 10376
<211> 638
<212> DNA
<213> Clostridiales bacterium

<400> 10376
ccaaaaagcc ctttaggatc gtgtcctcgg cctcttcctc ggtcagcccc agcgtctgga 60

gctttaagag ctggtcgccc gcgatcttgc cgatggcggc ctcgtggatg agctgtgcgt 120

cggtcgaatt cgccgtgatg gcgggaatgg attcgatctt ggccttgccc atgatgatcg 180

agtcgcactg cacatggccg aagcacctgc tgttgccgac gaccacgggg tggaagacct 240

gctgcgattc atcctgcgcg acggagcggg aaatgacgcg gccgcgcgca tcttcaccgt 300

tgagttcgat ctccatgtcg ctctcggcgt gctgcttgcc gtgggtgagc aggcgctccg 360

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tgcagccgga gttgtggatg ccgcaggctg cgcagatc 638

<210> 10377
<211> 3720
<212> DNA
<213> Clostridiales bacterium

<400> 10377
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tgctatgata ttttcacaga aaaagagaaa gtgaggagat catcatgact ctcgataaag 120

cgatcaagtc cctgatggct ttgcaggcca agctcgcggc ctacggccac gccatgggcc 180

tgctctttta cgacggcgcg accaccgcgc ccaagggcac ggcggcgaac cgcggccaga 240

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agaagcaggc gcagctttcc gactacctga tgcgcacgat gggcctcgat ttggaccatg 780

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tgagcggcca cacggcggag gaattctacc gcgccatcaa taaggcggag ccgtccctca 1140

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aaaagcccgg cgcgctcttg gagcaggcgc ttggcgaaaa gttcgacccg acggtctaca 1560

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aaaaggcggt atccgaccgg atatcgcctt tttgtgcgtg aaacgtggaa agtccattgc 1680

attgtaaccg catttccgat acaatgggcg gagagaagcg ggtaacgagc ggaggagaga 1740

ccgcacgccc gcaatgagag atgggagagc aaaaatgaat actgcgctgt atgagaccta 1800

cgttcagatt ttgcatgagg agcttgtacc cgcgatgggc tgcactgagc ccatcgccgt 1860

cgcctacgcg ggtgcgcttg cgcgccaaac gctcgggaca cttcccgagc gcatcgagct 1920

gaccgtgagc ggcaatatca tcaaaaacgt caagagcgtc atcgtgccgc acaccggcgg 1980

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tgttttcgca ggcggggaca cggccttcgt ccagatcgtc ggcagccaca caaacgtcgt 2220

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gaacggctgc gaaaagcctg tcgtcatcaa ctctggcagc ggcaatcagg gtatgacggc 2580

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<211> 474
<212> DNA
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<212> DNA
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ggatattcct gaaggtgtga tcgcaatcga agtggatcag gcagtcgcaa agaagctctt 180

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<213> Clostridiales bacterium

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agccgttg 1448

<210> 10392
<211> 127
<212> DNA
<213> Clostridiales bacterium

<400> 10392
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<210> 10393
<211> 21514
<212> DNA
<213> Alistipes putredinis

<400> 10393
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caggactgga gcggcaagaa ttttagcccg tattgaagtt cgaccttata ttatgctgtt 180

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ccttcacgat cttgtcatat atttcctttg ccatttccgt attccggttg aagtggaaat 480

aagccgtgta tctgtatcct gttcttggca ctcctccgca ctgctgtatt gccctgtcta 540

tctcccagtc gatatcacct atgccaagag atatgcttgt gccatgcagc atacaccgtg 600

cgagtttcaa tgcggaatct gtcttgtctt ccttgcgcaa ccggtcgaaa gccatcagcg 660

cgatttgtct gtttgaaatc tttatctctt ccatatattt tgcatctgtt tgggtcagac 720

aatcccggta agttgcctga atcgcgcaac tatttcattg catttgcttt gggcaagttc 780

ctcatatttt ttgcaaatgg cacagtatgc cttccaaggt tggcctctaa gctcgtgctc 840

gtatgaggac ctgaccaatt ccggatattc ttcaaaaagt gtcttgaatg ctttacgcca 900

tttgcgccct tgccacaatc cgtttgctat caatgttatg aattcaaaca tctgttcgtc 960

tgttttcaca tccaatgcat aaaaatggtc tgttgtcggc cacacgttgt tggaatgctg 1020

ccaagtttct atctgcttgg ttttggcatt gtatgccatt cttgtaatta cctggtgact 1080

catattgata tgtttttagt tcattaccgt attgtctctt ttc 1123

<210> 10487
<211> 942
<212> DNA
<213> Alistipes putredinis

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gcgggtttcc gccgggaaaa cctgcctatc ctgccatcat cgttcatcct cctgccccgg 120

caggttcggg agggtaaaga gtataaggcc gacccgggtg tcgtgaagca gctcggtatt 180

ctccgggaat tgttcggcat ggccgagcgc atcatcgtcg cgaccgacgc ggggcgtgaa 240

ggggagctga tcttccgcta catctactct tacctggaat gccgcacccc tttcgtgcgg 300

ttatggatca gcagcctgac cgaccgggcc atccgcgagg ggttacaaca cctccgcccc 360

ggcaacgaat acgacaacct ttacctctcg gccaaagccc gcagcgaagc cgactggatc 420

gtcggtatca acgcctcgca agcgcttgcc gtggctgccg ggcggggcgt ctggtcgctc 480

ggacgggtgc agacccccac gctggcgatc atctgctccc gttacctgga gaacaaggcg 540

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accgtcctct ccacggagaa attcgacggc agggagaagg cggaagcagc ccgcgccgag 660

gttatcggcg cccgaacggt acgcgtcgtg aacgtggagc gcaaggaggc cagggaacag 720

ccgcctctct tgtacgacct gacgacactc cagaaagagg ccaacagccg gtatggtttt 780

tcggcagaaa aaacgctcga catcgcccag tcgctttacg agaagaagtt catcacttat 840

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gggaacatga cacgctatcc ccgtttcgcg gaatacgcgg gc 942

<210> 10488
<211> 597
<212> DNA
<213> Alistipes putredinis

<400> 10488
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gccgaatcct gacacaaaac gacatagcca gtttctgcaa gaaggaactc ggtgagctat 120

tggtgcggac agaaatccgg aacggagtgg agatcagccc gatgccccat gaagggctgg 180

tgcggaccaa agaggtccat ctgattcttg gaacgaaact ggatgagcct tcgcaggaaa 240

aacagataaa agacaacctg cgtaccaaac tctcggcctg ttcgccggac acattcaact 300

accggatatt catagaatac aataaagcat aaatatcata cttatgaacc cagttaccca 360

acatctcatt tcatcgtacc tgctgatgcc gctgctaacc gtgattttcg gaatcgcggc 420

ctattttatc gcacgcaaga acaaactgct caacaataga aaactgatcg tgtatctgct 480

gttgtgcggc atgattcttg ccctgcccgc cctgtgcggg ttcatggact atagcttcat 540

gccctatgtc tatatcctgc tggttgtcct gtactggact gccggacatt ataaccg 597

<210> 10489
<211> 1025
<212> DNA
<213> Alistipes putredinis

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cattatttct ggccgaagga ttattcaagc gcgaaactgg ctcagaaacg gatcgacaaa 120

ttggagaaag ccggtattcg gtgcaagctt accggatata acggcggtta cattcgtttt 180

atcggctaca ctcccgaagc agaagcgtta ctggagaagg aacgccagga atacatcacc 240

gcccatcggc aatggcaaac caaacagaca gtaatcaatt aaacttatca atatggaacc 300

gaacaatttg aacgaatggt ggggcggaca gcccgacgga ctgaaacagg cattctctct 360

ttttcccgat ggacggtgga aagaggcgga cctgtatttg cgaatcaata tccgtaacta 420

ctgccttctg aaaaaaggag ggctgcttcc cgaagacaag gaccgctcga tgctcagcga 480

gattgtctgt gagctggccg atacggagct gtgccgtgca aatggaaaga cactcgaaga 540

catgtgcgat acggacgggg cttttctgga agagtaccag gaactgttca accggatata 600

cgatgaactg gaaatgagaa ttacggatta tatgaacgga caatcaaaaa aaatgtaaca 660

atgaaagcaa aagtgttcaa gtacaagtct gacgggaata ccgtcgtggc ttcttatatg 720

gaactggagc cgtatgcgaa gaatgtatat ctctccctgt caagaaagaa cgaagacggg 780

aatgaagacg atgactgttt ccatgtggtc tgccggattg aaaacgttta tttttccagc 840

gggcagtatt cacgccggtt tctcaaggga gaaggttgca gagaggaagc cgccacctat 900

tgcaggaact ggattgcgga tacgcttcaa agtgcggaaa gaggagcctt cgtcaatttg 960

atctccgtcc gcgtgttcga ggctctcgga cttgacacca cttccctggt gcaagcccgt 1020

gagga 1025

<210> 10490
<211> 579
<212> DNA
<213> Alistipes putredinis

<400> 10490
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cggctcacca tagtgcggat tgttatcttc ctctatctcc ttgtccctgt tctcgtggta 120

cacccgactg ctccaacaga ccatgtttat ggaattgtta tacaacagct caaactggct 180

gtacagttcg gcgatgttgt tgcgtgtggt cgtaccggtg tcgagtatct tgtatttgag 240

gcggcggaag agaccgagga tatgccttgt acgttgtgac gacgggttgg ttatctcgtc 300

cgactcgtcg aaaacaaggc acagttttct tgaactgcgt ttgacgaacc ttgccatgcc 360

ccgtttcagc ttgccgagca tggaggtgga taggacgatg aacacgcctt ccggcacagt 420

ttccaggtcg gcattgttcc ttgccacccg gaactgttcc ctgttgatcg agaggaaggg 480

tatccatgtc atattggtgg cgatggcagg agccagtatg atgacattcc gtactttgcg 540

gaatttgagc aggtatttgg cacgatggta cacggcggc 579

<210> 10491
<211> 312
<212> DNA
<213> Alistipes putredinis

<400> 10491
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aggaacggca ccgtcagttt ccggaaaatc aagggctgcc ggactccgga ctttaccgga 120

tgccataagg ccgtgtccgc ctatctggcg ttcattacag aaaaagaagg caaataatta 180

aatccggggc ggtaaaggtc tgctccatgc agctgttacc gctaccggct tccggcctca 240

caattcacgg ttcagcgcca ttgccagcgg aaacatcaac cggttatagg ctttaagctt 300

ttgcaaattc ag 312

<210> 10492

<211> 306
<212> DNA
<213> Alistipes putredinis

<400> 10492
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ctccttatat ggaactggag ccgtacgccg agaatgtata tctctccctg tctagaaaga 120

acgaatatgg gaatgaggac gatgactgtt tccatgtggt ctgccggatt gaaaacgttt 180

atttctccag cgggcagtat tcacgccggt tcctcaacgg agaaaaccgc agggacgaaa 240

ctgccgccta ttgcaggaac tggatcgcgg atacgcttca gggcgcggaa agaggagcct 300

ttgtca 306

<210> 10493
<211> 385
<212> DNA
<213> Alistipes putredinis

<400> 10493
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acaaaaggag gcaggagcag aaacgcaggg aacaggagga gaaagaggcg gaagagcgca 120

gagcgcggga agagcaacac cagcggctgc tcgatgagca gaaacagaaa tttctggacg 180

gggaacgaat cacgggagga atgttccttg aaatcaccgg aagggacggt tttgacatcc 240

atatcagaac caaagggaca ttcaacaggc atgtaagagg cattgacaga aacggcaccg 300

tcagtttccg gaaaatcaaa ggctgccgga caccggactt taccggatgc cataaggctg 360

cgggcgatta tcttgcattt atagc 385

<210> 10494
<211> 340
<212> DNA
<213> Alistipes putredinis

<400> 10494
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ggtatagaag aatacatcgg taaatcccgc atgttcctcc acaatttcac catccaacgg 120

aatctcctcc acattgaacc gctccagagg cagttcttcc agacgggcat gctccgcatt 180

acccaatacg ttcaggttac ggttaaacag cacgaaccct ttcttcctgt aatccacacg 240

cataccatac ggacgctcca caaggaaagc atccgccgct ttctttatat agttttccat 300

gatcctgaaa ttagaaactg caaagataca ccatttgtcc 340

<210> 10495
<211> 380
<212> DNA
<213> Alistipes putredinis

<400> 10495
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atactggtat gcacgcagca gagcctgagc agttcggtga acatacccac ctgcaacgac 120

gtgatacttg aatccctgca atggaacatc ccgaagatgg agcagttcta cttccgtttc 180

atccgtctcg actccaaaga gctgaaggac gtgcattatg tcacctacaa ggactccgtg 240

gagcagaacc tgatggcgct ggtgcttacc aaagagcggc tgaacgagtt catcaagacg 300

ggcgaagtaa aggaacagtc ggaaatcttc gaggagttcg acgtcaccat gtccgtcatc 360

gagagcctgc tggtcaggga 380

<210> 10496
<211> 480
<212> DNA
<213> Alistipes putredinis

<400> 10496
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acttgaatca ggcagaagtg gcagtgacca cgcagcatct catagacatg gggcaggaaa 120

aagacaacct gctgcaaatg tccgacttcg gcgacatggg ggaattcctg tgcacctgct 180

ccgaactgtt tcccgaagag gaaactccgg aatacaggta cacgagatgg gaggaaatcc 240

cggacctgct catcaaccgg gaatggctgt gttccaactt cttcgagata agggaggcga 300

tggaacagct ggaggaaccc gacaaggatt gcttcttcga ctggtgtgac cgttacgggt 360

atgacatcag tacggaagac ccgcacctgc tggtggcgca ctatatcgaa ctttatggaa 420

atgcggccta tatcgacgat gagccttgcc cggacagcgg ggatgacagc ctgctgtact 480

<210> 10497
<211> 335

<212> DNA
<213> Alistipes putredinis

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ggcagttgct ccatgaccat gccatgaacg cgatacggtt tccggaagag gattatgacc 120

cggtctgggt gatatggttt ggcaagaacg gagaccccta cgaatgcagg gtgacaggac 180

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atgaggctgt atggcagcaa ctggaagaga gcaaa 335

<210> 10498
<211> 543
<212> DNA
<213> Alistipes putredinis

<400> 10498
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ttgtcgggtc tggtagttgt aaagcaatgc ctacatcctt ttgattgata agtgcccgat 180

gccagtaaac atctgccgaa tgttcgcccg catgatatag ccccatgaca tgatgccgcc 240

atgcaaacca cgtgcgttga acatagagta gttgccattc taaatcagct aactgttgca 300

ggactggtaa tgatgattca gtcgttaagc ggaaatctcc attatcgttc gtttgtaggg 360

ttaagcgttc gccacgctgg agaacatcat gcaccgtaag agaatccgca tgaatagccg 420

atttcgggcg aatctgccaa tcgactaatt cgtattctcc attgagcaat tccaaccgct 480

ctttttcga tatggagtta gcccaaagat atatgccaca taggacgata ataattccac 540

ctg 543

<210> 10499
<211> 199
<212> DNA
<213> Alistipes putredinis

<400> 10499
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gtccgacaaa ccggtgtttg tccgacaaag gtccttgctc tgcgaggccg ggtgccgctc 120

ccgagtcgcg ccccccttaaa ccttgacata tggaagaaca gcacaaagag agaaaagcca 180

gttacaagta ctcgttccg 199

<210> 10500
<211> 2249
<212> DNA
<213> Alistipes putredinis

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caaaacaaac acccagtttt gcacccaaga atgtaaagtc gggtgttttt gttttattta 120

agataataca accactacat aataaaagag tagcgatatt aaaagaatcc gatgagaaaa 180

gactaatatt tatctatcca ttcactttga tttttcagga ctttacatcg tcctgaaagt 240

atttgttatt gtattccaac gtcaggagtg gattataata caagtttttt gtgtggatag 300

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atgaatcatt ggaaatcaac tttggccgtg ataggaatag gccaactcat atctatttta 420

acaagtacga ttgttggctt ctccattatt ttttggatta gcaacgaatt taaatccccg 480

acagctttat ctctggctat tttagctgga tttttaccac aatttgtatt aggcttgttt 540

gccggggtct atgttgacag atggaatcga aagaaaacga tgttttattc ggacttgttc 600

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accttacttt gtgtccagat tccttctctt caaaaaacga aagttcttcc agatttcaaa 960

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gatatccatc cttttgtctt gaatgcggac ggcacttcca aacaagccga cttggatgga 1920

ggctggtatg aatttcaacc ggactatttt ggaacagcag tctttgaagg cagaagcatc 1980

ccttgcattt ctgcaaaagg gcaacaagta ttccattcgg gctacgattt aagagagaag 2040

gatattcacg atttatctat aattaaacaa tgtataacaa caatgagcct aacaattaga 2100

taagaacaag aaaatgacag aaaaacaaat tgtctggtat atcttactta cagaagtaaa 2160

gatagacagt gacacccagt ctgtcacatc cctgagtgta gctccattgg cagtcttgcc 2220

ggaattccag cgtaagggaa ttgggggg 2249

<210> 10501
<211> 1473
<212> DNA
<213> Alistipes putredinis

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gcatggtggc tgaattaata cctggagcta ctgagaatgt gaaaggtatg gtttgttatc 120

caactgactt taaatagttt aacaagtaaa attcattata taactcggac tgggtatttc 180

aatttcccag tccgtattct gatagtactt attcaattgg aagattgtgt tgcttcaaga 240

atgaaagttt atcccaatac cctctttgaa agacgatttt gttatctttt acatgaaaaa 300

atccgcatcc acgaagtcca agagagtctt tccattccat gatagcccat tcgccatctt 360

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tagcatacag ctctgctata tgataagcat ctgctttgtt aaagcaatct atccattttt 540

ccaaaacttc tttaggcttc atttttttata aattcttagg attttgattc tgtaataaaa 600

acaatctgtt tggatgcata gatacttgat tttattaata ataggctatt ctatattcta 660

aatcctctgg atttttgctc tctctgcacc gagttacgta gattctgctg taacttttcc 720

cattgttcct taaaccattg tactatgggt tgtcggttta tggtcagcat aagcttacca 780

ctatccatcg gatgtttctc aaccctaaaa atatcattct tgatgtcaaa tttccacctg 840

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atcaggagaa tatcggaagc aagggtctgc atg 1473

<210> 10502
<211> 938
<212> DNA
<213> Alistipes putredinis

<400> 10502
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ctacttttag tattttagta tattagtttt tgactatatt tgcggacatg acaaccattt 180

aaaaaactga atttatgagc aaagcaaaag taatctccgt attgaatcac aaagggggag 240

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ttcttttgat cgaccttgac ggacaagcca acctgactga atcgctgggc ttctctgcgg 360

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ataaggacgg tcttagcgtc gttccctcct gcctggatct ctcggccgtt gaaacggagt 480

taatcaacga ggccgggcgg gaacttatct tagcccacct tatcaagggc caaaaggaga 540

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tcgccggggt cctgataacc cagtacgacg gaagaaagaa cctgaacaag agcgtttcgg 780

aactggtaca ggaaacattc cagggcaaag tgttcagcac ccatatacgc aactccattg 840

cgctggccga agccccgaca caagggcagg atatttttca ctatgccccc aaatctgccg 900

gggcagagga ctacgaaaag gtatgtaacg aactgcta 938

<210> 10503
<211> 14148
<212> DNA
<213> Adlercreutzia

<400> 10503
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tccaagttcg gacccacata ccaggcggtg cgatcggtga acaccggcgg cgtatccccc 120

gtggcgagga agtacttgta ctcgcgccat tgggcgtcga agcgggccga gaagccccgc 180

ggccgctcct ctaccgtgcg caccacgatg ccctcgcagg tcagcgcgtt cagcgagcgg 240

cgcaggttgt aaggcgtgcg cccgcgcagc tcgcactcgt cgatgtcgaa ggagaccacc 300

tgcccgcggg cgtgcacgcc ggcatcggtg cgcccggcgc agaccacgtc caccggccgg 360

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cgcgcgcact cggccgcccg ctcttccaag ctcggtcgcg agatttccat taggcaatca 540

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ccgacaccgg cagctcggcg cggaaacggc ggccgtcggc ctgctgcacg aagagcacca 660

cgccgtcgcg acccgggtac gagttcagga tgcgactcag gtgcgccgag cggttctggt 720

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<211> 358
<212> DNA
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<212> DNA
<213> Odoribacter sp.

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<211> 3446
<212> DNA
<213> Odoribacter sp.

<400> 10862
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<213> Odoribacter sp.

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ctgaacatct tggc 1094

<210> 10867
<211> 905
<212> DNA
<213> Odoribacter sp.

<400> 10867
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<210> 10868
<211> 1038
<212> DNA
<213> Odoribacter sp.

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<211> 1355
<212> DNA
<213> Odoribacter sp.

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<211> 670
<212> DNA
<213> Odoribacter sp.

<400> 10870
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tccggtggct 670

<210> 10871
<211> 2809
<212> DNA
<213> Odoribacter sp.

<400> 10871
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<213> Odoribacter sp.

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<210> 10890
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<212> DNA
<213> Odoribacter sp.

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gcaagcccga cccccatacc aacaaagcaa gtcccgcaat caccaacacg acatccagca 480

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caagaatagc gcaaacattg aatatattgg atcccatcac gttccccacg gcaatccccg 780

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<210> 10905
<211> 2145
<212> DNA
<213> Odoribacter sp.

<400> 10905
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tgtgtaagaa tacttgcggc gtttccaaac aagagataga cgctcagctg cttgcatatc 240

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tggtcgaaat gccaatgcgg aaaaaagata taatgacgca atcga 2145

<210> 10906
<211> 217
<212> DNA
<213> Odoribacter sp.

<400> 10906
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catctcccga tggaagttgc cattcacgac gacgaacgtg aaggtaaact gcccgaccac 180

gtaacgggaa atcctggata gaagtcggga ccgtgaa 217

<210> 10907
<211> 1005
<212> DNA
<213> Odoribacter sp.

<400> 10907
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gcacacggct tgcataaaaa agtttttcgg aacaacgaca ttgcctgttc ttgattatac 180

gacagaacaa cttgatcagc ttgctctgca aatcattcaa gaacaaacct ctttgaccgg 240

tgttcagccg aaattatcct tgcatttgaa ggaacatgag ggctgtaaaa gattgactat 300

tgtcgggcta tggggcggtt atatttgtaa accacagacc tcgcaatatg aaatgatgcc 360

tgaggttgag gatttaacca tgcaccttgc tgaggtggca cgtattgagg ttgttcctca 420

tacgctgatg cggatggcag atgatacgct atgctatctt acccgccgga tagacaggac 480

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accaaagatg gatgttacca atttctttga gttggtgctt ttctcttggt tgacagggaa 660

taacgacatg cacttgaaaa acttctcttt gtatgaggtg gcggataaga tacgtttaac 720

ccctgcttat gatttgctaa atgcggctat catcaatccc aaggatgacg aagagttggc 780

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gcccaagttt gagactatca ttcaaaactc tttcctaagt gctgaattaa aagaaaagta 960

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<210> 10908
<211> 586
<212> DNA
<213> Odoribacter sp.

<400> 10908
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gcaaggatga agaggaacag ataagtgccg tttccaaaat ggccgatgaa cggaaagtgg 120

atttgacccc acttttacca cacatgaaaa cctgcgctct cgtggttgga gagaacaaca 180

aagccgtatt gcaggcagac aacggctcca tccaattctc acgggagttg agtgccaatg 240

agctgagccg cctgtctgcc acgctgaaca gtccgggact ctcggaagaa agcaagcgta 300

tgcgtgtggc cgggatggtc aatgccctgg tgctgtcgca acaggcttcg cagaacttcg 360

agcagggaat gtcggaacaa cagagccggg aggaacaaat caagagataa tgaaacgcgt 420

gatgatggaa ataggattgt tgtttgtcgg gttgtccatg gcagcactgc acaccctcgt 480

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cgccatcggg atagtctgga ttaaaatccg tgcgcccgac taagac 586

<210> 10909
<211> 224
<212> DNA
<213> Odoribacter sp.

<400> 10909
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acatcgctgt gttgcttccc tctgtttgat caccattgta gtacgtgtgt agcccaggtc 180

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<210> 10910
<211> 1128
<212> DNA
<213> Odoribacter sp.

<400> 10910
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gccttctatt tctgattcaa accgtttctt atattgcgct atcatttcct tgaactctgg 180

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caaacaagct gcatcataat agttaccggc attatccgaa tcattggcaa tcaccttgtc 360

cataaattca atggcttttt ctttttggcc taatccccaa tatgcgtatt gagcgcaaga 420

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tacccgactc aacgatagcg tctttcgtat tcccggattc atacaaaaga tctgcttttt 720

ccatcacata atcaaagtct gtagaatcca aggcaatcgc attatcaata tgatccaagg 780

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gcacctttaa ttttgctact aacggaatca tagcggaatc tgcgacttgc tgcattaaat 1020

gaaatgcttt attgtcaccg tcaatatcta acgctttgat aacatcatca atagctttgt 1080

cgtattgttg tagcccaaaa taactttcag ccctaaaaga ataccctg 1128

<210> 10911
<211> 4189
<212> DNA
<213> Odoribacter sp.

<400> 10911
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tatggcagat tggcaaacct tgttatcttg ttggcataaa ttggaacatt atactccggc 120

agaacttcct aaagataaaa gcattaaaca acttcaagaa aaactgccat ggaatttgcc 180

atttacttcc aaagacgaga aaaagacaat cgtgtacacg atatattttg acgtgcatcc 240

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tcaaaattca ttaggcatat ctacttttcc atgggcgttg catcagttgg aagagggaaa 420

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<210> 10912
<211> 148
<212> DNA
<213> Odoribacter sp.

<400> 10912
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tttcttcaag tacgtgctga ataacaag 148

<210> 10913
<211> 895
<212> DNA
<213> Odoribacter sp.

<400> 10913
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aagtacatcc gtgaaatcca ttccaacgtg gatgtgctgc tcaaagatgt aatgttggaa 120

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agcgaaggcg aatgtacaac ctgtcccaca ggatagtgta cactatgaat cctatatgga 600

gaaggaactg atgtttcaaa ccgcagagcc gacttatcac aagggagtgc tggtaacttc 660

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caaatggttc actccacaga tcggggcaag aatcgggtat ggaggttggc ggttcaaggg 840

ctgcaacctt actgccaatg actatcatca tttccacgcc gacctgatgt ataat 895

<210> 10914
<211> 384
<212> DNA
<213> Odoribacter sp.

<400> 10914
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gaacatcatg aggaagttta cttgatcttg ttaaatcaag cctcaaaaat attgggtgtg 180

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tgcaagccta gtaaagctga tgatgaattg accaaaaaca taactcaatt atcatcttta 360

gcaggagttg attttataga tcac 384

<210> 10915
<211> 759
<212> DNA
<213> Odoribacter sp.

<400> 10915
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cgcttcgccg gtaatttatc caataacttt cctacatctt ctataaattg ttcgggatct 360

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tgatgttcca gatgatttaa acaacgattt ttcacggata acaatagata cccttcaagg 480

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<210> 10918
<211> 3278
<212> DNA
<213> Odoribacter sp.

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<213> Odoribacter sp.

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gtctccttgt tgagcgtaaa gagaggcact caaggcatcc gctatacccg tgggatcaac 180

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<210> 10927
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<212> DNA
<213> Odoribacter sp.

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acggaaacgg tatcaatgag caatatacct ttgcctctcc tctccagaac aagggtgatg 180

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<211> 116453
<212> DNA
<213> Odoribacter sp.

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ttacaaaatt tattctatcg catttcgatg actctcttga gaatagactt tataggccac 720

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ctttaaaata ttcaaagctc tatgttttac agaagtaaat aaataagact tcacagaagt 1080

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<210> 10934
<211> 2023
<212> DNA
<213> Odoribacter sp.

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gcaagatggc tgtatttttc tatttcttta cggtcacggt aggtttcaac aatcttctgt 240

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atgaacagga tattgtcatc ttccttgcgg catttttga agacaagaat acaggtcgga 360

atacttgtac catagaaaat gttggctggt aatccgataa tagcatctat atagtttttc 420

ttttctatga ggaaacgacg tataatacct tctgcgtttc cacggaacaa cacgccgtga 480

ggagctacgc aagccattgt accgccctca ttcaagtgat aaatcatgtg caggataaag 540

gcgtaatcgg cggttttctt cggtgcgagt cgtccggctt tgctgaaacg atcatcatta 600

ttaaacttgt cagctgcact ccattcggca gagaacggcg gatttgcgac tactgcatcg 660

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ccggcagcaa attgggaaat catgtattcg taggcatcac cgagaatatc aatttcctgt 1020

gaggcttcca caccaaaatc tatatcatcc aaagcaagaa gcacattgct gaccaatgta 1080

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<210> 10935
<211> 807
<212> DNA
<213> Odoribacter sp.

<400> 10935
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tttgagaact cgtccgcaaa gcgtttgtcg ttctctgata attgattgtt gtactccatt 180

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gaaccgcctt ggaattttat ggatgcggta aacggctgtc ggtactgctt catgcgacgg 300

ctttcccggc caattactct ttcacggaaa ggaagaattt gcagggaatg cacttcaagc 360

cggagaatca agcgcgacag cagacctttg catctgataa aaccaagagc ggtgtggacg 420

gaagatgagc cacggcagtt atacctataa aaggaagatg gcttgggcaa aatataaagg 480

ttgagataca aaaggaagct gccaacgcag tttaggcaac tcataaaaac gggtatcgtg 540

cttttgtgaa accacgtaag cacgacactc attgataaga gctaaaaaga tgaaggcagt 600

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acgccatcaa gtttgctgaa catctgcaag gagtcaaatc ctctgtcgaa ttgctccttg 720

ctgacagcag gggcaaaatg aataactcca cgtggatagc tttttgatac acctatccac 780

ccacgcaaat aatcatcgaa atgtccg 807

<210> 10936
<211> 1021
<212> DNA
<213> Odoribacter sp.

<400> 10936
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agatcattgg gattttaaga aaaataaacc taaaaaaaat tgccccaatg gaattgctat 180

tcaaaggcta attacagaaa aaatcaaaga atatacagac aaagctattg atcttgaaat 240

tgagaaaaaa gatttcacag gcaagactct aattgataaa gtcaacactc ctgtaaagag 300

aatgaatgta aatgatctct ttttacagga aatagcccaa ttaaaaaaag agggaagaat 360

tagatatgct gaatgccatg attatgtgta caaatctttg ctcaaattta ataagcatct 420

ggatatatac ttttcagaaa ttgatgtgca atggctaaga aggtatgaaa catggcttag 480

aggtgaggga aacagtgaaa atactattgg aattaaattt agaactttaa gaaccatgta 540

taacatcgct atcagagaag ggtatgtaaa agctgaattc tatccattca aggattacaa 600

ggtatcaaaa ctgcatgaaa acactccaaa aagagccatt gttaaagata atgtgataaa 660

ggtcatgaac cacaaggagc ctgtttcaaa ttcttcctac aaccagctgg ctattgatct 720

attcacattc tcatatctaa tgggtgggat taatttcaca gacatggcca gattaacagg 780

agaaaatatc atggatgaac agctagtgta caggaggaag aaaacaagga aacttataca 840

ccttccaatc catccaaaag caatggagat catcaacaag tataaatctg acaattccta 900

tatatttccc attttatcca gttttcataa aactgaacag cagaagataa acaggattca 960

caaggtgatt ggaaaagtaa atgcttgttt aaaaacactt ggggatgaac ttgaattgga 1020

c 1021

<210> 10937
<211> 830
<212> DNA
<213> Odoribacter sp.

<400> 10937
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taatactctt ttacattggc tatgagggaa tcaatatcct cgccctgcat atcggcattg 180

aagagaaaat cctgtccgta cttggtatag cgttgaaact caaacaatac tcttgtctcg 240

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gaggtcattt cgtccgcttc tctccatagc ttgtcataga gaatggctct ttggttgtct 480

ctctcgtgcc actgccatat cttgtgatta agtacaaggc agagttccgt ccaatacttg 540

tagttgtctt tccattcgga cttggctcgc ctgtatgtgt cggctatggc tttgtctccg 600

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tctgttatgt tccatcttgg gatggcgatt tgaagtgctt tcataatcgt tattgtttat 720

ggttttcgta atactcttcg ggtaaatgat agaggtcgtt ctctgccaaa tggtctatgg 780

cttccgctgc cagacggcac gcccattcgt tacgctggtc atatcttccc 830

<210> 10938
<211> 158
<212> DNA
<213> Odoribacter sp.

<400> 10938
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ttcatactaa aataatcttt cagaaatctt atctggcagg gtcatgtgtt catcgaatct 120

cgactcgcgt cgattccgat tcacgctcgc tacgttgt 158

<210> 10939
<211> 758
<212> DNA
<213> Odoribacter sp.

<400> 10939
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catcggaaca agaagccatt tatgttcaga ttatagactg gaaacgtaaa aatatcacca 120

cgcaaagagg tttgtataga gggcatgaat atgatgctat tttcccggat gagagccctg 180

tcccggaaat gctgtacaaa ccaataatac cattactgga taaaatgcaa caaggtaaat 240

ttgcttataa gccacataag tttgcctttc atgccgtaag ctctcagact gcctgcatca 300

atcttttcat gccgttactc ctttctgaag atgcagaccg catattgcct atgattccag 360

gatgtcctgc agatttcagt aagatagcaa gggacaaact gttccgtgga ttctgctttg 420

aatattgggg acaagatatt aaacaaggaa ctggtttatt gaatgaccat tccaagcaag 480

ctgggacaga tgctgatgta gctatagctt actataatac ggaagacaaa ttatgtctgt 540

ggctgataga gcataaactg agtgagcggg agtttactgt ctgcggagca tatgaaagca 600

aagccaatga gagcaaggct aattgcacta agtgcaatct catggatata gccagagaac 660

cgcagaaatg tcattatcac acgataggat ataaatattg ggatattctc aataagaatc 720

ttgacagatt ccaaggtgca atcgaaatta aaggttgt 758

<210> 10940
<211> 209
<212> DNA
<213> Odoribacter sp.

<400> 10940
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cggtaacacg cttgtggcgg atcaagcgac gggctattat cctttcggtc tggcgcacgg 120

tcacgagaac ttgaacctga atcgttacct ttttagcggt aaagagttgc aggatcaatc 180

tctcgggggt aagttgctgg ggctttacg 209

<210> 10941
<211> 160
<212> DNA
<213> Odoribacter sp.

<400> 10941
acaagcagtg gagtatgtgg tttaattcga cgcaacgcga agaaccttac caagtcttga 60

catcctgcga cggacataga aatatgtttt tccttcggga cgcagagaca ggtggtgcat 120

ggttgtcgtc agctcgtgtc gtgagatgtt gggttaagtc 160

<210> 10942
<211> 762
<212> DNA
<213> Odoribacter sp.

<400> 10942
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aggaaggggg aaaatggata ccccccttccc gcacgaagtc ttttcactgg ttgcaattgt 120

gaaatgtaag tccggacttc gtgttggtct gaaccaagtc aacgatgaaa attttaaatt 180

gtcttatctg atgttggggt aaaaagcaac agaaaaaata gccggatcaa tgcaagttcc 240

ggctattcct gttcctatat cccggtcaat gaaaaatccg gaccgagcaa gtcaatccag 300

agtatggcat aacggctcgg gattgactta attcatggaa gtagcgatct gtcaacatga 360

aaaaagcaac cccacgccac tataagtata attctgaaaa gaatatacgt gtaacaaacg 420

tgagtgttgc aacgatacaa ggtatgatta tttttgattt attacaagtt attgtgtcaa 480

tttttagttg tttattgtcg tatatagatg ttgttttaga gagttcggtt gctttttaat 540

attagtttag tagacgatat aatagaaaaa taaatgcaga taggggggtat atggatcaaa 600

tacggtaaca ataaagacga gttcgacttg gctttatctt gtctgtaaat cgtctttgtc 660

tcagctttaa ttacttaaca gggaattatt acggtagttt atgagtttga aattgaatac 720

taagttgatg ttggttttat gcaagtgttc tttagtctaa tc 762

<210> 10943
<211> 418

<212> DNA
<213> Odoribacter sp.

<400> 10943
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caccgctggg aggcgatcaa cgaggaaacc aacgagatgg aaaacgcccg tctggaaggg 120

aaaaagtaca gggcgagaag attccgtaac gggggaaacc aggaaggaga ttttgtcccg 180

ttccaggttg ctgcttttta aagacccggc tgcatggagc gtgaaccaga gaaagagggc 240

ttccgtgctt ttcgagctat atcccgatat gcaaaaggcc ctcgccctgg tgcaaaggtt 300

gagaaggatc tattccccgt gcaagtccgt ggcgggtgcc aggcttaaac tcgccttgtg 360

gtacaatcaa gtcaacgagg ctggctttca ttctttcaat tccgttgccg cttccgtg 418

<210> 10944
<211> 756
<212> DNA
<213> Odoribacter sp.

<400> 10944
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ttcaaggaga ggttgagaaa ttctaaatta atatgaaaat ttatgttcaa aaaaaagaat 120

tactatatct tctaatttga atttatggga tttaattcgc tttttttgac aatacggcat 180

tttgtttcct gaatatacca aaataaagaa caacttgttt tcaatgatcc attaatttta 240

tcgggaacaa ttctgtagag gcgaatattg ggttatagaa gtgacgaatt ttgctgtgat 300

acattaattt gaatttttta gaacgcaaag ataagttaaa aaacgtttta attgatcatt 360

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ttaatacctt gtttataatg aataaaagaa tatttcagga tcacttccaa attacttccg 540

aatagaatat ttttagtatc ctatcaaaaa tctaataaaa cactattcta agtatagcgt 600

tttattagcg ttttaatagc gttttaatag cgttttacac gatagtgatt cgctatttat 660

catgatgtga taatgaaata tactatgtct tatcctaaaa aagttgactt gttcaacaag 720

taaacttatg tcagtagcaa caaaatccag tggttt 756

<210> 10945
<211> 44070
<212> DNA
<213> Odoribacter sp.

<400> 10945
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ttgcaaacga atattctctt ccgggatttt ccggagatac tggaaaaata ccagaagaag 180

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gcacaggaga tattccgcat ctcccaaaac gaacaagcgg agttcaataa tttcgctatc 600

ctgtatcgga caaacgccca gtcccgtatc atggaagagg ccttacgaaa aagaaacata 660

ccttataaaa tatacggtgg actttcattc taccaacgca aggagatcaa agacctgatt 720

gcctacctgc gactgacaat caaccaaaat gacgaggaag ccttaaaacg aatcatcaat 780

tatccgcggc gaggcatcgg agacaccacg atcgacaagc tgaaagaagt ggcacaaaaa 840

tacaacgtga gcatctggac gttactttgc aacttgaaca aagttccggg tatggtttct 900

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ccctccatgg gacgctcatt acacggtccc ggaatacagg aaaaagtagc acgtcctaac 1560

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cccgaatatg gaaggaatat tcaaatgatg gttgaccacc tggcaacaat aacaaacaga 2040

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ttggaagcaa tccccgaaat ccgggccccc atagcattca acatccggca caactgctgc 4020

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<210> 10947
<211> 490
<212> DNA
<213> Odoribacter sp.

<400> 10947
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accatccaca gataagagcc atgcagaaca gacagctata cagagacatt tcgcttcgtc 360

cgaaaaccac gcagttcttc attgatgagc tgcctttgtt gtttgtggct ataacaggct 420

tggtctatgg cggtatggat gacgcgcccc ttggctctat cgccaccctc tttgccgtgc 480

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<210> 10948
<211> 224
<212> DNA
<213> Odoribacter sp.

<400> 10948
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<210> 10949
<211> 148
<212> DNA
<213> Odoribacter sp.

<400> 10949
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gtttgagctt cgggttccgc gtagtcgtaa cagcaatttt tacccgatgt tactaggtgt 120

gttgaaagac caagaagaag aagcccaa 148

<210> 10950
<211> 613
<212> DNA
<213> Odoribacter sp.

<400> 10950
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gacggcacag atg 613

<210> 10951
<211> 2806
<212> DNA
<213> Odoribacter sp.

<400> 10951
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ggttgtccgg gagcaacggc ccacgcggga gaggagagtt gtacgtgtaa tgtttgatcg 180

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<211> 1154
<212> DNA
<213> Odoribacter sp.

<400> 10952
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cagcttctcg ccagccgaag tgtaaatata agaaactttt tcgttaccta gacacacttc 180

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<210> 10953
<211> 719
<212> DNA
<213> Odoribacter sp.

<400> 10953
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<210> 10954
<211> 598
<212> DNA
<213> Odoribacter sp.

<400> 10954
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<210> 10955
<211> 601
<212> DNA
<213> Odoribacter sp.

<400> 10955
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agtttacttg atcttgttaa atcaagcctc aaaagtcttg ggtgtggctc tagtaagcag 120

gggaagtgtc aacaaaacag ttgtggatat aaaaattata ttccagcatg taatcctctc 180

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<210> 10956
<211> 447
<212> DNA
<213> Odoribacter sp.

<400> 10956
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tttcagaaat gatggcccgg aaggttc 447

<210> 10957
<211> 270
<212> DNA
<213> Odoribacter sp.

<400> 10957
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gtttttgaag gtctcaaaga aagaggggtt gctgtcgtgg atctgctggt atgtgacggg 180

ttatccggta ttgaaaacac gctggccgat actttccccc aagcggattt gcagctgtgt 240

accgttcatc tgaaaaggaa tatcgtgaat 270

<210> 10958
<211> 157
<212> DNA

<213> Odoribacter sp.

<400> 10958
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aatatcgtga ataaggtcaa gcccggggat aagaagcagg ttatggagga actcaaacaa 120

atctgctctc ctgaccaatg ggacattacc ccggaaa 157

<210> 10959
<211> 166
<212> DNA
<213> Odoribacter sp.

<400> 10959
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ccacttgctg cacgagccag tataactggc aggcgaatct ctctgttggg gtggtgtgga 120

agatcggtaa caacaagaag aaagagaacc tgatgtacgc ggctgc 166

<210> 10960
<211> 181
<212> DNA
<213> Odoribacter sp.

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<210> 10961
<211> 193
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actgcaaatc cgcttggggg aaagtatcgg ccagcgtatt ttcaataccg gataacccgt 180

cacataccag cag 193

<210> 10962
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<212> DNA
<213> Odoribacter sp.

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acatccttcc aattggtcgc gctttccgtg ggaaagttta ccacggtt 348

<210> 10963
<211> 235
<212> DNA
<213> Odoribacter sp.

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caaaaccgtg taataggctt cattgctcac ggactcgtcc cgacgggtga ggacatacgt 180

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<210> 10964
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<212> DNA
<213> Odoribacter sp.

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<210> 10965
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<212> DNA
<213> Odoribacter sp.

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<210> 10966
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<212> DNA
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<210> 10967
<211> 292
<212> DNA
<213> Odoribacter sp.

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<210> 10968
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<212> DNA

<213> Odoribacter sp.

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<210> 10969
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<212> DNA
<213> Odoribacter sp.

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<210> 10970
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<213> Odoribacter sp.

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<210> 10971
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<212> DNA
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<210> 10972
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<212> DNA
<213> Odoribacter sp.

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<213> Lachnospiraceae bacterium

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<400> 11390
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<213> Lachnospiraceae bacterium

<400> 11446
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gatacataca aataccgtct tttctccagt cccaacaaca gcagataaaa tgccaataaa 660

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<210> 11447
<211> 615
<212> DNA
<213> Lachnospiraceae bacterium

<400> 11447
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<210> 11448
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<213> Lachnospiraceae bacterium

<400> 11448
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<212> DNA
<213> Lachnospiraceae bacterium

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<210> 11450
<211> 196
<212> DNA
<213> Lachnospiraceae bacterium

<400> 11450
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<210> 11451
<211> 3803
<212> DNA
<213> Lachnospiraceae bacterium

<400> 11451
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<211> 341
<212> DNA
<213> Lachnospiraceae bacterium

<400> 11452
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<212> DNA
<213> Lachnospiraceae bacterium

<400> 11453
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accggagact atggagcatc ctcggcaa 148

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aaggacaggg acgattttat tttcatcgtg ctaagggagc agacacctga caagcggaaa 240

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<213> Bacteroides xylanisolvens

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<211> 2080
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<213> Bacteroides xylanisolvens

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aggatatacc atcgaacttg gcgagcttgg ttattttagc atctctttga aatgtacgca 2040

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<210> 11926
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<213> Bacteroides xylanisolvens

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<212> DNA
<213> Bacteroides xylanisolvens

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<210> 11928
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<212> DNA
<213> Bacteroides xylanisolvens

<400> 11928

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<210> 11930
<211> 1889
<212> DNA
<213> Bacteroides xylanisolvens

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<210> 11931
<211> 3472
<212> DNA
<213> Bacteroides xylanisolvens

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<213> Bacteroides xylanisolvens

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caacgcaatt cactaatatt agagttatcg gacagatcaa gttcggtcaa tttgttgtat 180

gagcaactta attcccttaa agaagggcaa catttcaata tatcagtaat tgattggaaa 240

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<211> 1003
<212> DNA
<213> Bacteroides xylanisolvens

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<210> 11965
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<213> Bacteroides xylanisolvens

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<210> 11967
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<213> Bacteroides xylanisolvens

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aggcaaaagc cgtattggcg ttccaatgca ccccgtccgt catgcccgcc gtgacctgca 300

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<210> 11968
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<213> Bacteroides xylanisolvens

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<213> Bacteroides xylanisolvens

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<211> 568
<212> DNA
<213> Alistipes sp.

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aatccggaga attgcagacc agctacatag gaataaaacc cggctggcac atgaataaga 240

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aacttcatgc cttccgatac atgaccgaaa tcttctgatg cataacctaa atctgatcaa 420

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tctgtcacca aaagctaaat aacacact 568

<210> 12106

<211> 443
<212> DNA
<213> Alistipes sp.

<400> 12106
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<210> 12107
<211> 626
<212> DNA
<213> Alistipes sp.

<400> 12107
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acggctcatt ggattgccag gagacaccgt ggcatgcgaa gggccaggta agccgatcac 120

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tgcgcaccat gaagtgtttg ccgacgttcc ggaaggaggc tcggcggcct gatggcggtt 420

tccgtaattc ccacattgga tttggaacgt gctattgccg aacaaggcta cgatgtgatc 480

gtcggctttg acgaagtggg gcgtggatct ctcgcagggc cggtaatggt tggtgcggct 540

gcgatttggg cgcgtgactt agacgggccg gctggagctt cgcaaggagg ctcgcaagaa 600

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<210> 12108

<211> 1001
<212> DNA
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cggtgaaggt cggcgcgatc ctcgacggac cgaacgatta catcaccaag acgctgaaca 180

ccttcgacgc gcccgaagtg ccggtgccgg cgaacgttac caccaaagtg aaaggcgacc 240

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<210> 12109
<211> 857
<212> DNA
<213> Alistipes sp.

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<210> 12110
<211> 919
<212> DNA
<213> Alistipes sp.

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actgtcttta tattttcat 919

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<211> 461
<212> DNA
<213> Alistipes sp.

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ggcggctacc tactctccca cgggaaaacc gcagtaccat cggcgtaagt gagcttaact 360

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<210> 12112
<211> 782
<212> DNA
<213> Alistipes sp.

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gacctgctac aaggttgagt tcacctctgg caatcatacc tacgcctact ccatcaatgc 180

tgagagcggc gaggtgctgg aggcgagtta ccgggacaag aacgccgcgc ccacggacag 240

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catcaacacc tctaccggcg cggtggacga ggccaaggcg caggagatcg ctctggcaca 360

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<210> 12113
<211> 1030
<212> DNA
<213> Alistipes sp.

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cgcccgcacg ggccgcaacc cgcacaccgg cgagacgatc gagatcgccg cggcaaaggt 180

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<210> 12114
<211> 15671
<212> DNA
<213> Oscillospiraceae bacterium

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tagaaaagac tgcagaatgg caaccaaata ctccatggga aaaatataga gacttacttc 540

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<210> 12292
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<212> DNA
<213> Oscillospiraceae bacterium

<400> 12292
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ggagcaagat gtcggtagtt cgag 2544

<210> 12293
<211> 395
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12293

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aggcctcgat catcaggtcc tccgcctcgt gaagg 395

<210> 12294
<211> 1477
<212> DNA
<213> Oscillospiraceae bacterium

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cgcactccac ccgggtgtcg ccggggcggc tggcaggcgt tacgctgacc ctgtccggca 180

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ccgcggcgtt tctgtgaccc atggcggcaa agccgctgag ggtatagccc catcgcgtct 480

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gccgggtgcc ccgtcggtga aatgggccag cgcgccggtc agtcccagag ccagcacggt 1260

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aaaaaaagtc cttacattac catagggaca aaaacggaga aaactacgca cccaaaattg 1440

aaaaaatttc aaaaaaaatc agaccgtcct gttggac 1477

<210> 12295
<211> 206
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12295
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gtcgcaccgc ctctggaact gtatgacaac cctgtgaacc tctacacggc cgacttcatc 180

ggcaacccca gcatcaactt cgtcaa 206

<210> 12296
<211> 987
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12296
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agcgcgcaga gcagggcgat caccgtgccc cgtttgcttt tcttttcgtt cagcacagtc 180

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aagcaccacg atcaggatgg cgaaggtaaa ggcatcggaa aagacgctcc aatcagagcc 300

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gccgataccg ccgaataccg ccgctacgaa ggcccgcagt cccggcaggg agccggacag 420

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ggcactgagg tagaccatca tcaaaccggc taccatgaat acatcgccgt gagcaaagtt 960

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<210> 12297
<211> 1621
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12297
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gctgtcaacg ataatgacac tgtcctgctg gagatggtcg agaccaagac tgtccataac 420

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cgggacagcc ggtagttggg tgtctcttgg cttgccatat gcctaaacct atcctttctc 1620

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<210> 12298
<211> 164
<212> DNA
<213> Oscillospiraceae bacterium

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agacggggta tgccgcatct ggagttcttt tctaagtgct gaat 164

<210> 12299
<211> 188
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12299
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accatcatcc tgttcatctt cttcatcgtc ggcatcatca tgccggtgat catcctgatc 120

ctggagagct gcatgctgaa ggagggcacc tattctctgt ccaacttcac gctatactac 180

tggatcgg 188

<210> 12300
<211> 147
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12300
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tggatcggcg agggtgatcc caacatcatg gagggcgtct ccggcatctt caagaatgaa 120

acctttatga tgtctctggt gaactcc 147

<210> 12301
<211> 204
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12301
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tcgcgattgt gtccgtggca atttttggca tccggaacta caagtccaga aagctggcaa 180

agcagaatac tgctgaaact tccg 204

<210> 12302
<211> 347
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12302
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aaggcgtccg ggtcatacat ggttccggtt ttgggcgatg ggaacagata cggattgcga 240

gggtgctttt tgtgttcggc aatcagcagg tcgactgcct gctgagggag agccagcgtt 300

cgcacggagt tgcgagtttt cggcggactg accaccagtt ccccgtt 347

<210> 12303
<211> 259
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12303
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tttctcctgc ggcaggatct tcatttcccg tttctcgagc tgcggcagtt tgcagccctg 180

ggcgggattg ctgaggatca gccgctccgc caccgcctgc tccaggcagt tgtgcagcag 240

cgtgtggacg ccccgcacc 259

<210> 12304
<211> 291
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12304
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gtttgctcgt cgctttggca tggtatcagc ccctttcgca acgaacaata ccgtaaccaa 240

gggaacaaag ctacccgaaa gtcgaactgt tatcagaaag ttatcatttg c 291

<210> 12305
<211> 11385
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12305
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gttttcacgt ccaccccgct tttcagggac agcgtggcga aggtgtggcg caagtcatgg 420

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gagcgacaag ctcttggtgg tggtgaagga cggcacggag caggtagaga ccggccgcaa 720

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<211> 647
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<210> 12318
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<212> DNA
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<210> 12323
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<212> DNA
<213> Oscillospiraceae bacterium

<400> 12323
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<400> 12324
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tccacagaac atccgtccag aactgctgga ccacgccgga aatgacggga ccgcgccaga 73920

ttacggggtc ggtctcgttc tccagcagga ggttgatgga catgacctgg atgccggtct 73980

tggataccga agggatcagg gcgttttccg tgcccatggc ccggtcatga atgccgaagg 74040

ccttggggat ggaagggccg gtgatatcgg cgtccagaat accgacctga tagccccggc 74100

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gaggctcccg ggaagcacag ctctccccgc agttggagca gtcgtgcgta cattcactca 74280

taagcttgaa tctccttttt ctatttcaaa tctcactata aataatagta tgaccgaaat 74340

gatcagaact atcttatacc cattccggtc agttcgtcaa caccttgatc ataaatgaga 74400

gcgtcgataa agcggtaaat tcactgcaac ggtaaggaag ggtatgtgcg ggaaacccaa 74460

gaagggtgtc ctgcgccatt gaaatcccag gttttcaaaa cttttataaa gctctgaaag 74520

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ggtcaggcgg tcggcggcgg aacgggcggc ggccaactgg acctgcgcct gtgccagcgc 75180

atccgcgacg gtttcccgac tgcgaagagg aggagacaat tccatatcac agctgtccgg 75240

gatgccttgc tgaaccaaaa gatccagacg gacctgagct tctctggcgg cggtctgggc 75300

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gtcaaaggcg gcgggggcaa agcgccggac ctc 75393

<210> 12326
<211> 1571
<212> DNA

<213> Oscillospiraceae bacterium

<400> 12326
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gcttcatgag ggcgatattg cacagctttt ttaaagcgtg ctgtcggtac tggcgggaaa 120

tataggtgcc ggctgctgcc acaacggctg ccgccagtgc gggaagagcc cagggcacca 180

actgaaagag gggcagagaa aggacggaca actgcgagta cagcagggca aagatgccgc 240

ctgccgccgc aagaaacaaa aagaaaatcg ccagctctcg aaaagcgata gggccgggga 300

cccggtcgga tgaagtgcct tgggcttcct tccgggcgct ctccgccgtc tgaccggcaa 360

aggggctgtc attgacgttc ttttccgccc ggaggagggc tttcatggcc tcgtcccgat 420

cagtgcgggc tttctctacg ttcttacgga cagtttccag attgacgatg gcgccccgca 480

gccgtccgat ggtctccatg tccgggaccc ggtcttcctc caactgctgg gtcaaactat 540

ggactcgctg ggcggcggtg tcggcatcgg tggttaaggc ggctaattgg cggcgctttt 600

gagcggcttc ccattggtcg tgctgggcca attcatcgga gagggcctgc acatcggact 660

ccaacgactg agaacgttcc agagcgtctg cgagctgctg ctgaagctga acggaggagt 720

ccaactgctg ctggacctcc gcaagctccg cttccaaggc cgggagctgg ccgctcttat 780

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cctcgtcgcc ggaggaaatg agggacgcta cgcggcgctc caggccggcg tcctgcgtga 900

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gcagcgtctc cccgcaattc gtcccggtca atccatcgac aggggaggcg gtgctggtgt 1020

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ggtcggcgcc gtcagcgtga cattccagcc gtccggacat ggagccgccg tcccacgggg 1140

cgtagcggtt tttgtcggcg atgaaaccgg ccttgtcccg ttcgcggctg ttgatgccgt 1200

agagcatggc ggtcagaaag gcacaccagg tggattttcc ggtttcattg ggggcttcta 1260

tgatattaag accatcctgg agctgcaagg tctcattccg tagccgtccg aagacggcgg 1320

acatacgttg aatcagcaca gtgatacctc cgcagagcat atataatatg gtgtcagtat 1380

agcatatcgg ggctgttttg cacagattat tttcggcact gttaaggtga tagtaaggaa 1440

taagaaatac taataattaa aatcaaaaaa acttggaaaa aaccgttgac aaacggggaa 1500

gtatctggta ttctaactaa gctgtttgac ggcgatgaag tgaatgagtc gggtgcttga 1560

agatctgaaa a 1571

<210> 12327
<211> 146
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12327
ccatcactcc gcctcctccg ctctcctcgg cctccattcc tcgtcccgca cctgaaacgc 60

atcccccaac tgcaccgtct ccgggtagtt gtgctgtgtg gtctggatgg cgtatttgtc 120

gatctcggtt gcgtagtagg cagtaa 146

<210> 12328
<211> 314
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12328
tcaaagacat cgtgctttaa cggcactctt ttccggaaaa acctgtcccg gtactggccg 60

ctgtggggcc tggcctcctt cggcggggcc atgttccctc tggcgatgtt gctggagctg 120

ctgcacgacg ggttccggtt ctggtcgcct ctggagacca gacaggcgta ttacactgtg 180

ctgtcctatg gagtgccggt tatttccatc gtgtacgcca ttttgtgtgc catggcggtg 240

tggagttatc tttacaacgc ccgcagcgtg ggaatgatgc acacgctgcc catccgccgg 300

gagggactgt ttgt 314

<210> 12329
<211> 241
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12329
ttcgccgcat cagcccgctc cacgatcaac tctgccgctg tgtggcgatg aacggcataa 60

tgcagcttgt tctgcacggt ctggaaaaac agacgagtgg tccttgcatc cttgtcgtag 120

tcgaaatctg tagcgtagaa gtccgtgacc ttttgatcga atttccgctc agccagccgg 180

atttcacgga tgtactggag ctgacgctca aagtattcat ctgtgaacat atgtcctttt 240

t 241

<210> 12330
<211> 433
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12330
tccagatcgt agtcaccata gtcgctgtca ccgtagtaga acttgttgct gctgaggctg 60

gaacgggtaa aggcagtctc attccgctta ccgtaccggg aatagagggt accggcattg 120

ttgaacgcgc tgtcgggccg gctgaactcc acatacttga gagtgccgga gcagctgctg 180

ttgttgtaga acttctcgaa atcgtcatcg tcaaaggcga cctcgtctcc ggccttcacc 240

gtataggtga tatcaccctt ggtcgtggac gaaccagtct taccggtggc aatgaccaga 300

gtaccggtga cattctggtt ggtccgggta ccggtgccgc cataggcggt aaagctcagc 360

tccacgctgc cggagaaggt ccgatccgcc acaaagctca gctcgtccag atcgtagtca 420

ccatagtcgc tgt 433

<210> 12331
<211> 188
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12331
atcggcggca agggcggacg gtccaccccc atcggtctgg gcggctggaa gcccattgtg 60

accatcattc tgttcatctt cttcatcgtc ggcatcatca tgccggtgat catcctgatt 120

ctggagagct gcatgctgaa ggagggcacc tattctctgt ccaacttcac gctgtactac 180

tggatcgg 188

<210> 12332
<211> 618
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12332
ggccggtaag gccgcagagc gtgccgccgc caaggacggc gtgagccttg cgggggaagc 60

acgcgacatg gagaccggga aggacgcgct cgcaggcgat gaccccgcca agtccaccaa 120

gtcgcgaacc gggcaggata tcgcccagta gtacagagga aagaggtgac agttcatggt 180

aatcgaggtg ctctacaagt ccttccgcta cgagaagttc gactcatccg cccagacgaa 240

ctccgagccg ttccgcgcga agggaacgaa catccttacc gactggaacc tctacctcgg 300

tgcccttgag gaaaacggca tcattctcgc agagcactgg tatgacggaa atccgcagca 360

cgcaggcgga caggtgaccc ttgagggcac caaggttccc gccgccaccc gtcaggtcgg 420

gagcgccatg ctcctcgtct cgccagatga gctggacgat gtagtctggc tcaagaagga 480

cggcgaaaag ctcctgtggc gggagggcga tgagctgata aacggcgagc ggttcttcgc 540

catggagcag ctgtgttact ccgatgccac agtgcaatcc atcaaccgtc gcgccatcgc 600

cgtgttcgac tacttgaa 618

<210> 12333
<211> 188
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12333
catccgcgat gcagaaatct ctcaggacga gggtttcgtg gacgatgacg gggaaggtca 60

aaacgaggaa gacaacaccg gggctatcgg cggatatgac ttcggttaga gatagaacga 120

aacgagaaac gcagttcaaa cgaaccacca acgaagctac agaaaaccac gcaaacaagg 180

aaggagaa 188

<210> 12334
<211> 308
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12334
gcacgggagc cgccaacaac gccgcccagg acctcagcca gctcctcagc cagcttgatg 60

ccgccctcga catccttgct gatgccgcgg cccacagaca cgatgaagtc agcgccgatc 120

aggtccacca gcttcttagc ggccttcacc acctcggtaa cgtcggtgtg gatgtcctcg 180

gcagtcaggg tgaaattggg ctttacgatc tccacagcgt tggccttggc ctcgtcgaaa 240

gcgttcttct tcataacgcc gggacggacg gtagccatgc agggacggaa acgggggcag 300

atgatggt 308

<210> 12335
<211> 278
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12335
gtcacgccga acagatcgta cttcatggcg ccgcacaggg ccgcgcagcc cagcgccacc 60

gccagcattc ccttccatgt ggtcttgaac acccggggcg ttttcgccag cagcatggac 120

gccgcgtaat agcccacggc gccgcccgcg atcatgcaca agatcatggg caggagcgcg 180

aagtactggc cgttctgaaa actctcccac agcagggcgt acagcagccg tccgcccaga 240

atggcggcgt agacggcgca gccgtaccgg aacaccgg 278

<210> 12336
<211> 936
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12336
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ctcctcgatg agggcatcat cctttccggg ggtcaggtaa tagttgctgc cggcggcgta 120

gacgttcacc agcttcacgc tgtccggcgc ggggacccgc cgaaccacgc cgaacaggtc 180

gcacttcatg gcgccgcaca gagccgcgca gcccagcgcc accgccagca tccccttcca 240

ggtggtcttg aacacccggg gcgttttcgc cagcagcatg gacgccgcgt aatagccaat 300

agcgccgccc gcgatcatgc acagaatcat gggcagaacc gtaaaatacc ggccgctctg 360

gaagctgtcc cagagcaggg cgtacagcag ccgtccgccc agaatggcgg cgtagacggc 420

gcagccgtac cggaacaccg gcttcatcca gcccacggcc accacgtccc cggcgctctc 480

gctgcggcgt ctgcggtaca gcagccacgc cagtcccagc agcgccgcgc ccgcggcggc 540

ataggcggcg atgagccagc cgttttccag cgtcacggag gtcagcacac tggtctcata 600

ccgctgaccg cccagccgat ccgtcaccca ctgggtttcg taggtgctgt tgggagagat 660

cttctgcacg aggtatacca cggggctgag ccactccacg gtaccggaat aactgctgtt 720

caggccaaag cagaagccct gcgccagcag gttcaccatg aagtccgtca gcacggcgat 780

aaagttcagc agtccgtaaa gggcgggcag catgaacacg ttgcccacga tgaaggcgca 840

gagggtggca aggccgaaga agaacaaact ctccccccata acgcctaaga ccgtcaccag 900

cacgcccatc ggctcaaagc cgccgaacag catcgt 936

<210> 12337
<211> 2308
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12337
gaagttcagc agcccgtaaa gggcgggcag catgaacacg ttgcccacga taaatgcgca 60

aaaggtagca aggccgaaga agaacaggct ctcccccata acgcctaaga ccgtcaccag 120

cacgcccatc ggctcaaagc cgccgaacag catcgtcacc agcaccagca aaacgccggt 180

cacagcgtag gggatagcca tcatcgtcag gccggacagc acgttggtaa caaacagtcc 240

ctcccggcgg atgggcagcg tgtgcatcat tcccacgctg cgggcgttgt aaagatagct 300

ccacaccgcc atggcgcaca aaatggcgta cacgatggaa ataaccggca ccccgtagga 360

cagcacagtg taatacgcct gtctggtctc cagaggcgac cagaaccgga acccgttgtg 420

cagcagctcc agcagcatcg ccagagggaa catggccccg ccgaaggagg ccagacccca 480

cagcggccag taccgggaca ggtttttccg gaaaagagtg ccgttaaagc acgatgtctt 540

tgaccgcata atccgcacct cccaattcgt aaataaagat ctcctacagc gtcaggggga 600

tggcgtccac cagcagcggg ctgtaagcca tcagccgctc cgtggcctcc tgcgcgttca 660

tccgcatgat gagggtatgc acccggccga gcttcgaggc atgaagcacc ggcagctccg 720

ccggaacgtc ctccatgccg tcgggaaaca ccacctgcaa tttcaccatg ttatcctgca 780

actgggccag gctccgctcc agcagcacat ggccgtggtc catgatgccc acatggtcgc 840

acacgtcctc cagctcccgg aggttgtggc tggacaccag caccgtagtg ccccgctccg 900

ccacatcgcc catcatcagg ctccacacct gacggcgcat caccgggtcc agaccgtcca 960

caggctcatc caggatcaga taatccggca tggcggacag agccagccag aaggccgcct 1020

gcttctgcat acccttggaa aaccgccgga taggccgctt ttcgtccagt tcaaacactt 1080

cccgcagctt ttcataccgc tccgtggaaa aattgggata aaatcccttg tagaaccgca 1140

tcatgtcccc gatgcccgcg gaattgaaat agtaccaatc atcgggaatg gcggcgatct 1200

tggccttcag cgccgcgttt tcccacacat cctcgccgcc cagccgcacg gtgccgctgt 1260

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caaccagccc gtagacagcc ccggtgggca cgctgatggt ggcgtcattc agggcggcaa 1380

agccgtcaaa ggtcttgacg acgtttttca cttcgatcat tgctcgtata cctcctcgat 1440

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cacatccgcc cgaagcgttt cccgccgggc agcgtcggcg tccgccgtac cgctgacgaa 1560

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tgcgatacca agcaaaaaca gcgtactcat tgcatctgcc ccgttctcag ggctgcaggg 1920

ccacggacac cagaacaaca gcggcaaaaa tcagacccac gatggcggcg atccccgcaa 1980

aaccaaacag catcatgttt cgtctccttt ccggcccggc ttcaaaacca cgcccaccgt 2040

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aacgttcctc cgaactgtac caactgtact atgtgtgtta gtacagttag aataacacgg 2160

ccgtttctct ctgtcaatcc cctttcaaaa aaatattttc cgcctctttt ccccactcct 2220

tttataaaaa caaggaattt tttgcatttt tctctttaca accgcacatt cctatggtaa 2280

acttgttcag cacgtgaatt tgtgcgca 2308

<210> 12338
<211> 392
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12338
gcctccacct gatcgtgggt gacgtagatg atggtggtgc cggtctcgtg atggagccgc 60

ttcagctcgg cgcgcatatc cacgcggagc ttggcgtcca gattggaaag gggctcatcc 120

agcagaagca gtctgggctc ggaaacaatg gcgcgggcga tggccacacg ctgctgctgg 180

ccgccggaca gctcggtggg atagcgcttg gcgaattcac cgatctgcat acggtccaga 240

gcgctggcga cctttttggc gatggtctcg ctgttttcct tgcggatacg caggccgaag 300

gccacgttgt cgaacacggt catgtggggc cacagcgcgt aggactgaaa caccagattc 360

aggttgcgct tgctgggcgg ggcgaaagaa gc 392

<210> 12339
<211> 221
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12339
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tgcttccgtt tgatctggat gcggttgccg ttcaggatca cccagccagc ggtggggttt 120

tcctcggcaa gccgacgcag tttgttttcc ccgatccgaa aatatttgga cgcttcctca 180

atggtaagcg tgtatttttc ccaaataggc acatcgttat t 221

<210> 12340
<211> 300
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12340
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cggaaaatgc cggtgagatg gcggatgatg gtggacttgc ccgcgccgtt gggccctacc 120

agtccataga cagctccggt gggcacactg agggtcgcgt cattcagggc ggcaaagccg 180

tcaaaggtct tgacgacgtt tttcacttca atcattgctc gtatacctcc ttgatgagcg 240

ccgcagcgtc cgcttccgtc acgcccagat accgcagctc attcagcagt tttttcacat 300

<210> 12341
<211> 203
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12341
ctggacgtgg atgtgcccaa ctacatccag ttcctgcgtg agtcctccac tctggacgtt 60

gactccatga agtgggatat ggaggaccgt aacctgaaga tgacccgtcc tgctttcggc 120

ggtcacctga tggctaccat catctgcccc cgtttccgtc cctgcatggc taccgtccgt 180

cccggcgtta tgaagaagaa cgc 203

<210> 12342
<211> 5360
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12342
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tatccgcttt gtaatgcgga tgcctcggca ctgccgggat ctccacatag ccaacaaagc 120

ggtagtagat cacgatccgc tgggtacgat tcttgccgat cccctccgtt tcaaacacat 180

caatgtggtc gatcagctct cgcagcagcg gcgctgtcag gtaatccatc tgcataaacc 240

gccgcacagc aaggatgaag ctctcccgct gctgttgctg ctttccggat tcggacagct 300

tcttgcgaag ggcggtgatc ttacttttca gcgccattcg ctccacctca tatttatggg 360

acagctgcat aaaccactca tcactgacct ttcgtggcgt tgtcctcata gagtttttca 420

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tcgtcgctca gatattctac cacctacacc aagggcggct ccatcatttc cgcttatccg 600

gaggaggcca ccgtactcat gcgggccagc agcgaggaca acttctacaa ggccggctgg 660

tggaacggca tcgacgatcc tgaggcgggc ctgaagggcc acgccctggc tatcgactat 720

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gactgttttt tcggcgggtt gccggaaatg ggaaaatgtg gtatgatact aaaaaacatt 1140

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ccccggatta ttgcggggca tcggcccgga tgtcaccgct ggcggccttc accatgtttc 1260

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agttgtcggt tctctgccgc cgggagggcg gcatctgccg catggcggtg cggaagcccg 1860

acggcaagac cgccgtactg gctgccgtcc gctttcacga aaagtaagtg agcatacaaa 1920

agccccgcgg gaaacgcttc cgtttcctgc gggggctttt tgcttatccg aacacgtgga 1980

ggatgacgca cagcaggatc aggcacaggc ccagacacgc catcagtagt gcaaaggaga 2040

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<211> 5156
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12393
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<213> Oscillospiraceae bacterium

<400> 12394
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<213> Oscillospiraceae bacterium

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gaggctgcca acgaggtggg cgtgtatcca ccttaaagaa tttttgcaaa ccccgatttt 300

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<211> 464
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12438
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<210> 12439
<211> 236
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12439
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gataccacca tcatggcttc tgccggcgcc cactgcttcc acctgaacca cgtggc 236

<210> 12440

<211> 1588
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12440
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<210> 12441
<211> 497
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12441
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<211> 164
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<213> Oscillospiraceae bacterium

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<210> 12443
<211> 231
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12443

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<210> 12444
<211> 170
<212> DNA
<213> Oscillospiraceae bacterium

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<210> 12445
<211> 445
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12445
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<210> 12446
<211> 2232
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12446
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<211> 187
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12447
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<210> 12448
<211> 16532
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12448
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<211> 2849
<212> DNA
<213> Clostridiales bacterium

<400> 12626
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<210> 12628
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<212> DNA
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<213> Clostridiales bacterium

<400> 12630
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<211> 13870
<212> DNA
<213> Clostridiales bacterium

<400> 12632
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aaaatgacac tgtaaaaatc aaggatttca aaaaaataca ggaacatatt acaaaagatt 1740

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<213> Eubacterium ventriosum

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attctggcaa ccgggaaaaa ctttcaaacc gggaattact tttacatcaa aaaagatact 180

tcagtatgca gttattttat tgggcttcgg tcttaatctt aacgtaatat ttagtaccgg 240

aaagcaatca cttccaataa ttatttgtac aatttccaca tctttgatta tagcattcgc 300

acttcacaaa gctatgcaca ttgattcaaa tatcagtact ttaatcggtg taggatcttc 360

tatttgcggt ggttctgcca ttgctgcaac agcacctatt attgatgcag atgatgacga 420

agtggctcag gctatttctg ttattttctt tttcaatgtt ttagctgctt tattatttcc 480

aatgtttgga catttcttag gctttgatac aacatccggt gaagcctttg gtatatttgc 540

cggcactgct gttaatgata cttcatcagt tacagctact gcttctactt gggacagtat 600

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gtaacaggtt ctgtttccgg aa 322

<210> 12726
<211> 608
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<213> Eubacterium ventriosum

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tgtcccttgg ctggaattgt ttctttttgt acatcagtta ttttctggtc attgtatgtt 180

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<213> Eubacterium ventriosum

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<213> Eubacterium ventriosum

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ctgaaggcat ctaagcgtga agcccccctc aagatgagat 160

<210> 12730
<211> 283
<212> DNA
<213> Eubacterium ventriosum

<400> 12730
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ggcgagttgc ggatgccggc aaggttaagc acttaaggtg tggagccgaa gggaaaccaa 120

gtctgaagag ggcgcatata gtcagtatcc gcagacccga aaccgggtga tctacccatg 180

tccaggttga agttgccgta aaaggcaatg gaggaccgaa cgcacatccg ttgaaaaggg 240

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<210> 12731
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<213> Eubacterium ventriosum

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<212> DNA
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ctgtttttct ctggtcacct tatcacttcc acgattagtc agagttcctg ccagtaccac 180

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agattaaata ataaagagtg atttactaga aatataaaag ttcagggagg gtttgactcg 180

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gctggcaaac aggttcaccg gtagtaacat 450

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<213> Eubacterium ventriosum

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<213> Eubacterium ventriosum

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acccaaacct gttccgcacc aaaaccaaca atcttattta cacgctcacg catttcacct 180

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ttggaccctg attttcaaaa atggattatg gattttagaa aagatacatt gcctcaaata 257760

gaaaaaatat tagaacgata caaatataaa aaaataatta gatttgcttg tagaaaagat 257820

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acggagctta atatagagtt gcaggatgac caatggcaaa tggaatatat tgatcataac 257940

agaaatattg ccagagcaat agtgtatgat gaggatggaa atttttattt tgtaagagct 258000

gaaagaaatg atgatttcgg acaggcaaca attatagaaa cagcaggtgg gggtgttgaa 258060

gaaggtgaag aattgcagga tgcaataaaa agagaactta aagaagaatt gggggtaaaa 258120

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<210> 12780
<211> 1382
<212> DNA
<213> Eubacterium ventriosum

<400> 12780
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ggagatgatt gtaaatgaaa aatagaagta tctgtcgttt aacaaaaaag tggagaaaaa 120

aaatattgta acccttcaca aaattaggag gaacaatgat aattaacaaa cttgattcta 180

tcgaatttag acttaaagaa ttgcatgatt ttacttggtt aaagaaatat ggtactgctt 240

tttgggttgt agatgaaacc ggctcaggat gtatttgtat tgggatggag gatgctgaaa 300

gaaaatattt ttgtaaaatt gcaggagtaa atacagttga agcagaagtt tcaccggaag 360

aatctgtgaa aatcctaaaa gaagctgttc atctatatta cgatttagca caccccaatt 420

tgactaaaat tattgaggaa tatgattata accaatttta tgttgtggtt tttgaatggg 480

cagatggaga atgtttattt gaccattgga attttgaaac ataccaaaga gatataggta 540

ttaaaagtcc taaagaaaaa tttaaagaat tacctgttag taaaaagctg aaagcaatag 600

aggttttaaa ttatttttg caaaatgtaa accaaaaggg atatgttgct gtcgattttt 660

atgatggaag cattatgtat gatttttcaa cagatgtaac tacaatttgc gacattgacc 720

tttttaaaaa agccccagtt atcaatgata aaggtgtaga ttggtttgga acaaagaggc 780

tgaaagctcc agaggaatat atggagggtt gcgcgattga tgagcagacg aatattttta 840

ctttaggtgc attaattttt gagtttttg gaagattttc tgatgaagaa atccatcaaa 900

gatattgtaa caatcaattt attccctgca cattacctaa ttggcaatta agtgaagaga 960

gttatcaagt tgcaaccaag gcggtaagtc ttaataaaag tgaacgttat ttaacatttg 1020

ctgagttttg gtatgaatgg aaagcggcaa attccaattt ttgagattga gaaatcggaa 1080

gttatggagg tgaaaaatgt atttcacaga cgaaaaagac tatattatgc gaatgataaa 1140

agaaatggta agagtattat tttctttaat gtttgggaaa aagtatgttt ctgttgaact 1200

tgaaaaagaa aataaatatg aagtatcagg gaaaaatttg aaagattttc ttgatatgat 1260

tgattcaggg caaattaacg aagcggagaa tatactttta gataacattg attatacaaa 1320

taatgatgat gttatggcgg cagctctttt ctatcaatac cttagtgaga aagatagtga 1380

gt 1382

<210> 12781
<211> 640
<212> DNA
<213> Eubacterium ventriosum

<400> 12781
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gagcaatcaa agtggcaata gcattatcta aggcatttgg ctgcgaagtt aacgaacttc 120

cattatcaat gattttgtca tggtatgagc agaaagcggt atgtattttg cttacattgc 180

ttcatttagg aataaaaaac atcttcttag gaccgacttt acctgcattt atttcaccta 240

atgtgttgaa atatttggta gaaaattata atatatctcc tataagcaca ccggaagcgg 300

atcttaaaaa aatcttaggc taaccggtat taggaggaaa tatgtcaaac gtaattaaga 360

taaatgattt tgatgctaag gagcttgatg tttacgcacg attgtcagag ggacaattgc 420

taaacagaca tgagccggag aaagggattt tcatagcgga aagtccaatt gtagtggaga 480

gagctcttga tgcaggatgt gaacctattt ctattttggt agaggacaga cacatcaaaa 540

atcaggcaaa aaatataatt gaaagatgtg gaaatattcc aatttttacg gcaccgtttg 600

atgtattgac aggaataaca ggttttaaat taacaagggg 640

<210> 12782
<211> 1017
<212> DNA
<213> Eubacterium ventriosum

<400> 12782
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tttctgtaaa aaactcttgc agtgtcattc cttctccttt atgactaaat gtactctttt 120

cgaccactct tatccgggat tcccatctcg gtacgatatt tattgaccgt acggcgggac 180

agtttaattc cttttgccgc aagctggtca ctgattgtct gatcgctgta cggtttttc 240

ttattctcac cgtctacgat ctcctggatc atagctttca tctgctccgg tgtcttttcg 300

tccccttcat ttccgcagct gctctttact gcaacagaag tcaggaaata gttcagcgga 360

aacacgcccc aggaacattg cagatatttg cccctcatgg cacggctgat ggtagattca 420

tggagattca attcttctgc cagatctacc agacgcatcg ggcgcttatg tccgggtcca 480

tacatgaaaa aatcattctg ttttgctacc agcagatgca taacacggga taaagtggag 540

gaacgctgtg aaatgcagtt agatacccac tgtgcctgct gtactttatc tttcagatat 600

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accgcatccg gactgatata acgaagctgt tcacggtcac tgaaagagct gcccggcttt 780

ggattcagtt tgcggatctc ctcacaggca tcctgtactt cctccagaga aacctgaagc 840

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tcaaccgtca catcggaata gtccttgatc cgttccacct gaagcaacag acattcctga 960

agatttctgg cgccgacgcc tgccggatcc agttcctgga tctcctgcaa catttcc 1017

<210> 12783
<211> 1559
<212> DNA
<213> Eubacterium ventriosum

<400> 12783
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caagagaatc agaaagaaag catcagccaa gggaaaagaa cttgccaaaa agtcagccaa 120

gaatgcgtca aaaaatgtgg caaagaaaac atccaaaaag gtagccaagg atacaacaaa 180

ggaagttacc aaggaaggta caaaacttgc agtaaaaaca ggcactacag ttgccggttc 240

agcggcaggt cctgaaggca cattgattgg aatggctgca ggtgaagcag tgggaatgaa 300

gattgaaaac acattttaca gggcagagca aaaaagcagg atgatgaaat atttcatgga 360

caagctaaag cctggtgatg aacaaaacga cagcatattc aaacttgcag gaagcctgat 420

aaaaaacaag atggcataca tgattaagca ggtggcatcc ctacttgcac cgttggttgt 480

tccaatacta atagtggtaa tggttgcaac aggaattgtg tttgcaatcc tagcggtgct 540

atataattca ccatttgcaa tatttcttcc accacttgaa agtggagaca caatacagac 600

ggttacaacc cagtatgtat ctgaatttaa tcaggaaata cagacattgg tggatgaaca 660

caaggatgcg gatgagggca gaaaagtata tgtggattat gaaggaatga acagtgagcc 720

ttcaaactac tatgacgtca tgtgcgtgta catggtgaaa tatggttacg aaaacacggc 780

aacaaaaatg aatgaaacaa acaagcagaa tttaaaggca gtgtttgatg acatgtgtag 840

gtacacaaca gaaaatgtta ctgaaaaaaa gggcaaaaag aagaaaaagt accttgaagt 900

gagaattaca ttaaaaagct acacggaaat gtcagagcag tatcagtttg atgaggaaag 960

gcaggcaaca cttaatcagc taatgagtgc ctgcatcaca agtaatccgt caggtggtca 1020

gacaggtgga agtcagctaa gcggcttgca gggaagtctt accccacagg aaataacaag 1080

cataactgac aaaataacaa atccaacaca aaagaccgtg gcatcatttg tattgtctaa 1140

agtgggatat ccgtacagtc agaatttaag gaatagtgga aaggcatttg attgtagttc 1200

gctggcatac tacgcatgga aatcagcagg tgtagacata gcatttggtg gctcaacaac 1260

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cggagacttg atattttata gctacacaac caatggaaga tacaaaaaca taagtcatgt 1380

tggtatttat gtaggcaatg gaaaaatggt tgaagctgtg gatgaggcac acggagtatg 1440

cttgggtaat tatcataatg gagggttggt gatgatatgc agaccaggaa aataagaacc 1500

ctaaggtata gcaacactaa ctcttaaatt agatggcttt aatatatcat aaccataca 1559

<210> 12784
<211> 1043
<212> DNA
<213> Eubacterium ventriosum

<400> 12784
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ttttcaagaa agtaaaagaa gcacatccgg aaatgacacc tctgtatctg cagggaagtg 120

caagcccgat gagacgtctt gcatttttcg acgagttagc ggatcagttc ggtgttctgg 180

actgggaggc tgatcatgac tccacaaccg tagtgaatga gtttgaaacc gatacttaca 240

aagaagcagt aacccagctg gcggaatggt ttgatgcagg atacatttat ccggatgcgt 300

tgacggatac acagggatct gcagttatga tgaaagccgg aaatacgttc tcttatatgt 360

cagcaattaa accgggctat cttgttgagg caaaggcatc tacaggaaca gactgctatg 420

caatgtattt tggacaggat gtagaaggtg gatattcaac tacaaacgta agtttttatg 480

atactggcat cgcaaccaac agtgcggatc cggaaatggc ctttaagttt atctccgcgc 540

tgtatacaga tccggaggtt atgaatctgt ggcagaatgg tattcaggat gtaaactata 600

aagttttgga tgatggtact gcttattatg tagatggtga agatgcttct aactttaaat 660

atcatcagaa tacaggatgg tttatgggca atcagtttaa cacatacgta tggaatgatg 720

gttccaagga tgcaaattac tgggataaac tgcagcacca taacgactgg gcacagtatt 780

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tggatgcaaa acaggagcag ctggataaat ggctggatga aaacggagga gctacagaaa 1020

ctccgcagtc taaccttgat acg 1043

<210> 12785
<211> 691
<212> DNA
<213> Eubacterium ventriosum

<400> 12785
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acttctatct tgatggctgc aacgattatc tcgcgtgtga tcggtctttt ataccggtcg 120

ccgctcggcg aaaccatcgg aaatgaggga cttggttatt acagtacagc gagcaatctg 180

tatacgatcc tgctgctgat ctcgtcctac agtattccga tggcagtatc gaaaatcgta 240

tccgaacgcc tagcattaaa agagtaccgg aacgcacacc gcgttttccg cggagccctc 300

ctttatgccg taatcgtggg aggaatcgct gcactggtgg cgtttttcgg cggaaaattc 360

cttctgccat ataaccagca gaatgccatc ctggccctgc gcgtactggc accgaccatc 420

ttcttctcgg cgattctcgg cgtcctgcgc ggctatttcc aggcccacag cacgatgatg 480

ccgacttcga tttcacagat catcgagcag atattcaacg ctgctttcag tatcggtgca 540

gcctggttct ttatccagca gtttgcgaca aatgacaccg agcgtgcgaa attcggtgct 600

gccggcggaa ccctcggaac gggagccggt gtgctggcag gcctttgctt tatgctgctc 660

gtttacgggg taaaccggaa aagcattctg c 691

<210> 12786
<211> 230
<212> DNA
<213> Eubacterium ventriosum

<400> 12786
agagtatccg cgaagaactt cctaatataa gtttgggaac agtatatcgt aatcttagat 60

ttcttgtaga tcagggtgat gccctttcac tgaaacttgg tgatggtaag gagcactttg 120

atggcaatgt taatccacac ttccatttca tatgcacaca gtgcggatgt gtcgatgaca 180

tatttatgcc gtcaattgac gaaatctgta ctattgctgc tcagtactat 230

<210> 12787
<211> 1006
<212> DNA
<213> Eubacterium ventriosum

<400> 12787
gaatttctgt cgtttttcga cagccagaat aatttatcat aattttcttt gtctgtcaac 60

aactttttaa aattcttttt tgtttgttat tgtcgtttca gcgacaactc gtataattta 120

tcataacttt aagggattgt caacaactct tttgattttt ttgaaaagca attttctgtt 180

gcatacttat taatacattt caaggatttt tttgtagtca ctaataactt ttttccatgt 240

tttcttcgtt taattattta attcatattt tacatatgcc ccttcttctg tatcatatgc 300

ctttaatgtt acatgcttac gtcccagaat tttctccaat gtattaattt tatctatatt 360

ttctttacta ttactagata atctcactgt tccattgttt gttacttgta aaataccttt 420

cttaatttta tctttataac tactgttata atcaaacttt acatttttg atcctgattt 480

aaaaggcact ctattcaatc ccatatcatc ataagtattt attgaaacta acgtaacatt 540

acatacgaac ctcaactcta ttgacgtttt tccggatttt ttattcaatt caatatatgg 600

atataacgta ccaatatgcc caaacccttc tgtatacact tttttattcc acttaactgt 660

attatatcca ccatacaaaa ttgctttttt attctttttt accaatttgt acttaagata 720

cttttgctta aagcttttaa ttttcttaga aacagactta aagcttggat tcttcggcat 780

tacggtaact gtccattgta aatcgtcata aaattctcca tcatcagtat atatgtctgc 840

atatattttt acgcttccct ttttcttcgc ctttacagtt ccatcggaca taacttttgc 900

aatagaagaa tcttcagatg tccaataaac ctcataattt gcttgttgtg ggttactata 960

taatttaaat tttttagttt tttacttgcc tgtacctggc tttctg 1006

<210> 12788
<211> 298
<212> DNA
<213> Eubacterium ventriosum

<400> 12788
cgcctgccgg ctcggtcgtt gctcctgcaa agcagggtca tccacaggat gaccgcaacc 60

cgtctcgcac ttttcataaa aaagaatcta aaagggtgct gcttctttgt ttttataggg 120

cgcaagcccg cgacgaagta gatgcgaaag catatacgag ttatacggct aagggtgctg 180

ttttttgca ttaaacgagc gtaggtcttg tgctcgaagg ttcgaagtct cgcctgccgg 240

ctcggtcgtt gctcctgcaa agcagggtca tccacaggat gaccgcaacc cgtctcgc 298

<210> 12789
<211> 350
<212> DNA
<213> Eubacterium ventriosum

<400> 12789
acaatctgtc tcagaaacat tcctactgca ttggacattg gaattccaag tcgatcaagc 60

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gccatagata tcgcctcctc ttttttcttc attatatctt gtttgcttgc aagttgcaag 180

cgattcgcaa tctgttttcg taatttcata cactggcaga cggcaggtga cagataaggt 240

atctataaaa atctgtattt gcttcaatga ctctgccacc tgtcattctt ttaatcgaat 300

actgttctcc tgcttttcat ttacttggta ctccaactca ttcttcatcc 350

<210> 12790
<211> 214
<212> DNA
<213> Eubacterium ventriosum

<400> 12790
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agacggcaag gcaagtctga tgtgaaaacc cagggcttaa ccctgggact gcattggaaa 120

ctgtctggct cgagtgccgg agaggtaagc ggaattccta gtgtagcggt gaaatgcgta 180

gatattagga agaacaccag tggcgaaggc ggct 214

<210> 12791
<211> 401
<212> DNA
<213> Eubacterium ventriosum

<400> 12791
acaaataatt tacaccttat ttataccttt ggaagatcga atcggaataa ttaaaaaaat 60

tgtcataatt cagttggtca aaaaatagta ctatactcaa aatcaatcaa aaaatcaatc 120

gtaaaaaaat acgattgatt ttttgcacat ttttgcatat aatataatca ttatggttgg 180

aaagggaacg attactatgc gtgaaacaag aatattagaa ttcaaggaaa cgattacgaa 240

tactttttg aaaacagtta gtgccttttc gaattacaat ggtggaacaa ttctttttgg 300

ggttgatgat aatggaaatg tgaaaggatt gctagatgta aaacaggcct gtctggatat 360

cgaaaataaa atcaatgaca gtatatcacc tcaaccaaac t 401

<210> 12792
<211> 506
<212> DNA
<213> Eubacterium ventriosum

<400> 12792
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acagggaatg tctttaataa cgctagatcc tgaacatgaa tatgaagaag taacctataa 180

tcttggcggt atttttattg atatgatggc aggacgatat atcattaatg ttcttgaacc 240

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acaatcaacg gttcttgcac agcatatttc ctttttaaag gatttttca agacatataa 360

ggcgtttaca gaagagcaaa tcgatacgtt agaaattatg ttggtaaagg tctatcaaag 420

attcaacatt aatgaaaaga cggatcttag tgttctagaa catgacgact accctatatt 480

gagtgatctc tatgattaca ttgatg 506

<210> 12793
<211> 228
<212> DNA
<213> Eubacterium ventriosum

<400> 12793
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ttaacacaca ctttgggacc ttagctgcag gtctgggctc tttccctttt gacgacccaa 120

cttatctcgt gccgtctgac tcccgtacat catctgtatg gcattcggag tttgatattc 180

ttcggtaggc tttgacgccc cctaggaaat tcagtgctct acctccac 228

<210> 12794
<211> 464
<212> DNA
<213> Eubacterium ventriosum

<400> 12794
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gctccggtaa ttataagcaa cggtgtaaga ttgccgacaa acattgccat tacatgctga 180

agtccaagcg gtatagcctg ctttaaagaa agattaccgt caaacttata tgcctctttt 240

gaaagttcga ttttcttcat atatcctcca tatatcctta tgtatattta cagatatata 300

ttatcattta tcaacaataa aaaatcaagt aaaaaagata atttataaga ttttcttatt 360

atgataatca cataatttat tcaatatttt taagtgcctg ctccatagga acatttttaa 420

ttctcttaaa atcaaatatt gtaactataa gataaccaat taat 464

<210> 12795
<211> 294
<212> DNA
<213> Eubacterium ventriosum

<400> 12795
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acctttgagc tgctcgatca gcttatcccg gaaatcagga cgtatatgga ttctggtgtc 240

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<210> 12796
<211> 485
<212> DNA
<213> Eubacterium ventriosum

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tgtgtttcag ccccggacat tttcggcgca ggacctctcg actagtgagc tgttacgcac 180

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ctgcccaact tatctcgtgc agtctgactc ccgttcatca tctacatggc attcggagtt 360

tgatattctt tggtaagctt tgacgccccc gcggaaattc agtgctctac ctccataaga 420

ctaaaacgag gctagcccta aagctatttc gaggagaacc agctatctcc gggttcgatt 480

ggaat 485

<210> 12797
<211> 580
<212> DNA
<213> Eubacterium ventriosum

<400> 12797
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caaggtagcc gatgtttatg ctaaagttgt tgcagacctg aataatgcca tcgactcaga 180

agcactgacc gtatccaaaa aagcaggtga aaaacaaggc tatatcgatt tatgggcagc 240

taaagctttg ctgtgccgag tgtatctata catgaacaaa aatcaggaag ccttcgattt 300

agcaaaagaa atcatcgacg actctcctta tgaattatgg actcccgaac aatacgctga 360

ggcatgggac aagcaagatc cgaaccatac aaaagaaatg atttttgaat tgataaacaa 420

tggttctgat gactgggccg accgtgaagg cataggctac ttgctgaatg aacaaggata 480

tgccgatgct atctgtacaa aatcatttgt tgatatgctg caaaccgatc ctgcagatgt 540

ccgtaacgaa gttgtgatac cagcaatgta cgacaaagac 580

<210> 12798
<211> 510
<212> DNA
<213> Eubacterium ventriosum

<400> 12798
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gagcagccaa agcagaaggt ataaaatatc tgaacgattt attggacaaa cgcaccaaaa 120

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acgaaacgat tgtacgctat agcagtgagg aaaaccaagg ctggcactac tcattactta 300

aagaatcaca aagtttcgac cgtacgtata caaaagcatt gttgcctatt cctgtaagtg 360

aaaccaatgc caacccgact ttgaaagcac agcagaatcc gggttattaa acaaagccta 420

accagtaccg gtttgtcgta atagcagaaa agacaaaccg gtagttaagc tttctgatga 480

taaaacataa agcatgatat ggtatttcat 510

<210> 12799
<211> 253
<212> DNA
<213> Eubacterium ventriosum

<400> 12799
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acacttccac ctctgaccta tcaacctcgt cgtcttcaag gggtcttaat tcttgcgaat 180

gggatatctc atcttgaggg gggcttcacg cttagatgcc ttcagcgttt atcccttccc 240

gacttggcta ccc 253

<210> 12800
<211> 160
<212> DNA

<213> Eubacterium ventriosum

<400> 12800
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ggctaccctg ccatgcactt ggtagtgcaa caggtacacc agaggtcagt ccatcccggt 120

cctctcgtac taaggacagc tcctctcaaa tatcctacgc 160

<210> 12801
<211> 279
<212> DNA
<213> Eubacterium ventriosum

<400> 12801
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tcacatcgac ggagtggttt ggcacctcga tgtcggctca tcgcatcctg gggctgtagt 120

aggtcccaag ggttgggctg ttcgcccatt aaagcggtac gcgagctggg ttcagaacgt 180

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agtacgagag gaccgggatg gactgacctc tggtgtacc 279

<210> 12802
<211> 547
<212> DNA
<213> Eubacterium ventriosum

<400> 12802
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taaatcggga aataaattaa atagcaaaaa aatcgaaatt ttagaatcgg aggtgcctat 180

gggaacggat tcactatact atattaggga ttatagcgga aattattaca ggataaacaa 240

tgtaaatgaa ttggtggctg taaggaatga aacagatgca actgtattta attacgacca 300

ggcgaaaagt tatattggaa caggaaagaa atcggcattc tatcgtgcta ttccaataga 360

aacggaagat ggaaatgacg gaggcgatat tagattttaa acagcgtgga agtacgagag 420

gagccggatg tggaaaatca gtatgaaaat atttcggccg taaaagagct tacttatgaa 480

gaaatgataa ttgaggaaag aaaaaatact ccttttgatg gaaagaaaaa tgattggtat 540

tcttttg 547

<210> 12803
<211> 379
<212> DNA
<213> Eubacterium ventriosum

<400> 12803
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cgtctttcga cctcgcctta ggtcccgact tacccagggc agatcagctt taccctggaa 120

accttagata ttcggccgtg aggattctca cctcactctc gctactcatt ccggcattct 180

ctcttcttaa cactccactg ctcctttcgg tacagcttcg tcgcagttaa gaatgctcct 240

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cgcaggacct ctcgactagt gagctattac gcactctttg aatgaatggc tgcttctgag 360

ccaacatcct agttgtctt 379

<210> 12804
<211> 212
<212> DNA
<213> Eubacterium ventriosum

<400> 12804
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gatgcagcaa cgccgcgtga aggaagaagt atttcggtat gtaaacttct atcgacaggg 120

aagaaacaaa tgacggtacc tgaataagaa gcaccggcta aatacgtgcc agcagccgcg 180

gtaatacgta tggtgcaagc gttatccgga tt 212

<210> 12805
<211> 246
<212> DNA
<213> Eubacterium ventriosum

<400> 12805
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caccaaaggt gtggagccga agggaaacca agtcttaata gggcgaatga gtcagtcgga 120

gcagacccga aaccgggtga tctatccatg tccaggttga agttgccgta aaaggcaatg 180

gaggaccgaa cccacatccg ttgaaaaggg tggggatgag gtgtggatag gggagaaatt 240

ccaatc 246

<210> 12806
<211> 474
<212> DNA
<213> Eubacterium ventriosum

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cagtaggagt agacccgaaa ccgggtgatc tatccatgtc caggttgaag ctgccgtaag 180

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gagaaattcc aatcgaaccc ggagatagct ggttctcctc gaaatagctt tagggctagc 300

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aagaatatca aactccgaat gccgcgtaat cgattatcgg gagtcagact gcacgagata 420

agttgggcgg tcaaaaggga aagagcccag accttcagtt aaggtcccaa agtg 474

<210> 12807
<211> 214
<212> DNA
<213> Eubacterium ventriosum

<400> 12807
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agacggcatg gcaagccaga tgtgaaagcc cggggctcaa ccccgggact gcatttggaa 120

ctgtcaggct agagtgtcgg agaggaaagc ggaattccta gtgtagcggt gaaatgcgta 180

gatattagga ggaacaccag tggcgaaggc ggct 214

<210> 12808
<211> 296
<212> DNA
<213> Eubacterium ventriosum

<400> 12808
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gcttctctgg catccacaac ctcaactgta tgttcacccg gttccaaagt ctgtccctgt 180

tccacaagtt ttccacatgt atcacaaata acatcacctg tgtaaccacc ctctgtacag 240

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<210> 12809
<211> 1963
<212> DNA
<213> Eubacterium ventriosum

<400> 12809
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gcacagttcc ctgattgtcc tgtgacatga tgtctttttt tgcagtaagc tcaaatacaa 1920

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<210> 12810
<211> 1123
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<400> 12810
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<210> 12811
<211> 3140
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<213> Eubacterium ventriosum

<400> 12811
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gaatatccat tgttgcattt cttgtaaaca taataacgga tacctttttc tacttttgtt 420

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<210> 12812
<211> 758
<212> DNA
<213> Eubacterium ventriosum

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<210> 12957
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cggagctgct gcgcggcatg gcaagccccc tgttctggct gctgcagagc gcgctgctcg 420

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<210> 12958
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<400> 12958
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gatgaactgg ccgttgccga tgtagatacc gacgtggccg atgctggagc tgttgctcgc 360

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gacgccgttg atggtgacgg ccgtccagtt gccgctcgtg ccggtgatgg tcagcggcgt 720

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<210> 12959
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<212> DNA
<213> Oscillospiraceae bacterium

<400> 12959
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ggtaggtacc gaggatggag tagttcgtgc ccgggccgga gcgcatgcgc acatcgctgc 180

ccttgaccga accgttggag ccggccgtgc tgccgccgct cgacgtcacg cccgagagcg 240

agacatagtc cgagtggacg tagccggcgg tgccgttgta gctgaccttg taccaggcgc 300

cgctgacgcc ggtgaccgtc atggtcgtgc cggagttgta ggtgccgagg atggagctgc 360

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agttattcgc gagcgcgcgg tccagccaca cagccgccac gtccatggcg ttgtagaggc 780

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<210> 12960
<211> 1127
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12960
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gcagcactac agcgagcagg aaaaggtcgt cgtcaccggc acgccggtgc gcggcgcgtt 660

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cggcatggac gtgcggccgt atatttacga catgccgctc gtgatggacg cggccgatct 960

cgtgctctgc cgcgcgggcg cgtccacgct cgcggagctc acgtgcatcg gcaagcccgc 1020

ggtgctcatc ccgtcgccga acgtcacgaa caaccaccag gagcgcaacg cgcgcgtgct 1080

cgagcacgcc ggcggggcca aggtgctgct cgagggcgcg ttcacgg 1127

<210> 12961
<211> 309
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12961
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gacaaagaaa aagggcggca ggggagccgt ccttcgtgct tcagccggga aatcctgttt 180

tccgcgcacg accatcagcc atgacgcttg tcatggctgg ttttttaatc ctgatattcg 240

ccgcgggcaa tcgcttcttc acggcggcgg cgtgcctcgg ccttctgtgc gagccatgcc 300

tgctcccag 309

<210> 12962
<211> 855
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12962
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aacaagattg atacgctgaa aaggtctgca tctacaaatc aggctcgtat caaagaagtt 180

gacgagttgc tgcgtatggt ggactactac aaatccggca agtccgctac ggataagctg 240

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cggacattct acatggcgga acgcaagctg aaaccgtatt tcaaagatgg caagctgccc 360

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gagcttgcgc cgctccatgc agacgcgaaa aagctctggg caatccatta caacatctac 480

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gaacactaag gagggcattg cctattgagc atttttgaag ctgtcaagca gactgtgacc 600

acccggcagg ctgcggagcg atacggcatc cgggtggaac gaaacggaat gtgtcgctgc 660

ccgttccacg atgacagcac acccagcatg aagctggatc gccggtatta ctgctttggc 720

tgcggtgcta ccggggacgt aatcgacttc gtttcccggc ttcgcggaat cggcagcaag 780

gaagccgcaa ttctgctggc acaggatttt gctattctgt atgagagcag cgcagataag 840

ccgtgtaagc cacaa 855

<210> 12963
<211> 424
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12963
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ttgttccgtt cacatctgca gagacgattt ctctcgtctg tacatccgtt acaccgggga 120

tggatttgat ttctttaatc aaagaatcat tcagtggatt gttctgtagg attgtgtcca 180

gattattctc cgaataggct tcatcataat tctgggaata atccagctgc aactcaaatt 240

gtccatagtt gattgcaatc cgcgcctcgt gctccgtgtc aatattccca acataattag 300

agataattac aaacaataca caggaaagcc ccatggtaag aatcgtagca atggttcttt 360

tcggattgcc tgtcacattt gccattgcca tggagaaaac ggtgacatct tttctgcctt 420

ttcg 424

<210> 12964
<211> 367
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12964
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gtcctgcgag gtgcccatgc cggccttgat atgctgctca aggcacgggc agtagcagat 180

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gtctgcgccc attgcgacct gtgcaacgta aacgtactcg tactgcatca ggatcgcgcc 300

gaggtccttc tttgcgacct ttttgccgct tgctgcgaac tttgcagttg cagaagtcgg 360

ggttgcc 367

<210> 12965
<211> 1505
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12965
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aaacacgatt gcaacgctga atgccatttc acgaggctta atttccatcg ctgtcaccga 180

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gatagttcat tacgcgcagc aggaaaccag ttgggaaaga ccgtaccagt ttgttgtatg 300

tccgtacctg ctgattatag ttgttgcggt actgcgcgat ctggttctcg gtcagcgcaa 360

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<210> 12966
<211> 792
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12966
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gcgggataga ggtcgcgccc cgcgggggtg aaggcttcgc tcgcgtgcgt gtgcatgatg 720

aggatctgcg gttcgcccgc cggcagcacg acggccgtgc cctgctgcag cagcgcggcc 780

gcatcgaccg cg 792

<210> 12967
<211> 487
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12967
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cgtcgaccgc gatgtccgtc tcgtttttga tgctcagccc gcccgcgatg ctcgtcgcca 480

cgatggg 487

<210> 12968
<211> 667
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12968
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tggctgcgct gagcgccgcc gctgcctccg gcgtggggga cgcgtccacc ggcggcgcac 120

ccagctccat gcgcaccgat gccagaagca gctgctccgg gtcgagccag agccgcagcc 180

tgtccgcgag cggcgcgccg cccgccgcgg ccgatgcgat ctgcagaccg aacacggtca 240

gccccacaca ggccagtttt tgccgcagcg tcatatctgc tcacctccga tcaagttctc 300

cacaatatat atggtttcgg gggtggaatt atgtcaccgc atctgctata ctgggagcag 360

aaaaaattta gaggaggcgt cgtcatgacg atcacatacc ggccgaaggg tgtctgctcc 420

cgcctgatgc gggtggaggt ggaggacgga attatccgcc aagttgaggt gcaagggggg 480

tgcagcggca acctgcaggg catttcgcgg ctcctggtgg ggatgccggt gcagcaggcc 540

atcgagcgca tggagggcgt gcgctgcggc ggcaagccga cctcctgccc ggaccagctc 600

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aataaaa 667

<210> 12969
<211> 397
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12969

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ctcacggccc atgtggccgt aggcggcgag ctgccggtag atcgggcggc gcaggtcgag 180

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cttggccacg tagcgcgcgg cgtaggcggc gctgcgg 397

<210> 12970
<211> 279
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12970
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ttcgatatga acaaggttgt agtgcgaacc tgaaatttcg agagtttttt actcttggta 120

aatcgctgga agtcacaact ccagttaaaa taaagtgaca cgtcagactc taaagtcggt 180

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<210> 12971
<211> 1264
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12971
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cgggtcggac gagtaaacgc ggatgcacac cgccttgccg cggtagtaga gcttgccgcg 180

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<210> 12972
<211> 5466
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12972
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<210> 12973
<211> 812
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12973
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gaacagttgc tgcttacact gccttgcccg aagaaatacc gttttatatc tgagacaccg 420

ccatccttat cgcagaacca ctcgtaatca gagtggcaat tttggcagtg ggcaattaca 480

tcaaatccgc ctggtgaatg ctggttgtcg gcaatgctca tgacctccaa gggcttcccg 540

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tcaagatgcc gcctaatctc atcggcagcc agtacgagaa acttatcatc cagaagctga 720

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<212> DNA

<213> Oscillospiraceae bacterium

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actccttgcc attattcata catacgcgca gtggccgctg ctcttccgtt accagattca 180

gtagactgtt agcttgatct ttcagctcat caacggtgat cgattcgtag tcctgaaacg 240

ggtttacttc ataattcatc atttgacctc caatcagttt gtcctcacga tgaggtg 297

<210> 12975
<211> 847
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12975
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gatcgct 847

<210> 12976

<211> 611
<212> DNA
<213> Oscillospiraceae bacterium

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gcgtctggat gaacgtctgc cacggcatct gcatgaccgt gcggtcaaag tggataaaga 600

ccacgctctc g 611

<210> 12977
<211> 486
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12977
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cacagc 486

<210> 12978
<211> 1037
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12978
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agctgcaatt ccaaacagca agcgaaccat tttaccccgg cttgcgtcag ttcttaccag 180

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atcatacatc agcgccgcaa taaaggaaac agaaagcagg ttccagccac attcagatat 300

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caatataacc cataaagtca caatacccgc atgaagaaac agatacggat agaagcgttt 480

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atatccttgc ttatttctcc ggcaaaaaag ataaataagc acaggtatcc atcaagcata 1020

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<210> 12979
<211> 1663
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12979
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ttactcgttt tacatccagt acaatgatat tcaaagcgac aatctcacaa aaactaagta 360

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aatagcaact cataaaaaca aagaacggga taataccaga aaagcggaaa atctgtatcg 480

aatactgttt tataatctct tttactgcaa ttccagaagc tgcaaaaaat tcaattctcc 540

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attactttgc agatacagcc agtccgtaaa ttctttcggg ctg 1663

<210> 12980
<211> 221
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12980
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acggacgtgc atccgcacag cgacaccagc agtgccgcca gcaggatgcc ggtgatgcag 120

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aacacttcct tggcctcgga cacgatgaca aatgcgtgct c 221

<210> 12981
<211> 674
<212> DNA
<213> Oscillospiraceae bacterium

<400> 12981
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tcgtacttct tgaacaggaa ggcaaacgtc agcacgacga caacgttcat gccgaacagc 180

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agcttcatgt aatcaaaagc ggaaaaacga tgcagatcca tatctctctc ctcagatcag 660

gctcatctgc tcct 674

<210> 12982
<211> 8420
<212> DNA

<213> Oscillospiraceae bacterium

<400> 12982
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cgatgcactc gaacggagcg tgcatggaca ggaccggaac gcctgcgtct acggtatcga 180

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catggccgta ggcgccgaca aacgagcggt cgaaaccgat gtcgcaggcg ccaaacgccg 720

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acctcgccaa ccgcgtgcag aaattcgttg actgccgctc gaaggacgtc tcgcgccgcg 600

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<210> 13000
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<212> DNA
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<210> 13001
<211> 2132
<212> DNA
<213> Oscillospiraceae bacterium

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<211> 294
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13002
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aatgatatta tatataggca gtcggaactg cggtatgcgc cagtagctca gctggataga 240

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<210> 13003
<211> 2428
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13003
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gaccgcattt ttacgccgct ggcatgcagg atggccgaga ccacagcgta ggcgcgcccc 180

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<211> 916
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13004
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<210> 13005
<211> 519
<212> DNA
<213> Oscillospiraceae bacterium

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aaggcaggtg ggtcgcctct ctgctgtttc tctgcttcca acgtccaacc ggcatctttc 180

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<210> 13006
<211> 6129
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13006
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<210> 13007
<211> 1275
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13007
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tttcaaaatc atgcgaaatc ttcaaaatta catttctttg tgtaaaactg tggtttttg 1260

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<210> 13008
<211> 466
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13008
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gattgaagaa ggtcttcgga ttgtaaaaat cttttatcaa ggacgaagaa gtgacggtac 120

ttgatgaata agctccggct aactacgtgc cagcagccgc ggtaatacgt agggagcaag 180

cgttatccgg atttactggg tgtaaagggc gagtaggcgg attggcaagt tgggagtgaa 240

atgtcggggc ttaaccccgg aactgcttcc aaaactgttg atcttgagtg atggagaggc 300

aggcggaatt cccagtgtag cggtgaaatg cgtagatatt gggaggaaca ccagtggcga 360

aggcggcctg ctggacatta actgacgctg aggagcgaaa gcgtggggag caaacaggat 420

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<210> 13009
<211> 670
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13009
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ccgcgtggag ggcatccgat ttcaggtggg catcttcacg aacctgtcgc aggaccatct 180

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caagggccgc gccgaggtgc tcgagaccga cggggattac accattctca tcgactatgc 600

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gctcgtattc 670

<210> 13010
<211> 356
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13010
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ctctatgcct tttgcagtag cagacatgat ttttaagtcc gtttcgctca tagtgtcaag 120

catggtatcg agctgacggc ggcgtgtgga cttctcctgt tcccgttccg ggaaaaagaa 180

ctggtctact gatacgtcaa gcagggttac aagctcatac aaaatctgta aacttgggtg 240

ctgcccgctg ttctcaatgg acgcgatata tcggggcgca atattcagcg tgtcggctaa 300

ctgattgcgt gatattccct ttgcttttct tgctgcttta atggcttgtc cgaaag 356

<210> 13011
<211> 242
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13011
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cccgttggga tggtgacggt catattattc tcgccgtcaa gcactgtgcc gctccagccg 120

gtgaaggtat agccggattt ggtaggattc ttgagggtga aagcccccgc cttgatggtg 180

taagtgtcgg gattgccctc cacagtgccg ccggccaaat catagatgat cgtgtactga 240

tt 242

<210> 13012
<211> 1847
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13012
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cggcgatctt gagcttttca agtcgctctg gctctggggc gatgatgtgc agctcaatta 180

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cgaccaaggt ttgggtcgtg ccgggaacaa ccacgctgca gcagtttccg ctgtggtgcg 660

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tttgtcaatc cggtgctgat tgacagcgac cggaatatca ttgcaggcca tgggcgcgta 1800

ctggcggcgc aggccgaggg catgaccgag gtgccgtgcg tactcgt 1847

<210> 13013
<211> 297
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13013
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attctcgttc tgaagcgccg cgatcttctc ctgctgacgg gtgttctcca ttgcatccag 120

tcgtgcaatg atacggtcag tgtcgttgtg ggcagactgg ataatgtcgc gtgcgttggt 180

tgccgcgttg tagttagttt cgcagaaacc gcgttccatc tggcgctggg tgtcgcagca 240

gcagccggac atctgcgtgc cgagtgccgt cagaccggcg gtcacgccgt taaaacc 297

<210> 13014
<211> 1212
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13014
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ctctatgctg ccgcagacgg ttttgaaccg gtgcgcgctg cttttattac gcaggacgaa 120

atagacgaaa tgctgcgcag cggcagcggc atagagcgcg gcaaaaagcg catttctgag 180

ttttatgcag aaaatcatac gcagaaagaa cgcatcgaat ttttgaaaaa cgagtacggc 240

tggggcggtc gtgcttacgg cggttacagc gaaaatcacg atggcaaggg tattacattc 300

gagcgcagta tcgacagaac tgtatacgat aggataactc tgtcgtggag tcaggtcgat 360

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aacacacaga acgagccgcc tgccgccgag ccagacgatt tttcggatat tgacccaatc 540

gcaatccgcg aggcgcttgc tgaacgcggc attgtcaacg gcaaagtggt tgacccggaa 600

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tataattcca ttaaactgaa tgcgtcttac gcagacagta tcgtactgtt tcaagtaggc 780

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cagcctaagc agttcattgc ccatttctat gttgcagagg atattcagaa acgcggcgct 1200

ctggacatca ag 1212

<210> 13015
<211> 139

<212> DNA
<213> Oscillospiraceae bacterium

<400> 13015
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tcgtgtagag atgtgcggca tcccggcgca cagcttggag cggtatgtgg agaagctgcg 120

cgacaagcat gatgtaacg 139

<210> 13016
<211> 463
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13016
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agttcattgc ccatttctat gttgcagagg atattcagaa acgcggcgct ctggacatca 120

aggagtttca ttctcttgaa gatgctctga acgcttacca taaactcccg aacaaccaga 180

gaaaagcgct gggagcaatg aataccgaag atcttccggg cagtctggat tttgtgcagt 240

gcgtagacgg caaggacacc attattcagg attatactaa ggtggcaggc tggcagaacg 300

ccgaagtcct taacagtatc gctcagatcg aacgatctct caacaccaga gaagctgtgt 360

ctgttcctgc ggagaatgtg ttccaatcga acacgccgga agaaccggac agcgaccgct 420

atgagatcta ccagcttacg gctgatccag ccaatgcaaa act 463

<210> 13017
<211> 473
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13017
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tcttgatggc cttgtcgatg tcgagcagga tctttttaag gccctttaag aggtgcagct 120

tgtcctgccg ctttttgagc acgaagtaca cgcggcgctt gacgctctcg gtgcgccatg 180

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tgtccatgat ggcctcggtc gtggtggtgt agggaatttc ataaatttcg atg 473

<210> 13018
<211> 676
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13018
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accaacgata agggtcagcg cgtgacgaag gccggcccgt ccatcccggt cgagatcgcc 120

ggcatgtccg aagtgccgag cgcgggcgac acgttcaacg ccgtcgccga cgagcgcatg 180

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aacatcatcg tcaaggctga tgtgcagggc agcgccgagg ccgtcaagtc ctcgctcgag 360

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gagtccgacg ttatgctcgc cgccacgtcg aacgcgatca tcgtcggctt caacgtccgt 480

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ttccaggagc agatcatcgg ccacgttgag atccgccaga ccttcaaggt ctccaaggtc 660

ggcaccgtct gcggcg 676

<210> 13019
<211> 371
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13019
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catgaaatcg cttatgcgcc ctgacctcct cattctggat gatttggggg cagagcgtaa 120

caccagcttc ggcaaggagc gcgtattcga tgtggttgac aagcggctgc tgactggcaa 180

gcccatgatc gtcaccacga atatcccgct ttccgttatg aagcaagctg tcgatctgga 240

tgaccgccgc atttttgacc gcatcttgga ggtctgcgtc cccatcatgt tcgatggaga 300

cagcttccgc aaaaacaccg ctgccgacaa tctgaaaacg gcggctcgtc tgctcggctg 360

ataaacccaa g 371

<210> 13020
<211> 532
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13020
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cgacgtttca gcagtcggag atcgcgaaga tcgcggtcgt gctgtttttc tccagcatga 120

tctgtacgta caaggagcag atgcagacgt tccgctacgg tgttgtgccg ttcatggtcg 180

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tcgtgcagtc gctgtattcg atcggctcgg gcggctttct cggcctcggc ctcggccaga 480

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<210> 13021
<211> 206
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13021
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cggtgaaatg cgtagatata cggaggaaca ccagtggcga aggcggcctg ctggacatta 120

actgacgctg aggcgcgaaa gcgtggggag caaacaggat tagataccct ggtagtccac 180

gccgtaaacg atggatacta ggtgtg 206

<210> 13022
<211> 10267
<212> DNA
<213> Oscillospiraceae bacterium

<400> 13022
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ccagaacgct tctcgttctt gtgcattcat tctttcggcc ccctatcttc caccgcattc 120

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cgttcatgtc aactccgacg atttctcgca cgaactcgcc cagcggcttc tggccgtact 420

cagccacata atcctgtttc gtaccgacct cgctccagag tgctttctcc agcgcctgca 480

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tggaatcctc acatccattg tcttgtctcc gaaggtggta ttggcaactc cggtctctgg 180

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<211> 2207
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<211> 2792
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<213> Clostridium sp.

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<211> 696
<212> DNA
<213> Clostridium sp.

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tccacttgag tttcggcagt tttatccggt gatcttctac ctgaacattt ccatttacca 180

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gcagcatctt tttcgagact tcatattccc gtatcttatc gctcagcatc tggttataca 420

gaaaacggca gcagccaaag gtctttgcaa gcaggttttt ctgctctctg gttggatata 480

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ccccttccag agtttttccc tgatctgtgg atattctttt ttcaacagac ggctgcttgc 660

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<210> 13106
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<212> DNA
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caactgattg tattatacca cattttccgc tgtagaacaa gtgttctatt tttccattta 420

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<212> DNA
<213> Clostridium sp.

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<211> 6010
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<213> Clostridium sp.

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<211> 983
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<213> Clostridium sp.

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<213> Clostridium sp.

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aaaagagaaa atagaattgg catacaaatt gcattatata tagacatcag ggcaaaggtc 180

cacaaaattt ccaaacaaaa agaaaggaag aggaaaaatg aagaagaagg cgattagttt 240

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<213> Clostridium sp.

<400> 13392
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<213> Clostridium sp.

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tattcaaagg taaactgtat gttggtgtta cctgactgac ataagcatcg tatgcatttt 240

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gctcttccct cggtgtattt ttgtaatctg attttgtttt tttcttatta tcattcaaac 360

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<210> 13407
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<212> DNA
<213> Clostridium sp.

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<212> DNA
<213> Clostridium sp.

<400> 13408

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<213> Clostridium sp.

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aaaaatatga agaattacag gtgaaatata 210

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<213> Clostridium sp.

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<213> Clostridium sp.

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<210> 13457
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<213> Clostridium sp.

<400> 13457
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<210> 13458

<211> 194
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<211> 145
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<400> 13459
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caggatactt ccagtgtttc tgaaa 145

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<210> 13461
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aatacaactt ttgagttctt ggttaagtac atttctgata atcgaaaaag tctgatgaac 180

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<213> Clostridium sp.

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<210> 13468
<211> 6806
<212> DNA
<213> Clostridium sp.

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<210> 13706
<211> 681
<212> DNA

<213> Ruminococcaceae bacterium

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cgtaatcggg ccggagctgg aagatctcca gcacggaatc gagcatctcc cggtgctggg 540

ccgtcacaca gcagaccggc tccaggcccg gacggcgctg gagctccgcc accaggggag 600

ccatcttgat ggcctccggc cgggtgccga agatggtcat gacgcgcacc tgcttcattt 660

ctcttccccc ttctcgtccg g 681

<210> 13707
<211> 599
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13707
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<210> 13708
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<212> DNA
<213> Ruminococcaceae bacterium

<400> 13708
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aatgccgacg tgatcctggg cctgggcacc cgcttcggcg aggccgacag ctccagctgg 240

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<210> 13709
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<212> DNA
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aacgagctgg tcaaggaggg caagctggtc aagaaggaga acggccagta cgtcgccccc 180

agccactcca agtcccac 198

<210> 13710
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<212> DNA
<213> Ruminococcaceae bacterium

<400> 13710
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cggcaggtgt tggcctacgc ccagaccaag cccgcccgcg acgggttgaa agcgcagaaa 180

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<210> 13711
<211> 174
<212> DNA
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<400> 13711
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ggcatcctga ttgacgatct cggccttgtc ggtgaaatcg tcgataccct tagcgctgga 120

acccacgacc atcatgccca ggagcataac ggaagccaga gccaggctga gagc 174

<210> 13712
<211> 574
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13712
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gacataccac tgaggttcgc tgagggaatc acct 574

<210> 13713
<211> 654
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13713
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cgagtacacc cgctgcatcc aggcgttgaa cgctatcccg gaggacaggc ggaactaccg 180

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gctgtccaaa gcagaatggg ataaagagca gtttatccgg gacatgaagg aaaagtggga 600

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<210> 13714
<211> 147
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13714
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ggcagatccg gacccgctca aaaccgg 147

<210> 13715
<211> 209
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13715
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ttgtactgga caggcacggc cttggtcagg gcattgaaca ccagctcagc cacgttgtcg 120

cgggtcagcc cggcgttggc agtgagcttc aggtcgccgt acaggcccag agcggtgccc 180

ttggcggtgg cggccagcat ccagtcact 209

<210> 13716
<211> 312
<212> DNA

<213> Ruminococcaceae bacterium

<400> 13716
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tggaagtcag ccgcccagtt cagtttttc tgctccagat accactcaca gcacaggccg 120

aaatacttgc ggtaaaaccg ctgggtggac ttcatcatcg gggcaccatg ctcggcgtaa 180

tacttttccg caatggagat gtccactttt cgcccttcct gccatccggc gtactccatc 240

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gttacctcca tt 312

<210> 13717
<211> 428
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13717
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aagctctata accactgctg tatgttcgga accgccaggg atgccgtaga tctctttgag 420

gagattca 428

<210> 13718
<211> 446
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13718
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atggcggtgc ctgggagcgc ggcgtatcag ccggagcaga agttccagga cgtgagccgg 120

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tccaagtttg cggcgcagta taagga 446

<210> 13719
<211> 675
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13719
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gctggacgga ggtccggcaa ataataagga aaaggagatc attacaatgg cgaaagaagt 120

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gatcatcgcc acctatgacc aggagcgcgt ggaccggctg tgccaggcgg tcgccgcttc 240

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<210> 13720
<211> 274
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13720
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ggagcacgac ctgatgggtg aggacttcct gaaagaatac agcgaagtgg ccaaacaggt 240

caaagctgat cctgccagtg tggatctgcg ggag 274

<210> 13721
<211> 391
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13721
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ccttgccttt gaggaattga cacccaccct cttgcgggaa atgattgaga aaatcgtcgt 120

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accctgatcc ctctgctgag cggcctgttc t 391

<210> 13722
<211> 3066
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13722
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<210> 13723
<211> 212
<212> DNA
<213> Ruminococcaceae bacterium

<400> 13723
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caatatctgg acacgctgaa ggggcaatac tc 212

<210> 13724
<211> 645
<212> DNA

<213> Ruminococcaceae bacterium

<400> 13724
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<212> DNA
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<212> DNA
<213> Faecalibacterium prausnitzii

<400> 13914
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<400> 13915

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<212> DNA
<213> Faecalibacterium prausnitzii

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<211> 262
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<213> Faecalibacterium prausnitzii

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<213> Faecalibacterium prausnitzii

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<213> Faecalibacterium prausnitzii

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gttatatttt ttgtgttcct tcttgattgc ccgatagata tgttcctggc gtatcaggct 240

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cgtctttttt ccgcacgcag aagtcttact tctgcccgca gtttttctac ttccgtcatt 360

tcctctggag attttctctt tccccgctta tcctgcagcc catccacccc gttttcttca 420

tatcttatag tataacttct ggcctgctga taagaaatgt gaaatttttt tgctgtttcc 480

gaatagttat gagaatgttt tatgcaatat tgaacgattt caacacgttc ttcaaatgta 540

gtttttcttc ctttagtcat gatcggtctt cctcctgttt ccttatcatg actattatac 600

ttcataatcc atcttctgag tatctgtgca tctgaaattt tgtgccgggc acagatatcc 660

cggagagaac cttttccaga aaggtaatcg aaaacagcgg cttctttttg ggcaggagtt 720

cgataggtat gccctttcg aaaaaaagct tccggtccaa ttgctttata atttctaagc 780

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<210> 14388
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<212> DNA
<213> Roseburia inulinivorans

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atttattggt ttatcgttct ttctaatgat accaatacag tatccaatgc ggagaatgcc 180

acatccggag gagttgcttt tgttttaagt ctgattacct gtaacattta tggtttatac 240

tgggcttaca aacagggaga gaagatcgac aaggcaaaaa ctgacagagg catcccatca 300

agtaatagcg gagttatata tttaatttta tgcttggttg gattaggaat tgttgcagaa 360

gcattaatgc agaatgaatt gaatagcctt gcataagggt tagaaaaata ataaatccct 420

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gggagcgtat gcgtgaacag gcgtaaaata taaatgccaa agacaacgat accgagcaga 540

cacgtgataa acgtcagata aggaggcttt ttttcgaaca tatatttata aacccaaaga 600

taaagaaagt atggaatcag aagaaagatg caggggttca tctgaaaagc agttgaaaaa 660

tgggctgtga gaaaactgat cccagcccgc gtgagaccac aggcaggaca tggaaagcca 720

aataaaatag caattggaca gacagagtga aagagatatt gagtaacgct catgtatata 780

ataatacaaa ggattgcaat gcgattatgg tatagattgg ataaaaaatt tttaattcct 840

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<210> 14389
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<213> Roseburia inulinivorans

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aagcagatta tattttccct catactcact aaagttcctt gcattactgc tgcaattaaa 180

aatcaaggca attgtctctt cgacattttt cctgatcagg acaattgttt cttcctcatc 240

ctttgtaatt gaccctatca gttcgccttc tgaaatgcac gcatgttttt ttcgaatcca 300

aagcagctgt ttataccatt catacatctc tttgtcctga tattcttcat cccagtacat 360

gccccgcctg caatccggat catttgcccc cggcatcgca aactcatctc cataataaat 420

cataggcatt cccggcaata acagctgaaa agccgctgcc aaatgctgtt ttttcttatt 480

gccattacag agatgtaaaa atcttgctgt atcatggctg tcaatcagat tccacataag 540

gggataacat tttttattta aacgaccctt cagatatccc agattctgta caaactgact 600

gacgtgaatc ttttcatctg ccagcagatc gatcatattc agataaaacg gatagttcat 660

gaccgtatcc cattcatctc cctcaagaaa atctcctgca taatgccaga tttctccaat 720

gatcagcata tccttttta cagccttgac cgctcttcta aaattcttcc agaaataatg 780

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ctcaaatgca aaaaattctc ttcctgtatg gttgaacact gcatccatga cgattttcat 1080

tccacgttta tgagcttcct gcaccagttc cctgagatcc tctgtcgttc caaatgaagg 1140

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agcccagtcc ggcacctcaa acatttcctc ttcccgaaga gtctgcgggc aatcaaacat 1440

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accatgcatg tccgtaaatt caaaataata tctgagacat atcagatgca tctgaagctg 1560

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tcttttgtcc atgtcatgat aaattgctga atattccata atattttccc tttacatatt 1800

ctttccattc aaatattctc tgctgctaat gcaccatgtc cgcttccatt cgtatctact 1860

acttctgaat gtactacttt taccaatgta tcgtaataca ttacttttca aggcaatgcg 1920

gatcgagaag aaaatcgtaa atattgattg taagaattcc atattcatcg taatgcggct 1980

gaacaatatc tttggtaata acgattttct tgaaagagtc gtcaatcctt ctaaacggtc 2040

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tgaccgaacc catattacaa ac 2122

<210> 14390
<211> 643
<212> DNA
<213> Roseburia inulinivorans

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aggataatca tgtgcatatt tatatccaac accatgtccc agttttccgg aagacttgta 180

atgtgcatcc tgtaaatgaa ccggaatcgg tgctgtcttc gtattcttca ctacttccat 240

tgcatcaaaa atcgcattta ccgctgaatt gctctttggt gcacttgcca cataagttgc 300

tgcctgcgat aaaatgatct gtgcctccgg cataccgatc cgctcaattg cctgtgctgc 360

ggaagttgcc acaactaatg ccataggatc tgcattgctc acatcctctg ctgcgcagat 420

cataattcgt ctcgcgataa acttaatatc ttcccctgca taaagcattc tggcaagata 480

gtaaactgct gcatccggat cagagccacg catacttttg ataaaagcag agatcgtatc 540

ataatgatta tctcctgttt tatcataacg aaccacgcgt ttctggatac attcgcttgc 600

aacctcaagt gtgatatgga tttttccatc ctgactccgt tca 643

<210> 14391
<211> 424
<212> DNA
<213> Roseburia inulinivorans

<400> 14391
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ccatagcccg gttcaacctg tgttacaagt gcattcacgc catagtctgt aataaagccc 120

tcgccatttt catccagtcc gatcgtgact tccgccatgc caccgaccat gcggtcagcg 180

atcccatctc cactactcga agtccagttt acataattcc cgagcgaata gtaaacgagt 240

gtctggtttc cggttgcctc atctgtcacc cactcaacag gctcgatcac atgaggatgc 300

gttcctatca ccagatcaac gccatttctg acaaaaatct ctgtccattt tttctgcatg 360

ctgtctggct gcaaactgta ttctgttccc caatgtgggc acactacaac aaaatctgcc 420

tgtt 424

<210> 14392
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<212> DNA
<213> Roseburia inulinivorans

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gtttgtccat cagcaaaaga aaatgtatgt gtgacggata ttttatatga aattatagaa 120

aaagagattt ataaaaaaga ttatgaggaa ataacattag gcttgctatt tgtgccagaa 180

acctacgata cagttattca aagcataaaa aagattgcag atagtggaat ctggaattag 240

aataaatggc ggattttaca ccgccacttt ttctattcaa tcttcacaaa ctccggtttc 300

ctctcacgga aaaccgtaaa gtaatcaaag ccggcgtctt ttaatataga aggaactttt 360

gcaaaatcaa atgcaacatg ttccggtttg tgggcgtcgg caccgatcgt gatgatatcg 420

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tcaagaatcg attcaaaata ttcgcggtag gctgcctttt cctcacgtcc ttcgtaatag 720

gctgcgtagt acggatcaaa tccatgtaca acatgcgagg aacctatgac aaaatcgaat 780

ggatactgcg ataaaatatc tgcgtgcagc gcagctaaat gcggctgtaa accaagctca 840

atgccaaggc ggatcggaag ccttgcggca tatttttcct gataggcaag tacggaggaa 900

gtataattag gcagatccag aagaaagata ttcggttctt ccggataatc aatatcaaga 960

tgatctgtaa agcagatccc ggcaagtcct ttttcgatag cagtagcaat catttcctcc 1020

tgcggggctt cactgtcccc ggaaaactgg ctgtgcatgt gtgtgtccca gagccggtaa 1080

tgcgaaaatt tggtttccat aaaatctata ttcctttccg 1120

<210> 14393
<211> 701
<212> DNA
<213> Roseburia inulinivorans

<400> 14393
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aaaatgcagt tcggcaggcc gtgaaacgac ttgttgctaa tggtttttg gaacggtatg 180

ataatggaat ctattatatt ccaaagcgtg acggattact tgggaagagt tatctcgatc 240

cgtcgctggt tattatgcgc aaatatatac aaagtaaatc agagatttat gggtatgtca 300

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tggttacaaa tcgtgaggcg acgaatggcc gtactataac agtgggaagc gaaagagtta 420

gaataaaaaa ggctccgatt atggtttcag attcgaatgc tgatcttcta cagttacttg 480

acagtattgg gcaggcagaa aagtacacgg agctgtcaat tcatgagaca atagatatat 540

tgatttctta tgtgagaaag aaatgtttta cgaaagatca gttgtcggaa gtgattccgg 600

cattaactgg tgcaacggca aagaaattga tcgaatgggg aatgatttat gaatttgcat 660

catgataaag aagcatttaa agaattaata atcggcgctg c 701

<210> 14394
<211> 646
<212> DNA
<213> Roseburia inulinivorans

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gtgtagcggt ctttcgtgct tgactatagg aggtaaatta tggctcgttc attaaaaaaa 180

ggaccatttg cagatgaaag cttactgaaa aaagtagacg ctatgaacgc atctggtgac 240

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acaatcgctg ttcatgacgg aagaaaacat gtgcctgtat tcgtaacaga agatatggtt 360

ggacataaac ttggtgagtt cgttgctaca agaacttaca aaggacatgg aaaagacgaa 420

aagaaatcag gcgttagata agaactattt tttgaaagga ggtttcatcc atggctaagg 480

gacatagaag tcagattaaa agagaaagaa atgaagttaa agataccaga ccttcagcaa 540

agttatctta tgctagagtg tctgttcaga aagcttgctt tgtattagat gctatccgtg 600

gaaaggatgt tcagacagca cttgctatcg taacatataa cccaag 646

<210> 14395
<211> 2395
<212> DNA
<213> Roseburia inulinivorans

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tgcaaacaaa ggaccaacaa tgaagagaat cagaccaaga gcacagggta gagcttatag 120

aatcgagaag agaatgagcc acattacaat cgtgcttgat gaaagataag gagggcaaac 180

atgggacaga aagttaatcc tcatggctta agagtcggtg ttatcaaaga ctgggactct 240

aaatggtatg cggaagcaga ttttgcagat cttttagtag aagactacaa catcagaaca 300

tatcttaaaa agaaattata tgcagcaggc gtttctaaga ttgagatcga aagagcatct 360

gaccgcgtta aagttattat ttacacagca aaacctggtg tagtaatcgg taaaggtgga 420

gctgaaatcg agaagatcaa agctgaagta cagaaattca catctaagaa attagttgtt 480

gatatcaaag aagttaagag accagaccgt gacgctcagt tagtagcaga gaatatcgct 540

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atgaaatctg gtgcaaaggg aattaagaca tcttgttccg gacgtttagg tggagcagat 660

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tgttaatgcc aaagagagta aaacatagaa aacagttccg tggttctatg gctggtaaag 900

ctacaagagg taacaaactt acttatggtg agtatggtat cgtagcaatg gaaccttgct 960

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gtgtattatt tgaaatctcc ggtgtaccgg aagacgtagc tagagaagca ttacgtcttg 1200

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gcggtgttgt taaaaaaggt gacgtcgtta aagctgtagt tgttcgttca gtgaaaggtg 1980

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aagaaggaaa agtaatttcc gtaaacaaaa aagataacaa agttcttgtt gaaggaatca 2280

acatggttac aaaacatgca aaaccaagca tggctaacca gcagggtgga atccttcacc 2340

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acggtggacg gtccgggcgt acggtttgtc gtatttttc agggctgccc gatgcgctgc 180

cagtattgcc ataatcccga tacatggaag atagaggatg gggaagaaat gacagcggat 240

gagatcatag accgtttcga gcgcaaccgt tcattctatc agaccggagg aatcacggcg 300

acgggggag aacctatgtt acagcttgat tttctgacgg agctttttac gaaggcaaag 360

gaaaagggca ttcacacctg tctggataca tccgggatta tgtttccaaa gaaacatata 420

ggaacagaac agatcagtga gagagagatc agcctcactg gaataagtga aaacatggca 480

tcagacagaa tggaaaagac agaacagctc atgtctgtga cagacctcgt catgcttgat 540

attaagcata tcaacgatga ggaacatcag aaa 573

<210> 14397
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<213> Roseburia inulinivorans

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ccctgctcat agagtcttga gttttcaaga ctctattttt gattcattat gtttatattg 420

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atgtaaataa aaaagaatac gagagcatag ttaaaaacaa tccttttatc agagatatac 720

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ccagacagat aggaaaaaca acagaattaa aaaaatttgc atacaaaaat tacgaatatg 840

tcataatagt tgacttagct gctgacacat ataattttat agatgttatt aataatggat 900

gcagtcctat ggaatttgaa aagtattgtc gtagagcgtc gcttccgcac ttcgtagata 960

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gaatattagg ggataaaaag ttttttcatc ctgcaggtac gatcagttat gcgcatatgt 1140

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ttgataaaaa ttttatagat cgcggtattg ttgcaaaacc tgcgaaagga ggacacgggg 1980

ataaatttga tacgattccg atttatacag taggatgtcg ttttccatat catgaaatga 2040

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gcgctatttt tcacgtttaa tgttaatgta acagtgcagc cggaaggctg aactgttaca 2220

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cttgcttggg cggtttcact taagtatcca taagacgcag gagtggcgga atggcagacg 2340

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cattgtgtta gaaacaaaat acaaaaatca gctatcgtac acgaaatccg tgtgacattc 2580

cgtaacaaac aaaaacatta gtgcacgaag catagaaaaa taggtgttca gtcagtatgt 2640

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<213> Bacteroides dorei

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cggcaatcgg aaaagaagga catatcggca tggctgctgc ctatgcatcc cacctcctcc 180

tgtacgaaga aggcacattt caccgtcttg caatcctcca ggcatttcag gcagatccag 240

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<210> 14521
<211> 494
<212> DNA
<213> Bacteroides dorei

<400> 14521
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<213> Bacteroides dorei

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ctgttccagt ctttctacgg aaaccagata gtttccatct ttgccttgca cttcccgtgc 180

aggatagctc atttcccgat aaaccaacat cgtcatttcc ggattggctt cctgctgtcc 240

<210> 14524
<211> 321
<212> DNA
<213> Bacteroides dorei

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caaccggtat aagaacgtgg tgaagaaatt acagctgctc atcccctctt attatggaaa 180

ggaggatgtc actttccatg agctgacacc ggagttcatc cgtgcgtttg acatttacct 240

gaaaacggag gcgggactgt gccggaacac gatagtccgt tatatgaaat gcttcaagaa 300

atttaccaat atggcattgg c 321

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<212> DNA
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ggaaaaaaac tgtccgcttc gggctaccgt ttcc 214

<210> 14526
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<212> DNA
<213> Bacteroides dorei

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<211> 401
<212> DNA
<213> Bacteroides dorei

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tctatctccg atgctccttg aatttcgatg gccttctgca tgatggtgtc tttgctgtac 120

agtcctttgg tcaggtcgga aacagccgat acggtggtct gcgtgtccag ttcgtaggtc 180

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gactccctga ccatcccgtt caggcacgcc ccgttgagca ggaacgaccg catatcgacc 300

gatccgttgc catagtcgga tgtggagaag cgtgctcctg cgaagatgat gaccgttccg 360

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<210> 14528

<211> 969
<212> DNA
<213> Bacteroides dorei

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aagaatcaaa gatatgacta aagctatgat ggatggtttg gcaactaaag gttattatga 780

gtttgaaaat ggtaatatta tttctgctta tatatggaca aaattagttg atgcaaaaac 840

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<212> DNA
<213> Bacteroides dorei

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tatacttact ttgcaagtac agcaaagaaa gaaggttatg aacagattgc tgctattttt 120

actgaaacag ctgatcagga aaaggaacat gcgaaacgta tgtttaaatg gttggaaggt 180

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<213> Bacteroides dorei

<400> 14606
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atcgtaagat atggcttcaa tcgtcccttt ctcccattgc acagaatcaa aagtaaacaa 180

gaaccgataa tcctgtctgc cgaaaccttt ggattttcca tttacaaaca gttccactgc 240

atctcccgat gaaaccacat aaacaggttt tctcacatcc ggagtataat tccaatgacc 300

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<210> 14607
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<213> Bacteroides dorei

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gccatgaaac gaagcatcat aacaacggac ggtaacggca acatcatcat gccgaccgac 120

attaacgcaa ccgccatgag cgaatgggaa ctttgcgacc tgttcggagt aaccgccccg 180

acattccgtg cagggctgaa ggctctttgc a 211

<210> 14608
<211> 225
<212> DNA
<213> Bacteroides dorei

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gacacgtcca cctttggtgt cccacaattt cggatcgaca gtcagcttgc agctgaactg 120

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<210> 14609
<211> 901
<212> DNA
<213> Bacteroides dorei

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gacaaacgaa ctttcaagtt atctaaccaa tctttcgtcc cttccatgaa agtttcttca 180

gaaaggcgcc atccaaaagc cgcagcagga aaatatcccc aacggtgttc gggggaaaac 240

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cttgttccat gctccgcatc atattggtta atcatggcaa atgcattatc ctttgtaaaa 420

ttagagggaa agtgactagc tgaaattgac attttactac ctccggagtc tgtaacttca 480

tgtcccaaca gaatattcaa acgatgctgt ttaggtaaaa aattgaagtc ataactgatt 540

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ctccaattta aagataaagt accacgaagt ctttgtttaa tatatagtgg atcataatct 780

ccgatacgag ccacaggact ataagtatcc caggcagact gacgaccata catctccata 840

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<210> 14610
<211> 1257
<212> DNA
<213> Bacteroides dorei

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caaaactttt gtttttcag tgcctccact aaccgacaaa tcatggttat gagatacaga 180

actattatac acatcttttt ggatgttata attcctggtg ttacgataac tttctatacc 240

tcctgtatta ctaccagaat aatcaccgat gccatacaat ttttcgaatg gtagacgata 300

tgcatcgcca ctagcagctg catttcccca aacaaacgat aaataatcat aaggatccaa 360

tgttgccaaa tatttagtcg gtgtattaaa tttaacataa ccattataag aaacagaaac 420

tttcccttct tttgctccct ttgtagttac aagaattact ccattggcac cacgtgcacc 480

ataaatagca gtagaagatg catccttcaa cacatcaata ctttccactt gatcagacgg 540

aatatcattt aaagaattca cagttacacc atctaccaga atcaaaggtt cattactttg 600

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aatggcaaac gtattttggc taccgacttt tacattctga gttttgtatc cgatatagga 900

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gccccaaata agaaaagaac ggctggcttt acaaccgtat gcgcttgcaa acaaacgcct 1200

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<210> 14611
<211> 466
<212> DNA
<213> Bacteroides dorei

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agtatttttt agctattgag tacaagtctt gccaatcaga acgacgtcca taaatagctc 180

cattattttc tttccctttg gtttcaaatg tcatgatttc ccctttttccg tttacacgtt 240

ttatatcgcc acgacgagtc tgatatccag ctgcatccaa acacattctt ccaatcaaag 300

cctgcacata ggttttagaa aaataatttt tattggcagc agcaatgccg ggaatagaac 360

cgatggtgta catcaaaggt tccactttct gcaaatcttc aatgcataca tcataaatag 420

aatcacggga aaccaaacct ttaggcacaa caccataaac gccaac 466

<210> 14612
<211> 683
<212> DNA
<213> Bacteroides dorei

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ttgacagcgt cgtgtaaaca ggcgcctgtt gcacaaatgg aggcggaata tgcggtatta 180

aaggtatcgc catcggacaa agttttatct actacttatt cggctacgat ccgtggccgc 240

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ggacaggcag tgcgtaaagg gcaagtctta tttattattg accaagtgcc ttataaggcg 360

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aggacggcag aaaactcatg gcttactgcc aaggcccagt tggcccaggc gaaagcgcag 540

gaggtgagtg cccgcaatga cctttcgtat acagaagtga aaagtccttc ggatggggtg 600

attggtacat tgccttatcg ggtaggtgca ttggttagtg ccagtttgcc acaaccgttg 660

actacggttt ctgataattc gga 683

<210> 14613
<211> 568
<212> DNA
<213> Bacteroides dorei

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cactatcagg aaatcatgga gcgtgataat ttcgtcacag cggagaaagt caagaacgca 120

tttcttggac tggaacaccg ccatcataca cttatgcagg tgttccgcca gcacaacgag 180

gactacgaga aacaggtgga ggcaggcatg aaagccaaag gcacgctgtt gaagtaccgc 240

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ctgaaagagc ttaccccggc tttcatctcc gatttcgaga tgttcctgcg cacggacaag 360

cactgctgca ccaataccgt gtggctgtat gtctgcccgc tacggacgat ggttttcatc 420

gccatcaaca acgagtggct gacacgcgac ccgttccgcg agtatgaaat caagaaggag 480

gaaacgacac gcagtttcct gaccaaagag gaaatacgcc tgctgatgga cgggaaactg 540

aaaaacgcca aacaagaact gtaccgtg 568

<210> 14614
<211> 823
<212> DNA
<213> Bacteroides dorei

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tgtcacctga gcttgctgaa cagccggttt atattcttcg tctcccggat gagttataga 180

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cataaaagcc gggtgaactt gtaaatgagt attctgttgg gatactgttt ttccattttg 480

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ctccttggtc cggatctaca tgtccataat gcattgcctt cttgatataa agagctatat 720

attgtgcttt ttccggggta taggcaaagt gtccttcagc aggacaggcc aacatgctta 780

aaggcagcaa tggatgctcc ttacgttctt tcaaaccttc att 823

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<212> DNA
<213> Bacteroides dorei

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ggaatgtcag cacgtcctcc tcgctgtaat aggtcttctt gcccagcgtc ttgtagggca 360

atgcgcctac gctgcggtag cgttggaggg tgcgtttgct tatctggagc aacatgcaca 420

aatcctgatt gtcgaaaagg cggatgcttt ccgtgatagt gggctgtttc ccctcagcct 480

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cctcgaa 547

<210> 14616
<211> 228
<212> DNA
<213> Bacteroides dorei

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tgttccggtc cgggaaattg ggatgggcca agtctttgtt gcatgccgtg aacacgatcc 120

ggattttctt gaacgtgccg gtttccgtcc gtttgcgttt ggtggagaaa aaattgtagg 180

acccccgtat gacttcttcc accggtacat tctttttac ttccgaaa 228

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<212> DNA
<213> Bacteroides dorei

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attcgccgtc gttctcatgt agatgaggat tttcaaaaga ccattgcttt aacggatatg 180

agtaaagagg ctgaaaatga ttggggagcg tattccggtg gtaaattaat agacgcaact 240

ctctataata tacgtcgtga gcgccgatgt gaatttatgg cggatgggct tcgttatatg 300

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<211> 283
<212> DNA
<213> Bacteroides dorei

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agcccttcat ccccgtggtg gttgtattgc cacagggaga caa 283

<210> 14619
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<213> Bacteroides dorei

<400> 14619
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gagtttgcca atatagtgtt gttttctttg cctgattcta ctttttttaca aggtactatc 180

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tctgctgaaa cgcatagagg agcggacagc atacatccgt cctgcatcgt tctcttttgg 300

cagacagcat tccgacaatc agccttatca gggattaagg gttggtgagt tgtcctctcc 360

tgctcttata gcctatctgc aagaaagggg aataaacatc ggacttgcca aaagagaatg 420

cagggagctt cggtttatga atgccgacaa accctatttt gccatcggct ttccgaacat 480

ggcaggagga tatgaagtgc gcaacagata cttcaaggga tgtgtcgccc cgaaagacat 540

cacccatatc cgacagcagg acggacaacg atgtatgtgt tacctgttcg aggggttcat 600

ggattacctc tcattcctta ccatccgagt aagaaacaat ccgcaacacc cgcgattgga 660

cacacaggac tatgtcatac tgaactccgt ttccaatctt gcgaaagcgg aaagcatatt 720

ggagacctac acccaagtcg gctgtttcct tgacaacgac acggctggac ggaacacctg 780

caagaagctg aaagagaagt tcggggaacg gatgcttgac aagtcaatgt actatcgtga 840

ttataaggac ttgaacgact acctgtgcgg taagcccttg tcccaatcgg cagagccgat 900

aaaggagaag aagcaagtcc aatccgcaag gcggatgatg cagccaccga aaaagaaagg 960

gggatttcat ctgtaatatg ctcgtctgct ttccgaaagg tatttagaca gaaataccat 1020

agctcaatag ggcgttttct tcacgcatta ctccgtaacg ctaaaaacac cctatcgagc 1080

caaagggaaa tccctttgga aaccctgtgc aaacgagagc agaagccaaa ctcgtttgga 1140

ttatgccgag tgcagcaatg gttcatttgc ataataaacc ctgtgagccg atgccacagg 1200

cagagagaag agacataacg ataaccgcaa aaacagtaat gatatgggat atttttcatt 1260

ggacattaag aaagcaaagg gtacatcgga caccacgcag tccgaccata tagagagaaa 1320

gataatacct aaaaatgcag acccgacaag gacacatctg aacagggtgc ttgtcgaata 1380

ccccgatggc gttcacggca gggatgaagc gattgcgcac agactgaaca cagcaggcat 1440

cagacggaaa atcacacacg accaagtccg tgtcgttcgg gtggtcttgt cgggtacgca 1500

cgaggacatg atgaacatac aggaaaaagg aaagctcgac gaatggtgca acgacagcat 1560

ccaatggctg caagccacat tcggcaaaga caatgtggtt gccgcacatc tgcacatgga 1620

cgagaagact ccgcacatcc acgcagccgt tgttcctatc gtgatgggtg aaaggcgcaa 1680

agccaagaaa gaacagacgg acggtaagcg caagtaccgc aagaaaacaa attccgtccg 1740

tttgtgtgcc g 1751

<210> 14630
<211> 790
<212> DNA
<213> Bacteroides dorei

<400> 14630
ccgtttcttt aggacgctga ccattgatat acccacctgc cggcatttcc ggtaatttct 60

ctgcaggaat accattcacg aaatcaggta ttcctctacc cttctccgcc ggtaagtaaa 120

taccgtcagg actgctggta agaggagcca actttgcaag aatctcatcc cactccgcat 180

gacgttgcag cccaagtctc tcccgccatt tctgagctat ggacaagccg aagtgccaat 240

aggccatttc aaaagcagga ttaagagtcg tctcttcatt ataggattca ttagctgcac 300

aagctccttg aataatataa cgatcattat cagaatcata attaacaaac gaagccataa 360

aagcagctgt ctgttctacc atatcggcat actcacgaag aaattcttga gaaggacatg 420

cacgatagat aagttctgac atataaatga catggggttg ttgccagata ataaaagagc 480

cgacatccga tggtgcctca ttggaagacg gatcagtcat tttcatccaa cgtatgccat 540

caaatccctg tctggctgca atatcacgtg ccatcggcac agcagtctta taccatttca 600

attgtttctc caaaagatct gctttattcc aaagcgcata atgaaaactg tgccacatta 660

ccatctctaa atgatattta ccataccatg tattataagt cagaccggtt tcagcaggag 720

ggtaattttg cgcttcctgc gaacggagca aatattgaga cagcacaacc cgacgctcca 780

aaagcgaagc 790

<210> 14631
<211> 713
<212> DNA
<213> Bacteroides dorei

<400> 14631
tttcagaaca atgtgacttt caacaccaac gaggatttcc gcagccagtt caattccgac 60

tgggctggca agttgcttat cgtggtagat gaggtgttgc tcaaccgcag ggaggacagc 120

gaacggttga agaacctcag cactacctta tcctacaagg tggaagccaa aggcaaagac 180

cgtgacgaga ttgcattctt cgccaaattc gtgctgtgct ccaacaacga gtatctgccc 240

gtaatcatag atgcagggga aacacgctat tgggtgcgca agataaaccg cttgcagtcc 300

gatgataccg acttcctgca aaagctgaaa gcggagatac ccgcctttct ccatttcctg 360

caacacagac agctatccac cgaaaaggaa agccggatgt ggttcaaccc cacattgctg 420

catacagaag ccttgcagaa gattatccgt agcaaccgca accggctgga gatagagatg 480

tcggaactgc tgcttgacat tatggttgca atggatgtgg atagcgtttc attctgcctt 540

aacgaccttg tcgtactgct gatacactcg caggtaaagg cggaaaagca ccaagtgcgt 600

aaggtggtgc aggagtgctg gaaactaaca cctgcaccaa acgggcttac ctacaccacc 660

tatcagggca attacaacag aagttgtcac tatgagccga taaagagggt ggg 713

<210> 14632
<211> 162
<212> DNA
<213> Bacteroides dorei

<400> 14632
tgatttctct tttggtgagc ggtttgttga gaagatgttg agaggttatg aggctgtata 60

taaacatatt acattaacaa ttcatcaaat caacaaattt tcatcaactt caaaaccgta 120

tgtaatatga caatccaaga tgtaaagcaa atcaaactgg ca 162

<210> 14633
<211> 2248

<212> DNA
<213> Bacteroides dorei

<400> 14633
gagcaacttg aatccttgta acattatcat ttttctgttg aattgttgaa tatgggtata 60

aatacactga caataaacga tatacattct caacaaaatc tcaacaagcc aaaagagaag 120

ttgagaacca ccgacacccg tttgtgaatt tctcttttgg cgagtggttt gttgagaaga 180

tgttgagagg ttacgaggct gtatataaac atattacatt gacaattcat caaatcaaca 240

aattttcatc aacttcaaaa ccgtatgtaa tatgacaatc caagatgtaa agcaaatcaa 300

actggcagac tatctgcaaa gtctgggcta tacgcctgta aagcaacaag gcaagaacct 360

gtggtataaa tcaccgctac gggaagaaac ggacgcatcg ttcaaggtaa acactgagct 420

tgaaaaatgg tatgacttcg gcatcggcaa aggcggaaac atcctcgcat tggcagcgga 480

actttactat tcggaagatg tagcctatct gctgaaacgc atagaggagc ggacagcata 540

catccgccct gcatcgttct cttttggcag acagcattcc aacaatcagc cttatcaggg 600

attaagggtt ggtgagttgt cctctcttgc acttattgcc tatctgcaag aaaggggaat 660

aaacatcgga cttgccaaaa gagaatgcag ggagcttcgg tttatgaatg ccgacaaacc 720

ctattttgcc atcggctttc cgaacatggc aggaggatat gaagtgcgca acagatactt 780

caagggatgt gtcgccccga aagacatcac ccatatccga cagcaggacg gacaacgatg 840

tatgtgttac ctgttcgagg ggttcatgga ttacctctca ttccttacca tccgagtaag 900

aaacaatccg caacacccgc gattggacac acaggactat gtcatactga actccgtttc 960

caatcttgca aaagcggaaa gcatattaga gacctacacc caagtcggct gtttccttga 1020

caacgacacg gcaggacgga acacctgcac gaaactgaaa gagaagtttg gggaacgcct 1080

gcttgacaag tcaatgtact atcgtgagta taaggacttg aacgactacc tgtgcggtaa 1140

gcccttgtcc caatcggcag agccgataaa ggagaagaag caagtccaat tcgcaaggcg 1200

gatgatgcag ccaccgaaaa agaaaggggg atttcatctg taatatgcac gtccgctctc 1260

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gcccacaggc tgaacacggc aggcatcaga cggaaaatca cgcacgacca agtccgtgtc 1740

gttcgggtgg ttttgtcggg tacgcacgag gacatgatga acatacagga aaaaggaaag 1800

ctcgacgaat ggtgcaacga cagtatccaa tggctgcaag ccacattcgg caaagacaat 1860

gtggttgccg cccatctgca catggacgag aagactccgc acatccacgc agccgttgtt 1920

cctatcgtga cgggtgaaag gcgcaaagcc aagaaagaac agacggacgg taagcgcaag 1980

taccgcaaga aaacaaattc cgtccgtttg tgtgccgacg acctgttcaa ccgccagacc 2040

ttggtcgcct accacgacaa ttacgcaagg gtgatggcga aatacggatt gaagcgtgga 2100

gtacggggtt cggaagcacg gcacaccacc accatgcagt attatcggga cttgaaaaag 2160

aaaaatgaaa cccttgaaac cgaaaccaga ctgttgcagg agaagaaagc cgaggctgaa 2220

caggaactca aacgagccaa gaaagagg 2248

<210> 14634
<211> 171
<212> DNA
<213> Bacteroides dorei

<400> 14634
gagtaggttt ccctactcaa caactctcgt tttgttgtaa ttatatcttg cagatcgatc 60

atacttaaac ctttgattta cagcaaaaag gtaataaaat aatcacaaaa ccgcaagtgg 120

ataaatagat tgattatctg atttttaatg ttttaactat aggattctca a 171

<210> 14635
<211> 197
<212> DNA
<213> Bacteroides dorei

<400> 14635
taatcacaaa accgcaagtg gataaataga ttgattatct gatttttaat gttttaacta 60

taggattctc aagaatcaaa accacgtcct tccaggcaat ccgataaaca atatctgccc 120

cgttccgctc caccttcatg aactgatagc ctgccacaaa cttcttttcg aacagactat 180

atgaacgatt atcaaat 197

<210> 14636
<211> 694
<212> DNA
<213> Bacteroides dorei

<400> 14636
cttcatgaac tgatagcctg ccacaaactt cttttcgaac agactatatg aacgattatc 60

aaatgaaaac atacggacta ttctgcgatt gcgagacatg actataaaga cgtctccatc 120

attgggctca cggtgaagcc gttcacgaat gacagacagc acacggctgt gcttacaacg 180

catatcggta aagtcacgga cataataaaa atgattcaga ccggtaacac tcaacataac 240

ccctccaact gctctaccat acgaaccaaa tccgggtagc ttaaattctt ttgggacaaa 300

tgcaagccat tgctgatacg aatctcaacc caaatacgaa ccgggtgatc atttctgcct 360

ggtgataccg gttgagattg atcaatggca ctggattttt cctcatgacc gattacagga 420

acaccatcaa cctggacttc aactactttt ttacgggtat ccctgtacca tttctgaaag 480

atgttataag gaactttgtt cttaacacaa aacgattgga gagattctcc atgaggaaaa 540

gcctcggtct ggtactgaaa gtaaaacctt tcaagatctt cactgctata cataaattct 600

aatatttttg ttcgcagcga agatagagat ttcaattatg agccaatttt tgactgctta 660

cagtagatta tagtttcatt ccataatcta ctat 694

<210> 14637
<211> 591
<212> DNA
<213> Bacteroides dorei

<400> 14637
aaatataata ggtaatgttc cccatttgag atttccagag tttagtggag agtgggaaat 60

ggcatcactt caagatatag ccgctataaa tccaaaatca gaccagcttc agaacacttt 120

tatttatata gatttggaag ccgtcgaaaa aggtgagttg agaaaaatac aagaaataat 180

gcgagaagaa gcaccaagta gagcacagcg cgttataaat aacaatgata ttctgtttca 240

atgtgtgcgt ccctatcaga aaaacaacta tattcataaa attttaaata cgagtaatca 300

acaatgggtt gcttctactg gatatgctca aattaggaca acagaatcac caaactatat 360

ttatcatcta ttgaatacag acggattcaa tagaaaagta atggttcgtt gcacaggctc 420

aagttatcct gctattaata gtgaggattt agcaacaatt cgtttttatt atacgcctga 480

caaaaaagag caatttaaaa tatctcgatt attagacttg atagacgagc gcatcgctac 540

ccaaaacaaa atcattgagg atttgaaatt actaaagtct gcaattagga a 591

<210> 14638
<211> 392
<212> DNA
<213> Bacteroides dorei

<400> 14638
ctaaaaaaga aaggaatata tatgggtttc gtagtattgc acatggaaaa ggcgcacggt 60

tccgacagcg gaacgaccgc ccacatagag cgtttcatca taccgaagaa cgcagacccc 120

acacgcacgc acctgaaccg aaaactcgtt gcctaccccg acgggataaa agaccgttcg 180

gcggctatcc ggagaagact ggaagaagcg gggctgacac gcaaaatcgg aaacaaccaa 240

gtacgggcaa tccgaatcaa cgtgtcggga acgcacgagg acatggaacg catcgaaagg 300

gaggggcgtt tggacgagtg gtgcgccgac aatatgaaat acttcgccga cacgttcgga 360

aaggagaaca tcgtggcggc gcacctgcat cg 392

<210> 14639
<211> 290
<212> DNA
<213> Bacteroides dorei

<400> 14639
catacaattc ggttgttatt ctcttaattt atctttaccc ggttcatcag ctgtcccgaa 60

atttcatgca gttcccggca gcgttccggc tgctgttccc ttgcaaaggc ggtgattccc 120

tgtgtcagtt tccatagcgt ggccccacct gtaactccgt cgtcaggatt gttgttcatc 180

agcagtttct cgacctcacg tccttcgttt ttcaacaagg ctcctttctg caccagattc 240

ttcagttcct tgtcgaaatc cacgtctatc tccgatgctc cttgaatttc 290

<210> 14640
<211> 294
<212> DNA

<213> Bacteroides dorei

<400> 14640
tgtgggagaa ggcagatatg aacttcccgg tcatcgcccc tttcaatgtg tgcctgcgga 60

taatagtcac cgccacgggt gatataagtg acaacgtctc ctgcagtcgg taaaccggct 120

ctttccctgt cctcccgcat ccttgaaatc agccggttca ccttctccac atcacattcc 180

tttatggagc aggcacaccc ttcatgcctg ttgagcagag tcagactttc caggtcataa 240

aaattaccgt acttcatatt gagatcgttt ttgttgatac aatttgacct gacg 294

<210> 14641
<211> 1879
<212> DNA
<213> Bacteroides dorei

<400> 14641
attgttcccc taacggcgta gccgcccgac cttgcagccg acggaaagcc ccgtgcttgc 60

ttcgcctttg taaacgggaa tgactgttcc gctttcctgc ggtcgggaaa cagccccttt 120

ctgtccgtgc gacggtatga ccgtatgaat gtatgaccgt gtgactgtat tacggactga 180

taccccgacc gactgaccgt tacgccatcc atcggcggct cggctcggtg tcggcaacga 240

cagacacgat aaccgtcgtt ttctcttttc gcccgttcat aatcctgtct aataatagct 300

tgcggactct cgccgccccg aacgattcga cacggaaagc gagggcggct atcgtttcga 360

ggtcgtaaac ctctatgctg cttctgtccg atagacggac aaggcgtttg atgccgtact 420

ctttcaatac cccgctcttg cagagtgcct ttatccctgc ccgaaccgtc ggggtgataa 480

ccccgaacag ttcgcagatt tcccactcgg tcatggcggt tgcgcctatg tcggtcggta 540

gggagatatt gccgtattca tctatcatga tgatgttcct ttcttctttc atcggtatgc 600

tgttttaagg tgactaaatg gctcggcaga tgttcttctc catctcctct aacttgtgcg 660

acaaggtttc catgtcttgg cttatcttct gggcggtgat tttggcgtat atctgcgtgg 720

tcttgatgtt cgtgtgcccc aacaggcggc tcacggtttc gatgggtacg ccgtgcgaca 780

gaagtacggt cgtggcgttc gtgtggcggg caacatgata ggtcaagcgc accttgaaac 840

cgcattgtct gcctatctct ttgagtatct tgttgcaact gccgttgctc ggaacgggga 900

aaacatgacc gtcccttgca agtcccttgt atttctcgat gatacgcttg ggaacgtcca 960

aaagacggat gttcgattcg gtgttggttt tcttccgtcg ggtgattatc cacaggttgc 1020

cgtcgaagaa tgtttgcagg cggtcggcgg tgaggttctt cacgtccgag tacgccaaac 1080

ccgtgaacac ggaaaagacg aacaagtccc gtacgagttc atggtaggtg ttcttcatcg 1140

gtgcgtccat gagcgtctgt atctcctttt gggtaaggta gcccctatcg acgctttcgg 1200

gagagttgat gtaccctgca aaggggttga acggcagacg cccgtcgttc ctcgctatgg 1260

aaacgatgtg tttcagcacg atcatgtagc cccacacggt attggtgcgg catttcttct 1320

ccgtgcgcag gaaatactcg aagtcgttga tgaatgtaag gttgagttcc tttagcggaa 1380

tgtcctcacg cttgtaggta tggggcagga actcccgaat gtggttgcag accgtccgat 1440

aacgggtgaa tgtcccctgc gccctgctgt gcccgacctt cttggcgaac tcggcgttgt 1500

gctgctcgaa cagcttcagc aaggtttcct gcttgacgcc gataccgaga taggcgtctt 1560

tgagcttggc ggcggtaaca tacccgtccg tctgcatcag ttcttggtag cggcggttta 1620

cctccactcg gattttatcc accgcgaggt tgattctctg cgcttcgacg ctcttgcccg 1680

aagcacggtt gtttttcacg tcccacaacc gcaggggaac gtccatcttg caactgaact 1740

gtttaatctc tccgtccacc gtgaggcggc acatcaaagg caggttgccg ttcggcttct 1800

cgctgccttt cttcacgtaa aataagacct tgaatgtact tcgcataact cactcctttt 1860

tttggttaca aaattagtt 1879

<210> 14642
<211> 407
<212> DNA
<213> Bacteroides dorei

<400> 14642
tcgttcaagg taaacaccga gcttgaaaaa tggtatgact tcggcatcgg caaaggcgga 60

aacatcctcg cattggcagc ggaactctac cgttcggaag atgtagccta tctgttgaga 120

cgcatagagg agcggacagc atacatccgc cctgcatcgt tctcttttgg cagacagcat 180

tccgacaatc gtacttatca gggattaaag gttggagaat tgtcctcccc tgctcttata 240

gcctatctgc aagaaagggg aataaacatc ggacttgcca aaagagaatg cagggagctt 300

cggtttatga atgccgacaa accctatttt gccatcggct ttccgaacat ggcaggagga 360

tatgaagtgc gcaacagata cttcaaggga tgtgtcgccc cgaaaga 407

<210> 14643
<211> 202
<212> DNA
<213> Bacteroides dorei

<400> 14643
caaccagata attacccagg tggcgtacat gatatgccag cagcagcctt ccgcttccgc 60

atgtcgggtc acagatacgt tttcctgtcg ctgtctcccc cgaatcggta cataagacca 120

tcaggtcgca gatatccggc ggagtgaaga actgtccgtt cacctgccga ccgcttttgg 180

aggatattgc catgaagagg tc 202

<210> 14644
<211> 179
<212> DNA
<213> Bacteroides dorei

<400> 14644
tgtgcgggcc cccgtcaatt cctttgagtt tcaccgttgc cggcgtactc cccaggtgga 60

atacttaatg ctttcgcttg gccgcttact gtatatcgca aacagcgagt attcatcgtt 120

tactgtgtgg actaccaggg tatctaatcc tgtttgatac ccacactttc gagcatcag 179

<210> 14645
<211> 223
<212> DNA
<213> Bacteroides dorei

<400> 14645
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aatatccggg gaaagttttt ttccccgctt ccggtatatg catgctggtt cccttgtggc 120

agcagatgat atgccggaca aagcggtaac acttgcaaag atcagccacg acggtatatt 180

cgttgtccgt atgaggttcg taatatccac aggaaagatt gat 223

<210> 14646
<211> 194
<212> DNA
<213> Bacteroides dorei

<400> 14646
acaaagcggt aacacttgca aagatcagcc acgacggtat attcgttgtc cgtatgaggt 60

tcgtaatatc cacaggaaag attgatacag gatacttcca gaccgttcct tttcaaagcc 120

gccacatctg tattcagtcc ctgtgccggc ttgtagccgt acttccggac atctatagct 180

gaaatgaact cgtt 194

<210> 14647
<211> 186
<212> DNA
<213> Bacteroides dorei

<400> 14647
tgtgcgggcc cccgtcaatt cctttgagtt tcaccgttgc cggcgtactc cccaggtgga 60

atacttaatg ctttcgcttg gccgctgact gtatatcgcc aacagcgagt attcatcgtt 120

tactgtgtgg actaccaggg tatctaatcc tgtttgatac ccacactttc gagcatcagc 180

gtcagt 186

<210> 14648
<211> 870
<212> DNA
<213> Bacteroides dorei

<400> 14648
tattcaccgc gccgtggctg atgcgcgatt actagcgaat ccagcttcat ggagtcgggt 60

tgcagactcc aatccgaact gagagaggct ttcgggatta gcaccacgtc gccgtgtagc 120

tgccttctgt accccccatt gtaacacgtg tgtagccccg gacgtaaggg ccgtgctgat 180

ttgacgtcat ccccaccttc ctcacatctt acgacggcag tctctctaga gtcctcagca 240

tgacctgtta gtaactaaag ataagggttg cgctcgttat ggcacttaag ccgacacctc 300

acggcacgag ctgacgacaa ccatgcagca ccttcacaac agccttacgg ctatactgtt 360

tccaatatat tctgttgcaa tttaagcccg ggtaaggttc ctcgcgtatc atcgaattaa 420

accacatgtt cctccgcttg tgcgggcccc cgtcaattcc tttgagtttc accgttgccg 480

gcgtactccc caggtggaat acttaatgct ttcgcttggc cgcttactgt atatcgcaaa 540

cagcgagtat tcatcgttta ctgtgtggac taccagggta tctaatcctg tttgataccc 600

acactttcga gcatcagcgt cagttacaat ccagtaagct gccttcgcaa tcggagttct 660

tcgtgatatc taagcatttc accgctacac cacgaattcc gcctacctct gttgcactca 720

aggtcgccag tatcaactgc aattttacgg ttgagccgca aactttcaca actgacttaa 780

caacccgcct acgctccctt taaacccaat aaatccggat aacgctcgga tcctccgtat 840

taccgcggct gctggcacgg agttagccga 870

<210> 14649
<211> 241
<212> DNA
<213> Bacteroides dorei

<400> 14649
ctccagtgag ctgccttcgc aatcggagtt cttcgtgata tctaagcatt tcaccgctac 60

accacgaatt ccgcccacct ctactgcact caagactgcc agtatcaact gcaattttac 120

ggttgagccg caaactttca caactgactt aacaatccgc ctacgctccc tttaaaccca 180

ataaatccgg ataacgctcg gatcctccgt attaccgcgg ctgctggcac ggagttagcc 240

g 241

<210> 14650
<211> 191
<212> DNA
<213> Bacteroides dorei

<400> 14650
tggtacatac aaaattccac acgtggaata ctttattccc atataaaaga agtttacgac 60

ccatagagcc ttcatccttc acgctacttg gctggttcag gctctcgccc attgaccaat 120

attcctcact gctgcctccc gtaggagttt ggaccgtgtc tcagttccaa tgtgggggac 180

cttcctctca g 191

<210> 14651
<211> 305
<212> DNA
<213> Bacteroides dorei

<400> 14651
agaaatacgg agggcgacac gagcatagcc acctgccgga gcacggaagg gtgtgcaaac 60

aggaaaaaat atgtatgtcc caaatgtggg aagatacata ccttcccgga tgcggcattc 120

tgcaagaact gtcaggatat gtactatgta tctaccgtat ttgggaaagt cctgaaagga 180

ttatcagtgg aatataaagg aaagaaatat ccgtctttcc tctttcgtaa agggcgtccc 240

gtaccggaat tcagacgata cctgcaaatc gaaaaattgt tcatttccta aaatatcatt 300

atcat 305

<210> 14652
<211> 347
<212> DNA
<213> Bacteroides dorei

<400> 14652
ctctttcgta aagggcgtcc cgtaccggaa ttcagacgat acctgcaaat cgaaaaattg 60

ttcatttcct aaaatatcat tatcatggaa aaactaatgg ctctttacgg catttcttcc 120

ccctctggca gagaggggaa gatggctaaa ttcatcatag aggaactcaa aaggatggag 180

attcctttcc ggcaagacag gtacggaaac atctatgcgg tcaaaggcaa ccgggaaagc 240

taccccctgtg tcgtggcgca catggacgag gtacaccggc gcaagacagg ctcttatgca 300

gcccatcttg tggcggactc gatgattgtc ggctatgatc acaagcg 347

<210> 14653
<211> 263
<212> DNA
<213> Bacteroides dorei

<400> 14653
atggtggcgt ttttcagtcc ccgttcagcc gtaagataag ccgcaaactc cttgatgaag 60

tcgggcgtaa gttccagcat ggacatgtcc gtccgtctgt agaatgactt gataaaggct 120

gcgacatagt tccttgccct taccatgacc ttgtacgtgc cgatgctgcg gtctttaccg 180

acacgtttca ggaagttggc gcaatccttg tcaaaagcct ttatcagtgt ctcatactcg 240

cttcctaccc cttggtaggc att 263

<210> 14654
<211> 1101
<212> DNA
<213> Bacteroides dorei

<400> 14654
atcatccttt atatcaaagt tccgcctgtg ttgctcggaa tatattttac cgctacattt 60

cagggcttct tttttgacta taagactttc agtcatttct ttagagaatc ccagcatggc 120

acaaaacttt tccatgcgca gcatttccct gaacatcgga aaccacctga aagccttgtc 180

tatgattctg gcgagccgtg acagttcttt ttctttcatg tcaagttcct gcctgtgcat 240

ttctctgaga ttgtggattt gcgtatcatg ctgtttctgc atctgctgta cttggctctg 300

caatttttca atattggtgt tccgttttga aacctcgtct tgcagttttt cgttggcacg 360

ttccagttct ttcagtttc cactcccgaa aagagaagca actccactag ttatggctgt 420

cgctgccgtg gtggctgtct tctttaactt gtcagtgcgt atttctgatt tcacctgttt 480

cagttcctgc tcggcaagat ttatctgttc ttctttgtgc cgtttggctg catccatgcg 540

ttgcagttca gctttctgct tctcaatgat aaagtcgttc cgttccagat gctccttacc 600

agtgacagcc tttgactgcc cgcgttccat cagcaggatg tcggatgcaa gggtctgcat 660

ctgcatcatg tcatcgtcat tgagctttcg gctctttcct gtttcgtggt tcatccagtc 720

gaaaacgata tgggcatgat agttcggctt gaaccatctg tccccgactt tgaagctttc 780

cctgtcttcc gcttccggct gaccgttcag ccaatgccct tcatccttgt gcaggaagat 840

ttgcagcggt gtgattcccc agcgtctttg acactcctca ccgaatttac gcacgtctgc 900

cagtgtggtg tccgacctga caagcagcac tccttcacgt atgggggagc atcccgcaat 960

cttgactatt ttaccgttct tgcctttgcg ttcacgctcc ttttcctgca tggcacgtcc 1020

ggtcttttcc tttaccatct gtctgatatt gtcataatgc atccgcaaat ccggactgcc 1080

gaagtcggga tttatccact g 1101

<210> 14655
<211> 321
<212> DNA
<213> Bacteroides dorei

<400> 14655
gccaatgcca tattggtaaa tttcttgaag catttcatat aacggactat cgtgttccgg 60

cacagtcccg cctccgtttt caggtagatg tcaaacgcac ggatgaactc cggtgtcagc 120

tcatggaaag tgacatcctc ctttccgtaa taagagggga tgagcagctg taatttcttc 180

accacgttct tataccggtt gatcgtgacg ggagagtagt ctatacccgc cagtatttcc 240

atttccttga tgccttccct catggtgccg agcagtgtac gcatttcggt gtctttcccg 300

aaaacacgtt taagaatcag t 321

<210> 14656
<211> 211
<212> DNA
<213> Bacteroides dorei

<400> 14656
acgatgttcg gcaacaagct gaacgcatcg ttcggaagtg taaccccata accaagcata 60

gccatgaaac gaagcatcat aacaacagac ggtaacggca acatcatcat gccgaccgac 120

attagcgcaa ccgccatgag cgaatgggaa ctttgcgacc tgttcggagt aaccgccccg 180

acattccgtg cagggctgaa ggctctttgc a 211

<210> 14657
<211> 186
<212> DNA
<213> Bacteroides dorei

<400> 14657
caaacagcag ggtatcaacc tttggtacaa atctcccttg agggaagaaa cagaggcttc 60

cttcaaagtg aacaccgaac gcaacctatg gtatgatttt gatgcgccca tataggctac 120

acaataaata tctctatggc aagagattag gttagagttc aacagaccta tcctcaacga 180

cttagc 186

<210> 14658
<211> 186
<212> DNA
<213> Bacteroides dorei

<400> 14658
caaacagcag ggtatcaacc tttggtacaa atctcccttg agggaagaaa cagaggcttc 60

cttcaaagtg aacaccgaac gcaaccagtg gtacgacttc gatgcgccca tataggctac 120

acaataaata tctctatggc aagagattag gttagagttc aacagaccta tcctcaacga 180

cttagc 186

<210> 14659
<211> 285
<212> DNA
<213> Bacteroides dorei

<400> 14659
ctccaaagtg gtgtatctgc ggttaaaaca ttgcggattg tccaggcaat aggcattcaa 60

ggcatatctg tatggggcat attcaggatt atcctctttt gtgattttca catgccaagg 120

aaagtgtatc cgcagagtga atgaccgtgt ttccccttttt gtaatccgtt cctcttcctc 180

cagcattttt ttcacgaggg acctgtccag caacggatat ccatattccc tgtaatgttt 240

gatatggcag caatactccg ttgcgtattg cttcaattct tccgg 285

<210> 14660
<211> 368
<212> DNA
<213> Bacteroides dorei

<400> 14660
cggattgaag gaactccagg cgtatgcgtc gcaagcctgt ttccacatat catccaaata 60

ggcaggatgt ttgaatgcta cggcttgcca gtctttgaaa tccctggaat gcaattcatt 120

ccgttcttcc ggattcccat acaggtgtgt gtaattggac attccatgat gctcctttct 180

gaaaaggaac ggtacggggg gatagtccgt accttttttc cggatcatcg tgaccctgtg 240

tgcattctct atggttaggt ctgctacttg ttcctcgcag atctttgctg ttgtttcatt 300

cataatcatt actttttaa atgtcagccg taaatcattt cttccagttc atcgtccgtc 360

aacaggcg 368

<210> 14661
<211> 305
<212> DNA
<213> Bacteroides dorei

<400> 14661
tccgtcatgc ggtctgcata catgattact tttccattga tattgcgggc ggcgcgtcct 60

gctgtctggg tcagcgaacg gtgggaacgg aggaaccctt ctttgtctgc atccagaatg 120

gcgaccaaag acacttcggg caagtccaga ccttcacgaa gcaagttcac acccaccagt 180

acatcataaa cgccctgacg taattcatcc ataatcttaa cgcgttccaa agtgtccaca 240

tcgctgtgga tgtagttgca gcggatgtca ttgcgcagca gatattcggt caattcttct 300

gccat 305

<210> 14662
<211> 305
<212> DNA
<213> Bacteroides dorei

<400> 14662
ggcttgtagc cgtacttccg gacatctata gctgaaatga actcgttgga gcagagcttc 60

atcccattga tttgtgttac catatctccg ttccctttcc ggtcacactg aatcacgaac 120

cggcaatcgg aaaagaagga catatcggca tggctgctgc ctatgcatcc cacctcctcc 180

tgtacgaaga aggcgcattt caccgtcttg caatcctcaa ggcatttcag gcagatccag 240

atgccgttct tgtcatccgc accgattccg gtcatccgtt tacgcttgtg atcatagccg 300

acaat 305

<210> 14663
<211> 254
<212> DNA
<213> Bacteroides dorei

<400> 14663
tttcttatcc accagtctcc gagattgtcc tgtaccagat tctctttgtt cagactggca 60

acatcggaga atgccagacc ggtgaaacac gcgaagacaa agacatccct gaccagttca 120

agccgtggaa tggtgaattt ctttttcatt acggtctgca actcgtcata ggtcaggaat 180

accggatcgg tctcgtcctg ctccatcttg taaccgtaaa agggattctt gcgcatccat 240

tcctttgcca atgc 254

<210> 14664
<211> 204
<212> DNA
<213> Bacteroides dorei

<400> 14664
taagaaattg aaaggacggc aggatattgt gaattataga ttacaaaaaa agccatccct 60

agggggacgg cttaatgact gaatttatat acttattgtg caagacgctc cttcacgctg 120

ttcattgctt ctttcaggct gctgttcatg acccgtgcat aatgctgtgt catacgtgtg 180

gaggcatggc cgagcatgac ggaa 204

<210> 14665
<211> 434
<212> DNA
<213> Bacteroides dorei

<400> 14665
tccactttct gcaaatcttc aatgcataca tcataaatag aatcacggga aaccaaacct 60

ttaggcacaa caccataaac gccaacgtaa ggaacatctc caaaattttt acacagttca 120

cgataagccg tagcacgcat agctaccgcc tcaccataca tttgccccat ctctgattgt 180

ccaccattga tgatcgattc aaaattttcc gcattttcca tggatgttat caccgcattg 240

gctttgctta caaccgcata caagctagca taaatatcat tctccttcaa atacgaagtc 300

aatccataac tacttgcata tgtaccgttt tgataaagac attccggata atggcgcccc 360

aactgattag agaaagactc cgggtgccgt tctatatcag acccggcaat atcagcagca 420

taaaacaatc catc 434

<210> 14666
<211> 342
<212> DNA
<213> Bacteroides dorei

<400> 14666
ggatcggcta actccgtgcc agcagccgcg gtaatacgga ggatccgagc gttatccgga 60

tttattgggt ttaaagggag cgtaggtgga ttgttaagtc agttgtgaaa gtttgcggct 120

caaccgtaaa attgcagttg aaactggcag tcttgagtac agtagaggtg ggcggaattc 180

gtggtgtagc ggtgaaatgc ttagatatca cgaagaactc cgattgcgaa ggcagctcac 240

tagactgtca ctgacactga tgctcgaaag tgtgggtatc aaacaggatt agataccctg 300

gtagtccaca cagtaaacga tgaatactcg ctgtttgcga ta 342

<210> 14667
<211> 263
<212> DNA
<213> Bacteroides dorei

<400> 14667
atggtggcgt ttttcagtcc ccgttcagcc gtaagataag ccgcaaactc cttgatgaag 60

tcgggtgtaa gttccagcat ggacatatcc gtccgtctgt agaatgactt gataaaggct 120

gtgacatagt tccttgccct taccatgacc ttgtatgtgc cgatgctgcg gtctttgccg 180

acacgtttca ggaagttggc gcaatccttg tcaaaagcct ttatcagtgt ctcatactcg 240

cttcctaccc cttggtaggc att 263

<210> 14668
<211> 257
<212> DNA
<213> Bacteroides dorei

<400> 14668
tcggatgtgg agaagcgtgc tcctgcgaag atgatgaccg ttccgttctt acgggtgggt 60

atctctatcg gagtgggcag gattgtctca caccatactt tcgtgtcgtt catataggca 120

tcggacacga ccgctccctg tcctcccgcc tcacggatga aagcggtcag gatatccacc 180

gagttcagcc gacggtagga gtccgacaat acgccccgga cttccattcc taccgcccgt 240

atcagtaccc gtgtacg 257

<210> 14669
<211> 257
<212> DNA
<213> Bacteroides dorei

<400> 14669
tcggatgtgg agaagcgtgc tcctgcgaag atgatgaccg ttccgttctt acgggtgggt 60

atctctatcg gagtgggcag gattgtttca caccatactt tcgtgtcgtt catataggca 120

tcggacacga ccgctccctg tcctcccgcc tcacggatga aagcggtcag tatatccacc 180

gagttcagcc gacggtagga gtccgacaat acgccccgga cttccattcc taccgcccgt 240

atcagtaccc gtgtacg 257

<210> 14670
<211> 290
<212> DNA
<213> Bacteroides dorei

<400> 14670
gaaattcaag gagcatcgga gatagacgtg gatttcgaca aggaactgaa gaatctggtg 60

cagaaaggag ccttgttgaa aaacgaggga cgtgaggtcg agaaactgct gatgaacaac 120

aatcctgacg acggagttac aggcggggcc acgctatgga aactgacaca gggaatcacc 180

gcctttgcaa gggaacagca gccagaacgc tgccgggaac tgcatgaaat ttcgggacag 240

ctgatgaacc gggtaaagat aaattaagag aataacaacc gaattgtatg 290

<210> 14671
<211> 287
<212> DNA
<213> Bacteroides dorei

<400> 14671
aaaataaaca gatcccgcac caatgcgagg gtggggttgt caaactcgtg cgccatgatt 60

cttttgattt cgtcctctgt cagatactcc cgttccttaa cattcgggct gatatggaac 120

tgcgcaaacg gatttctcgg tatcagtccg ttatagtgcg cacgcatgac cacccctttc 180

agccacatgc agttcagcca gatggtggcg tttttcagtc cccgttcagc cgtaagataa 240

gccgcaaact ccttgatgaa gtcgggcgta agttccagca tggacat 287

<210> 14672
<211> 244
<212> DNA
<213> Bacteroides dorei

<400> 14672
tatatcaccc gtggcggtga ctattatccg caggcacaca ttgaaagggg cgatgaccgg 60

gaagttcata tctgccttct cccacagaca cctttttgcc atgaaaatga aaagtgtacc 120

ggttacaata ccgaaggagg cccttgggtt acaaccggtc cggaattgct gattcccgat 180

ggcatacgca gcaaacagtt ccggatgtgg gggcataccg gaaggcacag gaacggtgcc 240

gtcc 244

<210> 14673
<211> 224
<212> DNA
<213> Bacteroides dorei

<400> 14673
ttttgcagga agtcggtatc atcggactgc aagcggtcta tcttgcgcac ccaatagcgt 60

gtttcccctg cgtctatgat tacgggcaga tgctcgttgt tggaacacag cacgaatttg 120

gcgaagaacg caatctcatc acggtctttg cctttggctt ccaccttata ggaaagtgtg 180

gtgctgaggt tcttcaaccg ctcgctatcc tccctgcggt tgag 224

<210> 14674
<211> 199
<212> DNA
<213> Bacteroides dorei

<400> 14674
tgcgtcccac tcccggcagt ttaatcagtt cttccaatgt tcccggtact tcgctatgaa 60

aatccttcac cagcatttgc gccatgccta ctagatgttt tgccttgttg ttaggataac 120

ttacactccg tatgtattca taaatcactt ccggcgtcga agcggccagt gcctcaggag 180

tcgggaaatc ccggtaaag 199

<210> 14675
<211> 293
<212> DNA
<213> Bacteroides dorei

<400> 14675
cgaattaaac cacatgttcc tccgcttgtg cgggcccccg tcaattcctt tgagtttcac 60

cgttgccggc gtactcccca ggtggatcac ttaacgcttt cgctgtgccg cttacactgt 120

atcgcaaaca gctagtgatc atcgtttact gcgtggacta ccagggtatc taatcctgtt 180

tgatccccac gctttcgtgc atcagcgtca gtcatggctt ggcaggctgc cttcgcaatc 240

ggggttctgc gtgatatcta agcatttcac cgctacacca cgcattccgc ctg 293

<210> 14676
<211> 240
<212> DNA
<213> Bacteroides dorei

<400> 14676
catttcttcc agttcatcgt ccgtcaacag gcggatctct tcgtccgaac aatagtaagc 60

gatttcttcg tccaaatcga atgctgtcgg atcaaggctt ctgatgccat ccagcagttc 120

ctgttccagt ctttctacgg aaaccagata gttcccatct ttgccttgca cttcccgtgc 180

aggatagctc atttcccgat aaaccaacat cgtcatttcc ggattggctt cctgctgtcc 240

<210> 14677
<211> 194

<212> DNA
<213> Bacteroides dorei

<400> 14677
aacgagttca tttcagctat agatgtccgg aagtacggct acaagccggc acagggactg 60

aatacagatg tggcggcttt gaaaagaaat ggtctggaag tatcctgcat caatctttcc 120

tgtggatatt acgaacctca tacggacaac gaatataccg tcgtggctga tctttgcaag 180

tgttaccgct ttgt 194

<210> 14678
<211> 368
<212> DNA
<213> Bacteroides dorei

<400> 14678
cgcctgttga cggacgatga actggaagaa atgatttacg gctgacattt aaaaaagtaa 60

tgattatgaa tgaaacaaca gcaaaggtct gcgaagagca agtagcagac cttaccatag 120

agaatgcaca cagggtcacg atgatccgga aaaaaggtac ggactatccc cccgtaccgt 180

tccatttcag aaaggagcat catggaacgg gcaactatgt acacctgtac ggaaatccgg 240

aagatcacaa tgaattgcat tccaaggact tcaaagactg ggaagccgta gcattcaaac 300

atcctgccta tttggatgat atgtggaaac aggcttgcga cgcatacgcc tggagttcct 360

tcaatccg 368

<210> 14679
<211> 285
<212> DNA
<213> Bacteroides dorei

<400> 14679
ctccaaagtg gtgtatctgc ggttaaaaca ttgcggattg tccaggcaat aggcattcaa 60

ggcatatctg tatggggcat attcagaatt atcctctttg gtgattttca catgccaagg 120

aaagtgtatc cgcagggtga atgagcgtgt ttccccttttt gtagtccgtt cctcttcctc 180

cagcattttt ttcacgagag acctgtccag caacggatat ccatattccc tgtaatgttt 240

gatatggcag caatactccg ttgcgtattg cttcaattct tccgg 285

<210> 14680

<211> 521
<212> DNA
<213> Bacteroides dorei

<400> 14680
aaactgcgtg ttgtttcctc cttcttgatt tcatactcgc ggaacgggtc gcgcgtcagc 60

cactcgttgt tgatggcgat gaataccatc gtccgtaacg ggcagacgta cagccacacg 120

gtattggtgc agcagtgctt gtccgtgcgc aggaacatct cgaagtcgga gatgaaagcc 180

ggggtaagct cttttagggc gatgtccttc acatggtagc ggatgtcgag gaactcttgc 240

atgtgcttgt aaacggtgcg gtacttcagc agcgtgcctt tggctttcat gcctgcctcc 300

acctgcttct cgtagtcctc gttgtgctgg cggaacacct gcatcagcgt gtggtagcgg 360

tgttccagtc cgagaaaggc gttcttcacc ttctccgccg tgacgaagtt gtcacgctcc 420

atgatttcct gataatgcct gttgatgcgt acccgcatct tgtcaagcat acggttcgtt 480

tcgagtgccg ccgtgcttct gcccgtgaca cgtccacctt t 521

<210> 14681
<211> 216
<212> DNA
<213> Bacteroides dorei

<400> 14681
acagactcca caccatgtaa gctgtaatag gctgcaatct gtcgggcgtg tgcaatactt 60

acggcataga caattccttt cttcccggca gcatatcttc ggacactctc gtacaattgt 120

ctaatgccgg tttcccgatt taacaccgca ttcatttcct ttacctgata atccccgtcc 180

gcaccccgtt tcttcaacga gtcaatcagt cgctgt 216

<210> 14682
<211> 224
<212> DNA
<213> Bacteroides dorei

<400> 14682
ttttgcagga agtcggtatc atcggactgc aagcggtcta tcttgcgcac ccaatagcgt 60

gtttcccctg cgtctatgat tacgggtaga tactcgttgt tggaacacag cacgaatttg 120

gcgaagaacg caatctcgtc acggtctttg cctttggctt ccaccttata ggaaagtgtg 180

gtgctgaggt tcttcaaccg ctcgctatcc tccctgcggt tgag 224

<210> 14683
<211> 173
<212> DNA
<213> Bacteroides dorei

<400> 14683
ttgccttgag tggcatacat ataataaggt actgaagcca tgaaacgggt tatgttgccc 60

ggacagcagg cacatccgaa ccagtgctgg cgctcatgct gccccatgga ttccaacgga 120

ttgtcataga agaacttgtc accgctgagt gatacgcccg aaatgacccc gtt 173

<210> 14684
<211> 210
<212> DNA
<213> Bacteroides dorei

<400> 14684
caatgatgga gacgtcttta tagtcatgtc tcgaaatcgc agaatagtcc gtatgttttc 60

atttgataat cgttcatata gtctgttcga aaagaagttt gtagcaggct atcagttcat 120

gaaagtagag cggaacgggg cagatactgt ttatcggatt gcctggaagg acgtggtttt 180

gattcttgag aatcctatag ttaaaacatt 210

<210> 14685
<211> 196
<212> DNA
<213> Bacteroides dorei

<400> 14685
tgaaaggttt tgcacagcgt accagtaatg aatggccggg agtcggtatg agtgttcctg 60

catggctgag tgattatagc aacggtttga tggtggaaga taatgccaat ttggttcgtt 120

ggatgcatat cacccccttgg aagcaggata ttgaatcgtg tgaccgtgtc ggattgattc 180

aggcgatgca ggccgg 196

<210> 14686
<211> 254
<212> DNA
<213> Bacteroides dorei

<400> 14686
tttcttatcc accagtctcc gagattgtcc tgtaccagat tctctttgtt cagactggca 60

acatcggaga atgccagacc ggtgaagcac gcaaagacaa agacatccct gaccagttca 120

agccgtggaa tggtgaattt ctttttcatt acggtctgca actcgtcgta ggtcaggaat 180

accggatcgg tctcgtcctg ctccatcttg taaccgtaaa agggattctt gcgcatccat 240

tcctttgcca atgc 254

<210> 14687
<211> 226
<212> DNA
<213> Clostridiales bacterium

<400> 14687
aataagaagc cccggctaac tacgtgccag cagccgcggt aatacgtagg gggcaagcgt 60

tatccggaat tactgggtgt aaagggagcg taggcggcac gccaagccag atgtgaaagc 120

ccgaggctta acctcgcgga ttgcatttgg aactggcgag ctagagtaca ggagaggaaa 180

gcggaattcc tagtgtagcg gtgaaatgcg tagatattag gaagaa 226

<210> 14688
<211> 350
<212> DNA
<213> Clostridiales bacterium

<400> 14688
ctctatctct agagcggtca tcgggatgtc aagccttggt aaggttcttc gcgttgcttc 60

gaattaaacc acatgctcca ccgcttgtgc gggcccccgt caattccttt gagtttcaac 120

cttgcggtcg tactccccag gtggagtgct tattgcgtta gctgcggcac cgaggattcc 180

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agcatagtat catcggccgc ttaagtctta accatcgtgt tcgggatggg aacgggtgtc 180

tcccctaagc gcatcgccac cggaaatatg ttgttatctg ttttttattg ataactcaac 240

agtgaaacac ttcttaacta cttcttcttc cttagaaagg aggtgatcca gccgcacctt 300

ccgatacggc taccttgtta cgacttcacc ccagttatcg gtcccacctt cggcagctcc 360

ctccttacgg ttgggtcact gacttcgggc gttactgact cccatggtgt gacgggcggt 420

gtgtacaaga ccc 433

<210> 14821
<211> 408
<212> DNA
<213> Clostridiales bacterium

<400> 14821
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catggtgtga cgggcggtgt gtacaagacc cgggaacgta ttcaccgcag cattctgatc 120

tgcgattact agcgattcca gcttcatgta gtcgagttgc agactacaat ccgaactgag 180

acgttatttt tgagatttgc tcacactcgc gtgatcgctt ccctttgttt acgccattgt 240

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gggttgcgct cgttgcggga cttaacccaa catctcacga cacgagct 408

<210> 14822
<211> 1156
<212> DNA
<213> Clostridiales bacterium

<400> 14822
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tccagtaagg tctcgttttt tgttctgcca tcttccaatt ctctgctttc aatgacaata 120

tatttcgtta tcattttccc aactttttgg gaatacgcct gtatctgatt gatttttatt 180

tttcgccctt gcatcagcag ggctttctgt aatttgtaaa cagttgttct tatattcatt 240

tttccgcccc gctttctttg taatgaaaaa ggcacccgtt tccgagtgcc caaaatagga 300

ggtaacatga aatatcctgt gttctcataa ttttcacaat actataatac catatttcga 360

tgtgcccttt agtgccctct ttcagaaatt tcaaaacttc ttaaagctct gccatgaatt 420

ttcaatacag aacggtagtt gtaatccata tccaccgcaa tctgctccca tgtccttccc 480

atcagatacc gccgaatcag cacttccttc tccgccccgt cctgcatctg atgtatcctg 540

tcatggattt ccttgtactg ccgtaccgcc atagcctgct catgctccag ctggctgatg 600

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<210> 14823
<211> 546

<212> DNA
<213> Clostridiales bacterium

<400> 14823
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ttgtatacaa aatgtttaca agcagcggaa gggtttggga aacgaagcgt ttcctaagta 180

aaacccgcag agggggcttt gcccactcga ggaaaacagc gagtttcaag gctttctagc 240

cgatggaact cgtctgttta ttcctctgct taaacaagtt gaaatcttga tttcaactta 300

gggggcgact ttgtcgacac cctctaaaac tgctctgcca atgccaatgt cagcagcaga 360

cctgccattt ttgcggattg ggcggagggc aaatcttccg gtgcgccgcc ctcggcactg 420

cgcgccgcca gaagattgcc ttcggagaaa tccgctacac ctctttgcac atgctgtagg 480

gtgtgcagaa acatcagccc ctttgtcatg cggtccagct gtgcccgtcc gccctcatcc 540

ataaag 546

<210> 14824
<211> 328
<212> DNA
<213> Clostridiales bacterium

<400> 14824
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ttcgctgggt gttacggttt gtgtgctatg ccgtagcggc aatcgtagcg gatctgacgg 120

ttatcggtgc aattctgtat tactttggag atatgtacat tatggcggct ctgggcgtgt 180

gtctgggagt gaatgttctg acggagtatt tcttcttcaa ggatgaattt cgcagaaagc 240

gggtgcagga atgaaggaca caggatggag catttacccg aatctggaga aatggatatg 300

gatgaactgt aaatctatca gtgacttt 328

<210> 14825
<211> 191
<212> DNA
<213> Clostridiales bacterium

<400> 14825
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ccttaccagg tcttgacatc ccgatgaccg gcccgtaacg gggccttctc ttcggagcat 120

tggagacagg tggtgcatgg ttgtcgtcag ctcgtgtcgt gagatgttgg gttaagtccc 180

gcaacgagcg c 191

<210> 14826
<211> 215
<212> DNA
<213> Clostridiales bacterium

<400> 14826
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cggctccgtg gcttctgacc acttaacctc gctggcatta gtaactcgcc ggaccgttct 120

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tctctttcac tcccctcccg gggtcctttt cacct 215

<210> 14827
<211> 399
<212> DNA
<213> Clostridiales bacterium

<400> 14827
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tttgagctct acacaggtga ggatgattat gtggggtgcc tgagccgaga gctgacgctt 120

ttccggccca gctaccatat cgactgcaat ggctggcgta ttgagggcag cttttgggaa 180

tgggactatg acatccttgc ccccagcggg cataccgtgg cgcatatcgc caaggagctt 240

tggaattgga ccgatacata caccattgag gtcgccgacc caagagatgc cctctgcgcg 300

ctgatggtcg tgcttgcgat cgatgcggag aaatgctcgc ggaataacca tacctgacag 360

gctgcacaca aaaaatactc ccttattctg ctgcgtgcg 399

<210> 14828
<211> 154
<212> DNA
<213> Clostridiales bacterium

<400> 14828
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aacggaaacg aatgctaaaa agacaaattt tgccggttta gaaaaaccgg agttagccag 120

aagaactggc taggaacaaa actttaacat aaga 154

<210> 14829
<211> 233
<212> DNA
<213> Clostridiales bacterium

<400> 14829
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gcgcttttct cttttcaaag gagaaagcaa aaatgaatga aagatgttga caagcttcta 120

aaagtttgat aagatacatc ttgtcgaaaa aacgatatgc gcgagtggct cagtggtaga 180

gcatcgcctt gccaaggcga gggtcgcgag ttcgaatctc gtctcgcgct ttt 233

<210> 14830
<211> 194
<212> DNA
<213> Clostridiales bacterium

<400> 14830
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ttcttattca ggtaccgtca ctttcttcgt ccctgttgat agaagtttac gatccgaaaa 120

ccttcttcct tcacgcggcg ttgctgcatc agggtttccc ccattgtgca atattcccca 180

ctgctgcctc ccgt 194

<210> 14831
<211> 212
<212> DNA
<213> Clostridiales bacterium

<400> 14831
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tgtatttgct ccgcaaacct acctaaaacc tctttgtcag cctgtcttgc aagcaatcca 120

ttctgacaaa agcttttatg cagcttttct ccgcttttct ccatagaaag gaggtgatcc 180

agccgcacct tccgatacgg ctaccttgtt ac 212

<210> 14832
<211> 1322
<212> DNA

<213> Clostridiales bacterium

<400> 14832
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catcgtctgc gcaatgaagc gcaggggcac aagcgtccgc cccgttctct cgtcaaggat 120

gggtgcctgc tccatcagcc gcttgccgcc gtccaccagt gccgtctggc tgccgatgga 180

aagttcaatg tcatgcgccc tgctgcggat gataatgcgg cggctctttg ccagccattc 240

caccctgcat ccaaggctct cgcccacaaa gcgcaggggc accaaggttc gccccgtctt 300

ttcgtctaca atgggcggct ggtcaaggga aatctccttc ccgtcgtcaa atgccttgtc 360

cttcccgatg aaaagctcca ccgccgtccc ctgcaaatcc tcccttgcaa ggtcaatcgc 420

ggtgtacatg tccatcacaa accccatccc taggtccttc gtgcggtagg tgatgtattc 480

gtagggaatc cagaaaaagc ccttgtcgcc ccagtcctcg ccccagctgt tctggcattc 540

cagaaagccc ttgtagtgtc tgccgtggat cttccgctcc ttcgtatcat cgtagccgat 600

aatcagcacg gcatgtccgc cgatcaggaa tgtccctaag ggaagcccaa tacatccttc 660

tgtgggcgaa tagatttcct ccgaacaggt catccctaaa agcacgggat tctgattggc 720

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cggaaggtgc tcctcctcct ccgccgatac tgccatcggg ggaaaggtca gcttgcctgt 840

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cagtaatgtt aaaggttcgt tcatttcctt ccctcccttg cttttaaaag cctgtctgtc 1260

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cc 1322

<210> 14833
<211> 1562

<212> DNA
<213> Clostridiales bacterium

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ttccagtcgc tcgttacctc aaaatgggag cggtcgggcg tgtcccatct gccgccccat 120

gtaatcccaa gccgcgccgc aatccttccg catctgtcga aaaatgccgc atcggcgtat 180

tcctgccctt ttctgttctt gcagatatcc cacgccagcc gtccggtgtg gcggcttttt 240

ctcgtccatg tcacaatcgt gccggctctc gtcctgccct gtgcgtaaag gtagtcctgc 300

cgctcctgtg tgcggtaggt ctccgtaatc aaaacggcaa gcccttccct ttcgcactca 360

cgcagaaacg ccctgcacgc cgcctgcgcc gcaggcaaaa gcgcgccgat gtctctgcat 420

gccttcgtct catttgccat cgtcctcgcc cccgatgttt gccgcagcgt caatccgctc 480

cgctgcaatc ttcagtccct taatcagcat aggcggcacg tttacgccca tttccaccaa 540

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gatgtaaaag gcgatagcga tcaccaccca gtaccagacc ttcttcatcg cgccgattgc 720

gccaaccttg ctgcagcttt ccccccttcat gcggcttttt gcccagcctg tcagccagtc 780

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cctgtctcct ttcatcccat catgccgacc agctcctgat actgctcctc cgtgatgcgg 960

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gccgcccctc cggcaatgtc tccgatggat tcgcaaaaag aaaagccatc tgtatctcca 1380

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ggtcggttgc ggaactactg aaactctttc cttccgtaat cttttccgcc agaatattga 1500

cccaactgtt tcctacctgc aaatttccga aaagatcccg ctggtagatc gtatttctcc 1560

ct 1562

<210> 14834
<211> 758
<212> DNA
<213> Clostridiales bacterium

<400> 14834
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catccgcaca tcggcaaata tctctccgtc tatcagaata cgcatatccc aagcaccttc 120

gccaatattc gcacttgaag aattgtatgg aattacccca aacaaatccg cctgcagcag 180

ctttcccgtt ccgctgatta ccgccatggt atgccatttg ttcggcgtga gggcaacctc 240

ccccgtgcgc actgtctcaa agccgcctgc ggcattgctt tcctgcaatt ccttcaaaaa 300

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cgtcagaatc cgtatcgttt agcatgtatg ttgcatattt cggatatttc tggaaaaacg 420

catactttgc taaatagctg ctccagtcag gcttactgcc gtccgataat gtcgcatagc 480

cgtatttgga tgtgttgaaa gcattgcttt gagaaatttc aagaataata aatttccccg 540

atttgcttgc actgccgccc ttcatctgct tctttctcgt ataaagcgca tccatcgccg 600

tagtgcttgc cgccagcttg ctcaatgccg catccaccgc cgcaattttt cccatggcag 660

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<210> 14835
<211> 642
<212> DNA
<213> Clostridiales bacterium

<400> 14835
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gttgcccttg ccttccactg gcccgaaccg agcgtcacgc cacacgccca cgaaatcagt 180

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catagccaat gcagggaacc gctggataaa taaatcgtag gtctgccgta gcttcagctt 540

ccctgtgccg ctccccaact ccgcttctgc ctgtgtgacc gcccacagca gccattcctt 600

taccctttct ctctgctcgg atgttggcat tttcagaaaa cg 642

<210> 14836
<211> 137
<212> DNA
<213> Clostridiales bacterium

<400> 14836
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gaagaaaagc ttccattacg aagcggtcat cgggatgtca agatcaggta aggttcttcg 120

cgttgcttcg aattaaa 137

<210> 14837
<211> 187
<212> DNA
<213> Clostridiales bacterium

<400> 14837
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cgatgactgc taggtgtcgg gtggcaaagc cattcggtgc cgcagctaac gcaataagca 120

gtccacctgg ggagtacgtt cgcaagaatg aaactcaaag gaattgacgg ggacccgcac 180

aagcggt 187

<210> 14838
<211> 13795
<212> DNA
<213> Clostridiales bacterium

<400> 14838
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atcggcttac tttttttatt agtggtttct ttgggtcttt agctcagttg gttagagcat 120

ccggctcata accggacggt cccgggttca agtccctgaa gacccactta ttcttaattg 180

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tcgaatcctg ctaccctagc ttcgagagtc tgaaaaggct ctctttttt atgcgcttaa 540

gccggtatga aaaaaatctg aggcaatatg tggttgacag aaggagaaaa tcggattata 600

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caagggacat tgaatcgtag ggagaattta ttctccctac ggcatatatt gaaaggagaa 720

aagtatgaga atcggctccg gttacgatgt gcataaatta gcagaaggca gagattgtat 780

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tggaaccgcg atatttttcg tctttgcata tttttgcaag ggcgtttttt attacaaaaa 1560

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