

SEQUENCE LISTING

<110> Institut Gustave Roussy

<120> Microbiota composition, as a marker of responsiveness to anti-PD1/PD-L1/PD-L2 antibodies in renal cell cancer

<130> B180203QTA

<150> EP18306282

<151> 2018-09-28

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<170> PatentIn version 3.5

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 <211> 1986
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 <213> Clostridium bolteae

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<212> DNA
<213> Clostridium bolteae

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 <211> 1464
 <212> DNA
 <213> Clostridium bolteae

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<210> 16
 <211> 2142
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 <213> Clostridium bolteae

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 <213> Clostridium bolteae

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<210> 18

<211> 3777

<212> DNA

<213> Clostridium bolteae

<400> 18

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<211> 4332

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 <211> 1401
 <212> DNA
 <213> Clostridium bolteae

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<210> 30
 <211> 1611
 <212> DNA

<213> Clostridium bolteae

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<210> 31
 <211> 2013
 <212> DNA
 <213> Clostridium bolteae

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<210> 32

<211> 1893

<212> DNA

<213> Clostridium bolteae

<400> 32

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1893

<210> 33

<211> 2481

<212> DNA

<213> Clostridium bolteae

<400> 33

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 <211> 1527
 <212> DNA
 <213> Clostridium bolteae

<400> 34

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<213> Clostridium bolteae

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 <212> DNA
 <213> Clostridium bolteae

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<210> 47
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 <212> DNA
 <213> Clostridium bolteae

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2025

<210> 48

<211> 1566

<212> DNA

<213> Clostridium bolteae

<400> 48

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<210> 49
 <211> 2127
 <212> DNA
 <213> Clostridium bolteae

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<210> 50
 <211> 2109
 <212> DNA
 <213> Clostridium bolteae

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<211> 1410

<212> DNA

<213> unclassified Clostridiales

<400> 51

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 <211> 1269
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<210> 53
 <211> 1983
 <212> DNA
 <213> unclassified Clostridiales

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<211> 1830

<212> DNA

<213> unclassified Clostridiales

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<211> 3096

<212> DNA

<213> unclassified Clostridiales

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<210> 56

<211> 1305

<212> DNA

<213> unclassified Clostridiales

<400> 56

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<211> 2700

<212> DNA

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<210> 58

<211> 1989

<212> DNA

<213> unclassified Clostridiales

<400> 58

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<210> 59
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<211> 2328

<212> DNA

<213> unclassified Clostridiales

<400> 70

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 <211> 1770
 <212> DNA
 <213> unclassified Clostridiales

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<210> 72
 <211> 2160
 <212> DNA
 <213> unclassified Clostridiales

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<210> 73
<211> 1995
<212> DNA
<213> unclassified Clostridiales

<400> 73
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<210> 74
 <211> 4677
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<210> 75
 <211> 1605
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 <211> 1767

<212> DNA

<213> unclassified Clostridiales

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<212> DNA

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 <211> 1137
 <212> DNA
 <213> unclassified Clostridiales

<400> 100
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 ctgatttata acaatgtgaa catgctgatg attgaatccc gccccattgt gggacgaagc 1020
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<210> 101
 <211> 684
 <212> DNA
 <213> Bacteroides faecis

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gggccttcgg gctgtggaaa atccactttg ttgaatattc tgggtttatt ggataaccct 180
acagaagggtt cttaccagct gatgggagag gaagttgccg gattgaaaga gaaggagcgt 240
acccatgtcc gtaaaggcaa attaggcttt gtattccaga gtttcaactt gatagacgaa 300
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cgccgccgta tgggtggaaga tattctgaaa aggatgaata tcagccatcg ggccaaacac 420
tttccgcaac agctgtccgg tggtcagcag cagcgtgttg ctatcgctcg tgcggtagtg 480
actaatccga agcttatcct tgccgatgag ccaacaggta atctggattc aaagaacgga 540
gcggaggtaa tgaatctgct gacggaactg aataaagaag gtaccacat cattatgggtg 600
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gtagtggcaa gtgtaacagc ataa 684

<210> 102
<211> 726
<212> DNA
<213> Bacteroides faecis

<400> 102
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ggttcgggaa aaacgagcct gctcaaaaca ctgtatggcg aactggacgt gatcgacggt 180
gaagcggaag tattgggcta taatatgcgt tcaatcaaac gcaagcatat ccctcagctg 240
agaagaaagc tgggaatcgt atttcaggac tttcagctgc tgacggatcg taccgtatac 300
aacaacctgg aatttgtact tcgtgccacc ggttgggaaga acaagcggga aattcaggaa 360
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gctattattc tggcggacga accgaccgga aatctggatg tggagacagg caagtccatt 540

gttgaattgt tgcacaacat ctgtgaatcg ggttcttccg tggatgatgac gacgcacaat	600
ctgcaattgc tgaagaata tcccggcagc gtatatcggt gctccgagca tcgcataacg	660
gatgtgaccg acgaatacat gcccaggcag agaacaatag aaatagattt aaatatagat	720
aactaa	726

<210> 103
 <211> 681
 <212> DNA
 <213> Bacteroides faecis

<400> 103	
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caccggatga ttcagaataa agaaatagcc cgcgaagcgg cgcaggaagt gtggtatgaa	120
ctttgcaaaa gtttccatag ttttaaaggc gattcggaac tttctacatg gatataact	180
attgcccggc gtaccatcgg caggatgcg gaaggtgaaa ggcagatgaa gatgaccgag	240
gtagaatatt tccgttcgtt gcctgaaatc gaatattccg gtgaggaaga ggcaaagcgg	300
gaatggataa aggaaagatg cgactggtgt attactgctc tgaatcattg tctgaataat	360
gatgcccgac tgatttttat ctttagagaa aatgtagggt tgccctatcg gcaaatcagt	420
gcgataatgg aactgaaaga aagcaatgta cggcaaatct ataaccgttc aattcaaaaa	480
atcactcttt ttatgaatga tacctgtccg ttgtataatt ccggtggtac ctgtaagtgt	540
cgtatttgta aaccggtaca ttccattgat atggataagg aatacgcaat agtgcagaga	600
atgatgaggc tggcagattt ataccgaaa tttgaaaaag agttgcctcg aaaaaattat	660
tgggagagat ttttgctgta a	681

<210> 104
 <211> 702
 <212> DNA
 <213> Bacteroides faecis

<400> 104	
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aaggctacag caggtgagtg gttcatcatg aataatgagg cagacggtgt gacaaccatc	180
gcttgggaac aaaccgggga tgccaaatat ccgaatgcc aaaaaataga taattcgggt	240
gcagaaaaga atacttcctg gtataaagct tttctgggac aacgtattac cgacggcttg	300
gagaaaggta tctatgtgct gactttctat gcaaaagtga aagaagcagg gactccggtc	360
agtgtatata tcaagcagac gaatgaagaa aagaatgata acggtaagct gaacactacc	420
ttctttatgc gtagagatta tgatgctgat gctcagccta atgcttccgg tgcacagtat	480
aacttcaaaa tcaaggatgc gggcaaatgg acaaaggttg ttgtttacta tgacatggga	540
caggtggtga atactatcag cagtaagaag tccaatcctg atatggaagt gtctgatacg	600
gatgatgatg ctgctatcct gaaggattgt tacgtagcta tccttggaca gaataaagg	660
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<210> 105

<211> 810

<212> DNA

<213> Bacteroides faecis

<400> 105

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ggaagtcctg aagccactca aaaagccctg agttttatca acgagctatc ggaaaaatca	180
cagatagccg acatcggctg tgggtaccggc ggacaaacca tcacactggc agagtacacc	240
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gcggcaaaaag ccctttgctc ggacagagtg aaaggaatca ccgggtcgat ggatcatctc	360
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ttcgaacgtg gcatgaacga atggaacaga tttctgaaaa agaacggttt catcgcagtc	480
acggaagtat cctggttcac tccggaacgt cctgccgaaa tagaagattt ctggatggat	540
gcttatcccg aaatcaatac gattcccgca aaaacagctc agatggaaaa agccggatac	600
atcccgaccg cccatttcat tctaccggag aagtgttgga cggaacactt ctatgcccc	660

caagttttcgc ttcaagaggc atttttgaag gaacacccag agaataacgc agtcaaagac	720
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tacgtattct atataaggaca aaaaagataa	810

<210> 106
 <211> 1173
 <212> DNA
 <213> Bacteroides faecis

<400> 106	
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ttcatactgg cttccttgct attactggta agttgcgtat caaacaagaa gacttctctc	120
gaagcattca atcaggatat atatacaccg gaatatgctt ccggatttaa aatattgggt	180
gcagacaacg ttcaaagcac cctgatacaa gtattcaacc cgtggcaggg agccaaagat	240
gtagaaatgt cttacttcat atcacgaaat ggcgaaacagg caccgcccgg attcacaggt	300
cccaccattc ctgccggagc aaaacagatt gtatgtatgt cttcttccta catcgccatg	360
ctcgacgcgc tgggacaggc agaccgaatt gtagccgtat cgggcatcga ctacgtatcc	420
aatccgtata tcattgcgca caaagactcc attaaagaca tgggtccgga aatgaattat	480
gaactattgc tgggcctgaa acccgacgtt gtattgctat acggcatcgg agacgcacaa	540
accgctgtaa cggacaaaact gaaagaactc tctatacctt atatgtatgt aggcgaatat	600
ctggaagaat caccgctcgg caaagccgaa tggatggttg ccctgtccga actgacggac	660
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<210> 107

<211> 657

<212> DNA

<213> Bacteroides faecis

<400> 107

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gagaatcaac gtgaacatta cattaagata tgcaagattg tcaatgctga cgtgagtgcg 180
gaagtaatag caacggatta tgaagggatg atccgcgaag gggaagagct tgccgcacta 240
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ctggcggcaa aagccggagc tacctatggt tctccttttg tcggacgtct ggacgatatt 420
tgtgaagatg gggtagggct tgtcggcgat atagtacgta tgtatcgtag ctatgattac 480
aagactcagg tattggcagc ttccatccgc aatacgaaac acattatcga atgtgtggaa 540
gtgggggcag atgtggctac atgtccgttg agtgccatca aagggtgtt gaatcatccg 600
ttgactgatt caggactgaa aaagttcctg gaagattata aaaaggtaaa tggataa 657

<210> 108

<211> 1434

<212> DNA

<213> Bacteroides faecis

<400> 108

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atagccgaaa cagccgatgc actcgaattg gaggctatg tagtaggcgg ttacgttcgt 120
gatatttttc tgcaacgtcc ctctaaagat atagatgtag tagtagtagg cagtggaatt 180
gcgatggcgg aagcacttgg aaagcgattg ggacgtggtg cgcattgtctc tgttttcaag 240
aatctcggta cggcacaagt gaaatataaa ggcacggaag tggaatttgt aggcgccccg 300
aaagagtctt atcaacggga ctacacgaaa cctattgtag aggacggaac gctggaagac 360

gaccagaacc gccgtgattt tacgattaac gcgatggctg tctgcctgaa taaagcgcgc	420
ttcggtagagt tggtagaccc gtttggcggc atggaggaca tgaaggaaaa gaccatccgc	480
acaccgctcg acccggatat cacgttcagc gatgacccgc tgcgtatgat gcgctgcatc	540
cgttttgcca cgcaactggg attctatatc gacgacgaca ctttcgaatc gctctgccgt	600
aataaagaac ggattgaaat aatctcccgat gaacgcattg cggatgaact gaacaagata	660
attcttttcgc ccatcccttc aaaagggtttt gtagaactgg aacgaagcgg actgttgccg	720
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aatatcttcc ggaagatgaa actgccgatg aatgagaaga tgaagtatgt gcagaaaatg	1020
gtcagtttgc acatgcgccc cattgtgata gcggatgatg tggtaacgga ttccgccgtt	1080
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cgccagaagt tgaaagatct cgaagaaaag gatcgggtcc gtaattttcca gcctccggtg	1260
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aagagtgcga taaaggatgc aattctggac ggagttatcc ctaacgagta tgaagcagct	1380
cacgctttta tgctggaaag ggcggcaaag atgggattga aacctgtgaa atga	1434

<210> 109

<211> 639

<212> DNA

<213> Bacteroides faecis

<400> 109

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ctggaatatg ataaaaatata catcgaacag cacgaccact acatcaagca aacttaccgc	120
aaccgttgta cgattgccgg tcccgcgggt gaattggcac tctccatccc gactgtcaaa	180

cctgatacat tgaaatgtcc gatgaaagat atacgcatct ccgatcacgg caactggcgc	240
catctgcact ggaacgccat tgaatcagcg tataacaaca ctcctttctt cgaatattat	300
aaagatgatt tccgccccctt ttacgaaaag aaatacgagt ttttgatcga tttcaacgaa	360
gaaatatgcc gtttggtttg tcagttgata gacattcagc ccaatataga acggacttca	420
gcatataaaa tggaattcag tgcggaagag actgatttcc gtgaaagcat tcatccaag	480
aaagacttcc gcacaactga tccggaattt agcccgcaac catattacca ggtcttcgaa	540
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gaaagtctgc tggattataa gaaaccgacc cgcctataa	639

<210> 110
 <211> 555
 <212> DNA
 <213> Bacteroides faecis

<400> 110	
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accagtgtat gtagttagg aattgttatt gtaaggaatg gaaaaattat aaacaaaatc	120
tatcgtctga tccgtccccg cccaattac tatactcaat ggaccacagc tgttcatgga	180
ctgacttaca gtgatacaga agaagcggaa gactttccgg aagtatgggc tgaaattaag	240
ccgctcatag acggtttgcc acttgttgcc cacaacagtc cttttgatga aggctgcctc	300
aaagcagttc atgagttata cgagatgact tatcccaatt ataagtttta ctgtacctgc	360
cgtacttcac gaaaagtatt tgggaaagaa cttccaatc atcagttgca cacggtagca	420
gcacggtgca gatatgattt gaccaatcac caccacgccc tggctgatgc cgaagcttgt	480
gcacagatag cgcttcttat cattcccga cggaaaaagg ttaaagttga cctgcacacc	540
ggaaacctgt tttaa	555

<210> 111
 <211> 852
 <212> DNA
 <213> Bacteroides faecis

<400> 111

atgatactta ttgcagacag tggctctact aaaaccgatt ggtgtgtcgt actcaacggc	60
acactgatca aacgaatcgg aacgaaaggg atcaaccctt tcttccaatc ggaagaagat	120
attcaacgag aactgaccat ttctctcctt cctcagctac cggaaggaaa gctaaatgca	180
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gctgacagtt taccagtcac cggtaatata aaagcaaact cggatatgtt aggggcagcc	300
cgtggattat gcggacatga gaagggaatt gtctgtattc tgggtaccgg ctccaattcc	360
tgtttttata atggagaagc aatcgtaagt aatgtctcac cactaggttt catcttaggc	420
gatgaaggaa gtggggcggt tttaggaaag ctattggtcg gagatatttt aaagaatcag	480
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tccgttgctt attgctacaa agaaatactc caggaggcgg caaaagaaac cggtatcgga	780
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cacttgctat ag	852

<210> 112
 <211> 627
 <212> DNA
 <213> Bacteroides faecis

<400> 112	
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gaactattta tagagaatgg ttttgcgga accagtatga gtgatattgc tgctaaagtt	120
ggtatcaaca gaccggtgct tcattattat ttcagaacga aggataagat gttccaggcc	180
gtttttggca acatcactat ttcttttatt ccccgaatac atgatatcat cattcagcag	240
gacaaatctg tttccgagag tattgggtgaa attgtagatg cttattataa agtatttact	300
gaaaacccat gtttaccatt gtttatgggtg agagaaatgc atcgtgatat ggaccattta	360
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caggaagaaa tgaatggtgg gagacttaaa acagttcctc tgccatttgt gttttatact	480
ttttatagcg cattgacagt accctttctg acaaaaaatc ttagtgcttc tttctttttg	540
gagaaggagg atacttttga ggataactt gttcagtggg aaccttatat agtcaggcag	600
atggaagcgt tactggtagt aggttag	627

<210> 113
 <211> 636
 <212> DNA
 <213> Bacteroides faecis

<400> 113	
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gagtctcagg aaagcttatt gactcttctt cctgctttcc ggagaatttc ttgtgagcaa	120
gagatgcagc gttttacttc agaacgcagg aaaatggagt ggttatctgt tcgtgtgctt	180
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ctaagtccga ttgctcctgt gggatatgat atcgaacaat atggatcatc tgtaaaaaga	360
gtgtatgatc gttttatccg tcctgacgaa caagtagaac catatttggg agatgtaacc	420
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caggtagagg aatatgctac ggaacaacaa cagtcgtttg cagtgggcta tcgcatctct	600
ccggattttg ttctgacttg gactatcatc aaataa	636

<210> 114
 <211> 456
 <212> DNA
 <213> Bacteroides faecis

<400> 114	
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caaagtaa at gggcctaataa aaacacgaaa atgggtgtatg acgattgttt cagacattct	120
ctaaaagccg aaaatcccat acctcaatgg tatcttctta tgaatggtga tgaaattgta	180

gggtgtgcag gacttgtag caatgat tttt aattctcgta tggatttata tccttggttc	240
gtttccttat tcattgagga aaagtacaga ggaaataact atgccagtct tttaatagaa	300
cgggcaaaga aagatacaca aaaaatcggg ttttcgaaat tatacttaag taccagtc	360
acttcgtatt acgaacgatt aggcttcacc tatatcggag attgttggca tccttgggga	420
gaaagttctc gtgtatatga aatcattcta aaataa	456

<210> 115
 <211> 393
 <212> DNA
 <213> Bacteroides faecis

<400> 115	
atgcttcaca aactatttat acctat ttttc cgttataata ataaaagagt tgctattctc	60
ggaaatatcc gaaggaaaat aaaaaaacag tatcatttta tgcaggaatc taccgacaaa	120
ttcaagaatg aggagttaat actccgcgat tatctggcta ttgaaagaac aaagttggcc	180
aatgtacgaa ccttgttctc ttatatccgt acttcactct atcttcttac tgccggaatc	240
ggaatatttc agatcgaaag tatatcccgt ctggacggtc tcgcatgggt atgtgtcgca	300
accggagtta tcttgttcat tctgggcttc atccgttatt ttcaaattggg taaacaattg	360
aaggggtatg taaaacagtc ccattgtgat tag	393

<210> 116
 <211> 723
 <212> DNA
 <213> Bacteroides faecis

<400> 116	
atgggttcgtt gtattcatag tcctttcacc gatatttact tccatttggc ggcagaagaa	60
tatctgttga agcagggagc tgatgatgtt tttatgcttt ggcaggatac gccttctgtg	120
gtgatgggca aacatcaacg tgtacagtcg gaagtggacc gggagtgggc ggaactgcaa	180
cagattcata ttgcccgtcg attttcggga ggaggaacgg tatatcatga tttgggcaat	240
gtcaatttga cttttattga gacagtgtcc cgtctgcctg atttcaagac atatcttcat	300
cgcgtattgg aatttttcgt ttcaattggc ttaactgccg aaggagatga acgactgggc	360

atctatctgc atggcttgaa gatatcgggg agtgctcaat gtgtatataa aaatagagtt	420
ctgtatcatt gtactttact ctatgatacg gatatgacca tattgaataa ggttttaaat	480
ccggaaggaa aaatagaaga aaaagaatca gtgcctgtat atgccgttcc ttctgtccga	540
agtgcggtca ctaatatctt caactacttg cctatggaga cgattgagga tttcaaaaag	600
actgttttcc aatatcttag taaggggcaa tcggctgttg ctttcaatga atgggagcta	660
ggggttattg acaaacttcg gaaagaaaaa tatatccggg acgaatggat attcagccgc	720
tga	723

<210> 117
 <211> 1569
 <212> DNA
 <213> Bacteroides faecis

<400> 117	
atgttaagaa agatacgtat cggaatgtca gtggtccttt ttgcactgat tactttttat	60
tttctcgatt ttgcggacat ttgcccgaat agctttcatc gggtggcaca tatacagttt	120
gtccctgccg tgctatctct cagcataggc atactgattg tactgattgc attaaccctg	180
ttattcggac gtatctattg ttccgccatc tgtccgatgg gaatattgca ggatgtcata	240
gcacgtatctt caaagtctac gggaaaaaag aaaaaaagat ataaatacag tcctgcaaaa	300
aataactga gatggacagt actcggagtg acagttattg cttccgtatg cggatttgta	360
gcagtattgg gactactgga cccgtatagt gcttatggac gtatcattgt acatatcttt	420
aaaccctgat acatgctggg aaacaatctg ctggagtcta tttttccag attcgataat	480
tacacatctt atcaggtaga tacctcgata gtaagtcttt cttcccttct catagcgata	540
atgacctttg cagtcattat gatattggca tggaaacacg gacgtacgtg gtgcaacacc	600
atctgtccgg taggtacagt attgggactg ctgagccgtt attctttgtt taaagtccgc	660
attgatactg cgaaatgtaa tggttgcggg ctctgtgcta ccaaatgcaa ggagcctgt	720
attcataata aagagcatac gattgactac agccgttgcg tagattgttt cgactgcctc	780
gaagcttgta aacagaaagc gttggtttat gcccctgctt taaagaaaca acagttatca	840

tctgctgtag aaaatccaac ttcgacaaca gcagagcaat cttcagctac agcagactct	900
tccaaacgcc gtttcctgct tgccggatta gccactgccg gagcagctcc caagcttctt	960
tcgaaagtac aggaatccat tgcgactatg gaaggcaaaa cagcatacaa aaaagaaaat	1020
ccgattacgc ctccgggatc tgtcagccag aaacgttttc agcaacattg tacatcctgc	1080
catctttgtg tcagcaaatg cccgtcgc atgtattgaagc ccgctttcat ggaatacggg	1140
ctaggaggca taatgcaacc gactgtcagt ttcgaaaaag gattctgtaa cttcgactgt	1200
accgtatgtg gtgatgtttg tcctaacggg gctattcctc cattaacggg agagcaaaaa	1260
catctcactc agatgggata cgttgtcttt atagaagaaa attgcattgt cttacagac	1320
ggaaccagtt gtggagcatg ttccgagcat tgtcctacgc aagccattgc tatggtacca	1380
tacaaagacg gattgaccat cctcatatc aatacagaga tctgtgtcgg atgcggtggc	1440
tgcgaatacg tttgtcctgc ccgtccgttc cgcgctgtat acattgaagg caatcctgta	1500
cagaaagaag caaaaccttt caaagaatca gaagaacata aagtcgagat tgacgatttc	1560
ggattctag	1569

<210> 118
 <211> 627
 <212> DNA
 <213> Bacteroides faecis

<400> 118	
agatcgttgg tgaaagggga ggagtgtatt tgtaccctgt gcaatttgaa tttaccgcgt	60
acaaattacc atcttcgaga agataatccg gtagaacgcc ttttctgggg aagaattcct	120
ttagggcatg ctacttcttt tttcttttat cgtaaaggga gtgactttcg ccagattctc	180
catcagctta aatacggagg acgaaaagga atcggtgcca ttatgggacg atacatggcg	240
tccgaactgc ttgcatccgg gttctttcag ggaattgatg tgattattcc tgtccccctg	300
cataagaaaa agcagcagat tcgtggctac aaccaaagtg aatggattgc acggggaatt	360
accgctgtaa cgggaatccc tgtagacaca gaaatgatcg tacgcagaaa aaacacggaa	420
acacagactc acaagtcagt ctttgaacgc tgggaaaacg tggatgggtat ttttgaattg	480
cacatgttg gtgcattagc cggaaaacat attctgcttg tggacgatgt gttgactaca	540

ggagccacca ctgcagcttg tgctgcctgt ctggcagaga ttgagggaat acatattagc	600
atattaactt tggcaattgc cgaataa	627

<210> 119
 <211> 489
 <212> DNA
 <213> Bacteroides faecis

<400> 119	
atgaaaaaga atcagtacct tatgtctttg ttgctggtga tactgctcag cagttgcttt	60
accagcagaa ttaattatga aaaattgagt cgtatccaac tcgggatgtc ttctggaggg	120
gtgatagcta ttttgggtaa gccaacttat cgaagttttg atgaaaagga agaggtctta	180
gagttttgct atggattaaa tatcgcaaag atttggtttg ttgatgacaa agtaactaag	240
atgaagaatt attatgacta tgattgtaat aaaattcgga tcgtagagga taagaaagaa	300
gacgataaat cctcaaagaa agataaaaaa gaagatacaa gttccagaat acgtgtaacg	360
acggatggaa agcatataat acagaccggt tccatcatag tcaactccgga tggaaaacat	420
gaaacagtgg taagtgatct ggggtggaatc attataacag ggtccggtga acatatacat	480
gttcattag	489

<210> 120
 <211> 738
 <212> DNA
 <213> Bacteroides faecis

<400> 120	
atgaatatac tgcgtaaaact cattcttttc ggttggatgg cgatagcatg cacagctttc	60
ggcaaggatc gtaacgcaga taaagtggaa cgaccaaaca ccaagaaagt aaacttcggc	120
atcaaagccg gatttaattc ttccatgttc atgggtgtccg agctgaaaat caaagacgta	180
accatcgacg aagtacaaaa caattataag atcgggtact tcggcgact cttcatgcgc	240
atcaatatga agaagcattt cattcagccg gaagtatcct ataacgtcag caaaggtgag	300
attgtattcg ataagctcgg ctcgcaacat cctgccgtcg agcccgacta tgcctccgta	360
caatccgttc ttcacagcat tgatttccca gttctctacg gatataatgt agtgaagaaa	420

ggtccttacg ggatgtcaat ctttgccggt cccaagctcc ggtatctatg gggaaaacgg	480
aatgaaatca ctttcacaaa cttcgaccag aaagggattc atgagaagtt gtatccgctc	540
aatgtgagcg ccgtgatcgg tgtcgggtgtc aatattttccc gtatctttttt tgacttccgc	600
tacgagcaag ggataagaaa catctccaag tcgattgttt atgataacat caactccgac	660
ggcagcacag gagtcaacca tatcatcttc cgccgtcgcg acagtgcatt aagcttctcg	720
ttcggattta tcctttaa	738

<210> 121
 <211> 258
 <212> DNA
 <213> Bacteroides faecis

<400> 121	
atgaagaaaa taaagaaatc gacaggagtt gctattgcat tccttattta tgtatcagta	60
acggcggcct atttgttacc tcgtaacacg gaagtcagtc agacagagaa gattcttaca	120
gtggtaggct cttatgctat cgttctcttg ctttggctag tgcttcggaa gaaggaacaa	180
atgcgtgaac gccgtaaaga ggagcaaatg aacgaaagtc gtaaaaaaga cgaacaatct	240
attcacttaa aaaagtaa	258

<210> 122
 <211> 621
 <212> DNA
 <213> Bacteroides faecis

<400> 122	
tctaagaatt atcatgtata ttgctaaat atgctaacag tattatatat gaatccattc	60
aacgtaaaaag ataatacaac aatagatata ggaaaactgg aaaagatatt tctggaagaa	120
ggtatctgca agaagctaaa aaaaaacgac tatctgatcc ggcagaatga aaagaacagt	180
cagataggat tcgtttcatc cggcatcttc cgctgtcac acatcgatgg aaacgccaat	240
gaatggattg tcggctatag tttcaaagac gactttgtct gcgattaccc ttctttgatg	300
agcaagacaa attctacagt caacatacaa gcatctacag cctgcgaagt ttatctcttc	360
acttcagaca gacttaacca gttttgggaa acagacatgg atactcaacg tctgggaaga	420

caaatagcag aaaatatgtt tgcagaaata taccagcgtt tattaggttt ttactgcgat	480
actcccgaac agcgttatca gactctgatg aagcgatgtc ctgatttgca aaaacatcta	540
tccctgaaag aaatagccca gtttttggga atcacctctg aaacattgag cagaatacgg	600
agaaaacagc tatttaaata a	621

<210> 123
 <211> 999
 <212> DNA
 <213> Bacteroides faecis

<400> 123	
atgcaattat atacaaaaga agaaacgatc ggacaaataa atcagttggg acaatcccgg	60
cgaccctttc tttttatcat taattatttg caggatgctt cttacgtaga agagggtggag	120
cgtgtcgact cttctgaaat attatatgat ctgaatgggt ttaccaacca gtcttctttg	180
aataagtctg ttgtgccttc agccctgaaa gagtctgtat attggaattc atttccggaa	240
tctttcgaaa gttatctgcg ttcatttgat attgttcaac ggaatatttt tgcaggaaac	300
agttttctga ctaacctgac ctgttgact ccgatagaaa cgaatctcag tctgaaagat	360
attttcctcc gttcgaaggc aatgtataaa ttatgggtca gagatcagtt taccgttttc	420
tctcctgaaa tatttatcag aatccaacaa ggaaaaatct gttcttatcc catgaaagga	480
actcttgacg cctccttgcc ctcagctgtc cggcagttga tggatgaccc gaaagaggca	540
gcagaacatg ctactattgt agatttgatt cgcaatgatt tgagtatagt ggctgatcgg	600
gtatctgtgt cccgatatag atatattgac gaattgcaga cgaatcgtgg aacgattctt	660
cagacgagtt cggagataca aggaatcctg ccggataatt atctggaaaa tctgggaaat	720
attattttca gactcttgcc tgccggttct atcacccgtg ctcctaagac aaagaccatg	780
cagatcatca gtgaggcaga aacgtatgaa agaggattct atacgggtgt gatggggtag	840
tttgacggga ataatcttga tagtgccgtt atgatacgtt ttgtggagca ggaggagac	900
aggatgtatt ttaagagcgg aggtggaata acctgccgta gtgaagcgca aagtgagtat	960
catgaaatga aacaaaaaat atatgtgcct atttattga	999

<210> 124
<211> 576
<212> DNA
<213> Bacteroides faecis

<400> 124
cagaaaagca atattgtcaa acttaaaaac ccaaaccgta tgatcagatt tcaaccgatt 60
actacatcgg acgtgcaaca ttacaaatth atggaagaac ttcttgtcga atcgtttcca 120
ccggaagaat accgccaaact ggagcatctt cgtgaataca cagaccggat aggcaacttc 180
cataataata tcattttttga tgatgacctg cctatcggct ttatcacata ttgggacttt 240
gacagattct actatgtaga gcatttcgcc accaatccgg cattgacgaa cggagggttac 300
ggcaaacgca ctttagagca cctgtgtgaa cacctaaaat accccattgt tctggaagtg 360
gaacgcccgg tagaggagat ggctaaacgc cgtatcaatt tctaccaacg ccatggattc 420
acactttggg aaaaagatta ctatcaacca ccctacaaag caggagatga cttcctgccc 480
atgtatctga tgggtcacgg taatctggat gcagaaaagg attatgaaga aataagacat 540
aaacttcaca cagtagttta tggagtcaaa gaataa 576

<210> 125
<211> 567
<212> DNA
<213> Bacteroides faecis

<400> 125
atgaaaatat tactttttaga taactacgat tctttcacct acaacttggt gcatgtagtg 60
aaagaactga gagctacaga catcgaagta gcccgaacg accagataga cttgatgaa 120
gtggaacgat ttgacaaaat tattctctcg ccgggtccgg ggatacctga agaagcagga 180
ttgttattgc ccgtcatcaa aagatatgca ccgacaaaga gtatcttagg cgtttgtctg 240
gggcatcagg ctatcggcga ggcttttggc gcacatctgg aaaacctgaa agaagtatat 300
catggtgtac agacaccgat cagtatccta cagaaagagg tactttttga aggattaggc 360
aaagagatac ctgtcgggcg ctatcattcc tgggtagtca gccgggaagg tttccagaa 420
tgcctggaga taacagcaga aagccgggaa ggacaaatta tggcactatg ccataagacc 480

tacaatgtac atggaatcca gttccatccc gagtccgtac tgacgccaca aggaaaagaa	540
attatcaaaa acttcttaaa cgaataa	567

<210> 126
 <211> 753
 <212> DNA
 <213> Bacteroides faecis

<400> 126	
atgaacagca attataaagt tggggatcta atttatgatg cgaatattta tgatggaatg	60
aatactcaca tagatgattt gcaattttac aagcgggtgga tgccccaaaa taaagatgcc	120
cgtatacttg agctttgctg tggtagaggc agacttacta ttccaatagc agaagacgga	180
tataatatta gtggagtaga ttacactttt tctatgcttg aacaagcgaa agcgaaagct	240
tccgaagcag gattaaagat tgagtttatt gaagctgata tcagaacttt ggatttgcag	300
aataaatatg atctcatatt tattcccttt aactcaatcc atcatttata tctaaatgaa	360
gatctgttta aggcatthaa taccgttaaa aaacatctca aaacaggagg ccggtttcta	420
ctagattgct ttaatcccaa cattcaatat atcgttgaac atgaaaaaaaa gcaaatagaa	480
gttgctgcat atacaactaa ggacggaagg gagatattga taaagcagct aatgcgatat	540
gaaagaaaaa ctcagatcaa tcgaatagaa tggcattatt ttattaatgg taaatttgat	600
tcaattcaaa atctggatat gagactattc ttccctcaag aattagatac atacttagat	660
tggaatgggtt ttaaaattat tcataagttt ggaagttttg aagaagaagc attttatgac	720
agttcggaaa agcagatatt tgtgtgtcaa taa	753

<210> 127
 <211> 852
 <212> DNA
 <213> Bacteroides faecis

<400> 127	
aaacaaatga acattaagtt tttatggtgc tggatcatct tttccttgct aagtattact	60
tctgcattct ctacttcaca agaatcagaa atactattca tagacggagt gaaatgggat	120
atgctggccc aaccgattga catagattcc atacataaca ctaaattcag agaatttttg	180

cccaaagagc gacattggac gactgcaaac tgggacggat atacaggagt ctgggaaata	240
aagaataatc aattgtacct tcaaaaggct attattgaaa tatcggaaaa ccatagcaca	300
gaaaagagag aagttaaggg aatagattct ttttttagtg aatataaaac agacgatgga	360
atctttgctt tctggtttag cggaaaagta cggtaggcc ggggtgatat tatacgtttt	420
ggtgccggag gtttcgacag aaactacatg gaggagtgtg tattgactat caaagacggt	480
gttgtcacag ataaagtgtt ttatcacaat agccgaaagg aagggatcaa gctattacaa	540
atcagagata gtctacaggc acatttccct tgggaaaagt tccccgaaat aagcggaaaa	600
agacatatta tctttttatc tgatttcgat ttatccgctg acggacacta tatagacagc	660
aatgtcaaaa tccgactgga taaagtcatg accgaagacc agagccatcc gataataaca	720
gccatcaaaa agaagctaaa agaaatctat ccttgggagg ttttatatat taatgggaaa	780
taccgtccgg aatatcaaca tttcactttc cctattatca tcaaaagctc aaatgatgaa	840
actcctgatt ag	852

<210> 128
 <211> 795
 <212> DNA
 <213> Bacteroides faecis

<400> 128	
atgttatcta cagtttatgc ctccgcccag tctctacgaa aactgatgga aatgcctccc	60
cgtattattg aatcgaaatg ggaacaaact tcagacggag gaacggaatt aaactattac	120
aacgaagact tgtgcagcta ttatctattc cgcgaaaacg accgttcgta caatttgaat	180
cccggaaaaga acacggtatt cagaatagaa aaaggctcta atgccagcaa tccatttata	240
ggttcaagca gatatatgtt cttccgcgga caattcccca aagattttca gatcagcact	300
ccctatgcac tccctgttaa ggccggcgaa gaaacccaat ggcaaatcgc ctttcaggaa	360
tctgccaaaa caatgatatt ccgaattcag gaaggagaca ccgtctatgc aaccgcgaga	420
ggcgtcgctt gtgtgacagc actgccacag caattgctga tataccaccc cgaccacact	480
tttgccgctt acctcatgat gcatcaaaac ttcatccatg cgggtgaaga agtcatgacc	540
ggacaacca ttgggatagc cggagtactc ggagtatccg tctcttattt ttttcttgat	600

aacaataagt ttaattcaaa cggcccggtg gggatatccat attcccattt tacccctgta	660
ttccgtacgg acaagggaga tgtaaaacta gaagagaaag cagtctataa atcagctata	720
gatgacgagt tgattatgct cgaaatgacc aaacgggaga aaaagaaatt tcagaagcag	780
aaatattcaa aatag	795

<210> 129
 <211> 792
 <212> DNA
 <213> Bacteroides faecis

<400> 129	
atgaaaccta tgtattacat gacaaaaaga aatttgctga ctactatcgg tatgttggct	60
gtagtatcgg cttttgcca gaaagaatat ccctctcgtg cgccaatgac ccctgccatg	120
tcagagtatt ggacacctca gcctcccatc gttactccgg gaaaagcacc ggcagaagca	180
atcgggtgcac cgtctgatgc tattatccta tttgatggta aagacctgtc tcaatgggaa	240
aactctaaag gacaagctgc gggatggact gttcatgatg gagtattcac agtaaagaag	300
ggtagcaggtg atatccgtac caaacagaaa ttcaatgatt ttcagttaca tctggaatgg	360
tgtatcccg g aaggattga aggtacaaat caggcaagag gtaatagcgg agtatttcta	420
caaggatatct atgagataca gatcttggac aactacgaga acgaaacgta tgtcaatggg	480
caggccggaa gtatctataa gcagactcct cttttgggtca atgccatgaa taaacccggc	540
gtatggaata cattcgatat aattttatact gctcctactt tcaaaaaaga cgggtacttac	600
cgcacacctc cacgtgtcac tgtcttgcaa aatggagtag tgttgagaa caatacgacc	660
attttgggga caactcccta tgtcgggtttt ccggaagtga ttcagcacgg tgatggtcct	720
atcgcattgc aggatcatgg ggacccgagt gctccgatta gtttccgtaa tatctggatc	780
agagaattat aa	792

<210> 130
 <211> 435
 <212> DNA
 <213> Bacteroides faecis

<400> 130
 aaaaagataa ttaaccaact gccggagaag ttagcaagac aggataactc tccggcgctt 60
 attatccttt actttgcaaa agatatggaa acgaaagata taaataagca agaatatctg 120
 ttacgaatca aaaaagtcac agactatatc catcagaata tagatcagcc gctatcatta 180
 caaaaaatgg ccggaatcgc atgcttttcc ctttttcatt ttcacgtgt tttcactgtt 240
 ctgattggag agacacctac agaatatatt aaacgagccc gaatcgaaaa agcagccctg 300
 ctactgcaag gcgaaaagca actttctgcg acagagatag cccggctctg cggtttcagc 360
 agcctgtcgc ttctcagccg caactttaag caacatttca atatcactat ccgtgaattt 420
 cgttcactgg actaa 435

<210> 131
 <211> 729
 <212> DNA
 <213> Bacteroides faecis

<400> 131
 caaaaaatga taaagataaa atctgttctg atcgctgctt ccctgataat gggacttgca 60
 cttccggcca ccgcacagat tggcgaacca cgccagaatt tttctgtcgg gtttaatggg 120
 ggtgtcaact taaacagtgc ttcatttact cctaaaatca agcaaaactc attaatgggt 180
 atcaccggag gggtgacagc acgttatatt tccgaaaaat attttgcgat gatctgtggc 240
 gcgcaagtgg agttaaacat ctcaaacgt ggctgggatg agctattcga aattatggat 300
 gcaaacggac agacagtgga agatcctacc cgctcataca cacggaaaat gacttatatc 360
 gatatccctt tcctggcgca tctggcattc ggaaaagaaa gaggattgca attctttgtc 420
 aacgccggtc cgcagatcgg actcttgatc agcgaatctg aaagtatgga gaatatagat 480
 atgaataaac tgacagacac gcaaaaagct gtttacggtg ataaaatcca aaacaaattc 540
 gattacggta tagccggtgg tgggtggaata gaattcagaa ccaagaaagc cggcagcttc 600
 ctgctcgaag gacgttatta ttttgcatg tccgactttt acagtacaac gaaaaaagac 660
 tatttctctc gtgcagctca tggcacaatc acggtgaaat tcacttatct attcgatctg 720
 aaaaagtaa 729

<210> 132
<211> 690
<212> DNA
<213> Bacteroides faecis

<400> 132
tcaaagacgc acaaaagttt atattccttt aaactccttt tgaacaattt ctatccggat 60
tggaacagca gatttcattt tattccctct acatttgcaa ccgcacttat ctacaagtgc 120
gtagatataa taggtattaa catatcaaat gaagggacta tgcaaaatca attatcaaaa 180
acagacagat tatccaatca agatatcaga aaacgattga acgtaaaaaa aacgatcatt 240
ggagtactca tcctgctaag aggactctct cacttgcccg aagcagttct acttaataa 300
gatgagattt catcgggcaa cattttatat cttatcacat gtataactaat ctgtgctata 360
ggtatatacc agtcaaatt ccggtctaag gaaatgaaat acctgccaac caaaagtgtt 420
gtcaaagaga agaactattc attcaacctg aagtatatgg aatcactgaa agaaatgatt 480
gaatccggga atttttccaa cagtttcaac ataaagaaaag aaaagggcgg aaacctccgt 540
ctggatgtcc tcatgtcggc tgataagaaa tttgcagccg tacgactgtt acagtttatt 600
ccatatagtt acattccggg catagacatg cagtacctgc ggaatgacaa gatcatcgct 660
ctggagaatt tcttagaaca ctataaataa 690

<210> 133
<211> 624
<212> DNA
<213> Bacteroides faecis

<400> 133
ataataatga atcttatatc agacatttta tactggatct caacaggcct acttggtcct 60
gtgatcgttt tattaatcat cctcttttgc cgtgcaatca tacttgccgg tagtttctat 120
ggatcaatatc tgtctatccg taaaacagag gctctgctcc gtaacgaact gaacaaactg 180
actccggata ccgtcggaga acttggtctc aatcttccgg aaaactccag atcccttgtc 240
attatgtata tgcgccaagt attggatgcg cgtgatactc cggcacaggt acaacgctta 300
ttagctaatt ttgaaattgc agcagacaaa gatttagcca tctctaaaac tctgactaaa 360

ctgggcccta tcttaggggtt gatgggaacg ctgatcccaa tgggccctgc ctttgcagga	420
ctggccagtg gtgatattgc ttccatggct tacaacatgc agattgcttt cgccaccact	480
gtagtcggac tggtagcagg tgccgtaggt ttcctcacac agcaggtgaa acaacgctgg	540
tacttacagg atatgaccaa tcttgaattc atatccgaac tgctcaatga caaacgttca	600
atcaataaaa ctacagagaa atga	624

<210> 134
 <211> 1509
 <212> DNA
 <213> Bacteroides faecis

<400> 134	
atgctgcgta ctatcagact tacagccgca atcgtgtgtt ttgcacttat taccttactg	60
ttccttgatt ttacgggaac gcttcacaca tggttcggat ggctggcgaa aattcagttt	120
ctgccggcag tattagcctt gaatataggt gttgtactac tccttattgt acttacgtta	180
ttgttcgggc gtatttactg ctcggtcatt tgcccgttag gagtatttca agatgcggtt	240
tcgtggattt ccggcaaacg gaaaaagaat cgttttcggtt attctccggc ttttaagatgg	300
cttcgatatg gagtgctgac cgtgtttgtc attgccttag ttgccggatg gaacactttt	360
gtaatcctat tggctcctta tagtgcttat gggcgtatgg cttccagcct gttggcacca	420
ttctggcaat ggggtaataa tcttatggca tattttgccg aacgggcaga aagttatgct	480
ttctacgaag tggatgtgtg gatgaaaagt ctttcaacac tgatcattgc catcattact	540
ctcgtcgttc tttttatcct ggcatggcgg aacggacgta cttattgtaa tacgatttgt	600
cctgtcggca caatattggg atttatctca cgatattcaa tcttcaaacc cgtaattgat	660
acgtctaaat gtaacggttg cgggctgtgt gcacgtaatt gtaaagcatc ctgcatcaat	720
acaaaagctc acgaaattga ttatagccgt tgtgtagctt gcatggattg tttagggaaa	780
tgcaaacaag gggctatcag atacacaaga cgaattccga aaaaagaatc ggctacaaca	840
gaaacagttc aggttaaadc agtcaccgca gaacaagtga acaatgcccc ccgtagtttc	900
ctttccgcat ctgctgtcgt tgcgactact gccgtactga aagcacagga aaagaaagta	960
gacggagggtc tggcagccat cgaagacaag aagattccca atcgggaaaa tccgatttat	1020

cctccaggtt cattgaatgc acgtaatfff acccagcatt gtactgcatg tcagttatgt	1080
gtttccgtct gcccgaatca ggtattgcgg ccctccggta atctggctac tttaatgcag	1140
ccggaaatgt cctacgaacg tggttattgc cgtccggaat gtgcaaaatg tgcggaagta	1200
tgtcctacgg atgctatcca tctgaccagc ctcgctgaaa aatccgctat tcagatcgga	1260
catgcagtat ggattaaaga aaactgtata ccgctgacag atggaatgga gtgcggcaac	1320
tgtgcccgtc attgtccggt tggggctatc caaatggtag cttccgatcc tgataatgag	1380
gattcattga aaattccggt agtaaacgtc gaacggtgta tcggttgcgg agcttgtgag	1440
aatctttgtc cgtcccggcc tttcagcgcc atttatgtga ccgggcacca gatgcacaga	1500
attgtataa	1509

<210> 135
 <211> 582
 <212> DNA
 <213> Bacteroides faecis

<400> 135	
acgaaaaaaaa caatgattaa atatctaatt gtcggactag gaaacattgg gcctgaatat	60
catgaaacca gacacaatat tggtttcatg acagtggagg cattggctag aatcaacaac	120
gccccctcctt tcattgacgg acgctacggg tttactacta gtttttcaat caaaggacgc	180
cagttaatfff tactcaagcc atcaactttc atgaatctga gcggactagc tgttcgttac	240
tggatgcaaa aagaaaacat tccattggaa aatgtattaa tagtagtgga cgatctggct	300
ctccccctttg gtactctacg tctgaaagga aaaggaagtg atgccggaca taatggcctt	360
aagcatatag cagccatfff aggaaccag aactatgccc gtttacgctt tggtatcggt	420
aatgacttcc cgaaaggcgg acaggttgac tatgtactcg gacactttac tgatgaagac	480
ctcaagacaa tgaatgaaag actggagacc gccggagaaa tcatcaaaag tttctgcctg	540
gcaggatatag atattaccat gaaccagttt aataaaaaat aa	582

<210> 136
 <211> 762
 <212> DNA

<213> Bacteroides faecis

<400> 136

atgaaaataa aaagaattat tctaattggcc gcccttatca tttcagtagc tagcgttcaa	60
gcacaaaagt cacaggttat cgctcatcgt ggctatttga aaacagcagg ttctgccccaa	120
aacagcatca catcttttgca aaaggcggat tctatacatt gctatggttc cgaatttgat	180
gtatggcttg ccaaagacaa taagctgggt gtcaaccacg atcctgtcta caagatgaaa	240
tacatggaat attccaaggg agatgctctt acaggattga aactatcaaa cggagaaaat	300
ctgcccagcc tgcaaaaata tctggaagcc ggcaaaaaat gcaataactaa gctaatactt	360
gaactgaaag cgcataacag caaaaaacgt gaaacaaaag ccgtacagga aatccttgcc	420
atgggtgaaaa agatggggact ggaagatcgt atggaatata tcactttctc gctgcacgca	480
atgaaagagt ttatccgtct ggcacctgcc ggaaccccgg tattctacct caacggagaa	540
ctatctccca aagaactgaa agacctcggc gctgccggac ttgactacca catgggagta	600
atcaaaaaac atcccgaatg gatcaaagaa gcacatgatc tcggattgaa agtcaatgtc	660
tggacggtag acaaagcaga agacatgaag tggctgattg accagaaggt ggatttcatt	720
acgaccaatg aaccgattgt ggcacaagat atgctaaaat aa	762

<210> 137

<211> 1164

<212> DNA

<213> Bacteroides faecis

<400> 137

atggaagtac aaataccaat ttatTTTTTA tatttgcaac tccaaccatt tgtatgcaaa	60
aataaaaaata gagttatgaa taatcttcga attttattat atgtaattgc actctctttg	120
gccgcatgtc atccagaagg aaccaatgtg aatcaaggat tggataaagc cgcccaactg	180
atagaacaag acccggacac cgcttccttc attctcgaga atattcgggc gaatcaaatg	240
aacgaggctc aactggcaga gtacaatctg ttatgtaccc aattcaatga agacaagaat	300
attcctcatt cttcggatga gcaaatccgt caggccgttt cttatttcgt gcagaacgga	360
gatgaatatc agcaatcaaa agcatactat tatctggctt gtgtagaaag tgacctggaa	420

aggaaaaagg aagcagaaat tcattttaag gaagcgatca agttggctgc tctcacagag	480
aagtatgatt atatggctaa gatatgcaga cgttgcagcc tgtattatca gaaatacggc	540
aacttcgacg aagcactgga aatggaaaga aaagcctatg ccagtcaatt aatgctcaac	600
gataccagcg gtaattcaag aaccatcctt tcgtctgcat taggagtcct cggtgttatg	660
tctttgttgc tcggactatt gtggagaaaa aacaagaatg tctacgcgca attaaattca	720
ttcaaagatg aaatgctgcg caaagatgtg gaatcggata agttagcact gcaatgtaac	780
tatctggaag aaaaatatca gtcactccaa caacacatat acgaaagttc tcctattgta	840
tcaaaagtcc ggcagttgaa agaacggctc gttttatcct ctaaagccct ttcattctca	900
gaaaaagaat ggggtgaatt attacggctt caagaaggag tatatggact tgtatccaaa	960
ctgaaggaaa taaatcccag actgacggaa gaagatttga gagtatgtgc atttctgcgt	1020
gagggcattc aacctgcctg ctttgcagat atcatgaagt tgacgggtgga aactcttact	1080
agaagaatat cgaggataaa aacagagaaa ctaatgcttg taagcacgaa agaatcgta	1140
gaagatttcg taaaatcatt gtag	1164

<210> 138
 <211> 738
 <212> DNA
 <213> Bacteroides faecis

<400> 138	
atgaaaatat tgattctatc cattaccttt ttattccttg tgctctttcc ttcgatggcg	60
caagagcccc ggctttctga cgaactgggtg tttgaagagc gcgtctttga ttttggagaa	120
ataaaggaag aagacggatt ggtttcacat gaatttgagt ttaggaatgt cagtcagaaa	180
gttctttcta tcaatgggggt aacgagtgggt tgtggttgtg tacagtttga atatcctaaa	240
gaaccgcttc gcccgaatgc cacagggaaa gtgaaagtga cttacaatcc ggcttaccga	300
ccgggattct tcagtaagga agtcgttggt ttgagcaata acaatgcgaa ctacaaccgc	360
atctgggtaa agggactgt cattccctgc caacatccgg tatcggagaa ctatccgtat	420
gagtatggta gcggactttg gatgaacttt gaagtaatgg cattcggcac gataggcaaa	480
ggtggtacga aaacgatgaa attgaaatat gtaaagata ccgatcatga tatgcaactg	540

atgtttgtgg tgataggtgg aaatacggat attaagttta ccagtccccg catggtgaaa	600
gcccgtgaag aaggtgtgat gcctgttgaa tatcaatatt ccggcagggtt tccggctgta	660
acacgtgtct atccccgtgat caacggacgg gcactcgtga aaccgttggt gataacatgt	720
gccgatccgg ttgattag	738

<210> 139
 <211> 1173
 <212> DNA
 <213> Bacteroides faecis

<400> 139	
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gccttgctgg ctattgtatt gttgcataat ctggaacatt ataatctgtt tttaccgttg	120
gaatgtacct tgcctgcatg gttgcagacg gtagataagt atgcgtggga caccatgttt	180
ttcctgtttg caggggaaggc gtacgctacg ttctctttat tgttcggctt tagtttttat	240
attcagtttc ataatgcgga gaagcgggga actgactttc gcgggcgctt tgcgtggcgg	300
atgtgcttgc ttttcctgtt tgcgcagctg catgccttgt tctacaacgg ggatattctg	360
ctgctctatg cagtagtcgg ctttgccttg attccggttt gtaaactcaa agataaagcc	420
gttttctgga ttgccgttat cttgcttctg caaccctacg agtgggggcg tgccatctat	480
gcaatgatca atccggagta tgtaccggtg acaggctcatt atattccttt tgccaagctt	540
gcggaggaag tgacggctac cggcagtttc tttgaagtac tccgttccaa tatcactgac	600
ggacaattat atagcaatat ctggcaggta gagaacggtc gcctgttcca gacggcagct	660
ttattcatgt tcggaatgct tctgggacgc cggaagtact ttatgaaaag cgaagagtcc	720
ctgcgcttct ggaagaggat gctgacagggt gctgcaatcg cttttattcc tctccattgt	780
ctgagggtgt ttgttcctga actgatcacg aatccgtcca tcttggttcc gtataagata	840
gctgtcccgt cttatgccaa ctttgctttc atgattgttc ttgtttccgt ctttaccttg	900
ctttgggtta aaaaagatac gggatatagc tggcaaagtc tgctgattcc ttatggccgt	960
atgagtctga cgaactatat ctcgcagtcc attatggggg taactatcta ttatggattc	1020

ggactggcca tgtacaaata tgcaggtgca acaggaagct tgctgatcgc attacttatc	1080
ttcaccgtac agctgatatt cagccgctgg tggcttgccc gtcataagca gggaccgctt	1140
gagtttctgt ggcgtaaggg gacttggatt tag	1173

<210> 140
 <211> 933
 <212> DNA
 <213> Bacteroides faecis

<400> 140	
ggagaagatt ttgaggcaat ttcttatctt tgccggaaaa gagcaaaggg aatggaacag	60
aaagaaccta tggaattagg cctccagcta ctgaaggata tcaatatagt acgtcacaac	120
gaatttcgtt tcatcaatgc cgagttcggg tttgtaacga gcttctcgaa aatggaaacg	180
accattttca aaatcggaca accttaccgg ttacaggaag gccgtatcgc aatcattacc	240
aatggacggg cacgagttct cattaatctg atcgagtata tctttcgtcc taattatatc	300
tctctgatcg ccccgggctc tatcatacaa attatagaga cctcccaaga ctttgatgct	360
catatgatgg cgatagagca taatttcctg ccagtatccg gtaaagaaga attctttgcc	420
catttcctcc aacggaaaaa gaatctgctg cttccactga ctaccactga gcaggtacaa	480
atagagaatt ttataacagt catgtgggat gtattacaag aacctgtatt cagaaaagaa	540
gtaatccagc atctattggc aggattacta tataatatag aatatatagc caaaaacaaa	600
ggacagtccg agtcgagccc attgacacat cagaacgata tttttcaacg tttcatctct	660
ttggtcaaca cttatagcaa gacagaacgg aacgtcagtt tttatgcaga caaactttgc	720
cttactcccc gttatctgaa tacagtgatc cggcaagcca gtcaacaaac agtaatggac	780
tggatcaacc agtccattat actagaggca aaagtgctgc tcaaacacag caatcgctt	840
gtttatcaaa tttctgatga attaaacttt cccaatccgt ctttcttcag caagttcttt	900
aagcgaatga caggaatgac gcctcaggaa tat	933

<210> 141
 <211> 474
 <212> DNA
 <213> Bacteroides faecis

<400> 141
 tgtgccatgg cacaagaaat agaacgtaaa ttttttagtta ccggtgattt caaacccctt 60
 gcatttgccc aaagccgaat agtgcaggga tatatatgca gcgcccgcgg acggacgggtg 120
 cgggtacgta ttcgtgacga taaaggttat ctcacgatca aaggggcctc taatgcatcg 180
 ggaaccagcc gttatgaatg ggaaaaggaa cttcccctgt cggaagccga ggaactgatg 240
 aagctttgcg aaccgggcat gattgataaa acccggtatc tggttcgttg tggcaatcat 300
 gttttcgaga ttgatgagtt ctatggcgag aatgaagggc ttattgtggc cgaagtggag 360
 ctggagtcag aagatgaggc ttttgtgaaa ccggagttaa tcggtgagga agtaaccgga 420
 gatatacgct actataactc tcatttgatg aaaaagccgt atcaaacgtg gtga 474

<210> 142
 <211> 597
 <212> DNA
 <213> Bacteroides faecis

<400> 142
 gcaaacagag agatgaagaa atggtatgcc atattgcttc ttttgtccgc actcaaagtg 60
 agtgctcagg agatcagttt tataaccagaa gtaggttttag gattatccaa tataaccaat 120
 agcgacaata atagtaaggt gcgtcccga tttaatatag gtatggggat ggaagttatc 180
 tggaatgaaa gagtcggtat gggcatagga gttaattatc tggtgctggg caataggttt 240
 acaactgatt acatctctta tacgaccaag ttggattacg tcagtatacc ggtttacgca 300
 aaaggatatg tgtacaaagg gttgtttgta tttgtaggtc cccagttcgg ttttaatgta 360
 gtccgggatg atggaagaga ttatgatgaa ttgtcagatc tggacaaaat gcgtaaattt 420
 gacttttcta taggagtcgg tatcggttat cagtgggact ttggtcttca gctttcggca 480
 agtcacaatt tggggctgat tgatgtctgg aagaagtatc ccgatgaatg gtcctcttcc 540
 ggcaagaagt ataacagcat ttttcaattt aatgtaggtt ggagaatcgg attttaa 597

<210> 143
 <211> 1101
 <212> DNA
 <213> Bacteroides faecis

<400> 143
atgaaaaagt atctgaaaat cacgttattg gtaattatcg ccataatcct tgtcggaaca 60
tttgtatttc tttatcagaa atccaagcca aaggttatag tttatgaaac attggcagca 120
gaagtgacag accttgaaaa aacgacagta gccaccggaa aagtggagcc aagagatgaa 180
attctaatta agcctcaaat ttccggtatt gttgacgagg tttttaaaga agcaggtcaa 240
agcgtaagaa aaggggaagt aatcgccaaa gtaaaagtaa tccccgaact cggacagcta 300
aattcagcag aaagccgtgt tcgtctggca gaaatcaatg caaagcaagc agaaaccgat 360
tttgcccgtg taaaaaaaact gtacgaggat cagctgatca gccgcgaaga ctttgaaaaa 420
ggggaagtgg cagtaaaaaca ggcacgtgag gaaaatcaga ctgccaaaga taacctggaa 480
attattaaag aaggaatcac taaaaacagc gcttcattca gtagtaccat gattcgttct 540
accatcgacg ggcttattct ggatgtgcct gtgaaagccg gtaactccgt aatcatgagt 600
aacaccttca atgacggcac taccattgct acagtggcaa acatgaacga cctcattttc 660
cggggaaaata tcgacgaaac cgaagtagga cgtatccacg agggaatgcc gatcaaaactg 720
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accgtacaaa tacgttccgg ttattctgca aatgcagaaa ttgtattgca acgtgccaac 900
aaagtgctgg cagtaccgga aagtaccatc gagttcaatg gtgattctac gttcgtatat 960
atcatgacgg attccgtgcc acaacagaag tttaaacgta cacaggtgac taccggaatg 1020
agtaacggta tcaaaattga gataaagaaa ggtgtaaccg ctcaagacaa gctacgcggt 1080
gctgagaaaa aagataaata a 1101

<210> 144
<211> 537
<212> DNA
<213> Bacteroides faecis

<400> 144
aaatataaat atatgagtac atcattagcg acttattatg ccaaacttct ggatatgccg 60
gatagtgaat ataaggtaga gattctggaa gacggaccga tcaagaagat agcgggtcaac 120

ggtaagatat acgaggtcga ttacaatatg ggaggcgact ctattcattc gattatcatc	180
gatcatcact ctcatggagt gcagatatct ccttcttcca ataattccta tacgatcatg	240
aataagggag aactttatca gatagagtta caggagagaga tggagaaaat acataatgcc	300
cgtgccggtg cggaagctgt gggacgacaa gtggtacagg ctccgatgcc gggagtcatt	360
ctgaagatat atgtaaagaa gggggatacg gtgaaacgtg gagatccgct ttgtgtattg	420
gtagcaatga aaatggaaaa cgaaattcgt tcgaccacag acggagtagt gaaagaagtc	480
tttgtagaag ataatatgaa ggtcgctttg aatgaccggg ttatggtgat tgaatga	537

<210> 145

<211> 1038

<212> DNA

<213> Bacteroides faecis

<400> 145

atgaaaaaga aaacaaggaa tatcttatta tccattctga tcggagcctt ccttctgtgc	60
gccattgtcg gaggaacagt ctattattat ctgttcgctc cgcagtttca tccttccaaa	120
acagtctatg tatatataga ccgggatgat acgacagatt ctatctacaa taagatcagg	180
caaaccggtc atgtcaacca attcaccggc ttcctctgga tggcaaaata taaaaaactg	240
aatcaaaaaca tacacaccgg acgttatgca atacgaccga atgacaacgt atatcatgta	300
ttcagccgac tttccagagg ttatcaggaa ccgataaacc tcactatcgg aagcgtgcgg	360
acattagacc ggctcgcacg gagtgtcggc aagcaactaa tgatcgactc cgccgagata	420
gcccgccact tattcgattc cacatttcag gcagaaatgg gatatacacc gatcactatg	480
gcttgccctt ttatccccga aacctatcag gtatactggg atatgagcgt cgacgagttc	540
ttcaaacgta tgcaaacaga acaccaacga ttctggaacg acgaacgcct tgcccgggca	600
accgccatcg gcatgacacc ggaagaagtc tgcaccctcg cctccattgt tgaagaagaa	660
accaacaaca atgaagaaaa gccagtggta gccggcttat acatcaaccg cctgcacaca	720
gatatgccac tacaggcaga ccgaccatc aagttcgcct tacaggattt cggcctgcga	780
cgcataacca atgaacacct gaaagtcaat tccccctaca atacgtacat taacaccgga	840

ttacctccgg gccccatccg tatcccttct aaaaaaggat tggacagtgt attaaactac	900
acgaaacaca attacatcta catgtgcgcg aaagaagatt tctccggtac ccacaatttc	960
gcatccaatt atgccgatca catggcaaat gcaagaaaat attggaaagc acttaatgaa	1020
agaaagattt tcaagtaa	1038

<210> 146
 <211> 735
 <212> DNA
 <213> Bacteroides faecis

<400> 146	
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agagataatg atgctatata ttaccccgta ggcatgtgtg atattgaaag aggagggtccg	120
gcactggaag tcggagaggg ggatgtcttg gtggtgcgaa gctataatga agaagattat	180
gtattggata cgatagctca ataccgaat gacccgactt tgggtaaact gacgtttatg	240
attgatctga aaaaccaaca gaaggatcag aatgttgcca gttttaacgg agctggtaaa	300
tcaaaaactga ccatgagcct tggatataag gatggcaatt accctgcgga aagccagggtt	360
cctatatata cttcgcagga tattaccgct aaatatgcaa tcaaacttcg tctgaaagga	420
gaactgactg tatccggtga tgaatggatg atagattatg tatatgcca actggctagc	480
ctgttccagc cttatcctcc gacaagcttt cctgaagtct ttatgtgcaa gggagggatg	540
aaactgggaa ctttcgactc cttccgcaga acctgtactt ttgatatcgt ttatgatcgt	600
tccgacctct cttttagtca gttatacttc aatttattta tcaatttagc cggtcagaag	660
cgggaaaaca ggggtcaaact gcggattgat aaggaatctt acttcgaact gtatgagcag	720
agtgaagaac tgtaa	735

<210> 147
 <211> 675
 <212> DNA
 <213> Bacteroides faecis

<400> 147	
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ccctaccact ccgaagcttg gcatcaagta atgaaaactc acggcctgaa tctgagccgg	120
gaagaagctt atatgcacga aggacgaacg ggagcatcga ctatcaacat tgtatttcaa	180
cgcgaactgg gcaaagaagc cacacaagaa gaaatagaaa gtatatacaa agaaaaaagt	240
atcctgttca attcttacct ggaagcagag cgtatgcccc gtgcgtggga actcttgcag	300
aaaataaaaa gcgaaggact aacgtccatg gtagtcaccg gttcgggaca gctttcattg	360
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<210> 148
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 <212> DNA
 <213> Bacteroides faecis

<400> 148	
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 <211> 1017
 <212> DNA
 <213> Bacteroides faecis

<400> 149	
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<210> 150

<211> 261
<212> DNA
<213> Bacteroides faecis

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<210> 151
<211> 3090
<212> DNA
<213> unclassified Barnesiella

<400> 151
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 <211> 699
 <212> DNA
 <213> unclassified Barnesiella

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<210> 153
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 <212> DNA
 <213> unclassified Barnesiella

<400> 153	
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 <212> DNA
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<210> 155
 <211> 711
 <212> DNA
 <213> unclassified Barnesiella

<400> 155	
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<210> 156
 <211> 480
 <212> DNA
 <213> unclassified Barnesiella

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<210> 157

<211> 1827

<212> DNA

<213> unclassified Barnesiella

<400> 157

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<210> 158

<211> 1425

<212> DNA

<213> unclassified Barnesiella

<400> 158

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<210> 159

<211> 717

<212> DNA

<213> unclassified Barnesiella

<400> 159

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gccttgaaaa tcaacgcaga tattcgtttt tttgaaacat cggccactcg aggaacgggg	660
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<210> 160

<211> 717

<212> DNA

<213> unclassified Barnesiella

<400> 160

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gtgttgagta ccgaaacctc gcgatgtctg gtcgatgccg ggggaggaaa cggggtgctt	180
tcgcagctcg agaaggcggg catcgacctg agctccctgc acgatatggt tgtcaccac	240
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gagggggccg actggatgct gtgcgaggcc ttctgcctct atcgcgaccg cgacatcttc	660
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<210> 161
<211> 444
<212> DNA
<213> unclassified Barnesiella

<400> 161
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gacatgcacg aacgcaagga gcgcatggcc caagaggccg atgccgtcat tgccctgcca 180
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ctgaacaagg ctatcgacga gaacttcatt cgccacgaac acgcccgcct gtggcaagtg 360
gccagactc ctcaggaggc catcgacgac atcttaaacg ctccggcctg ggaccccagt 420
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<210> 162
<211> 939
<212> DNA
<213> unclassified Barnesiella

<400> 162
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ggtgagtttg ccgtctcttt cgaggagtcg attcggggct gccagggtata tctggtgcag 180
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cgcaaggaca aaccccgtgt ttccatcgcc gccaaactcc tggccgacat cttgagcgtg 360
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gtagtggaga gcatgaccgt gattggcgtat gtagagggca agaataat cctcgtcgac	660
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gcccttttcgg ttcgtgccat cgcttcgcat gccgtgatga gcgaccccg caccgagcgt	780
gtacagaact cgtcgatgac cgagttgatt ttcaccgaca gtatccccta caccaagcag	840
tgcgacaagg tgcacatcat cagcatcgcc gacctctttg ccgacaccat ccgccgcgtg	900
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 <211> 915
 <212> DNA
 <213> unclassified Barnesiella

<400> 163	
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accctctcgt ttgcctgcat catcttcttc ttcatagggg ctccgctggg ggctatcatc	180
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atcatcgaca acaccggcta caagctggcc cgtgatggcc gctgggaggt ttgggaaggc	300
atgtggctca gctcggcggg gcttttgcca ttgggtatct tcctcaccta caaggcgggtg	360
aaggattcgg ccgtattcaa ccccgacgtc tatgtcaact tcttccggaa actgattggg	420
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tacggggtag gggcgcacca gcagcgtctg ttgcgcaacg aggtagaagg ggtgattcgc	840
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gataaaacta tataa

915

<210> 164

<211> 828

<212> DNA

<213> unclassified Barnesiella

<400> 164

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ttgctggatt ataataaaaa tgccaacgcc ccgctgcggt acctcggtat cgacgatacc	180
gacaatgact cggatatactc ctgcatctgc atcttcatct cgaccgcga caagaaagat	240
tcccgggaagg gtatcgtctt tgccaacggc gaaaactaca cgggcgacac cctgcacctc	300
accgaccagt ggctggagca gccgtcggcc gacgactcaa acgactcgat accccagtcg	360
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aacccaacg tcacgctcca tttctcggag agcaacttcg ataaactcat cgttcaatcg	480
caaggcgacg tggctcgtgcg ggaatcgaac gtgggcatgc tcgtcgtgca ggacagcata	540
ggccacagtg ggactgcctg ccagcaatgc aatatcggca cactatttgc ataccttaac	600
gacaaatgtt cgttgagcct ctgaaaaaac aacataggca ccgccttcct tccaaggcg	660
ctcaactccc tgtcgaacga gggcaacaac attgggtgtga ccggctctat cgacctcatg	720
gagttcaacc tgtcgaagtc gatcgacaac gacagtatcg acgccgtgag tttcggcatc	780
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<210> 165

<211> 690

<212> DNA

<213> unclassified Barnesiella

<400> 165

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ctgttgggcg gccgcctgtc caacgtaccc gaccacattg ccgccaccct caagcaacag	180

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tcgcctctcg acaccctcac cgaggccgat ctggaattcc tcgaagagac ggcacaactg	360
atgctgcgct accccaccat cccctgcaac gactgcaagt attgcatgcc ctgcccctac	420
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ccggcctcgt cgcaagacga aaattaccgc aaagcgcgcc gcgctttcct catcggttac	540
gaccgcagcg tacccaagtt gcgccaggcc agccactgca tcggatgtgg gcagtgcgta	600
tctcattgtc cgcaaagcat caacataccc aaggaactgc accgaatcga ccgctttgtc	660
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<210> 166
 <211> 447
 <212> DNA
 <213> unclassified Barnesiella

<400> 166	
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gtcgagctgc agtcggccac caacttcggt tggcttatgg ccatcttcct ctatatttac	180
ggattcatga gccccgtgtc gggcattatc gccgaccggc tgaaccgcaa atggctcatt	240
gtgggcagcc tgttcgtgtg gtcggcagtg acctacctca tgggtattgc cactaccttc	300
aatcagattt tctggcttcg ggccctcatg ggggtgagcg aggctctcta tattccggcg	360
gggctttcgc tcatagccga ttatcacacg ggtaaactgc gtcgctggc agtgggcatt	420
cacatgacgg gtctctatac cggccag	447

<210> 167
 <211> 327
 <212> DNA
 <213> unclassified Barnesiella

<400> 167	
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cggcacgacc ggtggtttac ccgccgggtg atgaaccgac tgccgcgcaa gcggtggagc	120
ctcgagacga aaatttcgct ggtggttctg gtgctgatat tgctcatctg cacggccttg	180
tgtgtagctt ttgcccgcga gctgacagcg aacccctgct ggaactgtgc cggtagcttg	240
gtgatgtatg gagccttgac cgtggcctgt atcctgttgg gcgcacaggc gaactctttc	300
ttccggtcga tttacgacgc ttcctga	327

<210> 168
 <211> 2100
 <212> DNA
 <213> unclassified Barnesiella

<400> 168	
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gtattgatgg aggctatgga caaacgggtg ccgttgttcg accgcatcag gtttctgtcg	120
atataccagt cgaatcagga agagttttat cgcgtgaggg tttcggagta tcaccagatt	180
ctgtcggact cttcgaaaag cgaagaggag aaggagcagg ccgaacggac tctggagtgc	240
attaaccggg aggtcaacca gcaggtcgac gacttcaaca aattcttttt caacgacatc	300
atccccgaac tcgagcgcga gggatatggtg ctgtaccatc aggagaaaat cgaggagtgc	360
caccgggacg aggtgcgtaa cttcttttaa gaagaggat tccctttttt gcagccggtg	420
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aaaatgtatc ggaagagcga acgcaacaac cccgaccgac aaccgttcta tgcccagata	540
aagattccgt tcagcaaagt gccgcggttt atcaagctca cgccgcacaa cggaaagaac	600
tacgtgatgt ttatcgacga catgattgcc ttgaacctcg acatcgtctt cccgggattc	660
gacatcgact cgcactatgc gatacgggtc tcgcgcgatg ccgacttttc catcgagccc	720
aaagaggggg tcaacattgt cgatgccgtg cgcaagcggg tcaagaaacg caagataggc	780
aacgccaacc ggttgggtcta cgacggctgc atgccccacg acatgctgga gtatatctgc	840
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gccattacga gcgaactcga caagctcttc tccatactcg acggttcttc aaaagaccgc	1500
gatttcaaga cgttgctcgt ggcccagttc aacatggctg acgagttgaa acggaaaata	1560
cgtttcgaga tggaagaggc ccgtcaggga cggaaggcac acatcattct gaaaatgaac	1620
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gccggggggac gcgaagaggt atatctgtcg tcggccgact ggatgcgccg caacctgaac	1860
cgccgcatcg agaccgccgt acccatthttc gaccagcata tcaaaaacga aatcctgtcg	1920
gtcatagacc tacagttgag agacaatgta aaagcctgcc gcatagacga atatctgggt	1980
aaccaatatg tccgcacccc agggccaccc atacgctcgc aacggatgtg cttccacctg	2040
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<210> 169

<211> 1659

<212> DNA

<213> unclassified Barnesiella

<400> 169

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gattattggg accagtctcc gttcaatacc ggcttgctga ccggtcagat tgagggtgga	180

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cgatatggca gccacttgta cggtgcccgc atcgatttga cttcgctat tgctttgtcg	300
cccacaccgc aatacatcca tgtactgatg tataaacctg tggccggtcg tgtagctctt	360
gtcggactcg gtaaacgtaa cgactgggcc gaccagccgg ctacgaccgt acagtttgtg	420
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cagcgcttta cgttcgatcc ctatcctttg aacttcgatg ccacgcaaga gaaaactcgt	660
aatgaccgtg ctctcgaggg ccttgcattc tcgggtgata tgggcgcttc gtatgagtcg	720
gatatcgcaa gcgaaagaac cgtatatgtc gataagactt cggccgatcc catcgaattg	780
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gaaaacaaat cggttggcat ccaggagccg gagaacgacg gcttgagagt gattgccggt	1500
gaaaacaaaa tcgagctgct cagcaacgag gaggttgact attcggtagt tcatgtcaac	1560
ggcgcttgct atgctacggg caaatttgcc ggacgtgaag taatcgagtt gccggccggt	1620
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<210> 170
<211> 828
<212> DNA
<213> unclassified Barnesiella

<400> 170
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tcgaattaca cgacgattgc cgagaagttt accctccccg acaatgcccc gggcgaggtc 180
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accggtgcta cggatgaggc cgaaacggtc gtatcgctgt cgggcctttc gagtggcgtc 780
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<210> 171
<211> 441
<212> DNA
<213> unclassified Barnesiella

<400> 171
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gtgcgcttgg aaatcaccaa tatcaataat ccgacctctt ggaagggggg gacctggagc 180
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gccggcttta ccgccctgca aaaggctgat tgctcgcgca accagcttac cggtatcgag	300
gtgtcgggct gtacggcact caataccttg aacgtaagcc gcaacaaact ctcgacgttg	360
aatatcgaca actgtccggc cctgatcaag ctcgattgct ataagaatcg gcttaccgac	420
ctgtcgctcg cggggctgcc g	441

<210> 172
 <211> 789
 <212> DNA
 <213> unclassified Barnesiella

<400> 172	
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ccgctgctgg gggcttactg ccgccagcac gggttgccgt ttatcctctc ggccgtgcct	180
gaaccggcgg cgcaggccat tgccgaactc tatggttgcc ccatcaccga gctgcccgcac	240
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aagaagcgca accgggtgaa caagttcaag agcacctatc ccgatttcca atacgaagcc	360
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tcggtgggcg aagtgggtggg cgataccctg gtcgtgcata tcgagaaagc ccgtaaggag	600
gtggtgggtg cctacgaagc catcaatctg ttctactcgg cacagatggc cgaggctcac	660
cccgagggtgc agtacatcaa ccgtgaggac gatgccggcg atccgggtct gcgcgaggcc	720
aagttgtcgt acaacccccga gaccatcctg aaaaagtaca acattccgct cgacgactat	780
ctgcgttaa	789

<210> 173
 <211> 1053
 <212> DNA
 <213> unclassified Barnesiella

<400> 173

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catattgccg atacctacta tcgggtgaat gccaacgtgc atcgtgggggt gcataacctc	180
agccaggagg ctaccgatgc ccacgaggcg gcccgtcgcc ggggtgcagca gtttatcggg	240
gccgcttcgc ccgccgaaat tgtctttacg cggggcacga ccgaagccat caatctggtg	300
gcctcgtcgt ttggcgacga gttcctgcac gacggcgacg aggtgattct caccgtcatg	360
gagcaccatg ccgatattgt gccgtggcag ctcttcgagc gccgccgcaa aatcaagttg	420
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ggtacggccg cttttgcctc ggcgctcgac tatgtcgaca gcatcgggct ggaggctatc	900
gccgctcacg aaaacgagtt gttgcgctac accaccgcgc agatggagca aatcgagggg	960
atgcgtatct tcggcacctc gccgcacaag agttcgggtca tctcgtttct ggtcgacggg	1020
atccaccact acgacatggg catgttgctc gac	1053

<210> 174

<211> 936

<212> DNA

<213> unclassified Barnesiella

<400> 174

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ctgctgaagg agaacccccg catcgccctac ttcaagtggg actgcaacag ccccatcacc	180
aacatctact cgccctacct caaggccgac cagggacaac tctacatcga ccatgtgcgg	240

ggcatatacc gggatgatgca acgggtgcac gacaactacc cgcaggtggc catgatgctc	300
tgctcgggcg gcggtgcccg ctgcgactac gaggcgttga aatactttac cgaattttgg	360
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ttcccggcca aggccatgtg tgcccacgtg acgagctgga acaaagaggc gtcgatcaag	480
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<400> 175	
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 <211> 453
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<210> 178

<211> 534

<212> DNA

<213> unclassified Barnesiella

<400> 178

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<210> 179

<211> 2082

<212> DNA

<213> unclassified Barnesiella

<400> 179

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<210> 180

<211> 831

<212> DNA

<213> unclassified Barnesiella

<400> 180

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 <211> 435
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<210> 182
<211> 396
<212> DNA
<213> unclassified Barnesiella

<400> 182
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<210> 183
<211> 2091
<212> DNA
<213> unclassified Barnesiella

<400> 183
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<211> 1866
<212> DNA
<213> unclassified Barnesiella

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 <211> 1512
 <212> DNA
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cgcggtttca agatgattct cagcggcgag atggacgagt atcccagca agccttcttg	1440
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gcggctcact aa	1512

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 <211> 1155
 <212> DNA
 <213> unclassified Barnesiella

<400> 186	
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tatcagaaaag cctattcgtc ccggatactg cctgccgatt cggtcgactc ctcggtaatg	180
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gagtgcaacc gtcggcccga tgccgagccc ccgattatcg tggccaacgg ccggtcgata	300
cgccctcgca gcaacagtag ctcaaccgtt tacagcaatg gagagacgac ctcgtgctac	360
cgctatTTTT atccgttgcg actcgagaca gacggacact acgagtttcg ttgcaaagac	420
ctttcgttcg acaacattgc ttacgaccag ggaatgggtga ttctcgatat taccctgccg	480

gggtacgccg taaatcacga tttcgacact cctgcttccg gcacagagtg gggatggata	540
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tgtatgctgt tgttcaacct tttctccctg atttattcct ggggtgtatt gttgccctta	780
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gaattggccg aggtacacga gtggagtatc gaccacctgg ggtacgactg tatcgtagcc	960
cataccaatc cctcgatgtg gagtttctact tggggcggaac atatattttg tgtctatgac	1020
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 <211> 960
 <212> DNA
 <213> unclassified Barnesiella

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ttccgcacgg cgttcatctc gaatcagttg cgaaacggct cgtttaccga tttctttgcc	240
gacgaagccg actgcaccct ctacctgctg gctcccaaaa acaagactca cctctacgac	300
aatgtcctgt tgcccggtgg cgactcgctg ctccaaagcg gccccaccaa gcaactcatc	360
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gcctacgaca actcgattgt ggcaaccgac tggttactcg accagctgat cgaacggctc	540

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<210> 188
 <211> 627
 <212> DNA
 <213> unclassified Barnesiella

<400> 188	
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aaccgatgcc acatagccgg tgccaacggg gtgctgtcgc tctcggtgcc ggtagtcaag	180
cccgataccc tcaagtcccc cccccgcgac atccgcatct ccgaccacgg ggagtggcgt	240
cacctgcact ggaacgccat cgcctcggcc tacggctcgt cgcccttctt cgagtattac	300
caggacgata ttcgccccctt cttcgagaag cgatacacct ttctgctcga cttcaacgaa	360
gccatccgac agaccctctg cgaactcatc ggcttggaac cgcacgttga atacaccgac	420
cagtatgccc aaccgcccc tggcgaagca gacctgcgcg aagccataca ccccaaacga	480
aatattgccc agactatccc ctcgatgcac ctcaaaccct actaccaggt gtttgcccc	540
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<210> 189
 <211> 798
 <212> DNA
 <213> unclassified Barnesiella

<400> 189

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agcctcgact tcatcgggat gcgcaacttc agcctgctgt tcaacgccac gtcacatcaag	360
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<210> 190

<211> 669

<212> DNA

<213> unclassified Barnesiella

<400> 190

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tccgtacccg aatacatgag ccgcaagctg cggctgctcg acaatccccg cccgcacaac	180
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cggataaaact tccacaccga cctcgacaac gtatggatgg gagtcaccgt cacctgcgag	360
gccgagaaga gacgcatcgc cgacctgcgc cggcacatcg gggcccgta ctaccacgtc	420
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gcccacattg ccaaccaggc caaagcctgc gggatacccc tgtttatgaa ggaagaactc	600
gtcccgatca ttggcgaaga gaagatgatt caagaattac cgcaatcggt tatacaccaa	660
agactatga	669

<210> 191
 <211> 447
 <212> DNA
 <213> unclassified Barnesiella

<400> 191	
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accctcatgg catcgtatcc cgagtggacc accttctcgg cgaaggggtc ggccgatgtg	180
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tcgttgcaga tttcgggtgcg agtctttttg ggtatcgagg tggcgcggct ctacatgacg	300
cgcgacagcc tctttgtcat cgacaagatg cagcgccggt acgtaggcga gtcgctggcc	360
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<210> 192
 <211> 1710
 <212> DNA
 <213> unclassified Barnesiella

<400> 192	
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taccaagtag tacctgtcac tcgctcgacc accgaaatta ccgaaaccac caatcccgat	180
gtcagtgaat ttgccttaaa gttgggtatct gccgacggca gtttttcccg cgcctgggac	240
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tactacggca acctcgagga ggaggggttc gacaagccct actacctggg gcagtccgac	360

gtagccgtac gctatcgcga gaatacgccg gtcgagatac tctgcaccct ggccaacgtg	420
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<210> 193

<211> 1290

<212> DNA

<213> unclassified *Barnesiella*

<400> 193

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tcgggcgcat	cgaccggggc	acatgaggcc	ctcgaattgc	gcgacggcga	taaatcgcg	180
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acctatgtga	tgcccgtccc	catgatgaat	atcatcaacg	gcggctcgca	ttccgatgct	480
cctattgctt	ttcaagagtt	tatgattcgt	cccgtagggg	catcctcttt	taaggagggg	540
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<210> 194

<211> 1158
<212> DNA
<213> unclassified Barnesiella

<400> 194
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gacgaagggg tactcgtg 1158

<210> 195
<211> 642
<212> DNA
<213> unclassified Barnesiella

<400> 195

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ctcgaattat tcgaacatcc ggcttatcag gtgcgtatgc tgtcggtcgt tttattgggg	180
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gagaattggc gtgtgcagga gatgctggcc aaatcgtttg actttatttg taaagagcgt	300
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cctttggagg ctgttgcttt tttgagtaga cacaaggccg attcgagcga gtatgtgaga	480
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gaactggaca cttgggacca tagcgacccg aatgtgcgtt atacctatcg gttggcggca	600
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<210> 196

<211> 1023

<212> DNA

<213> unclassified Barnesiella

<400> 196

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tga	1023

<210> 197
 <211> 2196
 <212> DNA
 <213> unclassified Barnesiella

<400> 197	
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ctcgaaaacg acggctccat gtcgcgggcc gaagggtggg agaaatacct ctcgctgcaa	660
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<212> DNA
<213> unclassified Barnesiella

<400> 198
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<210> 199
<211> 936
<212> DNA
<213> unclassified Barnesiella

<400> 199

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<211> 918

<212> DNA

<213> unclassified Barnesiella

<400> 200

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<210> 201
 <211> 1089
 <212> DNA
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<210> 202
 <211> 1557
 <212> DNA
 <213> unclassified Faecalibacterium

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 <211> 1452
 <212> DNA
 <213> unclassified Faecalibacterium

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 <211> 1851
 <212> DNA
 <213> unclassified Faecalibacterium

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<211> 1029
<212> DNA
<213> unclassified Faecalibacterium

<400> 205
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<210> 206
<211> 1689
<212> DNA
<213> unclassified Faecalibacterium

<400> 206

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 <211> 1284
 <212> DNA
 <213> unclassified Faecalibacterium

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 <212> DNA
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<400> 212
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<211> 987

<212> DNA

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<400> 213

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<211> 867

<212> DNA

<213> unclassified Faecalibacterium

<400> 217

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cattttgcca cggcccgcac cgataaggaa agctatctgc tgttttatac gctgtccggc	180
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gggcggctgt ccccggttac ggtcagtcgg ctggagatgc agccgctgtt tgagtcactg	420
gccgccgagt gggagcacgg cgctgccga cagatcgaga tctgcttggc cctgcaccgg	480
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agcctgctgg cccagacgcc ggtgagcaag agctggttcc tgcggctgtt ccgccagtac	660

atgggcacga cgccctacaa ttttttgctg tccacgcgga tcacacgcgc caaggagctg	720
ctgggtgctga cggattttctc cgtctgcgag atcgcgcacc aggtcggctt tggggatgaa	780
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<210> 218
 <211> 1449
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 218	
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gacgcatgga aaaatctctc ctatccagag ctggccgaga aggtcctggc cggttttctg	180
accgattaca gcgtgatatt cctgcacacc gcaacggcat ctacctacgg cgctgccttt	240
ggcggcaagg cgggcgagac cgtcaaggtc cgcgacggcc tgtattctct cgagctgtgg	300
cacggcccga cctgcgcctt caaggactac gccctgcagc tcatgccgaa gctgctcgtc	360
gaggccaaga agatgctggg ccgcaccgag acgacccgca ttctgggtggc aacctccggc	420
gacaccggca aggccgcgct ggccgggtac gccgacctg acggcattga aattgagggtg	480
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gccatggccg cgctgaccgc cgggaccggc gtcgaggctc ccgcctcgct gcgtgagctg	1380
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cttcgttaa	1449

<210> 219
 <211> 948
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 219	
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ggtctgcggc agagcgacgc gctgttccac cacacggcag ccttgccccgc catgctgggtg	180
gagctggggcg caagggccga cctgacgcag gtcagggccg ttggcgtgtc cgccaggccg	240
cgccccgtgg aggggtcgta tatgccgtgc tttctggccg gtgtcagcgc cgcgacggcg	300
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gcaaagctgc tggccgacgg gcatgacgcg ccctatgtct gcaaatactg tctgctctgc	720
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gtgggtttttg cgggcggcgt tatgagcagc gatctgatcc gcacctatgt gacgaaccgc	840

gtgccgaacg cacatTTTgt accgggaaaa tttgccagtg acaatgccat tggcatctcg	900
atcctggcgg cgaggagtg tggcgcattg ccgactacat caatgtaa	948

<210> 220
 <211> 1299
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 220	
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gcccagctgt ttgaggaaaa cggctacacc gttgtctcca atgaagaagg tgcggatgtc	120
tacatcgtca acagctgcac cgtgacgaac ttcggcgacc agaagagccg caaatggctg	180
cgccgtgcca agcgagagaa ccccggcgcg gtgaccgtgc tgacagggtg ctacccgcag	240
gcgttcccgg acgaggccgc cgagatcgcc gaggcggacg ttgtgaccgg ctccggcaac	300
cgtcacgcga ttctgaccga cgtacagaag gtgctgaacg gtgaggaaga gcgcgtcgtc	360
gacatccgcc cccacgagaa gggcgagcgc tttgaagagc tgcccatgga taagtttgcc	420
gagcacaccc gcgcctttgt caaggctcgag gacggctgca accgccgctg cgcctactgc	480
gttattccgc gcgcccgcgg tccggtgcgc agccgcgatg aggcgagcgt gctggaggag	540
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cccggcattg agcgcattccg gctgggcagc cttgaccccg acatgctgca cgatgacgac	720
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ggaatgagat ttttgaaggt gcatgtgttc ccctactccc gccgtgaagg cacggcagcc	1020
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gccgctgtgg aggaggtagc cgctgccgaa gcagccgcta tgcagggccg caaagccagc	1140
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cctgtgctgg tcagcgcacc cgggcacaag accggcgaca ttgtggaggt cacgctgggt	1260
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<210> 221
 <211> 1146
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 221	
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acccgctgcg gcgggaaccc cctcgcagag ggggccgaga aatttcttca tttatataag	120
gaaaagccta tgtccgacca tcccaaaatc agcataatct ccacagtcta caacacaggg	180
ccgtacctgc gcccggctgt ggagagcatt ctggcccaga cgttcaccga ctttgagttg	240
ttgcttgtcg atgacggcag ccacgacggc tccgctgcgg tctgcgacgc gctggcacag	300
gaggatgccc gcatccgggt gttccaccag ccgaacggcg gcccggccca cgcccgcaac	360
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gaaccgacca tgtttgcaac gctgtacagc gccgtgcagg tcgatggcgt gcggctggct	480
gcctgcgcgg gcgactgcat cgacgccgac ggcaaaaaaa tcgaaggccg catggtcacg	540
atccgtcagg gcggtgtgcg cgatgcgcag gagcttttgc ttgaggcgtt ccagaccggc	600
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gtgcggtact ggaagatctt ttaccagttc tgggtgccagt ccgatgcggc gggcaacctg	960
cccgaggtca ggccaaagtt tatggcgcac aaaaagcatt tggatgccgt tttgcccgac	1020
atactggcaa gcaaatacct gccgctgggc gagaagctgc gggctgccgc gttctgcgcc	1080
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aaataa

1146

<210> 222
<211> 1062
<212> DNA
<213> unclassified Faecalibacterium

<400> 222
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gacgacggca gccccgacga aagcggcggc ctgtgcgacg cctgggcccgc cagagacccc 180
cgcgtgacgg ttttgcacga ggagaaccgc ggctgtccg ccgcgcgcaa cgccggactg 240
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aatatgctgg cgcggtttg gcttgactgt ctgctggcta tgccgtggaa taagctctac 480
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caatttgtat tggattatat cgaccagttt ggcaggactg ccccgattt tgcctacact 600
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cgcattgagg gctgctacag tgcctactac ctgccctgcc gctggcgag catccgcctt 960
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gccggatatt atctgctggg caggaggctg cgcagggatt ga 1062

<210> 223
<211> 1023
<212> DNA
<213> unclassified Faecalibacterium

<400> 223
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ggcctgacca agagtctgcg cgatgtcccc aaggaggacc gtcctgccgt cggcaagacc 180
atcaatgagt tcaagcagtg ggccgaggca cagtatcagg ccctgtccga gcaggctgaa 240
aaggccgcgc tcgaggcccg caatgccgcc gagaccgtcg acatcacgat gcccgccaag 300
attcgccaaa ccggcagcct gcacccgatc accctcgtca agaatgagat catcgacgtg 360
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tttaccgcc tgaatgtgcc gaagaaccat cccgcccgcg acatgcagga tacgttctac 480
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gcgaccact ctccgatgtt ccaccagatg gaaggcctcg tcgttgacaa gggcatcacg 660
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tga 1023

<210> 224
<211> 900
<212> DNA
<213> unclassified Faecalibacterium

<400> 224
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gacatcttcg gcatcctgcc gatgatcctg ggcagcatct acgtcacggc gggggctatc	240
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cgcacatcaata aggtcatgct cccggcgggtg cagctgctgg ccggcatccc gtccgtcggtt	360
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gtgctgctgg gcatcatgat cctgcccact atcatcacgg tcagcaaggc gagcctcgac	540
gccgtgcccc acagctacta cgagggcagc cttgcccttg gcgcgacgca tgagcgcagc	600
gtgttctacg ccgtgctgcc cgccgcaaaa tccggcgtgc tgcggcagt catcctcggc	660
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ggctacgccg ccgacctcca ccgcgaggcg ctgatcgcca ccggcgttgt gctgttcgta	840
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<210> 225
 <211> 1140
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 225	
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gggtacgcgg tggcgctcta ccgccgcggc gacgcctata cctacatccg cccgcagctg	180
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aatcacgaca ggatgaagtc gttttccaca ggcgttgtgc cgttcgcggt gattctgggg	480
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<210> 226

<211> 1662

<212> DNA

<213> unclassified Faecalibacterium

<400> 226

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ggctccgcca	aggcgatctt	catcaactac	acgatctcca	aacactacgg	cggcctgttc	180
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attgagggca	tcaccttcag	cctgtgcagt	cttgagtttg	agaaccaccg	cccgtgttat	720

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cttgtggata tgcgccagct ggaggccgtg ctgcgcgccg agctggagct gaacgcccag	1020
cgccgcgtgg ctgtgctgga gcctgtcaag ctgatcatcg acaactatcc cgccgaccag	1080
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ccgaaattca agcgcctgac gcttggcagc gaggtccgcc tgatgggcgc gtatctggtg	1260
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agtgtcaagg tgctgcaggg cgccaagctc gaggagagcc tgaaggacgc caagcccggc	1560
gaccgcttcc agttcgtgcg caacgggtat tttaccccg acagcaagca tgagggcgtg	1620
tacaatcgaa tcgtcacgct gaaggacagc ttttaagctgt aa	1662

<210> 227

<211> 948

<212> DNA

<213> unclassified Faecalibacterium

<400> 227

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cgcgagatgg agcgcctgca caagaccagc gccgtcacca ccgctcccct gggccgtctg	180
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cagatcaagg gcggcgcccc cgaggccgc ctgctggccg tttccgacgg caccggcaac	300

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cgcgagccgt acatcggcca ggtgccgctg acctccgggtg agatcgccga ggacatcacg	480
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gatattctcg acagctacca tgtgacctac aagtgcgact gcggccttgg gcgcgttgaa	780
aagatgatcc gctccccttg caaaaaggag gtcgagcgta tgcgcgacga ggaccccggt	840
gccgaggtga actgccagtt ctgcaacaag aattataagg tggatctgaa tgaactgctc	900
aaaaactggc cttccaccgc cgaaaatgtg ccgagcgaaa acgcataa	948

<210> 228
 <211> 1554
 <212> DNA
 <213> unclassified Faecalibacterium

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<211> 1857

<212> DNA

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<211> 708

<212> DNA

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<400> 233

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<400> 237

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<210> 242

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<210> 247

<211> 1425

<212> DNA

<213> unclassified Faecalibacterium

<400> 247

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<210> 248

<211> 1338

<212> DNA

<213> unclassified Faecalibacterium

<400> 248

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 <211> 1803
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 <213> unclassified Faecalibacterium

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taa	1803

<210> 250
 <211> 1113
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 250	
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gcgtaccggg gccgcggctt tgtctatacc accggcatcc tgcaggacgg ctttgccacg	660
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<210> 251
 <211> 552
 <212> DNA
 <213> Firmicutes bacterium CAG:176

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acagaatttt aa	552

<210> 252
 <211> 864
 <212> DNA

<213> Firmicutes bacterium CAG:176

<400> 252

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ggcggtcatt gggataaagg caagctgccg gaaagctggc aggtgcatta caaagacctg      240
acatttcagg tgaagcccat gaacttcaag catacgggat tgttcccgga gcaggcggta      300
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catgtggacg cggccaaggg tatggtggcc tggggtaagg agaacgcccg tctatccggc      480
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<210> 253

<211> 711

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 253

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gacgacagca tttacatcat gaagcatgcg gactgccccg ccgtgctggg ggaatgcgga	600
tttctgtcaa acccggagga gacgggtgctg cttcagcagc cagactatca actgcacatg	660
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<210> 254

<211> 969

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 254

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ctggtcagcg ccaaggctct gtgctatcag gacaagaaaa gccggggcct tttgaagctg	180
gcccccaacg aaaagccgc cgctgcccga atcttcggca gcgatatccc ctgcatggct	240
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ctgcgatga	969

<210> 255
 <211> 609
 <212> DNA
 <213> Firmicutes bacterium CAG:176

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gcaggcgtaa cgctggacta tacggcaca aagggtgcg ccctcaccat cgcggcgcag	600
attttgtga	609

<210> 256
 <211> 846
 <212> DNA
 <213> Firmicutes bacterium CAG:176

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cggtttctcg ccgccccca cgtctgcgag gaggcggaca ggccctgcct gcgctgccgc	180
cactgccgca aggtactgga gggcatccac ccggacgtga tccccgtgct ggatacagag	240
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ttatga	846

<210> 257
 <211> 525
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 257	
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<210> 258
 <211> 351
 <212> DNA

<213> Firmicutes bacterium CAG:176

<400> 258

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<210> 259

<211> 729

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 259

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cacatccgcc agcgtcagga ggagcggcgc gagaagtaca gcttcctctt tgcctaccgc      660
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cgcaagtga                                     729
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<210> 260

<211> 363
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 260
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tga 363

<210> 261
<211> 501
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 261
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cgccgccgcc ccgcccgcc gcccaaaagg gccggccgcg aaaaaggcgg cgcaaaaaac 420
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<210> 262
<211> 684
<212> DNA
<213> Firmicutes bacterium CAG:176

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<210> 263
<211> 360
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 263
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<210> 264
<211> 873
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 264
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<210> 265
<211> 1062
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 265
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<210> 266

<211> 1032

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 266

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gacgagatga ccgacttgct caagcctctg cgtgcccagc tggccgagac gtgcttcac	180
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<210> 267
 <211> 834
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 267	
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<210> 268

<211> 570

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 268

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cccaataaga atatccattc caagaagaag aacagcaact acggcgggta caccaccggc 240

gcgtacatgg ccagaaaggt ggccgagaag gtgaaccagc aggagaaggt gaagctgccc 300

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cgcttgacag ctttcaagga cagcgcggtat atgaccacc tgctctccct gacgctgggc 420

atcacctgcg gcacgctgtt ctatatccgc aagtacaagc acacgaagaa aaccagcgcc 480

atgtacagca tcatcaccat tctgctggtg gtcattgtgcc tgctgtacac caccttcggc 540

attctgggac tgctgggctt tttgggctga 570

<210> 269

<211> 447

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 269

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tatgggcgca acggtgtgga ccggctgacg ctgaccatgg tctggacggc tctggtactg 120

gatatcatca acatttttct gcgggagaag gtgccgctgg catacagcat catcggcacc 180

gtggccggga tcatcacctt gctggcactg ttccggatgt tttccgcaa tctggagaag 240

cgccgggcgg agaacgcgaa gttcatggag aaggtctggt ggcccatcag ccgacgtatg 300

accgggaaaa ggcagcagcg gatggataaa gagcactgct actttacctg cccgggctgc 360

ggcgcggtgt gccgggtgcc aaaaggga aaaggcgcacg tcatcacctg ccccgctgc 420

ggcaatgaga tacacggaaa atcataa 447

<210> 270

<211> 624

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 270

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aaggaaaacg gcttcaacga ggactatgtg gccaacgtgg gcgaaaagag catcgaagcc 180

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gactggttca attcccacgg ttaa 624

<210> 271

<211> 336

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 271

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tgctatTTTTT atatggcaga ggcgccctcg ctgtcgctgc gggagccgga caggcttctg 120

ctggtcacia agcatgtgta tccggacgtg gcgcgctgct ttgacacaaa ctggaagtgc 180

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<210> 272
<211> 603
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 272
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<210> 273
<211> 981
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 273
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<210> 274

<211> 513

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 274

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gaaaagtgcg gaccgttgat gcagacggat atcacgccgg gcagctacca atggctgaac	480
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<210> 275

<211> 519

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 275
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<210> 276
<211> 834
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 276
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<210> 277
 <211> 336
 <212> DNA
 <213> Firmicutes bacterium CAG:176

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<210> 278
 <211> 792
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 278	
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<210> 279
 <211> 855
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 279	
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<210> 280
 <211> 261
 <212> DNA

<213> Firmicutes bacterium CAG:176

<400> 280

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cgggacaaca agggcccgcg cttactcgac agcgggtgaga tattcaccgc cgcagtaaac      120
atttcacgc ctgttgca tctgcgtgca accacgcgga gtatattata cagatacagg      180
ggggcactgt caacaaaaat ttaccacaaa gcgcccgttt ttgcgggaaa aacagggaaa      240
aagccggcag tttatatatta g                                             261
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<210> 281

<211> 858

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 281

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ctccccctctg agaacattat atacttcggc gacacgtccc gtgtgcccta cggcgggcgc      180
tcggcggaaa tattgctgcg ctacgcccgg caggatgtac atttcctgcg gagctttgat      240
gtgaaagcgc tgctgggtggc ctgcggcacc gtatctacca acgctctgcc ggtgctggcg      300
gccgagaacg atatccccgt tctcgggtgt gtgaaaccct cctgcgcggc ggccgctgcg      360
gcgacccgaa ataagcgagt gggcctgata gccacggcgg catccgtgcg ctccggggcc      420
tatgagcgct gtctggcggc gctggacggc gccattcagg tgtatgtcaa ggcctgccct      480
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gtggccccggg agtatctgga gccgctgctg gccacgggga tcgacaccct catcctgggc      600
tgcacccact atccgctgct gacggagatc atcgcggaca tcatgagccc tgggtgtgacg      660
ctcatcgact ccggcgctgc ggcggcgcggt gtcctgcggc agacgttgtc agaccgggggt      720
gcgctggccc aacgtgacca cggcacactg aactgtatg ccagcgaccg gccggaggac      780
ttcggtgcg tggcagggca gtttctgcgg cgaccgctgg agagcgcggt acagcacgtg      840
gacatcgaga ggtactga                                             858
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<210> 282
<211> 606
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 282
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tatgacaaac tcatgcgctg gcgcatcgat ctgctgcggc agcgcggcct gaagctcagc 180
gccattcagg agaccatctc ccgcatcgac cccctgcccc gcgccaagga cttcctggac 240
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cccctcatgg ccaagctggg ctatcccacc ctgctgtgca acaccctcga ggtggacggc 360
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gcccttcagt ctatcggcta cgacaccatc gccagcggcg acagctataa cgatttggag 480
atgatcctcc acagcaaggc cggctttctc ttccggggtc ccgacaagat caagcaggac 540
taccgacgacc tgcccgccctt cgaggactac gacgacctgc tggccgccat ccgcgccgcc 600
ctgtaa 606

<210> 283
<211> 786
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 283
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cctcccgctgc aaaagctctc ccacaacgac cacatcgacc tgtaccgcca cctggccttc 120
tgcaccgttg gcggcttctt cggctgctac gctgttctta tccacagcgg cgtcatgggc 180
aacgcccaga cgggtgaacct gatcgagctg ctgctggacg ccctgcgcgg cgatctgcac 240
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atcttctttg ccatgagcat ccagtggagc agcttcggcg gcgcccgcgg cttttacagc	480
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tgtgaccatg accgcgcccc cctgcgaaag ctgaaggctt ttgccctcac cctgctgtgc	600
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ctggccgtgc tgcccccttat cgcctgggcc ttcttcctgt ccgtatgcga acgcaggcat	720
gaagccctgg ccgaggaacc ggagaccatc cccgacagca gcgcccaccc caccagcaac	780
gcataa	786

<210> 284
 <211> 534
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 284	
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ctgttcgtat ccggctgcac caaccactgc ccggactgct ttcagcccca gacgtgggat	120
tttgactacg gaaaggaatt cacggaggac accaaggcgg agatattctc ggagctggac	180
aagccctttg taaacggact gacggtgctg ggccggcgagc cttttgagcc ccggaaccag	240
cgggagctgc tgccgtgct gcgggaggtc aaggcgaagt atcccggcaa gaccatatgg	300
tgctttaccg gggtccggct ggacgatgag ctgctggcag acggcagcta tccccggctg	360
gaggcaacgg atgagatgct cgcgtgcatc gacgtgctgg tggacggacg gtttatgaag	420
gaactgaagg atatctcgct gcagttccgg ggcagccgga accagcgggt catcgatatg	480
aaccgaacaa gagagacggg aacgatctgc atttgggaca agctgagacg ataa	534

<210> 285
 <211> 930
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 285	
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gtgggcgcct tcaatatccg caaggactcc ggctgcgagg cccgtcagtc caccgagcac	120

attgctatcg atccccgcag cgacggaaag tccggcattg acatccgcat caagcccggc	180
accaagggtg agaaatgcta catccccgtc atcatcagcc acagcggcct cagcgagctg	240
gtctataacg acttctacgt gggcgacgac tgcgacgtgg acattatcgc cggctgcggc	300
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aaaaattcca aggtccgcta tgtggaaaag cacttcggcg agaaggaccc cggccagacc	420
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gaagccggca gcgagggtgg ggtcaccgag cgcctgctga cccatggcg ctcaggaggcc	600
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atcgccggcg accagctgct gaagctggag accctcggcc tgacccccga acaggcggag	900
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<210> 286

<211> 657

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 286

atgcaggcga tcaagcaatt cttcaaaacc catccccacg cctgggtgggg cgcatatctg	60
ccggtctatc tggcgatgtt ttttaccatc gagcacttta ttaccgataa ctactgggcc	120
acacagacgg tgctggacac ctatatcccc ttctgcgagt ggttcatctt cccctatgtg	180
tcctggagcc cgctgctggt ggtgctgggc atctatctga tcctgaagga cgccgagggc	240
ttccgccggt atatgtggtt catcatggtg acgttcacaa cggcgggtgg gttctgcatt	300
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tggctggtgg agtacaccta ttccatcgac accaacacca acgtcttccc cagcatgcat	420
attctgggct gcatggcggc tgtggcggcg gtgtggcaca cgccgggact gcggaagccc	480

ggctggcgct ggggcgtaac gctgtacgct atcctcatca tggcggccac cgtgttcgtc	540
aagcagcacg cggccatcga tgtgctggcc ggactgctga ccggcgccat cgcctatgtg	600
ttcgtgtatg tcatcgttgg ccggcgccgc gacaggcggc tgggccggga ttgctga	657

<210> 287

<211> 852

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 287

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aatccccggg gcagcaaggc caaggccatc gatccggcgg atgtggcggc gtttctggcg	180
ctggcggcgg aaaacgaatt cggcacgctg gtggcccacg cgccgtatac catcaatccc	240
tgctccaagg atgagcacac ccgggagttt gcccgcatac cgcttgcgga cgacctgaag	300
cggatggagc acctgccggg gaacgtgtac aacttccatc ccggcagcca caccgggcag	360
ggtatggaga cgggtattgc ccagatcgcg gagacgctga acgccatcct tacgccgggc	420
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ggcgcggagg cgctggggcg cgtggtgctg catcccgcat tgcaggggct gccctttgtg	780
ctggagacgc ccaacgagct gccgggctac gcccgggaga tcgccctgct gaaggcgctg	840
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<210> 288

<211> 615

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 288
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gtcatcgtac tgctggagca gtatctcagc ttcatctccc cgccggtaggg cggcaaggag 180
cgctttgtca cgtcctccac catcaacaac tacgttcggc tgaagatcat gcccgcgcca 240
gagaagcgga aataccaccg catccacatt gcgtacctca tcatgatcct gaccatgaag 300
cagagcctga gcatcagcga tgtgcagaag atcctgcccg ctgacagcaa cgagacggac 360
gtccgcgcgg tgtatgagga ttactcgctg aaattccgcc gggtaggggct gtttttcaac 420
cagcaggtgc agtccgggtc ggagggcacg cgacgcgcca acgaacagaa cggcaataac 480
gccgtggagc tgctgggtcat cgaaagtgcg ctgatcgccg ggttctccaa gatattggca 540
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ccgccccagc cgtga 615

<210> 289
<211> 2112
<212> DNA
<213> Firmicutes bacterium CAG:176

<400> 289
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gtgatggcgg tcacggctct catcggcggc aacagcagca tccgcaacgc ccagcagacc 120
gcccagcgga cgctgcaata tctgcaaaac cagtgcacga gctaccgcga catcgtcgcc 180
gccgaccggc taaagagcct cgtgcggctg acggagcagg cgcaggaggt ggcggagcgc 240
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cgcgtaacct gcgtgctggt gctggacaag gatctggaga tcgagttcag ctccggtgcg 360
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aggctcggcc aggaccgcaa acggcgggag ctggcgtacc agaagcagtt ggaaaaggaa	960
gtagagcgtg ccacagcggc ggaccaggcc aagacgcact tccttcgcag catgagccac	1020
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gccatggtgg atcaggccgc cgacggcaag gaggcgggtg agatgtttgc cgcgtcggcg	1860
cccggtacct acgacgcggt gctgatggac gtgatgatgc cggagctgga cggcctttcc	1920
gccacccgcg ccatccgcgg gatggacagg ccggacgcc gcctgccgat catcgccatg	1980
accgccaacc tgtttgacga ggacgtagcg gcctgcctgg cagcgggcat ggacgcgcat	2040
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2112

<210> 290

<211> 861

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 290

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aacgtgggtgg aggaggatgt agccttcggc ccggagaacc tgggtgtgcc tacggcggag	360
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<210> 291

<211> 1710

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 291

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cggggcaacc ggaagcgggg gaccgtcagc aaagaccgct ggggcaccac catcagcttt	180
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<210> 292
 <211> 534
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 292	
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<210> 293
 <211> 648
 <212> DNA
 <213> Firmicutes bacterium CAG:176

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<210> 294
 <211> 642
 <212> DNA
 <213> Firmicutes bacterium CAG:176

<400> 294	
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ggcatcgact actttgatta tgcggagtgt ctgggtgacc tggatgaagac agagcatctg	300
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 <212> DNA
 <213> Firmicutes bacterium CAG:176

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gcggccttgg gccggacgct ggcagcagcg tccatgatgg gcaacgccct gaaaagcgat	180

ggcgccagcc tgacgtgca attcaagggc ggcggtccgc tgggcacggt gctggccgtc	240
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<210> 296

<211> 612

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 296

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caggcggcat tggcggtgct gggctacggc agcgcggaga tcgcccgggc gctgaaggat	540
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aagatgaagt ag 612

<210> 297

<211> 597

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 297

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gaggaatact tccccgccgg gctgacgccg gaggagacgg tgtgctacat ctccccgggag 180

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ccgggtggtgc tgctggcgga gatgctgggc gaattcgga tacagctgct gggataa 597

<210> 298

<211> 1314

<212> DNA

<213> Firmicutes bacterium CAG:176

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<210> 299

<211> 669

<212> DNA

<213> Firmicutes bacterium CAG:176

<400> 299

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<210> 300

<211> 1350

<212> DNA

<213> Firmicutes bacterium CAG:176

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<210> 301
 <211> 1626
 <212> DNA
 <213> Clostridium sp. CAG:62

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<210> 302
 <211> 1359
 <212> DNA
 <213> Clostridium sp. CAG:62

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<210> 303
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 <212> DNA
 <213> Clostridium sp. CAG:62

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<210> 304
<211> 1083
<212> DNA
<213> Clostridium sp. CAG:62

<400> 304
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<210> 305
<211> 1368
<212> DNA
<213> Clostridium sp. CAG:62

<400> 305

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<210> 306

<211> 1149
<212> DNA
<213> Clostridium sp. CAG:62

<400> 306
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<210> 307
<211> 1473
<212> DNA
<213> Clostridium sp. CAG:62

<400> 307

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1473

<210> 308

<211> 1620

<212> DNA

<213> Clostridium sp. CAG:62

<400> 308

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accatgcaga aatttgaccc gtatatcaat attgacccgg gtacgatgaa tccaattcag 180

catggtgaag tattcgtcac cgatgacggt gcggaaaccg atttggactt gggacattat 240

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cctcatatta caaatgaatt gaaaagccgt ttttaccgca acgatgggtgt aaaagaaacg 420

cagattgcca tcattgaagt cggagggtacg gttggtgata ttgagagcca gccattttta 480

gaggcaattc gtcagttcca gttagacgtc ggacatgaaa atgcatgttt gattcacgtt 540

acattagttc cttatttgaa ggcatcacag gaattgaaat ccaaaccaac acaggcaagt 600

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<210> 309

<211> 1908

<212> DNA

<213> Clostridium sp. CAG:62

<400> 309

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tcaggctggg atcagggttag ttttgtaaag gataacacga ctttgacagg ctttgtcagt	300
tccaattata ttgcgattga acaggcgtcg actgcggtac ctgcaccgac agtaacaccg	360
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aaggttggca ggaaaaaaaa gtcgcttgca aagggaaga aaataaaagt aattggtgaa	540
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attaagacga aaaaggcata tgccggtatg atggacaaat ctccattggt attttcaatt	1860
ccggtttatg aaaatatgcc ggccggcaaac agcccaatgc ccaaataa	1908

<210> 310

<211> 1362

<212> DNA

<213> Clostridium sp. CAG:62

<400> 310

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gattcgaatg gtaaaggagt acttaccgga ttgacagaga tttcagatgt ctgtggatac	180
cgcttgaaaa acggcaaaaa gattccttgc gacggagaac tttattatca gggatataat	240
gtaatggacc ttgtaaaaag ttttgaaaac cgccgattcg ctttcgagga gacaacctat	300

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gcaaacatta tgaatgcact gcagaaaagt gtgctgacac tgtattcgta tgatgagaat	480
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gcagagcatg gcggcggtaa taactcgacg tttaccaatc atgtggtaac gtcctccggc	780
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attccgagag aattatttac tccgattttt gcgattgccc gtatttccgg atggagtgca	1260
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<210> 311
 <211> 2223
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 311	
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gttttttcga cttttgggtga atacgataac aatcatgatt atgtggaagg agaaagcaat	180

tgtctttata ttccaaatta tgacgaattg gatgggatta ttttatgcct tgatgtgttt	240
gatattccta gcatggtagg aaaattaatt gagcaggtaa aggaaaaggc gcattgccct	300
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cagaaaaaga ttaaagagat tgcttttttg gttggctata aagatgagtt gtacttttcg	2160
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<210> 312
 <211> 1764
 <212> DNA
 <213> Clostridium sp. CAG:62

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gttgttttag ataagacgat ttccggttcg aaagaccgagg agggcgtaat tcgtgattat	180
gtgtacttag aggggaagatt aaaagatcag gtaaaattta catcaggaga tattgatgaa	240
gaattgctgg atatgctccc aaggatggag acattccgca aactggttca cagtgttggt	300
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ccactcgata atggatgggc aactgcaat ccgcagattt taattgatga aaaagaaagc	1680
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<210> 313
 <211> 1098
 <212> DNA
 <213> Clostridium sp. CAG:62

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ctcacggacc caagttatgc cggacaggca gtagtaatga cctatccgtt aattggtaat	180

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gaaattgttt	cctataaacc gggcgattta gataccgata gcaacatttc tattacaaag	540
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ggctgtgaag	ttacaattta cccggcaaaa acgaaagcag aaacgattct tgcttcccat	660
ccggacggca	ttatgctgac gaatggaccg ggggatccga aagaatgcac agaagtcatt	720
gaagagttga	aaaaactgta tgcacgcgat attccgattt ttgcaatttg cttgggacac	780
cagttaatgg	cacttgccctg tggctgtgac acggagaaaa tgaagtatgg ccaccgcgga	840
gcaaatcatc	cggccaagga cttaaaaacc ggacgtgtat acatttcttc ccagaaccat	900
ggctacatgg	taaaggaatc ttcggtgcc aagagattg ccgaggttgc ctttgtaa	960
gtcaacgatg	gcacagttga aggacttcgt tatttacaga aaaatatctt cacggttcag	1020
tttcatccgg	aagcttgtgc cggaccgaag gattcggaag ttttgtttga tgaatttatc	1080
aagatgatgg	aagagtaa	1098

<210> 314

<211> 1161

<212> DNA

<213> Clostridium sp. CAG:62

<400> 314

atacaaaatg	ttttcagaaa gaaggaaatg aaaatgaaac agtttaatcg tacttatgca	60
gaggttaatt	tagatgccat ccggcataat atcgatgagg tacataaaaa tataaaagaa	120
ggaacaaagg	taatggcaat tgtgaaggca aatgcttatg ggcatggtgc cgtacagggtt	180
gcgaaggcat	tatatgatca ggtagatgct tacggagttg ccatgataga ggaagccata	240
gaacttcgaa	aagcaggaat tgataaactg attttgattt taggatatac cggagaagaa	300
tcctatgagg	atttggtgca atatcagatt tcccagactg tgtatacgtg ggaaatggca	360

gagcagttaa gtgagacagc attaaaaactt ggaaaaaaaag caaagattca tataaaaagtt	420
gataccggaa tgagccggat tggttttatc ctttgtgaag aatctttgga tacggtagaa	480
aaaatttcga aactgccggg actggaagtt gaaggaatct ttacgcattt tgccagagct	540
gacgagaaaa ccattgagcc ggcgagagaa ctttttagaa aatatatagc ttttgtcgaa	600
gaattagaga aacgcggtgt taagattcca attcaccatg tgtcaaatag tgcttcaatt	660
attggatttt cggaagctaa cttgatatg gtgcgttccg gtattacgac ttacggactg	720
tatccgtctg atgaagtggc aaaggatggt cttatattgg aacctgccat gcagtggaaa	780
tcgattattt cttatataaa aaccgtagag ccgggaacga gtatcagtta cggtggtaca	840
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aaacgtgatt tgtcaggcaa aggacgtggt ttgattcatg gacagtatgc accgatttta	960
ggaagaatct gtatggacca gtttatgggt gatgtgtctc atatcaaaga agctgcaatc	1020
ggggatacgg taacaatttt tggaaaagat ggagaaaaaa atatccccgt tgaggagatt	1080
gcagaaaaat cacattcatt taattatgag tttgtatgca gtattacaaa ccgtgtgcct	1140
agaaaatatt taggagaata a	1161

<210> 315

<211> 2193

<212> DNA

<213> Clostridium sp. CAG:62

<400> 315

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gcaaaacaaa tagcagaaga actgaaaatt aaagtatggc aggttgaagc agtgatggaa	120
ttgattgacg aaggctgtac aattccgttt attgcccgat accggaaaga aaaacatggt	180
tcgttaaagt atgagcagct gcgtaatctg gatgagagat taacgtactt gcgtaatttg	240
gaagaaaagaa aagagaccgt acttgccagc attgaggagc aggggaaatt aaccgaagaa	300
ctcaagcagc agattctggc ggcacagacc cagggtgcttt tggaagattt gtaccgtccg	360
tatcgtccga aacgacgcac acgtgctacg attgcaaaaag aaaaagggtt ggaaggactg	420

gcaaatcaga ttcttttgca gctgttaggc cattccgtgg aagaagaagc aaaacagtat	480
ctggatgagg aaaaagaagt tacgacagtg gagcaggcaa tttccggagc gctggatatt	540
ttggcggagg caattgcgga cgaagccgat tacagaactg caattcgtaa gacaacaatg	600
cagaaaggct cattggtttc tacggcaaaa aatgcagaag agaaaacggg ttacgaaaat	660
tattatgact tttctacggg gctttccaag gtgtccggat atcagaccct cgcaattaac	720
cgcggtgaga aagaaaaaat tctgaccgta aaaattgagg cgcctgagga tgatattctg	780
cggtattttgc gaaaaaaagt tattgtgaag gaaaatgaat atacaacacc gtatctggaa	840
gagatgattg cggacagtta taagcgtttg attgcgccgg caatcgaaag agaaatccgg	900
aatgagttaa cggagacggc agaagatggg gcaattcgcg tgtttggttaa aaacttggag	960
cagcttttga tgcagccgcc aattgccggc aaagtgggtac ttggctggga tccggcattt	1020
cgtaccggct gtaagttggc ggtcgtggat gagacgggaa aggtgcttga taccatagtg	1080
gtattttcaa cggagccgca gaataaagtg gcagagacca aacgtattgt aaaggccatg	1140
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gaacttgtaa ttgtagatat gttaaaggaa ttgaatcgctc cggttcaata cattattacc	1260
aatgaggcag gagcatcggg ttattcagcg agcaagctgg caacagagga atttccgaat	1320
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gaacttgtaa aaattgaccc gaagagtatc ggagtggggc agtatcagca cgatatgaac	1440
cagaaaaaac tgagtgaggc actgggaaat gttgtagaag actgcgtaaa taatgttggt	1500
gttgatttga atacggcatc ggcgtcattg cttgaatatg tatccggtgt atccaaagca	1560
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attaccggtg gcaaaaatcc gctggatgca acgagtgtgc acccggaatc ttatgaggca	1740
gcaacaaagt tactggaaat gcttggatac cagttagagg atatagccgg ggggcttacc	1800
ggtttgtcat tgatggcaaa agatacaaaa aaactggcag agcaggttgg cattggcgag	1860
attacgttga aagatattat tcgcgaattg gagaagcccc gacgcgaccc gcgtgatgag	1920

atgccaaaac cgattttgcg cagtgacgta ttagaaatga aagattttaa agagggcatg	1980
attttgaaaag gaaccgtgcg taatgttatc gactttggag cttttgtaga cattgggtgtg	2040
catcaggacg gacttgttca catttctaaa ctgacggata aaaaatttgt taaacatccg	2100
ctggatgttg tttctgttgg agatgtagta gatgttaaag tattacaggt ggatatgcag	2160
aagaagcgga ttcagctgtc aatgatattg taa	2193

<210> 316
 <211> 1158
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 316	
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tttgatgtgg caagcacgat ggataatgtc atatcgcttg gcgtaggaga gccggatttt	120
gatacaccgt ggcacattcg cgaggaggggt atttactcgc tagaaaaggg gcgcacgttt	180
tatacatcca atgcagggct tttgcctctg cgcaaagaag tatgcactta tttgaaacgc	240
cgttttgcac tttcatatga ttcggatgag gtgattatta cggtcggcgg cagtgaggca	300
attgatattg ctttccgcac gatgcttgat ccgggggacg aggttatcgt tccggagcct	360
tgttttgtgt cttatgtgcc atgtattaca atggcaggag gcgtgccggt aagacttgca	420
ttagaagaaa aggatgaatt taaactgaca aaagaaaaat tgttgtcagc gataacggat	480
aaaacaaaga tggttgttct gccatttcca aacaacccga ccggtgcgat tatgacgcac	540
gaggaattac agattgttgc ggatgtaatt aaggaacacg atttatttgt tctgtccgat	600
gaaatttatt cggaattaag ctatcagggc gaccatgtgt cgattgcggc aattcctggg	660
atgaaggaaa gaagtgttgt aattaacgga ttttcgaaat cctatgcgat gaccgggtgg	720
cgtcttggct atgcggtcgg accaaaagaa attataaaac agatgataaa ggtacatcaa	780
tatcttatta tgagtgcacc gacaacgagt cagtatgcag cgattgaagc attgcgaaat	840
ggcgaatgaag atgtggcgaa aatgcgtgag agttacgatg aaagacgccg ctttttagtg	900
aaagagctgc gtgaaatggg catgccgtgt tttgaaccga tgggggcatt ttatgtattc	960
ccaaacatca gccgttttgg catgacgagc gaggagtttg ctaaaacact tctcgaaaaa	1020

gaacatgttg cggtagtgcc agggctctgcg tttggcacat gcggggaagg ttttttacga	1080
atttcctatg catattccat tgaagactta aagaaggcac tggttaaaat tcagaatttt	1140
atagacacta tttcgtaa	1158

<210> 317
 <211> 1557
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 317	
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gtcattatta tcggtgttat cagtcttgca aacgttgtgc ttttgccata tttttatcag	120
tccaataagg taagccagat gcagggcgtt tattcgctg ttatcaatat ttgtgaaaat	180
gtggattgga ataagatgga cagcgagcaa aaagatacaa tttatgataa gttagaccag	240
ctttcgagca ataccaacat gagcatttat cttgtgcaga ttcgggttta ccaagggtct	300
ggtgatatcg cggaattagc gtatgtatat ccgagtgaca gtgagcgttt gcaacaggta	360
acaaaaaacc aacttgataa gtacgtaaaa tcaatttatt ttgggcaaaa gctagacgat	420
aactgtaaaa tgattacaca gacagcaaat tattcgatgt ataatgtgta tgatacgaga	480
gtagattcta attttttggga actcacagga aagatgcccg ataattactg gatttatctg	540
cgcagtaatt atcagagtat acaggaaagt gccagtgtat cgaatcagtt tatgctgtat	600
gtcggaatga ttgtgatgat tgccggcgtg tttattatgt attttgtcag caatcaatat	660
acgaagccga ttctgcgcct ggcaactcat gcaaaaaaca tgcagaaact tgacttttca	720
actcgttata aagataaccg tgatgatgaa atcggagtgc ttggcaacag tatgaatgct	780
ttgtcagacc gcttggagaa aaccatttcc gaattaaaga cagcgaataa tgaattgcag	840
ctggatttac agaggcggtc ggagcaggag cagatgcggc aggaatTTTT ggCGaatgtt	900
tcgcatgaac tgaagacgcc gattgctttg attcagggat atgcagaagg attgcaggaa	960
aatattaatg atgatgcaga aagccgtgaa ttttactgtg aagtcattgt ggacgaggct	1020
gacaagatga acaagatggt aaaaaaacta ctgagtttaa atcagttaga gtttggaaat	1080

gaccaggttc attttgaaca ttttgacttg cgaagtgtaa ttcagtcgat agtaaattcc	1140
tctgatattt tgttccgtca gaaagaagtt acgttgtcat accatccgga tgaggaacca	1200
attatggtct gggcagatga gtatatgatt gaggagggttgc tcagcaatta tgtgagcaat	1260
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cgtgtatgca ccagcgtatt caataccgga gatccgattc cggaggaaga tatggataaa	1380
atctgggtcga aatttttacaa agtggacaag gcaaggacaa gagaatatgg tggcaatgga	1440
attggtttat ctatcgtaaa agccgttatg gatgcccata atcagaagtt tgggtgtgaaa	1500
aattatgaca atgggtgtcga attttggttt gaacttgacg tgaaaagtgt tgattga	1557

<210> 318

<211> 894

<212> DNA

<213> Clostridium sp. CAG:62

<400> 318

atggaggtaa ttacgatgca attaacagaa caggaaacca acgtaatcaa agattttacag	60
acacaggaga aagcatgtgt tgacaaatac cgctttttatg agcagtctgc ccatgacgaa	120
gaactaaaaa acttattttca ccgcattggt gatgaggagc aggaacattt tgactcctta	180
ggcatggtgc tcaagggtga tgtaccaaata gtaagtgccg cccgcagcgg tatggaggga	240
tacacgcctt ccgaaaagta cgcagcaggt aacaactccg aagagaaaaa acatgaccaa	300
tttttatgta ccgattgtat tgcaacagaa aaactcgttt catccaccta taatgatgat	360
gttttccgtt tttctgccag caatatccga agactcttaa atcacatcca gacagaagaa	420
caaaatcacg cagagatgat ttataaatac aaaacggcaa acaatatggc atatcctgtc	480
atagtttccc ctcgctgcgc atacaatgat acaagggtac caaagtccaa actcgttcat	540
gcttgcata taagagggtg gaccttggtta cccgccaaac atgagaaagt agcgatttat	600
gcaataaatc cgcggatttc gaatgtttgc aggattgtga aagttgtgaa acaacggagc	660
aatccgtatc attgtttgca attcagcaag gaggaatatt atgatacaaa ttttcaaaaag	720
aaacaagaaa atcacaaaac tattttttgtt actgtttttt ttatgctgca ctgcttttct	780
tcttattttt tacatagaat cggacaagcc cataacaaag aaaaagcaaa cggcatcaaa	840

aacaactgcg gacaaaccaa catccatttc ttattgtgtg acttctcttc ctga 894

<210> 319

<211> 1326

<212> DNA

<213> Clostridium sp. CAG:62

<400> 319

actcaccggc gagaaattaa agtaattccc actacatcat ttggagggaat tttcaccatg 60

gaaaagaaaa caattttaac tttggatcag gttaaggaaa ttgaaaaaac ttatccgact 120

ccatttcata tttatgacga aaaaggaatc cgcgaaaatg cccgtgcttt gaaaaaggca 180

ttttcatgga acaagggtta tcgcgaatat ttcgcagtaa aagcaacacc aaacccattt 240

atccttaaaa ttttacagga agaaggctgc ggagttgact gctcttctct gaccgaatta 300

atgctttcag aatcccttgg atttcatgat aatgacatca tgttttcctc aaatgtgaca 360

ccacttgctg agtatgaaaa agcaagtaaa ctcggtgctt acatcaatct agacgatttt 420

accacattg acttttttagc agaaaatggt gggattccgg aaaccatctg ctgtcgttat 480

aatccgggtg gcgtatttga actcgggtaca gacatcatgg acaaccccgaggatgccaaa 540

tacggcttca ccaaagagca gataattgag ggctacaaaa aattaatgaa actgggtgct 600

aaaaactttg gtattcatgc tttcattgcc agtaacaccg taagcaacga atactatccg 660

acacttgccg gcatcctgtt tgaactcgca gtagaattga aagagaaaac aggtgccaat 720

attacattta tcaacttgag cgggtgttatt ggtattccat atacaccgga caaagaacca 780

aacgacattg cggtaatcgg tgaagggtgc cgcaaacagt ttgagaaaat tctggtaccg 840

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aacacttggtg cctgtgattt gatgcgtccg gctatgtacg gtgcttatca tcatatcacc 1020

gtcctcggca aagaaaaatgc accatgtgac cacaaatacg atgtcaccgg ttctctttgc 1080

gagaacaatg ataaatttgc cgtagaccgt atgcttccaa agattgacat cggagattat 1140

ctgggttatcc acgataccgg tgctcatgga tatgctatgg gttataacta caacggtaaa 1200

ctgaaatcgc cggagcttct tctcaaagaa gatggcagcg tgcagatgat tcgccgcgga	1260
gaaactccac aggattattht tgcaaccttht gacttctgtg atatthttaa agatatgaaa	1320
tactaa	1326

<210> 320
 <211> 1065
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 320	
atgaaacgaa ttatthtgac gggcggcggc accgccggac atgtaacgcc gaatatcgcg	60
ttgattccgg agcttaaaaa aagaggattht gagattcatt acattggtht caaaacagga	120
attgaaaaag aattgattgg aaactthtgat attccgtact atggaattht ttccggtaaa	180
ctgcgccgct atthtgacgt aaaaaacttht acggacccat tccgtattht gaagggatat	240
tcagaggcaa agaaactgat taagaaaatc aaaccggatg ttatcttht aaaggcggt	300
thtgtaacgg tgccggthgt aaaagcagcg agcagacaaa aagthccatg tgtgctgcat	360
gaatccgata thtcaccggg acttgccaat cgtctctgta ttccgtccgc tacggcaatt	420
tgtgcaaact ttccggaaac gattgccaat ctgccggagg ataaagcata tctgacagga	480
acgccaatcc gaagcgagct gthttccgga aaccgtctca aaggactgga thtttgthga	540
thtacggcaa acaaaccggt tathcttgta attggcggaa gtcttggtc cgttcgtgtg	600
aatgaggcag tccgggagat thtgccaaag ttattagaaa aatatcaggt cattcatctg	660
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ggcgcaaatg caatthtgta attgctggcc cttcataaac cgaacattct gattccgctg	840
tcgttggaag caagccgcgg tgaccagatt ttgaatgcgg cttctthtga aaaacagggc	900
thtagctatg tgattaaaga agaagaatta acgagcgaaa aattgthggc agccattaca	960
tcggtthgatg agaataagga aacttataaa caggcaatga gtcaaagcaa tcagcaggat	1020
gctgthtgta aagthgcaga tathattgaa aaagctthga aataa	1065

<210> 321
<211> 1686
<212> DNA
<213> Clostridium sp. CAG:62

<400> 321
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acagagttat tggaggcaaa tgccaaaaaa tatccgaacg aagtgagtct thtagagatt 120
aatccggata ttcaggagaa aagaagagta acatggaggg attatgaatt aatcgagtca 180
agtccgatgt gtcattaccg cagggaaatt acatggcatg tatttgacga aaaagccaat 240
cgatttgcac agcttttaat cagcagaggg attggaaaag gggacaaagt ggcgatttta 300
ttgatgaact gcttggaatg gcttccgatt tattttggta tattaaagac cggagcactg 360
gcggtgccgc ttaatttccg ctatgcaccg gatgaaattg aatattgttt gaatctggcg 420
gaggtagatg ttttagtggt tgggtccggaa tttatcggcc gtgtggaaga aattgccgat 480
aaaatcagtc agaaccgtct tttgttttat gtgggaggcg actgcccgtc ctttgcggaa 540
gattatgata aactgacggc aaactgtgca agtttagcac cgggaatccc aatttctgac 600
gaagatgatg cggcaattta tttttcttcc ggaacaaccg gatttccgaa agcaatttta 660
cataatcatg aaagtttgat gcatgcctgt aaagtcgagc agaagcatca cggacagaca 720
catgacgatg tgttcttatg tattcctccg ctgtatcata ccggagcgaa gatgactgg 780
tttggcagtc ttttgacagg aagcaaggca gtgcttttga agggggtaag cccgaaaaca 840
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caggatattc tcgtggaact tgacagtgga agattaaaac ccgatgatta tgaattatcc 960
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ccgggctgcg ttcattcttg cgtggaaaat atccataaag tcggcgctat cggattatccc 1140
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gcaacaaaag aagtcttca tgggtgactgg ctttacaccg gtgacatggc ggagatggat 1320

gaagatgggtt ttatctatct gggtgaccgc aaaaaagatg ttatcatcag tgggtggtgaa	1380
aacttgatc cggttcagat tgaaaactat ctgagcaaac atgaggcagt aaaggatgtg	1440
gctgttatcg gactaaaaga tgaccgtttg ggagagattg cagcagcgat tatcgaactg	1500
gttccggggg ctgtctgcac ggaagatgag atgaatgagt tctgcaaagg acttccacgt	1560
tataagagac ctcgtaagat tttctttgca gatgtaccga gaaacccaac cggtaaaatt	1620
gagaaaccaa aactgcgcaa gatgtatcag agtgaaaact tggtagatgc acagaaccga	1680
ggtttag	1686

<210> 322
 <211> 885
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 322	
atgaaaacgg aggaatttat tatgttagtt tcagcagagg aaatgttaac caaagcaaaa	60
gcaggaaaat atgcggttgg ccagtttaat atcaacaacc ttgagtggac gaaggcaatc	120
cttcttacag ctcaggaatt aaattcaccg gttattcttg gtgtgtccga aggtgccgga	180
aagtacatgt gcggttataa aactgttggt ggtatggtaa atggaatgct tgaggaattg	240
aacatcacag ttccggttgc tcttcacctt gaccacggca gttatgaagg cgcaaaagct	300
tgtatcgagg caggattttc atccatcatg ttcgatgggt ctcattatcc gattgaggaa	360
aacgttgaga aaacaaaaga actggtagga atctgcaaag aaaaaggatt gtctattgaa	420
gcagaagttg gttcaatcgg cggatgaagaa gatgggtgtca ttggtgccgg cgagtgtgca	480
gatccgaacg aatgtaagat gggtgctgac cttgggtgta ccatgttagc agcaggaatt	540
ggtaatatcc atggtaaata tccgaaaaac tgggcaggac tcagctttga gacgttggct	600
gctgttcagg agaaaacagg aacgatgccg cttgtacttc atggtggtac cggaattccg	660
gaagatatga ttaagaaagc aatctctctt ggtgtatcta agattaacgt aaacacagag	720
tgccagcttg cgttccagga agcaacacgt gcttacattg aagcaggcaa agatttggaa	780
ggtaaagggtt ttgaccacg taaactgctt gctccgggta cagaagcaat caaagcaaca	840
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<210> 323
<211> 1596
<212> DNA
<213> Clostridium sp. CAG:62

<400> 323
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aaaggacgag ttcaaaacag tttgagcggc tttttgagag cttgcattgt tgcggctttg 120
gttatgtttc agtttgcaat tctgattgta ctgccgtttt tactgcgcca gtatgcttca 180
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<210> 324

<211> 2463

<212> DNA

<213> Clostridium sp. CAG:62

<400> 324

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gtttcttatg cagtcaaaga tatcgtagtt gatgactgga tggcaacgca caaagcctat	180
gagaaaaagg atgtgaagac agtttactat ttgtccatgg agtttttgat gggtcgtgca	240
cttggttaaca tgattatcaa cctcaaagag gacaaagttg tacgcgaggt acttgacgag	300
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taa

2463

<210> 325

<211> 3267

<212> DNA

<213> Clostridium sp. CAG:62

<400> 325

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<210> 326

<211> 1281

<212> DNA

<213> Clostridium sp. CAG:62

<400> 326

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<210> 327

<211> 1494

<212> DNA

<213> Clostridium sp. CAG:62

<400> 327

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gaaaacaatg agtttactta tgtaaaaagag gtaaccggtt acaaagatgc tgagggaana	360
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tttgatgaca ccggagactt tacgggattt gtcggagcca gtgaagtaac ttatgatttc	660

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<210> 328

<211> 1434

<212> DNA

<213> Clostridium sp. CAG:62

<400> 328

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<210> 329
 <211> 1965
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 329	
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tcaatgaaat tagatgggtct gagtattatt ttgacttatg aaaacggtga attagtaaaa	360
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<210> 330
 <211> 1383
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 330	
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cctggcactt tatccgttcc ggcacagtct tcgtttttcg ataaaaacaa catttttttg	180
attgttcttg tgacaatttt gcagcttttt ctcggtgcat gggctgcctt tgctcccgga	240
aacaacaccg gaaccatcag tgcagtaagc accatcctgt atgctgcttt ttattttctt	300
gccataaaaa aacacttttg caaaacgttt ttacacttt taatgatttc aaatcttgcg	360
agcctcgctg taatttcac aaagaccata gaaaatcttt tcttccctga cctcgccgta	420
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gttctcctcg gcaacctgtt ggaaaacgct gtagatgcct gcaaatacgga acaaacaccg	1140

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aaaggacttg	ggcttggaac	ccgctccgta	aaaaatattg	cgaatcagca	tggcggcata	1320
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<210> 331
 <211> 1779
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 331	
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agtattaaac	atattaatgg attaaccagt tctgtcagac aggtactacc cgggcttgat 480
tattttatac	caaatacaca acataaaata aatccatatg aggttactac aaatgactgg 540
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gtgaattatt ataataacga agaaataaca attccggttg atgaaacgat gacggcaatt	1140
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tattatacca attattcctt aatggcatcc tcccatattg agggaatccg gtgcgtaaat	1740
gccgaagatt ccgtatttct tgaaaggagt tatgtgtaa	1779

<210> 332

<211> 1725

<212> DNA

<213> Clostridium sp. CAG:62

<400> 332

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gaccatggaa tcggaagcag agattatggg tttattggat ggatgggagg tatattgggt	180
cttttggcag cggttggtht gaccgctgct cttgtggcgc agtatthtgc ggcgaaagca	240
gctgtgggat ttgccgccgg actgagacag gcgttgtht gtcattatca gtccttatcg	300
tttgagatg ttgaccaggt aggaagtht acattgatta cccgtttgac aagtatacg	360
aaccagttac aggcagctgt taatatggca cttcgthtgt thttgcgttc gccgtttgta	420
gtgctcggtg cgatggtht ggcgtttaca attgatgtca aggctgcgct tgthtttgta	480

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taccgccgtg tgcaggaggc acttgataaa ctgttaggaa gaacccgtga gaatttgtcc	600
ggtgtccgtg tgcagcgtgc ttttaataag caggaacagg agaaggaaaa atttgcggaa	660
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<210> 333
 <211> 1035
 <212> DNA
 <213> Clostridium sp. CAG:62
 <400> 333

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gcctattttt ttgcgaaact ggtatcgcca atgatacaat ttttggtaaa taaattaaaa	180
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<210> 334
 <211> 951
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 334	
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ttggagtatt ttaaccatt aggaagtgt aaagaccgtg tggctcatgc gatgattgag	180
cagggaattg cggatgggaa aattaattca gataccgtga ttatcgagcc aacaagcgg	240

aatacaggaa ttggacttgc gtttgtgaca gcggcaaagg gattacacct gattcttacg	300
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aatccggatg taaaagttgt ggctgttgag cctgccggct caccgggtatt atccggagga	660
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gctacacagt tagcaaaacg caaagaaaat gcaggaaaaa atattgttgt tttactgccg	900
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<210> 335
 <211> 3198
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 335	
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cgcaaaaagta ttaaactgcg tgaggggggca ccaacgtata tgttttacga tggaccgcca	180
acggcgaatg gaaaaccgca tattgggtcat gtattgaccc gtgttattaa agatatgatt	240
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ggtctgccgg ttgagctgga agtagaaaaa ctgttaggtc tggatggaaa agagcagatt	360
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gtcacatatg atgacaatta tattgagtct gagtgggtggg cattgaagga aatctggaat	540

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ttgtccgcac aggagggtgc gcagggatac aaaaccgtaa aagagcgttc tgctattgtc	660
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<210> 336
 <211> 1692
 <212> DNA
 <213> Clostridium sp. CAG:62

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gataagtcgc agagtgaaca ggaattggca cgtattcttg gcggtgttga gattacagag	1620

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<210> 337
 <211> 1962
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 337	
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gcagcaaaaag aaatttatat gggactgatg ggattacttg tgattcgaaa gaaaaatcag	360
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atctggaatg attcgtctgt taagacatgg aatgataacc atttgcttgg ctttaattccc	1260
ggtgtaaaaa gggcagggca ggaactggaa aaacagtaca tttctatgaa aaaacaggaa	1320
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atattgaaaa aaagttttac ttcctatcaa gaagaagcgg atgcagcaga cggtagagt	1860
gacagtaaaag aggaactttt tgatgataca acaggtgcgt taaaaaaagt ttccaactat	1920
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<210> 338
 <211> 1302
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 338	
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gcgcttgata aagagcgtcg cgagacacag cagaaagcag atgaccttcg tgctcttcgt	180
aagaaaaatt caaagatgat tgggtgcgctg atgggtcagg gcaaaaaaga agaagccgag	240
gcaatgaagg aagaggttgc cggttatgcc aaagaacttt ctgatttaga agcacgagag	300
gtagaaaattg cagaggaatt gaataagcgc atgatggtaa ttccaaacat cattgacccg	360
agtgttccaa ttggtaaaaa tgatactgaa aatgtagaaa ttgagaagtt tggatgatccg	420
gtggttccgg attttgaaat cccatatcat gcacagatta tggaatcatt tgatggactg	480

gatttggatt cggcacgtga cgttgcagga aatggattct attatctgat gggcgatatt	540
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<210> 339
 <211> 879
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 339	
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aaaattaatg aagtggagcc aaacaaaaag cagccacgta aattcttta tgaagaagcg	180
ttacaggaat taagtgattc cattaagcag cacggaattg ttcagccatt ggtagtagca	240
aagaaagatg attattttga aattattgcc ggtgagagaa gatggcgtgc ggcaaaatta	300
gcgggattaa aggaagtcc ggttggtatt aaagattatt caccgcagga aattatggaa	360
gtcgcgctga ttgaaaatat tcagcgtgag gacttgaatc cgggtggaaga agcaaaagca	420

tatcaaaatt tgattaagga atataattta aagcaggaag aagtggcaga gagagtttct	480
aagagtcgtt ctgctattac caattcactt cgtctgttaa aattaagtga tgatgtgttg	540
acacttttaa tggaagaaga aatttcaagc ggacatgcaa gagcactgct tggctctggaa	600
gataatgaaa aacagcttga aattgccgaa aagattgcaa aagatcacct cagtgtgaaga	660
gaagttgaga aattagtga aaatatcaat cagccggcaa agaaaacaaa gaaaaaagaa	720
ctttctaattg actttttgta ccatgatatg gaagaaaaag tgaagttgaa gacaggaaca	780
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<210> 340

<211> 2010

<212> DNA

<213> Clostridium sp. CAG:62

<400> 340

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cgctacaaac gttttcaggg gtatgatgtt cgttttcaga caggaaccga tgaacatgga	180
cagaaaattg agttaaaagc acaagaagca ggaatcacac caaaagaatt tgtagatggt	240
gtttcgacag agataaaaaag aatttgggat ttgatgaata cgtcttatga ccgctttatt	300
cgtacaaccg atgaggaaca tgaaaagcag gttcagaaga ttttcaaaaa gctttacgat	360
aaaggcgata ttacaaagg attttatgag ggtatgtatt gtacgccttg cgaatctttc	420
tttacaccat cccagctggt ggatggcaaa tgtccggact gtggcagaga gtgccagccg	480
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tttttgaaac cgggcttaca ggatttgtgt gtttcccgta caagcttcaa atggggaatc	660
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gtgaccggta caggttttga tttggatgga aatcacacgc ttgtggatgg cgagaattta	780
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gaagtcaaac agattgtatc aggaattaag aaatattatt caccggaaga aatggttggc	1860
aaaaaagtaa tgggtacttgt caacttaaaa ccggcgaaac ttgcaggagt attatcggaa	1920
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aaaatgccgg caggagcaga gatatgctaa	2010

<210> 341

<211> 1404

<212> DNA

<213> Clostridium sp. CAG:62

<400> 341

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gatcgctatg gagaagccga attttcacgt attgccgacg ttattttgaa gaatgattat	180
aaagaagaag ttacgaaaga ggattttaaaa gacgtctttt ccgacttaca ggaattagaa	240
gagaacggaa cacttttcac aaaagatggt taaaaagaag gcgtcattga tttcaaaaag	300
agacagacgg tagtaaaaagc actctgcctg catattgccc atgactgcaa cttggcatgc	360
cgttactgtt ttgccggtga aggagaatat cagggcgacc gctctcttat gagttatgaa	420
gtaggaaaaa aagcattgga ttttttggtg gccaatccg gcagcagaag aaatcttgaa	480
gtggatttct ttggcggaga gccacttctt aactttgatg ttgtaaaaaa attagtagct	540
tacggcagag aaattgaaaa agaaaaagac aagcatttcc gtttcacctt aacgacaaac	600
ggtgttttgt taaacgatga catcattgaa tttgcaaatac aggaaatgga caacatcgtc	660
ttaagtattg atgggcgtaa agaagtgcac aaccacatgc gtccgttcaa aaacggaacc	720
ggaagtattg actttattat tgataaatc aaaaaagtag cagaatcgag aaaccagcag	780
aaatattatg tgcgtggaac atttaccat aataatctgg attttggtga agatgtgctg	840
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gaatatttag cggttacacc gtggggcgat ttgtatcctt gtcacagtt cgtgggtgaa	1140
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tgcagcgggtg gctgtgcggc aaatgcttat cactgccacg gtgacattaa caaacgtat	1320
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gaagcctatg atgagagaaa ttag	1404

<210> 342
 <211> 888
 <212> DNA

<213> Clostridium sp. CAG:62

<400> 342

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atcttctttg tacttccgtt ggtatactcc atcagtagtg catttaaacc gctggatgag	180
atttatctgt atccaccgag gtttttcgtg aagaacccaa catttaataa cttccaggat	240
ttgcttggtt ttatgtcaag ctctatgta ccatttacc gttatgtctt taacacggta	300
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atgttcaatg cttatgtatt gcagattcct acttgattta ttatgagtaa gcttggatgg	480
attgatacgt acttagcact gatggtgccg gcgttcgcac tgccgatggg attgttcctt	540
atgaaacagt ttatggagca gattccggat gcattgattg aagcggctaa gattgatggt	600
gcgaaagagg gaagaatctt cttcagatt gtcatgcaa acgtaaaacc ggcatggtt	660
acagtaacaa ttttctctgt acaaaacctt tggaacatga aaggtcagggt gtatatctac	720
tcggaagaat ataagatgct gccatatgca ttgcagcaga ttatggccgg tgggtgtgcc	780
cgtgccggtg taggttccgc tgcgacaatg gtcgttatga tggtgccgat tttaatcttt	840
gttttggcag agagtaacat tctggaaaca atggctagtt ccggaatt	888

<210> 343

<211> 2274

<212> DNA

<213> Clostridium sp. CAG:62

<400> 343

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gggaaggaag aactttatca tgctctgctt acgctggtgc agaaaaaggc aggggaaaag	120
gaagagaata caggaaagaa gaaactgtat tacatatcag cagagttttt gattggaaaa	180
ctgctcagta ataacctgat taatcttggc atttacgagg aagtaaaaaa agaactttcc	240
gatgccggta aaagtcctac agatttagaa gaatacgagc cggagccatc acttggcaac	300

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aaacagatgg aagagccaaa tccatggatg aataaggaca gctggctgat tcgcagtgc	480
aaatctttta cggtttcttt tggcggtttc gatgtgaaag catcgttgta tgatattttg	540
gtgaccggct acgagagccg gacgaaccgc cttcacttgt ttgatttgga ttctgtggat	600
gaaacgattg ttcgatgatg aattgaattt gacaaggaag atatacgaaa aaatctgacc	660
ttattttttgt atccggatga ttctgatgac aaaggccgtc ttttgcgctg gtaccagcag	720
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aatctgcatg accttgacga ctatgcggca attcagatta acgacacgca cccatccatg	840
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<210> 344
 <211> 2187
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 344	
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agcaaaaagg actttgccac ctataactgt aaaaatcaaa cttttgcgat aaacgaaggt	2100
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<210> 345

<211> 2439

<212> DNA

<213> Clostridium sp. CAG:62

<400> 345

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gcagatttgg acaaaattat tgtaggtaaa attgagaaaa ttgaaaaaca cccggatgca	180
gataaactgg ttgtctgccg ggtggcaatt gacgaggaag gaacaacaac gcagattgta	240
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aaagatgcgc cggttggcag tgatgcgatt gccttacttg gccttcgtga tgctgatttt	540
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gcagcagcta catttagaaa accatttgtt ccgccggttg taacagagag tggaaatgat	660
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ccggagaaaa aagagccgat tgatgtgggt tatgatgttg ataaaaatcaa tgcattactt	1320
ggtattgatg tttccgaaga tgagatgtgt aaatattggg aaatgggtga gcttgtaccg	1380

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gatttggcag aggaagtagc aagattttac ggttatgata agattcctac aacgcttcca	1500
agcggtgagg caacacaggg cgggtgttcc taccagacaa gcatttgcaa tatgattcgt	1560
aatgtgattg agtcgtatgg tttttcggaa ggaatgactt attcttttga aagccccgaaa	1620
gcatttgata aactgctgat tccggaaggg aatgagcttc gcaaggcaat tgaaatttcc	1680
aatccacttg gagtggatta cagtatcatg cgtacaacac cattaaacgg tatgcttacc	1740
tcgctttcga caaactataa tcaccgcaac aaagatgtgc gtttgtatga aatggcaa	1800
gtatatctgc cggaatccct tccgcttacc aaactgccgg aagaaaaaat gatgttagca	1860
cttggtatgt acggacaggg cgatttcttt gatatgaaag gctgtgtgga agcaattctt	1920
gacagacttg gtatcacaac aggtgttact tatgagccaa aaggagaaca ttcctatttg	1980
catcctggaa gaaaagcggg tataatgata gatagagaag tccttggcta tctgggtgaa	2040
gtacatccgg aagtggcaga taattataat ctgggaacaa agacatatgt tgctgtactg	2100
gatgttgcaa aattagctga aaaagcaaac tttgatatca aatatcaggg cgttgctaaa	2160
ttcccggcag taacacgtga tatttctctg gttatgaaaa agacagtatt agccggacaa	2220
atcgaggaag taatccaaaa gagcgggtgga aagttgcttg aagattatca tttgtttgat	2280
atttacgaag gggaaaaatgt tggaaaagat gaaaaatcac tggcatattc cattcgtttc	2340
cgtgccaaaag atcgtacgtt agaggataaa gatgtatcgg ctgttatgga taaaatctta	2400
aagaaactgg aaaacttagg agtaacttta agacagtaa	2439

<210> 346
 <211> 999
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 346	
gtgattggat gcaaaacagt gcaggaggcg gcaaaaatga ccgaaaaacg gacggactta	60
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gaaaagaaaa aatgtctgca aggcaaggtg aaaattacga cggtaattat tcgggatgaa	180
gcaggcagca aagcaatgaa aaaacaaaaa ggaacttata ttacaatcga atcaccactt	240

atgcttcatg gagatattga cgagagagag ccatttttgc tctgtgtctg tgaacagttg	300
gaaagtatga taaagggact tcgtaaaaag agcgttttgg ttgttggatt gggaaaaccgg	360
gaagtgacct cggattcatt aggaccgaaa atgacagacg ccctttttgt gacgagacat	420
tttaaagaag aatttggtgc atcttttatg caggaaaatg gatatggctg tgtgagtgc	480
atagcaccgc gtgtcatggc gcagaccgga attgagactg aagaggtatt acaggggatt	540
atacggaaga caaaaccgga tttggtaatt gtcgtggacg cattagcatc cagaagtgtg	600
caaaggcttt gtacaacggt acagattaca gatacgggaa ttgagcctgg tgccggcggt	660
ggaaaccgca ggaaggaact aaccaaaaag acgcttgga ttccggttgt tgcaattggt	720
gttcctacgg ttgtagatgc ggcaaccatt atttccgacc atttggagca tgtattagag	780
aaacaggggt attcggagga ggaaattgag cggtttattt atgaaattct gaccgaggaa	840
acaaccgatg tgatggtaac gccgaaaaat attgacgaat cggatgaatca aattagtaaa	900
gatcttgcaa aagtattaaa tcattgtttt caaaaacggg ataattatgg aaacagcagc	960
atatcctttt atgaaaaaga agatatgaag agagaatga	999

<210> 347
 <211> 1413
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 347	
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aaaaatataa aggaaaattt aaaacattat gcggatattg ccgtaaaaac atatgtggat	120
tatggaacgc ttgaaatgac tttttctgcg tattcgcttt tggaagatga aatacaggtg	180
ttagatgcgg atgagaagga gaaaatgctc tcgcaggtaa aacaggcgat tggctgtttg	240
gcggatgagt cctgcgattt cgcggtactt ggtgaaaaaa tgaatcatct gcgggatgaa	300
attacggata aaatggatgt tttaactgcg tacacggacc gcatgatttg ttatgaatat	360
gtgttaaacc gcatggaatt aaaatatctt tccaagaaag aattgtcaga gaaactggca	420
gcttttgagg aagaagagta catgaaaatg ttagaagggt atttgtttgg cagtaaagat	480

caaaagggtgg cacttgataa aattcgtttg attatgggac agattccggt tcatatgaca	540
aagaataaat tgtttgagcg gattggtgaa gcacttacgt tatatcagga tggcgataaa	600
tcggcactgg atggcttttt gtatatggtg cgtacgagtg cgatgctgta tgagccaaag	660
caggaagaaa atcagtttcc ggagatttta gaggccctgc aaacgtttga acagaccgat	720
tttgagtcac tagagggcga gaaatacaat caattggtat cacttttgga aaagacagcc	780
aaagaaattc atgaaattac ggacttttat tatgaagtgc aaaatgttgt gaatggtgtg	840
tatgctatgg cactgattct tccttaccgt gagaaaatga gtcggattga aaaagcggga	900
agaaacgttt ggcaggcatt ggcacaagga gagttaaag aagaactgtt agtgccgtta	960
gagggcagca tcgaggagtg tgttgaaaaa tccagtcatt tggaatcgat tttatatgaa	1020
atccgcagtt cttataagaa agaattgatg gaaaccggtc ttgccggaca attccacgat	1080
tttgtattag tggcaaactt tttgtcagac agtttgttta ttgacttgtc ggtatccggt	1140
gaggaagagg aaaaagcaga cttttctac gtgagaaaat gcacagatga attagtaa	1200
gaactttcca agaagttgag tcaggtgtca aaaccggtaa aaaaagcgat tatgggactt	1260
gtccttgaaa aactgccatt gacattccaa aattcggatg aggtacttga ttatatccgt	1320
gttaatctga tgggatgtca ggacaaggca gaaaaatgtg tggacttac gatgttagca	1380
gacttgattc gcgaggagca ggagtggaca taa	1413

<210> 348

<211> 1206

<212> DNA

<213> Clostridium sp. CAG:62

<400> 348

gaaaaataca aaggagtagg taaaagaatg aaaatcggaa tcatgggcgg aacattta	60
ccgattcata atgctcattt gatgatggct caggctgcgt atgaacaata taaattggat	120
gaaatatggt ttatgccatc agcaaaacca ccgcacaaaa atcaggatga gattgcagaa	180
aaagaacata gaaaacgtat ggttcaattt gcgattgaca aaatcccgt ttttaaaatt	240
tcaaataattg aatataaaag agcggggaaa acctacacat atgatacact tgtagaatta	300
aagaaagaaa gagaagatgc gcacttttat tttattatgg gtggcgactc tttagcgag	360

tttgaacagt ggtatcatcc ggaaaaaatt gtgaaattgt gtacgatatt ggctgcctca	420
cgggatgaga tttcctatga gcagacgaaa gagtactgca agcagttaag tgaacgggta	480
gatggagatt ttcgcccact gaaaatacct gccatgtcaa tttcttcaca tgaaatccga	540
aaacgtatca aaaagggaaa gtcaattatc ggatattgtc cggagcctgt ggtacgttat	600
attcagatgc accggttata tggtgactct agttttgtaa tacctaataaa cgaaaaagaa	660
cagatggact gcttagcggc atcgcttcgg ccgaaacgat ttgttcatac gttaggagtt	720
gccaatatgg cggcaaactt tgccatgatg catgatgatg tttcactgca aagagcaaaa	780
ttagccggtc ttttgcatga ctgtgcgaaa tatctgacga atgaagagat gtttgtctta	840
tgtgagaaac tggaaattcc attgtctgag tccgaaaaaa gtacccctgc tgtaattcat	900
ggaaaattag gtgctaaatt agcggtgctt cgatatggta tagaggatga tgaaatttgt	960
tctgccattg cctgtcatatc aaccggcaag tcgcagatga cgacattaga gaaaataatt	1020
tacattgcgg attatatatga gccaaaccgt gatatggact gcaaaccata tccgcttgaa	1080
agaattcgaa ggacagcctt ttttgatttg aatcaggcaa ccggtatgat tttaaaaaac	1140
acattaacgt atttagaaga gaatcagatg ccgattgatg aaatgtcact ggaagcgttt	1200
cattat	1206

<210> 349
 <211> 936
 <212> DNA
 <213> Clostridium sp. CAG:62

<400> 349	
cgattgattt ttgtctatth agcacaaaaa tcaaaaaaca ttttaatat aaaaaaggag	60
gaatttgaaa tgttcgctaa aatttcaaaa aaggttgtag ctgtagcttt agttgcaact	120
atggctgtta ccaccgctgc agtagcaagt gatgatacag ctagcgcagc aatgaagaaa	180
aaggcttctg ttatgcaggg taaggaagta aaattgactg caagtggaag tgcaacatgg	240
tcattccagca atgataacat tgctcactgc cagaaaaaca aaggcaagtc catcaaagtt	300
cttggatatca aaaaaggtag cgcaacaatc actgcaactg taggcggaaa gaaacagaca	360

tgtaaagtat ctgttaaaaa cgcaaagaag ggtacagtaa tttacaactt cgctaaatct	420
actaaccggg ataaccatcc accatacaaa gctgattact ctgagttcaa atataactca	480
ttccgtatct ggctttgtga cgcaacattc tggggcgaga aaacttacat ctctcctgac	540
taccgtggac gcaaactgaa aattttctttg aaagtaaaga actccggtaa acgtacactt	600
cctgagatgg gtgtttgctt caactatact aagggtggag acacaggtgc ttacccatgg	660
gctcttcatg tttctgctaa gaaactgagc gctaaagtta agaaagacaa aacacataag	720
cactgcaaga ttgtcacaaa aactatgaag aaaggtaa at cttacacctt taacttcaca	780
tttacaattc ctaagaatgc tgtaa atgggt gacacagaca aagatacagg tgctaactac	840
ccaatcatga tgtacatccc gaacatgaaa gatacttctc catacaaaga aggagattct	900
atcacagttc agaaatgtgt aatcaaagtt gcttaa	936

<210> 350

<211> 1197

<212> DNA

<213> Clostridium sp. CAG:62

<400> 350

atgttaaata aaaaatcagt agatgatatt aatgtaaaag gtcagcgcgt gttagtacgc	60
tgtgacttta acgtaccgct tcaggatggg aagattacag atgaaaaccg tctggtagca	120
gcacttccta caattaagaa gttgattgcc gatggcggta aaattattct ttgctccac	180
cttggtgaagc caaaaggaga gccgaaaccg gaactttctt tggcaccggg tgctgttcgc	240
ctttctgaac ttttgggaca ggaagtaaaa ttcgcagcag atgataacgt agttggtgaa	300
aatgcaaaaag ctgctgttgc tgctatgaaa gatggcgatg taattcttct tgagaataca	360
cgttatcgtg cagaagagac aaagaacgaa gataatttct ccaaagaact tgcttctttg	420
gctgatgttt tcgtaaacga cgcatttggg actgctcata gagcacactg ctcaa atgta	480
gggtgtacca aatatgtaga tactgctgtt gttgggttact tgatgcagaa agaaattgat	540
ttccttggaa atgcagtaaa taatccggag agaccatttg ttgcaatcct cgggtggtgcc	600
aaagtttctt ccaaaattcc ggtaattgag aaccttttgg ataaagtaga tactttgatt	660
atcgggtggg gaatggcata tacatttatg gctgctcatg gtgagccggg ttgtaaatct	720

cttttgaag aggattacaa acagtatgca cttgacatgg agaagaaagc agaagaaaaa	780
ggtgttaaac ttttgattcc tgtagataat atagtagcgg atgatttctc aaacgacgca	840
aacttcaaag ttgttgagcg cgggtggtatt ccggatgaca tggaaggtct ggatatcgga	900
cctaagacat gcaaattggt tgcagatgcc atcaaaggcg caaagacagt tgtttggaac	960
ggaccgatgg gatgttttga aatgccaaac tttgcaaaag gaacgattgc agttgctcag	1020
gcaatggcag atttgaaaga cgctacaacg attatcgggtg gtggtgatag tgcttctgct	1080
tgcaacaacc ttggatttgg tgacaagatg acacatattt ctaccggtgg tgggtgcttca	1140
cttgagttct tggaaggaaa agaacttcct ggtgttgacg cagcaaacga caaataa	1197

<210> 351
 <211> 582
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 351	
atgatagaat atgtaaaagg agagttgacg gagattacgc cggcaagtgc cgtggtggaa	60
tgcggcgggg tgggatatat gctcaacatc tctttaaaca cttatacacg cttgcagaat	120
gagcggcagg caaaagttta tgtctacgag gcgatacgcg aggacgcaca tttgctctat	180
ggttttgccg accgggagga gagggcattg ttcctgttgc tgataacggt gtcgggggtt	240
gggccgaaca cggcgagaat gatcctttcg tcgttttcca cagccgactt gcaaggagtc	300
atagcctcgg gcaacgtgaa tctgctcaag gcggtgaaag gaattggtgc aaaaacggct	360
caacgtataa ttgttgacct ccgcgataaa ataaatcagg gtgcggatac gttaattatt	420
cagtcggagg cgacgtcgga aacttatgag gaggcacagg cggcgctcat tatgcttgga	480
tttgccaaac ctgcggtgca gaaggcattg ggcaaactgc tcaaggataa tcctgcggaa	540
aaagttgagg gcttgattaa gaaggcttta aagattcttt ag	582

<210> 352
 <211> 276
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 352
aaaataatcc caaaggcaat ggaaaaaaga aatttaagaa aagaacgtgt tggggttgtt 60
tccagcaaca agggtgacaa gacaatcacc gtggctgtaa agtataagga aaaacatcca 120
atctacggca agttcgtcaa caagacgaag aaatatcacg ctcacgacga gaagaatgag 180
tgcaatgtag gcgatacagt gcgtttggta gagactcgtc ctctgagcaa gacaaagaga 240
tggagattag tagaaatcat tgaaaaagct aaataa 276

<210> 353
<211> 336
<212> DNA
<213> Prevotella sp. CAG:279

<400> 353
aatgaaagag ccgtgatgca cccacctaca aatttcaaat tttatTTTTg gtttttcaga 60
aaaatcatat atatttgcaa tcgattcaat tttgttctta tgccaacttt atttaaacad 120
ataaaaaacct gtcctgctaa gatttttaat ttctatgcaa atggattcag gcaaatgacc 180
gttggaagga ctctgtggct gattatcctt ctgaagctaa tcatcatggt tgctattcta 240
aaaatatttt tatttccgga cttcctcgga ggcaaatgta aaacagatga agacaaagcc 300
aattacgtcc ggtcggaatt atcaaaccgc aactaa 336

<210> 354
<211> 339
<212> DNA
<213> Prevotella sp. CAG:279

<400> 354
aggatgctga aacgactggt tgccatattg ctgcttgtcg tagcaaccgg aacaattccg 60
gctgcatccc agtcgcgcta cgcatggaaa gacacttatg tgacaacgtc gatgaacccc 120
gtaaacaatc cccgcgcca cgcacggcatt gaagtgtaca cccgcccggg agcgttgatt 180
gtgcatggtc cggagcgcac gaatgtgggt gttatgacca tcctcgggtca gaccatctca 240
aaagccacaa taaatgccgg tacacacgaa ctgctgtatcg gcactcacgg aatctatatt 300
cttaaacttg gcgacaccac tgtgctgctc gccctataa 339

<210> 355
<211> 261
<212> DNA
<213> Prevotella sp. CAG:279

<400> 355
atggcaaatc ataaatcatc tatcaagaga attcgtcaga ctgagacacg tcgccttcgt 60
aaccgttact acgcaaagac tgcacgtaat gctgtgcgcc gtcttcgcgc gttgaacgac 120
aaggctgaag tagtagaagc ttacaacaaa gttagctcaa tggttgatcg tcttgcccgc 180
aagagcgtta tctcaaagaa caaggcagct aacttgaaga gcaagctcgc taagcacgta 240
gctaaggttc aagcagcata a 261

<210> 356
<211> 546
<212> DNA
<213> Prevotella sp. CAG:279

<400> 356
atgctcatcg acgatactga aatagtcaaa aggcttcacg acccgaaaca atgcagggag 60
gcattcactg agatcatcaa gacctacagc gagccactct attggcaaatac acggcgcatg 120
gtgatgaacc atgacgacgc caacgacttg ctgcaaaaaca cgtttctgaa ggcttggtca 180
aacatagaga acttccgcgg cgacgcgaag ctctccacct ggctgtataa aatcgccatc 240
aacgagtcta ttacgttcat caacaaggaa aagcagaaac aaaacatttc aatcgacgat 300
gacgactcgt ttctcgtaaa ctcgcttgaa agcgaccaat ggtttgacgg tgacgagctg 360
aaactgttgc tgcaaaaagc catcgcaacc ctgcccgcga aacagcgcat gattttcaac 420
atgaagtatt tcgacgagat gaaatatgag gacatgtcgg aaatcctcgg gactacggtg 480
ggtgcgctga aagcttcata ccaccacgct gtaaaaaaaaaa ttgaactttt tttctcgcag 540
aattaa 546

<210> 357
<211> 570
<212> DNA
<213> Prevotella sp. CAG:279

<400> 357

tgctccaaaa gtagaatttt aatgaaaaaa tttcctttat tggcgttggt ctttctgggtg	60
ctctcggcgt gcaagctcga tccggtgcgc gacgtgtggg agtactatga ggactggcgc	120
aatgaaaaca atgcgtggct ggcacagcag gaggcgcgca caaatgccga cggcacacct	180
tactatcaga aggtggtacc ggagtttgac cgcaacgcct atgtgctgat tcattacttt	240
accgaccgtt cggcgacgga gggcaacttg tcgcctctga tttcttcgac tgtcgacgtg	300
aagtataagc tgcttacgtg cagaggtgtc ggcgtcgatt ccacctactt gctgacgtcg	360
cctgccgaca gtgtttaccg ctctaagttg agtgccaaca tcaccggttt ccaaatcgcg	420
ttgatggcta tgaacgtggg cgattcgtgc gaggtgggtga ttccttacca gcaggcttac	480
agcaactctg gcaaaggcac gatcctgcct tactcgcac tgcattattt cttgaaactc	540
aaggatatat ataagtatca aaagaagtag	570

<210> 358
 <211> 273
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 358	
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tgcttcctgc accagaagga gcgtgtctat gccattcga caatggactg gcagcgtgac	120
gacatcgagt atgccatttc ctcgtttgcc gacgacatga atcctgagct gtattccttg	180
ctggcagacg gccgcacaga ctttctgcgt tcgcacgcca cgtttcatgc cgatatgctc	240
cacgctctcg acatccttga aaagatgctc tga	273

<210> 359
 <211> 474
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 359	
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gaggactaca gccggcgggt gaaccgctac gtgccgttcg caatacaata tatcgccgat	120
gcaaaaaaca cccgcaatct gacgcaagcc cagcaaaagg ttgccgaggg acagaatctg	180

ctcgccgcct tcgagccgtc ggactgcgtt gtgctgctcg acgagcacgg caaagaaatg	240
aaatctatgg aattttcagc atatattgaa aagaagatgc agaccgtagg caagcggttg	300
gtgttcgtag taggcggacc atacggattt tccgacgatg tctatgcccc tgccaatgga	360
aaaatatcgc tgtcgaaaat gacatttccg cacgacttga tacgccttgt gttctgcgag	420
cagctctatc gggcatactc cataatgcac aacgagccat accatcacga atag	474

<210> 360
 <211> 744
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 360	
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ttctttaaca acaaattccg caacgaggac atagatgccg aataccgcaa ttttgagatt	120
gacgacattt cacttgccga aaacattttc ctccaatccg aaatatgcgg tctaaacgtg	180
actatcccat acaaacaaca gataatccct cttctaaacg aagtggacaa agacgcgcaa	240
gcaataggct ctgtcaatgt catcaaattc gtgcgcaagg gcgagcttgt aaaaacaatc	300
ggcttcaaca ctgacatcat cggatttcac gactctattg ctccacacat ccggtctcac	360
cacaaatctg ccttgattct cggcacaggc ggagccagca aagccgtggc tcattgccta	420
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tatacagacc tgacggagca gattgtttcc tctcatcaaa ttattgtcaa cacgacacct	540
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agccacatct gctttgacct gacatacaac cctgcagaaa cattgtttct ccgcaaatcg	660
aagcaatacg gcgccgacac aataaacggg atggaaatgc ttatcggcca agccctcgct	720
gcctggagaa tctggaatga ctaa	744

<210> 361
 <211> 543
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 361

acagctacgg gcgcacgctc cggcaacatg acgctcgccg tcaactccct gttcatgcaa	60
ctttatctgc tctactccca tttcatggac gggtttgcac acgccggcga ggctctcggt	120
ggcaaatatg ccggcgccgc cgacaagcgt tcgctgcgtc gctgcgtgtc gcatctcttt	180
gcatgggggat ggagtctcgc cgcaatattc gctttcgcct atggcgtctt caaccacgaa	240
gtaatgtcgc tgttcagcga caagcccagag gtcgtagcgt ttgccgcagc ctaccgatgg	300
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ggacttaccg ccacccgaca gatgctgttg tcgctcgcag gcgcgacagc agtctatttc	420
gccatctatt ttctttcccc ttttcccgac gccaacagca gtctttggac agcctttttg	480
gcatactctg ccgtccgcgg agcgatatta tggctctgtt ttgcccgcaa aaacgaatat	540
tga	543

<210> 362
 <211> 339
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 362	
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tcacaagaca ccggcaacgt gtatgaaact gtttgcacac tcgcaaaacg cgccaaccag	120
attgccgtag agatgaaaaa ggacttggaa aagaaacttc aagagttcgc tactctcaac	180
gacaaccttg aagaagtttc cgaaaacaga gagcagattg aaatctcccc ttactacgag	240
aaattgccga aacctgtgct tatcgcaact caggaataca tcgagggcaa agtgatgtac	300
agaaacctcg ttaaggaaaa agaaaaagtg agcctctaa	339

<210> 363
 <211> 372
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 363	
atgaagagac ttttgcttgt gataatcgca atgatgtcgc tgcttccggc attcgccggc	60
gaaaaggcga agatgacgct cgtgacaaaa gtacatgact ttggatatgt caaggagaaa	120

ggcggcgacg tgacatgctg gttcgagttt cgcaacactg gcgacgagcc gttgataatc	180
cgcacggcgc gctcttcgtg cggctgcaca aagcccgtt atccaaagaa gcccattgcc	240
cccggcgaga ctgcaaaaat cggagtgacg tataagcccg acggccgccg cggagcgttt	300
gacaagaccg tcacggtggt gaccaacggc gggacggcgt atttgaggat taaaggcaac	360
gtgataccgt aa	372

<210> 364
 <211> 456
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 364	
atggcaactt ggtttgaatg taaagtgaat tatgagaagt tgacagaaaa tgggtcaacaa	60
aaagcggtaa ctgaaccata tttggttgat gccttgtcgt ttactgaggc tgaggctcga	120
attatagaag agatgactcc gtttgtgaca ggcggtgagc tgaagggtgac ggctgtaaag	180
cgcaccaata tcgcagaaat cttctgggac gaggagggcg ataagtggta taagggttaag	240
gtgaacttcg tgaccattga tgagaaaact gcagtggaga agaaaactgc caattttatg	300
atggtacagg ctgcggattt caagaaagcc tacgacaact ttatggaagg aatgaagggt	360
acgatgtccg actttgaggt ggcctctatc aatgagacaa tgataatgga tgtctataaa	420
gaggatttag gtggaaacga gggcgcacag gcataa	456

<210> 365
 <211> 588
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 365	
atgaaacacg aactacaaa actgccgtgg caggcggacg cattgaccgg cgccatcagt	60
gccacaacta ttgacttcca ctatgggaag catacgcgca catatcttga gaatgtagac	120
aaacttgacg ctgaaaactcc attgtcggag ttgccgctcg acgggattgt gcgagtcgcc	180
gacggcgctg tgctcaacaa tgccgcccag gcatggaatc atcttttcta tttcgacgcg	240
ctgtcgccat cgccaaagcc agcctccgac aaggcttttc ttgccgcagt ggagcgggtgc	300

ttcgggtcgg tcgatgtgct gaagacaaag atggagcagt cgggagcagc gttgtttggc	360
tccggatgga catggcttgt tgcagactcc gacaatcatt tgatggtaat caacacaccg	420
gatgccgaca ccccgttgag gatggacggg ctgcacccac tgttgtgtat cgacgtgtgg	480
gagcacgcgt attaccttga ctatcagaat cggcgcgctg actatcttca caacatctgg	540
aacgttgtgg actgggaggt tgtggagcgt cgtttttccg gaaagtaa	588

<210> 366
 <211> 852
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 366	
aataattatc aatcatgttg cggaattaag ggaaggaata taaaaacaaa cgatacaatg	60
aagcaatacc tggatctgct ccgccacgta aaggagcacg gcacaatgaa aggcgaccgc	120
accggcaccg gcacgaaaag cgtgttcgga taccagatgc gcttcaacct cgccgacggc	180
tttccgctgc tgaccacaaa gaaactccat ctgaaatcaa tcatctacga gctgctgtgg	240
tttctgcgcg gcgacaccaa cgtgcactat ctgcaggaac acggcgtgcg catctggaac	300
gaatgggccc accccgacgg caacctcgga catatctacg gctaccaatg gcgctcatgg	360
cccgactacg acggcggctt catcgaccaa atatcggaag ccatagaaac catcaagcac	420
aaccccgact cacggagaat cattgtcagc gcatggaacg tagccgacct gaagcgcacg	480
aacctgcctc cctgccacgc attcttccaa ttctacgttg ccgacgggaa actgagccta	540
cagctctatc agcgcagcgc cgacatcttc ctcggcgtgc cgttcaacat cgcttcctac	600
gccctgctgc tcatgatggt ggacacaggtc accggacttg aagccggaga atttgtgcat	660
actctcggcg acgcgcatat ctacaccaac cacttcgagc aagtggagga acagctgaaa	720
cgcgacccgc gcaagctgcc cacaatgcgc atcaatcccg acgtgaagag catcttcgac	780
ttcaaatatg aggacttcac actcgaagac tacaatccgc atccacacat caaaggcatc	840
gttgccgtat aa	852

<210> 367
 <211> 705

<212> DNA

<213> Prevotella sp. CAG:279

<400> 367

atgccgacta agagaattgt tcaggacccc gatttcggac gtatagagat acgcaccaac	60
cggcgcgcgc gcaacatcac aatgcgtccg aaggacgacg ggctgcacgt gacgggtgcct	120
ccctatacgt cgcttgccctc tgtcctcaaa gccatagagc cgcacgga gacgcttcgt	180
gagggatgcg agaagtgcg tccgcggctg attgactttg atttcacaat cgatgcgccg	240
tgcttcaaac tgtgtgtcgc ctccgggcaca cggcaatttt tctcgggtgcg gtttgacgac	300
gacaaggcaa tgggtgttttg cccgcccgcac actcagttca gccgtccgga agtcagaag	360
ttgctgtcgg cagccgttgt cagggcaatg aaacgccggg cgcagcagtt tttgcctcca	420
ttgctcgccg aacttgccctc gatgcatggt ctgacctata agaaagtgcg tgtcactgga	480
gcgcgatcga aatgggggaag ttgcacaagc gcaggcaca tcaacctgtc gtgctacctg	540
atgctgctgc ctccacatct gatggactac gtgctgcttc acgagctggc gcatacccga	600
gagatgaatc acggtcagca attctatgcg ttgctcaact cgatgaccga tggcatggcg	660
ttgcagctgc ggtcgcagct gcgtgctttc cgcacatcgt tttag	705

<210> 368

<211> 357

<212> DNA

<213> Prevotella sp. CAG:279

<400> 368

atggatttga ttaaagttgc cgaagaggca tttgcaaccg gcaaacagca tccggagtgc	60
ggaccgggcg acactatcac agtggcttac cgtattaaag agggtaacaa agagcgtatc	120
cagcaatatc gcggcgtagt aatccgcatt tctggagaag gcacaaaaaa acgcttcaca	180
gtgcgtaaga tgagcgacaa catcggagta gagcgtatct tcccgattga gtcaccgttt	240
atcgacagca tcacagtcaa caagtttggg aaagtgcgtc gtgcaaaatt gtactatctg	300
cgcaacctta caggcaagaa ggctcgtatc aaagagcgtc gtgttgtcaa caagtaa	357

<210> 369

<211> 273

<212> DNA

<213> Prevotella sp. CAG:279

<400> 369

gaaatggcac ataaaaaagg ttaggttagt tctaagaacg gacgtgaatc ggaaagcaaa	60
cgattgggacg tcaaaatctt cgggtgggtcaa tttgctaaag caggcaacat catcaaactg	120
caacgtggca cagttcacca tccgggtttg aatgttggca tgggtaagga ccacacattg	180
tttgcgttgg tagacgggtac agtcaacttt acagaaggta aaggcggccg caagtttatc	240
aatgttcaac cattggacgc tggcaacaat taa	273

<210> 370

<211> 525

<212> DNA

<213> Prevotella sp. CAG:279

<400> 370

atgttaaata aaaaagtaga agaagcactg aacgccccaa tcaatgcgga attttgggtct	60
gcctatctct atctttcaat gtcagcctat tttgaggcag aaggaaagag cggctttgcc	120
aattggttca aagttcaatt caaagaagaa caggcacacg ctgaaatatt tatgaatttc	180
atccaatccc gcggaggccg tgtcattctc aaagccatcg atgaagtccc gacatcttgg	240
gaaagcccg c ttgatgtgtt taaagaaact cttaaacatg aacaaaaagt aacatcggtg	300
atcaatgagc tatactccat tgcagaagaa gcgaaggact atgccacaag aaacactctc	360
acatggttca tcgacgagca agtagaagag gaaaagactg cgcaggagta tatcgacacg	420
ctcagcctta tcggagacaa cggttatggc ttataccaac ttgacaaaga acttgccgca	480
agggtataca acattcccgc gcctcttgca aacacgggca actaa	525

<210> 371

<211> 1026

<212> DNA

<213> Prevotella sp. CAG:279

<400> 371

atgaaaactg tctgcttaaa catattgggt gtgctgctgt cgattgcaag cctcacggca	60
tgccacgacg agccccagtt tgccgacacg ccgacaggca atttcgaggc gctgtgggtcg	120

gctctcgacc gccattactg cttctttcaa taaaaaacg tagactggca ggaggtgcac	180
gaccgatatg ccgcgaaaat cagcaacagc atgacctctg aagagctttt ccgcgtatgc	240
tccgagatgc ttaaagagct taaagacgga cacaccaacc tgtcgtcatc attcgacacg	300
tcgcgctact ggatttggga gcaattcccc caaaactacg acgagcggct tgtggaggaa	360
cactatctgc actttgacta ccgacgcaca agcggaatct cataccgcat cctcgacaac	420
aattatgcct atatgcgcta cccgtcgttc tcctacagca tcggcgaagg caaccttgac	480
aacgtgctgg caacgctcgc ctttgccgac ggtctgatca tcgatgtgcg cgacaacgga	540
ggaggcatca tcaccaatgc ggagactctc gtggcgcggt tcatcgacaa gcgcattctc	600
gcaggataca tctcgacaaa gaccggctcc agacacgacg atttctccga gccatacgct	660
tactacatcg acccggcaaa aggcagggtg cattggaccg gaaagccgat agccgtgctt	720
acaaaccgtt caacctacag cgccgcaaac aatttcgtgt cgataatgaa gagtctgccc	780
aacgtggttg tgggtggcga tgccacaggt ggcggtatgcg gaatgccgtt cacgtcggaa	840
ctgcctaacg gctggagcgt gcggttcagc gcggcgccta tctacgacgc cgaccgacag	900
ctcacggagt ttggagtgca gccgaccgac ggctgccaga ctgatatgac caatgccgac	960
cgtcaacgag gcgtggacac catcatcgag cgtgcgttcg aagctctgac cgacatgcaa	1020
cgataa	1026

<210> 372

<211> 477

<212> DNA

<213> Prevotella sp. CAG:279

<400> 372

atgcgtcaag cgtttatcat attctctgca gtcattgccc ttttggcgtc ggctaaaacc	60
aacaccacac gtcctgtggc aggcatctcg gaaaaggcat tgttgatgaa gacaatcaat	120
gcggaaaaacg acaccgcttc gtttgccgac aaaataatcc tgtcgggcta caagaagacg	180
gtcaacgacg cgtttgagtc gttctttgtc gacaaccaga cgcttttcct catttcacac	240
ctgacgctga agttccagta taaaaacgca ctgaccggac aaatcataaa agaagcaacc	300
tatgaagtgc cgtgcgacat tccttccggg caaatgcggc agctgagcat ccgcactttc	360

gacaagcagc actccttcta ctatgcaaac tcacgcaagc ccaaccgtcc ggcaacgccc	420
tacagcataa gctacaaaact tatggcatac gacatccgca tcacagtgga gaagtag	477

<210> 373
 <211> 387
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 373	
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gcatacatat aagcgagcgg aaattactcg cgtatcgtct atatcggcgg aatgcagatg	120
atgataacgc ttggactgtc gaaattggag ggaatgataa agatgattgt cccgaaagac	180
cgccggagcc cgtttgtgcg acttggacgc agcctgcttg tcaaccaaac ctatctgacc	240
cacatcaatg tgttgaagca gcggctgacg ctgtctgaca atcaggagca ttcctatgtg	300
ctcgacgtgc ctaaagcatt gttgaaggca tataaggact tgattagaaa aagtttcgcc	360
gagagaatta aaaacaaaga ggagtag	387

<210> 374
 <211> 483
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 374	
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tcccgttaagg actcaactga acatggtgat ataatcacca ctttcgacgt acgtatgaaa	120
gagccaaatc gggaaccagc tgtaagccag tcggctctgc acacaataga gcatctcgcc	180
gcaacttttc ttcgcaatca caagcagtgg aaagacaaaa tcgtgtattg gggacctatg	240
ggctgctgca ctggcaacta ctttattgcg aaaggcgacc ttgcttcacg cgacattctc	300
ccattgatgg ttgagacttt tgaatttatc cgcgatttcg acggcatcat tcccggagcc	360
acacctcgcg actgcggtaa ctacctgctc aacaatctcc caatggcaaa atgggaagca	420
aagaaatatc ttgacgagac actatatgtg gcaaccgatg acaatcttaa ttatccagac	480
taa	483

<210> 375
<211> 636
<212> DNA
<213> Prevotella sp. CAG:279

<400> 375
aaagccactt ccacttcata ctcggtcaag aattctaaaa aaggcgtaaa tatcctttca 60
cgaataaacc cacagcaaat ttcattgtca tacaaaaacat acacaaaaaac caaaacgact 120
atgaaacgat tttttatcac agcagcaatc gtagcgatat tctcaattgc cgcacacgcg 180
cagaaatatg cgctcgtaga catggaatat atcctcaaaa acatcccgca atacgagatg 240
gccaacgagc agctcaacca ggtgtcgctg cgctggcaga aagaagtaga ggctaagtcg 300
aaagaagccg agacgctcta caagaactac cagagcgaca tgggtgtttct gaccgacgag 360
caaaagaaaa agaaagaaga ggaagtgggtg gctaaagaaa aagaagccgc cgaactgcag 420
gcaaagtact tcggcccgca ggggtgaactc tacaaaaaac gccagtcgct gatggagcca 480
atccagaacg acatctatga agccatcaaa aagctctcgg aagagaaggg ctaccaggcg 540
attttcgacc gcgcgtcgtc ggctggcatc attttcgctt ctccacgcat cgacgtgagc 600
aatgatgtgc tcgcaaagtt aggttattca aaataa 636

<210> 376
<211> 507
<212> DNA
<213> Prevotella sp. CAG:279

<400> 376
atgaagaaaa ttggcatact ttccgacacc cacggatatt gggacgaccg ctacgctacg 60
catttcgcag gatgcgacga aatttggcat gccggcgaca taggaaccga cgaggtgatc 120
gagcgtctga acgcatcgc tccggtgagg gctgtggctg gaaacatcga cgggcaaccg 180
atgcgacgca ctctcggcac ttggcgcgac tgggaaaccg acggagtgcg cgtggcgatg 240
acccacatcg gcggatatcc cggaataac gcgcctgggg tgaaattcaa actcgaggtg 300
aagcgtccgc aaatcttcgt tgacggacac agccatattc ttaaagtgat ctacgaccgc 360
caactcgggc tgctgcacat caaccgggga gctgcggggag tctacggctg gcaggcgggtg 420

cgcacactga ttcgcctgta tgtggactgc ggaacgataa aggatctcga agtgattgaa	480
cttgccaaaac cgacaaaatt aaaatag	507

<210> 377
 <211> 762
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 377	
atggggcaaaa ataaattgaa gaaattcggg gagatggaaa cattccccaa cgtgttccaa	60
tatccattcg cagaattgca gaaagggccg tttccattga aaggaaagtg gaacacagag	120
tttttcaaga acgacaaccc catagtcttg gaacttggtt gcggcaaagg agaatatgcc	180
gtcggcatgg caaaaaaatt tgccgaccgc aacttcacg gagtcgacat caaaggcgcc	240
cggatgtgga ccggcgccaa gcagtcggtg caggaaggca tcgccaacgt agcgtttctc	300
cgcacgagta tcgaactaat cgcttccttc tttgaggccg gcgaggtgtc ggaaatctgg	360
ataacgtttc ccgaccccca gatgcagaaa gtcaacaaac gcctgacgtc gacccgcttc	420
atgcaactct atcgccagat attgaaagac ggcggaactcg tgcacttgaa aaccgacagc	480
ccgtttcttt atgcctatac cgacgccatg gtgcgtctga acggcttcgc caccgaggtc	540
aacaccgacg acctttatca cagcggactt gccgacgata ttctcgaaat ccgcacgttc	600
tacgaacgcc aatggcttgc ccgcggttg acaataaaat acatcaactg gcatcttgac	660
gccaccacgg cgcttcagga gcctgaaatc gacatagaga aagataccta tcgcagtttc	720
tcgcgcgggt atcttgaaac agaccctcaa tattcaaagt aa	762

<210> 378
 <211> 504
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 378	
tcagaattct gttgcatttg caagttgaat tcagctaatt taaaaatcga catgatccgc	60
aaatcaaccc ttatctcttt tcttatcgca ataatccttg cgccttgcg tctgtcggct	120
caaagcacgg cggctcaacg ggcgagatgg atggagcaaa taagaaaaac taaatttgaa	180

ttcttcacca aagaggtgaa tctgtcaaaa gagcagcaaa accaactgtt tccgctatat	240
gaggaaatgg aaaagaccat ctacaagatg aacagcgaag cggaggctct gatgaaaaaa	300
acggctgccg acacaaatgc atccgaaact gaatttgaag cggcggcgac agcaatggct	360
aaaaccactc tacaacaggg tgagattgaa ttggattatt tcaacaagtt cagcaaattc	420
ctgtcgaaaa agcaactttt ccggctaaag caggcggaag aaaaattcac ccaatatttg	480
ctgaaacaac gacgctcgaa ataa	504

<210> 379
 <211> 675
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 379	
atgaaaaagt cgataatggc gtcgctgctt ctggcggcga cgcttttttc aagcgatatg	60
gcggtcagg aaaaatatgt ctacaatgaa ttctatttcc agcgtcctc gcttttcagc	120
gagctgccgg tggggaagaa agacatcggt tttctcggcg acagccagac caacggttgc	180
gaatggcacg aactgctcgg gatgaagaac gtgaaaaacc gtggcatctc gtcggacgtg	240
attcagggtt tcatcgaccg tgtcgacccg attgttgagg ggcagccggc gaagggtgtt	300
attctcggcg gcgtaaacga catctctcac gaccttactc ccgacagcct ttgcacgtcg	360
atggagaagc tgattgtgaa aatcaagcaa gggtcgccac gcacaaaaat ctacttgcag	420
agtctgttgc ctatcgacaa cagtttcggc cgctaccgca agatgggtggg caaggagcag	480
gtgattgtgg agaccaaccg cttgtataag gagatggctg agcgccatgg cgtgacgtgg	540
attgacctgt actcaaagat ggtagaccct gccacgggca gcatgcgcaa gggcttcacc	600
aatgacggtc tgcacttgct tggcgccgga tatcttgtgt ggcgcgacgc ggtgctgcct	660
tatgtgaaga agtag	675

<210> 380
 <211> 792
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 380
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ctgctgttct atatctataa gattatgaag gagtcgggca cgctgagcat ttttctcggg 120
gtgctggcat tcattattgt gtggtttgtg gcttcgggtg tcttgaaaat ggagcttacg 180
gggcgcatatc tcgacaagtt tatgaacata ggcttgctga ttcttgtaat cctgtttcaa 240
gaccagatta agcggtttct tgtggaaatc ggatcgcac agcgttggag atttgtccac 300
aatctgtttc gtcgccgtca gaccgacgag aagccgcagg cttcttggat tctgccgatt 360
gtctacgcct gtctcaacat gtcgaagtcg aaaactgggtg cgctgattgt tataaaaggt 420
gttgtgccgc ttgacagcta cgagaagtct ggcgacatta tcgacgcgga ggtgaacgga 480
cggcttatcg aaaacatatt tttcaagaac agtccgcttc acgacggggc gatgattgtg 540
gctggcggac gcataaaggc ggcaggatgc atcttgccctg tgtcgcacga ttccaacgtg 600
ccgcgtcagc tcggactgcg tcaccgctcg gctctcggca tctcgcagtc gaccgatgcg 660
atggcgataa tcgtgtcgga ggaaacgggc aacatctcgg tggcttgtgg tggcaaactg 720
tcgttgcgcc tgagctcgac cgacctggag gcgagaatta accaatttgt ttctggaaat 780
acagacaaat aa 792

<210> 381
<211> 543
<212> DNA
<213> Prevotella sp. CAG:279

<400> 381
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gcaatgattg tcgcactgag cgcatgcacc atcagctaca agctgaacgg cgccgccatc 120
gactattcta tctacaagac catcaacgtc gggcagtttc ctatccgagc ggcaatggtc 180
tacgtccgc tgcagccgat gtttgagaac aagctcaccg acacatacac caagcagaca 240
cgactgcgga ttgtcgacag ctcaaaccac gatctgagcg tcgagggaga gattacaggc 300
tactcgtca ccccgaggc ggtgaccgag gacgcatacg catcaaagac aagactgaca 360
atatcggtgc gcgtgaaata caccgaccac aagcagccga agaactcaat cgaccagtcg 420

ttctcggcgt ttcgcgactt cgactcttct gagatgctga ccaacgtcca ggaccaactc	480
tgcgaggaaa taaccgagga actcgtaatg ctgattttca atgccacagc aggcaactgg	540
taa	543

<210> 382
 <211> 561
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 382	
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aaatatattgc aaatcgccat ttttgtgtat tatcttcgca tcagatttcc aagaaaaaca	120
cacaaatcaa aaccgagaat tatgtttgag cacaaaaatca tgagaaacca agaactgatg	180
gcaaactggc aacgcagcct gaagaaagcc atcgaaacca accgctacga cagccgttac	240
aacgtgatag accgtgcgct ccgcggcggc acaccacgct acgacgtgag ttacgactac	300
gcgttgcgaa tgatgtatca gatggcgcg gacggcaagc catgctcccgc ccggagtaaa	360
ctgaagcgctc agatgtggga ggagataagc ctccacgtca ggcgcgctcat gcacaggcgc	420
aaatgcacga ttgccgaagc cgtggcgaca gtgcttgccg agcaaaaagc gtcacgctac	480
ttcctgtcga aaaaacaagc ttcaaaaatc atctaccatg aaatacacia ccgcagcaat	540
catcgtagcc tcaactgttta g	561

<210> 383
 <211> 453
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 383	
agcgccgccc gattgaaaat gcgaaaaaag agattaatta acagtaataa aaaaaaaact	60
aaaatgccta ctattcagca attagtaaga aaagggcgcg tagttttgaa agacaagagc	120
aaatcgccgg cgttggacag ctgtccgcag cgctgtggcg tttgtgtgcg tgtctacaca	180
actactccaa aaaagcctaa ctcggcaatg cgtaaaagtg cgctgtgaag attgacaaac	240
ggtaaagagg tgaactctta catcccagga gaaggccaca acttgcagga acactcaatc	300

gtgatggttc gcggcggacg tgtgaaagac cttccagggtg tgcgttatca catcgtacgc	360
ggcacattgg atacagccgg tgttgcaggc agaacacagc gtcgttcgaa atacggagcg	420
aagcgtccta aggcagggtgc agccaagaag taa	453

<210> 384
 <211> 888
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 384	
atgagcagga tcatcagatt aggatacatt cagcaagcca acagcgcctg cataagcaag	60
aatagagaaa accttgtcgc aaaaataaaa cgcttggcaa acgacggcgc gcaacttgtg	120
gtgctgcaag aattgcacga tagtttgtat ttctgccaaa cggagagcgt cgacaatfff	180
gacttggcga tagacattaa cggcgaagaa acaggcgttt attccaacgt ggcaaaaaaa	240
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accgccgttg tttttgaaaa agacggatcc gttgccggga aatatcgcaa gatgcatatt	360
cctgacgadc cgcatatta tgagaaattc tactttacgc ccggggatat aggttttgaa	420
ccaatccaga catctgtcgg aaaacttgggt gtattggttt gttgggacca gtggtatccg	480
gaagcggctc gattgatggc attgaaaggc gcagaattat tgatataccc caccgccatc	540
ggatgggaaa gctcagacga tgaagcggaa aaaatgcgtc agcgacaagc gtggatgctg	600
tctatgaggg ggcatgccgt agccaacggg ctgcctgttg tcgcagtaaa cagagttgga	660
cacgaacccg acccgtcgaa tgcaaccaac ggaatccaat tttggggcac aagctttgta	720
gcgggacctc aaggcgagct gattgatgaa gccgctaccg acagcgaggc ggagaaaatt	780
gttgcaatag atttgacaag aagcgaacag gtgagacgct ggtggccgtt tctgcgtgat	840
cgacgcatcg acgcttatca aaacatccta aagcgttttg atgactga	888

<210> 385
 <211> 255
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 385

atgaaaaaag acattcatcc atcaaactat cgcgaggttg ttttcaaaga tatgtcgaac	60
ggcgaaaactt tcatcactcg ctcgactgtc gctgctaagg agacaatcga aatcgacggc	120
gttacttacc cgctcgtaaa actcgaaatc acgagttctt ctcacccttt cttcactggt	180
aagcagaaat tggtcgacac agccggccgc gtagacaagt tcatgagccg ctacggaaac	240
cgtctcaaga aataa	255

<210> 386
 <211> 294
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 386	
gaattaaaca acagaatfff taacattaaa aattatagta tcatgacgaa gactatttct	60
tttaacgagt tgagaaaaat caaagattgc ttgccagacg gttctatgca caaaattgca	120
gaccgtctga acatcaacgt gcaaacagtg agaaactatt ttggtggcac taattattcc	180
ttcggaaaaga actgtgggct tcacattgag ccaggtcctg atgggggaat cgttggtttg	240
gacgacacca caatatatga tatggcattg gatattttgc gtgagcaaga atag	294

<210> 387
 <211> 660
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 387	
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aaaatcacgg attggacaac acatfff gca gaattgccc aaactfffct caacattcat	180
tgffttatata ataaaatcat actaacttac atcaaaaacc tgaacattat gaagaagfff	240
ttcatcgcta caattcttgc agtcgctgcc gttcttccgg catcagcaca agtacgttca	300
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ccaatcctcg gtccagtgtt cttccacgcc gacgactaca acaagctggg tgtcgacata	540
ggcctcggat tcgcatacga catcaattca cactgggcta tcggagctga aggcaaatac	600
caatatgtcg acgattggga cgatgcgtat ctgtcggttct gcgcttctta caaattctaa	660

<210> 388
 <211> 645
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 388	
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gcggaaaagcg gttgcggaaa gtcgtcgctg tgcgcatatc tctacggcta ccgcaaggac	180
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tgtgacgtgc gacgtcgcca cattgcctat ctgccgcagg agatgcgact gtttcctgag	300
cttacagctt tggaaaatgt ggagctgaag aaccggctta ccggacataa gacaactgcc	360
gagatccgca gcctgttcga gcggctgggg gttgccgacc gcgccgaccg tccggtggga	420
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gactttttcc tgctcgacga gccggtgagc cacctcgacg agacaaacaa ccgtatcggt	540
gccgacatta tcaccgagga ggccggcacgc attggcgcggt ctgtcattgc tacatcggtg	600
ggcaacaatc ttgacatcgc agtggaggag gcactgaagt tatga	645

<210> 389
 <211> 822
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 389	
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ttctcacact atggcttctc gccccactcc cctgtgccta tcgagtcgcc gtgcaatatg	180
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gggcaagtgg aattgcttgt ttccatggag attgactatc ttggcgacta ttggggacca	300
tcgaatgaat atttcagcaa actgcctctc gactatcgca tcggctccgt gcatttcac	360
ccatcaggcg acacaatggg cgacaccgac ggacacttcg actcgttcaa gacaaaaatg	420
gcattattct tcgacaatga cattcgctat gtcgtcgaca cattctacga ccagacactg	480
aaaatgattg ccgccggggg acttgacatt atcgggcatt tcgacaaaat aggtcagaac	540
gcatcttatt tctctccagg aatcgaggac gagccgtggg atgccaagcg cgtggaagaa	600
gtgatggaag ccatcaaaga tgcgggcatt attgcagaga taaacaccaa atcaatgttc	660
cagcaccaca gattgttccc taacgagcgt tatttcaagc gtttgaaaga gattggcatt	720
cccgtggttt tcaattccga cgcccactac cccgacctca tcaatgccgg gcgtatggaa	780
gcaatgacaa tctacaacaa tctacttgag ttcaacttat aa	822

<210> 390
 <211> 471
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 390	
agatgcaaaa ttaagacaca aatgacaaaa ttcaaaatag gcgacgagtg gtggaccact	60
ccgacagaaa gtgaaaacgg caaccgcata atcgttaccg gacgccgtgg cgtggaaaat	120
gccattgcat caggcaaatt caacgaccgt atagaaataa cgtggaaata tgattccgat	180
aaaaacggga tgcccgactt taagacgtcg tcgctgatgg aggctgtcac cgatgcgctg	240
aacgccgcct tcaaaaaaga ccaagccgcc attctgacag gcatctatac cggtagcggc	300
gagcgcaact gggttttcta cacacggaat ctgaagaaat tccaatacat cctcaacgat	360
gcgctccatg acatggaagt gctgccactg acattctatg ccgagaacga ccccgattgg	420
gaaggatatc aggaaatgaa ggtcaagacc gagatttttg aagaagaata g	471

<210> 391
 <211> 834
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 391

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gcatcgcgct ggataaccagg cttcgtttac cgttggcttg cccgcctgat tcgtcaggac	120
gagctcaacc gagtgccttg cgaaaaccga ggcaagacag gcagcgcttt cgcagaaggc	180
gcgttgacaga cgctcggcgt gagcgtagc gtgatgggcg aggagaatat ccccgcttcc	240
ggcaggtttg tatttggtgc caatcatcct ctcggcgggc ttgacggcat cggtttgata	300
gcgtttctcg ggaagcgta cggcgacgac cacctgcgtt ttcttgtaa cgatgtgctg	360
atggcagtga agccgctcga caacgtgttt ttgccaatca acaaatacgg cagccagtcg	420
cgcgagtcga tgcgggcagt cgacgcagcc tatgccggcg atttccagat aggcactttc	480
ccagccggac tgtgttccc agagggggac gacggtcgcg ttcgcgacct tgaatggaag	540
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ggtcttaatt caagattttt ttataaattt gcaaaattcc gcaagaagt ggcatcaag	660
ttcaacatag agttgattct tctgcccggc gagatggta agaatcgagg gtcgaaattt	720
gaaatacgtg taggcaagcc tatcccctgg accaccttca cctccgccc cgtagtggc	780
gagtgggcag aaatcgtgaa ggataaagt tatgatattg cagatgagca atag	834

<210> 392

<211> 567

<212> DNA

<213> Prevotella sp. CAG:279

<400> 392

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gccagtctgc ggaattgtca ctatTTTTgt caaacaatga tacagcggat tgtctgcata	180
ctgattgttg tgctgctgca gatggcagcc acttcatgct ctgccacaaa acagagcgcc	240
cacaccgtat gcccggaacc gacaatgacg ctgagcgacg acaacgccga ccgccattgc	300
gactctgccc cgtcggcaag cgacctgatg actcatcaaa aggctggact gacactgccc	360
gcaaccgaga cgttcgccgc acaaagccgc acacaggcac gcacaaacca ttggcaatgg	420
caacgctcgt tgcgttgca cgcgcgcatg cgcattcttg caggcaaccg ccggcacgcc	480

gtcagcagcg acgtgctgtc acaaaccttc ggcatcgaca cccagtctac gggctatgtc	540
tttgtcatac gccacatcat catttag	567

<210> 393
 <211> 411
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 393	
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ttttgcgtgg caaacggcat ttcgtttgcg cagatgcagg agaaggggtg gattccgggtg	180
cttaaccggg tggaatcga ttacaagacg ccgctccgca gcggcgaccg ctttgtcagc	240
aagttgtggg tggagcggaa aggcgccagg tttgtgtttc atcaggattt gttcaagaca	300
gacacgggag agtcggtggt gtcggctgtg gtgagctgcg tctgtctttc tgacggcaag	360
ctcgacagag gggatatgct tgccgaggtg tttaaaaaac atttgcgttg a	411

<210> 394
 <211> 516
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 394	
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ttgtatttga agcggagatg gtggctcttt gtgctttag ccttgccgtt cccggctctg	120
gcgttgtgga atctgaattt tctctacgca gcccttatgg ttgagttttt cgtgattccg	180
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cgccgttgcc gtgtaaggat tggcgaaggc ggaatcgaac gcgagtttgt cgatggggag	300
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gatgccggaa tcaaactgtt tcatgccggc aaagccatgg cgttcgattt tatcccgta	420
agcgcatttt ctgaagaaaa atacttggtg gcaacagcgc tgataaataa cgctttgccc	480
aacggggatg aaagtctgcg aaaaaatgtt caataa	516

<210> 395
<211> 429
<212> DNA
<213> Prevotella sp. CAG:279

<400> 395
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attgctatta tggagtatct ccttagccac aggacgcac ccacggtcga tatgatttac 120
aacgacctca taggaaaaat gccgaccttg tcgcgcacca cagtctacaa cacgctgcgc 180
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atcccgttgc aaaagggttg tgttgaacaa aatgggcacg attttgttat acaagaaacg 360
gaagtttact atcgaggcta ttgccgcgaa tgcattgaaa tcatgaaaga aacagaattg 420
aaacattaa 429

<210> 396
<211> 300
<212> DNA
<213> Prevotella sp. CAG:279

<400> 396
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gcagcaaagc gtgcggcggt gaagaagatt gtaaaccaccg gcgaaccagc cgaggctttt 120
gaggcagctc aaaagcttca ggctttgcca aagaactcca acccgatccg tatgcacaac 180
cgttgcagcc tgacaggacg tccaaagggc tatatccgtc agttcggcat ttcgagaatc 240
cagttccgtg agatggcgtc tgcaggattg atcccgggcg ttaagaaaagc aagctggtaa 300

<210> 397
<211> 558
<212> DNA
<213> Prevotella sp. CAG:279

<400> 397
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tgccatacat ctaagaaagt gacaacaaca gatactcccg gttctcccaa ttcggagggtt	120
gttgcggttag attcgtatgg ctatttgtcg aggcgtcttg gcatcagcat aggaaagcac	180
gacaaagaaa atttagaact ctttaccgtt gctgaaaaat ggcttggtgt gccttatcgc	240
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gcagtctatg gcaaatcgtt ggaacgtaat tcagcggcga tacgcgacaa gaattgcagt	360
aaaatcagac gtagccaatt gagaaccgga gatcttgttt ttttcaagac gggttcgtcg	420
cgaaaaatca accatgtggg catctacctt aaagataata aatttatcca tgcctcttca	480
agcaaggggg ttattgtcag cagtctggaa gagaagtatt atattagaac atatgtgtgt	540
tccggacgcg tggattaa	558

<210> 398
 <211> 387
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 398	
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ggaaacaact ggaagaaaca agaatacgtg ctcgaaacag aagagacata ccctaagaaa	120
gtgcatttcg acttcttcgg agagcgcgcc gaccaataca actggatcaa aatcggcgac	180
cgcacccgcc taagcttcga catcgaaagc cgcaataca acaaccgctg gtacacaagc	240
atccgaggct ggaaagccga aaaagccgac gatgccgccg caactcaagc cccggccgcg	300
ccaagccctg cagcacagcc tgcggcaccg atgccagact tcacacaacc tgacagcaac	360
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<210> 399
 <211> 279
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 399	
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aataataaaa ataaaataca taaagaaatg attattgtac aagtaaaaga aggcgagaac	120

atcgaaagag cattgaagaa attcaaaaga aaatttgaga aaaccggtat cgtgaaagaa	180
ttgcgcgcac gccaggcttt tgagaaacca tctgtggcaa accgtaagaa aatgatgaaa	240
gcggttttacg ttcagaaact tcgctcagag gaggaataa	279

<210> 400
 <211> 288
 <212> DNA
 <213> Prevotella sp. CAG:279

<400> 400	
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agcgagttta aacgtctgat tttcgaggac gaggcgctta aggcttattt taaggaatgg	180
tgtgacgata tgggctaccg cgaacgcaca gcgtttgttg actattgtca cgaatacttg	240
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<210> 401
 <211> 888
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 401	
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atgatggccg agcggattcc ctatattatg ccgcccattgt cccgggaaga acagatggag	840
gtgacaaaaa tctacagtgc ggcaggacgt ctgaaaccgg ggagcgga	888

<210> 402
 <211> 1281
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 402	
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gcagttgggc tgaactgcgg tcagattaag accggttccc tttccagaac ggaccgtctg	1200
gcgaagtata accagctttt gcggattgag gaaaggcttg gaagggcggc aaggtttgta	1260
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<210> 403
 <211> 594
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 403	
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atccagaagg agatggatat tacagcgatt ttcgttacct acgatcagga tgaggccatg	180
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accagatgt ataccagcc tgtatccaaa tttgcagcaa catttatcgg tcattataat	300
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<210> 404
 <211> 1287
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 404	
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ttggatatga tgggcgaata tgcgattccg gaagatgaaa aactgaaggt tgaagtgatc	180

gtcaacgccg aagataagac gatgatcgtc cgggataacg gtatcggat	gacggccgac	240
gaagtaaagg aatatattac gcagattgcc ttctccgggtg cgacggattt	cctggaaaag	300
tataaagaca aaacaaacga agaccagatt atcgggtcatt ttggcctcgg	attttattcc	360
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ccggtatact gggaatgtga cggcgaatct gaatattcga tgtccaaagg	ggcaaaggaa	480
acccacggta cagagattac attatatctg aacgaagaca gctatgaatt	ttcgaatgaa	540
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aagatttcta attatattac aaagaaagtg gcggacaagc tttccggtat	gtgtaaaacc	1200
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<210> 405

<211> 672

<212> DNA

<213> unclassified Lachnospiraceae

<400> 405

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tttgcggcgt atgatcccca gcttgtcctt ttggatattt cactgccttt ttataacgga	180
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tgggagatgg acagctttgt cgatgaaaat gccctgacgg tcaacatcgc aagactgcga	600
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attattgagt ga	672

<210> 406
 <211> 1287
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 406	
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<210> 407

<211> 528

<212> DNA

<213> unclassified Lachnospiraceae

<400> 407

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ggactggccg caggcctcgg ttccgcactg gcagatcttt taagcggata tatggtttat	240
gtaccgatta ccttcgttgt gaaagccgta atcgctgttg tctgctattt tgtttatcat	300
aaacttctcg gcaaactgaa ccatatcatc ctcaaaggca tcatcaccgg ctgcttttcg	360
accattctcg tagctgccgg atactgcttt tttgaatcct tcatctatgg cagcggcgct	420
ctggcaagcg tcccggcaaa cctcattcag gggctttccg gttaaattat ttcgaccgta	480
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<210> 408

<211> 636

<212> DNA

<213> unclassified Lachnospiraceae

<400> 408

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ttgaaccatc aggtcatctg ttccaaaacc gtgaaaatct gcggcatggg tgaaagtcgg	180
gtagcagaag tggtttcaga cttaattgat gcccagacca atccgaccat cggcacttat	240
gccaaaggcg gcgaagtcca tcttcggatc actgccagcg gtgaagatta taaaacggcc	300
agaaagagca taaagcccat cgtcaaggaa ctgaaaaacc gttttggcga taagatttat	360
acaacccggg agagtgaac gctggagcag cacgtgatcg gtcttttgaa gcggaaaaag	420
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gtgccgggcg catccgatgt tctgaatgaa agttatatta cctattccaa tgaagcaaaa	540
caccggatcc tcggtgtaaa gaataaaacc ctcagaaatg aaggggctgt cagtgagaag	600
tgtgcggaag aaatggccag aggcgctgcc agagcg	636

<210> 409

<211> 603

<212> DNA

<213> unclassified Lachnospiraceae

<400> 409

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tttgaagtc acagtcacgg agaccacttt aacccgaata tttataaata tgcggagacc	180
tgtcctcatg ttatttatgt actttccggt gatgtgcggc gaagcttaag ctttgccgta	240
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aatgtggata accatggaat tttataaccgt gaaggcggtc cacgggaaat gatgatcgaa	360
acgttaaaaat caacggatga aggcgtggca tttattattg aatatggcgg aaagaccatt	420
tattttgccg gagatttgca ctggtggtcc tggatgggcg aaagtgaagc ggatgcagaa	480
cgccgggaag cagaatataa gctggaaatg gaaaaaatca gaggacgtca ttttgatacg	540

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atg	603

<210> 410
 <211> 1620
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 410	
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gatacgcccc aggcgggtcta cgacatgaac atctgcggtc tgaaactggc ggaaaaagtc	180
aatcttccgg tcattgtagc ttttgacgga ttttttacga gtcacagaa gcggcgggtgt	240
gaagtctttg aatttgatga aaatgtccgc gaatttattg gcgagcggaa gccggaagtg	300
gatttgctcg atatggaaca tcctgtgacc atcggttcctt acatgaatga accggatatt	360
attaacaata aatatcagct ccatcaggcc atgaagctgg cggcgtcctg gctgccgacc	420
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cgtccctttc cggcgaaggc tctctatgaa atatgcaaaa acgtgaaaac agtgatcgta	660
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tattatgaac cactgacaaa agcgggtgtcc tcgccggaat ttctgaaacg cagtgtgaac	960
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gcccggagtt ccacatctca tgtggggccg gccagtagc gaaaaacatt tttccataag	1500
gatacggcgg caatcatggc ggccacaggg atgccttatg tggcgacggc agccgaatct	1560
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<210> 411
 <211> 720
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 411	
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agggacggcg aggttgtcgt tattcatgat gaacgggtgg accggacgac agacggcaca	180
ggctttgtaa aagattttac gtatgaagaa ctgatgaagc tggatgcttc ctataccttt	240
aaagaatatg gcgtacagca tattccgaca ctccgggaat atatggagct cgtcaaagat	300
aaggacatta taaccaatat cgaattgaaa accggcgtct ttgaataccc gggcattgaa	360
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tatcatccga tgtataaaaa tatgacaccg gaagtgggtcg ctgaaatcaa gtcccgcggt	600
ctggaaatca acacctggac ggtgaatgaa aaagaagaaa tcgaagagat gtttgagcgg	660
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<210> 412
 <211> 858
 <212> DNA

<213> unclassified Lachnospiraceae

<400> 412

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atgggaaatg gcgctgccga tgttatctac cggaccgttt tcgcattaaa accgaagaaa      180
gcgctggtgc tggcgccgac ctttgccgaa tatgcggcgg cgctccggtg cgtagatgca      240
aggattgatt cttaccggat cgaccatgcg gatttttcagg taaaaatgga tatctgcgaa      300
cagattgaag cggatacaga gatggttttt ttatgcaacc ccaataatcc gacggggcctt      360
ttaatatcca aagatattat cgaaaagggt ttaaaacggt gtgaggctgt cggcgcatgg      420
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attgccggcc ttcggctggg ctatctgctt tgcggtaaag ccgggcttgc ggagcggatt      600
gaccgtttcg gctgcgactg gaatgtaaac tgcgtggcgg aagccgccgg actggaagct      660
ttgaaatcac aggattatat aaaaaaagtt atccgttata taacgaaaga acgggagtggt      720
ctctgccggg agctgacagc tatgggattt ttgacggttc atggcgccgc caattatctg      780
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<210> 413

<211> 1044

<212> DNA

<213> unclassified Lachnospiraceae

<400> 413

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ctttattcca ttatcataga accggatgtt cttatcaccg actatgtcat catcgaggt      180
gtcggcgag ctctggtcaa tgccagtctg acaacgatca tgtgtatcgt cattatttat      240
tttcttaaaa tgaatatcga cggaataacc atcgcgcccc tttcactgat gttcggcttc      300
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tctcttttcg gaaagaatat ttttaacatc tggtttatta tttttggtgt ttatgtctat	360
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ctttcaccga tcatcaccca gacgatgctt ctcgtgagcc tgccttttcc ttttaaggttt	480
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ctttataata cacacaaagg ctactctctg tataatgcag gctttgccgc cggaattata	600
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tgggcgaccg gatacaacgt gctttttatg gaaatactgc tttcgttttt tgtatttctg	720
attatcatcg gcgtcattac cggccagaat gttttccgga aatatatgaa tatcttaaaa	780
tatccgggcg tgggcggaac cgattttact ttcagcgaag gtttttcccc gacactggtg	840
aatatcggcg tcaacggtat tttttcaaca ttatttgtca ttgtcatcgg cgctgaatta	900
aacggtccga gtatcggcgg aatctttaca atcgtcggtt tttccgccgc cggaaaaaat	960
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tccatcactg atccgtcagc cggt	1044

<210> 414
 <211> 516
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 414	
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ctgcttctga cagttgcaa taccggcagc cggaagcttc atttgaatgg ccggtggcag	180
gggacgattg gaattccctg tgacagatgc ctgaaggaag ttgcagtgcc ttttgatatt	240
gagatggatg aggatgtgga tctgtcgccg gaacgccagg aagatctggc agacgacagt	300
tatatcgaag aaagcagtat taacacagat gctctgctta atcacgaaat ttttaattcgt	360
tttccgatga agattttgtg ccgtgatgat tgtaaaggca tatgtctgaa atgtggaaag	420
gatttaaacc ttggagagtg cggctgtgac cggaggctct tagacccgag gatggctgcg	480
attcaggata tttttaagaa ttttaaggag gtgtga	516

<210> 415
<211> 540
<212> DNA
<213> unclassified Lachnospiraceae

<400> 415
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<210> 416
<211> 894
<212> DNA
<213> unclassified Lachnospiraceae

<400> 416
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aacgatgaac ttcaggcaga tatgtacaag aacgacattg aaccaaacct tgaagaaggt 180
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gttcatttca aagcaatgcg tgcaaaagca gcagcgcac ccatcggaat cgttggcgaa	840
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<210> 417

<211> 873

<212> DNA

<213> unclassified Lachnospiraceae

<400> 417

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agcggcgcac cagccgatct gaaggaagtc aatgtggtat tggactggta tccgaatgcg	180
gtgcatgcat ttatctatga tgcgattgaa aaaggctact atgcggaaga gggaattaaa	240
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gtaaattatt tttatccgca tgaatatggc gtgccgggca gctatgagtt gatttttgtc	720
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<210> 418
<211> 864
<212> DNA
<213> unclassified Lachnospiraceae

<400> 418
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ttaatctata cctatgaaaa atatctgaag gccattccga cctatggaac cattccttac 180
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gaacgtgtca cacgtatggc cgctcagatg cgtaacatcc ttctgccgga tacaccggtg 780
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<210> 419
<211> 807
<212> DNA
<213> unclassified Lachnospiraceae

<400> 419
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cttctgcttc cggtagtatt tgtcaaatgc cgtgacgaat tgaaacggct tcaaagaaaa 180

gatatattttc tctgtgcctg cagcggcctt tttctgggta tgcattttac tctttacttt	240
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tttgtagcgc ttttcctgtt ttttatgtac cgggaaaaaa ttccgggtcaa aggtattctg	360
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acgttgatcg gaagaagctg ccggacccat atttcgacat cggctctatac ctgttttggt	540
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ggccacagtg tttacagttg gggactcaaa tatctcaatg cttcctacat cacgaccatc	720
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 <211> 987
 <212> DNA
 <213> unclassified Lachnospiraceae

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cccaatgcat ttacaaatat tatcgagatg ctttcgattc ttctgatccc tgcggcgctg	180
tgctttacat tcggacgcag cataaaaaat aaaaagcagg gcattgcgat ttttgccgcc	240
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cctcaactgg cacaggacgg gatggtggat atctccgaag tctcccaggc cgggggcaat	360
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aggacgccgg aattcctcgg aaagaagatc gagccctttg aaatgaaatg ggcggctcgtc	660

gtctgtctgg caactccggt cgcgatcctg atcggcagcg gcatcgcagc ggttgttccg	720
tcggtggctg acagcttaaa taacagcggc gcccacgggt tttccgaact gctttatgcc	780
tattcatcct gcggcggcaa caatgggtcc gcctttgccg gatttaatgc caatacggta	840
tttctgaatg tatcactggg actgggtcatg ctgtctgccc ggtttatgcc gatcgtcggg	900
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ctaaagcatt tggcctccga aaaaaatctg agtctgaagg aagcggacat cgtaaagac	180
cttcaaaaac agtacgacag tatggaaccg attcctcaaa aagagtatcg ggaatatcag	240
ggccttatcg ccagagcttc ttctgtctgg gccgtgcga aatccgccga taattacagc	300
cagttcgaac ctgtcctgaa acagatcgta gactttcaga aacgttttct tgcctgccgt	360
ctcaaaaactg ggcacccgga tatgcggccc tatgacctgc ttctgaatga ttatgaggaa	420
ggctttacca tgaaggcgct ggatgaattt tttgaaacac tgaaaaggga aatcattccc	480
cttattcaaa aggttgccga aaaaaaggac cggattttcca aggattacaa cgtccggacc	540
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atccatgaaa gcggccatgc cttttacgaa atgcacatcg acgatgatct gacagcgaca	780
cctgtcggat gcggtacttc gatgggcatg catgaaggcc agtcccggct ttttgagaac	840
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tacgaagtgg aaaaaatgat ttttgaagaa aatgccgata tggaaaagct gcctgaaatc	1080
tgggctgaaa aacacagaga atacctcggc gtaacgcctg agaaagacag cgaaggcatc	1140
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 <212> DNA
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cgtgacacgc gggcgtggac actgcttaaa gggattcctg tgatttttgc ttttgtgctg	180
gttgccctacg tttttcagat gagtacgac ctctggctgt tccagaatct gatcagtgtg	240
acgatcatct cgattttcgt tctgtttcag ccggaacttc gaagggccct cgagcagctt	300
ggacggaaga atcttttatc ttcggtcttt aatctcagca gcggcgcggc agtggatgaa	360
caggcagcaa aagtgatcga gaaaacaaaa tcagaaatta tcaaggcctg tgtggagatg	420
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gag	483

<210> 423
 <211> 414
 <212> DNA
 <213> unclassified Lachnospiraceae

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tatgcctttg acggcaaaaag ccgggagggg agcggcggag cggccgtaga gatcgatcag	180

gaaatatccg aaagatatca gggcctttta accgatgaaa aagtaggaca gatgctggaa	240
gaatttcgtc caaaagtgga taccggcgga ctgaatgcgg cttgtttgta tcagaacgcc	300
tttcagtcctt cggtttttgc ccggttttcg gatgtggatg gaaactggaa cggacgaagt	360
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<210> 424
 <211> 849
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 424	
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ggtatcggca cgagggggacc cggtgagaag aagctggaag tggaccggcg attgatccgg	180
gaacggattt cccagttaaa acaggagctg gaagcgggtga agcggcacag ggaagtggcc	240
cgtcagcagc ggagccggaa tccggtaccg gtggctgcca ttgtcggta caccaatgca	300
ggaaaatcta cattattaaa tcaactgacc ggcgccggtg tgctggaaga ggataagctt	360
tttgccacac tggacccgac aacacggaat ctgaagcttc cgagcgggtca ggaaatcctt	420
ctgaccgata cggtcggatt catacgaaaag cttccccatc atttaataca cgctttccga	480
agcacgctgg aggaagccaa atatgcggat ataattctcc atgtggtcga tgtatccaac	540
cctcaggcag acattcatat gcatgtcgtc tatgacacgc tgaatgaact tcaggtcggt	600
gataaaccgg tcgtgaccct ctttaataaa acagaccgcc ttgaagcggga gggatcggaa	660
ggtattttta aggacttccg ggcggataaa acgttgaaaa tatctgccag atatcagagc	720
ggttttgatg aactcaaagc ggtgcttgaa gatattctcc gggagagcaa aatgctcatc	780
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<210> 425
 <211> 624
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 425
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gaagccggaa cgcaggtaga actgacgata taccgtccat gggaggatgc ctatattgat 180
tttacagtgg acagggcagt tgtcgacgtt ccgacggttg aatggcagat gctggacgat 240
caggtcgggtt acattcagat tgttgagttt gaagaagtga cggcgggaca gtttaaaacg 300
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ctcgtttata cggaggataa aaacggatat aaggaagaag aatgggcgaa ggatgacgat 480
gccctggatc tgccgatggc ggtgcttgtc aatggaaata cagccagcgc ctctgaaatc 540
tttaccggag cattaagga ttatggcgtg gcggagatta tcggaacaac gacctttggc 600
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<210> 426
<211> 1089
<212> DNA
<213> unclassified Lachnospiraceae

<400> 426
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gggacggatg tttcggatat cgttcaggaa gcgatgccgt ccatcgttgc tgtcaatacc 180
cagatggatga cgaccagcag cttttttggc cagacctatt cccaggaagg cagcggcgcc 240
ggttcaggaa tcatcatgag tgaatcgga ggaacgcttt atattctgac caactatcat 300
gtaattcagg attcgaccag catccagaca acatttaatg atggaagcac agcggatgcg 360
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ttaagcgatg aaacaaagaa aaatatcgca gcggcgggtta tgggagattc ggggtgcgctg 480
gaagccggaa acggtgcat cgccatcgga aatgctcttg gatacggatca gtcggtaacg 540
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atacagaccg atgcagccat taacccgggc aacagcggcg gcgctctgtt aaatacacgg	660
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tctgcggcac agcgggccgg actgcagcag ggcgacatca ttaccggatt taacggtgaa	960
gccattgcaa cgatggaaga acttcaggaa aaactggagg gctgtctgcc gggtgaccag	1020
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<210> 427
 <211> 1323
 <212> DNA
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aatgcactga cggccgtatc catggccttt ccggtacaga acctgatgat tgcggtggct	180
acaggtagcg gggttggtgt caatgccctt ttgtcccga gcctcgggga aagaaatttc	240
aaaatggcta ataaggcggc caataacagc gcctttcttg cggtagatgag ttatctggtc	300
ttcctggttt tcggcatatt tgggtggtgaa accttttacc ggcttcagac agatactccg	360
gaaattattg cctacggtaa agattatacc attattatct gtatcttttc atttggattg	420
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ttttcccaga cgacaggggc ggtaatcaat attattcttg acccgatcct tattttcggt	540
tattttggat ttccgcggat ggaagtagcc ggtgcggcgg cggccacagt catcggtcag	600
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ccttctatta taatggcaag tattacatcg gtcatgagtt tctgcatgaa taagattctc	780
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tag	1323

<210> 428
 <211> 906
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 428	
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cacatggaca tcgggacggc aaagatcacc ccggaagaga tgcagggcgt gccccatcat	180
ctgattgata ttctggaacc ggatacggca tttaatgtcg ctatgttcca gaaactggcc	240
aaagaagcta tggaaggcat ttatgcccgg ggacggattc ctgttgctcg cggcggcacc	300
ggattttata ttcaggcgct gctctatgat attgattttt ccgaagaaaa tgaagatatg	360
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gaagaagtcc gtggtctgat ggcaaagggc tatgataaaa acctggtctc tatgcagggg	720
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gaaata	906

<210> 429
 <211> 621
 <212> DNA
 <213> unclassified Lachnospiraceae

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acgggacatc cgggtggatgt gatttaccgc cgggcggtaa ccagtgacat tatgaatgat	180
tatgatgcgg tttcggattt tattcaggcg gtaaaggatg gcagtgtctg tctgatcggc	240
gccttccgga cgcagatcat ccatcacaaa gccatttgcc gtgtactcgt ccatccgatg	300
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gaagaactgg atggggtagc ggaaagaaac ggtctggagc agatttatga ggataaggat	420
gactggatca ttaaaccggt ggattcctac gcggccaaag gcgtttatgc cggagtggat	480
tacagccata aagagtggaa gcggattgtt gagagctgcc ggcatcaaaa atatattgtt	540
caggagtact gtcggccgta tcggacgaaa aatatcagtt ttggacagaa accttatcaa	600
tttcagcttt acagcaacct g	621

<210> 430
 <211> 666
 <212> DNA
 <213> unclassified Lachnospiraceae

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tcatcgggaa atacacgaaa gaaaacaccg gatctgacac cggaagaaaa gattcagcag	120

gcaggcatcc gggatgaggt tgtcgtcctc acgattctgg cgctgagtat tctgctggtt	180
ctcagcaact ttaatctgtg cgggaaatta gggacagcca tttccaatgt cacttttgga	240
ttgttcggtc ttatggccta tgtatttcct ttcatttttt tccttgcat ttcatttttt	300
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gtagtacacg tgctgcatcc gctgcttgga acggtgggat gctatgtggt gattattggt	540
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cgtctt	666

<210> 431
 <211> 702
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 431	
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atgggaacgg ggcttgacgc agagggaatg gattttccgg tggtttatga atcggaagaa	120
aatattggga atttcaaat cgctgcatcc atgaaccaga ttgtctcggg gtctgactgg	180
aaacgccgga tttatcaggc cgttttattcg gtcgatacct ttgagggcga tgtcagcgcc	240
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gaggggacat atattgataa aagcggaaat atttccgctg attttaccgg gggcgaagtc	360
tgcagagatg caaatggctg gtatatcctc tggaaatctc cggatatgaa tgtctggcag	420
gaaagccggg cttatattca ggcggacagt gattttgaag gtggaaataa tcagacactc	480
ggtgtcaaag gaatgtccgg aatttatctg aaagaaaatt caccggcggc agatgcgccg	540
tttaatacca gtttggtgaa tgttgctggt gaagtggagg ctctggatgt aaatctccc	600
gtgatgaagg gcaccgacac ttcggatgcg gattttcttc gaaaagcagg ggtgaagctt	660

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<210> 432

<211> 633

<212> DNA

<213> unclassified Lachnospiraceae

<400> 432

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cgggatacgg tgcttattaa cgggtattttt tatgtttgtcg gaaacggctt tctccgactg 180

atgcagatgc tcgttgttcc gctggatttc tgttcgctga tctgcggcag cgcggccatc 240

ggtgacacaa agaccctcgg aaaagtcggc gtaaaaaactc tcggcttcta tatgctgacg 300

acggcgctgg ccgtcgtggg ggcgctgagc cttgccaatg tcattaatcc gggaattggc 360

ctgaatatgt ccgaaatttc agcccaggaa acaacagtcg cagaaagcgt cagcttcgcg 420

gatacgctgc tcaatatcat tccgaaaaac ccgattcagg ggctggcgga aggaaacatg 480

cttcagatta ttctgtttgc actgattatc ggtattattc ttgcgaaaat gggcgaaaag 540

acagcggcag tatccaactt cttttcccag tttaatgaaa ttatgatgga aatgacgatg 600

atggttatgt ctctggcgcc ttttggcgtg ttt 633

<210> 433

<211> 798

<212> DNA

<213> unclassified Lachnospiraceae

<400> 433

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gcagctctcg aagttgcatt acagattaaa gaaaaaacg gagcaaagggt tacggttggt 180

tccatgggac ctatgcaggc agatgtagcg cttcgtgaag ctctggctat gggcgctgac 240

gacgcagtgc ttgtatccga cagaaagttc ggcggcgctg atacatgggc aacatcttca 300

acaattgccg gcgctatcaa aaaactcgac tatgatttaa tcgtagccgg acgtcaggcg 360

attgatggtg ataccgcaca ggttggtcct cagattgcag aacatctcgg aatccctcat	420
gtcagctacg cagcaagcgt tgatgttgaa ggcgatgata ccgttggtat ccgcagaaat	480
tttgaagacc gttatcatat tattgaagca aaaacaccat tgттаатсac aactctcggt	540
gaggaaatcg aacctcgta catgagtgtc ggcggtatct tcgacgcata cagagaaaaa	600
gaagtcaaag tatggggcta tgaagatatt aaagatgccg ttgatgattc caacctgggc	660
ctgaagggtt ctccgacaca ggttaagaaa tccttcacga aaccggtgaa agcacctggc	720
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<210> 434
 <211> 603
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 434	
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gtcaacgaag gcgagtacat taaagcggaa ggggactatg tagagcatgg aacctatgga	180
cgccagttcc ggatcgcttc cttttctatc gaggcgccgg aggatttggt ttccatcgag	240
cggtatctgg gttccggggc cattaagggc atcggaccat cgctggcggg tcggattggt	300
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attaagggaa tcagcgaacg gaaagcccag gaaatttatc agcagtttca tgataagcag	420
gatatgcgtc aggccatgat gtttttgtca aaatatggca tcagcacagc ttatgctggt	480
aaaatttaca atgagtatgg aagccgtctt tatgatatca ttaaagaaaa tccataccag	540
cttgccggagg atgtgacggg catcggtttt cgtctggcag atgatatcg ccccgggcg	600
ggg	603

<210> 435
 <211> 1083
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 435
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 aacggaaaaa ccacagtgtc gaatctgacg gcgtccatcc tgaaggacaa cggttatgaa 180
 ttcgtcaata actctaccgg aagtaatgtc agcgagggcg tcgtatcggc actgcttgca 240
 aagagcagct tcttttgaaa ggcgaaaaca aaactcggaa ttctcgaagt ggatgaacgg 300
 tattcaccgc tgatctatcc gtatatgcag ccggatattc ttgtgtgtac caatcttttc 360
 cgggattctt ataagcggaa tgcccatacg gaatttatta cgggcatttt gaataaacag 420
 ataccgaaac atacgaaact gatttttaaac ggcgaagacc tcatcagcaa tcatctggca 480
 gagggcaatg accgccgcta ttctggcatt aactgtccgg atggccacag tacgccgaat 540
 aacattatta aggatgtcgc tgcctgcccc aaatgcggag gacggctgga atatgaatat 600
 atccgctaca accacatcgg acgggcccac tgtaccaact gcgactacgg ctcaccggag 660
 atggattata ccattgaatc catcgattat gcgaaccacc ggtgccaggt aaaaacaccg 720
 gaaggcagtt atgattttta aatcatcggc gagaatgtga cagatatcta caacatgatt 780
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 gtttttaaatc tggcaaaggg acagaatccg atcgctgct ccagggtctg cgattttatt 960
 aagcacgatt ccggaaaaaa agcggtgatc tttatgctcg acgattatta cgatgcccg 1020
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 tcg 1083

<210> 436
 <211> 627
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 436
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caggcttatt ttccgggggc agtaagctgt gaggttcttg tgaaaggccg ggaaccgatg	180
atgatgaaaag cgggtggattc ggaatatttt gcacagattc tgccggatgc ggatataaccg	240
gattatatgt atcaggtgac ttatggggat ggcatgttg taaagtgccg ggatgcctat	300
gcttttccgg caacgattcc ggaagaagat ataaaaaaat tccaggcagg aatccattac	360
gaaatctata aggtgctggg agcgcattcc atgcgtattc gcgggattaa aggggtccgt	420
tttgctgtat gggctccgga tgccatgcgt gtcagcgttg tcggcgattt caatcagtgg	480
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gggctgaaag agggcgaact ttacaaatac gagatcaagc tcaaagggga tacggtggtt	600
ttgaagtccg atccttacgg tacgctg	627

<210> 437

<211> 711

<212> DNA

<213> unclassified Lachnospiraceae

<400> 437

ccctatgttg ccagcgaaac caaggcttcc cgaaaaacct atgccatcgc caatcgtttc	60
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cgctctctgg atatcgccca cgaagtctta aaagccgaac acgattacta taaagccgaa	180
tatcaaaacc agatgatgca taccagcggg tttgataaat atctgggaaa tgacccgaaa	240
atccacgcgc tccgtcagct cggactgaag gtatccaaaa ccgatttttc cgtattaatt	300
accggagaaa ccggcaccgg caaggaactt attgccaaat ccatccatat cgaaagccat	360
cgggccaacg aacctctggg ctgcgtcaat tgcggcgcca ttccgatgga actcatggaa	420
tctgaaatgt ttggttatga ggaaggagcc ttcaccagcg cacgcagggg cggtaaaatc	480
ggtaaatcc agcttgccaa ccacggcacc ctgtttctcg atgaaattgg cgatcttccc	540
ctgcctctcc aggtaaaaact gctgcgtgtg cttcaggaac acgaaatcga aaaggtcggc	600
ggtaccaaac cgatccctgt cgatgtacgc attatcgccg ccacccgaaa aaatctccag	660
cagatgatgg aagaaggcac cttccgtgcc gatctctatt accggctcgc c	711

<210> 438
<211> 564
<212> DNA
<213> unclassified Lachnospiraceae

<400> 438
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gtcagagact attttggaca tctggcaaag aaggtggcgc ctttcggtta tgatccgaaa 120
gaccttccgg caaatctctg gaagggtgtt gcggcgatgg ttatgaacga cggcagatgt 180
tccaatgaag aagtgttctg gaatgttttc aaaaaaatct atggaaaaaa ggttgaggaa 240
gacaagccgg tttttgacga tttctatgcc aatgaatttc aggaaacagc aaaggtctgt 300
ggaagaaatc caaaggccgg agcctgtgta aaagcctgta aggcgatggg acaccggggt 360
gttctggcga caaatccgat ttttccggcg attgccacag aaagccggat ccgctgggcg 420
ggattggagc cgtcggatgt tgaatattat acaacctacg aaaattccag attcagcaaa 480
ccaaatctga aatattatga agagcttctg cagaaaatcg gtgtggaagc cggagaatgt 540
ctgatggctg gcaatgatgt ttct 564

<210> 439
<211> 540
<212> DNA
<213> unclassified Lachnospiraceae

<400> 439
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tttaattcaa gcagtgtgcc gcagattctg aaacagagtt cggttaacgt tctgctggcc 180
ctcggatgaat ttttcgcgat ctttattgcc ggcatgacc tgtccgtcgg ttcgggtggca 240
gggctgaccg gtctgctgac cgcaaagatg atgatcgtcg gcgttccgggt gccggctgctg 300
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cgtacaggcc tgcattccgtt tatcattaca ctgggtacac agtcgatttt ccgtgggtgtt 420
accctcgtat tatcaaattc ccgttccgta tacgggttttc cggtatcctt tacagccatg 480

atgagcggta aagtgatcgg tattccgatt ccggttaatta ttgcactgat tgcagcagtt 540

<210> 440

<211> 837

<212> DNA

<213> unclassified Lachnospiraceae

<400> 440

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ctcggcgtat ttatcgtgcc gatgccggta attattgatg gggtaactta ttttgaagga 120

aaaaatctgc tgcagccgga cttttttgaa agtccttatga gcgggaagga tgtgagtaca 180

tcccagccgt ctccgggaga tctgatggag ctgtggaaca gggttctggc tctgggatat 240

gatgatattg tttatatattcc catgtccagc gggctgagca attcctatgc gagcgcagcg 300

gttctggcag aagaatatga ccatcgtgtg catgtggtgg ataatcaccg gatttcgatt 360

ccccagttag catcggttat ggatgcggtc aagctggttt ctgaaggccg gactgccgga 420

gaaattaaag agcttcttga aaaagcagcg cttgaagcca gtattttatat tgcggtggat 480

acactggaat ttttgaaaaa gggcggctcg gtgacaccgg cggcagcagc gataggaagt 540

gttctgggaa ttaaaccctt tctttccatc cagggggaca agctggatgc ttatgcgaaa 600

gtccggggga tgaagcggtg cagaagacgg ttgatcgaag cggtggaata ggatttaaat 660

gaacgttttt cggagggcga tatgtccaaa gtgcggattg cgacggcagg atcgtttcgg 720

aatccggagc tggcagagga ttggcgtcag gaagtggccc gggcctttcc ggattatgaa 780

gtggtttacc gggatctggg atgcagtatc gaatcccata ccgggccgga ggcaatg 837

<210> 441

<211> 615

<212> DNA

<213> unclassified Lachnospiraceae

<400> 441

acggaactgg ggtattcggg ggtttccgtc gcggacacag aactggtcgg catgataaaa 60

ttacatccat acgatgcggg gattctttct gtggaagtgc cgggagatga ccgggatgag 120

atgtttcagc agatccgtct gttttcggac gccccgctgc tcggtgtgtg tggtgaaaaa 180

acgccggaat gggcggaata tatgcgagc cggtttgacg ggggcatcga tccgcggctc	240
agtgatgaag ttctggctga gatgatggag gactatctgc gtcaggccta taaacgggtt	300
cacaatgtgc ggctgcatca gtacaaaaat cttaaaatca acaatggcgg cattaaaaaa	360
gcagaagtga attataaaaa actggatttg acggcaaagg aatttatgat tttaaattctc	420
ctgatgtgtc acagagaccg catccataca aaggctgtct tatatgagac gatttggcgg	480
caggcttata ccggagatga taatgcggta aagatacata tcagcaatct gagaagcaag	540
ctgaaacggg cggacccggg ggagcagtat atcgaaacgg tctggggact cggataccgg	600
atgtgcagag actga	615

<210> 442
 <211> 1008
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 442	
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gccaaacatg cccaggatct tcggacccgg gagatTTTTT caaaactccc ggaatatgaa	120
actctggagc aggaaatcat tactctgtgt gccggagaag cccggtccag agttttaaaa	180
ccggagggcg ccggggaaac gtcccgccgc gaactccacg accggatttc ccgtctgaaa	240
tcccgtcagt tgaagcttct gctggatgcc ggctatcccc aggattatct tgagcttcat	300
tacacctgtc cccgctgtaa agacacgggc ttttatgaga acgatctctg tccctgtttc	360
cgtcaggccg ctgcccgcg gatctatgac cagacaaaa tcgcgccgat cctcgagaaa	420
gagaacttcg gtacttttcg gatcgattat tattcagaga ccgtagatcc ccgcttcggc	480
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gccttcgaac tgatcgaagc tttcgaaaaa cacacctttg gcgataatga tgaccgggaa	720
gacagccttt atgaagatac gctttttgat tcgatcctga actgcgatgc cctgattatt	780
gatgacctcg gaacggaaac cgtcaacaac ttacgggtct cccagctttt tctctgtctg	840

aatcaccggc agcagtcccg gaaatcgacc attattttcca caaaccttcc ggtcgaagcc	900
attcaggata tctacagtga acgcattttt tcaagaatta tcagctatta tgagattttt	960
ctgattatcg gcgaagacat ccgcttccgg attgcccgga gccgctga	1008

<210> 443
 <211> 501
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 443	
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acaacggaag aagctacagc agagacaaaa aaagctgcag cggatgacgg aaaaacttac	180
aaaatcgggtg tgttacagtt agttgaacat gctgctctgg atgcatccaa caaaggtttt	240
gttgctgcac tggacgatgc agggattgct tatgagatcg accagcagaa tgcacagggc	300
gatcagtccg catgtcagac aatcgacagaa aaactcgtga atgacggtaa cgatttaatt	360
cttgccattg ctacaccggc agctcaggcg gttgcaggct gtacaacaga gattccgac	420
gtaggtactg cgattacaga ttatgccgct tccggctctgg ttgatgataa tgccgctccg	480
ggcggaaatg tcacaggaag c	501

<210> 444
 <211> 345
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 444	
atggatgtac atgaattatt attaaaaagtc cagaatcacg aagtagacct ggcatcggca	60
gaggaatatt taaagaaact gccttatgag gatttgggat ttgcaaaact ggaccaccac	120
cgggcgctgc gctccgggtt tggcgaggct gtttactgtg ccggaaagac gacggagcat	180
ctggtacgga tattccagag ctttgcgga cgaagagca atgttctcgg aacgcgggca	240
acaaaggaac agtttgcggc tggttcggga gtgcttcctg aggccgtgta tgaagaactt	300
tcacggacaa tctatcttca gtataatgtg ccgaagctgg aaggc	345

<210> 445
<211> 531
<212> DNA
<213> unclassified Lachnospiraceae

<400> 445
atgaagaaat tcataaaacc agcggccgtt cttgttattg cggctgtaat tcttctggga 60
atacggtttg ggcttgccgg tgcagcctct gccagtgccg aagctgccat gcaggatggt 120
tataaacagc tgcttccggg aagtacaagt tttaccgaag aagaatattc cggcgaggat 180
gctaataatta cagcagttta taaaggatgat gacggctata ttatagaaac aacaactgcc 240
ggatatgtca atgatattgt tcttctgaca ggcgttcaga atgacggtac ggtgtcggga 300
attctgccgg ttcggattca ggaaaccttt ggtcttggtc agaatgcagg aaaagctgca 360
tttttaggtc agtttctcgg cattaacagt gaagcagccg tcggcgaaga aattgatgcg 420
gttacaggcg ccactgtgac gtcgaaagcc gtaaccaaag gtgtcaattc agccgttgca 480
tttgtcaccg gagcggatgt ttcacccggc gctacagaat gggagggata a 531

<210> 446
<211> 816
<212> DNA
<213> unclassified Lachnospiraceae

<400> 446
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ttaaataaat taggcatatt tacgatagag gatttgatcg aattttatcc gcgggggttac 120
cagtcctatg aagcgccggt gtatctttcc gatgcggtgc cggaaaaacg gcaggcgatt 180
atcggatatc ttcacgga actcggtcgg attcccggcg gacgggtgga aaaaacaagc 240
ggaacgctga tcgaagacgg acgcagactc cagcttttat ggtaccggat gccttatttg 300
aaaaaacaga tcatttcagg aaaaaactat attttttacg gaaccgtcaa aactaagaac 360
ggacagtgga cgatggaaca gccggaagtc tatgaaccgg aggcttatga aaaacttcag 420
tccacggttc agccggtata ttcgctgacg gaggggcttc atcaaaagac gctcagcaag 480
ctgatccggc aggtttttga cgaagatccc ctttttgagg aataccttcc ggaagatctc 540

agagaggaac tgaaattatc cgaatacaat tatgctgttc agaacatcca ttttcctgaa	600
aacaggggaag cgcttgggca ggcacggcgc cgtctcggct ttgatgaatt ttttcttttt	660
gctctggcaa tacagcggat gaagcatttc agggaaacgtt cggaaaacag gcatcgggcc	720
gcgtcactga catgggctgg ggcttttata aagggactca gctacacatt gacaggggct	780
cagatgaggg cgtgggaaga tatttccaga gatttt	816

<210> 447
 <211> 795
 <212> DNA
 <213> unclassified Lachnospiraceae

<400> 447	
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gcagtcaatg cctttggcta taatgtggag gaatataaag atgctctgaa agcccagatc	120
gataaactga tgcattgttc caatctttac tataccgaac cgatggcaaa ggcggtcat	180
aaactggcgg aagccagcgg attaaaaacgt gtatttttta ccaacagcgg tacggaagcc	240
attgaaggcg ccattaaggt ggcccggaaa tacgctttca aaaaagacgg aacaacggac	300
catgagatta tcgctatgga acattccttc catggacgga gcatgggcgc cttttctgtg	360
acaggcaatg cccattaccg tgaggcggtc cagccgggca tcggaaatat cgtttttgcg	420
gaatataata atctggaaga tgtaaaatca aagattacgg acaaaacctg cgcgattctt	480
tttgaaaccg ttcagggtga aggcggcatt tatccgggag aaaaagaatt tatccaggaa	540
atccggaaaa tctgtgatga aaaagatatt cttttgattt tggatgaaat ccagtgcggc	600
atgggccgga ccggaagat gtttgcctat cagcactacg gaatcctgcc ggatgtcatg	660
acatcggcaa aggctctggg ctgcggcggtt cctgtcggcg cttttgtcgt tggcgaaaag	720
gcagaaaatg ctctggaacc gggcgatcac ggctcaacct acggcggcaa tccatttgtg	780
acagcggcgg tgtgc	795

<210> 448
 <211> 708
 <212> DNA

<213> unclassified Lachnospiraceae

<400> 448

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aatgtttata aaaaggatga aaaaatgccc agtgaaaacc atatggctgt ccgctttggc	120
gtaacacgat cagaaatccg caaagcctac gaacggctca aggaacaggg ctatgtctat	180
tccatgcagg gctacggcag cttcttttcc gggaaacggg aaaaaatacg gctttttatg	240
aacaatgaaa gttttacaca taaaatggct tccctgaatc tgcctctgga aaccgtaat	300
atcggttttc aaaagcttcg ggaagcctct cttattcaca gtatgctcgg tatcgacgac	360
ggaacagccg tctataaaat caccgcctc cggattctgg ccgatgaacc ggcggctatc	420
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gctccaagtc ttgttctcac atcccgtgc atcgaaaagt ccacggggac tgtggtagaa	660
atcgcacgga cgatttaccg cagcgataaa tttatttttg agttataa	708

<210> 449

<211> 531

<212> DNA

<213> unclassified Lachnospiraceae

<400> 449

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gaacgcagac tgaaaaaaag cattgctttt aatgatgtga tcgtgacccg gtccggtttt	120
tcacggctgg tggaactgaa aatatttgtc aatgaccagc ttctggatat ttatgcggcg	180
gacggtgtca tcgtttccac accgacgggt tcgacgggct ataatctgtc ggccgggaggt	240
ccggttgtct ttccggagac aaagatgatg attatcacac cgatctgtcc ccattcgctg	300
tccgcccgga gtgttgttgt gtcggcaa at gcccgggtac gtatcgaggt gggacgccgg	360
agaaaaacac agaaagaaga agccctgggtg acctatgacg gacagacggt ttatgaactg	420
gaatcggggg attcggttga aatcgtccgg tcggatatca gtgtgccgat catttgtatg	480

ccacagaata atttttgtga tacactgagc aataagataa aaaatgcctg a 531

<210> 450

<211> 963

<212> DNA

<213> unclassified Lachnospiraceae

<400> 450

gaggacccgg attggaaaaa tatggaacgg atgataatgt atgtgatggc cgccgggggtg 60

gttcttgggg ccatcgaccg gatatttggg aataaaaaag gttatgggaa gcggatggag 120

gacgggttta tgtatctggg accgacggcg ctttccatgg ttggaatgat gtgtatgatt 180

ccggtgtttt caaagatggc agaacagctc ttaatgccgc tgtatcattt aacaagatt 240

gatccggcga tgtttggcgg tcttctggcg attgacatgg gcggatatca gcttgcgaag 300

gatatcgctg tggatgccgg gctgggagcc tatgccggaa ttgttggtgg gcgcacgttt 360

ggctgtacat ttatttttac gattcctgtg gggatgcggg tgcttgaaaa agaagattat 420

ccctttttct tcagaggaat tacggcgggc ctcgtgacat tgccggcagg acttatggcc 480

ggaggcctga tctgcggctt ttctgttttt aggattcttc accagaatgg gctgattctt 540

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cttggaatgt ttgcatcggc gatgcaggtg gtcattacga tcgggctgat gctgggcgct 660

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aaggtgggtg cagccattgg gatttgtgat ctcggcagtc ttccggcggc agaatttctg 780

cagcgtattt taaaaaagcc ttttgatgg cttggcggaa aaatcggttt gaatgaagta 840

agtgttgccg gattatttgt aggaacggtc agtgtgcttc cgcagctcac gatgcttaaa 900

aatatggacc ggcttgggaa aatcgtaa atcggcctata ttgtcagtgc ggcatcgatg 960

ttt 963

<210> 451

<211> 4329

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

<400> 451

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agctacggca ggcccatcgt ggagcgtgtc gttgcggaca ggcaaaataa aatcatcact	120
gtggtatacc gtacggcaaa tccggtgccc gctgagacca gcgggcgcct gatcgcatcc	180
ttggagccgc agttcccggg ctttgacttc aaggtgcagg gcctgtttgc atatacctgc	240
cttacgtccc gtgccgtgtt ggagctggca gaggaattga aagacgcggg cctgcccatt	300
aacggctttt tgtcgggggc tcaggtggat atttcggggg agcacatcac cgtgcgcgtg	360
cagaatggtg tgctgctgct gacgcagatg gaatttgccg tgaaactgga ggagctgatt	420
gccgcgcgca ccggagtgcg gccgcaggtg gcgttggtgt gcgacacggc tatttcggcc	480
gaggccgtgg aagaacatat cttgaaaaag gcgccgccg cccgccagtt caaggccaaa	540
agcgaggggc ctgccgtaaa ggtgcaggga ttggacctgg aggacgcgcc tgccaagctg	600
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gccggcaaaag ttacggtttg gggcgatgta ttctttacgg agatcaaggg aaactggcgc	720
aagatctatt ccatttccat cacggattat acaggctcca tcaatctgaa aatacggccg	780
caggagggag aaaactgcga caagtgggag gagcttggcc ccggggacac gcttatcatc	840
aaggcgact gtgcctatga caaatacgag cgcgattatg tcatttacct ttatgacgtg	900
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<212> DNA
<213> Subdoligranulum sp. 4_3_54A2FAA

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<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2922

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

<400> 461

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<211> 2790

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 3168

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2598

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

<400> 469

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<211> 3282

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2493

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2415
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<213> Subdoligranulum sp. 4_3_54A2FAA

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 <213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2457

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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 <213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2631

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<212> DNA

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<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<211> 2607

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<210> 499

<211> 2331

<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<212> DNA

<213> Subdoligranulum sp. 4_3_54A2FAA

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<210> 501
 <211> 693
 <212> DNA
 <213> Bacteroides stercoris

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<210> 502
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 <212> DNA

<213> Bacteroides stercoris

<400> 502

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<210> 503

<211> 711

<212> DNA

<213> Bacteroides stercoris

<400> 503

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<210> 504

<211> 780

<212> DNA

<213> Bacteroides stercoris

<400> 504

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<210> 505
<211> 615
<212> DNA
<213> Bacteroides stercoris

<400> 505
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aaaaaacatt tataa 615

<210> 506
<211> 1200
<212> DNA
<213> Bacteroides stercoris

<400> 506
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<210> 507

<211> 618

<212> DNA

<213> Bacteroides stercoris

<400> 507

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<210> 508
 <211> 567
 <212> DNA
 <213> Bacteroides stercoris

<400> 508	
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caaactaaat tcgctcacat gaactctcaa gaagtaattg tcaccatgcc ggaatacaca	180
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caggaagagt tcaataagaa atatcaggaa ttcttggcac aagccgactc acttccgaaa	300
aacattgcag aaagacgtca gaaagaactg caggacatgg cacaacgcca agaacagttc	360
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gacctggccc gtactccgat accttatgta ggtgcacaga gtgtagatgt aactgccaaa	540
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<210> 509
 <211> 699
 <212> DNA
 <213> Bacteroides stercoris

<400> 509	
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caagatttta agttcgaaat atctgatgcg cgaaaaattg ccaagacgct ttctgccttt	180
tcaaatacgg acggcggacg gcttctcatc ggcgtaaagg ataatggtaa gattgccgga	240
gtgcgttccg atgaagaaca atatatgata gaggcagcag cccggttata ctgccggccg	300

gaagtgagtt acagcacaca gacctatcag gtagaaggcc gcagcgtatt gctggtgcaa	360
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gatttactgg aacaaaacga ccggttgta ctgaaccgtt attgccgtct ggcacgtctg	600
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<210> 510
 <211> 915
 <212> DNA
 <213> Bacteroides stercoris

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aaacgtaatg gataa 915

<210> 511
<211> 483
<212> DNA
<213> Bacteroides stercoris

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taa 483

<210> 512
<211> 1311
<212> DNA
<213> Bacteroides stercoris

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cattatcatt cccggaactg cacgatttac gtttccggaa aggtgagcga tgatttgtta	660
cggcggatag aagatatgtt tggtaaggaa gtgttcggca aagacttccg caaaccggaa	720
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gccatgcaga gtgcggttcg catggggatg ctttctttgg aacgccatca tcccgattat	840
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ggaccggaaa tgctggttat caatacggaa acggcaaacg agtttgtgga gcctcttatac	1020
cgggagggtt accatgaaat agattgcctg cagaatgatc tgggtccgga agaagaattg	1080
gcaatggtaa agaattatat gctgggcgaa atgtgccgca gttatgaatc ggcatctca	1140
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gctctgaacg cagtcagaga tattactcct gaagatatac gcgaacttgc cggaaagcat	1260
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<210> 513
 <211> 1158
 <212> DNA
 <213> Bacteroides stercoris

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gttggcaagg taatgaccga acgtaagatt atacatattg atatggacgc tttctatgct	120
tccgtagaac agcgcgacaa tccggaactg cgtggcaaac ccgtagcggg ggggcatgcg	180
gaagagcgtg gtgtggtagc tgccgccagc tatgaagccc gtcggttcgg ggtgcgttcg	240
gcaatgtcgt cacagaaggc aaaacggctg tgtccgcagc ttatttttat tccgggacgt	300
atggacgtct ataaatcggg gtcccgtaaa attcatgaga tattccatga atatacggat	360
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<210> 514
 <211> 642
 <212> DNA
 <213> Bacteroides sterconis

<400> 514	
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ggcagtggaa aaagtgttgt gtcccactg ttggagggtga tgggaatccc ggtctatatt	120
tctgatgggg aaaccaaaca gcttatgatg acagactctt gtattcgag tgagttgact	180
gccttgttgg gtgaggaggt gtatgccggt ggagtattga ataagtctct gcttgcgtct	240
tatcttttctg gtagtcccga gcatgccggg cagattaatg gtattgttca tccgcgtgta	300
aaagaggatt tcaggcagtg ggtttgtcag cgtgcggcat gccggatggc aggaatcgag	360
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<210> 515
 <211> 654
 <212> DNA
 <213> Bacteroides stercoris

<400> 515	
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ttttgggcaa agcgtgagtt caggaaagta tatgcgttga gctttctgta tgggcagaag	120
catcagaagg aagtggaaact ggcacgggag atagcgcgta aagcgggaagt ggagtttgaa	180
gtaatggatg tttccttcat cggcaagttg gggcataatt cgttgacgga ccccgatatg	240
gtgatggacc gggagaagcc ggcagacagt gttccgaata cctttgtgcc ggggcgcaac	300
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tcgctcaacg taacgctcaa ccttgccatg gacgagcagt tcgtactcca tactccgttg	480
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attcgtcatg agacgtgac ctgttacaac ggcatccccg gcgacggctg cggacactgc	600
cccgcatgca agctccgcag agaggggctg gagaagtatc tggcgggaaa atga	654

<210> 516
 <211> 567
 <212> DNA
 <213> Bacteroides stercoris

<400> 516	
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taccccaccg ataccatttg gggatttggg tgtgacgcta ccaatgaaga tgcgggtgcgc	120
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taccggcagg aagagatgag taatccgaag ccgtccagca ttatcaagtt ggataaaggc	540
ggagtgatta aaataatccg tgaataa	567

<210> 517
 <211> 573
 <212> DNA
 <213> Bacteroides stercoris

<400> 517	
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gcaggtattg cttacgaaga cgacaaattc tga	573

<210> 518
 <211> 651
 <212> DNA
 <213> Bacteroides stercoris

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<210> 519
 <211> 528
 <212> DNA
 <213> Bacteroides stercoris

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aactttatgt ttgatgtgga ctttgctccg ggtattgaga tactgtggcg attaaggcag	300
gaatattggg gtcggggata tgctaccgaa gcagcgaagt catgtctggc ttatgccaag	360
gagaatcttc cgttttctat ggtccgggct tttacttcgc tgaccaataa acattcgcaa	420
cgggtgatgc agaagatagg gatggaattt gaaaagaatt ttatgcaccc agcagtgc	480
gacgggcatc tgctgaaaga gcacgtactc tataagatac aattgtaa	528

<210> 520
 <211> 576
 <212> DNA
 <213> Bacteroides stercoris

<400> 520	
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<210> 521

<211> 711

<212> DNA

<213> Bacteroides stercoris

<400> 521

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<210> 522
<211> 630
<212> DNA
<213> Bacteroides stercoris

<400> 522
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<210> 523
<211> 633
<212> DNA
<213> Bacteroides stercoris

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gaaaaggcag gcatcacttt cgacctttac gatctcggta ttattttctt tgataaaacc	600
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<210> 524
 <211> 894
 <212> DNA
 <213> Bacteroides stercoris

<400> 524	
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gattttttat gcgtacttgg cactacagca gaaactccga cgctggctga agaagaaaaa	180
aagaaaatca agaaaatggt tatcgagcgc gtgaatggga aaatacctat tctgcttgga	240
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<210> 525
 <211> 510
 <212> DNA
 <213> Bacteroides stercoris

<400> 525
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gaggtaagg gcggtgcttt tttaatcgat aacgtggctt tgctgctgga tgccggcgct 240
acatggcaag gcggcggaac ggatgtctat acgttgggtg tgggcggacg ttactatttc 300
aacaaaattg gtgtatttct gggagctgat gtaaacttga accgttacaa ctgggacggt 360
ggcgataaaa cccgtttcgg cttcggcatg gagggcggtt atgctttctt cctgtcgcgt 420
acggtcacta tcgagcctgc cgtttattgg gatataaata aagaccgttc ggagttcgggt 480
ctgaaagtgg gattcgggtt ctacttctaa 510

<210> 526
<211> 561
<212> DNA
<213> Bacteroides stercoris

<400> 526
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catcctgatt tgcgtgcggc attggagaac cctgtactgc cggtagga gaaattctcg 180
cttatctgta ccgcagcagt gggggatgct cctgccgggc aggaattgtc ccgtttcggt 240
acgctgatat taaaaaacag gcgtgaggca tttctgcaat atatctgttt gagctatctg 300
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gagttacaga ccgatgttga ccttccatc gaaggcggat ttatattcga catcaacgat 480
ttccgtctgg atgccagtat tgctaccag ctaaagagag tgaaacagca gttcattgat 540
aagaacagaa gaattgtata a 561

<210> 527
<211> 651

<212> DNA

<213> Bacteroides stercoris

<400> 527

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ggaatgatca aggtaggcat tacgcctaata tttattacta ctaccggatt ggtaatgaac	120
atcgtggctg catgcgtatt tgtgtatgcg ggcatgtata aaccgggtga gcttgcttat	180
gtgggctggg gaggaggaat agttctcttt gccggtttgt tcgatatgat ggacgggcgc	240
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cgttatagcg agatggtgac gctgttcggt attttctatt atctgatttt gcaagggtat	360
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cgtgtgggtg tgaccagcct tgggtgcttta ttctgtggta ttttcggaga ttgcaagggtg	540
ttcgacccta tgctgatact gattgttcct agggccgtga tagccgttct tgctaactctg	600
acagcattcg ctcgcattgc gcattgctat aaattattaa agaaacaata a	651

<210> 528

<211> 597

<212> DNA

<213> Bacteroides stercoris

<400> 528

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gcgctggtaa tcggtttggt gctggatg tttcccaatc aggccggtga ttattttgtg	120
ataacgattg gcgtcatttt ctttgtgcct tcgcttatta gtattatagg atattatgct	180
caaaatgcag aagtgcgccg ccgatttcct atcgagggga taggaagcct gttatttgga	240
ctatggctgg ttattatgcc gggctttttt gccgatttgc tgacgttcgt gctgggcttt	300
atcctcgtga tgggtgggtg gcagcagata gcctcgtgt cggctgcccg cagatggacg	360
cctgtgccgg gcggattcta cgttgttccg gtggctatat tgctggccgg gctggttgcg	420
ctgttcaatc ctacgggcgt gcgttccacg gcgtttatca ttatcggaat caccagtctg	480
gtctatgcgg tttcgggaatt gataaactgg ttcaaattta cccgtcttcg tcctaaagca	540

cctgttgccg gcagcaagag tgatgatgat atcgaagatg caaagataat agaatga 597

<210> 529

<211> 486

<212> DNA

<213> Bacteroides stercoris

<400> 529

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aacggcgtga tgttcgggtgc attgatttta ttgggggttcg catattgcga tgaaaacagt 120

atgggggcag gaagtgagaa ttgtacttct tatgccaaat atgaattcag aggtaaagta 180

ctgggagaga gccggcaggt tgtgcccgat gccagaattc tggtaaagca tatagcttct 240

cctgccgacg gttcatatgg ctatgctgtt ttatccgata cggtttatac caaagaaaac 300

ggagagtatc tttatcagaa taccataacc ggttatcagg acttccgtat tatctgtgag 360

gaccttaccg ggggtttacca gactgattct gtggatataa agatgaatcc gaaagggtga 420

aacggcaggt atgaaggtaa agataacaga gaggtagtct ttaaactgaa aaagagggtc 480

atataa 486

<210> 530

<211> 1020

<212> DNA

<213> Bacteroides stercoris

<400> 530

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aaggatggct acctgctgtc gaatgtcgtt gccagtcagg ctgttcacga agcttatggc 120

ggggtagtgc ccgaactggc ttcgcgtgcg catcaacaga atatagtgcc ggtggtgcac 180

gaggctttga aacgtgccgg agttaccaag gaagaattaa gtgccgtggc gtttacgcgc 240

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gcgttgggga tacctatgat agatgtcaat cacttgaccg gacatgtatt agctcatttt 360

attaaagcgg aaggatgaaga aaacgtgcag ccggaatttc ctttcctttg cctgctgggt 420

tccggtggta actctcagat tatttttagta aaggcctaca acgacatgga aatcctgggg 480

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aaagcggcaa aacagtacaa gataaaggat gtggccgttg caggtgggtgt atcggaac	840
aatggtctgc gaaattcatt ccgcgaacat gctgagaagt atggatggaa tattttcatt	900
cccaagttca gctatacaac ggataatgct gcgatgattg ccataaccgg atacttcaag	960
tatttggata aggatttctg tccgatggaa gcgccggctt attcacgtgt cactttataa	1020

<210> 531

<211> 867

<212> DNA

<213> Bacteroides stercoris

<400> 531

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gccggcggcg gtgtggagct ggctcccgtc aatgcccattg gaataggagc gaatgctttt	120
gccctgttta ccaagaatca gcgtcagtgg gtggcgaagc ccttgacgca ggaaagtatt	180
gccttgttta aggagaattg caggaaatat gctttggagg cacgttatat tcttccacac	240
gacagttatc tgataaatct gggacatccc gaagaagaag ggctggagaa gagccgtgca	300
gcttttctgg atgagatgcg acgttgtgag gaactggggc tgggaattgct gaatttccat	360
ccgggcagcc atttaaataa aatttcggtt gaggcttgcc tggacagggt tgccgaatcg	420
attaatatta ccttaggcaa gacgcaaagc gtaacggcgg tcattgaaaa tacggcagga	480
cagggcagca atgtaggcaa tgagtgttgg caactgaaac atatcatcga ccgtgtggaa	540
gacaagtcgc gtgtaggtgt ctgccttgat acgtgccata cgtatacggc gggttatgat	600
atcgtaaatg aatacgacaa ggttttcgac gaattcgata agaccgttgg cttcggtttt	660
ctgcgcgcca tacacttgaa cgattcgaaa aaagcgttgg gtagccgtgt agaccgtcac	720

gacagtatcg gcaaggggct tatcggcttg gatttcttca aacgttttat gaaagacgag	780
cgttttaacg atatgccggt gatactcgaa actccggatg aaacgctttg ggcggaagaa	840
atcagcatgt tgcgtagttt tgaataa	867

<210> 532
 <211> 774
 <212> DNA
 <213> Bacteroides stercoris

<400> 532	
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tgctatgact accgcacgct ggacttcgac tattccatct tcgaccgtta ccggcaagta	180
aacgtggtag cctgggtccat ggggtgtgtgg atgggctctc tcatactgag ccaagtctcc	240
cgggacaagg tgttcagcct ggcgttcaac ggaactacat accccatcga caatctggaa	300
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ccccgacggg acttcgacga aataaaggaa gaactgaggc tcattctgga gcggtacttc	480
gatatgttcg gagacgcaaa taacaaaagt tacgacgagg aaaaggaaga taagtatgag	540
gcaaacatcg aaaagtataa ctacgaatac aactacgcct tcatcggcaa gaacgaccgg	600
attttccccgc ccgaaaacat ggagatgaac ttttgcgacc tgatagactg ccatccggtc	660
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gagatgactg ccagtgaatt cagatatcat gtcaaaacca taaatattga atga	774

<210> 533
 <211> 852
 <212> DNA
 <213> Bacteroides stercoris

<400> 533	
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gagttttctt atttttgccg gtataatgca aaaaacaaag ccatgaagga gtattttattt	120

gaagtctgcg caaactccgt agagagttgc atcgccgccc aagccggcgg agccaatcgg	180
gtagaattat gcgccgggat acccgaaggg ggaacaaccc cttcctacgg tgatattgtc	240
atagcgagag aagtcttgca aaacaccagg ttgcacgtca tcatccgccc ccgcagcggg	300
gatttcctgt attcccctat cgagcaacgt atcatgctaa aggacataga caatgcccgc	360
cgtttagggg cagacgggat tgttttaggc tgtctgacgg cagatggaga agtgatatt	420
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cgtatcctga cttccggta gcaaccacc gccgaagcgg gcattcctct attgaaagaa	600
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aacatcgcac ggattgcccg tgaaacgggt atccacgaat ttcatttctc tgcaaggga	720
accgtagcga gccgtatgca ataccgcaaa gaacgggtac cgatgggggc aaccgtacaa	780
atcaatgaat ttgagcggaa tgtgacaacc caagaaagag taaaagccac aatcgcccaa	840
ataaccgaat ga	852

<210> 534
 <211> 1062
 <212> DNA
 <213> Bacteroides sterconis

<400> 534	
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tggagaggca ctactgatcc ctaccggata tggatttctg agattatttt gcagcagacg	120
agagtggtag aaggatatga gtattttctt cgttttatcc gccgttttcc tgatgtgaga	180
actttggctt cggcttcgga agacgaggtc ttgaagtatt ggcagggatt gggatattat	240
tctcgtgccc gtaatctgca tgctgctgct aagagtatga acggttaagt tccggaaagc	300
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gctgatgaaa tgctcgataa atcccggccg gctgcttata atcaagctat aatggatttt	540

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tgttccgcct tatcgaaagg gctgggtatg caacttcccg tgaagcaaca cagaataaag	660
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ggagagggtac cggaagtacg tttgggtgtt cgaaatgtga aacatgtgct gtcccatcgg	900
gtgatatacg ctaactttta tgaagtcgtt ttgccggaga actcccgttc tttttcggaa	960
taccagtgtg tcagaatgga agatttggag cggtatcggg atctcgcttg gtacatgctt	1020
ttttggagaa gtatttataa aagttggctg tattctgcat ga	1062

<210> 535

<211> 996

<212> DNA

<213> Bacteroides stercoris

<400> 535

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gttaccaatc ttactacggg catggaccag gttattgtag gacaaaagca cctggtagag	120
tcgttgtaa tcggtttgtt gtctgacgga catgtgttgt tggaagggtg gcccggtttg	180
gcaaaaacat tggctatcaa aacactggct tcattgattg atgcacaata tagccgtatt	240
cagtttacac ctgacttggt gccggcggac gttatcggta cgatggttta cagccagaaa	300
gatgaaactt ttcaggtaaa gaaaggacct gtatttgcta attttgtatt ggccgatgaa	360
attaaccgtg ctccggccaa ggtgcaaagt gctttattgg aagctatgca ggaacgtcag	420
gttaccatag gtaaggaaac attcagactg cctgaacctt ttttgggtgct tgcaactcag	480
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ataaacggag aaagactgaa tgtaaagcct attctgaaag cagacgagat tatcgaagcg	660
cgtaagggtg tacgtcaggt atatctggat gaaaagattg aaaaatatat tgtcgatatt	720

gtatttgcaa cccgttatcc ggagaagtat gatttgaagg agctgaaaga tatgatcgga	780
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<210> 536
 <211> 669
 <212> DNA
 <213> Bacteroides stercoris

<400> 536	
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cgcacgggcg aaatcatggc gtacgaaatg agtaaggaac tcacctattc cgaaaagcag	180
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accgtcttcc gtgccgggct tcccttgcat gccggtttcc tgaatgtgtt cgaccgtgcg	300
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cagaaactct tccccggcga cgaggtttcc ttgtggtgcg gcgctatcga cccggatatg	600
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aagctgtaa	669

<210> 537
 <211> 1146
 <212> DNA
 <213> Bacteroides stercoris

<400> 537	
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aacgtacaaa gagagttaca gccacactac ctgctcgata ccaatatagc catattgaag	780
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gctgtggtgc tggaaactta cggttcgggc aatgctccgt tgaaagagtg gtttctccat	900
catctgcaca atgcctgcga acaaggcatt atcattgtaa acgttaccca atgcagcgcc	960
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atatag	1146

<210> 538
 <211> 933
 <212> DNA
 <213> Bacteroides stercoris

<400> 538	
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gaaagcaact ttcaggatga ttacgggtgtt cacagcgcat ggattgagat attcaacaaa	180

tcatatggca gcgccgacct tgcaggttgc tatctgaaat tcagcagcca accgggtgac	240
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<210> 539
 <211> 996
 <212> DNA
 <213> Bacteroides stercoris

<400> 539	
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aagatactcg gattctttcc ccgtaacatc cggttctatg agcaagcact gcttcacaaa	180
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<210> 540

<211> 645

<212> DNA

<213> Bacteroides stercoris

<400> 540

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gcttcctccg gcaccggaaa atcctccctg tgcagctata tctacgggta tcggcgcgac	180
tatcagggca tcatcagttt cgacggacgc aacatccgct catttctccgt cggcgaatgg	240
gcagatataa ggaaacattc gctcagcatc cttttccagg aactgcgtat cttccccgag	300
ctgaccgctc ttgagaacgt cttgttaaag aaccgcctga ccaaccataa gaagaaaaaa	360
gaaattctcg cccttttcga agcaaccggc attcccgaca aaaccgacga aagagccggc	420
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agccggttgc tcatggaaga ggccgggcaag caggagagcag gaattattgt cacatccatc	600
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<210> 541

<211> 372

<212> DNA

<213> Bacteroides stercoris

<400> 541

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tgcgttgtaa cctacgggca gattgccagt ttggtaggca gacctcagtg ctcgcgtatg	180
gtggggcagg ctatgcacaa cgtaccggag gaattgcatt tgccttgta tagggttgta	240
aacagccggg gcagattagt gccgggttgg acggagcaaa gagtattgtt ggagaatgaa	300
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<210> 542

<211> 639

<212> DNA

<213> Bacteroides stercoris

<400> 542

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atccaggagc gttgttcgct gacggaaacg gatgtaacgg ctgtgcttga tgcactgtcg	180
catgtgttgg ggcaggaatt gggcgacgga cgccaagtgc atctggacgg gataggctat	240
tttcatccta cgctgaaatg tatagaagag gtgacggcag agacgaaacg caaaaatacc	300
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gctgtaaagc ttaaaaaatat caagcatgac gggcactcca gaaagttatc ggacgtggaa	420
atagacatgt gtctccgtgc ttattttgcc gaccatcagc tgatgacccg tgcagacttc	480
caacagattt gcggatttat gaggtcgaag gctatggaac atatccgcag attgaagttg	540
gaaggaaaaa tacggaatat aggactgcct acacaaccga tatacgtacc cgtggaggga	600
tattacggga taagcaggga taggattgtc cggaaatga	639

<210> 543

<211> 507

<212> DNA

<213> Bacteroides stercoris

<400> 543

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acgcgagcca tgatgcaatg ttacctatat acattggatc ctgacaccaa agtggtatcc	180
aatgatacct tagactcttt gacggttact gcctttggca cggattccgt catcatcaac	240
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ccttacttct tgtcaatgga ttgcggttat caaatgaaac aagccataac agatgtccga	420
tacagtcgcc acagtcttga ttctattcgc gttgcaaata aagaagccgg aatttatgga	480
gcagaaaatc ttaaactatt ctattag	507

<210> 544

<211> 1410

<212> DNA

<213> Bacteroides stercoris

<400> 544

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caagtgaatg ctgctgagat gtatctggcg gaacagggaag ggcttatttg agtaaagtcg	180
cttttgttca ccacatttcc ggcagggtact gtggctacaa ctttctccgc cactaattcc	240
gtgaccgatt cttcagcagc cggtagcgcg cttgccaccg gtgcaaagac atacaatggg	300
gctattggta tggacgatga tgaaaacgcc ttgcagacag ttgccgagaa agccaagaaa	360
gcaggcagga aagtcggtgt cactaccagt gtcagtgtag accacgctac cccggcggca	420
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ccggagatta ccgaaagtgc tatttcgttc ctgacaaaag gaaacaataa aggattcttc	780
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cagatagcaa tggtaggatg gaccggttcg ggccatacgg ccggatatgt acctgtcttt	1320
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<210> 545
 <211> 567
 <212> DNA
 <213> Bacteroides stercoris

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ctgaaagatg tagtcaacgg ctatgtgctg gaacgccgct tcaacatcgg tgaaaagctg	180
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cagtttatga accaggaaac tttcgaccag attcccatcg cccacgacct gattaacggt	300
gtggacttcc tgctcgaagg aatggttgta gacgttgtgt ccgatgcttc taccgaaacc	360
gtgctgtatg ctgacgtacc cgtgaagggt cagatgaaga ttacttacac cgaaccgggt	420
ctgaaaggcg atacggctac caacacgctg aaacctgcaa ccgtagaatc cggcgcaacc	480

gtacgtgtac cgttgttcat caacgaaggc gagactatcg aaattgacac tcgcgacggt	540
tcttacgtaa gccgcgtaaa agcataa	567

<210> 546
 <211> 684
 <212> DNA
 <213> Bacteroides stercoris

<400> 546	
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gaggcatttc tcatcaaaaa caaaaagaca attattgggtg ctatttttagc tataatcatc	120
attatagcag gtatagtaat gtacaagaac ctctatgcag cacctcgtga ggaaaaagca	180
caggcagccc tttttaaaagg acaagaatat tttgaagccg atgcttttgc agaagccctg	240
aacggtgaca gcatcgggta cgtagggtttc atcaagatag ccgaccaata cagcgggtaca	300
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gatgaagctg taaaagcatt ggagagcttt gacggagatg accaaatggg agctcctgca	420
atgaaaggcg ctatgggtaa ttgctacgct caactcgggc aactcgataa ggcatcttcc	480
atgttgctga aagcagctga tgaagcagat aataatacac ttagccctat ctatctgaag	540
caagccggag aaattctggt taagcagggt aagtatgacg atgccatcaa agcatatact	600
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<210> 547
 <211> 1053
 <212> DNA
 <213> Bacteroides stercoris

<400> 547	
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aaaaccgaaa tagaaattgt agtacaggct accaaacata catacatgcc cggagaggtc	180
tgtaaatatg ccgaccgcta cttacgcatg aacaatgtat ctgccgatcc gaatatctat	240

tggaccatcg acaaagtaca aacacacgtg gcgggagtag ccgataaaga taatgtatac	300
ttcgttaagt tgaaagataa gactgtagcc ccactaatgg aacttactga agacggcatt	360
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aacaagaaga tattcgatgg tgaactgccc gttacacaat ttggtactat agaatatctt	960
gcacctgtac tattcaataa aaattctact ataaaagttt tgttcgatac agctaccggt	1020
ggattaatca aggtagacag agaaagcaat tag	1053

<210> 548

<211> 435

<212> DNA

<213> Bacteroides stercoris

<400> 548

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cagataactg ccattccgaa attctcctta ttcattgctt ttcttatctg cggaactttg	180
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catagcgaata tatccaaata ccactgcact attttgcatt cagcattagg gtatttgctg	360
ggcgaagcgg ttctgatagg tgcagtcagc ttgtttatca tcggagaact ggcttatatg	420
gcgctgatcg gttag	435

<210> 549
<211> 438
<212> DNA
<213> Bacteroides stercoris

<400> 549
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gattctacgg atattcaggc ggtgactgcc gctcattctc aggatggcac atgctttact 180
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gactgggtgg ataaacttgc ccggcgcgaa gcggttctgt ctttgcataa agagaagctt 360
tatgattcca ccgcttacta tggttgcaag cctgtgtgtg aatactatat tttcacactg 420
aggcggattc tgatttaa 438

<210> 550
<211> 1128
<212> DNA
<213> Bacteroides stercoris

<400> 550
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<210> 551
 <211> 6699
 <212> DNA
 <213> Ruminococcus torques 1

<400> 551	
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<211> 3396

<212> DNA

<213> Ruminococcus torques 1

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<212> DNA

<213> Ruminococcus torques 1

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<211> 2838

<212> DNA

<213> Ruminococcus torques 1

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<212> DNA

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<211> 1668

<212> DNA

<213> Ruminococcus torques 1

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<211> 2151

<212> DNA

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<211> 1968

<212> DNA

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 <213> Ruminococcus torques 1

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<210> 567

<211> 2325

<212> DNA

<213> Ruminococcus torques 1

<400> 567

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<211> 2235

<212> DNA

<213> Ruminococcus torques 1

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<211> 2394

<212> DNA

<213> Ruminococcus torques 1

<400> 586

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<211> 2562

<212> DNA

<213> Ruminococcus torques 1

<400> 587

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 <211> 2157
 <212> DNA

<213> Ruminococcus torques 1

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<211> 2559
<212> DNA
<213> Ruminococcus torques 1

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<211> 2109

<212> DNA

<213> Firmicutes bacterium CAG:227

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 <212> DNA
 <213> Firmicutes bacterium CAG:227

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gtactggaga gtgcgggaac ttcagcagga gactggcttg catttacagt cagcagaatg	240
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gataaaaaag aaatcaatct ggtagaagat gggatttttg actgtgtgtt tgaaaatcaa	480
gatcctggag tacagggcgc aaatggttat atctgggcac tgcttgcat agacagtaaa	540
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<210> 605
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 <212> DNA
 <213> Firmicutes bacterium CAG:227

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ggaaaagata ttatcggaca ggcacagacc ggaactggaa aaaccgtgc atttggtatt	180
ccacttcttc agaagataga cccgaaaaat aaaaagcttc aggcaattgt actttgtccg	240
acaagagagc ttgcaataca ggttgcagat gaaatccgta atcttgcgaa atatatgcac	300
ggaatcaaga ttcttccaat ttacggtgga caggatattg tgaaacagat tcgttcttta	360
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aagactgtaa agatggacca tattcatata gttgtgcttg atgaagcaga tgaaatgtta	480
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<210> 606

<211> 1188

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 606

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atctgtcata ccggagagag aagtaaggat tatattgaaa cagcgacaaa agccggatac	240
aatgctttta atgtagaagg tggatatcgt gcttatctgc gtctttcttt aagtcgtttt	300
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ttacttggaa ttccacttac tgtatttgaa agtgaaatth ttgatacggg agcaacaatc	660
gaaaaaaaaatc catgttattt atgtgcacgt atgagaagag gctatctgta ttctcatgca	720
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cagaattttg agggaatgga attaatcgt ccattataca tggtaaaaga agatgcaatt	900
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ataaatttaa gaacggttat cggttatcac aaagacaaag aagcttaca ttttctggat	1140
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<210> 607

<211> 2145

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 607

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gtaaccggtg ctttaaatga tgaagtgtt cgtaatttaa acgacagact gacttatctt	180
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catccacttg aagcagtcag cgttggagac atcgtggaag tcaaagtgtt aagtgtggat	2100
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<210> 608
 <211> 1410
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 608	
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accgcctgcc agattaccgg aaaacagggt gttacgctcg ccggaaaagt cgactctcc	180
atttatccgc caatcttaaa agaactggca gccgaagtgc gaaaagacac ttttattgta	240
tgtggtacaa acggaaaaac aactaccaat aacctgcttt ccgattttct cgtctcaaac	300
ggaaataaaag tggctctgtaa tcacaccggt tctaatatgt taaacgggtg agtatctgcc	360
tttgttttaa gcgccagatt aaatggacac ttagatgcag attatgcctg tattgaaatt	420
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<210> 609
 <211> 1443
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 609	
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attattccaa aatatatgtg catgaaagaa gaatataaga atcagcttca gtatgtaaca	180
catttttata tggatattgg ttaccgcaga gagtatgttg gaatcatgca gatggtatat	240
gagggaatcc agtattactt tatcgataat gaatattatt tttcagggtta tcagccttac	300
ggagatatcc gatttgatat tgagaaattc tcttattttt caaaagcagc tttatccatt	360
cttccgggta ttgacttcag accggacttg attcactgtc atgattggca gaccggatta	420
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<210> 610
 <211> 1245
 <212> DNA
 <213> Firmicutes bacterium CAG:227

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ccgggattta aatccgtaag acaggcagga gaagcaatct ctgttatgtt aatccttgaa	180
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tctgataaga tgattttaaa aggtgcagcc gttatgcctc atgcattaat caataatgta	600
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<210> 611
 <211> 1518
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 611	
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atcgtagaag aattaaataa atcaggagta cttccttatg aagttgtatt aaaaccaact	180
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<210> 612
 <211> 2661
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 612	
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<210> 616
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 <212> DNA
 <213> Firmicutes bacterium CAG:227

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<210> 617

<211> 984

<212> DNA

<213> Firmicutes bacterium CAG:227

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aaaaaagatt taggaagggt ataa 984

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<211> 1410
<212> DNA
<213> Firmicutes bacterium CAG:227

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<210> 619

<211> 1551

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 619

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<210> 620
<211> 1731
<212> DNA
<213> Firmicutes bacterium CAG:227

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caggaatttt tacaggaaaa agaagcaaat ctggaatatt ttaaacagct tatgattttt	1440
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<210> 621

<211> 1719

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 621

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caggtaattc tgccacgtca tgagcagggg ttggtacatg cagcggatgg atatgcaaga	180
gcaactggga gaaccggagt ctgtcttgta acaagcggac ctggagcaac aaatctggta	240
acaggaattg caactgccaa ttatgatagt gttccgcttg tttgttttac cggtcaggta	300
ccgacaagct tgattggaaa tgatgcattt caagaagttg atattgtagg gattacaaga	360
agtatctgta aatatgcggt aacagtaaga aaaagagaag atcttggaag aattattaaa	420
gaggcatttt atattgcaaa taccggaaaa aaaggaccgg ttgtagtaga ctttcaaaaa	480
gatattatgt tagaagaggg cgatgacctt tatccaaaag aagtaaaaat cagaagctat	540
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<210> 622
 <211> 1386
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 622	
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ggtccggtga ttccggaaat gaaattaaat attaatggtc tgccgttaaa tccggtcaaa	360
cgagagtatc cgagaaactt cattcagaca ggtatctctg cgattgatgg tttgacaacc	420

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aaatatctgg aatttggaaa tgcatttgaa caacagtttg tcggtcaggg accggatgaa	1260
aacagaagta ttcaggaaac cctggatctc ggatggaaac tgcttggaat aattccaaga	1320
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gcataa	1386

<210> 623
 <211> 1722
 <212> DNA
 <213> Firmicutes bacterium CAG:227

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tcttctaata ctttaaactt gcattatacg cttgcacatc ccgagaaatt tggaatcaag	180
gattataaaa tcagtcttgg ctcaatgaac gaaaaagctc attctaattc attttctaga	240

ttaaaatcca atcaaaaacg cctgaaaaac tttcactatc aaaaactttc caaagaaaac	300
cagctgactt atgatattct ctctctggaa ttttccacgc agctttccgg tgaaaacttt	360
ttctggcttc aagaaccctt aagtcctcat ctcggaatth cttcccagct tccgattctg	420
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tcggattatc ttgcttctgc ttttaaagat aagattaatt cacttcaaaa tgctgataca	660
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gtgattcctt cctatcaatc actttcagaa aagctttctg ctctaaaagg cagtgaaaaa	780
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<210> 624
<211> 1428
<212> DNA
<213> Firmicutes bacterium CAG:227

<400> 624
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attaacttct tgtgttcgat tctgtttctg gatatctgga gcggaatcat gcgttttgcc 240
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<210> 625
 <211> 1893
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 625	
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cactgtaagt ttggtgaaga aggtgtctgc tgtcgtatct gttctatggg accatgtcgt	180
attacaaaaa aagcaccgag aggaatttgc ggatgtgacg tacacgggtat cgttggacgt	240
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tgtcatacct tatatgaatc atcagctgat ggatgttatc aggtaaaaga tccggaaaaa	360
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ttcttaaaga gagctccgca gtcacagcag gaattatggg aaaagaacga acttgcacca	540
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tccatgatgg gaacagagtt ctctgatgtc ctgtttggaa ctccaaagcc aattgataca	720
gaagcaaacc ttggtgttat ggtagaagaa aacgtaaaca tcgttggttca tggacatgac	780
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<210> 626

<211> 1701

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 626

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ggtctcggaa aaggaatcac cgccgcatct ttgggacgct tattaanaagc cagaggctat	180
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gttatccctc atattacaaa tgaaattaaa agccgtttct accgtgcaaa atttcctgat	480
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catgttactc tgattcctta tttaaaggca tccggagaat taaaaacaaa accgacacag	660
gcaagtgtaa aagagcttca gggaatggga cttcagccgg acatttttagt ctgccgttcc	720
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<210> 627
 <211> 1392
 <212> DNA
 <213> Firmicutes bacterium CAG:227

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gaatgtacag atgaaattat aaaacaggca aaaaaagccg gttttaaaaa tcttgatact	180
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tgggaaattg caagtaaagt ggatatttat gaagcatata agggatatca ggcatttctg	1380
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<210> 628
 <211> 1059
 <212> DNA

<213> Firmicutes bacterium CAG:227

<400> 628

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caggaaattt taaatgcggt ttctaattgtt gcatttaacc gttatcctga cccgtacgca     180
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gcaccgtata atgtcaattc cgtgacacag gcaatcggat gcgtattatt ttctcaccgc     780
gaatatctgg cttcctgcat tgatgcttta aaggcatcca gagacgagtt atatcaggcg     840
gtgaaagcga tggaagataa aaaaacagaa atcgaaaccg tctacgagac gagtacaaac     900
tttattttta tgaaggtaaa acgtgcaaaa gaagtgtttg aagcattaaa gcaaagaggc     960
atttcgattc gatttatgaa tggctatctt cgagtaaccg caggaacaaa agcagaaaat    1020
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<210> 629

<211> 1137

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 629

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ttgtcggcgg aagaacgcca gatggtggaa aatTTTTcca agcagattga tatccgcaat	180
tctgctgcaa tcttgagta cggagtggga acacagaaaa aaatggcaga tttttcagaa	240
gaagcactcg caaaagtaac aacaaaagac cttggagaag ttggtgattt gcttgaaaat	300
gttgtgaaag aactgaagag ttttgatgcg gtggaagaag aaaaaggtct gtttggaatt	360
tttaaactg gcacgaataa aattcaggca ttaaaaacga agtatgcaa agcagaagga	420
aatatcgaac agattgtgca gacactggaa aaacatcaga ttcagctttt aaaggattca	480
gcgactatgg ataaaatgta tgcgctgaat ttgaattatt ttaaggaact ttctatgtat	540
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ttaaaagcac agatgagcaa tctgccggaa gatgcacagg cggcaaaaaga tctggattca	660
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cagacggcac cgcagattcg tctggtgcag ggaaatgata ctttgatggc ggagaagatt	780
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gagcgtggaa ttgtggatat cgagacatta aaacatacaa atgagaattt aatcagcacc	1020
tttgatgaaa ttatgaatat ccagaaagag ggtcatcagc agagaatgga agcagaagct	1080
gagatgaacc gcttagaaga agaattaaag aagaaactgt tggaaataaa ccattaa	1137

<210> 630

<211> 1725

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 630

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gactgtgtta tcgacagtca tgcactgatg gtaagaggcg gttacatgaa gtatgtggca	120
aacggaattt attcccagta tatgccgctt cgtcgtgtat gccagaaaaat tgaagcaatt	180
atccgtgacg agatggataa aatcgatgga caggaagtac agtttccggt tgccctgccg	240
gcatctttat gggaagaatc cggaagatat gaaagcgttg gaagtgaact gcttcgtttc	300

aaagacagaa acggaagcaa aatggtactt ggtatgaccc atgaagaggc agcggttcag	360
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acaaaattcc gtgatgaagc acgtccaaga gccgggtctga tccgtgtacg tgaatttact	480
atgaaagatg cgtattcttt ccacacatct caggaagatt tggaagaata ttatgacaaa	540
tgttatcatg cttatgaaag aatTTTTgCG agagccggaa ttccggaaac aatcgcagtt	600
gcatctgact ctggtatgat gggTggaagc ctttctcatg aatttatgct tttgactccg	660
gttggaagaa attccattgc agtatgcccG gaatgtggTt acaaagcaaa tgtagaggca	720
gcagaaaaca ttgtagaaaa tgaagctgaa gaatatcagg aattaaaact ggtgagcact	780
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gcagaaatta ccttagaaaG tggattacat ccaggattta tcggacctta caagatggat	1020
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cgtccagaca atgaagaaat caagaactat tcagacggTt tatatgaaca gttacagaac	1500
gcaggaatcg aagtacttta cgatgacaga aaagtaagtG ccggtgttat gttcagtgat	1560
gctgacttaa tgggtattcc ggTtcgtatc attgcaagcc cgagaaatat gaaagaggga	1620
tgctgtgaag tggtacaag agataaatct gtaagagaaa aagtagcatt agaggatgta	1680
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<210> 631
<211> 1767
<212> DNA
<213> Firmicutes bacterium CAG:227

<400> 631
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tgtaatggag cgatggcagc tgcaaaaaact tataaaaaag caccgattat gattgcaaat 180
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ttggtttatt ttgatgacag cttcgaagga gactatccag aagaagcacc gtttacagta 600
agtgaattag aagagattta tccggcagcc agtgcaaaat caaaagaaga cgaagcatac 660
aaaaatgaag cgttagaggc aacattacag cttcagcagg gaaaacgcgg ataccgtgca 720
ttatggaacc atattatgaa agtgtccgta gaagacttga agaaaaatta ttccaaactg 780
catgtggatt ttgacttatg gatgggtgaa tccgatgcag acagatatat tccggatatg 840
gtagactact taaagaaaaa taattatgct tatgtagacc agggcgcttt agtggtagat 900
gtaaaagaag agagtgatac aaaagaaatt cctccatgta tgatttttaa atcagacgga 960
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tacggagatt tatccaatca ggcatctaaa gattatatct ttgatgtaga gagatttact	1380
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gcatttgaag agaaagcacc acataagatt tgttcttata tttatgattt ggcaaatgca	1620
tttaacagct tttatcatga aactaaaatt cttagcgaat ctaatgaaga acagaagaaa	1680
tcctggattc gtctgttagt attatgccgt gatgtattag aaacctgtat tgatttactt	1740
ggttttgaag caccggaaag aatgtaa	1767

<210> 632

<211> 1137

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 632

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atggcagttg tactggtatt agtattgggtt tttgcagtaa gaggagttagg aaaactgttc	180
tccggtgttc atataaaaaa cagtagtgct aagaatgcaa acagcagtac cgtagaagtt	240
caggcagcag aagacaccgg cgaggcagga aaacagccgg tcatgagtgc ttctgatgta	300
gataagttaa aggcagcgcc aagtattgga tggcatcagg atgaaaacgg ctggtggtat	360
cagaatcggg atggcagcta ttatcaggat ggctggcagg aagtaaattgg cagtacatat	420
tatttttaatt caaatgggta tatcctgaca ggatggcaga caattgatga caaagactgc	480
tattttgatg aagaaggaaa atacgatgag acaaaacagc gtccaatgat tgcattgacc	540
tttgatgatg gaccgggtga gtataccgaa gaattgatta attgtctggt agagaataat	600
gcaaaagcaa ctttcttcat gctgggacaa aatgtagaag catatccgga aattgcaaag	660
gaattatcgg atgctggaat ggaacttgga aatcattctt acagtcaccc ggatttggtg	720
acaattggag cagaggcagc agcgcagcag gtaagcaata cggatgcagc attaaaagct	780
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attgcaaaaag gatttaaact tgtgactgtc agtgaactgg cagaagcaaa aggaaaaacc	1080
cttcagagtg gtaatgctta ttattacttc ggagaaggcg aacagcaggt cgagtaa	1137

<210> 633

<211> 2247

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 633

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atgtcaggaa gaggagatgc gctgaatatt gcacttctta cattgacgct ttccagtcct	180
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atttataaga gcggtacatt aaaagcagtc attgataagg ctccaaatgc atacaaactg	360
gcattttatg agggcgatac attcttaaca gaatccagtt tcagaaacct tgcttacatg	420
cataaccgtg aaaccggaaa gaattatatg gtagagcagc tcctgctcga thtaggtgag	480
tatgtttacg gacttggcga acgtttcact ccgtttgtaa aaaatggaca ggtttagaa	540
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attaccaata aaggttacgg cgttttgggt gacaatgagg gtgacgttgc ttacgaaatc	660
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catgtattcc actttgactg ctactggatg gaacggttta aatggtgcaa tttccagtgg	960

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gaagtagaaa tcccggatac aaaaggaaat acagttatga aagcctatgc agtccgcaaa	2160
ggcgatgaaa tcgaagtttc ggtagaaggt ggaaacggta actttactgt gagaaatctt	2220
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<210> 634
 <211> 1167
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 634
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gagatgatag gggcagagat ttgtgcaaaa aaacttttcg gaacttttagg catagacaat 180
ctgggtgaaa aacaaaaaga catgacagcc atgttaaaga ttaagaatac aggtttgttc 240
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<210> 635
<211> 1953
<212> DNA
<213> Firmicutes bacterium CAG:227

<400> 635
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tctgaaaaga tgggatataa gattcgtgaa gctcgtcttg caagagtacc atatatgctg	1800
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aaaacaattc gtaaaattga agtagagaac taa	1953

<210> 636
 <211> 1263
 <212> DNA
 <213> Firmicutes bacterium CAG:227

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gaagaaatta cagccggaac agtgaatatg atgcttcgta tgaccaggc tcagatgatg	180
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aaaattacat actgcaaagt ttctacaaaa gcgactaaag atgatgaggg aaattctaca	600
gagttgacag atgaagaaaa agctgcaaag aaagaccagg cacagcaggt attagataaa	660
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gagtcgctta gttcttctac agcaacttac agcacaatg aagacgatga agattcctct	780
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gatgtcatcg aaggcagtga cggatactat gtagtccgta tggacagtgt ttttgataaa	900

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acaacagaca gtacagattc tgcagaaaca acagaagcaa cagaaaatac agatagttca	1140
gaagcagaag aaagcactga gacaacagaa aatacagagg aatcctctga cagcacacag	1200
gcagatgaaa atacagatgc aggtgaaaat gctgatacag aagcaaccga aacagctgaa	1260
taa	1263

<210> 637
 <211> 1053
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 637	
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tggagaatgg aagatgtagg tggagtatth attcaggcag aatcggaact tgccggagtt	180
aatatggtag ttggagcagc ggctgcagggt gcaagagcac ttacaacttc atccggtcct	240
ggattttctt taaaacagga aggaatttct tatttggtag cagcagattt gccggcagtt	300
attgttgatg ttatgcgaat cggaagtgggt cttggagata ttgcacaggg tcaggagagac	360
tactggcagc ttacaagagg tgggtgggtcac ggagattacc atacactcgt acttgctccg	420
gcttccgtac aggaaaatgc aaacatgatg gcagaggcat ttgaccttgc agaaaaatat	480
cgatcatccgg ttctgattgc atccgatgca gcgattggac agatgattga agcagttgaa	540
attccggaat ttgttgagca tgatatcaat aaatatgact ggaccatcaa aggatgtaaa	600
aaaggctgtg aacagcgtaa aattcagaac gtttattata cacatcctga ttatgaaggc	660
tatttatcct ctaaatatgc acagatggaa gaggaagaac agcgctatga aaatattcag	720
gtagaagatg cagaagttgt gctgggtgct tatggaatca gttcccggtg aagtagagaa	780
gcagtagaaa ttgcaagagc acagggtctt aaacttgggt tgattcgtcc gattactttg	840

tggccattcc cgaaaaaagc atttgaagaa gcaaaagaag caaaagcatt cttaactgtt	900
gaaatgaata ttttaggaca gatggtagat gacgtaaaac ttgcaacaga aggcaaatat	960
ccagtggatc attatgggttc aatctttgaa attcctgaaa cagatggaat tattgcaaaa	1020
gcaaaagaaa tgttaaaaaa gggggagata taa	1053

<210> 638
 <211> 1884
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 638	
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ggatttggac ttcagggagt ctgttgtcgg ctgtgttcca atggaccttg tagaattacc	180
ccaaaagcgc caagaggaat ttgtggtgca acggcggacg tcattgtagc acgtaatttt	240
ctgcgtgcag ttgcaagtgg ttccggctgc tatatccatg tcgttgaaaa taccgcatta	300
aatgtaaaga aaacagcaat ggaaaaagga gaaatcaaag gagaacgttc ccttaaaaga	360
cttgcagatg catttgggtgt ccagggaaaa gataaatggg aaaccgcaca gattgttgcc	420
gaaaaagtaa ttgctgattt atataaacca gaatatgaaa aaatggagct ggttgaaaaa	480
ttagcttatg cacctcgttt taaaagatgg caggaacttg gaatcctgcc aggtggagca	540
aaaagtgaag tgttccatgg tgtggtaaaa tgttctacaa acttaaaactc ggatcctgtt	600
gatatgctga cagactgttt aaaacttggg atttctacag gattatatgg attgactttg	660
accaatcttt taaatgatgt tctgcttgga gaaccggaac ttcgcatggc accggttgga	720
ctgcgtgtaa ttgacccgga ttatattaat attatgatta ccggacatca gcacactatt	780
tttgttgatt tacaggaaaa actgatttca aaagaagcag tagaaaaagc aaaagcagtt	840
ggtgcaaaag gctttaaatt agtgggatgt acctgtgtgg gacaggattt gcagcttcgt	900
ggctctcact atacagaagt atttgatgga catgcaggaa ataactatac cagtgaagca	960
gtccttgcaa ccggcgcaat tgatgcggta atttctgagt ttaactgtac ctttccggga	1020
attgaaccga tttgtgacag tttaaaaatt aaacaaattt gtctggatga tgtggcaaag	1080

aaagcaaatg ctgaattaaa accatttgta tttgaagaac gtgaaacaca aagcatggaa	1140
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atgccggaac atggaaatga ccatactttg accggagtgca gcgagctgtc tttaaaagat	1260
ttccttggcg gaaactggaa accattaatt gatttaattg tagccggaga aatcaaagga	1320
attgcaggtg tagtcggctg ttccaatctg acagcaggcg gacatgatgt gttatccgta	1380
gagctgacca aagaacttat cgcaaaagat atccttgtct taactgctgg atgttcttca	1440
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ctgcgtgcag tctgtgaaaa attaaatatt cctccggtgt taaattttgg tccatgtctt	1560
gcaatcggac gcctggaaat tgtggcaaca gaacttgcag aagcaatcgg ttagatatatt	1620
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ggctgttttg gactggcact tggacttcca cttcatcttg gacttccgcc atttgtaacc	1740
ggaagcaaaa tcgtaaccaa agtattaacg gaagatatga aggaactgac cggtggtcag	1800
gtgattatca atgctgacgc aaaagaaagt gcggatatatt tagaaaaaat catagaggaa	1860
agaagaagtg cattaacat ctga	1884

<210> 639
 <211> 1515
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 639	
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gtcgattgtt ttgtgattta tcttgaagta gcggtcagca atatgattct tgaaaaatcc	180
gtgcttggaa aattcatcaa tgaactgtgc aaggatatctg gagatgagat tttagagcgg	240
gttgaaaaaa atgcattggg aatttcagat gcagtacagc tggatacggg agaagatgtg	300
gtcgcaggag tatttgccgg agatgccgta ttttttatag atggatatgc gcatgctgtt	360
aagatttcag aaaaaggata tccttcgatg ggagtatccg aggcagacag agagaaagta	420

ctgcgggggtt caaaagaggg atttaccgat tccgttaaaa ccaattcggc actcatcaga	480
aaacgaatcc gaaatccggg aatgaaagtc aaagagcaga caattggaag acgcagtcag	540
acaaaaattc agattcttta tatcgaagga ctggcaagga gtgagatttt agaagaactc	600
gagacgaaac tttctgattt tgaaattgac ggtgtgcttg acagtggagt gattgagcag	660
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aaatgtgcga tggagctgtt aaatggaagg gttgtcctgc ttgtggataa ttcgccgggtt	780
ggtcttttta ttccggcggt gttaaatgat tttttgcagg tgagtgaaga tgaatatcag	840
acctttgaac ttgcaacatt ttttaagagt ctacggtatc tggcagttgg ctgtgcaatg	900
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ctgattttat cttttgcaaa ggccagaaga ggtgtgccgt ttccggggct gatagagaca	1020
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gccgagctga aaagctttgg agtgccttat cttgcacctt atgccggaac gcaaagagcg	1380
ggatacagag gaaaagaaaa tggaatctgg atgcttccgg caagatttcg gacaagacgc	1440
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gaaagaaaaa aatga	1515

<210> 640

<211> 1620

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 640

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cactttggaa tcggaaatat tttccgtgta tttatcgggt gaattgcaga tggtttatta	180

gaagaagg	tg cattagaccg	tg gacttacc	tg cgtagaaa	catttgatta	tgatgtagtg	240
gataagattt	atactcctta	tgataatctg	ggcttaagcg	ttattcttca	tggagatgga	300
agccgtgaat	ataaagtgct	gggttctctg	gcagagaccg	taaaagcgca	gtcatcta	360
gagacacagt	ggaaccgttt	aaaagaaatt	tttacaagta	agtcgttaca	gatggtttct	420
tttacaatta	cagaaaaagg	atatgcatta	cagaaagcag	atggcacatg	gttccccattc	480
gtacaggctg	atattgaaaa	tgggtccggat	aaagcgacag	gagcaatggc	agtagtagtg	540
gcaatgttgt	atgaaagata	caaggcagga	aaatacccat	tggcttttgg	ttccatggat	600
aactgttcta	aaaatgggtgc	aaaacttcgt	gaatctgtac	tgactatgac	agaagaatgg	660
aaaaaagcag	gatttgtaga	ggaaggattt	gtttcttatg	tcagtgatga	aaaagtagtt	720
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gatttggaag	aacttggcat	tgaagaaatg	caaccgggta	ttacaagtaa	aaaaacttat	840
attgcaccgt	ttgtaaatgc	ggaaaaacca	cagtatctgg	ttattgaaga	caatttccc	900
aatggtcgtc	cagcactgga	gaaaggcttt	gggtgtttata	tggctgacag	aaatactgtt	960
aatttatcag	aacgtatgaa	agtaactgta	tgcttaaatac	cggtacattc	cgctacagga	1020
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ctgttctttg	ttgatttgta	tacaacagg	gtggcagaaa	agatagaaga	aatgtttaga	1560
gaaatgattg	caggaaaagg	agcagtaaga	gcaaccattc	ataaatatgt	aatcagtaa	1620

<210> 641
<211> 1656
<212> DNA
<213> Firmicutes bacterium CAG:227

<400> 641
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gcaaaacgtg caggtcagat aaatgaagaa acagagtatg ttttaaaacg ttttggcggtt 180
gatgcaccag gctatcttcc ggatgtcggg actcaggtaa gagatatgga aattaggggaa 240
actccgggag ttccgcacag catttccatt aaggatgcat gggcgattat gaaagaaacc 300
aatgcggtga cacttcctat taaaaaagag gacggacagt tagagggact gattacaacc 360
ggagatattg caaaatctta tatggatgcg catgataatt atttcctttc caatgcgaga 420
accagtatc gaagtattgc gaatacagta gaaggaaaga ttgtaactgg aaacggacat 480
ggatatttct taagaggaaa agttgtaatc ggtgcgacac ttccggaaaa actgggagag 540
tacttagaag aagatgattt gggtatctta ggagatagat acgaagacca tttatgtgcg 600
attgaagaaa atgtaagctg tattattgtg tgtaacaatg cggaagttgc agaggatatt 660
cagaaagcag caacgaaaaa tgattgtgta attatccgtt ctccgcttga tacctttacg 720
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cacagagcct tccctgtagt aaataaacat ggaaaatata ttggaacggg ttccagacga 900
aatttgctgg gaatgaagaa aaaagaagtg attttagtag accataatga acgttcccag 960
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gataagatgg cagcaggagc acttgcttta gtagccggta ttaatataga agaatttgcc 1260
aaagaaatgt ttacggcagg aagcaattta aagggaagaa caacagaggg aatcttctat 1320

caggattttca aacgtttttac aaccgaacag gtaaactttg gcgtaggaca aatcagttct	1380
atgaatcagg atgaactgtt aagcttaaag aaacgtctga ttccatttat gaaaaaagaa	1440
tgtggaaaaa atggaattac gatgggtattt attatgctta cgaatatttt ggaggaaaca	1500
tcagaaatta tctgttatgg agatggaagt ggcagattgg ttgaggatgc ctttaatgta	1560
aaagaagaaa atggcggata tattcttccg ggagtcgtat caagaaagaa gcagttaatt	1620
ccggaattta tcaactgcctt acagcagaat agctaa	1656

<210> 642
 <211> 3675
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 642	
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tccgtatttt tcatcgtctt gttaggttct gctttttttt caggaatccg ctcggcagaa	120
ggtgatatga aagtatcagc agataaatac tatgacaatg tcgattatat ggatttgaaa	180
atacttggaa caatgggtct gacggatgag gatttaaagg atatccaaaa tacagaggga	240
gtaaaaaatg taaccggggg acataccttg gaagtcttgc ataaagtagg agaaaaagaa	300
caggttgtca aattaattgc gctgacggac aaagtaaag agccacaaat caaagaagga	360
aggatgccgg aaaattcggg cgagatttta gtggatgaga gttttttgag ttattcagac	420
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gaagtattta cttcagatgt ttacacagaa ctttatgtac agatagatgg agcgaaagaa	660
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gagcaggaac taaacgatgg agagagcgag ttaaaatcaa aagaagcaga actggaatcc	960

ggcaagcaga ccttagttca aaaaacaaaa gaattagaaa gtgcaaagac acagataacg	1020
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ggcacgcaga ttgaacaggc aaaggcaacg ctgtcccaaa aagaagagga attaaatgca	1620
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cagaatgaag ccataatfff ggatggagag gcacagcttg tacaggcaca gaaccagata	1740
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cttaccgatg ccaagcagac gcttgccaaa ggacggactt cccttgaaga agcaaagagt	1860
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ctggcgaaat tggaagtTcc aacctggtat gtctggggac gagataagat tacttcaaca	2040
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ggacgaaatg tatttttcag aagttatttt tacagcggac tcattaccct ggcatttgcg	3600
ttgtttgtaa atggaatgat gttttaccga ctgagaaaaa ttgacatgat tgaatccctt	3660
aagagtgtgg agtag	3675

<210> 643
 <211> 2148
 <212> DNA
 <213> Firmicutes bacterium CAG:227
 <400> 643

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aagattcggg aagaagcaaa agaagaagaa attccagaac gcttgaaacc ggaacattta	180
gatgaaatth taaattcaca gaaaaagaaa ggcagggtggc aggggatgaa aaaaagaaaa	240
tatatggtag cggctgcatg ggtggcagtt ttagtcggaa ttggagtttc cagcgtagta	300
cttattcata aaaaggattc ggcagaaatt ggtgcacaga cagcttcttc ggcaaaagac	360
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gatggagcac tggaattaaa agcagccgga cagattaatg gaacaatcca tgacagtht	1380
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ggtggacagg aaagtaatgg attatatgtc ctggatgaaa atatgaaagt cagtgggaaa	1500

atcgaagatc ttgcatttgg agaaagtatt cagtctgcac gatttttagg agacaccgga	1560
tattttgtga cttataaaca ggtagatccg ctgttttctg tggatttaaa agaccctgaa	1620
aatccaaaag tgattggaga gttaaagggtg accggatttt ccgagtatct gcatttttat	1680
ggggaaaata aactgcttgg aatcggacag gaaacggatc cggatactgg agaattaaga	1740
ggaattaaat tatccatgtt tgatatttcc aatcctgccg acgtaaaaga agtcgataaa	1800
attgtattaa aagatattga tatttacagc ccacaagata attataggag tgtgatgatt	1860
gatgcagatg aaaatatcat cggatttgca atgggcactt atgataaagt gacttataat	1920
ctgaaggggt attatggagt ttttggttat tcagcagaag atggatttac acaggaactg	1980
atgcagagtt taagtaaggc aaccggaaat tcatccgaca gctacaatgt aattaatgaa	2040
acaagaggaa tttatattgg cgataccttt tatctgtgcc agaatcaggg aatctatgca	2100
tttgaccgga gtgacggata caaagaaatc ggcaaacttg agtggtaa	2148

<210> 644
 <211> 1797
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 644	
cctgaagtgg ttttagaaaa aagcaggaga aagaagaaaa tgagaaaatt attgcatcgg	60
atagaagaag ggatggataa cttaaaaaatt aaaaaaaaaat tatacatgct ttatctcata	120
tgcgttttaa tccccattat tatcacggat agtgttatct ttttcattgt tagaagttca	180
gaacaggaaa aacaacaaca tgagatggca aatattgcaa atgcagtaag ctataatatc	240
agtaatacga taagcagcat aggggaaaca gcaaaaagta tttataccag taaatatatc	300
aattcgtttt tgatgcaaga atatgaaagt gctccggaat atgtgttgac ttatcaggag	360
tttttcaagg accatttact tgaaaatata ttaggaatga ataatttagt atttactttt	420
tacacagata atgaaacgat agtaaagga ggaaaggtaa ataagattga aaatatcaga	480
gaaacaaaag cgtatcaaag cttagtcgaa cagaaaaaaa gcaaagggat ttttttcgta	540
tatgatgaga gcagaaacaa aatatcaaaa aaaaggcaga ttgttttctt gcagaaatta	600
gatttctatt caccgaataa agaaaaaata ttaaaagtag agttggatta tggaaaagta	660

agcgacgaac taaagaaaat gaattatgat aatgaagttg aaatttttaa tgagggaaga	720
attgtgcttt ccaataaaaa gcatggaacg gaaagtgaat attatgaaaa agtaaagaaa	780
aggagtaaat acacttattg tcaggaggta aatctttacg ggacagaact tgaaatccgt	840
atagataaaa gtgagaaaac cgggtgggat agtcttatga ataaattccc gattatatta	900
ttacttattt ttgtaaatgt aatacttccg gttttatttg tttatttaac caatcgttct	960
tttaccaaaa ggattacaaa attaagtaaa gtatttcagt ccgtaaataa tgaacaactg	1020
atttatatgt cagatgaacg gggaaaagat gaaattggaa gtatgattcg caactataat	1080
cgtatggtag agagaacgaa tcatttaatt gaaacggtgt ataaaagtaa aatcagagaa	1140
caagagatta tagtaggaag aaaaaatgca gagttacttg cattgcacag tcagataaat	1200
cctcattttt tatttaatgc gcttgaaagc atccggatgc atagtatttt aaaacaagaa	1260
aatgaaacgg cagatatggt agaaaaactt gcattaatgc aaagacagta tgtagagtgg	1320
ggagcagact gtgtggaaat agaacaggaa attgaatttg taaaagcata tttggcactt	1380
caaaaatata gatttggaga gcgattaaat tatgatataa atataagtcc aaaatgtgag	1440
aagaaattta taccaaaact tactctggtc acatttgtag aaaatgcatg tgtacatgga	1500
attgaaagta aatcctctcc gggatggatt tttgtaagaa tctatgaaaa aaacgaaaat	1560
ttatatattg aaatagaaga tacaggggaat ggaatgagcg aaaatgagta tcaggattta	1620
caaaataaaa tgcaaaatgc aagtattgaa atgctgaaag taaaaggaag agtaggggtg	1680
attaatgctt gtttaagact gaaaatagtt tcagatgata aagtgaaatt tacgattgaa	1740
ggagaagaag gggtaggaac catggttatg attcagatac ctgctgaata tgtatga	1797

<210> 645
 <211> 1380
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 645	
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agcatgagtg gtcttgccga aatcctttta aaagaagatt ttaaaatttc cggttcggac	120

gccaaacctt ctgaccttgt aacgcacttg gaaggctctgg gagcaaaagt ctatatcgga	180
cagcgcgctt ctaatatcac agacgatatt gaactcgtta tctacacagc tgcgattcat	240
ccggataatc cggaatttgc ctgtgcaaaa gaaaaacaga ttccaatgct cacaagagca	300
gaactacttg gtcagattat gcgcaactat gaaactccaa ttgccgtttc cggaacacat	360
ggaaagacaa ctacaacttc catgatttcc catattctct tagaagcaga cgctgaccct	420
actatttccg ttggaggaat cttacctgca atccatggaa atatccgtgt tggcgaatct	480
gaaacctttg ttacagaagc ctgtgaatac acaaacagct ttttaagctt tttcccga	540
atcagcatta tcttaaatat cgatgcagac catctggatt tctttaaaga tattgatgat	600
attcgccatt ctttccgatt atttgccgaa agacttccaa aagacggaac ttttaattatc	660
aatcaggata ttccaaatgt tgccgaaatc acaaaggatt taccatgcgg aattatttcc	720
tatgccctgg aacaggacgc agattacact gctgcaaata ttgaatttga tgaaactgca	780
cacgcttcct tcgattgtat ggaaaaaggt actttacttg gtcatttttc actttccg	840
cctggcattc acaatgtctc aaatgcattg tctgccattg cactgggaag aaaacttggt	900
ctttccctgg aatctatcca gaaaggctct ctgcattttg gaggaacaaa ccgtcgtttc	960
cagtataaag gaaaagtggg aggcgttacc gttattgatg actatgcaca tcatccgaca	1020
gagattgccg caacactgcg cactgcaaaa aactatccac ataagacaat ctggtgtgta	1080
ttccagcctc atacctatac cagaacaaaa gcactgatgg atgagtttgc ccaggcatta	1140
agccttgtag ataaagtgtg gcttgtagat atctatgcgg cacgagaaac agatacactg	1200
ggaatttctt ccaaagacct tcaggaaaaa atttccttac ttggaacaga tgctcattat	1260
ttctctactt ttgacgaaat cgaagatttc cttctggaaa actgtatacc gcaggactta	1320
ttaattacaa tgggcgccgg cgatgtttat aaaatcggag aacatctgct cgggctgtaa	1380

<210> 646

<211> 2178

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 646

atggcacaa tagcgttggc aggaaatcct aactgcggaa aaacaacatt gttcaacgca	60
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ctgacgggtt caaatcagtt tgttggaaac tggccagggtg taaccgtaga gaaaaaagaa	120
ggtaagttaa aaggacataa agatgttaca atcactgacc ttccagggtat ctattcctta	180
tctccgtaca cactggaaga agtggtagca agaaactatc tgattaatga aagaccggat	240
gcaattttta ataatcgtaga cggtagaaac attgagcgta acttatactt atccacacag	300
cttatggaaac ttggaattcc agttatcatg gctgttaaca tgatggatat tgtagaaaaa	360
aatgggtgaca agattcatat tgacaagctg gcaaaaagtc ttggatgcga agtagtagaa	420
atctccgcat taaaaggaac tgggtgtacag aaagcagcag aaaaagcagt tgtaattgca	480
gaaaagaaaa accgcaacat tccggtacat aaatttgcaa gtgaagtaga agcagtcctta	540
gaatccatcg aagagaaaact ttccgggtatt gttccggaag aacagaagag attcttcgca	600
atcaagctct tagaaagaga tgataaaatt agcgagcagg taagcaatct tccagatggt	660
tctgctgaaa tcgctaaaat tgaagaagag atggatgatg atacagaaag tattatcaca	720
aatgagcggt atgtttatat ttcttctatt attgaccatt gctttacaag aggaaagaaa	780
gataaagtaa caacttctga taaaattgac cgaattgtaa caaacgctt cctggctctg	840
ccaatctttg cggtaattat gtttattgta tattatgtct ctgtaacaac agttgggtact	900
tgggcaacag actgggcaaa tgacgggtgta ttcgggtgatg gatggagtct gtttggctctg	960
gttgatgtac ctgggtgtcc gggtatcatt ggaaatctgt tagacgcagt aaactgtgct	1020
ccatgggttag agggctctgat tctcgacgggt attgtagccg gtgttggtgc ggtacttggt	1080
ttcgttcctc agatgctggt attatttatc ttccttgcat ttttggaatc ctgtgggttat	1140
atggcacgag ttgctttcat catggataga attttccgta aattcggctt ttccggaaaa	1200
tcattttatt cgatgttaat tggaaccggt tgtggtgtac ctggagttat ggcttcccgt	1260
acaatcgaac acgaccgtga ccgtaaaatg acaatcatga caacaacatt tatcccttgt	1320
ggtgcaaaac ttccgatcat cgccttaatc gcagggtgat tattcggcgg tgcttcattg	1380
gtagcaccaa gtgcatatct tggttggtatt gcagcaatta tctgctctgg tattattctt	1440
aagaaaacaa aaatgttttc aggtgagccg gcaccattcg taatggagct tcctgcatac	1500
cacatgccta ccgtaagtaa tgtactgaga agtatgtggg aaagaggctg gtctttcatt	1560

aagaaagcgg gtactgttat cttcttttct acaatcgtag tatggtttac ttcttacttc	1620
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gcaagagttg gtagtgcagt tgcattggatt ttcgctcctc ttggatgggg aaactggaaa	1740
tcagcagtgg cagcaatcac aggtcttgta gcaaaagaaa acgtagtagg tacctttggt	1800
atcctttatg gattctcaga agttgcagaa gatggtacag aaatctgggg aagccttgcc	1860
ggaagtatga cagcagttgc tgcataattcc ttcctgggtat tcaacctgct ttgtgctcca	1920
tgctttgcag caatgggagc tatcaaactg gaaatgaaca atgcaaaatg gttctggttt	1980
gcaattggat atcagaccct gcttgcttat gttgtatctc tttgtattta ccagattggt	2040
actttaatca cagctgggtac attcggaatt ggtacaattg tagcattcct cttagtagcc	2100
ggatttgtgt acctgttagt aagaccatat aaagaaagta caactttaaa aataggagca	2160
gttcgtactg caaaataa	2178

<210> 647
 <211> 1863
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 647	
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ggcagtgatga atgtaaaagc agatgaaaca ttggaaggat atatttatgt caatccaatg	120
tatgaagacc ttgaggggaa ttttgatttt gagtctgatt ttgagctgta ttctgagtct	180
gatagtgagg aatcagatga agaggatgga attgacactt atgattcgag gagtgttcag	240
tatacgagtg acaagcagag tctgataaag acattcagac agcagttagt caatcgtgca	300
ggaacaattg atttgattta tcaactgtaat cagaagatta cacaggattt ttttgacgag	360
ttctctgctg aactgtttta tggggcagtg gcacatacgg gtgtaggaaa agaggagat	420
tatatcagat ggactacca gggatggcgt gtcaatgcaa attataaaac ggaccgcaat	480
ggtggataca atttgaatat tacttataag atgtattatt tatcagacgc atcacaggaa	540
agtcagatgg atcaggcggg ttctaattgt ttgaagtctt taaatctttc aaataaaaca	600

gattatcaga aaatcaaagc gatttatgat tatatatgtt ccaatatcac gtatgattat	660
gtaaacttaa atgacgattc ctatctcttg aagcacaccg catatgctgc attgattaat	720
aaaacggcag tttgtcaggg atatgcaaca ttatTTTTatc gtctgtcttt ggaggcaggg	780
gtagatacga gagttattac cggagattcc ggagggtccac atgcatggaa cattgtgaaa	840
ctgaatggaa aatattataa tcttgacagt acatgggatg ctggtttatc aagctactat	900
tatttcttaa agagcatgaa tgatttttct aaccatacga gatatgaaga atatcagaca	960
tctgatttta cgtctactta tccgatggca gagaaatctt attctgaatc aggaaatcaa	1020
gagccaattg aaaaagaaca taattatgga cagccaatgt atgtatgggc aaatgaccac	1080
aaatcgatta ccgcagcgcg tatctgccag aatgattcaa gtcataattga gcaggaaaca	1140
gcagaagcag aacgcactgt tataaaaagag ccaacctgca cagaaaaagg cagtgttctt	1200
tggcgtgcgg tgtttgaaaa tccggcattt gaagcacagg aagaagtggg tgaggaaacct	1260
gcgcttggtc atagctttaa aaatggagtc tgcgtcagat gtaatgcgaa aatcacagga	1320
cgctggatga aatcagggtc taaatgggtg tatcgctatg aggatgggtc ttatcctaag	1380
aatggattat ataaaatcgg caatacatgg tatggatttg atacttccgg ttggatgaaa	1440
acaggatggg ctgcttttga taaaaactgg tattatTTTTg caccaagcgg agcgatgaaa	1500
acaggctgga tagcagaaaa taaaatctgg tattacttga aatccgatgg aaagatggca	1560
aaaggctggc ttagagtaga cggcgcctgg tattatatga atggaagcgg acatatgctg	1620
aaaggtttca ttacggtagg aaacggaaaa tactacatga atggaagcgg aagaatggta	1680
accggctgga atgtaataaa tggttactgg tactacttta cctcaagtgg aaagatggcg	1740
accggctggc agaaaaattga taataaatgg tactatttaa gttcagatgg taaaatggca	1800
aaaaatacct gggtcggaaa ctggtatgta aatggctcag gcgtatgggt gaagagtaga	1860
taa	1863

<210> 648

<211> 2226

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 648

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ggacgttctt ttatgcttcc aatcgcaatc cttccggtag ccggtctgtt actgggactt	180
ggtggttctt ttacaaatga gaccatgtta aaagcatatg gcttattaaa tgtaatggga	240
cctggcacca taatcaatca gggtttacag attatgaatg ccgcaggaaa tattatTTTT	300
acgaatcttc cgattatatt tgcaatggga gttgcaatcg gaatggcaaa gaaagaaaaa	360
gaagttgccg cactttcagc ggtaatcgca tttttcatca tgcattgcac tattggagca	420
ttaattgata ttaacggcgg agcagaagct atgctttctg gtgcaactac agatgtatgt	480
ggaatcactt ccttacagat ggggtgtattt ggaggtattg ttgtcggact tgggtgttga	540
gggcttcaca atcgctttta taaaattgag ctgcctcagg tattatcctt ctttggagga	600
accagatttg taccgattat ttcagggcct gtctatgtag tggttggtat tgcaatgttt	660
ttcgtatggc cgaccattca ggccggaatt tatgcagttg gagatttagt acttcgttcc	720
ggttatgccg gtacctgggt ctatggattt atggaacgtc tcttaattcc gtttggctt	780
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ggacagatga tagaagggtc tcagaatatc ttctttgcac agttatctga tccgagtgt	900
gaacattttg cggtatctgc tacaagattt atgtcaggta agttcccact tatgattttt	960
ggtcttccgg gagctgcatt tgccatgtat cgtactgcaa aaccggaaaa aagaaaagcg	1020
gtagaagggtc tgcttttatc tgcagcctta acttctatgc tgacagggtat tacagagcca	1080
cttgaattta cattcttggt cgtagcacca ttattatacg gagttcactg tgtatttgcc	1140
ggacttgctt atatgctgat gcatatctta aaagtcggag taggaatgac attctccggt	1200
ggattttattg atttattctt atttgggtatt ttacagggaa ataaaaagac aaattggatt	1260
tggattgtag ttgtcggagt ggtatacttc attgtttact atgtgctgtt tagtttcctg	1320
attaaaaaat tagattttaa aactccgggt agagatgatg cagaagaagt aaaactttac	1380
acaagagcag atgtcaatgc cagaaaagaa ggagaaaaaa gtgcatctgc agaggaccag	1440
gtttctgaag gaatcttaag aggtcttggt ggtaagaaaa atatttcaga cgtagattgt	1500

tgtgcaacca gacttcgttg taccgtgcat aaatcagagc tggtaaata tgcaatttta	1560
aaagcaacgg gagcatccgg tgtggtgcat aaaggaaatg gtgtgcagat tatctacgga	1620
ccaaaagtta ctgtaattaa atcaaacttt gaagattatc tggaaacagc tccggatgaa	1680
gaacttcata caatggaaga aacaaccgat tcaaaaacag aagagaaaac agacgaagaa	1740
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gatgatctgg caaatgctcc ggatgatgca ttcgcaggaa aaatgatggg agacggagca	1860
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cagaaagtga agaagggtga taaattgctg gaacttgatc tggagtatct taaagccaat	2100
gcgcttctt tatgttctcc gattctgtgt acagaattag aggataatca gaaagtcaga	2160
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gcataa	2226

<210> 649
 <211> 1989
 <212> DNA
 <213> Firmicutes bacterium CAG:227

<400> 649	
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cctgggtgtt atcgtgaata tgtaaatcca attcatgcag gagaagagga tgcacgtatt	180
tcttatagaa gcacccagcc gcttggggct gttattactg gtgcagagca ggtaaagagc	240
tggcagaagt atgaaggaaa tgtatgggta tgccgaattg caaacagcat ttttggaaat	300
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acaggctgtg tttattttaa tgataaagca ctttatgagg cagtttcttt agaagagtgc	420
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accgagcagg atgaagaaaa agatgaaact attatctatg caaacttcca gggtaaaaaat	540
ccgaatgaag aaaatgtaga aatcaacgta agacgtgagt gctttatgcc ggaaaaaacc	600
ggagttaaact atattacagt aagcggattt aatattaata aagcagcaac aacatgggct	660
cctccagcag catttcagga tggatatgatt ggaccacact ggagcaaggg ctggattatc	720
gaggactgtg atattttcaaa cagtaaagt gccggaattt ccgtaggaaa atatttagac	780
cctgaaaaatg accattatctt tacttataaa tatgtaaaga gtccgactca gatggaacgt	840
gatgcagtct gcagaggaca gtatcatggc tggttaaagg aaaacatcgg tggacatatt	900
attcgccgta ataataattca tctactgcga cagggcggta ttatcggtcg tatgggcggg	960
gtattcagtg tcatcgagga caaccatatt catcatatca ataacatgat ggaacagggt	1020
ggagctgaaa ttgcgggcat taagatgcac gctgcaatcg acgtaacaat gcgccgtaat	1080
cacattcatc attgtacaat gggatatctgg tgtgactggg aagctcaggg tacaagactg	1140
actcagaacc tgttacatga caaccagaaa ccggcttatg caaagagctt aaaaggcggg	1200
atgatgtctc aggatatctt tgttgaagta ggacatgggc cgactttgat tgataataac	1260
gtaatgcttt ccgatgcaag tttaagattt gcaacagagg gtgttgactt ggtacataac	1320
ttaatctgtg gtgcgctgac ttgcgttggg gatggaaccg gatggcggtta tacgccatat	1380
catatgccac accgcacaga agtaatggga tttatgacca ttcttcatgg ggatgacaga	1440
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tctgatgaag gatttgattc tgaaaaataga aaagcaggaa cctggatggt tgatgaatat	1560
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ggcgcagaag cgtgcaaaaa tgaagtgaat ggactgggtta tttcagataa agaagcaaaa	1740
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ggtgagttta aagaccgcat gattcattcc gatatacttg gaaaagcatt tgagccggaa	1860
cagagatttg aaaatccgga tggaacagcc attcagtttg ataaagacta ttttggcgga	1920
caccgtggca tggatgtcat tcctggacca tttgcacagg cagaagatgc gaagaaagt	1980

ttgttttaa

1989

<210> 650

<211> 2376

<212> DNA

<213> Firmicutes bacterium CAG:227

<400> 650

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gaaaaaaatc atacatcatc gcttcaggac gacgaaattg ctaaaattaa aaaagcagat 120

gcaagcgtca aaaccatgga agatthttacc agtccggagg ttttatataa ggaactgatt 180

tcaagtgtaa agaagtacca tccgtctact gatattttcca tgatagaaaa ggcgtaccag 240

attgcaaata atgcgcataa ggggcagctg agaaaaatcag gagaacccta tattattcat 300

ccgctttgcg ttgcgattat tctggcagat ttagagctgg ataaagagac gattgttgca 360

gggcttttgc atgacgttgt cgaagatacg gttatgacaa ccgaagaaat taccgaagag 420

ttcagcgcag aggtttctct tttggtagac ggagtaacca aactgggaca gttgagttac 480

tcggcggaca agatagaagt gcaggcggaa aatttaagaa aaatgtttct tgccatggca 540

aaagatatc gtgttattht gattaaactg gcggaccgtc tgcataatat gagaacattg 600

aaatatatgc cgcctcataa gcagaaagaa aaagccagag aaaccatgga tatctatgca 660

ccgattgcac agcgtcttgg tatttcaaaa gtaaaaaatag aattagatga cctgtcatta 720

aaatatctga aaccagatgt gtattatgat ttggtagaaa aaatcaatct cagaaaaagt 780

gaaagagaac tttttgtggg agagattgta aaagaggtaa gacagcatat tgagaatgct 840

ggaattcatg cacagattga cggacgtgtc aaacatthtt tcagcatcta taaaaagatg 900

gtcaatcagg ataaaaacact cgatcagatt tatgatttat ttgcagtgcg tattatcgta 960

gataccgtga gagactgtta tgcctgtctt ggaattattc atgaaatgta taaaccagtt 1020

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acaaccttga ttggaccgaa aggacagccg tttgaaatcc agattcgtac gtttgaaatg 1140

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<210> 651
 <211> 1959
 <212> DNA
 <213> Barnesiella intestinihominis

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<210> 652
 <211> 1908
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 652	
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<210> 653
 <211> 1506
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 653	
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<210> 654
 <211> 2055
 <212> DNA
 <213> *Barnesiella intestinihominis*

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<210> 655
 <211> 1290
 <212> DNA
 <213> Barnesiella intestinihominis

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<210> 656

<211> 1797

<212> DNA

<213> Barnesiella intestinihominis

<400> 656

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<210> 657
 <211> 1413
 <212> DNA
 <213> Barnesiella intestinihominis

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ttagcattcg atatcgataa aatggaaaac ttgggtatct acgaagtcgc cccggaagat	1320
tttgctcttt gcgaatttgt cgatacgtcg aagctcgaat tacaaaaaat cgtgcgcgac	1380
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<210> 658
 <211> 1716
 <212> DNA
 <213> *Barnesiella intestinihominis*

<400> 658	
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cttttgttat taattctctc ccgcaaaccg ggaatcacct tttgggctct ttttcccctt	240
catttcatag gcgcgtttca attggtacta ctctatcttt tcggtaattc cattatcgcc	300
tcagacatgt tcctgaacat gtttacgacc aacagcggag aggctttcga attactcgat	360
aaattggctc cggcggtagt aggcgtattc ttactttatc ttccggcatt ggctcttgcc	420
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gccgtggaca gttgggaagc agcaaagaac tatccacgca catcgagaaa attcgactac	660
cgggccacat cgacaagaga caccgaactc cccgaaatct atatcttcgt aatcggagaa	720
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gataattact ctactctttt ccccgatgac atacgacaag cccggaatcg gcataccacc	1500
ccattcgact cgcgagtcgt attccacacc ctactgggta tcggaggcat cgaaaccgaa	1560

tatcgcgatg accgactctc cctcataagt ccgtcgtttc atctcgaaaa aagatattat	1620
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<210> 659
 <211> 1899
 <212> DNA
 <213> *Barnesiella intestinihominis*

<400> 659	
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gccgctgtgg aagcggaaacg tatggccgag gccgctttgg cagaaacacc cgtttcgacc	180
gataccgttt cgggagaagt tgccgattca ttaaaaaatg caggtttgat agcgcgtttc	240
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gtgacattga agttctctaa taaaggaggt cgtctttatg aggctgtttt gaatgattac	360
atggcctatg attccacgaa tgtgactctg tttaccggag acgaaaacga ctatggattc	420
attattcgta cgaatgcgcg cgtgatcgat acacgcgatt tatattttac tcctgaaatc	480
gatggtaatg ctgtaaatat gacattacag cttgccaatg gaagccagat gggatttcga	540
tattctttgc cggaagacag ctatatgttg aaaatggata tctggcagaa agatatggat	600
cgggtaattc cgtcgagcgc tgttttattgg gattttattt gggaccagaa aatgcgtcgt	660
caagaacaag gacgtatgtt tgaggagaga aatagtcctt tgtattataa atttgcagga	720
gacgatgtag agcat ttgag cgagtcgggt aacgatgaag agaaagcgac tacgagcctc	780
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ctcggaccga attcttatcc gttattgtcc tcttatgacg acgatctttc gggagaccag	1020
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ctcatcgtta taccggtatt caccttcttg ggtaaatttt tcagcaatta tggcgttatc	1140
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agcggtttca tggctcgggt ggaagaagcg caacgccagc agcaggctgc gttgagagaa	1860
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<210> 660
 <211> 1134
 <212> DNA
 <213> *Barnesiella intestinihominis*

<400> 660	
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gtcggtaaat ttgctatggc tatggcttat gcccgggtata tacattgcac gaatcgtcag	180
aatgggggatg cttgcggtgt atgtccgtct tgccggcaac atacggcttt gactcaccgc	240
gatttgcatt ttgtattccc gatggtcaaa gtggataaga agaaacggat atgcgacgat	300
tatttgcgga aatggactga gtttttgaag gagaataacct atttcgggat cgattcatgg	360
ttgagggtata ttaatgcaga taacaagcag gccgtaattt atggagaaga gagtgaaagt	420
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ctgccggaac gcatgaacga tacttgctcc aataaattgc tgaaattgct ggaagagcct	540
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cgttcgcgtt cacagcttat cgagattcgc tctttgtcca cgtcggttat agccgaggcg	660
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caggctatca tgaaacattt gagcgatgcc gaaaatgatg tcgggcagaa tgctaatacc	1080
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<210> 661
 <211> 1245
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 661	
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tgcggatacg atgtatatac agctattgcc aacaccggag gttttaatca agaagaatta	180
aaatccatcg aagaacgagc ctataaattg ggtgcggtac aacatgctac actcgatata	240
acacaagaat attatcagaa aagtatcaaa tacatgggat tcgggaatat tctaagaaac	300
gggacctacc ctatttctgt cagttccgaa cgaatcttcc aagccatagc catcatcaat	360
tatgccaaag aaatcggagc cgattatgta gcgcacggta gtaccggagc cggaacgac	420
caagtacggc tcgacctcac attccaaata ttggctcccg aaatcgggat tatcactccg	480
acccgagata tgacattgac tcgtgaatac gaaatagaat atctcaaaaa gcacggatat	540
acagccgact tcaaaaaaat ggaatactcc ataaacaaag gtttgtgggg aacgagtata	600

ggaggtaaag agacgctaaa aagcgaccaa accctgccgg agtcggccta tccgtcacaa	660
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atcaatggaa aagcatacga caataaagtc gctgcatcc aagacctcga agcgctcgcc	780
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gatagttcgc aaaaaacgt taccggacgt gtaatcatcg aactacaccc ttatcgctat	1080
gttttagtgg gagtcgaaag cgattacgat ctcatgaaat cggactttgg cgaatacggc	1140
gaagtaaata aagcgtggag tgccgacgat gtaaagggtt ttacaaaaat tctgggcaac	1200
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<210> 662
 <211> 1866
 <212> DNA
 <213> *Barnesiella intestinihominis*

<400> 662	
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cacggaaaaa gtaccttggc cgatcgcttg ttggagtata ccaaaacat tgcagacaaa	180
gatttacagg atcaagttct cgacaatatg gatttggagc gagaacgggg aattacgatc	240
aaaagtcatg caatacagat ggaatatatt tacaagggtg agaagtatat tctgaatctt	300
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gatagcgctc gtcccgatga agtagaagat caaattattg atttgctggg gtgtaaacgg	540
gaagaaatta tacgtgccag cggaaaaaca ggacaggggg tcgaagatat tctttcggct	600
attatagaac gggtaaatcc tcctcaggga gatgtggatg caccgttaca gtgccttatt	660

ttcgattctg tatttaactc atttagagga attatcgctt atttcaaaat ttgtaacgga	720
cgaataaaaa cggcgataa ggtaaaattc gttgcgaccg gaaaagagta tgaggccgat	780
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ggcggtgata ttagccggaa acgaaaactg ttggaaaaac agaaaaaagg gaaaaagcgt	1800
atgaaacaaa tcggttcggt agaagtcct caaaaagcat ttctagcggg attgaaactc	1860
gattag	1866

<210> 663
 <211> 1209
 <212> DNA
 <213> *Barnesiella intestinihominis*
 <400> 663

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cccgaacgtt tcattttgag cgtgggaacg attgaagaga ggaaaaatct gctattggcg	660
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tttttctaa	1209

<210> 664
 <211> 2580
 <212> DNA
 <213> *Barnesiella intestinihominis*

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<210> 665

<211> 2181

<212> DNA

<213> Barnesiella intestinihominis

<400> 665

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atgcctaccg gaggagggaa gtcgctttgt tatcaattgc cgtcgttgat tcttgacggt	180
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<210> 666
 <211> 2088
 <212> DNA
 <213> Barnesiella intestinihominis

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<210> 667
 <211> 1833
 <212> DNA
 <213> Barnesiella intestinihominis
 <400> 667

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<210> 668
 <211> 2151
 <212> DNA
 <213> *Barnesiella intestinihominis*

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<210> 669
 <211> 2220
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 669	
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<210> 670
 <211> 1440
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 670	
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<210> 671
 <211> 2037
 <212> DNA
 <213> Barnesiella intestinihominis

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<210> 672

<211> 1701

<212> DNA

<213> Barnesiella intestinihominis

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<212> DNA

<213> Barnesiella intestinihominis

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<213> Barnesiella intestinihominis

<400> 676

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<400> 678

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<212> DNA

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<400> 680

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<212> DNA

<213> *Barnesiella intestinihominis*

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<210> 683
<211> 2178
<212> DNA
<213> Barnesiella intestinihominis

<400> 683
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<210> 684
 <211> 1101
 <212> DNA
 <213> Barnesiella intestinihominis

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atcgaatact tgatcgaatt actcgggtcat aaatatcata ttgccgtact cagcagagga	240
tacaaacgga aaagcagagg attcatattg gccgatgaca agtctaccgc ccgtgaaata	300
ggagacgaac cttaccagat aaaaagaaaa taccccaata taaccgtcgc ggtagatgcc	360

aatcgccgtc gaggtatcaa acaattaaaa aaacaaatac ccgacatcga tgtgattcta	420
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<210> 685
 <211> 3315
 <212> DNA
 <213> Barnesiella intestinihominis

<400> 685	
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<210> 686
 <211> 1632
 <212> DNA

<213> Barnesiella intestinihominis

<400> 686

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<210> 687
 <211> 2895
 <212> DNA
 <213> *Barnesiella intestinihominis*

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aaaagtaaac ccgatgtatt cggatatgatc gctttcaaag taggctcggc cgacgatccc	180
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cccgtattcc ggggcttcca gaccgaattg gaagccgtat acgaagagta caacatgtat	600
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<210> 688
 <211> 2091
 <212> DNA
 <213> *Barnesiella intestinihominis*

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 <211> 1446
 <212> DNA
 <213> Barnesiella intestinihominis

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<212> DNA

<213> *Barnesiella intestinihominis*

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<210> 691
<211> 1695
<212> DNA
<213> *Barnesiella intestinihominis*

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<210> 692
 <211> 2367
 <212> DNA
 <213> Barnesiella intestinihominis

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2367

<210> 693

<211> 2811

<212> DNA

<213> Barnesiella intestinihominis

<400> 693

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<210> 694
 <211> 2766
 <212> DNA
 <213> Barnesiella intestinihominis

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<212> DNA
<213> BarnesIELla intestinihominis

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<212> DNA
<213> BarnesIELla intestinihominis

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 <211> 1863
 <212> DNA
 <213> Barnesiella intestinihominis

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 <211> 2628
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 <211> 2340
 <212> DNA
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cgcggcacaa tatattcttc tgacggggaa gttcttgctt cttcactccc agaattcaag	240
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 <212> DNA
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aacggcatca aggctaccat gctggtgagc cgtaaagaat cggaagcaat taccgtggcg	180
gagccacgcg atacgggcag gatgaaatac aatttccttc gcgaaagatt tacaatatgg	240
aaagcgaacg gctttcgcaa gcacagactt tttgaagttg atgctgcgaa tttcggaata	300
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<210> 704
 <211> 1527
 <212> DNA
 <213> unclassified Prevotella

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ggagtggatc gtattgaggt ggcatcggca cgtgtttctg acggtgagaa acgtgctgtg	180
gaacttattt gtcgttgggc aaaatccgtg ggaaaacttg atagagtaga ggttctcgga	240
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ggcggacgca ctgatgcttt tgtccagact attataacat ggaatgtaaa cggcaaagaa	1440
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 <211> 1386
 <212> DNA
 <213> unclassified Prevotella

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gacggaattt tcattggaca aggcgtaggc gcgggagcaa tcatgggatt ggcaataacc	180
atgccccatca tgaacctctc ggagccttc ggcgcaatgg tgggagtggg tggaagcacg	240
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 <211> 729
 <212> DNA
 <213> unclassified Prevotella

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ggcaagactt ccattgaaat aggtggcttt cccggcacaa tgtctctata tttcaaactg	180
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aagatataa	729

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 <211> 1329
 <212> DNA
 <213> unclassified Prevotella

<400> 707	
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<210> 708
 <211> 1998
 <212> DNA
 <213> unclassified Prevotella

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<210> 709
 <211> 1425
 <212> DNA
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 <211> 1035
 <212> DNA

<213> unclassified Prevotella

<400> 710

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<210> 711

<211> 906

<212> DNA

<213> unclassified Prevotella

<400> 711

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aactaa	906

<210> 712
 <211> 1224
 <212> DNA
 <213> unclassified Prevotella

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gacgaagagg gaatggctca tttcatagag catgtcagtt tcaaaggcac cgaacgtcgc	180
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gatgagttcg aggaactgct ttttaaggac catccgctgg gcagaaacat tctcggcaat	480

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cttacaacgc ttatatataa ttaa	1224

<210> 713
 <211> 1326
 <212> DNA
 <213> unclassified Prevotella

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gatgccacag cagttaactt ccaaaacccg gcatcatatatt ccgcagtaga ttctctgaca	240
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gttggtatgt cgttcggctt gttgccgctt acttcaatag gctacagttt caaaaataag	420
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gaataa	1326

<210> 714
 <211> 1245
 <212> DNA
 <213> unclassified Prevotella

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 <212> DNA
 <213> unclassified Prevotella

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tgtattacgt tcaattctct ttcgcaatat tctcgcttct acgacaaaat taaagattgg	360
aacagcaatc ctgcgaacca taacatatcc gcaggaataa gaataaatcc cgagcgttcg	420

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<210> 716
 <211> 1377
 <212> DNA
 <213> unclassified Prevotella

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gaaaaaataa tatggattgt ggggcgcagg gtcgataatc gtgtgcgcat atcgcaagat	1320
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<210> 717
 <211> 1050
 <212> DNA
 <213> unclassified Prevotella

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<210> 718
 <211> 522
 <212> DNA
 <213> unclassified Prevotella

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<210> 719
 <211> 816

<212> DNA

<213> unclassified Prevotella

<400> 719

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<210> 720

<211> 504

<212> DNA

<213> unclassified Prevotella

<400> 720

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<210> 721
 <211> 846
 <212> DNA
 <213> unclassified Prevotella

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<210> 722
 <211> 774
 <212> DNA
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<210> 723
<211> 885
<212> DNA
<213> unclassified Prevotella

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<210> 724
 <211> 549
 <212> DNA
 <213> unclassified Prevotella

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 <211> 1872
 <212> DNA
 <213> unclassified Prevotella

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cgaaacctta ccgacgcacg ccatctgccc atgaccgtga gccttgtaag ccgcaaggaa	180
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<210> 727
 <211> 2055
 <212> DNA
 <213> unclassified Prevotella

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tatgtgtttt cgggacagag tgtaaccgac tttgtgaagc agcagccgga gctgagcaag	180
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2055

<210> 728

<211> 2028

<212> DNA

<213> unclassified Prevotella

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cctgaaaact gtgtggaata ttatgtgtcg tattacgatt attatcagcc ggaagcatat	300
atcccttcaa ccgatactta cattgaaaag gacttgaaca ttaacgaaga aatagacagg	360
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 <211> 1068
 <212> DNA
 <213> unclassified Prevotella

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<210> 730
 <211> 1530
 <212> DNA
 <213> unclassified Prevotella

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 <211> 1455
 <212> DNA
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tttaccgtgc cataccataa aggctggaca cagctttcgt tttcttctgt tggtttcaaa	240

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 <212> DNA
 <213> unclassified Prevotella

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 <211> 1479
 <212> DNA
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 <211> 711
 <212> DNA
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<210> 736
 <211> 1038
 <212> DNA
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 <211> 1764
 <212> DNA
 <213> unclassified Prevotella

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 <212> DNA
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<210> 739

<211> 2622

<212> DNA

<213> unclassified Prevotella

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 <212> DNA
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gctttgaaga aagccggaat caacgcaaat cttgttgaca gcgacgacca tatagaatca	720
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ggtcgtttgg caaaattctt caaggagaat tgccctgtag atcaggaatt ccaattcggc	900
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acatatcgcc gtttcactct cgctgcagaa taa 993

<210> 741

<211> 987

<212> DNA

<213> unclassified Prevotella

<400> 741

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gattttcgat tcaccgacga gcttccgttt gaaaagattg acgttttggt tatctgcctg 240

gggcatggca agagtgagga attccttaaa aacaatcccg tgcccgcgaa cgtaaaaaatc 300

atagactttg ctcaggattt cagaatagca gctccgggaa acgattacgt ttacggtttg 360

cccgaaacct atcgctctct catagccaag gcacaacacg tagccaatcc gggatgtttt 420

gccacctgca tacaactcgc gctgctgccg ctggctaagg cgggagtctt gaaggagat 480

gttgtgatca atgccataac aggcagcacc ggtgcgggag taaaaccgca gcccaccaca 540

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cttaaaactga aggctgcggc tttctaa 987

<210> 742

<211> 1695

<212> DNA

<213> unclassified Prevotella

<400> 742

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ttcactcaaa aacgttttga agacataagg aatttaggtg caactcacat ttggtttacc	180
ggaataactcg aacatgctac gcaaacagat tattcgaaat acgctataag gaaagacaat	240
ccttcttttg taaagggact tgcaggttct ctttatgcca ttaaagatta ttatgatgta	300
gatccagatt tggctgaaaa tgtaagcaag cgaatcaacg aatttgaatc tcttgtaa	360
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caatattaca gtgattcttc tcctaaggga gtagaaaatt ttggagaaaa agatgatgtt	480
acgaaaaact tttcttcggg aaataatttc tactatatag aaaatacttc attccatagt	540
ccgcaaagtg aaaacggaaa cgaaaagtat tacgaatctc cggcaaaagc aacgggaaat	600
gattgtttct ctccgaatcc cggcaaattt gattggtatg acaccgtaaa attaaattat	660
ggggtggact atattgacgg tggaagcaaa cattttaatc caattcctaa cacttgggaa	720
aagatgtatg aaatcttaat ttattggagt gccaaaggag tagatgcttt tcgttgcgac	780
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cgtggcgcgt atgtaaaaat tcctgcacac gcgtttgact atatgaatat agaagaaggt	1560
atgtacaagt gtaaaaaatat tttggattgt aatgcaaatg caatatcaga acatcttgtg	1620
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aaacaaagtt gttaa	1695

<210> 743
 <211> 1185
 <212> DNA
 <213> unclassified Prevotella

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gtgaaagttt ataacagcga aaacaaatat gtcgccacag gacattacca acgtggctct	180
atagctgtaa gagttctttc attcaagaac gaagaaatta atgccgattt ctggcacgac	240
cgcataaaaa aagcatttga tttgcgtaaa atcatatttg caaacaatcc cgacactgac	300
actttccgac ttgtacatgg cgagggcgac aatctttccg gacttatagt tgacatctat	360
ggtgcaactg ccgttatgca agctcatagc acaggaattc atttttcgag aaacgatatt	420
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gcagtttagca aggagcaatt ccgtcttgcg gttttcactg cagccgctca aagtggcaga	1080
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<210> 744
 <211> 990
 <212> DNA
 <213> unclassified Prevotella

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caaacaacct gcgaggaagt cgtggcacgc tttcaaaacc gtctgaacat cacctatcta	180
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gaatggctca taatacttga cagcgacgtg gttttgcctc cgggatattt cgaagccgtg	300
gacagcggaa cggaaaacct tggttgcgat gcctttggcg gacccgacaa agccgccgac	360
tcgttcacgc ccgttcaaaa agccataagt tacgccatga catcgttttt caccaccgga	420
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aacaaaagac taaaaggggc gtggctgtcc gttcccgcg cattcataca gctcaccggc	900
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<210> 745
 <211> 1455

<212> DNA

<213> unclassified Prevotella

<400> 745

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aaactcggtt tggaaacaaa agttgacgaa gtaggcaatg ttataattcg taagcctgct	180
accaaaggct atgaagacag agaaacaacc gtaattcaga gccacatgga catggtttgt	240
gaaaaggatt cgaatatcga gttcgatttt atgaacgac ccataaatac agaagtagat	300
ggtgaatggc taaaggcaaa aggtacaact cttggtgcag atgatggcat tggagttgcc	360
atggaacttg ctgttttgaa agatgatagc atagaacacg gacctttgga atgtgttttt	420
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ggtggtgcaa gtactaaagc cgTTTTccat tttaatatgg aagaagcccc aaaagattat	600
tatttcttca aggttggtat tagcggactc acgggaggac attccggaga tgatatagaa	660
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cacatggata tggTTTcttt tggTcccaca cttcgcggcg tTcactcgcc ggaagagaaa	1380

ttgcttatac cgacggtaga aaaagtttgg gatttccttc ttgaaattct caaaaacata	1440
cccaagaaaa agtaa	1455

<210> 746
 <211> 1767
 <212> DNA
 <213> unclassified Prevotella

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gaccgatacg gaataacaca gcttgatatt aatgagaacg aaaacaagga actttttgac	180
aaagccaatt ctcttggcag ggaatatgtg attcaagcca cgggaaaagg gaatgagcgt	240
agttcaaaga atgaaaaaat agacacaggt gagatagaaa ttatcgtag tgagcttaat	300
gttctgaacg aaagccttgt tccgccgttt acaattgaag aaaacaccga cggaggtgat	360
gatttgcgta tgaaataccg ctatctcgat ttgcgacgcg ccaatgttcg ccgcaatctt	420
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ccttcgcgta tgaatcccgg acaattctat gctttgccgc aaagtcctca gactttgaaa	600
caacttctta tgggtgcggg catggacaga tacttccaaa ttgtaaaatg tttccgcgat	660
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atttgtgcaa agggctgcgc cacatatact cgcaagcaac tcgaccagct gaccgacttt	1020
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<210> 747
 <211> 561
 <212> DNA
 <213> unclassified Prevotella

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gaggtaagag tggaaaagcta cggcaccatg atgcctctaa atcagggtttc ggcagttacc	180
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aaggaaataa tgaccgtctg a	561

<210> 748

<211> 2418
<212> DNA
<213> unclassified Prevotella

<400> 748
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cttggtaaat atcacccgca tgggtattct tccgtttacg gtgcccttgt acgcatggca 180
cagaattgga atatgcgata tactctcgta gacggacacg gaaacttcgg aagtgtcgac 240
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<211> 1308

<212> DNA

<213> unclassified Prevotella

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aagtctattt ataaaagccg caacggagga gaggaaatgc cgcaggcggtt ggttgacaaa	1260
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<210> 750
 <211> 1338
 <212> DNA
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<400> 750	
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cacataatgg cggctgtgca tgaacaatgt gtaaaatacg gtaaaaacga aaacggttat	1260
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 <212> DNA
 <213> Clostridium sp. CAG:230

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ggtttaaagc cggtaaaaag aagaatctta tatgcaatga tcgaattaaa taatgggccg	180
gataagccac atcgtaaatg tgcccgtatc gttgggtgata ccatgggtaa atatcatcca	240
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<210> 752

<211> 1581

<212> DNA

<213> Clostridium sp. CAG:230

<400> 752

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gtggaaaatg gattttatat tgaagatgca atggaatatg gacagaatga atcaggtaa	240
caggagagtc cgataccatc cagacatcct tattattatg ccggtttata ttatattcag	300
gaaccgagtg cgatgattcc ggcaagtctg cttccggtaa caccggaga taaagtgtta	360

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<210> 753
 <211> 2226
 <212> DNA
 <213> Clostridium sp. CAG:230
 <400> 753

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 <211> 2997
 <212> DNA
 <213> Clostridium sp. CAG:230

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<210> 755
 <211> 1938
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 755	
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<210> 756
 <211> 2316
 <212> DNA
 <213> Clostridium sp. CAG:230

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gcaatctata cttatgtacc gcagttagca attaaggatt tttccaaggg tatcacattt	240
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atttatgacg ataagcaaaa ctggatttgt gattgtttta tatttaatga caggacggaa	1020
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gcatccgaaa atgaagcaaa aggaatggat atcttagaaa gtatcattat acttgccggc	2160
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gagtttgaag acaagtatca tattttttaac gtataa	2316

<210> 757
 <211> 2292
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 757	
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ctggcaggaa agatcacaca gcagaaaagg cgtattgaag gaaagaagaa gttatattat	180
atttctgccg aattcctgat cggtaagtta ttatcgaata atctgatcaa tcttggaatt	240
tacgatcagg tggcagaaag tttgaaagca catggaaaat ccatggctga gattgaagag	300
atcgagaacg aaccatcact tggaaatggc ggactgggac gtttggcagc ctgctttttg	360
gattcgatcg caacgctggg acttccggga gatgggtattg gtctgaacta tcatcttgga	420
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aagctttttg atctggatac tgttgatgaa tcaattgtac aggatggtgg tattcagttt	660
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cagggacaat tacttcggat ctaccagcag tattttatgg tcagcaatgc ggctcagctt	780
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atccagatca atgatacaca tccaaccatg gttattcctg agatgatccg tcagcttggtg	900
ttacataata tcgagatgga tgatgcaatc gagattgttt caaagatgtg tgcatataca	960
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gtcaaacggt tgcatgaata taagagacag cagatgaatg cattgtatat tatttataaa	1560

tatatgcaga tcaaagcagg tcataagcca aagagaccga tcacaatgat ctttggtgca	1620
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aaattaaaaat ag	2292

<210> 758
 <211> 1143
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 758	
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agcattcaga actttggatt gatcgggtgtt tatattcttg agcctgcaga gccggttccg	180
ccaatgagtg aagatgatat tgagtttgag cgttttcagg caatggcgat ctttacaata	240
cgtgatatcc ttgatgatgt ggcagcacag aaagaaccaa aggggatgta tccttttgca	300
aatcaggatga tcaagaaata cggttcttta taccacaaga ttaattttgt acaaaactta	360
cgcagtacag aagattatgt ttataaacat gcattgaaca cagctatatt atgtgcattg	420
atctcgaaaa agatggaact tgattttaaa gcacagcttg atgtgggtcgt tggcgggtatt	480
cttcatgata tcggtgaact tatgatgccg cttgcactgc gcaagatcaa gaaagaagag	540

aggtcagagg aggatgaaaa gaagatcaat acctattatt atgcaggata tcagttgatc	600
aacaaagatt atgagctgga tgcaggggta aagagaacaa caacacttgc gatgcgtgat	660
ctgtatcaga ttggagatgc agatgttatt caaaatacca aaaagatcaa tgaggtagaa	720
atcttaaaaag tagcttccgt atttgatacg atgacagcga tgaagtttga agaagaaccg	780
atgtcagaga ttacggcact tcgttacctt ttagacggag caaacggata cgatcagctc	840
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gtacatatg tagatatcat gaaaacaatg gataaccgtc atattgtcga tcatgaagct	1080
ttagcaaagt ataaaggtga aaccgtacat ttaggtgaag tccgtactaa taaacattat	1140
tag	1143

<210> 759
 <211> 1923
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 759	
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tttaatacat tccagcgctt atatgaggtg actaagtttg gtgaagggga agtcagagta	180
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aataatgaga tatcagaaca gctggtacaa aaagcaaaag atgccggtgt gcctgttatt	300
acgatagaca gaaggatgaa aggctgccat aacgtattat ttgcatatga agaatccttt	360
gaaaagtag ttcgtcatgt gatcgaagat catggctgta aaaagattaa tttcatggca	420
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cagaatgatc tggcttttga gccggaacga ctggcttatg gacagttttg ggagatgccg	540
gcaagacacg cctgtgaaga atgggttgca aaatggcagc gcggagaaca aagtatgccg	600

gaagcagtaa tctgcgcaaa tgatattatg gcattgacag taatgaatgt tttaacgaat	660
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caatattgta ctccgagatt gacgacagca acagatgatg tccgccagat cggaaagagt	780
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cacggaatct gtgctcgttt cggcggatgat gaatatatgg ttgtgcagct tatggaagca	1680
gaaaaaatag atcatgattt ttgtgaccat ttgagcagc ggcttcagga taaaatcagg	1740
caggacaacc aaaagaaaaa agcggcttat gaattaagtG ccagttgtgg ggtgattggc	1800
agaaagattc agaatgcaga ggaaattgat actatgatga aagaaacaga tgagaagatg	1860
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taa	1923

<210> 760
 <211> 1500
 <212> DNA

<213> Clostridium sp. CAG:230

<400> 760

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attccgcagt tagatgtctc tttggatgaa attgcaaaga tgaactatca ggaaaccgca	180
tatcaggtta tgaagcagtt ttttacggac tttacacaag aagaattaga aaaatgtatc	240
gaacgtgctt atgatgcaaa atttgatacg aaagagatcg caccttttgg agaaaaagac	300
ggagtctatt atctggaact tttccatggg gcaacgatcg catttaaaga tatggcactt	360
tccattcttc cacatcttct tacgacttct gctaagaaga accatattac aaaccagatc	420
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gtagaaggta caagcattat cgtgttctat ccaaagaatg gtgttagtgc gatccaggaa	540
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gatgatgcac aaagcgggtgt aaaagcaatg ttttaataata aggaactggc aaaagccatg	660
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accatacag cagttgcatc ggctgtatat catgattaca aagaaaagac aggtgaccag	1260
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acatcaggca caacaattcc aaaagcagta gaagagatcc gtacagcacc tgtattgcat	1440

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<210> 761

<211> 2235

<212> DNA

<213> Clostridium sp. CAG:230

<400> 761

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tgcttagaac ccagggaagg cgtgtatgat ttttcctggc tcgatgcaat catagattta 180

tttgaagcaa acggaattga agtggttcta tgcacaccga cttgtacacc gccacagtgg 240

cttttcgaaa aatatcccga agtgatccag gtagataaga gcgggcagcg tattcctatc 300

ggatatccgtg gtcattgatg tctgaacaat gctttgtatc gtgaaaaatg tacacagatc 360

attacaaaga tgggtggaaca ttaccgggag aagtcttggtg tgacagggtta ccagattgat 420

aacgaattag aagcaaatca ttgctgttgt cgcacctgta tacagaaatt tcaggaattt 480

gtcaaaaaga aatataaaat aatagagagt gttaatcagg cctatggcaa cagagtatgg 540

agtggggaat atacggattt ttcgcagatc aaaccacat tcggaccgtt tcagacatgg 600

ctgaatccat cgtatatgct ggattttaat cgttatgctt cgcagagtac ggtagaatat 660

gtcagagttt aaagagaact gatccattct ttggatccga aagcgggtgat cacgacaaat 720

aactggctct gtgaaaatat gccggatttt tatgatatgt ttgaaaagt agactttgtt 780

tcatatgaca attatccaac aacgaatctt ccaaaggaca tagaaacgct ttattcgcac 840

gcgtttcatc tggatctgat gcgtggatc aagaagaaaa acttctggat catggaacag 900

ctcagcggag ggtaggaag ttggacaccg atgagtgaag cggtttatcc gggaaatgtta 960

aaaggctatt ctttacaggc aatggcacat ggagcagata cgattcttca ttttcgctgg 1020

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aaaagctggg agctgtattt taataatacc atgcacaaac agcattttga tgttatagta	2160
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atcttagaaa agtga	2235

<210> 762
 <211> 2295
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 762	
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ccacataaag taaaaggcgg tgttttgatt caagcgtttt tgcccgatgc aaagactgtt	180
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tgctttgccg cgttgatgga aagccgtaag atcgtgtcat atgaatatgt gattgattat	300
ggtgatggaa aggagtattg gcaaaaagat ccgtatctgt atggaaatct gatccccgag	360
caggcgttag aagattttta tgcaggaaaa gcatacgata tttatcgta tttgggggct	420
catcctgtag ccgtaaaagg cattggaaaa gatgttttgg tagattggaa tccaatggct	480
gccagcacia aaagatctga tatggtacag ggaactttct ttgcagtctg ggctccgaat	540
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tgccggctcg gtgatagtgg cgtttttggg ctgttcatac cggatattgg ctgtggcgat	660
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gctaacttct tacttgcgaa tgcgttatat tggaaagaaa tgtatcattt agatggtatc	1320
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tcgcttgact gggaacaggc tcaaagtaaa gaacatgcac aattacagcg ttatgtcaaa	1920
gatctgaata tgctatatcg aaatcatacc gcactctatg tgatggatta cagacaggat	1980
ggctttgaat ggatcagctg tatggatgct gatcatagta ttattgcttt cctgcgcaaa	2040
gatcaggatg atattttgct tgtaatctgt aattttacac ctgtattgta tgagaatttt	2100
aaagtgggtg ttccgtttat gggaagatat aaagagatct ttaacagtga tagaacaatt	2160
tatggcggag caggttatgc aaattcaaac gaattaacag caaaagaagt atcatgggac	2220
ggaagaagtc attcgcgcgc aataaaaactt cctccatatg gtttttgtgt ctttcgggcg	2280
gttcctgaaa aataa	2295

<210> 763
 <211> 1356
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 763	
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gcagttgttg ggcggtttgc cagcagtcgg gcattggcag cggtaggaag caacagctct	180
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gcacattata tagggcaaaa agcgaaagac agcattcagt ctgcggtaca tacagcaatc	300
gtggttgctg ttcttagcgg tctttttgta atgatcgag gacagtttat tgccagaccg	360
gtacttcttt tgatgggaac gccaaaagat gtcatacaga tggcagtatt atatttgagg	420
atctatctgc ttggaatgcc ttttattatg ttatatgatt ttggctcttc cattttacga	480
agtattggag acagcagaag accattatac agtctgatcg cagccggtat tgtaaatact	540
gtattaaacc tgggttctgt catttgtgtt catcttagtg tagcaggggt agcaatcgct	600
accgtcatat ccaatatggt cagttccggt attattatat atattctttt gcatgaagcg	660

gaaccgatcc gcctggatat aaagaagtta aagattgcat ccaaacagtt aaaaaagata	720
ttgatgatcg gcatcccggc aggattacag ggaatgatgt tttcgatcg taatgtgtgt	780
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cgtctgatat ggatcgcaac agtatgccgg atttatcata cattctgggt gttattgatc	1260
atttatccga tttcatgggt gatcaccgga gtttcgatga tgacagcgta tcattttatc	1320
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<210> 764
 <211> 1482
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 764	
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ctgtccggta agaatgcaca ggcagcaagt gcttcgatta cgatcgatac cagcaaaaag	180
caggttgtca aaggagatac ggtgtatgtt gtgatcacag tcagttcatc tgagagtatc	240
aagagcttta acggttattt ttcatatgat aaccgctatc ttcaatttgt aaacggtggc	300
agtgtggtac atggaaatga tgataagttt ttagtagatg atattaatcg taccggcagt	360
gcgacaaaagt taaagtattc catcaaattc aaagcacgta agaaaggaag taccacgatc	420
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tcttacaatg cgctaaatat tgctgttttg tcaaagaaag aggctattgc aagcagtcag	540
ccacagcaga gtaatacaga agcacttcca aatgctacag atcatccaca gacagaagta	600

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aaagatccca aggcttcggc aacaccggaa gtcacaagag ggccggatga tattgcgggt	720
tcttccagac ttcgtaaact ttcgattaca gatgcccaga tcgcaccgga atttcagcca	780
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caattaaatg ttgcgaagca ggatcagaca aaagatggag caaattcgat acaggtgacg	1020
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gatgaaaaggc tgcttcctga tggtttttca aagacaacga tagagatagc cggaaatgag	1140
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acaatcagaa gttatcaata tatcattgcg atcatggctg ttttgtgtgt attgatgtta	1380
gtgatcacgg ttgcgtttgg aatgcatcgc aattatcaaa aagaaatatg ggaacaggaa	1440
atagaagaaa tagataatga tgagatgaag gaggatagat ag	1482

<210> 765
 <211> 2241
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 765	
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tttggaaaag gaaaccgtga aatgaaaggc tatatcatag gtttgtcggg gacagccaaa	180
tatgatattc ataaaaacaaa aagtatccta cgagtagaaa agcagggagt ggttgcagaa	240
tcacacctgc tttcacttgc ttactggatc aaggaaaatt ttggcggaac gatgaatgat	300
gcgatcaagg ctgttatgcc ggttcgaaaa gaagtaaagg aaaaggtcgc acgccacatt	360

attcccgtc tttcaaggaa agaaatggaa caaaaaaagg tttatttcga acaaaaacac	420
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gcatacctatg aaacgtttct tcaccggttt aaagcgacag ctgccctgtt aaaaggactc	540
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agcggcaaga cagaagtcta tatgaatctg atcgatcatg tactccaaaa aggaaagcag	780
gcgatcgtgt tgatccctga gattgcattg acctttcaga ccgtacagcg tttctatggc	840
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gatcattaca gtattcaatg tgcggctgca caggattata aagcatttta caggcaggag	1920
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tcgtatcatg atatgatcgt actggggccg aatgatgcac cgattgcaaa gcttcgggat	2100
gtttatcgca agattttata tattcgttcc aaagattatc aaatgctttg caatgtgaaa	2160
gatcattttg agaaatttat gcagacaagc catatgtata atgactgcag gatcacattc	2220
acgtttaaca atgaatctta a	2241

<210> 766
 <211> 984
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 766	
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ttacatccaa tattaattgg aaatgcagaa aaaattgcaa tagcagcaga agaatgcggt	180
tttaatatcc gtggtgctga gattatagat cctgaacact ttgacagaat ggatgaaatg	240
gtggatcttt tatgtgagct tcgtaagaaa aaaggaatct cgccggaaag agcaagagag	300
attttattac aggcaaatta ttttgggaacc atgcttgtaa agatgggcat tgcagatgcc	360
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tataagattg cacagcgcac gggtaacttt gatgcgtatg gaccgatcct tttaggattg	900

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<210> 767
 <211> 2586
 <212> DNA
 <213> Clostridium sp. CAG:230

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ggagccacgc aaaaagataa agcagcagga aaacagagca gatcccagga agatgagatg	240
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atgcatgagt tctattttga atcagcggca atgacctga cgttgatcac agtcggcaag	660
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gtgaaagaag caatcgtcag ccatgagaaa aagaatgcga tcgtaacatt agaaaaagag	2520
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caataa	2586

<210> 768
<211> 1194
<212> DNA
<213> Clostridium sp. CAG:230

<400> 768
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<210> 769
<211> 2529

<212> DNA

<213> Clostridium sp. CAG:230

<400> 769

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<210> 770
 <211> 1290
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 770	
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gcaattgcat ttgtattaaa tgcaattggt gcggcaatcg cattttttat tatatacaac	180
atttttaaaag ttttactgct tccgtttcag gctgccatca ctggagaaac aatccgaaaa	240
aactcgggtgg ttgctaataaa gatggaaaaa ttaacttcaa gagatgatga gattggcaaa	300
gtagcaagag aaattcagtc caatgttgaa acatttgcgg aaacgatcag tgcgatccgc	360
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aatgaagtag cggatagtag caatagtgca gtagaaataa tcacagataa tacatcgatc	480
caggcagaca aagtaagtga tatcaagaag atgacagagc agatcagtga ggggtgtggat	540
catatcttaa ataatgtgga atcattaaaag caaagtgtag atacggtatt agattgcaat	600
catgctgcat ccgagatcat gaaagaactt gtagatatca gtgaagaaaag cggacatgca	660
atggaagaag ttggcacaca gacaacacgt accaacgagt ctgcacagga gatccagaag	720
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cgtgagctgg ctgaccagtc cagagaatca acagaacata tcagcgagat cgttaacggt	900
ctgattgcaa attcaaatac aagtgtagag attaccaaga aagtatccga agcttttgaa	960
aagcaggatg agaagattaa agatacagag tctgttttcg gtacattaaa ttccgagatc	1020
aagagagtcg gttctgcaat cgatgagata gatcgggagg tatctgatct tgatgagcat	1080
aagaatgtga ttgcagaagg tgttgaaaac cttgcacaat ttgctcagga aaatgcagag	1140
agcggacgtg ttacaaagga aaatatggac aatcttggac aggttatgca gcagtgtaag	1200
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aaatcagaag gaatgaaaaa acttcactaa	1290

<210> 771

<211> 1905

<212> DNA

<213> Clostridium sp. CAG:230

<400> 771

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aaagcagaaa gtatacaaaa atcagaagaa aatattaatg cgattcattc gcttgatact	180
ttgtcgaatg actttcagat catgcagaaa cttcttttga cgcatttcct taccggtaat	240
gaggacgaga tcgttggtgt cagaaataag attgatgaca caataagcaa tgtagaaaag	300
gaaatgaaaa cctatcagaa atatgttact gatccgacag aaaagaaatt atattcggag	360
ttcttagaga aatacaattc tcttcatgac ctttatatga aatctttgaa atatagttaa	420
aatgaagaaa aatcggatgc gatcgagtta gcaaacgggtg atatttctga tgttgaatct	480
gagatggaag gtatcgttga taatctgac agtaatcgtc agaagtcagc tcagaggctt	540
gcccaggaac aatcgaagac atttgataat tcgatcagta tgaataatgc attgattgtt	600
atttcaattg tgatcagtat tattgcaatc atttcatgct atatcacgat cgttacaccg	660
acgaagcgtt ctatcaaacg tttgcgccat attatcaaga aaatagagaa caaccagtgt	720
gatcttggtg aaagaattcc ggttcgaca aaagatgaag ttggtcagct cgttatgggt	780
atcaactcta tgtagaaaac attacagagt gttatcgggtg atatttcaga tgaatctgtt	840
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agcgatgtgt ctgaagtaat ggaacagctt gcagcttcta tggaagaagt ggcagcaact	960
atttcgaatg tagaagacaa agtcgaagca gttggaacaa acatttcagc atttgccgag	1020
aagagcgatt cgatcatgaa atatgctcag acaatgcagg aaagggcaga aggtcttgaa	1080
aagtcagcaa ttgacagtca gagtgtaca ggtcagatga caagtgaat gattgaaaag	1140
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attctttcga tttcaagcca gacaaacctt cttgcattga atgcatccat tgaggctgcc	1260
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gacagcagcc gcgagacagc gaataacatc cagaagatta atgcttctgt tattgcagca	1380
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ccggattatg acggcttcgt agattccgga agacagtata atcaggattc tatttatgtc	1500
aataatgaaa tgttgatgtt tgtaaaagaa acagacgaga tcacacagat cacacaggag	1560

cttgtaaaat ctattgaaca gatcacacag gttgttgaag atagtgcact tagtgtagaa	1620
gaagccgcta agggagctgt ttctctgtca aatgagattg ctaagatcca gcaggatatg	1680
aatgtcagtg gtaatgttgc cacgaatatg aagaaacagt gtgagcgctt catggataca	1740
gacagtgcga atacagtaac agaagacatt gcaacaagcg aaatggaaag catccatgaa	1800
acagactctg aagcacagga agtttcttta gaaacagaag aggaagctga ggatgctgct	1860
ccaacagttg aagactctgc acaggaacag tcagtagaag agtaa	1905

<210> 772

<211> 2004

<212> DNA

<213> Clostridium sp. CAG:230

<400> 772

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acatggagta cattagaacc aacagacgga gagtttgatt tttcttatat tgatcgtgtg	180
ttagaggaag cacaaaagag aaagatgaat gtgatcatcg gaacaccaac ttatgcgatt	240
ccatcatggc tcgaaaagaa atgtcctgaa gtgatggtat ataacaaaga aggacgagcc	300
agatacggac accgtcagat catggatatc atgcatcctg tttttcgaaa atatgctgaa	360
agagcaatct gtaaactggc agagcatacg gcagcacatc cgtcagtgat cggttttcag	420
atagataacg aaacaaagca ctatggtaca gcttccagag aagtacagga acttttcaaa	480
gaacatttaa aagaaaaata tcatacaaca gaagctttga ataaagcttt ttatctggca	540
tattggagca actcgtacca tgactgggct gatctgccgg atatgttagg ctgtattaat	600
ggtggactgg caaccgagtt tgcggcattt caaagaagcc ttgccgcaca atatctgcaa	660
tggcagtcgg atctggtttc aaaatataag aaaaaagagc agttttattac acataatttt	720
gactttgagt ggaagaagtt tggggcagac atcgcacagg acggttattc ttatggagtg	780
cagccggata tcaatcacta tgaagcatcc aaagccgtta cgatagcagg aacggatatt	840
tatcatccga cacaggatga actgacagga gcagagattg cttttggcgg tgattcgtc	900
cgcagtttaa aatatgataa ttattttggt ttagagtgtc aggcacaagc ttttaaatat	960

tggacaccat atccgggaca gctcagatta catggataca gtcatttagc aagcgggtgcg	1020
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ggatTTTTaa gtcatgatct tgcaacaaat ccgacttacg aagaagcagg agtgatggga	1140
cgtgaatttg aaagacttgg acaagatacg ctttgcatta aaaaagaaaa taaggttgcc	1200
ctgatcgttg ataacagatc tcttgacgca ttcaagtggg tcccgattga taaagatcta	1260
agttacaatg acgttgtccg ttggatgtat gatagtctgt atgagatgaa tatggaatgt	1320
gatatttttag atatccatgc tttgaatgag agaaatattg taaagtacag tatgcttgta	1380
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gtaggcgggtg tattggtaag ttcttttaag tcatttggtg ccaatgaaga acttagtgta	1500
tatccggatg cacagccaca tggatatgaca gaatgtttcg gtatgcatta taatcagttt	1560
acagaaccgg gcaagacaaa atttgccgga gaaccattgt cttattttgc agaattactt	1620
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aaagagatat taaaaaagat ttaccgcaaa gcatatgcca aagcaaaaga gactgtccct	1800
gcatttgaat ggcctgtgat cattcgcagc ggtatcaatg caaagaacga tacgattcat	1860
tttctattgc attatagtga agaagaatgt gagattactt ctccatatga tcatacagta	1920
gatctgctga gtggcaaaga gtatcaaaaa ggcgatacga ttcatctgac tgactgggat	1980
gtctgcgtct taaaagagca ataa	2004

<210> 773
 <211> 1323
 <212> DNA
 <213> Clostridium sp. CAG:230

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ggatatttgta ttgttttatt tacatttttg gtaaatgcat tgatgcttcc gcttcagatt	180

aagcaacaaa agtttgctaa aatgtcgaat ataatgaatc ctgaaatcat ggcgattcag	240
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gctgtatatc agaaatacgg tgtcagtcgg gcaagcggat gtcttccatt gttgatcaca	360
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gtatatgata tttatgccgg tgttgctgga aatttaaaag atttagatat tacggtagca	480
cagttagctg actttatgaa aacaaaaact tatgtagtaa caaatgcggg aaatgatgct	540
gcgaaaactg ctgcaaagac ggatattaaa tgttatatag atgtcatcgg tcagtttaac	600
caggaggcct gggacaagtt aaagaatatg gatgtgatac agaatgcgaa aggtgcaaaa	660
caagtattaa aggaaattac aagtacatca acgcgtgcag catcaattaa ttcttttttt	720
ggaatgaaca ttgcagatgc acctaaagtc ccatttggtg gtggaaacgc tttgacactt	780
ggtttcagca ttcctgtttt ttctgttatt acacagatta taagtacaaa gttaagtatg	840
gcaggtagac cacagcagaa tatgcaggat aatcctactg caaattctat gaagacaatg	900
aatacggtaa tgccatttgt aacagggtgt atgtgtttta tgttcccaat cgggtgttggt	960
ttatactggg tagccggtaa tgtatttaga atttttcagc agcttttcat taatctgtat	1020
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atgatcaagc gaggtattga tccggataag gttcagaatt atgctaagac gaagacaagc	1140
acaatcaaca agaatacagg atcacagcct aagaagaata ctgcaaatgt aaataaagct	1200
gtaataaagg caaagaagag cgattataag cgtcctgaaa attcaaaata caaagaaggc	1260
agtattgcgg catatgcaaa tatgttaaac cgcgataaat cgcaagatac aaagaaaaat	1320
tag	1323

<210> 774
 <211> 2361
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 774	
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gcagggaata caaagacagt aacagaaaagt gtcaatacaa aagcagcaaa gaaagcagat	180
gcttcaaagg tatcaaaaaga agaaacggta tatgtttacaa tggatgctaa tggaaaaaaa	240
gatgaagtga tcgtttcaga ctggttaaag aatgcaggta ttaatggaaa aatctctgat	300
gtttctgatc tgaaagacat tcagaataca aaaggaaatg aaaagtttac acaggatgac	360
agcactctga cctgggatgc taagaaaaat gatatttatt atcagggtac atcagacaaa	420
gagcttcctg tcggaatgga gatatcatat aaattagatg gcaaagaagt atctgcaaaa	480
gatcttgccg gtaagagtgg aaagtttgag atgaatatca aatatactaa ctcttcgaaa	540
aagaaagtga cggtagacgg aaaagagaca gagatctaca cacctttctt aatggctacg	600
ggaatgatcc tttctactga taaattccag aatatcaaag ttgataatgg cgaagtgtt	660
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gatcttgcatg gacttgattt tggcgaatg gttaccatag ataccgataa gatcaatgac	780
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gttcagttat atgagtctat gcttacttat atggatagtg ttcagaaagc cgggtgtagga	1620

ctggatgcgg ctacaaacgg taaaccggac agcgaagtcg ctgatcagaa tggcaagaca	1680
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attaaagcag acgacaaata a	2361

<210> 775
 <211> 1608
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 775	
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tttctgtttg gttttctggc agttattttt tataatatgg cagcttcttt atgtggtccg	180
ttggttgagg acggtttttg atggctttat attgcattga tgggaattgt cggaatgtca	240
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tactattatg tatgcggtag tgcaggaaac atgatgcaga cattacttct tgatccggca	660
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atggcagctt ttgggttgac ttgtaactta aaagcgcaa atctgaaatg gacgaatgag	1380
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tcttttttag ttggattaga tgttgtactt gctgtgcttt gcattttgct tttgaaatgg	1560
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<210> 776
 <211> 2352
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 776	
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gaagccgggg acgaagtgac ggaaattggc ctcgtgatca agggaagagt gtgcgtgcag	120
gcggatgggtg tgaaaacagt gataggttcc ggcaattttc tgggtttatg tgatctgaca	180

gaaaaagtac atcgtgtgac atatacagca gatacgaatt tagcagtata tgcttttgag	240
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gaagaccatt ttgtttcaac agatgaattg atggatgcga tggatcagat tctttctttt	1020
gcagagattg acagcgaaaa ggagcaggaa tttcgaagtt atatccatgc atttgaagaa	1080
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gcatactatc cgatttataa agccgttttt ttgaaagact atcattcttc ggaaaaaacg	1200
cctttggtga ttgatctttt tcttcgattt ggctttttta gccaacgtct gataacggaa	1260
gatatcttag aagaacttgc aactctggat atatctcatt caggaacagg tgcctgtgat	1320
gtatatgata tgaaggaatg gctcacattg atcttagagg gcaaaaaaga accatctaag	1380
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gcagagatgg ttcgattgtt cggacgtttt cgttgggagc tttgccgaac gatacaggga	1920
gcggcatgga acaatattca ggttaaactt cttacaagt agtatgcaga ttttattcaa	1980
ttttataaga agaacagaga tctgtcagaa gataagaaag aaaagctaaa gatgcagatc	2040
cagaaatgca gaaacaatac aagagaggta tttgttagcg attatgagaa ctggatccgg	2100
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atggcaagat tccagcgcga acgcggtaag aagttaaaag aatacgatct gaaattcaaa	2280
gtatggcaga aagatggaat ggatgtgccc caagagggtg tacataccag agatttctat	2340
ctggaatttt aa	2352

<210> 777
 <211> 1248
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 777	
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 <212> DNA
 <213> Clostridium sp. CAG:230

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<210> 779
 <211> 1860
 <212> DNA
 <213> Clostridium sp. CAG:230

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<210> 780
 <211> 4539
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 780	
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 <211> 2121
 <212> DNA
 <213> Clostridium sp. CAG:230

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 <212> DNA
 <213> Clostridium sp. CAG:230

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<210> 783
 <211> 1884
 <212> DNA
 <213> Clostridium sp. CAG:230

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aatggtatcg tagagaatta tgaagaatta aaagatcatt tcatgcttca caaagatctg	420
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<210> 784
 <211> 1878
 <212> DNA

<213> Clostridium sp. CAG:230

<400> 784

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caggcagata agaaggatta cagccgggtca atgcgtatgg ttttggaataa tacagataat	360
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gatgtataca gtttgagaaa agaagcaacg caaaagttaa aggagtttcg tcctgcttct	1800
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<210> 785

<211> 1857

<212> DNA

<213> Clostridium sp. CAG:230

<400> 785

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gcacagcaga tcgcatcgct gaacaagcag atcgctacga ttgaaatata tggtaaaaag	600
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<210> 786
 <211> 1224
 <212> DNA
 <213> Clostridium sp. CAG:230

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gcagacagtc ttcatgtagg acattttatg gcactctgcc tgatgaaacg tttacagatg	180
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tttatgaaga ttgtgttagg ataa	1224

<210> 787
 <211> 1347
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 787	
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ttttacaatg taccgatcat cgtggcattt cttgcagcaa tactagtagc ctgcttacag	180
aaccgatcgg tatcttttga tgaaaagcta ggaattatgg cgaaaggact ggcagataaa	240

aatatcatta caatgctctt gatctttttg actgccggtg tttttgtcgg tgttgtcgg	300
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<210> 788
 <211> 2016
 <212> DNA
 <213> Clostridium sp. CAG:230

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ttaaacattt tgacatttga ttctgaggaa ggaaagaaag catatcgcca tacctgtgct	240
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<210> 789

<211> 2178

<212> DNA

<213> Clostridium sp. CAG:230

<400> 789

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<210> 790
 <211> 1461
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 790

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ccacaggact gggatattac aacttctgca aagccggaga cagtcaaaaa gctttttcgc	180
aagacaatcg atacagggat tgagcatgga acggtaaccg tcatgatcga ccatgtcggg	240
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gtagaattta caaccaaatt aaatctggat ctggagcgaa gagattttac gatcaatgcc	360
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acctttgata acgaaaccgt aagtgccgtc agacatctga tccgctggca tgattatcaa	1080
tacggcacia cagaaaagtc aatccgcaaa gcagttgcca aaataggaag agactatatg	1140
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ggaaaactga atacaattta tcaggcgatc gaatattgga aaaagataat ccaatcaaaa	1260
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<210> 791
<211> 2703
<212> DNA
<213> Clostridium sp. CAG:230

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tctcaggaat tagaattgac attaaccgga aaaagctgtg gattagaaga acgtgcaccg 180
atgtgcggtg ttccgtttca tgcagttgat ggttatttaa ataaattagt atccaaagga 240
tataaagttg cgatctgcga gcaggtagaa gatcctaagc ttgcaaaagg gcttgtcaaa 300
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cgtcgtgcaa agaccgatgg caaacaatgg cttgccgatc tgctagagaa agaaaaagag	1380
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ggcgaggata ttgtcttttt gcgtaagatc atcaaaggcg gtgccgataa aagctatggg	2340
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gagatcccg attatgatta tggcattgag cagcaaagta agagaagagt ccgtaaaaag	2520
acagcttccg agattgaatc ggaaaagtta ggacagcttt ctttgttcga tacatccaat	2580
accaatatca aaatggatga tatcattctg gaattacatg atatcaatct ttcggatact	2640
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<210> 792
<211> 1452
<212> DNA
<213> Clostridium sp. CAG:230

<400> 792
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tttgcaaaag agcatcaatt gtttgtatat caggatgcat cttataatgt agtgatccgc 180
aaggaagcag caaaaggata tgagaatctg ccgggaatca ttttacaggg acatatggat 240
atggtctgtg aaaaggaaaag cggcgtagaa catgatttta caaatgaagg tcttgatctg 300
gctgttgatg gagattatct ctatgcaaag ggcacgacac ttggtgggtga cgatggatc 360
gcacttgcac atggtctggc aattcttgcc gatgatacga aggaatatcc gatgatcgaa 420
ttggtagcta caaccgatga ggagatcgga atgtttgggtg caaaagcatt agatacaggc 480
gttttgaaaag gaaaatatct gatcaatctg gatacagaag aggaaggttc tttattagtc 540
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gacaagaaca ggggtcaatgc agcgttgctg ctcggaagac ttctttttga aatggagaca 720
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<210> 793
 <211> 1227
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 793	
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gagcaggcaa aagaaacaaa gaaaaaagta ccggatacgg aagcacagac aagtgtgta	180
ttatctttaa gtgaagtaca gactttgaat gcaaatagata aagataaaaa gttaaaggag	240
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aaagcaggaa cagcagccgt tacgtataca gatggttcta atcaatatac ttgtaatatc	360
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cagcataaat atgatattat ttaccgttca gaaaagacat atcatcagaa tttagataag	840
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ggaagctcta atacatgcag cagttataat ccgggaatca tgacacgctt gacaaagaaa	960
ctggatggat ggggatatca ttattttgac tggaatgtaa gttcaggcga tgcaagcaga	1020
ggtacaactc cggcacagga gatgcataat ctgaaaaaag agacaacaaa gggacatgac	1080

agcgttgtgc tgatgcatga tttctataat aaccagccta cattaataatc actggataaa	1140
tatattaagt atgcaaagaa aaaagggttat acgtttatgc cattaacagc aagtacggca	1200
gaggtacacc atagagtga taattaa	1227

<210> 794
 <211> 1668
 <212> DNA
 <213> Clostridium sp. CAG:230

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tttctggcag gtgcaaaagc cctcgaagcg aagaaagaat acatcaatga attaaatgtg	120
tttctgtac cggatggaga tacgggaaca aatatgacaa tgacgatcat gtcagcagca	180
aaagaagtca gtatgttgaa aaatccgacg atggatgaac ttggaaaagc aatctctagc	240
ggttctttac gtggcgcaag aggaaactcc ggtgttatcc tttctcagat ctttcgaggt	300
tttgtcaaat cgatcaaagg caatgatgaa ttagacatta ccattatggg aaatgcagta	360
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attgtcaaag tacatgtgca tacaacgat cccggttttag ctattcagaa ggctttgaca	900
tatggttctc ttaccagcat gaagattgac aacatgcgtg aagaacatca ggaaaaagtg	960
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aaagccaaca tggaatcaga aatgttacag atccgttccg gtcagggtgac ttatgcagtc	1380
cgtgataccg ttatggatgg taaagagatc aagcagggca acttcatggg acttaccgat	1440
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gatgcagaca aattagcaga tgagatcatt gcagcacatg aagatgtgga agtagaagta	1620
caatatggcg gacagccaat ctattcgtat ttcatttctg tagaatag	1668

<210> 795
 <211> 1773
 <212> DNA
 <213> Clostridium sp. CAG:230

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gcggcagtga tcagtctgat cgatcttgcc tatccgcaga tcctacgtat tatgacaaaa	180
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gcgacctttt tggacaaccg ccaaaaagatt ggggacatta actcaagttt acaggataca	660
ttagccggaa ttcgtgtggt acagtctttt gcaaatgaag agatcgaacg caaaaaattt	720

aagcacagca accataactt cttagtttct aaagatgcta actatcattg tatgggtact	780
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<210> 796
 <211> 1224
 <212> DNA
 <213> Clostridium sp. CAG:230

<400> 796	
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ggaatgtcat atatgaaaag ccagttagta ggtacttttt tgggactggt tattgtagca	180
gctttatctg tgatcgatta tcattttatt tgtaaatttg ctgcaattta ttatgtattt	240

ggtgttttgc tgacagcagc gacacattcg ccgatcggta caaataacga tacggatgcc	300
agacgctgga tcaaggttgg cagtattact tttcagccta cggaattgat gaagatcatt	360
ttaattcttt ccctggcggc tctttttgca aagctgcggc acaggatgga gaaagtcagt	420
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ttctggtata ttcagcagcc atataatgtg ttattaaagc attatcaata taagcgaatt	660
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attattttca aatgtttttt agtggccaaa aactcacagg attatttagg aaaactgatt	960
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<210> 797
 <211> 2544
 <212> DNA
 <213> Clostridium sp. CAG:230

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gatcagatgg agaaggatcg cggtattacg attttttcta agcaggctga atttttgttg	180
ggtgaccggg atgtgacatt gcttgataca ccgggacatg tagacttttc tgctgaaatg	240

gagcgtacgt tgcaagtgct tgactatgcg atccttgtga tcaacggatc tgatgggggtg	300
cagggacaca cgctgacatt atggcggctt ttaaaaagat atcatattcc aacatttctt	360
tttatcaata agatggatca ggcacgaaga acaccggaaa gtctgatgga agaaatacag	420
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gaagagatta aggaactgat cgcaagtgag aagttgtatc cctgcttttt tggctctgca	600
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acgtatggag atcttttttg agcaagagtg ttttaagattg caagagatga acaaaataac	720
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tatgaagccg tgcctgaagt acaggcaggc atgatctgtg ctgtgacagg acttagccat	900
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 <212> DNA
 <213> Clostridium sp. CAG:230

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 <211> 2385
 <212> DNA
 <213> Clostridium sp. CAG:230

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<211> 1563

<212> DNA

<213> Clostridium sp. CAG:230

<400> 800

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 <211> 1215
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 <213> unclassified Ruminococcaceae

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<211> 1173

<212> DNA

<213> unclassified Ruminococcaceae

<400> 803

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 <211> 1368
 <212> DNA
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<211> 1752

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<211> 1674

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<211> 1302

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<211> 2487

<212> DNA

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<211> 1338

<212> DNA

<213> unclassified Ruminococcaceae

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<211> 1206

<212> DNA

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gagcagaagg ccaaggaatt tggcgtcgat cagctgacgg atgaggaaat tgccgatctt	360
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<211> 1146
<212> DNA
<213> unclassified Ruminococcaceae

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<210> 818
<211> 1023
<212> DNA

<213> unclassified Ruminococcaceae

<400> 818

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<210> 819

<211> 1638

<212> DNA

<213> unclassified Ruminococcaceae

<400> 819

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1638

<210> 820

<211> 1731

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<400> 820

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<210> 821

<211> 2175

<212> DNA

<213> unclassified Ruminococcaceae

<400> 821

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<211> 1971
<212> DNA
<213> unclassified Ruminococcaceae

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<210> 823

<211> 1380

<212> DNA

<213> unclassified Ruminococcaceae

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<210> 824

<211> 2124

<212> DNA

<213> unclassified Ruminococcaceae

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2124

<210> 825

<211> 1620

<212> DNA

<213> unclassified Ruminococcaceae

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<210> 826

<211> 1548

<212> DNA

<213> unclassified Ruminococcaceae

<400> 826

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<210> 827

<211> 2622

<212> DNA

<213> unclassified Ruminococcaceae

<400> 827

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<211> 1194

<212> DNA

<213> unclassified Ruminococcaceae

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<211> 921

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<211> 1119

<212> DNA

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<210> 839

<211> 1179

<212> DNA

<213> unclassified Ruminococcaceae

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<211> 1611

<212> DNA

<213> unclassified Ruminococcaceae

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 <211> 1470
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<400> 842

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<211> 3807

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gctgcacacg cttacgagct tccgccggtt cactacacgg tggcgcgctg cgccatgcag	2940
cagatggggg ttggcgggga tgacagctgg ggcgcgcgca cccatgagga atacctcatc	3000
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<210> 851
 <211> 1254
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 851	
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accgccctga gcagcgcaaa caagatacgc ctcaaacaca tggcagatac cggaaaccgc	120

gccgcagagc gcacctgaa cattctggaa aagtacgaca aggcgctgac caccatactc	180
atcggcaaca acatagttaa tatcgctgc tcgtcaattg cgacgatact tgcgatatca	240
ctggtcggcg agaaatacgg ttcgctgggtg tccactatcg tgactacagt catcgtgctt	300
atcttcggcg aggtaatgcc caagagcatt gcgaaggatt accccgagac aatcgcaatg	360
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gaaagcaacc tggtagcgag cgcgctggaa ttcgacgaga taaccgtcga cgagataatc	600
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aagttccttc aggaggaata ctcccgcatg ccggtgtacg agcgcacgct tgacaacatc	720
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aaaaacggcg acatcaccca gaccgacgac ttcatagtaa cagtactcga cgcggtgcg	1200
cttcgcgtga ataaggtagc catcgagata aaagacagga aagacgagga ttga	1254

<210> 852
 <211> 1425
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 852	
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gacgtggcgc actccgctta tttcggactg tatgcgcttc agcacagagg tcaggaaagc	120
tgcggcatcg ttgtcaacga ccgcggcgtg ttcaagactc acaagggact tggacttgtg	180

aacgaagtgt tcaacgaacg cgttcttttcg gagttcggtc agggaaggat agcagtcggt	240
cacgtacgct actccacaac aggtaacgta aataccgcga actgtcagcc catgaccgtc	300
cgccacgtaa agggcgact cgccatcgcg cacaacggaa atctcataaa cgcactcgag	360
cttagaaggc agtacgagct gaaaggcgct atcttccaca gcacaagcga tactgaggtc	420
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gcgggttacg tgttcgcttc ggagagctgc gcactcgaca gcatcggcg ctagttcgtc	660
agagacgttg aacccggcga gatagttgtc gcggacgaaa acggcataca gaccatcaga	720
acacactgcg gtcagaaaag ctcaatgtgc gtgtttgaat tcatatatatt cgacgtccc	780
gattcgggtca ttgaggggagc aagcgtacat cgtgcaaggc ttcgcgcagg gcattacctt	840
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actgagatac acatgcgtat ctcttccccg ccgttcataa gcgagtgcct cttcggaacc	1200
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aacgcgggct gcggcttctg ctcaggctgc tttaccggta agtaccat cgacgtaccg	1380
aaggatatcc ccaaagacaa atttgaaatg aagttcgagg aatga	1425

<210> 853

<211> 957

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 853

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tccgcaggcg gcggcaacgc gatgagctac gtttcaaggc agatagggcg caccgcgcgg	180
cagataaacg ctccgaaatc ggaatcctac ttcggattca agcagtttgt tgaggttcac	240
aagataatca acctcgacaa aatggcgttc gagtaccctt acaagcagtt ccccttcgac	300
tttgatacat atttcaagag cggaatagac gtggagtacg cgtgcacctg ctgcgagacc	360
ggcaaggcgg agttcttctc cgaatcctcc gacgagcaga agctgctgac catcgtcaaa	420
gcgacctgct ccgtgcctat gctctgcgac ccggtggaga taaacggaaa gcactacctc	480
gacggcagca tcgcagattc cataccgata cagcacgcgc tcgacatggg ctgcgaccgc	540
gttgttatcg tcatgacgaa gccggacgcc aacgtaccgc cgacgaacta cgcaaaattc	600
cgccagggtga tctcccatat gtacaaggac taccggcggt tcattgaagc ctgcatggag	660
cgcgttgaca actacaaccg gaacatcgcg ctgatggata agctccaggc agagggaag	720
gcgttcgtta tacgcccga gattccgacc ataagcaagt tcgagcagga cagccgcaag	780
ataatggagc tgtaccgcca cggttacacc ctgatggaca agcgcctgct ggaacttgtg	840
gagtggaaacg aaggcaaacc cgcagccgag cctgccggag attcagagct ggcaaaagac	900
caggctgttc ccagcgagtt tgccggggaa gaaaacgttc tgctggcttc cggctga	957

<210> 854

<211> 1368

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 854

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ttaagcacta cggctatcga tcccagcctg cccggaaagt tcggagtaaa gcgcggtctg	120
cgtaattccg acggttccgg cgttgttgcg ggcatcacia acgtatgctg cgtacatggc	180
tacgttataa gcgagtgcga caagcagccc atcgagggcg agctcatcta ccgcggatac	240
aacattcgcg atatcgtgaa cgacgtgctg tcgtccgggc gctacggcta cgaggaggtc	300
gcgtatctcc tcctgttcgg tatgctccct gacgagcgac agctcactac gttctcacgc	360

cttatcgctg agtaccgcga ctttcccatg tacttcagcg aggacgttat catcagaaat	420
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tccgcgccgg aggacaagtc cgttgagagc gaaatgctca aggctatttc gatcatctcc	540
agacttcctg cgatcatggg aacttcctac caggcaatgc gccggttcta ccacaacgat	600
tcaatggtaa tgcaccagat aaacaaggac gagagccttg cagagagcat tctttccacc	660
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aactgggata acgaccagga ggtcagcgac ttccttcaca agctgctccg caaggaagcc	960
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gaattcctgc tgctggacag catcgagaga cttactccgg gagtattcgc ggacgagcgc	1140
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ctgaagatac cggtagagat gtacaccggt ctgttcgctg gcgcgagaat ctccggctgg	1260
tgcgcccaca gaatggaaga aatgatcaac ggaaagcgca taatccgtcc ggcttacaag	1320
gcgataaacc tcaacaagaa ctacataccg ctcagtcaga gaatataa	1368

<210> 855

<211> 699

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 855

gtgaaaggat acgcaatgaa agaaaaacag aaaacattcg agcttgagcc tgtacagcag	60
cttctccctg cggacgcaca gcagcgcgtt atggaccagc tctaccagtt catggagctt	120
gagcatctct acgagtccgc gatccgcgag gtcaagacca agcttgagat actcgacagc	180
gaattcaaga cgaaatacga ccacaacccg atacatcacc ttgaggaccg cgtgaaatcc	240

ccgcagagca ttcttgagaa gctcaaccgc aagggaatac cgttcagctg cgataacgca	300
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tacactgtgg cagacctcct gaccgcgcag gacgacgtga agctcatcaa gcgcaaggac	420
tacatacaga accccaagcc aaacggctac cgcagtctgc acctggttat cgagactccg	480
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atgaacttct gggcgaccct ggagcacgac ctcaaataca agaccgacag cgtggtgtca	600
gctgaccttg cgcagcagct caaggactgc gcggagacca ttgcctccac cgaccagcag	660
atgcaggaca tctacaaggc gcttcacaat attgattaa	699

<210> 856

<211> 1722

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 856

ttgttaaaac tacttgttca cattaaaaaa taaaaaaagg aatgcatact cgggccgctg	60
ttcaagctgc ttgaagctct cctggagctt ttcgtgccgc tcgttatcgc ttcgataatc	120
gacgacggca tagccaacgg cgacaagggc tacgttatcg gaatggtatg cctgctcgtg	180
ggctcttggt tagtcgggct ttcgttctcc atcactgcgc agtactttgc cgccaaggcg	240
gcggtagggg tctcctccaa ggtgaagcac gaattattcc gccacattga gagcctgtcg	300
tggcttgaaa tcgaccaggc cggaacttcc accctcatca ccagaatgac cagcgatatg	360
aaccagatac agaacggcgt aaaccttacg ctccgtctgc tgctgcgctc gccgttcgtg	420
gtattcggcg ctatgatcat ggcgtttact atcaacgttc aggcggcgct tatattcggt	480
gcggctatac cggtgctttc cgttgttatc ttcggaatca tgctgtggtg cattccgctt	540
tacaagaagg ttcaggcaag gctcgacaaa gtgctcggaa ttacacgtga aaacctcacc	600
ggcgtccgcg ttgtgcgcgc gttctgcaag gaagatcagg agatcgacac cttcaataag	660
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ccgctgacct acgtaataat caacctcgca ataacttggc tcattcagac aggctccggt	780
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gcctgcggaa accgcgttca ggctctgttc gacatcaagt cgtctcagga agtcacctct	960
gacaaggacg ttatcggcaa tgctgattac gcagttgaat tccgcggcgt ttccctgaaa	1020
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cgcgcgctcg tcagaaagcc cgagatactg atactcgacg acagcgctc cgcgcttgac	1500
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ttcattgtgt cacagcgta ctcctcaata cagcacgcag ataaaataat cgtcctcgac	1620
gatggcaaga tagccggcat aggcaagcac gacgagctgc tgaacaactg ccccgcttac	1680
agcgagatct acaattccca gttcaagaag gaggcggtat aa	1722

<210> 857

<211> 1050

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 857

atgcagatag tcattgcaat actcgcgttc tgtgttatta tcattattca tgagctggga	60
catttcacag cggcaaagct ctgcgggatt caggtaaacg aattcgcggg cggaatgggt	120
ccggtgatcc tgaggaaaaa gggaaggagg actaactatg tgatacgtct gctgcccac	180
ggcggttcgg tatcaatgga aggcgagcag gattcaagcg acaaccgcg cgattcaac	240
cggaagccgg tctggcagag aatgatagtt atacttgacg gcccgataat gaacctgatt	300
ctcggatttt ttgtcgcaat gatatatgtc tgcacaattt cgaacatcgg aacgaccacg	360

gtaagcgttg tcaacgatat acccgggatt acaagtcagc taatggtcgg cgatgagatc	420
gtctccgtgg agaatacgac ggtctggaca acgttcgaca ttcagtacaa aatgcagaac	480
aacggcggtc gcactgacga aaacgggaaat ctcttgcttg atttcaaggt gaagcgcggc	540
ggagagctta tcgcgctgaa agacgttcag ttcaaggctg aaacagacga taacggaaac	600
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ttccttgтта ttgaagcgat acgccgcaaa ccgctcaagc cggaaatcga gggcgttgta	960
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<210> 858
 <211> 1092
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 858	
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ttcgttatgg actacgatgc tggtcagggc tggcatgacg cacgcattgt gccttatggt	180
ccgatcgagc ttatgccttc cgcgatggtc cttcactatg gtcaggagat ctttgagggc	240
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ggcttcacca agaccggcgg caactacgct gcttctcttg cgggtcaaga cgaggctcac	660
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aagctcgacg aggtatttcgg cactgggtact gcggctgtcg tttctcctgt aggtcacctc	960
aagtggggcg ataaggtaat ggagatcggc ggcggttaaga tcggcccgat caccagaag	1020
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gagaagctct ga	1092

<210> 859
 <211> 1689
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 859	
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gggactgtcg tttccgccgg ctccggaata tttgcagacg tctcgggcga tccgctggag	180
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tcgtgcgtag aggaaggggac gatctccggg agcgacagaa tgagcctcag cgccgatatt	300
cgcataaagc tgtcagcgga cggagaattc cggctgtgcg ggttctacgc acattttctg	360
aaggacgacg gcggcaggat aatcgccgta cacggcacca tcagacccta cacgagccgc	420
gaactttttg accgccgcgt gctgagcagc ttttcgtcag accgcgaccc gcgtattttc	480
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aagattatct cgcacacgat ctcaatgtcg cgtgatatcg gtctcgatat catcgcggag	1560
ggcgtggaaa ctccggagca ggcttcgttc ctgagcgact gcggctgcga ttcggcgcag	1620
gggttctact actccaagcc gataaccag gaagaattcg acaaaatgct tgtcgaggtc	1680
aataaataa	1689

<210> 860

<211> 1392

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 860

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atagcgcggg tgatcggact gacagtcgct tcgctgcttg gagtgatatt cctgctgatg	180
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ttcatatgcg acagcagcga ttacgacagc atacctgccg gaagcgccgt tatctccact	300

tcctgcgcac cctacgacct cgaggaagga aacctagtagt tctacaccac cgaccccgag	360
gataagaacg cgccgcttgc gatgggggtat tacgcagatt tcaaaatgac cgacggcgtg	420
tactacctcc acctcgtgaa caacagcgac agcaccgtaa tcagcgagga cgcccttatc	480
ggaaaagcag gctgggtgcag tccgttcctc ggagccttca tcagattcgt aagaacgccc	540
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cgcgccaaga cctacgaaaa gccgatcccc gaagttatcc cgcagggtcaa gaatcaggac	660
gaccggccccg cgagccgca gttaactgtc ggcgaaagcg gcggagcctc atataagcga	720
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caccagcagt ga	1392

<210> 861
 <211> 597
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 861	
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gaaggctcag acaagctgct ggactttctc gaaaaccgca gcgatttctt caccgcgccc	120

gccagcacgc gatatacataa tgcgtttgaa ggcggacttc tgcggcattc cctgaacgta	180
taccactgcc ttgtggctta tcttgagcgc gagcgcgtga agaacgaata cgggctgagc	240
gtttccgctg aaacggctgc gatcgtcgca ctgcttcacg acgtttgcaa ggtgaatttc	300
taccgcgtcg gctggcggaa cgtcaaaaac gagcagaccg gtcaatggga aaagcagcca	360
cgctacgaga tccacgatac gctcccatac ggtcacggcg agaaatccgt ctatatggtc	420
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tccggagccg aggataagaa cactataggt caggcgcttg caatgtaccc gctggcgttt	540
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<210> 862

<211> 1128

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 862

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gaggcggaca ccggcacggc gctctgggaa aagaacgccg acgaacaccg cgcgatggca	180
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gccgatgggc actacaccac cgcccgcgat ctcgcaaaac ttgcggcggt cgcgatgaag	540
aacgaggtgt tccgcgaggt ggcggcgtgt aagtcggcgg aggtggagtt cgggaatccg	600
ccgtataaac gtacgtgta caactccaat aaaatgctca ggcgctacga tggcgcgatc	660
ggcgtcaaga ccggattcac ggacaacgcg cgcaggtgcc tggtttctgc ggctgagcgc	720
gacggagtta ccctggtcgc ggtaacgctc aacgctggag acgactggaa cgaccacgcc	780
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aaggtcgtgt gcgcctgccc gcttctggct gattcagccg tggaggcgga cgacaccgag	1080
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<210> 863
 <211> 2223
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 863	
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aacctgctgc tctccagcgg caccgcgagc ggaaagacgg aagccgcgtt ccttccggtg	180
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cccgtcacca agtggcacgg cgacgcctct gcggcggcta aaaagcgcgt tatgaagcgt	360
ccgcagggag ttatccagac cacgccggaa tcccttgaga gcatgctgat gcacaattcc	420
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gggcgctctc tgcggctttc cgtcaggttt ttccccatca aggagaagat accgaactcg	720
gacagcaagg ttctgctcca gaattactac gactacctct ttgaaagcac ctggaacaaa	780
cgggtgattc tcttttcaaa ctcaaagggc gaggtcgagg agaacatcgc gcacctccgc	840
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ccggctctgc gggagttcac cgagcagaag atgaaatcct ccgagcagcc ggtctgcacc	960

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ttcaatatcc cggacaactg cgagatatcc ggaaaaataca acgactatat cccacgggag	2160
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taa	2223

<210> 864
 <211> 957
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 864
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cagccggagg aaccgaaaaa gcccgacccc gagcaggaac tgctcgaggc aaagcgcagg 180
ctggacgata agctccagca ggtggcattc cgtgagaaac agctcgaaca gcagaagaag 240
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gagtacctga aggagctttg cggaggcatt ccgaacgttg aggtggagct tctgccggag 780
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acgcagctcc gcatgattca ggagcttggc gacggaaagt tccgcgaacc taaaccaca 900
aggaaaaaga agaaacccgc cccggagcct gccgaagaag cagacgccga ggaatga 957

<210> 865
<211> 1503
<212> DNA
<213> Eubacterium sp. CAG:115

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gtactgaaca tcggcgacct ggttctgaaa atgcagagcg gcttcgctat agtccttgtg	360
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ccgtataatc cgagaagctc ccgggacatg ctgttccgcg cgggctggaa gcgcctccag	1440
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tga	1503

<210> 866
 <211> 1800
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 866	
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gtgcaggcgg tactgccgtt catcgacctg atattcctgc cgctgctggt ggacgctctc	180
tgccagccgg agcgcagcgt tatacagata atactgtacg cggcgctgat ggtggggcctt	240
gatatcgcgg tcggcaccgc cgggacgcag ctactatct atctcgagcg gttcgaggat	300
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cagaaactcg cgatcgcaag ggcgctcttc aagaacgccc cggtggttat actcgacgag	1560

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cgtatcgcgg tattctccga ctgcacgata aaggagctcg gcacacacga cgagcttgta	1740
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<210> 867

<211> 996

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 867

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tccaaaactc ccaccgatgt aaaggaagga ctttacgacg acttccccgc cgtgatgaag	720
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aagaaagaag tcgacgtaac tgtaggaata accaacgcca ccgaagccga aatactcacc	960
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<210> 868
<211> 1248
<212> DNA
<213> Eubacterium sp. CAG:115

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<210> 869
<211> 2415
<212> DNA
<213> Eubacterium sp. CAG:115

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ccattcggaa ggggcaacag gagccgcata gcgctgggtt tcgcggtgga gcctgccccg 180
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<211> 2400

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 870

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<210> 871
 <211> 1017
 <212> DNA
 <213> Eubacterium sp. CAG:115

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<210> 872

<211> 1374

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 872

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<210> 873
 <211> 1221
 <212> DNA
 <213> Eubacterium sp. CAG:115

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<210> 874

<211> 1194

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 874

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<210> 875
 <211> 2280
 <212> DNA
 <213> Eubacterium sp. CAG:115

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<213> Eubacterium sp. CAG:115

<400> 876
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<210> 877

<211> 930

<212> DNA

<213> Eubacterium sp. CAG:115

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<211> 708

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 878

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 <212> DNA
 <213> Eubacterium sp. CAG:115

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<211> 981

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 880

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<210> 881
 <211> 2250
 <212> DNA
 <213> Eubacterium sp. CAG:115

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<210> 882
 <211> 1392
 <212> DNA

<213> Eubacterium sp. CAG:115

<400> 882

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 <212> DNA
 <213> Eubacterium sp. CAG:115

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<210> 884

<211> 1686
<212> DNA
<213> Eubacterium sp. CAG:115

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 <211> 1833
 <212> DNA
 <213> Eubacterium sp. CAG:115

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gccctgcttg aagctacagt taagctccgc gacggcaaga aggctaccga catgaagatg	1740
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<210> 886

<211> 1056

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 886

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ataatctccc gcggagccac tccggcggga atgcacattt caataatggg cagcgagata	180
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gatatacctca ctgtaaagct gcaaaatttc agggacatcg acaaggctcg cgccgacgcc	420
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ccggagcgcg gattctccta taaaatcgac ggtccgctcg acctccgaat gaacccgcag	540
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gaggacaggc tcgttaagcg ctcatcgaag gagctgcacc gcgcgggcgt ttacagcgac	960
gttgcaaggg acgtaatacg cccacccccg gaggaatgcg tgaagaaccg ccgcgcgcgg	1020
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<210> 887
 <211> 1530
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 887	
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ggctccggca agagcacgct ggtaaacaatg ctcagcggta tctacacccc tgacagcggc	180
gagatcgaga taggcgggaa aaacgtagtg ttccgctccc cgaaggacgc catcaacgcc	240
ggaatcggca tgatacacca gcacttcaag ctgatagacg tgctgaccgc cgccgagaat	300
atagtcatcg gtcaggaaaa cagcatgggtg ctcagcaaaa agaagatgaa cgccgcatt	360
aacgagctaa gccagaagta cggaatttcc atcgacccgg acaagaaggc ctacaacatg	420
tccgtcagtg agaaacagtc ggtggagatc atgaagatac tctaccgcgg cgcgacgtt	480
cttatcctgg acgagccgac cgcagtgctc accccgcagg agatacgcg gctgttcgat	540

atcctccgcg gaatgaagga gcgcggctgc tgcattatca tcatcaccca caagctcgcg	600
gaggtaatgg agatctccga ccgcgtgacg gttctccgca agggcgaatc aatcaccacc	660
gcagtcacga aggactccac cccgcaggag cttaccgaaa tgatggtagg cagcgcggtt	720
tcccttgaga tagaccgccc gaaggagaag ctcagcgaac agcccgtgct gtccgtcgac	780
cgcctgtcca agaagtcggt cgagggcgtc gacctgctcc gggatttgag cttcgacctc	840
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gacgtgctaa agagcatttc cgaccgcctg atggtgatcc acggcggcga agtcgtggat	1440
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cccggcgcag agggagtcga agcggtatga	1530

<210> 888
 <211> 1092
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 888	
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gagcagatca acggcatcta cgaggagctt gagaacctca acattaaaat agtagacgac	180
tacaccgcgg acctcgacat tgacaacctc attgacctcg ctgagaccga gagcgcagac	240
gagagctacg acgccgacgg catgctcgcc gacgactctg taaagctcta cctcaaggag	300

ataggacgta tcccgtgct caccaccgag gaggagataa agctcgaga gcgcatggca	360
aacggcgatc ccgccgcaaa gaagcgctg agcgaggcaa acctccgtct ggtagtaagt	420
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tacgtacat ggtggataag acagtccatc acccgtgcta tcgcagacca ggcgctact	600
atccgtattc cgggtgcacat ggtcgaaact atcacgaagg tcaagaaaat gcagagccag	660
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cctatcggcg aggaggagga cagccacctc ggcgacttca ttcccagca ggacgctccc	840
gcgcctgctg acgaggcatg caacagcgtg ctcaagcaga ccatcggcga agtactcgac	900
acactgaccg agcgcgagaa gcgcgtgatc atactgagat tcggtcttat cgacggcaga	960
cagagaacgc ttgaggaagt aggtcaggag ttccaggtaa cgcgcgagcg tatcaggcag	1020
atcgaaacca aggcgtccg caagctccgc cccccaccc gcagcaagaa gctgaaggac	1080
ttcctcgaat ga	1092

<210> 889
 <211> 879
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 889	
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agcctgggct acatcgagga gaagctcaag agcctgctcc agggcaggat aaaccgcggc	180
aagggtggaga tatccgtgct ggtgaacaac gttgaggccg cggacgagaa gataactata	240
aataaggaaa tagtaaagga atacgttgac gcgctgcgct ccgttaagga ggagtattcg	300
ctgaacgacg gcctttcgct gtcggatatc ctgcgtatcc cggacgcgtt caccgtagta	360
aagaccgaga ccgacgagga gcagctctgg gctgacgtga agtcggcggc ggaggaggct	420

ctggagcact tcatcgcgat gcgtgaagcc gagggcgagc gcatgaagcg ggacgtaatg	480
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gaggaaacgg tacgcctgcg cagccacatc gcgcagttcc gcacaatgct ggaatccggc	720
gagcctgtgg gcaggaagct tgacttcctg gtgcaggaga tgaaccgca gaccaacacc	780
ataggctcca aggtgcagga catcgaggta acgcgcatag tcgtcgacca gaagagcgag	840
atagaaaaga tacgcgagca gattcagaac atcgaatga	879

<210> 890
 <211> 609
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 890	
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gctaccagct actcgacta tgactacgtg ctttacatga gaaccgggga ggctgttgat	180
ccggacaccc tgcaccgat agaatacagc aacaaccaga acggcgttga ctgggacatc	240
gtagagggcg tgtatgacga cccggcaggc aggataggcg accacaagtt tgttatcttc	300
gaccgcctga gcgactacgc ttccatcatg atagaccgca tgtgcccga tatctcccag	360
atgtccgacg agctgatgaa gtccatcgag cgccgcatta tcgcagatat cgaggatatg	420
cgcgagcgta tccgcgaact caacggcagc atgatcgtaa ttaccctcga gaccggattc	480
tcggtcgcgc ccaccgaccc caggcagata gctttccgta agatactcg aagcgtaa	540
cagcgtatcg ctaattcctc agatgagggtt tatttctccg caagcggcat tcagttcaaa	600
atcaagtaa	609

<210> 891
 <211> 1887
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 891

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tatgacgcgc tgccggtggg gacgcagctc cgcggacgtt acacggttgg gaagctgatg	180
ggcaggggcg gtttcggaat gatctacctc gcttacgacg agcagtccga caagactgtc	240
gcgggtcaagg agttcttccc ggacgggtacg gcgggtccgtt ctcaggacaa catcaccgca	300
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gcggcggcgc tgacgtctgc ggcaagctcg gcggctgaat tcttttcggg gataagccgc	1140
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aatggagaag ccaatcttga aatatga	1887

<210> 892
 <211> 930
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 892	
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cacggcgacg agctggaggg tcagtatgtg tgctacgagc ttgtaaggct cataacggcg	180
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agcacctccg gagctgtggc ggagaatatc gcggcaaagc tggtcgaaga tataaagggc	360
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aggataccca gcgccgagag cagccacctt ctcaaatacg ctaaaatgct caacaccgat	480
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gaggtcggcg tgcctacgct ggtcattgag atgggcgtgg gacagagaat aactaaggcg	600
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cattccgggtg aaagtggaat atttatacct aaagttgagc acaacatgtg ggtacagaag	780
ggtacgtca tcggcgagat agtaactccg atcaccggaa ccgtcgagga agagataaca	840

gcgccgtcag acgggcttat cttctcgctg agggaatatc ccatcgttta cgagggcagc	900
gtgattgcaa gaattctcag catgagttga	930

<210> 893
 <211> 1104
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 893	
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aagaaacggg tcgccgagaa cgagggcttc gagctttcgc aggagaacct cgaagccgag	180
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gccgagggtc acaaggtgca ttcctggcgg gtaggcgaca cgcggttcac caacaccaag	600
atattcaatg tcacccgccg cgcggaatg acgttcgtaa gagtcccctg cgacggctcg	660
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ctgaaaaaat tcctgttcgg cgcggggctg ttcatcgtgc tcggcgtgct gctgggtctg	1080
ttagggggtg tgctttttgc ttaa	1104

<210> 894
<211> 924
<212> DNA
<213> Eubacterium sp. CAG:115

<400> 894
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tattatatgt atattccgga aaatcccagg gcggcggtaa tgctctccca cggcatgtgc 120
gagtacttcc agcgctaccg cgggtttgcg gagttcctct gcaggaacgg catagcgctt 180
gtcggaaacg accacatcgg ccatgggaat tccgtcaccg accgcgacat gctgggctat 240
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cgcgcgggcgt gcatgaagta cctcgagcac ggctgcagcg tgaatatccg ggtgtacccg 840
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gcgttcataa ataagagatt ataa 924

<210> 895
<211> 1404
<212> DNA
<213> Eubacterium sp. CAG:115

<400> 895
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agcgatctct caccgaaggc ggctcaggag cggctcgcgg aatatcatgc aggtgatata 120

gcagcggcgg cggagcttct cagcgcgggg gagcgcacga agctgttccg cacgctggac	180
atggacgagc ttgcggacgt tttcgagtat ttcgagccgg agaattccgc ggagtacctc	240
aaggaaacgg atctcgggaa aactgttctg ctgatcggca aaatggagac cgacgcggcg	300
gcggacgttc ttagagaatt cccgaaagaa aagagaaatc agcttttcga gcttctcgac	360
gaggagctca ggagaaagct ggagcttata gtgtcgtttg acgacgatga gatcggcagc	420
cgaatgacca caaactacat ttcgataagc tccggaatga ccgcggcaga ggctacgcgg	480
gcgctgatgg atcaagctaa ggaaaacgac aacatctcca tactttttgt tacggcagag	540
aacggatttt tctgcggcgc ggtggggctt agggaaactgc ttaccgctga gaagcattcg	600
gagataaagc cgctgataca gcagagcttt ccgtatgttt acagcactga aaagacggag	660
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atccgcgtgc tgatggacaa ggacctcaca gcgggcaaaa agctcaagct cgttgctaag	1080
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tgtatcggtg cggctctcat gctggctatg cttatttcaa gcggagtcgg cacgctagtt	1260
ccgatgttct ttaagaagat cggagttgat ccggctgtgg cttccgggcc gctgatcacc	1320
accgtcaacg acctcgtggc tgctggttacc tattatgggc tgagctggct tctgcttttg	1380
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<210> 896
 <211> 1449
 <212> DNA
 <213> Eubacterium sp. CAG:115

<400> 896

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<212> DNA
<213> Eubacterium sp. CAG:115

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<211> 939
<212> DNA
<213> Eubacterium sp. CAG:115

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 <212> DNA
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1953

<210> 900

<211> 1491

<212> DNA

<213> Eubacterium sp. CAG:115

<400> 900

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gacgaggtct acaagcaggc aggctccggc ggagtgctcc tctctgcgat gggcaacccc 300

cgcgagtacc cggtttactg ggacaagata ctgctgaacg cttcccagggt aacaaacccg 360

cctatcgacc cgctgcgcga gccgatggag accaagacct tcctcggcaa gaaggagcag 420

gagatccact acgacgagaa cggcagggtc gaattcaagc acaatccgta cctcgagctg 480

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 <211> 2442
 <212> DNA
 <213> unclassified Eubacterium

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<213> unclassified Eubacterium

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<211> 1410

<212> DNA

<213> unclassified Eubacterium

<400> 903

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<211> 942

<212> DNA

<213> unclassified Eubacterium

<400> 904

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acagtatgta cagaggatac acctgtttta caggctctttt taaataatcg tgtaaaggaa	360
ttcagcacia aaaagaagct tcggtttgtg tatcagatcc tatataggat ttcagttttg	420
tatcagaatg accttcggat catcgataaa atgaggactg agatcgagga acgagtcggt	480
gaggatacag aggaagacga tcttatcgca ttacatgaat tagagtcgac acttgtatac	540
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cttgaacaat atccggagga taaggaactt cttggagatg tgatcgtcga aaataagcag	660
gctatcgaga tgacaggaat atacagggat atcataaatg gtacaaggga gcttatgagt	720
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atggctattc ctacagttgt atcaggaatc tatgggatga atgtaaatgc gaaatggggt	840
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atacttatcc ttattatggt aaagaaaaag agaattattat aa	942

<210> 905

<211> 786

<212> DNA

<213> unclassified Eubacterium

<400> 905

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aaaagttaaag ggatgccgag aaactatgga catacagtag gcgcaaaaaa tgtcgaaaat	180
atatgtaaag cggcggatga actgggtgta aaatatctta cgttatatgc tttttcaaca	240
gaaaactgga accgtcctga atctgaagtt aaagctctta tgaaattgct tgagagttat	300
ttaaaaaact gtataaaaaac agcagacaag aataacatga gagtaagagt tataggagaa	360
ataggaagac tgtcagtgga tttccaaaat aaaataaaaa aactggagga agcttccgct	420
gtaaatacag gacttaatct gacaattgcg ataaattatg gaagccggga tgagatgggt	480

cgtgctgtca aaaaaatgat gacggatcat gataatggaa aacttgatat agacaaagtg	540
gataacgatg tatttttcatc atatcttgac acaaaagaac tgcctgatcc ggatctgatg	600
atcaggacaa gtgggtgaaca aaggttgtct aattacctgc tgtggcagct tgcgtatgca	660
gaatttttatt tcacggatgt tccgtggccg gcatttgata aagatgaact taaaaaggca	720
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gttttaa	786

<210> 906
 <211> 1938
 <212> DNA
 <213> unclassified Eubacterium

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atcatatccc ggatattgca gtcacacgga tatacagtcg gtataattgc acagcctgac	180
tggaaggatg acaaatcaat ttcaatactt ggcgccaccac gtcttggatt tttagttaca	240
gctggcaata tggattctat ggtcaacat tattccgtgt caaaaaaacg aagacaaaaa	300
gattcattta ccccgggcgg tgaaatggga aaacgtccgg attatgccac agtagtatac	360
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tttaaaacaa aggacagaga cataatatac gatgcgatcg aacttcctga ttatgatgag	660
ataaaagcag ataaaaaac ttttgcaaaa agctttttata cacagtactg caataccgac	720
ccgttcagcg gaaaacggct gtttgagcca tatgggtggga aaactcttgt agtcagaat	780
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aggacttatc atccggttta cgaggcagcc ggcggtatcc ctgcaatctc tgaagtgaag	900
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aatcatgcta caggctataa aggaaaatca aaaagcagtt ctggttacgc agcggcacia	1860
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<210> 907

<211> 1326

<212> DNA

<213> unclassified Eubacterium

<400> 907

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gatctcgcag gaacatccat cacattctta aacagtaaaag gtgagatcca ggaggctatg	180
gaagacctgg cagcagaatt tacagacgag acaggaatag atgttgaggt tttagcatgt	240

gg tact gg tg aggttcctta taca aagg tt aca agtgcct ata attcagg aaatgctcct	300
aca atgtcta tgctggatac aacagatgca cttgcacttg ccgatgaata tgctcttgat	360
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tcgcttcttg aagaacttaa ggcagcagga atggaaacac ctgttgtaat ttcaaaagag	600
gactggtcgc tcggagcaca tcagcttgga tatatatatg atacatatga cggaactacc	660
gccggaagtg ctgaagttat ctcaaaactt gaagatgggt cactcaaagc tgaggattat	720
cagaacttca atgactttgt cgacacaatg gatcttttac ttgaatataa cgtaaataag	780
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<210> 908

<211> 1524

<212> DNA

<213> unclassified Eubacterium

<400> 908

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gacagcatgg gcagtaatct taaagattta aataatgtac tcgataaaca ttttaaagat	180
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gccataggcg gcgtacacat tctgccgttt tttccttcct caggtgacag aggcttcgcc	240
cctatggatt atcataaggt agacagagca ttcggtgact ggacggatat agaaaagctt	300
gcggataaat attatctgat gtttgactat atgattaatc atatatcagc gcacagtga	360
tactataagg atttccttga aaaaaaggat aagtcacaat acgcagatct ttttatacgt	420
tataaggatt tctgggaaaa cggggagccg acaccggaac aggttgatgc aatatacaaa	480
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gaacttttag actgtgcaga tgataagctt gtcatcctta gaaaaaacgg agatgagtgg	1440
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<210> 909

<211> 1545

<212> DNA

<213> unclassified Eubacterium

<400> 909

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gcaggaagaa	agatgataac	acctgcatat	ttccttgggg	ttgtgtatgc	gggaagacct	240
tatgcaccaa	tcgatgcatc	acttccggac	aaaagaatag	aaaagatact	tgaaaacctt	300
atgccaaggg	caatcgtagc	ggacagggaa	agccttggac	atgtcaggga	aatagtcgca	360
gaattgtcaa	aagatgaaaa	ctttgttgca	ccggagattt	tcgtggcaga	ggaagtatgc	420
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<210> 910
 <211> 1227
 <212> DNA
 <213> unclassified Eubacterium

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acagaatgtc aggcagcagc tgtatacact acaaacaaag taaaaggcgc accgataata	180
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<210> 911
 <211> 1116
 <212> DNA
 <213> unclassified Eubacterium

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aaaataggtg aatatTTaaa gaatgagggt ctgtcacaga cagttatttt tttcggaac	180
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acacttaaaa tgacaaaaaa ggacttttgt gatgcgatag atctggcacc acagataaaa	1020
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<210> 912
<211> 1398
<212> DNA
<213> unclassified Eubacterium

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acaggaattg gtggagtcaa tgcaaaacag ataggtcttg gtgttacaac aggagctaca 180
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<210> 913
 <211> 2655
 <212> DNA
 <213> unclassified Eubacterium

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tggacacagg aagcatggaa atctttaaat acaaaaagtat acagtctgta cagcaatgta	180
tctaattctca gattctctac agcatacagt ctgaagaaaa catctgtatc agacagcaca	240
aaggcttctg tgaaggccgg ttcaagtgcg ccgaatggaa cacagacact taagataaca	300
aacactgcaa aagcaggata tcttacaggc gagcagatca atgcatcaag ctcaagcact	360
acacttgccg agcttgata tacaggcggg gatgcaaaga tcaatgtaaa cacaaaagat	420
ggcacaaaaga gcataaact cagcgctaca tcaacaatgt ctgatgttga gaaacagtta	480
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gacagcttat atggaggctc agacgcagca acacagcaga aaatagaaaa cgctgttgct	720
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2655

<210> 914

<211> 1602

<212> DNA

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<400> 914

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ggctctgatg taataggaca ggacagaca ggaacaggaa agacggcatc gtttggaatc	180
ccgcttctca tgaaggttga cccacataat aaaaagacac aggcgatcgt tctttcacct	240
acgagggagc ttgctataca gtcagcagaa gaaataagaa agtttgcaaa atatatgcat	300
ggtgtaaaag tgctctgcgt atatggagga caggatatcg gacgccagat aaagtcgtta	360
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aacatgggat ttcgtgagga tattgagaca atccttgaat atattccaaa cgaggatcac	540
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cagaaaaaag atgtaaagca tatcaaaata acaaagaagg agctgacagt tccaaatata	660
gagcagtact attatgatgt cagaagacat gataaaatag atgtactcac acgtctttta	720
gaatattatt cacctaaatt atcagttgtg ttctgtaata caaaaagaat ggtggatgaa	780
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gatatacctc aggacgatga gtattatgtc cacaggatag gacgtaccgg acgtgccgga	1020
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gtcgagggtgc caaaagatta cggaaaagac gtgctccgtg caatgaagaa tgtaaagatc	1560
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<210> 915

<211> 1812

<212> DNA

<213> unclassified Eubacterium

<400> 915

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gtgcaggata aggcattaga aactatggaa agcagttcaa ggcagagtta tgatgatctg	180
ataaagcagc aggttggtgt ggctatatca cttttatcag atatcaacga tgagtataag	240
gcaggaaaaat atactctcga agaggcaaag accttagcag ctgatgagat aagacagctg	300
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cttggaaagtg atacagaagg aacaaatcgt atggatacaa aggatgctga cggctatcag	420
atggtaaaag agatcatacg thtagctgtt gaggatgggt gaggatatac agattatggt	480
ttcccaaaag agggagagac agaagcttca cctaaacgtt catacagtga gtattttgaa	540
ccatttgact gggttgttgg tacaggaaat tatacagact acattgatga tgatattgca	600
gcacaggaca aagaattctc atcttttgta aaaaaagagg ctgcatcggt tattggtttt	660
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aaggcttttag gaaatatttc agtagaaatc aataatatag ccagtggaga tttttcgaaa	780
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attgcacaaa agacagtgc catagcaa at ggttcatctg aggttatgaa gagtgcgag	1740
gatgcagaaa attcagcagc agaactcaga aagaatgtaa ataactttaa gattgatgag	1800
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<210> 916

<211> 1560

<212> DNA

<213> unclassified Eubacterium

<400> 916

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gaaaagctaa agattttatc agatgccgcc aaatatgacg ttgcatgcac atcgagcgga	180
gttgacaggg caggcgatgg aaaaagtctt ggaaatgctg cggcaggcgg aatatgccat	240
tcgtttacag cagatggcag gtgtatatcg cttttaaaaa tacttttcac aaatgaatgt	300
atctatgatt gtaagtattg tattaatagg tgcagtaatg atgtcagacg tgtaacattt	360

acgccggaag aagtatgccg tcttacagta gagttttacc gtagaaacta tatagaaggc	420
ctcttttctta gttccggtat aataaactct ccggaatata ctatgaaatt gatatatgag	480
acattatttt tgcttagaaa caaatatcat tttaatgggt acatacatat taaaggaatt	540
ccgggaacat catcagaact gttggagatg atcggctatt tatgtgacag gatgagcgtt	600
aatcttgagc tgcctacggc agagggatta aaaaagacag caccaaataa agtaagaaaa	660
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<210> 917

<211> 2478

<212> DNA

<213> unclassified Eubacterium

<400> 917

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gttctttctca aaaacgaaaa caacgtcctc cctctttcag cgggttctaa ggtagcccta	180
tttggaaagg gtacttttca ctatgtaaag ggtgggtggcg gaagcggaga tgtcaccgtt	240
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<210> 918

<211> 1074

<212> DNA

<213> unclassified Eubacterium

<400> 918

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gatggatata agggctttat atatggaaaa tacagacttc tgacatcagc ggatttttcg	180
ggcatactta caagagggtg aacaataactt ggttcatcac gccagccgtt taagcttatg	240
agagtgcctg atgaaaatgg actcgacaaa gtagaagcaa tgaaatcaac atataaaaag	300
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ccggaaatcc catacgattt agataaagtc atagcagcta tagcaaagcg caatcatgat	660
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ggaaatacaa agagagttcc acttgctgac gtggcaggaa aacttaaaat ggtcgatcca	1020
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<210> 919
 <211> 1299
 <212> DNA
 <213> unclassified Eubacterium

<400> 919	
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gcgatcgcat ccacgtggat cgtttacgaa ctgactggaa gtgctgcatg gtctgcgata	180
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gaggggaagaa ataaaaaggc tataatgggtg tctacagatt ttatacgagc tgcctgtgtg	300
gcatatgttg cgaccggata tctgctttca cttttgcagc catggatgct tatagttact	360
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gaatatcttg cacggatttc cggcataaat acagcaatcg gaattgctgc agtacctatg	1140
gcatcgtttg tggtcagcgc tctttagca tatgtagaca cgggtgttat gttttagtt	1200
tccggaatat tgggtgttatt cataggtgtt atcctgctta ataataagat gacagacaca	1260
gaaacagaag aaatccggca atcggaactc gcaggctaa	1299

<210> 920

<211> 834

<212> DNA

<213> unclassified Eubacterium

<400> 920

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ttatgtaccg gtagaagtta taaccagatt tatccttcgc ttaaggcttt cgattttgat	180
gggactgtag cagcggcagg cggctatgtt gtgacaggtg gcaaagtcac cactcatcat	240
gtttatggag ctgataaaat gcaaaagatc attgatgccg ttggcagcaa taacacggga	300
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gacgcatttt ccggtcagtt tgatatgact gttatccagg ataaccacaac ttttaaagat	420
ataataatcg atgacgatct gaaaggcttt gccactagat atcctgacgt tgaaagtacg	480
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gtcgttacct taagcagctt taaagaacct gagccttaca gcggtgagat tactcttgca	600
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ggtgttgcca tgggaaatgc ggctgacgaa gtcaaggaat gtgccgatat ggtcacagac	780
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<210> 921
 <211> 1311
 <212> DNA
 <213> unclassified Eubacterium

<400> 921	
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aagaaagaga gggcatttat aacaagactt acagatggaa cgatggaaca tctgatagag	180
cttgatcata taatagatct cttttcaaag acgaaaacta aaaagatgaa acctctgac	240
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aacattaaac gacatggact gtcgaatatg ggggcggtat gtatggatgc aacagtattc	960

gatgaagcat ctgtagaaaa agcagatatc cttatatgtg atctgccatg ttcaggtcta	1020
ggtgtacttg gcagaaaaaa ggatatcaga tacaaaatga cagaacagtc acttgatgga	1080
ctggcagagc ttcagaaaga aatacttgat acagtgcata catatgtaag gaaaggcaaa	1140
aagcttatat atagtacatg tacaatgaac cctgctgaaa atgaagaaaa tgtcaggtgg	1200
tttataaacc ggtatccgga gtttgaactt gaaacatcaa aacagatgtt tccaaaagaa	1260
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<210> 922

<211> 1848

<212> DNA

<213> unclassified Eubacterium

<400> 922

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gccacaagca ttaccactgc atccgctgtc gtggaagctg ccgatacatc agataccagc	180
acttataatg atgaaataac acttccgcac accttcagac acttagcatc ccgcacccat	240
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ctcacagcat acataatcta tgagtttgtc cacaacccaaa ataaccgggc aaagcggatc	1020
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ggattgtcat ccatccgatc tgttgctgta aaatatgggtg gagagactga atttaaaaca	1800
aaggatgatg tatttcaatc gtccttatac ttccagctat ataaataa	1848

<210> 923

<211> 1845

<212> DNA

<213> unclassified Eubacterium

<400> 923

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gatgatTTTT catttaaaat cgaagaatat atgaaattct gcccgaatga ggacgttgag	240
ctttttaaaag agaattttta ccggtgtgtc agaaaaccat cccatgctac atttgaaatg	300
cgtctgaatt ataaaagggg caggttagag tgggtgaggg ttttccttgc cagtatagat	360

gaaccggatg ggaatgtaaa attcgttgcc ggaaggatcg catctataca gaaagaaaag	420
gatgcagaga ttgaaatacg gcggaaaagct gaaaatgatg cattgaccgg gttatataac	480
catacaacat ttgaagatct ttgtgaaaag aaactccggg aatatgatgg tgaagtgatc	540
tttgtcatgc ttgatgttga cgattttaag atcataaacg atacattagg gcataatgta	600
ggggatcttg tattagggca gacaggatat gcactaaggc ttgtcacact tgacagcgga	660
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atggaatatt cggcatcaat aggcataatcc ataagagatg gaaggaatct tacatttaag	840
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tctaagcttg tggatggccg gatttcttcg cttgtatctt tatgtatagg cgattgtaaa	1740
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ctggagtta cagcaaaaact gcttgctgaa aagctggctg gatag	1845

<210> 924
<211> 684
<212> DNA
<213> unclassified Eubacterium

<400> 924
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aaatctacta tcatcaagct gcttttaaaag gagcttgagc cgacagaagg tactattacc 180
ataaatgaaa aagtgttatc aaagataaaa agaaagcagg tgccgaaatt cagaagaaat 240
gttggtgttg tttttcagga tttcaggctg ctcaaagaca gaaatgtgta tgataatata 300
gcatttgcac aaaaagttat aggaaggtca acagcacata taaagaaacg tgttccacag 360
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gaagagataa atgaaaaggg aactacagtt atagttgtaa cgcataatct cgagatagta 600
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gagggtggcg aaaatgacgc ttaa 684

<210> 925
<211> 2313
<212> DNA
<213> unclassified Eubacterium

<400> 925
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atgcaggcag accagaagat ttttcttgct acacagcgtg atgtggatgt agaagaaccg 180
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gtcccttctg acgtcagggg agctatgctt gtgggagtca gggaatcttt tgaaaagtat	420
gcggccgttg tcggcaaagt gaataaagaa ttgttcaggc agattgaaaa atatgatgac	480
atagaaaagc ttatagatth ttgttacaat aatcttcctg tttcatacgc acaaaaacaa	540
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gataaacatc aaagagaata tcttcttcgt gaacagatga gtgtcataag ggaggaactc	720
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agttcttctg aaagtgttgt agcaagagga tacattgaga cacttttaga actgccatgg	900
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cattacggac tatctgatgt aaaagaaaga gttctggaat tcttatcagt aagaaatctg	1020
acaaataagg gtgagagccc tataatatgt cttgtgggac caccggaac aggaaaaaca	1080
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accagtgtag gtggtgttac cttagaggth gaggtaaatg tgcttccggg caaggagaa	1860

cttgcaactta cagggaaaat gggcgatgtc atgaaagagt cagcacaggc gggacttagc	1920
tatataagat ctataagcga taaatatgat atcaagccgg aattttacaa agaacaatgat	1980
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cttgcaagcaa aaaatatcgg aataaaaaact gtctgtatcc caaaagacaa cgaaaaagat	2220
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gagcagggtg aaaaacaggc atttgccgtt taa	2313

<210> 926

<211> 1272

<212> DNA

<213> unclassified Eubacterium

<400> 926

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atcaatgaca taaaagacca gaaggctaca gttgacagca gcatcaagtc aaaatcagac	180
gaactggata ctgttcttgc agcacagaag aagctgcaga cagatattgc tgataaacag	240
tcacagatag aggacaatat ggtagagctt gattctgcaa agaagcagca gcaggaacag	300
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tggactgcga taattgaagc tgatggtata tcagatatgt taaaccgtat tgagtatggt	420
tcagatattt atacatctga cagggatctt cttgagtcac accagcaggc cgtgcagcat	480
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<210> 927
 <211> 2595
 <212> DNA
 <213> unclassified Eubacterium

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acgtcaagta tgaaccagac aaatgagcag tacaggatga atacatatgg ggcatggagc	180
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tggtttctat caggcgggga gctttatgat tatgagaaga ttgcggcaaa acaaaaggac	780

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tttgtgtcta acctgtacgg actgcgttca tatgggttaa atgctgtaac ggcaggtata	2520
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<210> 928

<211> 1605

<212> DNA

<213> unclassified Eubacterium

<400> 928

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tttgatccat acattaatat tgacccggga acaatgaatc ctattcagca tggagaggtc	180
tttgtaactg acgatggagc agagacagat cttgatcttg gacattatga gagatttatt	240
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cagaaggagc gccgtgggtga ttatggcggg ggaacagtac aggtaattcc tcatattaca	360
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tggtttatcg caacacaggc acatcctgaa ctttaagtcgc gtccaaatcg tccacatcca	1560
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<210> 929

<211> 1074

<212> DNA

<213> unclassified Eubacterium

<400> 929

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gagcaggtgc catatttcag aacacctgaa ttttcagata taatgttaga aaatgaacgc	120
ctgatgaaga aatttacaaa ggccgacaag gacgcaagag ttgtatttat tacaggctca	180
ggtacagctt cacttgaagc atgtgtagtc aatttcctta caccgcagga caagctgctt	240
gtagtcaatg gcggaagctt cggacagaga tttgttgatc tgtgtgagct ttatgaaatc	300
ccatatgacg caataaatct tgagcatggt cattcattat caaaagaaaa attatacgaa	360
tatgatggaa aaggctatac gggatttctg gtcaacgttc atgaaacttc tacaggagtt	420
cattatgaca tagagatgat cagtgaattt tgtaaaaaga acaatatatt tttagttggt	480
gatgccataa gctcattttt agcagatgag tttgatatgg aaaaactcgg agcaggcggt	540
atgatcacag gatcacagaa agcacttgcg tgtgcaccgg gaatttcggt catcgtatta	600

tcatcagatg cggtaaaacg tattgaaaac agtaatgtaa aatgcatgta tttaaacctt	660
aaaaatgcat taaagaacgg cgagagaggt cagactccat tcacaccggc agtagggatc	720
ttaagacaga taaatgccag acttaaagaa atagataaag caggcggagt tgagagcgag	780
ataaagcgta tcagtgagct tgcacaggat ttcagggaaa agatcaaagg acttccattt	840
gaaattgttt cagattcact ttcgaatgct gttacaccgc ttcatccttt aaatgcagat	900
gcacataaga tatttgagat aataaaggat gagtatggaa tgtgggtatg tccgaacggc	960
ggcgacatgg catcaacaat attccgtgta ggccatatcg gggcacttac aaaggacgac	1020
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<210> 930

<211> 1623

<212> DNA

<213> unclassified Eubacterium

<400> 930

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gcagaagtgg atgatcagaa agctgctgac gaagttgcag atttaatcga tgcaatttat	180
gtccaggagc gtaatgataa aactgatgag cagtgtaaag ctgcaaaaga ggcatgggac	240
aagcttacag atgcccagaa ggcaactcgt gaaggaaata atgcagaccc tgattatattt	300
ggaagagata caggtgatgc gtcaaaagat gatccgctca atcaggatga tatcggagaa	360
aatgaacttc ttgttgtaag ctttggaaca tcatttaatg atagccgtgt ggcatatc	420
agcggagttg agaaaaaact tcaggaatct tatcctgact ggtcagtgcg cagagctttc	480
acagcacaga taataataaa tcatgtacag gcaagagatg atgaaaagat agataatatg	540
gagcaggcac ttgagcgtgc ggtttcaaac ggagtaaaga atcttgttgt acagcctaca	600
caccttatgc atggtgcaga gtatgatgaa cttgtagatg tagtaaataa ctacaaagat	660
aaattcgaga cagttacagt tgcagagcct cttctcgggtg aagttggaag cgatgcgaca	720
gctgtaaatg atgataagaa gaatgttgcc gaggcgatca cagcggaggc agtaaagaca	780
gccggatatg attcacttga tgcagcaaaa gaagatggaa cagcattcgt attcatggga	840

catggaacat cacattcagc aaaggtaagc tacagccaga tggctgcaca gatgtcagag	900
cttggttacg aaaacgtatt tatcggaact gttgaggggtg agccagagga aactgcatgt	960
gagaatgtta taaataacgt aaaagaagca ggctacaaaa aagttgtcct tcgtccactc	1020
atggtagtag caggagatca tgcgaacaat gacatggcag gtgatgatga ggattcatgg	1080
aagagccagt ttgaagccag cgggtgcattc gataaaatcg atacacagat agccggcctt	1140
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cttggagatt cagtaagtac ttctgcaaca gcagaagcat cagatgcgtc atcacttaca	1260
gatggaactt acagcgttgc atttaataca gacagcagca tgtttcatgt aaacgaagca	1320
aataatggac gcggagtgtt tacagtaaaa gacggaaaaa tgacgatcca cataagtctt	1380
gtttcaaaaa agatcgtaa tctttttgca ggaacagcag cagatgcggc aaaagatggt	1440
gcagcagtac ttgaaccgac aacagataag gttacatacg aagatggaac agtcgaagaa	1500
gtttacgggt ttgatgtacc tgtagagtca ttagataaag aattcgatct tgcatcctt	1560
ggaacaaaag gtgagtggta tgatcataaa gtaagtgtat ctgatccaca ggcacagaat	1620
tag	1623

<210> 931
 <211> 1269
 <212> DNA
 <213> unclassified Eubacterium

<400> 931	
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aaggtgttta aatcatcaac atttgaagtg actgcatctg tagaagaaaa ggagtcatca	180
ttttcacaaa tgatggataa gggaactatg gttaaaagca atattgacta taaggcagat	240
gaaaagattt ctattccacc tatatcaaaa aatgcttcgg gagattttga taagcctgtt	300
caaaaaaaag aggatactat gatccgaaaa gaaaaaatac tttcagagaa tgataagaag	360
cttgaagaga gactggataa tcttttcaaat atcctcgaag aaaagcttgg tgtcccaaaa	420

gctgaaccaa cagaacaggc acgttcatat cagggaaaag gacatggtgg tgaagaactt	480
aaatttgtaa ggatattata caatacactt ataaataacg aagttaacga aagatatatc	540
aaccagatct tagaagaaat agagagatth ttaagacctg gaaatagtgt agatacaatt	600
ttatcaaattg tgtacaaaaa gcttatttta aggtttggac agccgaatac gatcgatctg	660
tccggtgcaa agccaaaagt tgthtttcttt gtaggaccga caggtgtggg taagacaaca	720
acaatagcta aaattgcatc aaagtataag gttgattatg agagaaaagg agctthttatt	780
acagctgata catacagaat agctgcgaca gaacagttaa gggthttatgc aaacatactg	840
gatgctccta tgtcaattgt atattctaaa gaagaattaa atgccgcaat agagaaactt	900
tcggactatg atatcgtatt tgthgataca gctggattth cacataaaaa tgcagcgcaa	960
tgcgaggaaa tgaaaaagct tatagatggg gttgatgaag tattcgaaaa agaaacatat	1020
cttgthtttaa gcgcaacgac aaaatataag gatcttgctg atattgttaa catttataat	1080
gacatagcaa aatacaaaat tathttttaca aagcttgatg agacgacaac ttatggaaat	1140
ttattaaaca ttaaattata ttcaggagca gatctgtctt atactacaaa tgggtcaaaac	1200
gttccagatg atatcgaact gthtgataca caaaagatcg tcaaacagct tttaggagga	1260
actaagtga	1269

<210> 932

<211> 1758

<212> DNA

<213> unclassified Eubacterium

<400> 932

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tactatgtat ttatcctggg gtgtatgtht attgcaatag gactggatat gctatatccg	120
cagataacga aaataatagt taatgatatt thtgtagggc aggattatga aagactaccg	180
atgctgcttg tggctatagt attgatcgga gcgggcagga gtatathttgg atatctaaaa	240
gaatttacgg cagataagac cggtgcaaga atcggagccg agatgagaaa ggaactgtht	300
gctcacattc agggacttht aatggattat thcggtcaaa caaacaccgg agaacttatg	360
gcgagggtaa aggatgatat agaccatgtg tggcttgcca tcgggthttat cggaacattt	420

acgattgaag ttgcagttca tgttgtagc gtgctttatt gtatgtttaa tctgaactgg	480
aagcttacgt ttctgccgct gatatgcatg actatatgtg gtattgttgc aatcgtgctt	540
gagaaaaagc ttgataaggt ttatgaagcg ataagcgaag aaaatgctga acttacaacg	600
atagccgagg aaaatccttc cgggtgaaga actgtaaagg catttgcaag ggaaaaat	660
gaaatttcaa agtttctttc acataacaaa aggtactatg accttaatat gtcagaagcc	720
aaaacgatgg taaaatatga tcctgtat	780
tgtactgtac ttggtgggat ttctgtaatg aaagggcaga tggatatagg atcacttgca	840
gcatatgtcg agtacagcag aaactgcaca tggccggtg aagcacttgg ctggcttgta	900
aacagtat	960
tcgtcaattg tggaaaaagc agagcctgtt gttcttgact gtgtaaaagg aaatatagaa	1020
ttttcaa	1080
gtggagcagg ggaaaacact agggataatg ggcgctactg gttcgggaaa atcttcggtg	1140
ataaatctgc ttgaaagatt ttatgatact acagaaggaa ctgtaaaaat tgatggtgtg	1200
gatgtaaagg atctttcact ttcacagata agggaaaata tttcggtagt aatgcaggat	1260
gtat	1320
gaatttgaag gggtaaaaaga agctgcaaag aaagcaaagg caagcggttt tatcgaagat	1380
atggaaatgg aatatgacac tggtataggt gaaagaggcg ttggtctatc cgggtggacag	1440
aagcagagaa taagcatagc aagggccttg tcaaagaaat ctctatact tgtgcttgat	1500
gattcgacat cagcactcga catggaaaca gagcatgaga tacagatcat gctcaacgaa	1560
ctgaaagata caactaagat aataattgca catagaatat ctgcggtaag gcatgcagat	1620
gagataat	1680
gcacaaaaag gagcatacta caatacttat cgtgcgcagt atggtgcagt gcttgatgca	1740
aaaaatgaaa ttgcataa	1758

<210> 933

<211> 1467

<212> DNA

<213> unclassified Eubacterium

<400> 933

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aacactctta	aagttggaaa	agataaaggc	attgaacaag	aaattgccgg	aataatggat		180
aaacttggca	tacctatgga	caaaaaagtt	acgtgggcgg	acaacgcata	ttattatgat		240
gaggataagc	gtcccgga	acacccatat	catgagatgg	gactttatta	tatacaagag		300
ccgagtgcga	tgtcggcagc	agctctttta	tcaccaaagc	ccggcatgag	ggttcttgat		360
ctttgtgcag	caccgggagg	aaagagtacg	cagctttcta	catatttagg	tgatagagga		420
cttcttgtat	caaacgagat	aaacacgcaa	agaagcagga	tcttatcgca	gaacatagag		480
cgcatgggaa	taaaaaatgc	gatcgtgacg	aatgaggaca	gctttacact	tacggcacat		540
tttccgaatt	ttttccatgc	gatacaggtg	gatgcgccgt	gctccggtga	ggggatgttt		600
agaaagcttc	ctgaggctgt	aaacgagtgg	agccctgaaa	atgttgcaat	atgtgccaca		660
cgccagaagg	agatacttga	caatgcggca	gccatgctta	aagccggtgg	aacgattgtc		720
tatagcacct	gtacattctc	aaaagaagaa	aatgaagatg	taatagagta	ttttttgaat		780
gagcatcctg	attttacagt	tgaaaagatg	gagcgcttct	ggccacataa	gcaggatggg		840
gaaggacact	ttgttgcaaa	gctcgtaagg	cggggagaac	ttctgttaga	tgaagatgct		900
tatccacagg	aaaaatcaga	tgttttgtca	gaagatataa	cgggaaaaag	aaagccatca		960
ggtaaatgcg	caggtaagaa	aaataaaaaga	tcaaccgtca	aagaggcagg	gggaatttcc		1020
aaagataata	tggaattatt	aaatgagttt	cttgatatga	cactgacaga	tgatatggct		1080
gactggataa	gaaatggaaa	acttatgatg	tttggtgagc	agctttaccg	cctgcctgac		1140
atacaggtgg	acttaaaagg	gcttaaggta	cagcgtgcgg	gacttcatat	aggagaattc		1200
aaaaagaacc	ggtttgaacc	atcacactcg	cttgcgctgg	ctttaaagag	caatgaggca		1260
aaaaatattg	ttgatcttga	tattgatgac	agccgaacct	ctggattctt	taatggacag		1320
tcagttactc	ttggtgaaga	tcagacacaa	aagtgcaaaa	agggttggac	cttggtatgc		1380

gtggatggat attcggcagg atggggaaaa gtaagtggca tacaggtaaa aaatcattat	1440
ccaaaggggc ttagaaataa aatataa	1467

<210> 934
 <211> 1869
 <212> DNA
 <213> unclassified Eubacterium

<400> 934	
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aagagagtgc accagtattht tcagccgagc catgatgagg gaatcaagaa aagacagatg	180
gtagagcata tcgagtattht tgaatatatc attaccgatt ctgaacttga agctcttggt	240
ctggaatgta atcttatcaa ggaacattgt ccaaagtata atacgatgct gcgtgatgat	300
aagacttatc cgtatataaa agtgactggt ggtgagacat ttccgcgtgt aatgttctca	360
agacagatga aaaaggatag atcgagatac tttggctcctt atacaagtgc aggggcgggt	420
aaagacacga tagaccttat aaataaaaata tatggctcta ggacctgcaa cagaaaactg	480
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ccatgtcagg gatatataac accggaggaa tataacaata aggtaagcgg tgtgcttgaa	600
tttttgaatg gaaattatac accgggtata aaaatgctta cggaaaagat ggagcaggca	660
tctgaagaac ttgagtttga aaaggcagcg gaatacagga atcttctatc aagtgttaaa	720
caggtggcac agaaacagaa aataactaat gcggatggag aggataaaga tataatcgcc	780
cttgccaatg atgacacaga tgcagttggt caggtattht ttatacgagg cggaaagctt	840
atcggaagag atcattttcca tgtccgtgtc ggaaccgaac agtcggaaga taatatactg	900
aataactttg taaaacagtt ttattcagga acaccttht tccaagaga gataatgctt	960
caaaaaaaga tagaggatat ggaaatcctt gaacaatggc tttcggaata gagggggaga	1020
aaggttatca taaagggtcc acaaaaagga atgaaggaaa aactagtga gcttgcaaag	1080
aaaaatgcac ttcttggtgt aagtcaggat aaggaacgca taaagagaga agaaggcaga	1140
acgatcggag cggtaaagga aatagaaaag ctgcttggtc ttagcaattht aaacagaatg	1200

gaagcatttg atatatcaaa tattaatggt tttgagacgg ttggctcgat gatcgtatat	1260
gaaaagggaag agcctaaaag aagtgattac agaaaaattta aattaaagac tatcacagga	1320
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ccggatgtaa taatgatgga tgggtggaaaa ggacagggtta atgtgtgtct tgaggtttta	1500
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agatcaaaaa gccagggtaca ctctgtactg gatgatatcg atggaatagg accggcaaga	1740
agaaaggctc ttatgagaag ataccagtcc atagagaaaa taaaagatgc atctatggag	1800
gatcttgcta tgacagaatc aatgaatgag gcagcggcag ctgcggtata taaatTTTTT	1860
caccataa	1869

<210> 935
 <211> 1263
 <212> DNA
 <213> unclassified Eubacterium

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ggagatccag atggaaatat agaggaggct ggcacagatg aatctggaaa ctcgcagatg	180
gtcacagtta aaacccccacc acttgagtac tctatggagc cgaatgaagc ccagccatat	240
tcagaagtta ctgttacggg atcggcgcag ggctatagag agattacggg ctcaggagta	300
gagggtacttc caaatgaaac ttcaatacag gaaatagagc tggaggctct tgatgctccg	360
gggaatccga tagataatat tgtgatcccg gctcatacac tctatgggga ttacccggca	420
aaaattcccg aggcagaggt taagtctgta aacgataccg gtgagatcgt attaagccgt	480
gtagtcattc cggaatttgt tatagtacac gatggagttc ctactgatcc aacagcaaaa	540

aattattata tcagatatag ggattatata aaaaatgtcg catcaagcga aatttatgct	600
acatggccgg atgctgctat cagagctaata gttcttgcaa taatgtcttt tacgctgaac	660
cgtattttata cggaatggta tcgggggaaa ggttacaact tcaatataac gtcacccaca	720
gcttacgatc acaaatttat atacggaaga aatatataca cgaacatatc aaaaattgta	780
aacgaaatgt ttgaaaacta tctttcgcgg cctaattgtaa cacaaccgat acttacacag	840
tattgtgatg gacagaaggt atcatgtcca acgtggatga cccaatgggg gtcaaagaat	900
cttgagatc agggttacag tcctatcgaa atcttaagac acttctacgg aagcaatatg	960
tatataaatg tagcggaggg catatcgga attccggcat cgtggccagg atatgatctt	1020
acagtaggat cacgcggaaa taaagtatac cagatgcagc agcagctggc acgtatagca	1080
aaatcatatc cggcaattcc agcgatcgta ccgatggga tatacggaaa taaaacgaag	1140
gaagctgttg aaaaatttca atcagttttt ggtcttccgg ttacgggaat tgtggattat	1200
aatacatggg atgaaatatc aaatatattat gtggcagtca caaggattgc tgagcttatg	1260
taa	1263

<210> 936
 <211> 1506
 <212> DNA
 <213> unclassified Eubacterium

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tcacaggctg cgggtttact gcacaatgcg gtaagcatgt acaaaaaggc tgaatgtcag	180
gaaaaagtgg caaacagtct taatatgctg ggtgttgat atgctgcttt gggcgatagc	240
gggatgtcta tggattgtta tatagaagca ctggatattg cattggaaaa tggatacagt	300
gatataatca tgcttttata taacaatata ggctctaaat atcaggaaat aggcagacac	360
gataaagcta ttgtgtatth taaaaagtcg atcctggaac tgaaaaaact catagtacgt	420
gaaaagaagt cactactacag atggctttta ttctcaaata ttaacttatg tatttcttac	480
accggaatgg gagaatatga tctggcagaa aagtatttaa atgaggcact tgcttacagc	540

gagatcga	aaa	aagaccaaga	tagcatcttt	tttattgata	tagcacaggc	acagcttttc	600
tgggatat	gg	gcgtgagga	tgaagtgcgg	cagcatgtag	atgagcttgt	tgaaggagca	660
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cgtgcgat	c	gagaagtgga	taaatacaac	gaactttgca	tacaatatgt	caatctgcat	900
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acgcagaat	g	gtggccttac	tataggtata	gttgatattg	atttctttta	agcattcaat	1140
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aagaaaaaga		agatcataaa	tccgggttcg	aaaatagata	aatatcttac	agtttcgcag	1380
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gttgacacag		cacttgacag	tgtaaaaaga	aacggaagaa	acgcatatat	aatcggtaca	1500
tattaa							1506

<210> 937
 <211> 744
 <212> DNA
 <213> unclassified Eubacterium

<400>	937					
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gatgtgcagc	ttacaaaaga	tgatgaaatg	gtagtgatac	atgatgaaac	cattgacagg	180
gtaagcgggtg	agagcggatt	tgtaaaaagat	ttcactttga	aagaattgaa	ggcgcttgat	240

gtatcaaagc atatgaaaga atatgacaag aaaacaacga taccaacact tgaagaagtg	300
ttcgaagtgc taaaagacac aaatatgatg ataaatatcg aactgaaaaa cggcgtgata	360
ttttacaaaa atcttgagga aaagggttata aatctaatag ataagtataa aatgatggat	420
cggatatggg gctcatcatt taatcatgag tctatagtca gggtaaaaaa gttatgtcct	480
gatatgaaat gtgggctgct gttttctgac atagttgtaa atcctgcgga atatgctcat	540
aaccttcattg tggaggctct tcatccggca gtatatcata tgcaggatga aaaatatatc	600
gaaaaggcgc atggcaggga tctcgaaacg catatatgga ctgtaaatga taagaaatac	660
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atcggggtag tgaaaaaaat ataa	744

<210> 938
 <211> 657
 <212> DNA
 <213> unclassified Eubacterium

<400> 938	
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acaagaaatc caagaccggg tgaagagcat ggcagggaat atttctttgt cacaacagac	180
gaatttgaag atatgataca aaagggtgcg ctgctcgaat atgcaaaata tgtaagcaat	240
tattatggaa cgccaagatc atatgtagaa gaacagttaa atgccggaaa aaatgttata	300
cttgagattg aaatacaggg agcattgaaa ataaaacaaa ggtttccgga tacacttttg	360
atgtttgtat gtgcgccaag tgcagatgaa ctgaaaaacc gtctaataagg aagaggcaca	420
gagagtgagg atgtatgcag gcagcgtctt agcaggggcat atgaggaatc gctcggaaata	480
gaaaattatg attatttagt ggtaacgat gagatagata aatgtgtaga acttgtggat	540
gacatcataa aaaatgatgg attaagcaac aaaaacgata atcatcgtat atcatcaa	600
atagatttta taaaagaaat gaaaaatgag cttttaagct tttcgaaagg agaataa	657

<210> 939
 <211> 1212

<212> DNA

<213> unclassified Eubacterium

<400> 939

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tttccacttt ctaattgtgt aaattccgga attgatacag tgggaattct gacacagtat	180
cagccattta ttctcaatga atatataggt aacggacaac cttgggatct cgatagaata	240
tacggagggg tgcatgttct tccaccatat cagaaagcat caggttcaga ctggtataaa	300
ggaacagcaa atgcgatata ccagaatatt gcatttatcg aaagatatga tccggagtat	360
gttattattt tatcaggaga ccagatctgc aagcaggact atagtgattt cttacgcttc	420
cacaaggaga aaaatgcaga attttctgtt gctgttatgg aagtcccatg ggatgaggca	480
tcacgttttg gacttatggt agcagatgat gatgacaaga tcacagaatt tcaggaaaaa	540
ccgaaaaatc caaaatctaa tctggcatct atgggtatat acatatttaa ttgggatata	600
cttaaaaaat atcttattga agatgaagca gatccggact cagagaatga ctttggtaac	660
aatataattc cgaacctttt aaaagatggc agaagaatgt atgcatatca tttttctgga	720
tactggaagg atgttggaaac tattccttca ttatgggaag caaatatgga ggtactcgat	780
ccggaacaca gtggaatcaa tctttttgat gagaactgga aaatatacag cagaaacagc	840
ggacatacag gccattttat aggagaacac gcacagggtca aagactcaat gataactgat	900
ggatgtgtga taaagggaaa tgttgatcat tccgtattat tcagcggagt ggttggtgag	960
gaaggcgcat gtgtagagga tgctgttgtc atggggaaca cagtgatcaa aagaggcgca	1020
aaagttatgc attgtatcgt tgccgagaat gcagtgatag gtcaggatgc tgttgctgga	1080
atgaaatctg aagatggcaa aacaggagac gtagctacta tcgcaccata tgtgactata	1140
ggtgaccgag cagtgatcgg accaaaggca atggtctata atgatgtaga ggagggacag	1200
gagcaatgtt aa	1212

<210> 940

<211> 1245

<212> DNA

<213> unclassified Eubacterium

<400> 940

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aatttgaccg ctgccaggat ctgtgccctt gtacaggaaa aatatccgta tgtcacaggc      180
agcagcatag cagaaatttt aaatgataat gtatcagaaa aatatgatga taacggaaaa      240
gaattcatgc aaaagtatgg gatagatatg gagtctgatt cagtgatcat ggaaaacgac      300
aaagaaatga aaagatttat aactatagat atagttgctg tagtatttat gtcagccggt      360
tttttggggt acatttttag tcagcgcaga tattatgaaa accagataag ccatatgacc      420
gcctgcttaa ggaggataaa tgagggcagt tacatgctta agatggacga cagcaaggag      480
ggggcagttt ccatacttaa aagtgaatta tataaaacag cggtaatgat gcgtgaggcg      540
gcagaaaatg aaaaagcaga caagataatg cttaaagatt ccttttctga tatttcacat      600
caattaaaaa ctccgcttac atcactttca ataaatcttg aaaatttaga agacaatccg      660
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atttcacaca tggtttcggc aatccttaaa ctgtcaaggc ttgaagcgga tgttgtcgag      780
ttcaatgaaa aagaaacaaa gctttctgac ataacagaaa gcgcagcgga cagagtgcg      840
gcactttgtg atcttaaaga tataagtctt aagatcaaaa aagacagcga cagaaatgca      900
gtggttttatt gtgacagtta ctggcagaca gaggcgggta caaacatagt taaaaatgca      960
gttgagcatg cagcaaaaaa cgtggcaata ggatattata gttatgaaat gtatgatgag     1020
atcgttgtcg aaaatgatgg cagggcgata agcgatgagg ataagaaaaa tatatttaag     1080
cgctttttaca gggggcagga ctttgctgca gacagcgtag ggataggatt atcacttgcc     1140
gagtcgataa taagacatga taatggatat gtaatggttg atgatctatt taatgaaaaa     1200
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<210> 941

<211> 801

<212> DNA

<213> unclassified Eubacterium

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 aataaagtta atatatatga tattccaata gtggaaataa ccagccagta tatggaatat 180
 gtagcagaga tgaaacgcag ggatcttgat gtccttagtg agtttttagt gatggcagct 240
 acacttattg acataaaaatc caaaatgctt cttccgagga ccgaaaaaga agaagaggaa 300
 gaagaagatc caagggcaga acttgtacag cagcttcttg aatacaaaat gtataagtgt 360
 atggcatatg aacttaaaga tcgtcagatg gacgcagaaa ggatcatgtt taaacagcct 420
 acgattccca aagaagtgct tgcctatgag gaaccacttg atctggatga actgggtgtcg 480
 gatgtcacgc ttaagaagct taatgatatt ttccagaata taatgaaaaa gcaggctgat 540
 aagatagaca aggtgagatc aaaattcgga aagattgaaa aggaagaggt atctttggag 600
 gataaaatgg attatctgac aaattatgcc actaccata aaaatttcag tttcaggaat 660
 cttttggagt cctcaagtgg aaaaatagaa gtgatagtta catttcttgc gattcttgag 720
 cttatgaaga tgggaaggat aaacatatcg caggaacata tttttgatga catacttata 780
 gaatcaagaa ttgctgcata a 801

<210> 942
 <211> 1497
 <212> DNA
 <213> unclassified Eubacterium

<400> 942
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 cttgcttata ttgaagtaac ctttccaggt ggtaagcttg cggacagtgc attttccaag 180
 ctttcagatt ttctcatgac gattgatgaa gaaaatgtaa aaagcacgat tgaaaatgac 240
 aaagcatgta tatcggagct tgcactcaag tacacaatgg aggaaagcgt acagataatg 300
 ctgacaggcg atgcagtaat gtttgtcgat ggctgcggat ttgcaataaa aatcccggga 360
 agtggatatc ctgcaatgtc tgtgcaggag accgattcag agaaggatgat aagaggatca 420

aatgaagggt tttcggattc aataaagaca aacactgcgc ttataaggag gaggctgcga	480
agcaccggat taaaatgccg tgaaataaat aaaggagtaa gaagccacac aaacgtggat	540
ctgctttttg taaaggatct cgtaaaacca ggactagtaa gccgcataca gcatcttttt	600
ttacaatttg aaatagacca gatagcggat tctggtgtcc tcgaacagtt tgcagagaaa	660
aaatggtatt caccatttcc acagatacag acaacaaaaa gaccggatgt agcggtaatg	720
gctcttcttg agggcagggt agttgtctta agcgataatt caccggttgc aataatcctt	780
ccggcaacaa tgaacaattt tcttaaaact gctgatgatt attataatag aacgatagcg	840
gcaagctttg caaggcttat acgctatgtg gctgctttta tgtcaatgac actgccgggg	900
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cttgcatthg aacttttgag ggaagctggg ataaggcttc cgggagcaat gggaaataca	1080
ataggaatag tcggaggact tataatagga caggcggctg tggatgcaaa cttgtcagc	1140
ccgatagttg ttattctggt tgcgtttact gcgctgtgtt catttgccat accaagtga	1200
gaatttgcgt tttcattcag gatattgaaa tttgcagtga taataatgtc tgcattggctt	1260
ggatattttg gatttctcat aacgatatac tgggttctgc ttcattttac gaagctaagg	1320
agctttggct atccatatat gatgccgttt gttggggcag aattaaatgg atatgaggat	1380
gagaaggaca gcataatacg gtttccgctt agaaaattaa aaaaacgagc gatattcgct	1440
gatgaaaacc agagaacaaa gcttaaattg aaaaacaaag aacgaagaaa agaatag	1497

<210> 943

<211> 1455

<212> DNA

<213> unclassified Eubacterium

<400> 943

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acaatgagtg cagcggacaa cggcaatgcc gtagaaacag catcaataag cggctgggtca	180

gacagcgggg atacacatac ggcaacgata acgtttgcaa aggatgcggt atacacctgg	240
gcaatgtcat acacagacaa ggcaggaaac aaagctgaag acctgtcaaa ccagaacttc	300
tgcatagacc ttacaaaacc atctgtaagc ataagcggta tcacacctgg ctctgcaaac	360
agctcacagg gaaacatagg gtttgtggtc gaatgcatgg acacaaactt tgacacattt	420
acacctgtac tttcagcagt tgtatatgaa aacggaaaat ttgtaaagaa gacagttgag	480
ggaaatgtaa catccatcgg aaacggccag agagtcgagt atggaaacct tgaggaagac	540
ggaatgtatt cgttcacatg cagcgccgca gacaaggcgg gaaatgtgta tgatacagta	600
aacataacag atgcacaggg aaacgcaaag actttgaacc tgcaggcagg tgatgatctt	660
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gtggtaaagt accattacat acaggaacag acacaggata tcgtgcttgt ggagacaaac	780
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<210> 944
 <211> 1449
 <212> DNA
 <213> unclassified Eubacterium

<400> 944

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tcaaaagcaa acagcgccat tgtccatgcc ggctttgatg ccaccccggg cactttaaaa	180
gcgcagttaa atgtagaagg aaattcaatg atggacaagc ttgcagaaga acttgatttt	240
ccgtttaagc gtaacggctc cctcgtaata tgcaccgaac cttctaactt tgaaggactg	300
gaaaaattat atgataaagg ccaaaaaaac aatgttcccg gtctaaagat cataggccgt	360
aaagaactta taaatatgga gccaaatgta tcagatgatg catgttttgc attatatgcg	420
cctaccggcg gaattgtatg tccattcaac cttacaatag cgcttgctga aaacgcatat	480
acaaatggaa tcaaattctt actggacaca aaagtagaca acataacacc agcgtctgaa	540
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gtcataaatg ctgctggtgt ttatgcagat gagataaata atatggtaag tgcccataag	660
ctgcatataa cagcaagaaa aggtgaatat atgcttctcg acaaacagc cggggatcat	720
gtaaaacata caatattcca gcttccgggc aaaatgggta aaggaatact tgtaactcct	780
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gaatctcccg gactttcatc cgcacctgct atcgggtataa tggttgcaaa aatggtcgct	1080
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ccttcaagtc tgagtatcga agatcgaaat gcacttatca aaaagaatcc tgcatatggc	1200
aatattatct gccggtgcga aatgataaca gaaggcgaga taatagattc tatcagacgt	1260
ccgctcggcg cacgttccct tgacggcata aagcgcagaa cccgggctgg aatggggcga	1320
tgccaggccg gtttttgttc cccacgtaca atggaaatat tagaacgtga ggttcctatg	1380
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<210> 945
<211> 2847
<212> DNA
<213> unclassified Eubacterium

<400> 945
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tcttttttcta atgtcagtac acaggagctt aaagattttg aaaataaccg gagcatagaa 240
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aaaccatatg cgtatgtaga ggccacagat gagaatggat ttaaaaaggc cggttttaat 360
ctgattgagg gcagaatggc gcaaaatgat aatgaaatag ttataccgag acatttaaaa 420
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cgtgtttcag aaagcgcttt gtcagatgaa gaaagtaacg gagataacgc cctaacgtca 540
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ccatatttaa atgatgggga agaattaacg gatacagttt caaaaacata taaggttgtc 660
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tcagtcacat ttattgtgac atcatatctt atgtcaatgg catatcatct tgttgaaatg	1620
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gataaggaaa taaggctctt taactataag gccggggata cgatttcact tggatatacg	2040
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ggaatggagc ttagaaaacg tgagtttgca acgctaagaa gtattggaat gacagataaa	2580
cagtttaca aaatgatcag actggaaagt ctttttatct ctgtaaaagc acttataata	2640
ggaattcctg ccggacttat aatatcatat atcatatgca ggattgaaaa caggctggat	2700
acagtcatca tatatgatcc gccggccggt gctgtctgtg catgtataat agttgtaata	2760

ttgctcattt atgctatcat gtttttatct atggaaaagt taaaacacaa caacatcata	2820
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<210> 946
 <211> 933
 <212> DNA
 <213> unclassified Eubacterium

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aataaattaa taaacaaaat tacaaagtgc agatTTTTtag tacctgcaaa tgtaaacgaa	180
cagaaacagc caatgccgct tggtataaaa aacagtaatg gcgaatcctt ttaccgatt	240
tatacatcaa aagagcagct gccaaagaat aaaatatctc cagctgtagt caatatgcc	300
tatcttgcaa taaacaatat ggcttcaaaa aaagaaacca aacttgacgg agtagttttc	360
aatccgttca gtaataatct tattttttaa agaccacttg ttgagaaaat agagacagtt	420
gagaaggcca gaagagaagg taaaaaggcg aaaactgtac agatgacaga gcagcagtat	480
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gaggaatcat atcagcagaa gagaatgtac ccgtatcttg atgaggattt ctctgtaatg	660
gtaatgcaga tctcagatga tcttactgtg gtaagtgtag acttcccaac aagggatttt	720
gcaccgggat gtgcgcagag agcatatctt gcatggaata aggcagataa tgccggcaga	780
tattttacta cagatcttac aagggaagac acgatagagc ttatagaaat aggtgctgat	840
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gatcttataa gtgacgggga aaaacttaat taa	933

<210> 947
 <211> 1674
 <212> DNA
 <213> unclassified Eubacterium

<400> 947

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gtaaatttgt tcacacgtcc gagacgtttt ggaaaaactc ttaacatgag tatgttaaaa	180
agcttttttg aaattggaac agatagttca ttgtttgagg gtttatatat ttcaaataat	240
acagagttgt gtaatgaata tatgggaaaa tatcctgtta tttttctatc gcttaaaggt	300
gtagatggat tgacattttc caaatcaaag gaaatgctgt ctgaaataat taaagaagag	360
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tttcaaagta ttctgactgg aacagatgag aatatagaaa acagtctgaa gacattatcc	480
agatttttgt ataaacatta tgacaggaaa acaataatta taattgatga gtatgatgtg	540
ccgctggata aagcgtttca gaatgggttat tataaaagaga tggtcgctgt gatcaaagga	600
atattcggac aggcattaaa aacaaatgat tttttacagt ttgctatttt gaccggatgt	660
cttcgcattt cgaaagagag tattttttaca ggacttaata actttgaggt tttatcgatt	720
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ggagaatata tagaaaaaga aatttcacag gaactgactt acgaagaact tgatgataag	1080
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 <211> 1479
 <212> DNA
 <213> Bacteroides ovatus

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 <211> 2205
 <212> DNA
 <213> Bacteroides ovatus

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 <213> Bacteroides ovatus

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gagcagcagt tgggtggctga catcactatg aacgtaatca gtcagtttac tactcctact	180
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 <211> 2529
 <212> DNA
 <213> Bacteroides ovatus

<400> 956

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 <211> 1260
 <212> DNA
 <213> Bacteroides ovatus

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<210> 958
 <211> 1761
 <212> DNA
 <213> Bacteroides ovatus

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1761

<210> 959

<211> 2532

<212> DNA

<213> Bacteroides ovatus

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acaccgatca gcgatccgga ctttaaagct gaagctaaag ggattctcaa tttaggtatg	1200

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<210> 960
 <211> 1575
 <212> DNA

<213> Bacteroides ovatus

<400> 960

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agttttcatc ggctggcaca tttaacaattt attccagcca tcctttcact aagtataggt	180
atcttattat ttctcattgt gttaacgctt ttattcgggc gtgtatattg ttctacaatc	240
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aaaaaaaaat atagttacag tcctgcaaaa aacaaattgc gctgggggtgt gctcggactg	360
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gcgtatggac gtgtagtagt gcacatatc aaacctatct atatgctggg gaataatctg	480
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cccgtacaaa aagaagcaaa accattcaaa gaaagcgaag agcacaaaagt tgagatagac	1560
gatttcggat tctga	1575

<210> 961
 <211> 1815
 <212> DNA
 <213> Bacteroides ovatus

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gaatgggcaa acagtccaag ttattatcgg aagcgtacac ttctacgcat cctcccgaca	660
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cagattcttc tactgaaca gaaagaaatg caaagtcata tactgcaaaa gttaaaaacg	900
gaacttacia gtcagaatca aaccgcttct caagcagtac gccagctttc aaaactgatg	960
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cggaattact gtttcgaagc tgacatcacg aacaacgaac tcaccttctc ttaccaaag	1740
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<210> 962
 <211> 1500
 <212> DNA
 <213> Bacteroides ovatus

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ttggaagacc gtatccatgc tgaactgctt gaaaatccgg cacttgaaga aggtaaagaa	180
gagaatgcta cggataatga atattccgat accgagaatg cagaggatgg catggatagc	240
gatgccaatg actatgattc tttgagtgc tatctgacag aagacgatat tcccgattat	300
aaattgcaag agaacaaccg ttcgaaagat gaacaagcgg aggatattcc attttccgac	360
tccacctctt tttatgaaat cctgaaagaa cagttgcgtg aacgcaacct gacagagcac	420
cagtgtgact tgggtggaata cctgatcgggt tcattggatg atgacggatt gcttcgcaaa	480
tctttggaaa gtatctgcga cgaactggcg atttatgccg gtatcgaatc gaccgaagaa	540

gaactggaag aagcattgaa catcttacag gacttcgatc cggcaggat	cggtgcgcgt	600
agtcttcagg aatgtctgtt gatacagatt cgccggaaaa aagaagaaga	gaaaactccc	660
agtcctatct tgaatctgga agaaaggatt atcagagaat gttacgaaga	attcaccctg	720
aaacattggg agaagattat aaagaaactg gatattgatg aagagacttt	ccaggaaacc	780
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cccctgaccg atgatgaatt ggcggatata ttaaaggaga aaggttatcc	cattgcccgc	1440
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<210> 963

<211> 2013

<212> DNA

<213> Bacteroides ovatus

<400> 963

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caaacccttt cagatTTTgc atcgggtat ctttattttg gattgcatcg	caccgataag	180	
gggtggactt tccgtgaatg ggctccta	gctactcata tttatatggt	gggtacattt	240
aataattggg aggaaaaagc tgcctacaag ctgaaaaaac	aaaagaatgg tatttgggaa	300	

atcaacctgc cggcggatgc cattcatcat ggcatctct acaaactgaa tgtatattgg	360
gaaggcggac aaggcgaacg tattcctgcg tgggctacac gtgtggtaca ggatgaacag	420
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ctcaagagtg tgaaagattt ccaggcaaca cctgttcagg aaatatggca taatgatggc	1740
gatcaggatg tggcatacga acggaaagac cttatatattg tctttaactt taatccaaag	1800

cagtcattca ctgattatgg attcctggta actccgggag cttatgaagt gatactgaac	1860
accgacgatg tagcatttgg aggaaatggg ttggcagacg actctgtcgt gcacttcact	1920
attaccgatc cgctgtacaa gaaggaaaag aaagagtggc tgaaactcta tattcctgcc	1980
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<210> 964
 <211> 2310
 <212> DNA
 <213> Bacteroides ovatus

<400> 964	
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acacaatcat cttttgaatt atcaacaggt aacacctacc ctgccattgc ccgcccttgg	180
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gttcccga aaactcaagaa ctattttatt attcaattcg ataagccttt cacctataaa	660
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<210> 965

<211> 1563

<212> DNA

<213> Bacteroides ovatus

<400> 965

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gagacaggcg gccgggaaga tcgagtgatc tcttttcccg gagctgaagg acacggtaga	180
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tcgcagggga ctttacgttg ggctttgaaa caaaatggac ctaaaacgat tgtctttgat	300
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<210> 966
 <211> 2004
 <212> DNA
 <213> Bacteroides ovatus

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gaacttcagg atctggaaca agcacatccg gaatataaag atgaaaattc acccactatg	180
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<210> 967
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 <213> Bacteroides ovatus

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<210> 968

<211> 2151

<212> DNA

<213> Bacteroides ovatus

<400> 968

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<210> 969

<211> 3156

<212> DNA

<213> Bacteroides ovatus

<400> 969

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<211> 1068

<212> DNA

<213> Bacteroides ovatus

<400> 970

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<210> 971
 <211> 2022
 <212> DNA
 <213> Bacteroides ovatus

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<210> 972
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 <212> DNA
 <213> Bacteroides ovatus

<400> 972

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<210> 973

<211> 1176

<212> DNA

<213> Bacteroides ovatus

<400> 973

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<211> 1782

<212> DNA

<213> Bacteroides ovatus

<400> 974

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 <211> 2904
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 <213> Bacteroides ovatus

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 <211> 2124
 <212> DNA
 <213> Bacteroides ovatus

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<210> 977

<211> 2577

<212> DNA

<213> Bacteroides ovatus

<400> 977

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 <213> Bacteroides ovatus

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 <211> 1554
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 <213> Bacteroides ovatus

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<210> 980
 <211> 2310
 <212> DNA

<213> Bacteroides ovatus

<400> 980

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<210> 981

<211> 2148

<212> DNA

<213> Bacteroides ovatus

<400> 981

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aagcctgttt atacaaaaga agacctcgaa ggaatggaac accttggcta tgctgccgga	180
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cgccagtatg ccggattttc taccgccgaa gaatcaaatg cattttatcg ccgtaatttg	300
gctgccgggtc agaaagggtt gtcagtggca ttcgacttag ctactcaccg cggttatgac	360

cccgatcacg aacgtgtagt gggtgacgta ggtaaagccg gtgtatctat ctgttcattg	420
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cgtaatactt atatttatcc gcctgcattc tctatgaaga ttatttctga tattttcgaa	660
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gaagcaggcg caaccgcgga tatcgagtta gcttatacat tggccgatgg tttggaatat	780
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ctgaagaaac tgggtcgcga agacattgta gtgattgccg gtggtgttat tcctgcacaa	2040
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<210> 982
 <211> 1068
 <212> DNA
 <213> Bacteroides ovatus

<400> 982	
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gataaaagga cgatgaaaaa gaaaactatg atagtattaa tgagtgcctt tttgttatta	120
tcagcattct cttgcgggtg aggtacaag gcaaatagta cgagtgaaca agacgaaaag	180
acagttgtga atgtacctca gtttgatgcg gatagtgcctt atttgtatgt aaagaatcag	240
gtagatttcg gacctcgtgt tcctaacact aaagaacatg ttgcctgtgg caattacctt	300
gccagtcaat tagaggcttt cggtgctcaa gtgactaatc aatatgctga tttgattgct	360
tatgacggta cgctgttgaa agcgagaaac attatcggtt cttataagcc ggaaagtaaa	420
aagagaatcg ctttgtttgc acattgggat acacgcccac gggctgataa cgatcctgac	480
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ttgctcgaaa tagctcgtct ggtcaatcag caacaaccgg aattggggat tgatatcatt	600
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tttaccgccg catggcatat tgtcaatgac aatatgaaac atattgataa gaatacgttg	1020

aaagcagtcg gtcagacggt attggaagtg atttacaatg agaaataa 1068

<210> 983

<211> 1467

<212> DNA

<213> Bacteroides ovatus

<400> 983

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gaaaagccca atttcctgat tatccagtgc gaccatctga cacaacgcgt tgtgggagct	120
tacggacaaa cacaaggctg caccctccct attgacgaag tcgcttcacg aggagttatc	180
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ggcatgatgc ctcatcaaac caatgtacgt tccaactcca gcgaacctat caaccacgt	300
attcccgaag atgtaccgac attaggaagt cttttttctg aaaacgggta cgaagccgta	360
cacttcggaa aaacgcatga catgggttca cttagaggat tcaagcataa agaaccagta	420
gccaagccat tcaatgatcc ggaattcccg gtcaataacg acagcttcct ggatgtagga	480
acatgcgaag acgctgttgc ttatctaagt aatccgccgg aagaaccatt catctgtatc	540
gcagattttc agaaccctca caatatctgt ggattttagt gagcgaacga aggagtacat	600
accgaccgcc ccattagcgg aacccttccg gaactaccag ccaatttcaa tgtagaagac	660
tggagcaata tccctaaacc tgtacaatac atctgtgca gtcacgccc catgaccag	720
gcctctcatt ggaatgaaga gaattaccgt cattacattg ctgctttcca acactatacc	780
aagatggttt ccaagcaagt agacagcgta ttgaaagcac tttactccac tcctgccgga	840
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tacaagtaca ctcactatct ggaaggtaac ggagaagagc tatatgatat gaaaaaggat	1260
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cgtgccatgc ttgatgatta catcgcccgcc accaaagacg attaccggag tttgaaagta	1380
gatgccgatc cacgatgcag aaaccatact cccggctacc ccaaccacga gggccctggg	1440
gtacgagaga tactcaaaaag aaaataa	1467

<210> 984
 <211> 1566
 <212> DNA
 <213> Bacteroides ovatus

<400> 984	
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gccaataaag caccggaaaa caccacaccg acaaagtcaa aaacacccaa cgttgtat	120
atctacgccg acgatctcgg ctacggcgat ctggaatggt acggagctaa aaacgtacag	180
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gccgccacca gcaccccttc ccgctactcc atgctaaccg gagaatacgc atggcgcaaa	300
gaaggaacgg atgtagcggc aggaaatgcc ggaatgatta tccgtcccga acaatacacc	360
atggcagata tgttcaaaaag tgtcgggttac accactgccg cagtaggcaa atggcatctg	420
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gatttaggtt tcgactatca ttacattatg gcagccacag ccgaccgtgt accctgtgta	540
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aaaggcgggtg gaaaggcgct ctggaaagac gaaaacattg ctgattcact taccacacac	780
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gacggaccga aaatgattca atggggaccg aagatagaaa ccggaaactc taaagaaccc	1440
cagctttata agatgaaaga agtgaaagag gtaaccaact atgcaaagaa tatgccggag	1500
aaagtggcag aactgcaaag tatccttcaa agcgtacgcg aaggaaaagga cttaatcggg	1560
aaataa	1566

<210> 985
 <211> 1458
 <212> DNA
 <213> Bacteroides ovatus

<400> 985	
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ttaagagatt ttgaatttgt gctgaacggt gcatacagca gtatgcagtc atccagttat	180
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gaaaagataa agcttggtcc cgatcgggaa attacaactc cgaaactgga gaagctgaca	420
gagcaggagt attataatga cttgaaagga gaggctttgg caatacgtgc cttgttgctg	480
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gtgcccatta ttgataaagt ggtagaagat aagaatatca aaccttcccg caatacgacc	600
gccaatgtt ataaggccat cacagacgac ctgacagatg cggtagaagct gcttcgtccg	660

gtaaagaaaag agggtaagat caataaatgg ggggcaatga cattattaag ccgggtttat	720
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gaaaaacaag gctataagtt gtggaccaat gatgaatatg ccaagatatg ggctactccg	840
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gaagattatt tgagcgaagt tccaatgaa gcggtagagt ttgattggag ttattataaa	1380
atcgttcttc ctgttcctaa ccacgaaatg gagtacaatg agaatatggt tcagaatccg	1440
gaatatgaat tgcattaa	1458

<210> 986
 <211> 1407
 <212> DNA
 <213> Bacteroides ovatus

<400> 986	
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aagaaacttt ccgatttact ctttatcctt tatgcgggag gagcggcact gctatcctat	180
tcattaggct acgcactacg caaacggttc accgccgcca cgttcgacgg catggaacta	240
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<210> 987

<211> 2652

<212> DNA

<213> Bacteroides ovatus

<400> 987

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aatctactgg aaaaagtccc acaggagaaa ctctacttac atctggacaa gcccttttat	180
ggggcaggag aaaaaatatg gttcaaggga tatctggtaa actctgttac acatcaagat	240
aatacacaaa gcaacttcat cattacagag cttgtcaacc gttccgactc tattgtagaa	300

cggaaaaaga tccgtagaga ttcattgggt tttcataatg ctttcaccct ccctcccact	360
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gaattctttt attcacgcaa tctgaaaatc ggtaattcga ttgataatac gattgtttca	480
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attaaagata aaggtaaaaag aaagacagac gagaatgggt tgatttctat ttccctgccg	660
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 <213> Bacteroides ovatus

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 <211> 2040
 <212> DNA
 <213> Bacteroides ovatus

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<210> 990
 <211> 1575
 <212> DNA

<213> Bacteroides ovatus

<400> 990

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<210> 991
 <211> 3183
 <212> DNA
 <213> Bacteroides ovatus

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 <211> 1440
 <212> DNA
 <213> Bacteroides ovatus

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<210> 993

<211> 1581

<212> DNA

<213> Bacteroides ovatus

<400> 993

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<210> 994
 <211> 972
 <212> DNA
 <213> Bacteroides ovatus

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cctgtagtac ttccatcgcg tagtgattcc ggcttgtcca aatattacag cattgcaatg	900
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<210> 995

<211> 1143

<212> DNA

<213> Bacteroides ovatus

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<210> 996
 <211> 2637
 <212> DNA
 <213> Bacteroides ovatus

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gatatttttag ttcgtcgtgc ccgtatggaa ggcaagaatg cctgctgggt accgggaact	240
gaccatgctt ctattgctac tgaagctaaa gtagtaaaca aacttgctgc tcaaggcatc	300
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<210> 997
 <211> 1536
 <212> DNA
 <213> Bacteroides ovatus

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gattttctgc aatccttttc cagcgataag attatttatg gtatcaatac ggggttcggc	180
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cgaagccatt ccaccggcgc cggcaaaccg cttcccgaac tttatgtaaa agcagctatg	300
attgcccgtt tgtacacttt tctacaaggg aagtcaggag tgcattctgga actggtttct	360
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<210> 998
 <211> 1152
 <212> DNA
 <213> Bacteroides ovatus

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aaaggggtgg aagtggtgaa aggaaaagatc actctgaatg acttacctgg aatcgggtgc	1140
atgaaaaatct ga	1152

<210> 999
 <211> 1551
 <212> DNA
 <213> Bacteroides ovatus

<400> 999	
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gaatatgcat accgccgtta tgcggaacgt tcaaatgcca gactttcgtc caaagagtat	180
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<210> 1000

<211> 1389

<212> DNA

<213> Bacteroides ovatus

<400> 1000

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<210> 1001
 <211> 1452
 <212> DNA
 <213> Bacteroides sp. CAG:144

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<211> 1194
<212> DNA
<213> Bacteroides sp. CAG:144

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 <213> Bacteroides sp. CAG:144

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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2532

<210> 1011

<211> 1905

<212> DNA

<213> Bacteroides sp. CAG:144

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 <211> 1368
 <212> DNA
 <213> Bacteroides sp. CAG:144

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gactatattt ttatacagg agggcctgtc tacggacgta aagtggccga ggccggcagcc	600

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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tacggcgagc gtcagaatgg aaactataac cgtgctgata actaccaaag cggatataac	360
cgaacaact acaacaatcg ccgcccgttc cgttccaaca acgagacaaa cgaagagacc	420
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<210> 1014
 <211> 1812
 <212> DNA
 <213> Bacteroides sp. CAG:144

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<211> 1452
<212> DNA
<213> Bacteroides sp. CAG:144

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<210> 1016
 <211> 1131
 <212> DNA
 <213> Bacteroides sp. CAG:144

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<210> 1017
<211> 1605
<212> DNA
<213> Bacteroides sp. CAG:144

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 <211> 1272
 <212> DNA
 <213> Bacteroides sp. CAG:144

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 <211> 2169
 <212> DNA
 <213> Bacteroides sp. CAG:144

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 <213> Bacteroides sp. CAG:144

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<212> DNA

<213> Bacteroides sp. CAG:144

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<213> Bacteroides sp. CAG:144

<400> 1022

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 <211> 1392
 <212> DNA
 <213> Bacteroides sp. CAG:144

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<210> 1025

<211> 1800

<212> DNA

<213> Bacteroides sp. CAG:144

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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<210> 1028

<211> 1587

<212> DNA

<213> Bacteroides sp. CAG:144

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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<210> 1031
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<210> 1033
<211> 1431
<212> DNA
<213> Bacteroides sp. CAG:144

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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 <212> DNA
 <213> Bacteroides sp. CAG:144

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<210> 1037
 <211> 2925
 <212> DNA
 <213> Bacteroides sp. CAG:144

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 <212> DNA
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 <212> DNA
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<210> 1041
 <211> 1494
 <212> DNA
 <213> Bacteroides sp. CAG:144

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tacaatcgca ataatcgggc ggtacgaatc gaatcggtag gtctggccga tgccgaacat	300
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agtgcacagg acagccttta cgtctttgta gaggcgaata tcgacccgac tgacgtatcg	420
accccgttcc ttgtcaaaga ctctatcgtt ttccttacia acggagtaaa gcaagatgtg	480
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<210> 1042
 <211> 2199
 <212> DNA
 <213> Bacteroides sp. CAG:144

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ctggcaactg tcgtgtcggc caaagaagcc ggtgaaggcg tggacttcat gcctttgcaa	180
gtagagtata aagaacgtta ttcgctgata ggacgtttcc ccggagggtt tactcgtcgc	240
gagggtcgtg cttctgatta tgaaattctt actgcgcgct tggtcgaccg cgccttgcgt	300
ccgttattcc ccgataatta tcacgccgac acgtttgtca acgtgatgct cttttcgtcc	360

gacggaaaag atatgcccga tgcattggcc ggtttggctg cttcggctgc tcttgccgtt	420
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<210> 1043
 <211> 2061
 <212> DNA
 <213> Bacteroides sp. CAG:144

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catgcgcaaa accgcctcga ctcgctccaa catctgcaag aactgaccgt taccgcccgc	180
cgacaaaacg aagtaatccc gccacaaaaa ctctccggag aaaaactgag acgtctcaac	240
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ggggtaggcg gactgaaaac cgtaaataatc cgtagcttgg gagccaacca tgtaggagtc	360
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gaaggtggat ttttcggaac gacgccaac ggcaaatgga atgccaaagt ctattattat	840
gactcggaga gaggcattcc cggtcctata ctcaacaacg tatggcgaca tggtgaacgt	900

cagtgggatc gaaatttctt tacacaaggc agctggcaga acgacttcgg ccgatataaa	960
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<210> 1044
 <211> 1497
 <212> DNA
 <213> Bacteroides sp. CAG:144

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tatggtgtgg taacttatct ttattcgttg gtggccttgt tgctcatcat tctgacgtat	180
ggtctggaaa ccggcttctt ccgctttgcc aatcacgaga aatataaaga cccgatgcgt	240
gtctatacga ccggtcttat gtcgttggcg gttacctctg cgctttttgt cattttggta	300
tggatatttc tcggtcccat ttcacgcggt ctcggttcgt cgggcgatcc ccgttatgtg	360
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<210> 1045

<211> 2436

<212> DNA

<213> Bacteroides sp. CAG:144

<400> 1045

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<210> 1046
 <211> 1119
 <212> DNA
 <213> Bacteroides sp. CAG:144

<400> 1046	
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gagatcaaga acgtgaaatt gagtgttatc gataatgatc atagccccga ttcggaacgt	180
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<210> 1047
 <211> 1245
 <212> DNA
 <213> Bacteroides sp. CAG:144

<400> 1047	
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acggtggtca gggatcgaaa ggacgagata aaaaaagcgg ttctcgatgc ttttacgcgg	180
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accctttgcg aactttacgg gtgctccttg catcgcgacg agaaagtgca ggagatgaat	300
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<210> 1048
 <211> 1488
 <212> DNA
 <213> Bacteroides sp. CAG:144

<400> 1048	
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cataaaagcg gctgggccga acaagacccc gaacgggtggg gggaaaatct gcaaaccgct	180
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<210> 1049
 <211> 2040
 <212> DNA
 <213> Bacteroides sp. CAG:144

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ctcagccaca acaagacggt ggctgcccag ctttatagcg aattcaagaa ttttttcccc	240
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ccgaccaccg atacctatat cgaaaaagat ctggccatca acgaagagat cgatcggttg	360
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gtatcgtgcc tttatggtat cggaaatccc gaagattttc atagcaatac gattgaggtg	480
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<210> 1050
 <211> 1362
 <212> DNA
 <213> Bacteroides sp. CAG:144

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actcgcatag ctcatcggtc gtacttaccg gccaatcaga cattgctcga aatgataaag	180
aattccaacg ggaaattcaa agtggcattt tctatttcgg gcgttgctct cgaacaactg	240
gaaatttatg tccccgaatt tatcgattcg atgaaagaac ttgccaagac cggttgtgtg	300
gaatttcttt ctgagacgta tgcgcactct ttggcttccc tgcgtgatcc cgacgaattt	360
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ggctttaaag gctgtattac cgaaggagcc aagcatattc tcggttgga aagtccaat	540
tatctctatt gttccaccgc cgtacctaaa ttgaaattgt tgctcaaaaa ttataaaatg	600
agcgatgaca taactttccg tttttccaat tacgaatgga gcgaataccc cttaccgcc	660
gataagtata tgggttggat caatgcgatt cccgagaccg agcagggtgg gaaccttttt	720
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gaagagctca attcattgat tacaactatt cgtaaccaag cctcggaaat agatgtgttg	1260
aaaaaagagt tgaagattgc taaagaggaa cgtgctgcc aaaaagttac tgcgcagcca	1320
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<210> 1051
 <211> 1356
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1051	
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ggcttttcaa taaaaatgga taatccgcaa ctacaacaga taaaacagcg ttatggcatt	180
gtcggtaatt atgaggggtt gaaccgtgct cttgaagtgg ctcttaaaat tgccccggtt	240
gacttgtcgg ttttaattac cggcgaaaac ggagtgggaa aagaagtatt cccccgtatc	300
attcacgacc acagcaaccg taagaaccgg aaatatattt ccgtaaaactg cggcgccatt	360
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aatgtgaata tgcagcaggc tattgtagac ggtaagtttc gtgaagattt gtactatcgt	660
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gagcgccatc agggaaaacg aaagcaggct gctgctgaat tggggatttc agaacgtacg	1320
ttatacagaa aaatacgtga atatggattg gaataa	1356

<210> 1052
 <211> 609
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1052	
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gtgttgaccg acggcgggaat tgttatttat cctacggata gtgtgtatgc tattggctgc	120
catgcactta aagaacgcgc ggtagaaaaa gttttagga taaagggtat taatcctgca	180
aaaaaccgtc tttctgttat ctgctatgat ttgagtcca ttagccagta tgcacgtatc	240
agcaattccg tgtttaagtt aatgaagaag aatttgccgg gcccgtttac gtttattctg	300
cctggtttga gcacacttcc aaaagttttc aggggaagag gttctgaagt tggaattcga	360
atgcccgacc atcctttcct gcggcagttg ttggaacgtt tggatgctcc tattctgaca	420
gcttcattac ctcccgttgg tgaagaaatg gaatatacga ctaatgcaga tttgatagaa	480
gaaactttcg gtcagcaggt tgacatggtg atcgacggag gagagggagt gcctgaggta	540
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ctacagtaa	609

<210> 1053
 <211> 1053

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1053

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ataaagacat tctgcctgac gtccctgcat ctttattttt tgtataaaac ttattcatat	180
caagatattt tgtgtatatt gcgctcggaa ggaatacgcg acactccatc cggcaccctc	240
cacgactctt attatttttac cctacctcca aaagatgaag atatggatat gaaaaaaaca	300
ctactgacgc ttgtgccat gatgttcgca acaagcgcaa tgggacagct tcaatacgac	360
atgactccgg acacagggcc ggtgaaaagg ggagcaaaca aagtgggtcac ggaagtattt	420
accgtagaaa agaaaaacgg caaatgggtc agagccggaa agcccgaccc ctggggcgaa	480
atgggtgtct atccggaaga aagcgaatgc acctacgacc gaaacggaaa actgacaagc	540
aagactaccg tatttgaagg cactaaaacc gaatatgcct accaatatac aaccgacgga	600
aaactggccg aaacaaaaaa gacggaaaac ggcaaaactga cctccgtcat gcgttaccga	660
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gaaggacgtg tcgtaaaaat tgaagtcagc gacggcgaca cgctgaccta ccactatgtc	960
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ggagccgttg accgcaaaat catatactat taa	1053

<210> 1054

<211> 1011

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1054

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aagaaaaaac aacacaacat catgaataaa atttttacca aggaaataaa aatcgactg	120

acggccatcg tcgccatcgt actgctgttt gttggcatca acttcctgaa aggtgtcaat	180
ctgtttaaga aatccaacct ttacatcatt aaatttaatg acatcacccg acttgccgta	240
tccaatcccc tatatgccaa cggatatgcc gtaggtattg tgcgcgaaat aacttacgac	300
tacgaccatc cgggcaatgt tgccgtaggt gtggaactgg actccaaaat gcgtgtgccg	360
gccggcacac gggctgaact ggccacagag atgctgggcg gcgccgtcat gaatctggta	420
ctgggccccg accccctgca cacactcgag ccgggcgata ccattcccgg agggcccaaa	480
aacggactga tgaacaaact ggagcaggct gcacctaccg taatggcact gattccgaag	540
ctcgactcca tactgaccaa catcaaccgc atcacccgcg acccgccctt aatgcaaacg	600
ctcaacaatg cagcagaact gacagcccaa ctgaaaacga caaccgcgtc agtcaatcat	660
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gaagttttgt ccggccacct ggccaacgtg ccggtggagg aaaccatgcg caacgtcaac	780
gaaacgctgg ccagcgtaca ccagttgagc aaaaacatga ccgacattac caacaacctc	840
aacaacagca tgagcagcaa agacaacaca ctgggcctgc tcctcaacga ccgcaagctg	900
tatgacaaca tcaataccac catcagcagt gccgattcat tggttactga cctgaaggcg	960
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<210> 1055

<211> 699

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1055

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ggactgggat tcgggctgac tgatctcaac agcaaaatct ttggtaatgc acgcggcgcc	180
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aagacttccg gattcaagaa caaggacat tacagcacgc ttatgctgac actgacctac	660
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<210> 1056
 <211> 828
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1056	
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gatgagatga atgagttttt tacgcaaacg gcccattctg agggcgtgcc ctggctgaat	180
gccgcggtga aatatctgga catgaatctg gtggtcaagg gattggagaa tcttccctct	240
gatgccgacg ggcagcggta tacgtttgtg agcaaccacc cgctgggcgg cattgacggc	300
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<210> 1057
 <211> 570

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1057

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atcatagtaa cgattgaaga taatcagatc aagtttgcca tcgatgaagc aaacgacacc	180
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cgtaaacctg agccttataa gggtaagggt attttgtagt tcggtgagca gattcgtcgt	540
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<210> 1058

<211> 588

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1058

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atgggagcta ttaaacaatt gttttcggcc ataggttttg ccgtaggact ggtaattgct	120
tcgcttgtag atctgtgggt gggtagctat ctgtctatga caggcagcaa aaccaatatg	180
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gtggctaata tggtgactgc caagtttgat cgctttgctg tccgtgttcc tcagcgata	300
gtcggtgcaa ttgtgtcctt ggctaagtag gtcgttctgt tcagctgtat tttcaatgta	360
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gttacggctg taatgggaaa cttacttcc caatcggtg aacgtacaga ttctgtatct	480
tccacgttgc ctgacactat ttgggtagat atgcagtcaa acaaggcagt acccgcaaaa	540
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<210> 1059
<211> 1119
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1059
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ggtgccgagg gccgtatgga gatgcagcgt gtgcccggcg caggctacga aatcaagggc 180
ctgcccattt gcggtttcga ccgtaaacac ctgtggcgca acgcatagt gctgatgaaa 240
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cccacgctgc tgcaggagca gaattcgtat gccggcgtaa ctaacaagtt gctggccaaa 420
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<210> 1060
<211> 1512
<212> DNA

<213> Prevotella sp. CAG:617

<400> 1060

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ggggccaacg tgggaggtat ggggtaccccc atcggcaccc cgcccaacgc catagcgctg	720
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cgtacctggg tcgtaaacad tacgtttgcc gttaccgtgc tgtgctggat tctggacaag	960
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ggaggatttg ctctgggcac ggggctgcag gataccggcc tggcccagca tctgattgag	1140
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gccatcgtgg ggcgagcat gagtacgag ctttctgcta tcggcggcga gggaacctg	1320
ctcatgggta ttgccgtcag cgcttcgctg gccatgatgc tccccatcag tacgccgcc	1380
aacgctctgg cccatgccac gggatatggtg cgccagcgcg acatggaaaa ggttgggtgtg	1440

ctgattggta tcgtcggctt cgccttgggc tatgccatgc tggttgtgct gggcaagaat	1500
ggcttttttct ga	1512

<210> 1061
 <211> 807
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1061	
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caaggcgaaa tagttggttt acttggccct aacgggtgccg gtaaaaccac gtctttttat	180
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gacctattg ccgtagaaga catccaatat attgtctgga aactgaaaga caaaaacatc	600
ggatatctga ttactgacca taatgtagag gaaacactct gcattacaga tcgggcatat	660
ttgctatttg aaggccgcat tctgtttcag ggaactccgg aagaattagc ggccaaccaa	720
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attgatagag ataaatcgga acaataa	807

<210> 1062
 <211> 846
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1062	
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gaagccgttg tttctaccgg tgcgcaacag ttttacctca agaaaatgtc cgaactcatt	180
ttttggagag gaagcatttt acaacttata cattctacgc cggatttttag ggttcgcgatg	240
gtcctgtatc cttctaaaat atttcttcag gcagccataa acttagacag cacattcttc	300
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ctctgcatat cgccgcgcta tctaaacgaa atatgcatca cctattcaaa cggaaagaca	660
cccaaaaggc tcatcaacga acaactgaca gctgaaatca aagtcctgct caatcgccca	720
gatctgtcta ttgcagaaat agccatgcgc tgccactttc cagatgcctc atacctaagc	780
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caataa	846

<210> 1063
 <211> 1905
 <212> DNA
 <213> Prevotella sp. CAG:617

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cgggaatcct atcccgtagt tccgcctctc ttgcagagcg tgcgtgggca atcggtccc	420
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accggctgcg tagctacggc attggagcag attctgacct attaccgcca gccggcgag	540
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ggtacacctg ttgattgggc tcatgtacgc gatatttatg ctgaaggagc atatacgag	660
gctgaggccc gtgccgtggc cgacctttcg ctctggtgcg gcatgatggc cggatatgaat	720
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<211> 1347
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1064
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gcacgactga ttcacagat ccatcccgaa tcctatgtag tctttatggg accggggcct 240
actttttaca tcgaacaatg tttaccagaa ggtgaaaaga actttgttgt acgtggcgag 300
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<210> 1065
<211> 1593
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1065
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atccgcaaac aggccttcgc catgacacaa aacggcctga aagaggccgg gtacgaatat 180
atcaacattg acgacggcgc ctttgacggc cgcgagcccg acggccggct gcatgcccac 240
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ctgggtcaagc gcttcatcca tctgccccta tccccgcaag gtgcagaatg cagcgtgacc	1500
gtagaactga aaaaaggcaa caacatcatc gagctgggca acaccaacgg atgggcaccg	1560
gacattgact atatggacgt ggaacaaatg taa	1593

<210> 1066
 <211> 708
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1066	
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cagatggctc ccaagatccg gcggctgctc acactgcgca tggacggcgt caagattaaa	120
gtgggacacg ccggcaccct cgacccccctg gccaccggcg tcatgctggg atgtacgggc	180
cgcgccacca aacaaatcga aacgttgcag gccggaaaaa aagagtacat cgctaccctg	240
cgtctgggcg ccacaacccc aagtttcgac ttggaacact ccattgacgc cttttatccg	300
accgaccata tcagcgaaga tgacgtgcgc cgcgtactca agcagttcga aggcgatatt	360
aatcaggtac cgcccacatt ttcagcctgc aagattcagg gtaaacgggc ctacgacctt	420
gcccgcgaagg gaaaagacgt agaactgaag gccaaaacca tacatattga ccacatcgaa	480
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atacgcgctt tggcccgca catcggacag gccctgggaa gcggtgctca cctgacatcc	600
ctgcaacgca cccaagtcgg acaatatacg ctggaacact gcttccagct gagccagttt	660
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<210> 1067
 <211> 1767
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1067

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aatacttcca gcaataaatt aaatgactta ttgcatatca ttgatgatca atacgttgat	180
cctgtcaata tgtcagatct ggtagaaaag gccatgccac aaatcctgaa agaattagat	240
cctcactcta catatgtttc cgcaaaagat gtagaagcct ccatgcaaga cctaaaagga	300
agtttttcag gcattggcat acaattcttt atctatcagg attctgtgag agttgttcgt	360
gtaatcaacg gtgggccttc tgaaagtgtt ggcatataag ctggggacag aataattggg	420
atcaacaaaa aggcatatat tgggaaaaat gtttccatag attcaaccta caaacttctg	480
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ctaacatttt ccatcactcg gaatgatgtt ccaatcaaca gtgttacagc tgcttatatg	600
gcagatgaaa caaccggtta tatcaaagtc aatagttttg cagaaaccac atattctgaa	660
tttttagcag ccttagccaa tttgcacaga caaggattca aaggctttat tatagattta	720
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aacattatcg ataatatcat ggacgagcaa tcagccatac aatacgacaa cttatcagat	1560
cctgcaatgc ttgaagccat aaaaattttg catcaagggt cagcattccc caaattgaca	1620
cgtacggaag gaaaattcat atttgggttt caacaaacgg ataaacatat agcgttaata	1680
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aagagaaaca tacaaaaaaaa cgcttga	1767

<210> 1068
 <211> 1215
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1068	
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tgcatccggg aggaagccct taatgcggag tgcgacatcg aaggcgtcga ctccgtgtgg	180
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cctttccgcc ccatgaacgg caagaccttc gaccccgcac gcgctgcccc caacggctat	1080
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agtcacctca aggttgacga aatacgcgtc atctgggaca ccgacaccaa caagcccgcc	1200
gggagcgagc aatag	1215

<210> 1069
 <211> 465
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1069	
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ctggatcatc agtggattca ttagataaaa gaacggggcgg agaaggaaaag tccgttcggt	180
cagactattg tacatgggta tttgacgttg tcattattac cttattttgtg gcaacagttg	240
attgagggtcc gtaatttgaa gatgatgggtg aattacggta tggacaaaat gcgttttggt	300
caggctgtat tgtctgggtca gcgagtacgt cttgtagcat cactgcattc gttggcaa	360
ttacgcggtg tatgcaaggc agagataaaa tttacgttgc agattgagaa ttgtaagaaa	420
tatgcgttgg agggaaatagc tacattcctt tattatttca attaa	465

<210> 1070
 <211> 1074
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1070	
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cgccgacaga cgcacggcta ccacgtggcc acgcccggcg acacggccgc caccatcggc	300
gacgagcctt tccagatgtt cagcaagttc agaaacctga ccgtggccgt cgacgaagac	360

cggcgcgagg gcatccgccg gctcatggcc gaggaagc cgcacgccgt cattctggac	420
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gccatctgga tacaaccgt cagcgtatgt ttcattgacg gaagggaaga acatttcaca	1020
caaaacatac tgaactatgt tgccgaaaat acaagaaacc aaacaatgga ttga	1074

<210> 1071
 <211> 2112
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1071	
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<210> 1072
 <211> 762
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1072	
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tttatcctgg tatggattct ggtgtcgag gtgtttgaaa tgcgcttgct gggtacgatt	180
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<210> 1073
 <211> 1374
 <212> DNA
 <213> Prevotella sp. CAG:617

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tctcttgagg taatgctcac aactcccgcg gctcaagggt ggctgggatg gtccagttca	180

gaatatggct ttttttccgg atcttatggg tacattaacg tattcttggt aatgcttttt	240
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gcattaggat gcagtctgcc tatggcacga gctgtgggga gtgtttcttt tcccgtcctc	600
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aaaaaactgg accagtcagt agaagccgtc gaagaaaata aagaagaagg ctttcaactt	720
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ccaatgctta tctttgcagc attcgagca gtagctattg gaattgcat catgctaaaa	1320
aaagaagatg ctcaaaaggg ttatggactt gaagaaagca acataaaaaa ataa	1374

<210> 1074

<211> 972

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1074

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agccatccgg tcagcctgct gctgcagcgc tggctgcttt gcggcgccat gatcattccg	180
tattttgcct atcgggtggta tccttcgcga atgaccaagt ttctgcgcat cttctacgtc	240
atggctctgc tgggctactg gtatcccgac acgtacagca tctgcagcac gatgccctac	300
ctcgaccatg tgtttgcctc ggccgaccaa tggattttcg gggtccagcc ggcagaatgg	360
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gaatatacga cgtttgtcat catgtgttcg ttcttcctgt tctacacggg tttcctgttc	540
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ccacattgct ga	972

<210> 1075
 <211> 1128
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1075	
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tcagttcgtc aatcttccgg taatatggag catagaaacc tgggccagct gaatgtgtcg	180
gctgtggggc ttggttgttt gcccatggtg ggatattatg gcggccggta tgaaaaacgc	240
gacatgatag ctttgattcg tcgggcttat gaaaaaggaa ttactttttt cgatacggcc	300
gaagtttatg gaccccatgt cagtgatgag tgggtcggag aggctttgga gccattccgc	360

aacgaggtga aaatcggtag aaaattcggg tttggcgtag aagaggggaa gcctacatca	420
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<210> 1076
 <211> 942
 <212> DNA
 <213> Prevotella sp. CAG:617

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cgtagattaa aagccgtaga ttctgtttca attcaaaaga tgatagagcg cgaacagaaa	180
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gagttaccag atagctttta gattgatcta cgggattttt gtatgccac tccgagtcga	300
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cgttatgacg caggaggata tggtaagtat gttgtaatac gacatccgaa tggcttggaa	480
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cagcccattg gtcttggggg aagtacaggt ctttcttccg gttcgcattt acatttcgag	600
acacgtttgt tgggggtagc aataaatcct gctttgttgt ttgacttccc caatcaagac	660
gtaacgtgtg attattatac gtattataag gatagttagt gtaagcagtc tgatttggca	720
tcaatgcgga cggcaaagga aagtgcggct tttggaggag gaactgataa ttcaacgtct	780
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<210> 1077
 <211> 732
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1077	
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tgtttcagcg aaccgcgcgt ggggcttgag gccatacgcc agcagcagcc cgacctggtg	180
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gatgcggtcg attttctgct caagccgttt tcgtatgagc ggtttgaagt ggctgttgag	360
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gtaaagcagg aatattccaa cgtgaatata aaaatagaca gcattcttta tgttgaagcg	480
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atcgtggccc gcagcagggt ggtcagcttt acgcggacgc aggtcgtgtt gtgtgatttg	660
ccgtcgccgc ttcccgtggg gcagcaatat gccgcgcagg tgctgaagtt gatgggcgtt	720
tcggaaaaact ga	732

<210> 1078

<211> 876
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1078
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aaagtttgtg atgagtctgg acaattggat tatattattg aaccttctgc tgctgagtta 660
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ttggctagtg agcacgcggc tcgtgtgggt gccatgcagg tagcaacgga caacgcagat 780
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gagttattag atattgctgg agggctctgct agatga 876

<210> 1079
<211> 351
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1079
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atgggtgttc gtaagactac cgatgtcata gaaaaaacca cttgggcttt ggctgcaatt 180
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gtaacagata atatgaagac tactgcgccg atgaatttgc cgggtcagcc aaacagcagt	300
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<210> 1080
 <211> 933
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1080	
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tttgcggtca gctatgaaga atcaattaga ggctgtgatg tattcttagt gcaatcaact	180
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tctgcgcaca gtattatagc agtcgttcct tatttttgat gggctagaca ggatagaaag	300
gacaagccaa gagtttcaat cggtgctaaa ttagtcgcag acctgctgag thtagctggt	360
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<210> 1081
 <211> 687
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1081

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<210> 1082
 <211> 1074
 <212> DNA
 <213> Prevotella sp. CAG:617

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attgtgcccg aggatattcc gcttgatatt gtgtatgagg acgacgagct gatggtcac	360
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<210> 1083
 <211> 1086
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1083	
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accaattacg gtggtacaat tgtagcgatc atggttcctg acaaaaacgg gaacttaagt	180
aacattattc aaggccatga ttgcattgaa gattgcattt catcacctga gccattccta	240
agtaccctaa tcggccgata tggaaatcgt atctgcaagg gtaaatttac tatgaacaac	300
aaagaatata aactagccat caacaatgga gaaaatcacc tacatggcgg cccgacaggt	360
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gtaaacadga ctcaccacgg tttcttctca cttgcaggca ttgcaaacc caccactaca	600
attgaagata ttgagtgcc aatcaatgca gattactata ttcctattga caagaactca	660
attccgacag gcgaaattct caaagtggaa ggcacaccat ttgattttag aaccatgcgt	720
aaaataggac aagacattga tgccgacaac gaacaaataa aaaatggtgc aggctacgac	780

cattgctttg tattgaaaaa gaatgaaccc ggtgaactct cttttgctgc aaaagtcgtt	840
gagccaaaaa gcaaaaagaac aatggagggtt tggacaacag aacctggagt tcaattttac	900
acagacaatt gggctgatgg atacaaggga caatttggtg ccacattccc aagacgaagc	960
gcaatctgtt ttgaggcaca acacttccca gacagtccga atcattctta cttccccctt	1020
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<210> 1084
 <211> 744
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1084	
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agagtcggag aaattgaatt gaacgtgaag cgctatgggtg tgccttcatt tttcaatcgc	180
ttgatttata cttttttccg gaaatcaaag ggctggcgtg cctataccta ccctgaccgg	240
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ggcttgttgc actattcgta ttttgtaagt atccaatgtc cctatacccg taatttttat	360
gaatttggcg atgcccggat tgctgactgt cgtgatgtgg taagcgcttt tgcaaagttt	420
tctgcccggg tgcatgatgc gggatatatta catcttgatt attcgccggg taatattctg	480
tttgaccgtg tggagaatga atggcgcttt tcgctgattg acattaaccg gatgcggttc	540
ggcacggttt cggtagagca ggggtgtgcc aattttgcac gtctgtgggg gcaggtggat	600
ttctttaagc agttggcttg tgattatgct gctgcccga atgcagaacc ggagcagtgc	660
tgccaatggg tgctgcacta ccgacgtaag ttctggcagc gttaccgccg ccgtcatgag	720
ttgaagttcc gggtggaact ttaa	744

<210> 1085
 <211> 1962
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1085

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tccgttattt ttatacgcca aaatccgaca ggaatatgta attttgcaat acgattcgga	180
aacgagaaat cactaaattt tcattacgat atgtacatcg aaaaaatcaa ttcaccggcc	240
gacgtcaaaa agctgaacgt ggccgaaatg actcagctga gccaggaaat ccgcacggcg	300
ctgctgcaga aactcagcca ccacggcggg cacgtaggtc ccaacctggg tatggtggag	360
gccaccattg ccctgcacta cgtgttcaat tcgcccaccg accagttcgt gtttgacgtg	420
tcgcaccaga gctatacgca caagatgctg accggctgcc gcgaggcttt cctgcagtcg	480
gaccactacg acgacgtgtc gggctacacc tgccccggcg agagcgagca cgacctctt	540
accatcggcc acacgtcaac ctccgtcagc ctggcctgcg gtctggccaa ggcgcgcgac	600
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gaggcctacg agggcctgaa caatgtggcc gaattgggca cgaacctgat tgtcatcgtc	720
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cgcctgaagg ccgaccacga ggtagtcatc acgctggaag acggcaccat agacggcgga	1800
tggggcgaaa aaatagcccg attctatggc gacagcgcca tgaaagtgcg ctgctacggc	1860
gccgacaagg cttttgccga ccgctacaac cttgacgaat tcctgaaggc ccaccacctg	1920
acggctccgc aaattgccgc cgacgtggcc gaactgtgct aa	1962

<210> 1086
 <211> 615
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1086	
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ttcatcctcc gccactttgc tcgcgcggca ttttttcgcc caccgcttca ttccctttct	120
ccggccggca ataagccatc accatctaca tttccgtata aaaacgcccc tgccccaag	180
gcactctcca caaaaatcat tactttttaca tacgcatcat acacaaaaat catgaaacgc	240
atcgaagtag tagcggccgt catctgccgc cagcagcaat atctcgccac ccagcgtggc	300
tatggcgagt tcaaagactt ctgggaattt ccgggaggca aaatcgaacc gggcgaaacg	360
cctacacagg ctctcaggcg cgaaatccgt gaggagctcg acaccgacat ccgcgtcaat	420
cgcttcctca ccaccgtcga gtacgactac cccgccttcc acctcaccct ccactgctac	480
ctctgctccc taccctccga ccacctcctg ctcaaggagc acgaaaatgc ccgctggctc	540
tccccgaac aactcgacac ccctcgctgg ctacccgccg accgagaagt cgtcaaaaata	600
cttcaaaaac tttaa	615

<210> 1087
 <211> 726

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1087

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ttagttgttt cgtgttgctt ttgctgtgtc ctgaatttaa aagcccaggt ggagcaggtg	120
tctgattcgg tcattactcc ctgggatagg gccgtagcct tgcccagacac tgcacatcag	180
acgctggacg ggccagattc cgcagctgac ggactggatg ctgtcggctt cctgatgaat	240
gtgccgggca gcctggatca gtgggactat atgcctttgc atcgggggct caatgcccag	300
tttggcatga gtgtatccgc cgcattggggc aaacatgcgc cgcgtggcgt aggtttcggg	360
cagcacctta atttaagtga tgtggctccg cttacgtcgc gcttgagcat tgcggccggt	420
ctttctgccg acaatcttac gtggggaggc gaccgcttga cttcactcag cctgatgggt	480
gctgccagct accggctgac cgaccgcac aatgtttttg cctatggtgc caaacgtttg	540
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tacgtatatg gcggagggtt cgatttttaa ctgggcgagc atagctggct gcaaatcagc	660
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cgataa	726

<210> 1088

<211> 849

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1088

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aaaaagctat tacgcaaagc tccctcatgg gcattgggca taggcggaat cctaattgcc	120
gctattttatg cagcaatttt ttattatttc ttcgtaggac agtttggctt acgatggcag	180
gctttctatg gtgatgcac ttatccaaat gaatattcca tacaaggat tgacattagc	240
catcaccaag gtgaaatcaa ttggactaag cttcaatctg ctacaatagg cgacaaccct	300
attcgattca ttattatcaa agcaacagaa ggagccgatt ttctcgatga aaatttcaat	360
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cctaacacac cagccctatt acaagccaaa tatttcttga aacaagttca tttggaaccg	480
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ccgtattgga ttgcgcacta ctacgtaaaa gaactaaaat acaaggggaa atggaagttc	720
tggcaacata cggattatgg ttcacttcct ggaatcaacg gaaaagtaga ctttaatgtt	780
tataatggat ccatgtatga cctgaaaaaa tttactataa gcaaaaaaga agaagtagaa	840
actgaatga	849

<210> 1089
 <211> 2460
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1089	
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attaaaggcg gattggaagg tttggttggt ggtgaagtat tgacgtgtga ggcacatcca	180
aattcggatc acatgcatat atgccagggt agtctggggg cggacaatgt tcagcagatt	240
gtatgtggcg cgcctaattg agctgccggg caaaaagtca ttgtagctcc cattggtacc	300
aaattatatg atggcgagaa ttcttttacc attaagaagt cgaaactacg tggcgtagaa	360
agctatggaa tgatatgtgc agaggatgaa atcgggggtg gaacaagcca tgaaggatc	420
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cgcaatgatg tttcagactt ttctgtggat aatcatgatc ttgaaattga agttcaagtt	660
gaaaataagg aagcatgtcc gcgatattgt gctgtcagtc tgacaggatg cgaaattaag	720
gaaagtccta agtggttgca ggataaattg aggacaatcg gcgtacgtcc tattaataat	780

attgttgata taacaaacta tattatgttt gcttatggac agcctttgca ttgctttgat	840
gcagatatgg ttaagggaca aaaaattgtc gtcaagacgc ttccggccgg aactccattt	900
acgacattgg atggagtgga acataaatta gacaagaaag atttgatgat ctgtaatgca	960
gaagaaccga tgtgtattgc cggcgtattt ggtggtaaag gatcaggaac gtatgaaacc	1020
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cgcagacatg gattaaatac agatgcaagt tttcgttttg aacgaggaat tgacccgttg	1140
ggacagattg aagctctgaa aaaagctgcc attttggcac gtgaattaag cgggtgtaaa	1200
atttccatgg aaattgtgga tatacagagt gctgttgcta aaccttttga agtgcaactt	1260
gactatggat atgttcacga tttgatagga aaagcaattc ctgttgaaac tattaagggg	1320
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aaacgagtcg ttttatttga tgtttatgag ggaaaaaatt tggagccagg aaagaaaagc	2340
tatgctgtaa attttatact tcaagatgag aataagactt tgactgataa acagatcgat	2400
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<210> 1090
 <211> 1404
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1090	
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aaaaaattgg aattctgtaa aggctttacg gcccattatg gtgaaattta caataaagat	180
cgtgttttgg atcagggtgat tgttacaatc tttaggggccc cacattcata tacaggtgaa	240
gacttagttg aaatatcgtg ccatggatct acctatattt taaaaagcat tatcaatgaa	300
ttattggact cctccccctca catacgctta gccacagctg gagaatttac aaaaagagct	360
tttttaaagt gtaagatgga tcttgcccaa tctgaagcag ttgcagattt aattgcagcc	420
gactcaaagg caggtcacga cattgcaatt aagcaaatta aaggagacta tagtattgaa	480
ttaaaaagac tgagagagca tttcttgacg ttcgcatctc ttattgaact tgaattggat	540
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gacatagaaa atcagggtcac taatcttgta cattccttta aattaggtaa tgtaataaag	660
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atccctcatg caaattgcct atttatttcg gcaaagaata aaacgcatat tacagattta	1140

gaaaataaac taattcaa	at agtaagaa	at cttcaaagca	ctgaaagtaa	tattataatt	1200
acgaacatgc gacattatga	agtattgaaa	aaaatattat	ttacaataaa	tcgaataaac	1260
gacggatttg ctcacagat	tcccagtgac	ttattagctc	aggatattcg	tgagtgcata	1320
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<210> 1091
 <211> 900
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1091	
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tcggacacta cgccctccag	60
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tgcgccgtca tggcgcagag	120
aactgccctg aagaactgca	gaaatacgac gtggtaaaag
acatacgca actgaaagac	180
gttgacgtag ccatcctggc	cacccccacc cgcagcgtag
aggcctacgc caaggatatc	240
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tatccatcat ctcggccgga	360
tgggatccgg gaagcgactc	catcgtgcgc accctgatgc
aggcactggc cccaagggc	420
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acaccgtagc cgtaaaagcc	480
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ccggcaccgg cattcaccgc	540
cgcacgttat atattgaagt	ggaagaaggt cacgacttcc
agaccgtagc cgccgccatc	600
aaggccgatc cctacttcgt	acacgacgag acgcacgtgg
ttgaggtgcc ttgcgttgac	660
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agggcggtgc cggcaagaca	720
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cggcccttac gggtcaggta	780
ctggtatgcg tagcccgcg	cctcaatgaag cagcaaccgg
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<210> 1092

<211> 705
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1092
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attcttccta aaattatcgg cttgggttacc atgattccgt tgttggtcat tttcagtata 420
gtaagcggca ttattggtgc ttatgcaaca gcatatattg ggacacattat tacgccggca 480
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aaatccttgt tctttgcttt catcatagcc agcgtatcgt catattacgg gtatacggtc 600
gaggggtggtt ccattgaagt gggaaaggcc agtaccaagg ctgtggtgtc aagcagtatg 660
ctgatacttt tttctgatat gttcttaaca caaatgcttt cgtag 705

<210> 1093
<211> 1023
<212> DNA
<213> Prevotella sp. CAG:617

<400> 1093
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atgacccaat tccgttcagt acccgccgaa caaaagcgtg aagtaggaat gctgctaaac 180
cagttgaaag atgctttaaa ccagcggttg gctgatttgc gtaatgaatt gacgcaagaa 240
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gacgttctgc tgcgtacaca caccagttcc atacagtcac gcgtaatgga acatacagaa	540
cctcctatcc gcgtgctttg ccccggcaga gtctaccgaa acgaagccat aagtgcacgc	600
gcacactggt ttttccacca ggttgaagga ttatacattg acaaggacgt ttcatttacc	660
gacctgaaac aggtattggt actgtttgca caagaaatgt tcggcccaga cacccaaata	720
cgccttcgcc cgtcctatct tccctttacg gaaccttctg cggaaatgga tatcagttgt	780
catctatgtg gcggaaaagg ctgcagtttc tgcaaaaata ccggatgggt agaaatttta	840
ggatgtggta tggttgacct ggctgttctc gaagccaatg gtattgactc tacacaatat	900
aagggtatg cctttggtat gggagtagaa cgcatcacia acctcaaata tcaagttaag	960
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<210> 1094
 <211> 1281
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1094	
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tcatgcctta ccaacaaata tgcagaagga tatccatcaa aacgatacta cggaggatgt	180
gaaattgtag acaaaacaga atccattgca attgaacgcg ttaaaaaact ttttggtgca	240
gaatacgcta atgtacagcc tcattccggc gcacaagcta acgccgcagt tttcttagcc	300
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cacggctcaa aagtcaatac ttctggcatt ttatataacc caatagggtta caatttaaaa	420
aaagagaccg gtaccgttga ttatgatgaa atggaaagtt tagctctaga attcaaacc	480
aaacttatca ttggaggagg atcggcttac agccgagaat gggattatga gcgaatgaga	540
aacattgcag acaaaattgg cgccattttt atggttgaca tggctcacc tgccaggactt	600
atcgccgcag gcctgttaaa aaaccctgtt aaatacgcg atatcgtcac ctcaacgaca	660

cataaaacct taagaggacc aagaggtgga ataatcttaa tgggcaaaga tttcgaaaat	720
ccatgggggt atacgactaa caaaggttcc ataaaaatga tgagccaatt gcttaatagt	780
gctgtttttc ctgggattca aggtggccct cttgagcatg taattgcagc aaaggctgta	840
gcttttggcg aagctttgca accagaattc aaactttatg cccaacaagt aaaaaataat	900
gccgattgtt tagcaaaaaga actaattaaa agaggcttta acatagttag tggaggaaca	960
gacaatcata gcatgcttgt tgattttaaga acgaaatatc ctgatttgac gggcaagaaa	1020
gcagaaagtg cgttggtagc agcagacatt actgtaaaca aaaatatggt gccatttgat	1080
gaccgcagcg cttttcaaac ttcaggtata agaattggta cccctgcaat aaccacaaga	1140
ggattaaaaag aggatatgat gccataata gctgatttca ttgaagaagt tttaaattct	1200
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<210> 1095
 <211> 1479
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1095	
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gggtcagaaa tgacattcaa agtcaatgac cccaacgtaa ctgtcgactg gggagacggc	180
aatttagtta aggcccaatc cacagaagtt acaggcactg taaaaggatga gaatattggt	240
atctatggta acaatacttg gagcatgatt gactgctcga actgcgaatt aagcgtgctg	300
tcaataacca tggctcccaa catgcaaact ctgatctgcc gaaacaatag tttggaaggt	360
atcagtctca ttaaaagtga aaaattgcag gatcttgact gttcttaca caacatcaag	420
tcactttctc tattaacttg cacaagcctt gagcgtttga acgcaagtaa caatgcacta	480
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gcgcttactt cagtatctgt atctggaagc agcaatcttg acatgcttaa ttgcagcaac	600

aatcaaatca gcagtctcga cctgagcaaa gccacgaaac ttaccagtct ggtttgccac	660
aataataaaa tcagttcaat caatttttagc agtacacaag gtgttccggc attgattgac	720
attgtttgtg acaacaacca actgaagaca ttgaatttac aaaattcatc cgtcatttcc	780
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ataaccaact cacgtgtaga taatgtgtac gttcaaaca cgccgtttac cgttgtaaag	1260
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gacggttgca ttgttatcag cagtacaaaa gctactcccg ttaagatata tgcagttgac	1380
ggacgtttgg tttggaaagg agttgcatcc tctacgccac aatcaatcag cttaaataaa	1440
ggcgtataca tcgtaggtaa acaaaaagtt tctttataa	1479

<210> 1096
 <211> 723
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1096	
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gagacgggaa cgcacacctat atcagcggag caaattcctg tttttgcggg attttcgatt	180
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gcgttacgct taaattttaa agaagcatat ttccccattc ttgaattggg cataggaaat	300
tgtaatcata cagatgaaac aacttcgcag cattatatgg taaggagtcc ttattatcga	360
gtaggattag actataattt tataaagaat aagcatagtt caaatcgact ttatggaggc	420

atacggtatg gtctaacttt ttataaatat gatcttgagg gaaatgatat tgaggatcct	480
gtatggggcg gttcaattcc ttatcatttt gagtcagtat cttcaaacgc gcattgggtg	540
gaattagttg ggggattaga aacaaagatt tggaagttaa ttcattgtagg gtggagtgtg	600
cggtttcgaa aaatgctaaa acagaaaaaa aacgcaatag gaaaatcctg gtatgtacca	660
gggtatggta aaaataatga aagcaattgg ggcggaacgt ttaatttgat ttttgatata	720
taa	723

<210> 1097
 <211> 603
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1097	
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caacaggccc gacatatcat gctatatgct gcactccccg acgaagcaaa cataacgtcc	180
attatatttg acccatctgc gattttccaaa aaaatttggt ttcctaaa at aatagatgcg	240
gagaccatca taccacactt atattcgcca gaaaaaggat tcaccaccga ttctgaaaaa	300
acaccatatc aaataaaaaga gccacgtgga aaaattcaat cggtttggcc tgatttagac	360
ttaattatag ttccgggatt ggcatttgat catgccggtc accgtttagg acgtggaaaa	420
ggcttctatg accgttttct cagaaaaatat cccaatgct acaaagtcgg aatatgtttc	480
ccgtaccagc ttgtaaatga aattccagtt tccgaacatg acataaacat ggatctgatt	540
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taa	603

<210> 1098
 <211> 798
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1098	
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gccgccctga agggcggtaca cgtagagctg cgcgcagggtg tgctcatcgg cgggtacgtcg	180
cccatgcccc tgccgcgcga aatccgcagc atcgagagct acaaccccac gctgtgcacc	240
tcgttcgagg gagccgtgca aaagagtttc gagcagtcgc cctggggcgt aaagctcggg	300
gtgctgtctcg aaaccaaggg tatgcgtacc caggcccgcg tgaagaacta ccacatggaa	360
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<210> 1099
 <211> 537
 <212> DNA
 <213> Prevotella sp. CAG:617

<400> 1099	
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gagctgcaac tcgacgagca gttcctgcac gacggtgcca tgcttcacga catcggtatc	180
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cgccataccg gcacggggct gaccgaggac atcatactg cgcagaatct tcctctgcca	360
cccgtgact acagaccga aacacttgag gaacaggtaa tttgctatgc cgacaaattc	420
ttttcgaaaa cacatctcga gcgggagcgt accgtggaac agacgggtcaa aagtttgcag	480

aagtatggcc gtgcatgtgt ggagcagttt gaagcctggc aaaagatggt ttggttaa 537

<210> 1100

<211> 717

<212> DNA

<213> Prevotella sp. CAG:617

<400> 1100

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agagaatatc tgcaggccaa aggatacgaa accgaactct gccccgacgg tgaagccgga 120

taccgtgcct ttgccaaagg caaattcgat atgtgcgtac tcgatgtcat gatgccccaa 180

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gccctgaaaa ccatctggat tgacgacaac tacttcaacg cccgctccat ggacgtgtat 600

attaccaaac tgcgtaaaca cctcaaggac gacgacaacg tagaaatcat caatatccac 660

ggcaagggat acaaacttat tacgccggaa cctaccgatc aggttgagga agcctga 717

<210> 1101

<211> 1020

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1101

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atcgtcctcg ccgaacgcaa gttccccatc tccgaactcc gcctcttcgg ctccgcccgc 120

tccgcaggca aggtgatcaa ctacgagggc caggacatcg tcgttcagga agccagcctc 180

gaggccttca agggccttga cctcctgctc ggcgccgccc acaatcccgt cgccaaacag 240

ttcctgcccc aagccgcgaa gatgggcatc cacgtcgtgg acaactccag cgccttccgc 300

cttgatcccc atgttccgct cgtcatcccc gaagtgaacc acgaggacgt gaagctctcc	360
aagggcctca tcgcaaacc gaactgcgcg accatcatcg gcctcaccgc cgtcaactcg	420
cttcaccgcc acgcccgc at cgcgcgcgcg gtcgtctcga cctatcaggc cgtctccggc	480
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<210> 1102

<211> 1095

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1102

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cccgcaccgg ccgttcgctc cgccgcgccc gctgctcctt cgaggcctgc gccgcttccc	180
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cccgcgagac ccgccccgt cgcttcgtccc gtcgccgaac cgatttcaag cgccccgcag	300
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tgccgcccgc cgggaaaccg caatcccgcg cccgccgagg tggcctgctg cgcaacctat	660
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gggtgtttcc ccaatggcgc aaagacgccg aagaagccgt cgatcatctc atgggcgagg	1020
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ccgcactctc tatga	1095

<210> 1103
 <211> 1176
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1103	
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ggaggcgacg ttcgcaagga cgtgctcgcc gaagagaagc ccgagcctcg cgtcgagcct	180
cagctcgagg acatggtgga cgacgacgag ccgcacgagg cggttcagtc tgccctcagg	240
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cgccttgagc gcgaggccgc ccgcggcggg cgaaaggcag gccgcatcgc cggcatcgaa	360
aagccgcccc tcgaccacgg catccagtgg gtgctcgacg tgacgcccta tgaaggcaag	420
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cttgacgacg tttccgcctc gagcttcctg caggtgctcg agcagactgc cgcccagaac	660
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caggacgaga tcgagcatca ggacgcgcag atggccgcca gcggcgtgcg tcccggctcc	1140
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<210> 1104
 <211> 402
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1104	
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gcgaccgagc tcatcaatcg ccagggtgcc cagatcgtcg acgtccgcaa ggcgggccgac	180
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cgtcccgtcg cccgactgct tcgcggcgtg ggcttccaac gggtgaccat cctagagcga	360
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<210> 1105
 <211> 648
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1105	
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gcgacggggcc tcggcgccct catcacctca tcgcccgcac tctatgcagg cctgcagctc	240
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<210> 1106

<211> 954

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1106

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acggacttta cgttcgaggg gccgctcatc accctcaggc gcttcatgat ggactcgag	780
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tggcaccact gcagccacac ggaccccttc ctgcagtggg tgagggggct cgtggtggat	900
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<210> 1107
 <211> 684
 <212> DNA
 <213> Sutterella wadsworthensis 2

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<210> 1108
 <211> 372
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1108	
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cgcgcgctcc ttgcgcacgg cgtcaagatc gagcatgcgt gcgaattttc gtgcgcctgc	180
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gagcttgatc atctcgacac cgcttggggc gccagcgtgc tctcccgtct ctcctgccag	300
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<210> 1109
 <211> 1245
 <212> DNA
 <213> Sutterella wadsworthensis 2

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gacaagggcc gtcacctcat cacggtgaag accgagcaca aggccgtgct cgactccatg	360
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gtcgaccgcc tcaaggtcga cctgatgagc ctctccggac acaaggctcta cggcccgaag	660
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agctcgatcc gcttcacgct cggccgcttc acgaccgagg aggagatcga ctacgtgatc	1140
aagaccctcg tcgaaggcgt caccgcctg cgcgagatga gcccgtctg ggaaatgcac	1200
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<210> 1110
 <211> 1029
 <212> DNA
 <213> *Sutterella wadsworthensis* 2

<400> 1110	
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gtcatcgcca cccgcgaaag ccccttgcc atgtggcagg cccttcacat ccagtccgtg	180
ctgcgcgccc gctatccgtc cgcgagcgtg gagctcctcg gcatgacgac gcgaggcgac	240
cagatcctcg accgcacgct ctccaagggtg ggcggaagg gactcttcgt gaaggagctt	300
gaagtgcgca tggaggcggg cgaggccgat ctgcgccgtgc actccctcaa ggacgttccg	360
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ctcggttaa	1029

<210> 1111
<211> 1482
<212> DNA
<213> Sutterella wadsworthensis 2

<400> 1111
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gcggactggg cggacatcta ctttcagcag accgtctccc gttcctggat tctcgacgag 180
ggcgccgtca agacgggcgg attctccatc gacaggggcg caggactgcg caccgtctgc 240
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tcggtcatcg cctcggaaaa cggcaggcgc gagcgagcct cggccggagg cggcgcacgc 660
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gaggccctca agcacatccc gctcatcggc aacgatcttg cacttgacga gggcacggga	1380
cagtgtggca aggacggcca gcaggtaccc gtgggcgtag gcatgcccac catccgcatc	1440
gatgcgctga ccgttggcgg cactgcggaa aatgccgttt aa	1482

<210> 1112
 <211> 579
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1112	
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gtctgggtccc atccggcaca catgatcgcc acgttctttg gtgcgggtct tccgtccaag	180
gcgcccggca cctacggctc gctcgcgggc gcgctctcct tcatcgtgct ctctccggcc	240
atgacgaccg ccgcgtgggt gattctctcg atcgccctct tcatcgcggg cgcctgggca	300
gcggggaagg ttgcggcca tctcggcgtc gaggaccaca agggcgtcgt cgtcgacgag	360
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gaaaagatga agaacggcgc gggcgtcatg ctcgacgacg tggtcgcggc cttctacgcc	540
tgggtcgtcg tcagcattct cggctggctc ttcggctga	579

<210> 1113
 <211> 786
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1113	
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tcgcactggt gctggacaca ggattggaag acggttgcgc gtgtcgtctc gcacgcgggc	180
cgctttctga ccggcattga aatccacccc ggcgccagaa tcggccgtcg cgtcttcac	240
gacatggca tgggcgtcgt catcggtgaa acggccgagg tgggcgacga ctgcacgctc	300

tatcacggcg tgacgctcgg aggtacgagc ctcgccgaag gcacgaagcg ccatcccact	360
ctcgaaccca acgtcatcgt cggcgctgga gccaagggtgc tcggtgcctt caccgtgggc	420
gagggcgccc gcatcggttc caatgccgtc gtcatacaagc ccgtcgccgc cggcgcaacc	480
atcgtggggcg tgcccgggccg ccaggcgggc gagaacaagc ccgacgaagc gaagcgcttc	540
gatgcctacg ccgttgaaaa gagcgacgac ccgtactccg tcgccatcaa ggagctcgtg	600
cgcgtgacgc acgagcagaa cgccgtcatc gagaagctga gcgagcagat ccgcgagctc	660
ggcggcaagg gcgtcgagga catcccgaag gtgaacgtgg ggaacatcgg cgtctctacg	720
cgccgtgccc gtcaccatag gcagaagaaa aaggctgtcg agacgccgca ggatcctcag	780
tcctga	786

<210> 1114
 <211> 1089
 <212> DNA
 <213> *Sutterella wadsworthensis* 2

<400> 1114	
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gcgggcggtc tcggcgcat tcccgccgcc ggtctcgctc ccgacgagat ccgcgccttt	180
gccgcgcgcg tgaaggagct cacgcagaag cccttcgccg tgaaccttgc tgtgcccgtc	240
gacgcgcccc cggatgcggc ggaacgcttc gagcgtttcg gcgacgccgt ctcgatgctg	300
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gcagccgtca tctcgtcctt cggcggcttc cgcgagcccc aggaggagaa gctcgccgaa	480
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gaggatcccc aggacgctct cgtcgggtctc atgtccctcg tgcccgcgcg cgtccgcgcg	660
acggggctgc ccgtcatcgc ggcgggcggc atcgccctcg ccgagcaggt gaacgcactt	720
ctggccatgg gcgctgcagg cgtgtccgtc ggcacggccc tgctgacgac ggccgagtcc	780

agcgctgcg acgcgcaccg ctactacgcg gagttcggca cggcctgcga caccgtactc	840
acgcgcatct acaacggcag gctcagccgc gtgctcagaa acgcgctcgt cgaggccctc	900
gacgactggg agctcatgac ggccggctac ccctctcaga aggccctgat gggccccctt	960
gacaggtgtg cctccgaagt cggacgcaac gacctcgtca tgctgcctct gggacagtcc	1020
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gcagactga	1089

<210> 1115
 <211> 954
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1115	
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gctgacgccg ccaagcgctt cggcggcgga agctcctttg gccgtcccgc accgactttc	120
agccagaagg ctccggcgcc gtccgccgcg cccaaggcgc cccaacagca gaatgctgcc	180
ggccagcagc gccagcagcc caaccccgt cccgcgcagc agggccagcg tccgtccatg	240
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ctcggcattg agggcgagg cctggtgagc ctcatcacag gcattctcgc tgccgtggcg	360
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tccggctatg ccgagccgat tcagtacagc gacgtgcca aggatgagcc gcagcaggcc	480
gcccgtacgt acgaagcgcc cgcggctgct tccggcgccc gcaccggtag cgtgatggac	540
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aacgagctgc tcggcatcac cgagtccgac ggctctacc tcgccaacat ccgctttacg	840
ggcaggatcg aaatcgatgg tgaagtcgag gagttcgatg agacctggat cctcgaagg	900

cccgctcgaag gcgacgaggg ctggctcctc ggaggcattc agcagaacgc ttga 954

<210> 1116

<211> 579

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1116

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gtccacaaga tcgaggagtt cgactgggtt ccgggcgtcc ttgaggccgc ccgcgccctc 120

tcggaagcag gctacctgct cgtcgtggtc accaaccagt cgggcatcgg acgcggatac 180

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gcaggccgcg ccgcaggctg cgttgagcgc attcagctcg gcaccgacgg ctttgaggcc 480

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ccctggttcg cacaactcaa gcaaaggagt ctcccgta 579

<210> 1117

<211> 618

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1117

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atcaactgga cggcgctctc gaccgtcacg gccgtcaacc tgatctacac cgaaatccag 120

gctccgctcg gcgttctcgt cgtgggcggc ttcgccgcgg tggctcttcgt gctgctcgtc 180

tacatggtct ggcagcaggc cagcgtcacg cttgagcttc gcgccgccta caaggaggct 240

cgcaacgccc gcaccgtggc tgacgacgcc gaaaagagcc gctttgccga aagcaaccgc 300

attctgctcg agcgcattga aaagctggag gccctcatga cggcccgctc cgacgagacg 360

ctcaccgccg tccgtcagga ggccgtccgt gctgaagagc gctacaaggc tctcttcgac 420

gaccagaaga gggctcaggg cgagctgacc gcccaggtcc agacgcagat cggcgccatg	480
gaaaagcgcg tcgtcgagac gctgccctcc gccgtttccg ccgccgtgcc gacgcaggct	540
ctggctgaag aagctgaaaa gaaggcggac gccgaagaaa gctgcgcccc caagagcgtc	600
ttcaaggacc tcttctaa	618

<210> 1118
 <211> 1083
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1118	
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cacggtcttg agaatgccgt cgaggccttc gccgatgcgg acggctttgc gaccatcgac	180
ctgtgcgacg ccgaacgcgc gcgccgcgcg ggctggcaca agcgcgtgct gcttctggag	240
ggcttcttcg atgaaacgga catcgagccg cttcaggacc ttgacgtcga gacggctcgtc	300
cactccatgt ggcagatcga cattctcaag cgtctccagc tgcgtgaggt gaaggttcac	360
atcaagggtga actcgggcat gaaccgtctg ggcttcctgc ccgtcgaggt gggcacgatc	420
tacgacctcc tcacgtccat tccgggcgtg aaggatgatgg gcgtcgtcac gcactttgcc	480
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tga

1083

<210> 1119

<211> 495

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1119

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gcgcataccc gggaaatgta cggcggcagc aagctcacga ccaacaacca gatggaactc	180
acggccgtca tctcggcgct ctcggtcttg cgccgcaagt gcccgatcat catccacacc	240
gacagttcct acgtgaagga cggcatcacg aagtggatcc acggctggaa gcgcaacggt	300
tggcgaaccg ccgacaagaa gcccgtaag aatgcggagc tctggcagca gcttgacgaa	360
cttacctcgc agttcgacat cgaatggcgc tgggtgaagg gacacgcggg cgacccgggc	420
aacgaaaagg cggacgagct tgcgaacatg ggctgcgaag tcgcggccgg cacgcgtccc	480
gctccgaact attga	495

<210> 1120

<211> 714

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1120

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gccatgggca ggctcgtgcg cgagcagctc gtcaaggcgg ccgacgccct cgagaagctc	120
gacgccgacg aagcccgtc cgatcatgacc cgcgacgctg aggtcaacgg ctacgaggtc	180
tccgtcgacg cgaagatcga atccgtcttc gcccgccgcc agcctgccgc ccgcgacctg	240
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gacgacgtct accgcacgac gctcaggagc ctgacgtgc acatgatgca ggatccgtcc	540
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cacgtgaaga acgtctgcga ggccgtcatc tacattgagg aaggtgcgga cgtgcgtcac	660
gagttctata ctggcaaaat ggaatcctgc cgaaacggct ctgccgaagg ctga	714

<210> 1121
 <211> 1113
 <212> DNA
 <213> *Sutterella wadsworthensis* 2

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gagtccgcgc gtcaggactt cgctcaggca gagcagcccc ctgccctgga agacgccaag	180
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aacgtcgtgc gcaacttcgg cctcgatcct gaaaagcaca tcggcttcgc gttcggctcc	1020

ggcctcgagc gcctcacgat gctccgctac ggcatcgacg acctgcgctt cttcttcgaa	1080
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<210> 1122
 <211> 627
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1122	
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catcagacct acgtcaacaa tctgaacggc ctgatcgccg gcacggactt cgaaggtaag	240
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gcccttcttg aggcgatcaa tgcaatctgg ggttcctatg acgccttccg caaggccttt	420
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<210> 1123
 <211> 561
 <212> DNA
 <213> Sutterella wadsworthensis 2

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aaatcccagc tcaagcgcga gcagaacgcg ctccaggatc tcggacgcga gatgacgaag	120
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tcccgcgccg ccgtcgccct gcttcaccgc tgcgagacgc tgcgcgacca aatgcttgca	360
ggcgacgaag cgctcaccaa attcatcagc gagcatcccc aagctgacat cccacgcctt	420
cgcacgcttg tgcgtacagc tcgcaaggag cgcgaggcac agaagccgcc caagagcgcc	480
cgcgagctct accgctacct tcatgatctt ctcgaagagc ccatcagcct cttcgccgaa	540
gacgacgaga acgaagaata a	561

<210> 1124
 <211> 846
 <212> DNA
 <213> Sutterella wadsworthensis 2

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gacgtgggcg ccaagattca ggccgtctat atggccgcag ccgcatgga cctctcctgc	720
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<210> 1125
 <211> 1269

<212> DNA

<213> *Sutterella wadsworthensis* 2

<400> 1125

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ttcgactaa                                           1269
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<210> 1126

<211> 369
<212> DNA
<213> Sutterella wadsworthensis 2

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tgggtgggaa ggagttgccg attcgttccc acgtgttcaa actatgccat tgaggcactc 180
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aagaagtag 369

<210> 1127
<211> 651
<212> DNA
<213> Sutterella wadsworthensis 2

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<210> 1128

<211> 447
<212> DNA
<213> Sutterella wadsworthensis 2

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atcaagaaga ttcgtcagca gcgttaa 447

<210> 1129
<211> 603
<212> DNA
<213> Sutterella wadsworthensis 2

<400> 1129
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<210> 1130
<211> 978
<212> DNA
<213> Sutterella wadsworthensis 2

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aactacaggg accgggaaca gctcagggcg ctgtgcgacg aaatccacgc cgtgcgtccg 180
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<210> 1131
<211> 672
<212> DNA
<213> Sutterella wadsworthensis 2

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<210> 1132
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 <212> DNA
 <213> Sutterella wadsworthensis 2

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<210> 1133

<211> 1089

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1133

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cgggactgcg tggaggccat ccgcaccatg cgcgtccgcg gcgctccgct catcggcatc	180
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 <211> 1065
 <212> DNA
 <213> Sutterella wadsworthensis 2

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<210> 1136

<211> 951

<212> DNA

<213> Sutterella wadsworthensis 2

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<210> 1137

<211> 1848

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1137

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aactatgcgg gcgtgaccgt cgagcgcgtc gagggccaac tcatcggcgc gcccgagaag	180
atccgcgtgc tcgaccttcc gggcacctat tcctttcatc cgcgctcgcc cgacgagaag	240
gtgacggtcg acgtcctcaa gggcgtcgcg cgcggcgagc gcaggcccga cctcgtcgtc	300
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gagctcaagg ccgaggacct ctgcgcgag ctcggcgtgc ccgtggctga gacgatcgcc	480
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aagctcgggc ttgacaagat cttccccgac gaattttccg accgcatcga tcgcgtcgtg	660
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gcggtgcccc ccatcatggc ggctcgcacg gtcggcaacc agcgcgaccg ctgggcgacg	1080
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gagatgggca cctggaaggc gccggctgtc ctgtgggtgg cctacacgct cctcgcttac	1800
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<210> 1138

<211> 471

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1138

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cgaaccgtgg gcgacaaggg ctttctcacg gtcaaggagc gcggaagcgg catcgcgcac	180
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gaaaagcccc tcatcgccaa aaccgcacg aagattccgt ttgcgggctt cgtctgggag	300
gtggacgaat tcttcggcga caacgagggc ctcgtcatgg ccgagatcga gctgccatcc	360

gtggatgctt ccttcgagaa gcccgagtgg atcggcgagg aggtgacgag cgatccgcgc	420
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<210> 1139
 <211> 1473
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1139	
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gccgaagagc acaagtcgga cgttccgctg ctcatgagca tccttgacaa ggccgcccag	180
ttcaagggcc tgacccaccg cgaagccgcc gtgtgtctcg cctgcgacgt caaggaggtc	240
aacgacagga tcttcgagac cgccatcaag gtgaaggagc acatctacgg cagccgcadc	300
gtgctcttcg cgccgtcta cctctcgaac tactgctga acacctgcac gtactgcccg	360
taccatgcca agaacaagag catcgtgcgc aagaaactca cgcaggagga gatccgcaac	420
gaggtgatcg cgctccagga cctcggccac aagcgcttgc tccttgaggc gggcgagcac	480
ccaagcaca atccgatcga gtacatcctc gagtccatca agaccatcta ctcgatcaag	540
cacaagaacg gcgccatccg ccgcctcaac gtgaacatcg ccgccacgac ggtcgagaac	600
taccgcaagc ttcacgaggc cgagatcggc acctaccagc tcttccagga gacctacaac	660
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gaggcgcacg accgcgccat ggaaggcggc atcgacgacg tgggtctcgg cgtgctcttc	780
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gccgtctggg gcgtcgggtcc gcacacgadc tccgtgccgc gcatctgccc ggccgacgac	900
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ctcatccgca tggccgtgcc ctacaccggc atgatcatgt cgacccgcga aggccagcgc	1020
atccgcaccg aagccctcaa gctcggcatc tcccagatct ccggcggctc ccgcacgtcc	1080
gtgggcggct acgccatccg ctccgtccag gagatggagg agaagaccga acagttcgag	1140

acgaacgacc gccgctcgct cgacgaaatc gtccgctggc tcctcgagaa ccactacctt	1200
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gccaaggacg gcagcatcgc cacgtactgc caggccaacg ccatcatgac gatgaaggag	1320
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<210> 1140
 <211> 966
 <212> DNA
 <213> Sutterella wadsworthensis 2

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cttgaggggc gcctcggcgt cacgctcttc gagcgacccc gcggccgact ctttctttcg	180
gccgaaggca gacgcctcaa gcccgcgcc gacgagctca tggagcgac agacgacatc	240
gagtcgctct tttcgggtcg cacgacgggc cagctcaggc ttgcctgtac gttcacgac	300
ggctccttca tgctctcgga cctgatgcgc gactttcagg cgacgcggg ctggatgccc	360
gaaatgcgca tcgccaacac cgccgagggt gccgaatcgc tcctcaactt ctcgaccgac	420
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gacgaaatgg tcgtgggtgg gcccaagggc caccgtctca cacagggcgt cgcgacctgg	540
gagcaactct ctcgagagcg ctggattctt cgagaggagg gtcgagcac ccgaatcttc	600
ttcgacgccc agatcggcct tcacctctcc gagcacaaca tcatcgcgaa cgtcaacagc	660
ttcgaggcga tcgtcggcat gatcatcaac ggcatgggccc tcaccttcat ctccgagcgc	720
atccttcacg atccgttctt cggcccgcac ctcaggcgcg tcaagtgtcc cgagaccttc	780
acaaggcagc tctccttctg catgcacaag cagaagtacc gtcctccga cctccaggct	840
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gcctag

966

<210> 1141

<211> 756

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1141

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tggaatcccc gcgccatgac cgaggacgtg caccgcacgg tcgacgaccg ccccttcggc	180
ggcgggtcccc gcatggtgat gatggccgat ccgctcgcga agacggtcga catgatccgt	240
gcatccggca accgcggccg cgtcatctcc tttgcaccca acggcacgaa gctcaccgat	300
gagcgcgttc gccgcatggt ggccgaggat gagagtgtcg tactcgtgtg cggacgctat	360
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ttcgttctct cgggcggcga gatccctgca tgcgccctga tggacgccgt agtgcgacag	480
ctccccggcg ccatcaagga tctctccacg tcggacgaga gctttgacgac tgggcttctt	540
gacgcgcccc actatacgcg tcccgaagtc tggcgcggca tggagggtgcc ctccgtgctc	600
atttccgggc accacgcaaa catcagcagg tggacgcgcg aagaaagttt gcgattcacc	660
ttgcaaactc gcccggactt gattaaaatc gcggattctt ctggcaagtt gagcgatgcg	720
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<210> 1142

<211> 777

<212> DNA

<213> Sutterella wadsworthensis 2

<400> 1142

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gccgcccaga agcgcgccct tgacgagtcg ctcccgcaat accagatcga gtacgcccc	180
gagcttctcg acgccgacaa ggccttcggc cgccacgccc cgctcgttct cgaaatcggc	240

tgcgcatgg gcgagacgac cgccgccatc gcgcaggccc accccgaggt caacttcctc	300
ggctgcgagg tcttcgtggc cggcgtcggc gcgcttgcca agcgcctcga cgagatgtcc	360
ctcaccaatg tgcgcatcgt ccgccacgac gccgttgaaa tcgtgcgcga catgatcgcc	420
gagaactccc tcgacggcgt gcacatctac ttccccgatc cctggcgcaa ggccccgcat	480
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ctcgagggcg aaccgctcct cgagaacctc cacggcgccg gcaacttcag ccccgatgatg	660
ggcaaccgct tctgcgagcg tccccgcacg aagttccagg cccgcggcga acgcctcggc	720
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<210> 1143

<211> 690

<212> DNA

<213> *Sutterella wadsworthensis* 2

<400> 1143

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cacatggtca aggttggtca cttcatgagc accaagaact gggttcagac tcaccgcggc	180
agattcggcg gcctcaccct caagatgcac ccgtccgaat acaagatcgg cgacatcggt	240
cagattcttg aggaacaggg cgaactcatc gactgcttcg agccgcacga atgcgccctt	300
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ctcaacacgg ccacgcttga gacgctcacg aacagcgacg aaatcaggga aatcatctcc	420
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gcactgatcg cccccaaaaa gccccgccag gcgcctgcct gcggggcttt tccgttccgt	600
cgttttcgct ttttctgac gcctacacca ggaagaacct cgccgaaacg ccgaagacgg	660
ccgcgagctt cgttgcgaac tcgggcgtaa	690

<210> 1144
<211> 1206
<212> DNA
<213> Sutterella wadsworthensis 2

<400> 1144
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atggaaaccg ttccgctcct ctattcaacc caccgcgtgc tcgccgaaga catcgtgagc 120
cctatcgctg ttcccggatg ggacaactcc cagatggacg gctacgcggt cagagcggcc 180
gagctggctg aggcgtccga agatcatccc gtcgtgctgc ccgtttccga ccgcattccc 240
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gcctga 1206

<210> 1145
<211> 513
<212> DNA
<213> Sutterella wadsworthensis 2

<400> 1145
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gacgaactgc gcaagctcgg cgtgatggaa gaggacgtga cgaagggtgc cgtgccgggt 180
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tccggcagcg gcatcacccg cgtctgtctt gactacgaca ttcccatcgc caacggcgtg 360
ctgacgacgg aaaacgacga gcagtgcgag gaacgcatcg acatgaaggg ccgcgactgc 420
gcacgctgcg ccgttgaaat ggccaacttc gccaaaggagt tctgcgtcga cgagttcgac 480
gaggatttcg atgaagtgc ctccgaagac tga 513

<210> 1146
<211> 750
<212> DNA
<213> Sutterella wadsworthensis 2

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gaggagaaga aggccgccgc gcccgtccc gccccgcgc ccacgccga ggacgtcgtg	660
ctccttcgcg aaatccgcga tctcctcaag agcggcgccg cctcgaacgc cgaggtcaag	720
gccgccgtcg aaaagctcca gcagcaataa	750

<210> 1147
 <211> 1059
 <212> DNA
 <213> Sutterella wadsworthensis 2

<400> 1147	
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caccgcgcct gtcagggtcg cggcgaggcg ctcggcgccc gctacgcgggt tgatgcggcg	180
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<210> 1148
<211> 1872
<212> DNA
<213> Sutterella wadsworthensis 2

<400> 1148
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aagacgggcg gccatctttc gagctcgctt ggcgcgacgg agctcgccat cgcgattcac 180
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caggtcattc atgacgtggc gctccagaac ctgcccgtcg tcttcgcaat cgaccgaggc 1260
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ggcgtcgagg tgacggccgg gggcgggacg attcccgtcg gccgctcgcg caccctgcga	1500
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gccgtgcttg aggccgcgcg tacgcacgat atgatcgttt gtgccgaaga gggcatgctc	1680
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gtgatgcgct tcggcctgcc cgacgagttc atcgaacagg gcacgcaggc cgagcttctt	1800
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<210> 1149

<211> 768

<212> DNA

<213> *Sutterella wadsworthensis* 2

<400> 1149

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 <213> *Sutterella wadsworthensis* 2

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<212> DNA
<213> Alistipes obesi

<400> 1152

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<211> 2436

<212> DNA

<213> Alistipes obesi

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 <211> 2157
 <212> DNA
 <213> Alistipes obesi

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<211> 2208

<212> DNA

<213> Alistipes obesi

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 <211> 408
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tacgacaaat acgtaaacga ctttttcggc gacccgatag gactgggcaa cgtcccgtcc	240
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agctgccttt cgggcagtga aaagcgcgga ataatatgcg ttgccgccgc atacgcaatt	540

ctgtgcgttg tgttttcaaa cgtgttgagc ggaatcatgt cggtcataat gtcgtccgtg	600
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<210> 1209
 <211> 819
 <212> DNA
 <213> unclassified Prevotella

<400> 1209	
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ggttggcgcg gttatggcaa agaccatttg cctaactgct ggaatattga tgagggcgca	240
ttgcatttct cacgcagcaa cggtaatgaa ggaggagata ttattttcgc ccacaagttt	300
aagaactttg agcttgaact tgaatggaaa gtagcaaaag gagctaattc tggatatcttc	360
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cagcattacc agaacgacgt aaaagttgta gaatataaga tgtggacgcc ggagtggact	660
caattgttgc aagaaagcaa gtttagcgaa aaggcatggc caagggcatt cgaactgctg	720
aacaactgtg gtggcgataa ccacgaagga tacataggcc ttcaagacca tggcgacgat	780
gtatggtatc gtaatatcaa agtaaaaagta ttgaaataa	819

<210> 1210
 <211> 777
 <212> DNA
 <213> unclassified Prevotella

<400> 1210	
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gaaagagtta gacaaactat accggatact tttgtggcgg tcgacgacga acgtattaag	180
tcatgcgtcg aatcttttgg agggaaaagcg ataatgactt ctgtagagca caagagcgg	240
acagatagaa taaatgaagc atataacaaa ataggtttgg attgcgacgt agtaataaac	300
gttcaaggag acgagccttt tattcgctgc gaacaactgg aggctttgat gaagtgtttt	360
gatgaccag gtactgaaat agcaactctt gttaagcctt atccgggaaa cggagacttg	420
tcaatgctaa tcaatgcaaa ctctccgaag gttgtggtag ataataacat gaatgcttta	480
tatttcagcc gttccgttat accttttatc cgtggagcag aacaaagcag ctggcttgaa	540
aagcatactt actacaagca tataggcata tatgcatata aggctaaagt gttgtctgaa	600
ataactaaac taccgcaagg aacttttagag aaagccgagt ctttggaaaca gttgcgttgg	660
cttgaaaacg gatataaaat caaagtaggc ttaacagacc ttgagacaat cggatatagat	720
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<210> 1211
 <211> 732
 <212> DNA
 <213> unclassified Prevotella

<400> 1211	
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cgtatcatta tgggcataga cccgggaacg aatatcttgg gatacgggggt gctcagcgtg	180
aacggaaggc aggccaagat gggtgccatg ggtgttatcg acctgcggaa agtaaaagat	240
gtgtatctta agctcgggcg tatttacgag cgcataaatt cgcttatcg c aagtttcctt	300
cccgatgagt tgagtatcga atctcctttc tttggaaaga atgcgcaaag catgctgaag	360
ctgggccg cg cccagggagt agctattgcc gcggccatca ataaggatat acctatacat	420
gagtatgctc cgcttaaaat aaagatggcc ataacgggaa acggacgggc ctcgaagcaa	480
caggtttcgg caatgttgca gcgttacctt aatataaagg aagaaattct gcttccttat	540
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atgtacagca cgtcggccgc cgggaaaata aagggtgattg acgaagctgc gttgatgaag	660
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agggtaaggt ag	732

<210> 1212
 <211> 861
 <212> DNA
 <213> unclassified Prevotella

<400> 1212	
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gatgatttcg acagcataat gaaatggtac tcacggcatg ccgacaaaatt gtataaagtt	180
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ttgcgggctt cagggaata tacaatgta gcaaccacgg gcgataccgc taatatatgg	300
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gactcggtta cgtcgggtaca gcaacaattg tacggaaaca tggacaatac tttagtgttg	540
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gattcaaagg caaagctgtt gttcttgtcg aaattcgtac ttgtgcggtt tcataatacc	660
gaaaaacgcg acagtatcat aatatcaa ataccgacagta cggccgttaa aggtgacagt	720
tcaaaggtta tgaccgaaaa agaaaagcaa gagttcatag attccataca gaatacggca	780
aacggcgata ggcaaggaga tcatttcaga acagctcccc gaagaagggc tatgcctcgt	840
gagaagatat tgccgagata a	861

<210> 1213
 <211> 558
 <212> DNA
 <213> unclassified Prevotella

<400> 1213

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cagggcttgg gaatcgcgac tcaggataag aagataattg atacggcgat aaatgagata	180
acggcaatca caggtcagaa agcagttgcg acagtttcga aaaaagatat atctaatttt	240
aaacttcgca agaaaatgcc tatcgggtgtt atggtaacat tgcgtcgtga gcgcatgtat	300
gaattcttgg aggaacttat tcgtgttgct ttgcctcgta tacgtgactt caaaggaatc	360
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cccgaaatta acatagattc tgttgagcgt attatgggta tgaatataac attcgtaact	480
acggctaaga cagacgagga aggttacgct cttctgaaag aatttggatt gccttttaaa	540
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<210> 1214
 <211> 684
 <212> DNA
 <213> unclassified Prevotella

<400> 1214	
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gtagaaaatta catcctggat gtatcttcta tttgtagaaa acagcgggat ggctttcggc	180
atgagtttca taggaaccat gttccttaca atagttagga ttgcccttgt cgttcttttg	240
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agtttcatgt ctggaaagggt ggtcgacatg ttttatttcc cgattattga gactgacatt	480
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<210> 1215
<211> 1227
<212> DNA
<213> unclassified Prevotella

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gcgttcattt actataaaag attgCGCCgc tgcaagCGcc tctttcccaa aatactTTTT 180
gcactcccta accttgTtct actggtgTta accatttatt tcatggtgca cgataacaat 240
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cccgaattaa ttttttccgc ctttctCGgt atttcattgc tcttaaaaaa caaaatgcgg 360
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ggatatgtat cgtgttttac tgtaataaaa gtaggtcacc acaactatac gtccccgac 480
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atcataacat tacattccag caaatga 1227

<210> 1216
<211> 1554
<212> DNA
<213> unclassified Prevotella

<400> 1216
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gatgattcag taataggagt cattttgagc gggtcgcctt atagcgtgta cgacccaag 180
gcttttaagg tcgatttggg caaattgtgc gggcggtatc cggatttggg catttgttat 240
ggagcacaat acatagcata tactcatggc ggaaaggtag aacctgctgc aacgcgcgag 300
tacggccgcg caaaccttgc gtcctacgac gcaaagaatc ctttgttcaa aggaatatcc 360
gaaaattcac aggtgtggat gagccacggc gacacaataa cggctttgcc cgaaggattt 420
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gtaattctcc tgccgatccg cagcgtagga gtgatgggcg atgagcgcac ctacgagcag	1380
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ccgtatgact ttcttgcgca ggtgagcaac gacatcattc gcaacgtgcg cggcgtgaac	1500
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<210> 1217
 <211> 804
 <212> DNA
 <213> unclassified Prevotella

<400> 1217	
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cgcaatgcac ttgaaacgtc ctgcacggc ataattgcgg aattcaagag gcgttcgccg	180
tcaaaaggct ggattaaacg caaagcgaac ctttcagata taatacccgg ctaccggaaa	240
agcggagctg ctgcgtgtc ggtgcttact gatgaaaaat atttcggcgg aactctcgat	300
gacgtgcttg cagcgcgccc gcttgccgac atccccatcc tgcgcaagga tttcacagtc	360
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gccacgctgg gcgtgaacga atgcaggcac ctgcgtgccg ttgcgcacga actgaaactt	480
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gcacaaacaa ttttaagatt gcagttgctt ggcttcaaag gattccttat aggagagtcg	720
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<210> 1218
 <211> 1458
 <212> DNA
 <213> unclassified Prevotella

<400> 1218

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gcggaatatt actattacga tatgtcgaaa gacgctgagg ctttgcgttg cttagactat	180
gcgctgaagt tgcacacctga gtcgttgccct gtaaagctcc gtatatccga gataaggtat	240
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cccgatgtgt tgtatttttca cgggctttttt tcgctcgaag agaaagacta ccgtaaggcc	360
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cagatgtcgg gtcgtccggc tgaagccgta aaactcgtgg aaaaactgat agacagtgag	600
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gccgccgaag cggtagcat attggacgcc ctgctgttga agtatctcaa ggaaggcaca	1140
thccccgagc cgggtgtacaa tgcctatctt gthttgggcg attatgatga thtgataaaa	1200
gccctcgata cgacagthgc gthttgcagc tcgacagaca cgtgccagaa cthcgatacc	1260
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aattatctga agacggcagt tgaaaaatcc ccgggggtag thgcaaggth gthtgaaagc	1380
gtattccccg aaagccttga tgtaaaggac tattatactt atgccgagcg gggtagctg	1440
aacagtaaaa taaagtag	1458

<210> 1219
<211> 993
<212> DNA
<213> unclassified Prevotella

<400> 1219
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gctcatgcgg tagtaggcaa aagtcaagtg gatgacgatg tgctggacgc tttggaagaa 180
actttgatta cttccgacgt aggcgtagat acgacgctcg aaataataaa agaatacaa 240
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gaaatcgaag caatgctcgc actcaacgat accagcgaaa gctccattgc taaaataggt 360
gagcgcgata ctcttatgt gataatgggtg gttggagtga acggagtggg taaaaccacg 420
accataggaa aattagcaca catgttcaaa caggcgggac tgaatgtagt gctcggagct 480
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<210> 1220
<211> 1071
<212> DNA
<213> unclassified Prevotella

<400> 1220
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ataaacgagg ttgtcgtagt ggaatcagac tcatacgaca ggaaattcaa tgcagcaaag	180
gccgagaagc ccgttgcgcc cccgaagtcc gaaaccgtgc ggctgtgaaaa gacggccgac	240
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ttctataaaa cgggagcttt taagaagaac gacttttttg tagagccgac gctgatttac	660
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<210> 1221
 <211> 1068
 <212> DNA
 <213> unclassified Prevotella

<400> 1221	
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agcgaaaaag gaataaagat attccgcgcc ggaatatgga agccacgcac caaaccggga	180
ggcttcgaag gaataggcga gcaggggctg ccgtggatgc agcgtgtgaa aaaagaactg	240

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ggcatagata ttttgtggat aggcgacgc acttcggcca atccctttgc aatgcaggaa	360
atagccgacg ctctcaaagg cgctgacgtt cctgtgctaa tcaaaaaccc ggtaaatccc	420
gaccttgaac tttggattgg cgccattgag cgcataaacg gagcgggaat aaagcgcata	480
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<210> 1222
 <211> 540
 <212> DNA
 <213> unclassified Prevotella

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ggaatactga caggagaaaag catgttgaag ttgaattccg accaaataac cttgattgcg	180
tatatgatat tgcgtaacga agttatggaa ggaggtttca tacagcttat tcataatggg	240
tacggcccgt tcatattcga aaatccgttt gcaaaggcca tgcgcctcat gggattgcac	300
gattttctcaa aactgttgta tgatgtaaga cgccagtatg tgaatagcgg tagcaaactg	360
actaaggatt gcagcgatga agaatttatg gcattgtacg agcaacatcc cgagtatgat	420
gagtatgatg atgaattcat agagcgagaa ccggaataca ctgaagcaat agcgcgatat	480

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<210> 1223

<211> 1404

<212> DNA

<213> unclassified Prevotella

<400> 1223

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aatgcaaccg aaacatatct cggagccctc aagggtgtta taggtgtaga gcctatttgt 180

tttgcgagct tcccgaatgc ggctttggta aacactcagt cggccaccaa tggcgttacc 240

gactcggcag ccggcggcac ggcgcttgca accggcaaca aaacaaaaaa cgggtgctata 300

ggcacgctta aagaccagac aacaccggta aaaagtatag ccgaggccgc acgtgatgca 360

ggcgcggcgg taggcgtatc taccacagtg tcgatagacc atgccacacc cgcggcgttt 420

tatgcccacg taaaagaccg caacatgtat cacgaaatcg gtgtgcagct aacaaagtcg 480

aatttcgact tctttgccgc ttcggatttc cttgagccgg taaaggacaa tgagaatctg 540

tacgaacttt cggaaaaggc cggatataacc atagcacgcg ggcttgccga ttacaaggca 600

aaggaagcaa catcggagcg catgatactt ttccagaccg aagaggcaag caaaaaggac 660

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gaaggcggta aaatcgactg gagctgccac tcgaacgacg cagcccccat gatagccgaa 840

gtaatcgaca tggacgaagc cgtaaaggta gcttatgaat tctacaagca acatcccgcac 900

gaaacactca tagtcataac cgcagaccac gaaaccggcg ggcttgtcct gggacgcggc 960

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<210> 1224
 <211> 567
 <212> DNA
 <213> unclassified Prevotella

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cggcagtttg cagagagttc ggtgtcatat cctaaacgtt ataaaatcag gccacgtgta	180
tatttcatag taataaaaaac cacggccaac acaatggaag aattcaaggc taacaacaaa	240
aagaacgcca ctgccaccga cagcacgaac gaggcagctg ccccgacaaa aaacgacaag	300
caggcagagc tggccgaaga gaaaaaaggc tggtagaag gctccattat gttcaaactgt	360
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tgcaaagcca acagcgcaat acactgctac gaacgtattg ttcagcattt gcgcaaccga	480
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<210> 1225
 <211> 468
 <212> DNA
 <213> unclassified Prevotella

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tcggaaaaca gcgaatacga cgctgcgaaa gaggcacagg caatgctgga aatgaagata	180
aacaaactca aagccgcat agcggaagcc aagataatag atgccagcaa actcaagaac	240

gataccgtgc agatttcttc gaccgtcgaa atgcgcaacg taaaaaaca cgcaggatg	300
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acacccgtgg cgcaaggatt gctcggacac aaggtgggcg aggtggtaaa aatcaagatt	420
ccgcagggag ttgtagagtt cgagataatg aatatctcgg taggataa	468

<210> 1226
 <211> 1371
 <212> DNA
 <213> unclassified Prevotella

<400> 1226	
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agcgaaacag ctgagaaatc ctacgttcct gcgctcgaag cgttgattga tatggctgaa	180
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gaaatattgg cagagccata ttcacacgga ctgtcgtcat tagctaacca cgaaagtttc	360
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ggattcaagg gaatgcttac cgaaggcgca aagcacgtat taggttggaa aagcccgc	540
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tctgaagaca ttagcttgcg tttcaacgat tcttcttgga gcgaatatcc tctttttgcc	660
gacaaataca tggaatggat agagcagctt ccacaagaag aacaaataat aaacatattc	720
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gaagaacgcg acaccagcaa ctggcttggg aacgtaatgc agcgcggaagc atacaacaag	960
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gtaaagttgc gcgccataat aacaaagctc acgcgagaaa gcgaaaaaag caaaaagccg	1320
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<210> 1227
 <211> 942
 <212> DNA
 <213> unclassified Prevotella

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tattatgcca cgggtgaggc attcgacatc tacgaatgcg acgcctgcgg aatgcggttc	180
accaggacg ctcttatcga agccgaagca gcgcagtatt attcctcgcc cgactatatc	240
tcacacaccg acatacgcaa aggactcttc aaccgcacgt accacgcggt gcgcacggta	300
atgctgcggc gcaaggcaca cctggatgat aaagccctgg gcagcaagga aggacgactg	360
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<210> 1228
<211> 513
<212> DNA
<213> unclassified Prevotella

<400> 1228
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gccagcaagt cggctaagaa agtttttgaa gaaaaactga aacagcgtgc tcacaaactc 180
gaaaaaatca aaaacgacgc actcgcactt gctgagcagc tttctaaact cgaagcattg 240
gtggttgcta caaaagtaag ccccaccggt gtaatttacg gttctgtgaa ctactgcaa 300
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<210> 1229
<211> 1899
<212> DNA
<213> unclassified Prevotella

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aagacaccgt gcgtcgtaaa cattaagttc ggcgggcatg tagggcagga cataaacgac 180
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<210> 1230

<211> 1695

<212> DNA

<213> unclassified Prevotella

<400> 1230

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gaatggatct cccgacgcaa tgacacggag caacttcccg gtctaacatc cgaatacggg	300
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<210> 1231
 <211> 1404
 <212> DNA
 <213> unclassified Prevotella

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gacgacgaac taataaagca aataaccacc ggcgcatgtc tgagtgtaga cggagttttg	240
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<210> 1232
 <211> 1086
 <212> DNA
 <213> unclassified Prevotella

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<210> 1233
 <211> 573
 <212> DNA
 <213> unclassified Prevotella

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ctgctcgacg taatacgcga atatgcaggc aagaagccca tgctgggtgt ttgcctcggc	240
gaacaggcaa tcggcgaaac cttcggagca aagctcgtga acctcgtgaa tgtctttcac	300
ggagtacaga ctcccgttga aataacgtcc gacgattata ttttcgacag cttggagcac	360
gaaattccgg tggggcgcta ccattcgtgg atagtaagcg acgaaagcct tcccgaatgt	420
ctcgaagtga cggcgcgag caaagaaggc tacataatgg cgctgcgtca cagggaactc	480
gacattcacg gcatacagtt ccatcccgaa tcggtactta cgcccgcagg aatgactata	540
ataaggaatt tcatatacca taaccaagcc tga	573

<210> 1234
 <211> 672
 <212> DNA
 <213> unclassified Prevotella

<400> 1234	
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ttagttgctg tgtctaaatt cactcatcc gaggacatat tggatgcata caatgccggt	120
cagcgaatct ttggagaaaa ccgtcctcaa gaaatgacgg agaagtacaa aattttgccc	180

aaagatataa aatggcacat gatagggcat ttgcagacca acaaagtaaa gatgatagca	240
ccgtatgttt ctatgattga atctgttgac tcaataaaac tattgcaaga gattaacaag	300
caagcagcga actgcaatcg aatcatcacgg tgtcttttgg aaatacacgt tgcaaaagaa	360
gaaacaaaat caggctttac acccgatgaa tgccgcactt ttttagacaa aggcgaatgg	420
aaaagcttta acaatattca aatatcaggc ctcatgtgca tggcgtcgaa tacgacggac	480
gaaaaaagag tattttaatga ctttgaaaca gctcaaaacc tattttaatga gtttaaggaa	540
tcacattttg ctcatgtgga ctcatctgtt tatcgttctt ggggaatgag taacgattat	600
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cgcaattatt aa	672

<210> 1235
 <211> 1098
 <212> DNA
 <213> unclassified Prevotella

<400> 1235	
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gacgtgttt attacctttc gttctgccgg agcagcaata cccctctgga tgcgcaggtg	180
gtcaggcatg agcaggatag tatggcaata cagggcgttt atatggacga cgacgggaat	240
gaagaggtaa tttcggccgg cgtgttcccc ggcaaacgca aacgtttctg ccgtaaccgc	300
aagccttacc agcgcctggc cgagcacatc gggcttgtgc cgctggtaat ggtttcgccg	360
caggacaacg tgctcgttac ggggtgggggc gaggaacgcc gcaagttttt ggatacggtt	420
atttcgcaat acgacaatat ttatttggac tcgctcataa aatacaaccg tgcgctccag	480
cagcgcaatg tcttgctgcg tggcgaggcc gaacccgacc cgacggtaat atccatattc	540
gaggagataa tggccgcaga aggagaaata atcttctcca aacggcgag tttcgtcgag	600
ctgcttactc cgatattcca ggactattat acaaccgtct cgagcggtaa ggaaaagggtg	660
gaacttgtgt acacgtccca ctgtatgcgc ggcccgtgc tcgacgtcat acagcgcgac	720

cgtgtaaagg accgcattat gggttattcg ctgcatggca tacatcgca cgagctcgac	780
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ctcgtggctc tgaagttcgc acagctcgaa ctgctcaaga gggtaggaag gcataccgtg	900
cctttgctgc tgctcgacga catcttcgac aagctcgacg ccgggcgagt ggcacagata	960
gtgaacctcg tggcgggtga cggcttcggg cagatattca taaccgacac caaccgcgac	1020
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ggagaggttt cggaatga	1098

<210> 1236
 <211> 393
 <212> DNA
 <213> unclassified Prevotella

<400> 1236	
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ctggaaaagg gcgtgaggcg aatgggtgctg tacacaacgc acggaagaaa ccgcgacttc	120
gtgggtgcgcc gcctcgacaa ccgcaacatc agctacgttg agcagcctgt gggtaacgga	180
cggataaaca tttttttcgg ttcagacgaa tgtatcgacg ccgtgcgcct gctgctcagc	240
cgcccgttgt acgaacttac gccggaggag gattttatcc tcggagctat gctcggatat	300
gatatttgcg cccaatgcaa acgctactgc cgccgcaagg gagcacaatg cgacgccaag	360
ctgcgcagct ggcccttaac cggcaggggc taa	393

<210> 1237
 <211> 927
 <212> DNA
 <213> unclassified Prevotella

<400> 1237	
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attatgtaca ggtaaagtt ttttgctatt ttaattataa cacaagcatt tgcgcaggca	120
tttgctacgg taaacgttat ttacaatccc gaggattccg ttgaaataga aaggtggcctt	180
tcggaagcac cttcgggaaa aacacccaac gagcttacct tatattttgc aaacaaaatg	240

ataggcaggc cttatgttgc ccatacattg gaaaggagcg acagcgaatg cctcataatt	300
aacatgaaaag aactcgattg cacaacattg gttgaaaact ccgcagcaat ggcaataact	360
gccaaacaag ggaaaaaacg tttctctgac tactgtgatg tgctgcgcag tttgcgatac	420
cgtaatggcg agataacaga ttattcgtca aggctgcatt acttctccga atggattaaa	480
tacaatgaag aaaaaggact tgttgaagac attgggaaaa aagggtgctta tccatttatc	540
gcaaaacaaa ttataaaggc tgacttcattg tctacaaatc cgcaatatta caagcagctt	600
aaaaacgaca ccgctatggg tgccaaaata aaggaagcag aaatgcgcat aagcggaacg	660
gctgtcaact atatacctaa aagtctgctt aacaacggga aagatttatt gggagaaata	720
aaagacgggtg acataattgc tctgattaca aataagaaag gattagaaat aagtcacgtt	780
ggaatcgctg tctggaaaaa cgggaaactg catttgctta atgcctcaag tctaaaaaac	840
aaagttattc tcgacacaca aaccttatat gaataccaga aaacaagaaa atcacaattg	900
ggaatccgag taatcagggt atattaa	927

<210> 1238
 <211> 573
 <212> DNA
 <213> unclassified Prevotella

<400> 1238	
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aacgattatg ctgcccgcta cggagtgtta cgcgaacttt ttggaggcat aggcgaggag	180
tgtaccgttg tttcgccttt ccattgcgat ttcggctaca atataacggg gggcgagaaa	240
ctgtttgcca acgttaacct ggtcatcata gattgtgcca gggttacgat aggcaataac	300
gtgttcatcg gccctaattgt aggaatctat acggccggac atcctgagga agttgatttg	360
cggattcgcg actatgagta cgcacacccc gttacgatag gcaacaatgt atggataggc	420
ggccatgcct gcatcctgcc cggagtgaac ataggcgaca atgccataat aggtgcgggc	480
agcgtggtaa cgcacgacat acccgccggg agcgtagccg taggcaaccc atgccgcgtg	540
gtgcgaaaaa tcaggcagga aagcaaggaa tga	573

<210> 1239
<211> 1170
<212> DNA
<213> unclassified Prevotella

<400> 1239
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gaagctgtag agaggggtgg taggtcggga atataccttt acggcaatga gacccggcag 180
ttcgagaaaag agtttgccga atattgcggt gcgcaatact gctacgcaac tgcaaacggg 240
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gacgaggtta tagtatcggc gcatacatc gttgccacgc tgctggctat aacgagggca 360
ggaatgcaac caatagtgtg cgacgccacg ttagacgatt atcttattga tgtgaataag 420
attgaatcgt tgataacttc gcgcaccagg gctataatgc cggttcactt gtatggtgct 480
gtttgcgaca tggaggccat acgtgccgtt gcagcggctc ataaactcaa agtggtggag 540
gacgcggcac aggcgcatgg cggcgtaggg cgcaatggcg caaaggcagg tgcgttgggc 600
gacgcggcgg ctttcagctt ttatccgggt aagaatctcg gcgccctcag cgacgctggt 660
gcggtagtta ctaacgacga agaactgata aaaacagtac gcattatatc aaattatggg 720
gcacaggaaa aataccgcca tggtctgccg ggaataaaca gccgtatcga tgaaatacag 780
gccgctgttc ttagggtaaa gctcccttat ttggaaaagg tgatagcacg tcgtagagaa 840
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gagacgggga acagtgtctt tcatgtatat ccggctttat gtggagaacg cgaccggctt 960
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ataatcgaac tgataaatca atttagatga 1170

<210> 1240

<211> 621
<212> DNA
<213> unclassified Prevotella

<400> 1240
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aagcctgcca tagtcatggg gctgtcgggtt acaattatta cggcattcag caaccttatt 180
atatcactta ttcgtaaaac tatccctaac agaataagaa taatagtaca gctcgttgctc 240
gtagcagctt tggtaacaat agtaagcatg ttgctcaagg cggtaggcata cgatgtaagc 300
gtgcagctgt ctgtgtacgt aggattaata attactaact gtatactcat ggggcgactg 360
gaagcctttg ccatgaacca cgcgccatgg gaaagttttc ttgacggcat aggcaatgga 420
cttggatacg catacatttt ggctatagta ggggctgtaa gagagatatt aggttccgga 480
agcctttttg gtttcaaatt catccccgat gccgcataca atttagggta cttagacaac 540
agcatgatga caacgcctgc aatggcactg ataatatggg gctgtataat ctgggtaagc 600
cgaataatac aaaaagacta a 621

<210> 1241
<211> 1074
<212> DNA
<213> unclassified Prevotella

<400> 1241
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ggccttgaaa tgaggaatcc gtcgaccgaa aaaggcgtgg gcgatgactg cgccgtgctg 120
cattaccctg acgaacaggt gctcgtaacc accgacatgc tgctcgaggg cgtgcatttc 180
gacctgacat acgtgccttt gaaatacctt ggctacaagg cggcgataga gaatatttcc 240
gacatagtgg ccatgaacgg aaagccgcag cagatgacgg tggccttagg cataggccgg 300
cgcttctgtg tggagaatat cgaagagatt tacgaaggct tgcgccacgc ttgcggcaag 360
tacggagtgg atctcgtggg cggggatacc acatcgtcac tcacagggt gaccatagcg 420
ataacgtgta ttggctcgtc gccgcgcgac cgtattgttt accgaagcgg agcgcacgat 480

acagaccttg tttgctgag cggcgacctg ggcgcggtt acatgggggtt gcaactgctc	540
gaacgcgaaa agacagtgtt cgaaaaacaaa agcgaaggcc tgaaaggcgc aaacgccgcg	600
ctcgaagcca tgcagccaga ctttgctggg catgaatacc tgttgcaacg ccagctcaag	660
cccgaggcgc gccgcgacat aacggaacgc ctggccgaag ccggcatttt gccaacgtcg	720
atgattgaca tttccgacgg cttgtcgtcc gaactgctgc acatctgcga gcagagcggc	780
acagggtgcc gaatttacga ggaaaggatt ccgatatagact accagacggc ggccttggcc	840
gatgagatga agattggcgc cataaccgct gcgttgaacg ggggtgagga ttacgagctt	900
ctgttcaccg tgcctcttac tgattacgaa aagattctta aagtggagga cgtgcatgtg	960
atagggcata tcacgtcggc cgacgcagga cggacgttcg taacgagcga cggggcagag	1020
gttgaactgc gcgcacaggg ctggaacccg cttgcgcaaa aggatgatga atga	1074

<210> 1242
 <211> 1254
 <212> DNA
 <213> unclassified Prevotella

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ggcgtagatg tagatgctgt tatcaaacaa atgcaggact tccacctgtc gctgcactgc	120
tggcaggcag acgacgttat gggcttcgaa aaacaggccg gccctctcac cggcggaata	180
caaacaaccg gaaactatcc cggccgtgca cgcaatatcg acgagttgcg ccaggacata	240
ctcaaggcct gctcgctcat tcccggcaca caccgcctga acctgcacga aatatacggc	300
gatttccagg gcaagatagt agaccgcaac gaggttgacg ttacctatctt ccaaagttgg	360
atagactggg gcaaggagca caacatgaag ctcgacttca acagcacatc gttctcgcac	420
ccgaaatcgg gcgacctgac actctctaac cccgacgaag gaatacgcaa cttctggatt	480
gaacacacca tgcgctgccg cgaaattgcc gaagccatgg gcaaggcgca gggcgacccc	540
tgtatcatga acatctggct gcacgacgga agcaaggaca tcaccgtgtt ccgctacaaa	600
taccgctcgc tgttcaagga ttcgctcgac aagatcttcg ctgtcaagta cgacaacatg	660
aaggactgcc tcgagtcaaa gacattcggg atcggcctgg agagcttcac ttccggctcg	720

ctcgagttct gcgttggcta ctgcgcacag aacaacaaaa tctacacaat cgacaccgga	780
cactaccacc ccaccgaaag cgctgccgac aaggtttccg caatgctgct ctacgtgccc	840
gaactgatgc tccacgtaag ccgccccata cgttgggact ccgaccacgt tacaatcatg	900
gacgacacca ccctcgacct gttcaaggaa atagtacgcg ccggcgcgct caagagggtta	960
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agccgcgccc cacagaaatc catgctccag gctctgctcg aaccctgcc aaaactgcag	1080
gaatacgaat ccaccggccg ctggttccaa cgtctcgcgc tgctcgaaga agcaaaatca	1140
atgccttga atgcagtttg ggattatttc tgcctcaaga acaacgttcc cgtgggcgaa	1200
gaattcattc ccgaaatcga gaagtacgaa gccgaagtta cttcaaaacg ctaa	1254

<210> 1243
 <211> 411
 <212> DNA
 <213> unclassified Prevotella

<400> 1243	
aaggaaaaaa taatgggaag aagaaaaaga ttagcggcaa aagccataaa ggaaagccgc	60
aaaaccagct actttgcaa actgaaggat ataccctctt cgcctcgtaa aatgcgatat	120
gtaatagata tgattcgtgg tatggaggta aacagggtc ttggaacttt gcgcttttca	180
gctaaagctg cttcggtgcc agttgaaaaa ttgctccgtt cagctataaa taattgggaa	240
cagaaaaatg accgtaaggc tgaagaaggc gaactttata ttactaaagt gttcgttgat	300
gaagggtgcta cactgaaacg tatgcgtcct gcaccgcaag gacgtggcta tagaatacgc	360
aaacgctcta accatgtcac catgtttgtt ggtacaaaaa atgaaaaata a	411

<210> 1244
 <211> 1548
 <212> DNA
 <213> unclassified Prevotella

<400> 1244	
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attacttcta tgtataaccc gaatttaata tcgaagtttt tactgatgtt atcaacattg	120

ataatatcat attcatgttc gggcgattac gacaattatt cagaaacatc taacgaaaag	180
cccgtaatTT ttccggatta taccgatata accatacctg taaatatagc tccattaaat	240
tttaaaatgc ctggcgccaa gcaaattcgc gcacaagtat ttgtaaatga gaaacagatt	300
ttcgatataa aaagcgattc tgttattgag tttcctgtag aagactggaa agaacagatt	360
aaaagctacg ttggtaaaga tttgtccatc acgttgactg catggacatc aaaaaatcct	420
gctggtatta ggtataaacc gtTTaatatt aaaatttctc aagacaagat agatccatgg	480
attgcatatc gcctcatacc tccaggTTat gagttatgga aaagaatggg tatatatcaa	540
cgcaacataa ccaactttga cgaagagcct atagtaacaa atgaccaaaa taatggtggc	600
tgCGtcaatt gccacaatTT ttgtaaatac aaccctgata catgggTTTT tcatgcacgt	660
ggcgaaggag gcggcacgat agttacatat aaaggagttt cacgtaaggt cgccattgaa	720
aagaaagggc cacaaaaagg cgcaacatat ccggcatggc atccttcagg acgatatata	780
gtatTTtctt caaacgtaac acgtcaaaat ttttacggta ttagccgtga taaaatagaa	840
gtatTTtgata cagaatcaga cttattgtt tacgatgtgc tcaaagacaa tgTTTTggct	900
gacctcgTt ttacagaacg tcacaattgg gaaacattcc ctgcattctc acccgacgga	960
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cccacattct tttgggatct gaaatactct ttatgccgtg ttccatttga cgaaacaact	1080
ggaaaattcg gcgaacaggT agatactatt tatagtgcac accgtgaagg cggaagtgtA	1140
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acattcccta tacaacatgt agaagctgac ttgaagatga aagacctaac cacaggagat	1260
agcathtaata caaatatTTT aaatagcgaa tatagcgata gctatcattc ttggagttca	1320
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ttctcgcatT ttgacggaaa agggaaacttc acaaaaccat ttttattacc gcaaaaagac	1440
ccagaacata atatggccag attaaacgca tataatatac cggagttcat aaaagcaaaa	1500
gaaaaagtgg ataaagacaa gatggctaTt tacttccacg ttaaataa	1548

<210> 1245
<211> 726
<212> DNA
<213> unclassified Prevotella

<400> 1245
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ggagattacc aaaggattac agattacagc gaaagtcccg ccgctatggc agaaaatttc 120
gaggcattgg gcttcaagcg gctgcatgta gtagatttag acggcgcacg ttcaggaaaag 180
gtaataaaca taaaagcact aaaggaaata acaagccgca caaatttaat tgtcgatttc 240
ggcgggtggaa ttaaatctga agaagaccta aaaaacgtat ttgaagcggg tgcaagcgca 300
gtaagtattg gaagtatagc ggtaagtac ccgatatag tttcgctatg ggagattcg 360
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ggttgacaa aaaattcagg cattactctt aatcaactta tatcaagata ccggaataaa 480
aatatacgcc gcgtgttatg tactgatatc tcgcgcgacg gaatgctgtg cggttcaaatt 540
attgaattgt acaaaaccat tatggaacaa ttccccgatt gcaaactaat tgcaagcggg 600
ggtataagtt cgtttagatga cataaaaaaa ctggatgaag ccaaaattcc tgccgttgctc 660
ataggcaaag ccatatacga acaacaaatt aacctgaag aattagcaca aacttttatt 720
caataa 726

<210> 1246
<211> 366
<212> DNA
<213> unclassified Prevotella

<400> 1246
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tgcattcgtg ttttaggcgg aactaggcgt cgttatgcta ctgttggaaga tattattgtc 120
gtttcggttc agaattgat tccttcaagc gacatgaaga aaggaacagt atcaaaggct 180
ttaattgttc gtaccagtaa agaggttcgt cgtgcagacg gttcttatat tcgctttgac 240
gataatgcat gtgtgttgct aaacaatgca ggagagttaa ggggaagtcg tatattcgga 300
ccggtggctc gtgagctacg cgctgtaaatt atgaaggtag tatcttttagc tcctgaagtt 360

ctttaa 366

<210> 1247
<211> 750
<212> DNA
<213> unclassified Prevotella

<400> 1247
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ggttatgaag cttctgggat gtttctgaac gaagagcaat ggaaagacgc ttatgtcttt 180
ggcgagaggg cattggcaaa gaatcgcata gttatgccgc aagataattt ccgcgatgtc 240
ttactgaaaa agattgacaa ggaatttggt tgtttggagg agaacgggca ttttaatcct 300
gagaagaaag aacgcagccg tctcatagga caaatagcgg attattgtta tcgctatgcc 360
ttgaggcatg tcgatataag tcgcgaggtg cttgaaatac tttcaaagaa atatcctttg 420
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ttcagattag gtttgaatgc tttgggaaca gctgctgctg aaactttagt gataggcgat 600
tcgtattcaa aagacataat accggcctcg gctgccggat gcccgacagt ctggattcgg 660
ggtgaagggt ggggaaaaga ccccgacgat ataagtattc caaaaagaat aattacagat 720
gtacgccagc tgttgcccct tatgatttag 750

<210> 1248
<211> 1206
<212> DNA
<213> unclassified Prevotella

<400> 1248
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aattatatac cgcccgatth tgaaaagacg gcggaaaaac gtaactttgt cacaaagttt 120
aacgtaactc accgcactaa aaccgttaag cctgtggcgc acattctggc tatacgctt 180
tcagccctgg gagatgtagc gatgacgggt ccggccatac attcgcttgc cataagctat 240

cctaacgacg agataaccgt agtatcgcg cgcaaatggg gtgcgctctt ccacgaaatg	300
ccggcaaacg tgcattttta cggtatcgac atggacgact acgccggcat acgccgcctg	360
gaacggctct tccgcgaact gcaggaaatg cggttcgact gtgtggccga cctgcacgat	420
gttctgcgca ccaaataacct gagcctgcgt ttccgcatga accacatacc cgttgtgccc	480
ataaaaaagg gccgccgggc aaaaaaggag ctcacgcggc gcaaaaaaca gcggctcaag	540
ccgctcgaaa cctcggtgca acgatatgcc gacgtgtttg cccgcttggg ttacccgttc	600
gaattcaatt tcacctcaat cttcggcgag gaaaaaggcg acgtaggcac actggccgaa	660
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 <213> unclassified Prevotella

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<210> 1251
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 <213> Ruminococcus callidus

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<210> 1253
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 <213> Ruminococcus callidus

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 <211> 2055
 <212> DNA
 <213> Ruminococcus callidus

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2055

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<211> 684

<212> DNA

<213> Ruminococcus callidus

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<211> 1134

<212> DNA

<213> Ruminococcus callidus

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<210> 1257

<211> 1266

<212> DNA

<213> Ruminococcus callidus

<400> 1257

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<210> 1258
 <211> 1437
 <212> DNA
 <213> Ruminococcus callidus

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<210> 1259

<211> 1428

<212> DNA

<213> Ruminococcus callidus

<400> 1259

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<211> 1029

<212> DNA

<213> Ruminococcus callidus

<400> 1260

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<210> 1261

<211> 897

<212> DNA

<213> Ruminococcus callidus

<400> 1261

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<210> 1262

<211> 1257

<212> DNA

<213> Ruminococcus callidus

<400> 1262

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<210> 1263

<211> 1230

<212> DNA

<213> Ruminococcus callidus

<400> 1263

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<210> 1264

<211> 1737

<212> DNA

<213> Ruminococcus callidus

<400> 1264

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<210> 1265

<211> 1440

<212> DNA

<213> Ruminococcus callidus

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<210> 1266

<211> 732

<212> DNA

<213> Ruminococcus callidus

<400> 1266

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<210> 1267
 <211> 1461
 <212> DNA
 <213> Ruminococcus callidus

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<210> 1268

<211> 1383

<212> DNA

<213> Ruminococcus callidus

<400> 1268

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<211> 3642

<212> DNA

<213> Ruminococcus callidus

<400> 1269

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<210> 1270

<211> 1494

<212> DNA

<213> Ruminococcus callidus

<400> 1270

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<210> 1271

<211> 1107

<212> DNA

<213> Ruminococcus callidus

<400> 1271

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ggcggctggt tttcacagaa agagcatacc gaaaagcatt atcagacatt tatcacggaa	180
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<210> 1272

<211> 1395

<212> DNA

<213> Ruminococcus callidus

<400> 1272

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cag tggg cgg ca acgat cat ctt cag cggc gtag tgc tgc tgt tgg tggc gtt cct gttc	240
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<210> 1273

<211> 1788

<212> DNA

<213> Ruminococcus callidus

<400> 1273

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<210> 1274

<211> 1032

<212> DNA

<213> Ruminococcus callidus

<400> 1274

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<210> 1275
 <211> 1395
 <212> DNA
 <213> Ruminococcus callidus

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<210> 1276

<211> 1275

<212> DNA

<213> Ruminococcus callidus

<400> 1276

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<211> 2181

<212> DNA

<213> Ruminococcus callidus

<400> 1277

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 <213> Ruminococcus callidus

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 <213> Ruminococcus callidus

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<210> 1280
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 <212> DNA
 <213> Ruminococcus callidus

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<210> 1281
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<212> DNA
<213> Ruminococcus callidus

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<210> 1282

<211> 1302

<212> DNA

<213> Ruminococcus callidus

<400> 1282

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<210> 1283

<211> 945

<212> DNA

<213> Ruminococcus callidus

<400> 1283

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 <211> 1296
 <212> DNA
 <213> Ruminococcus callidus

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 <212> DNA
 <213> Ruminococcus callidus

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<210> 1286

<211> 810

<212> DNA

<213> Ruminococcus callidus

<400> 1286

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<210> 1287

<211> 1290

<212> DNA

<213> Ruminococcus callidus

<400> 1287

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<210> 1288

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<212> DNA

<213> Ruminococcus callidus

<400> 1288

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<211> 1659

<212> DNA

<213> Ruminococcus callidus

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<210> 1294
 <211> 1533
 <212> DNA

<213> Ruminococcus callidus

<400> 1294

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<210> 1295
 <211> 1542
 <212> DNA
 <213> Ruminococcus callidus

<400> 1295	
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<210> 1296

<211> 1542

<212> DNA

<213> Ruminococcus callidus

<400> 1296

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ccggcttccg ctgctccggc agcccggccg gcaccggcag aaccggtacg tcctgcggca	180
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<210> 1297

<211> 1251

<212> DNA

<213> Ruminococcus callidus

<400> 1297

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ggaatcccca atgcagcggc aaatccgttt gagatgccgc agggacaggg tgccaatgtg	180
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<210> 1298

<211> 1305

<212> DNA

<213> Ruminococcus callidus

<400> 1298

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atcgggcagt ggtaccgcga cagccagaaa agcggcacct atctctgcaa ggtcggcgat	600
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<210> 1299

<211> 1359

<212> DNA

<213> Ruminococcus callidus

<400> 1299

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<210> 1300
 <211> 1038
 <212> DNA
 <213> Ruminococcus callidus

<400> 1300	
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<210> 1301
 <211> 495
 <212> DNA
 <213> Eubacterium sp. CAG:251

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aaagaaatga attaa	495

<210> 1302
 <211> 681
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1302
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gccgctctta tgcctgttta ttttaaggcta agtcaggcag aacgggagct taagctaaaa 660
aagaaagaca aggagaatta a 681

<210> 1303
<211> 426
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1303
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atatgcaatg atgcacctga tgatgaagcg cttgcaaagt gcgaagaatt gggcaaagca 420
ttataa 426

<210> 1304

<211> 723
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1304
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aacgaagagt tttacaaaaa actcggattt gaaaatatcg gctattggag aatgtataaa 720
tga 723

<210> 1305
<211> 408
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1305
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aaaaagtgca tcggcatttt agaactcaga gtggcagatg cggatttgca accgtttgaa 180
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ggatatacgg gaatgtcggg gcttcttatc ccgattatcc gtcttaataa ggacaccgtc 360

aaggtcggcg gccctaatga cgacaaggaa acttcaccgc tgaattga 408

<210> 1306

<211> 894

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1306

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tttttcagaa accttggtgc acttgctatt gccactgtta ctcttgcaaa aagtaagcaa 180

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atgcttaata aaatgagccc atttttcacg ctcgtttttt catatatatt tcttaaagaa 360

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catcagcttc ctgacttggt gtcgattttg ggctatataa ttatttgctc aatggcgatt 840

tggatgttct tatacaataa aaaggaagat gagttaaaaa acgctaacca ttaa 894

<210> 1307

<211> 732

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1307

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agacttatgg ctgttaccaa aacagttgaa agtttttata ttaataaggt tctcgacttg	180
ggcgcagacc ttataggcga aaacagagtt caagaatttt taggtaaaaa ggacgaactt	240
catttgaacg ggggttgaaaa gcaccttatc ggtcatttgc aaactaataa ggttaagcag	300
attgtcggcg aggttgatat gattgaatct gttgacagcg ttcaccttgc aaaggaaatc	360
agcaaaaattt cttcaaagaa ggaaattaca acaaatattt tgcttgaagt aaacgtcggc	420
aaagaagagt caaaaagcgg aatttttcctt gaagggctta acgatttaat agccgaggtt	480
tccgaaatgg agaataattaa gataaaaggt ctcatgacta ttccgccgat atgtgacagt	540
gaggcagagg tttcaaagta ttttgagtca atgtatcaaa ctttcattga cattaagaat	600
aaaaagatta ataatgtaga tatggatatt ttatcaatgg gtatgagcca cgattatgaa	660
gctgccgtta aaaacgggtc taatatgtga agagtaggct ctgccatttt cggcgcaaga	720
aaatattttt aa	732

<210> 1308
 <211> 537
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1308	
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aaaagcacat tttatttgca ttacaaaagt atggacgatt gcctgcaaaa ctgttttcaa	180
atcattatga acggtattat cgacatttca aagaagatta attataatga aattaagcat	240
aatccccaac ctgcggttga caggcttctt gacgaggtgg agaaaaatat tgaatacctt	300
tcaaaaattca agtcaagcag tatttgtgca ccggcaataa aaatgcttaa ggaaaatctt	360
gttgcacaa tttctcaaag caacggtttc actattgaag ataattattt cgaggtttca	420
acaattacgt tcggcgttgc cggctgtatt gatgctctta ttgagccgct ccctgttttt	480
aacaaggaag aactcggcaa agtaatcggt gcgatgctcc aatcgtaaaa agaataa	537

<210> 1309
 <211> 711

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1309

atggatttac agcaaattat tgacgaatgt aataaaatag tatttttcgg cggagccggt	60
gtatcgacgg aaagcggaat acccgatttc agaagtgttg acgggcttta taatcaaaaa	120
tacgactatc ctcccgagga gatacttttcg cacacgtttt tctacagcca cactattgat	180
tttttcaa at tttacaggga taaaatgctg attgaaaacg tcaagccgaa caaggcgc at	240
ctaaagcttg ccgagcttga aaaagcagga aaactaagt cagttgtgac tcaaaatatt	300
gacggcttgc accaagcggc aggaagcaaa aaagtatatg agcttcacgg ctcaacgctt	360
agaaaattatt gcacaaaatg cagaaaaattc tttgatgcaa actatatcaa aaacaacacc	420
cctattccct attgcgacga atgcggcggc ttggtaaaac ccgacgttgt actttatgaa	480
gaagggttg atggcgatac cgtaaacggt gcgcttgaag caataagcga tgccgactgc	540
ctgattattg ccggaacaag cctgacgggt tatcctgcgg caagctttgt aaggatattc	600
aggggcaaat acttagtgct tataaacctg gacgaaacac cgatggataa aaatgcagac	660
cttgttattc acgacaaggt tgggtgagggt ttatcaaaaa taaaggcata a	711

<210> 1310

<211> 579

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1310

atggctaagc ttaaaatatg cggtttaaaa agagttgagg atattgatta tgtcaacgaa	60
ctgaaagtcg attatatcgg gtttatccta agtgccggtt ataagcgaag cattgatttt	120
aaaacggcgc aatcgcttaa aaatcgcttg tcaaatgata tcaaggcaat cggagttttt	180
gttgacgaag ataaaaaata tattgattat tatataaaaa acaatataat agatatagtt	240
cagcttcacg gcaacgaaga gcctgaattt tgcaaaggct ttgacgtgcc gggtataaag	300
tgttttaatc ctgatacttt cagcaaagtt gatgaatatg acacggatta tttccttttc	360
gattccgggtg cgggaacggg taaggagttt gattggagca ttttgacctga atgtgaaaag	420
ccgtttttcc ttgcaggcgg aataaataag gataatttaa gacgtgcgct tgacgaggta	480

aagccttttg gcattgattt atcctcggct gtggaaacgc acggtgttaa agattataac	540
aaaataaaaag aaattgcgga gattatgaaa aatgagtaa	579

<210> 1311
 <211> 381
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1311	
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aattatctga ttcccgctcc tgttccggca agtattttacg gaatgggtgat tttatttggt	120
tgccctttgca caaaggctcg taagcttgac gatgttaaag atacgggaat gtttcttatt	180
gaaattatgc cgcttatgtt tattcctgca ggtgtaggtc ttatgaaaag ttggggagtt	240
ttaaaaccgc ttgtagttcc tgtgcttgcc ataacagttg tttctctaata cgcagttatg	300
gctgtcagcg gtcgtgtttc tcaaaaaaatt attgtaaaaa atgataaaaa aggagaaagc	360
gagggcgctt taaatgaata a	381

<210> 1312
 <211> 402
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1312	
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agcgggtgaat attgggtattc tagagttgat tctcaggttc actcaagcgt tgaacttgaa	120
tgtgacgata ccgaggattt aatgactaac ggctttattc ctttcttgac aatctctaata	180
gaagagggtta tcagagccta tatcaaattt cttgataata aaaagggtcag cgctgttttg	240
gaaaagctta caggtaatga atatattgac acttttttga aatatttttaa tgcctattct	300
tccataagcg agggctttga cgaatttgaa aataaattcg ttcttgaaaa ggctgaggaa	360
tggtgtaagt ctaattctat tgaatattca gttgaaaaat aa	402

<210> 1313
 <211> 1011

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1313

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atgaaaaaaaa caattaaaaa aattgcagct gttttatttg cagttgtaat tgcagtcgct      60
tgctttgcag gctgttcaaa atcgggcggc gagcacgaca aggtaaacga ttcaaaaaag      120
gctaagttcg gcattgtggt acaaacaggt gctaacggcg ctttcgttga tatgaaagac      180
ggaatcattg aggaaatgaa gaaaaacggg tatgaaaacg ctgagtttga ctacaaggat      240
gcgcaaggcg attcaacaac tcttacgaca attatcaacg ctatggacga cggaagttat      300
gacgcaatct ttacaatcgg cactgcatgc acgcaaactc ttgttaattt agcatctgac      360
acaccttggt tcttctgtgc agtatctgcc cctgttgagg ctcaggttat tacagatatg      420
aacacacctg acaaaaatgc aacaggcaca tcaaatgcaa tccctgtatc agacattatt      480
gatatgggat acaaaatcac tcctgatggt aaaaagtggg gctttattta ttcaacatca      540
caaattaacg ctgtaaatac tgttgaatca gcgcaaaaat atcttgacaa aaaaggtggt      600
aaatacgaaa gcgcaactgt tgaaacatcg gcagacgtta aatcttcaac agaaacactt      660
attaaaaaag gctgtgatgt tatcttcgta cctaacgacg caattgttca agatggtgta      720
agtgcgcttg ctcaggtttg caacgaagca aaaattccta cctactgctc atctgcaaca      780
acagtaaaca gcggttgcc tgcactctt gctattgacg ataaggcat cggcgctaaa      840
accgcagaca aatgcattga gtatatgaag ggtacaaaaa ttgagaaaat tccggcagag      900
gttgtaggaa ttgactattg cacattcaat tccggcacag cagatatgct cggcgtaaaa      960
gctccggata agaacactat cggctacgaa attcaggtag taaataaata a      1011
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<210> 1314

<211> 666

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1314

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atgtactcgc attgtatccg ccggcaaaaat aacttgccaa agcttgagcg tttgtgtggt      60
ttgcgcaagg gcttaggaac agtagcagaa aggaaattaa atatgaaaac aaacacaaga      120
aagattgccg gagtaggact tctcacggca gtagtagttg tgcttcagct actcggtagt      180
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tttatccact ttgtccatt ctcaatttcg cttgtactta tccctatcgt ttaggcgct	240
tcgctttacg gcgtattatc ggggtgcgtgg ctcgggtcttg catttggaat tactgtttta	300
atttcaggca acgctgcggc ttttttagcc gttaatccgg gcggaactgt agttacggtc	360
cttctaaaag gtgcgcttgc aggtcttttg gcagggtgcag tatacaaagc aattgaaaag	420
aaaaacaagg ttgttgcaac aatcgttgcc gcaatcattt gccctgtagt aaatacagg	480
atatttttaa tcggttgtcg cctattcttc tttgacacaa tcaaaacctg ggcggcggga	540
acaaacgtat tcgtttatat gattacagga cttgtaggct tcaacttctt atttgaactt	600
ggtttaaaca taattctttc acctactatt gttaagctta caaaacttgg cagaaaggaa	660
aaataa	666

<210> 1315
 <211> 417
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1315	
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gacaacaaaa aggaaacaaa ggttttctct gcaatcgctt acgttctttc aaatcttggt	120
gaggatattg acgatatgac agacggcggt gaaatgcttg cagaccagggt tgacgctgtt	180
gacgaggatt tagcagacct tgaggaatat gtatacgacg acgattacga cgacgagtgc	240
gattgcgacg attgctgcga cgacgatgag gaagaatttg aggttgaatg tcctctttgc	300
aacactcctt tcacagtaga cgccgaaaca gcacttaacg gtactgttcc ttgcccaa	360
tgcggcgaaa tgcttgaatt tgagggtgaa gaagcagacg acgaggacgc tgaataa	417

<210> 1316
 <211> 345
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1316	
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gtgtatgagg acgatatgat tcttgcattc aaagatatta atcctgttgc tcctgttcat	120

atcgtaattg ttcctaaggt tcatattgat tgtgcaaacg gtgttaatga ggaaaatagc	180
aaatatgttg ctcatatttt tgaaaaaata cctgaaatcg taaaaagcca aggaattgac	240
tcttatagaa ttatcaacaa ttgcggtgaa gatgcaggtc aaagcggttat gcatctccac	300
ttccacctta taggcggtat taagttagga gaaaaaatta tatga	345

<210> 1317
 <211> 831
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1317	
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tttcaattaa tcagatttac tgacagtaag acaggctttg ttatcggaaa tgagctaatt	120
acctatattc ttacggagt gctcattttg tcagtcgtat ttgccgtgat ttattcttta	180
attgcaagaa ataaaaataag aaaaataagt tttatcggca ataaaggcat ttacatatcg	240
cttatagctt tgtgtattgc atactttttt gattttgttc atcaagtaaa taattgttac	300
agctatattc aaacggcaac aagacagtcg tatgttgaat ataattactt gttgcctatg	360
ggatttcagg caatttttgc acttctaagt tgttattatt taattgtttg tgccaagtct	420
gtcagagaaa cgaaaatcga ttttaaaaat ttcaagctgt ttcaccttgt cctctttgcg	480
tggggctttt gcagattgct tgtcattatg acggaaattt ttgatgtcga aagcgtagaa	540
agcttttttg aatttatatt tataatattt tattgcggtt tcaccttgtg ctgtgcttcg	600
agcattgata atgaaaagaa gcttatcaaa ccgtcgttta gtttttttgc cctcggcttt	660
ttttctttaa gcttttcatt ttcatttgca agaattttaa tgattatatac cggcgagtat	720
gaaaagctga gcaaggtttc gttctcagct gttacatatt tatttatcgg aatttttgct	780
ttaattagtg aactttcagt ttatataata aaaaataaag gtgataatta a	831

<210> 1318
 <211> 324
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1318
gaaatttgta aaataatgga tatcagatat catcatcttt tatgccttcc gagatttgaa 60
ggcaaaggat acagcgctga tttttgcaag aatatggcaa atgttaaaaa gcgatataat 120
aatgaaaaaa taacgcttgt tgaacattgc gatgaaattt gctcgactg cccaaacaac 180
aaaggcggaa aatgcaaaga agaagagaaa gtaaaaagct acgacaaaaa ggtaaaaaag 240
cttatttccc tcggcataaa accgacgcca aatgacgttt gcagcgactg caaatggtat 300
tatatatgta aaaatcttca ttaa 324

<210> 1319
<211> 726
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1319
atgagcggag tattgattta cagcgaaaag gaagcaaagc gcaacacctt tgcgataaat 60
aaattttaaag aagaacttgg cgtaacgctt gcaattaacg attatgacgg cacggctgat 120
tttataatca acaggacgaa taactataaa attgcagaaa aatttgagaa aaaagggata 180
cgtgttttta acccctcctc cctctcaaaa cttgcaaaca acaagcaact ttgctacgaa 240
tttatggaga aaaacggcat tgaaattttg ccgataaact acaaggaagt gcctgcggtt 300
aaaaagccga ttgacggcca cggcgggtcaa ggtgttgtga tgataaatga gaaagaaagc 360
tttgaaagcg gatttgttta tcaaaagcct tgtgccactc tcggcaagga cttgcgtgtt 420
tgggcaatag gaaatgatat aattacgtca attttgaggg aaagtgatac cgattttcgc 480
tcaaatttct gcctcggcgg cagggaaca cttataaaa tgaacgaaaa agaaaaaagc 540
cttgtaaaaa gaattttcag cttgttgaa agcgattata tcggaattga ttttcttttt 600
gacggcggtc atttaatat taacgaaatt gaggacaccg tcggcgcaag aatggtatat 660
gataaaaccg atattgacat aataaaactt tattgcgatt atattaataaaa acaaagagta 720
aaataa 726

<210> 1320
<211> 360
<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1320

atgggagttg ttaactgcaa ttgtaatata actgatgaag aacttattaa tgatattaac	60
tcttcaatgc taagttcttc tcaaataagac agaatatcaa ctctgttcaa ggtgctcggt	120
gactctacaa gggcaaagat tgtgcttgct cttgacaaca gagaggtttg tgtgtgtacc	180
ttagcaaatg ccctcggtat gacaaaatcg gcagtttcac atcagctcgc catccttaag	240
gctaataata ttgtaaagtc acgacgtgac ggtaaacagg tttattacag ctttgatgac	300
gaacataata ctgatattat agaaattgct caggcacata taaaacatca gcatgattaa	360

<210> 1321

<211> 711

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1321

ttattaatga attttgaaaa gaaatttgaa gtgttttgga aattctttat tgacaacggc	60
ggctacaatg ttgttattga aggcttaaga aacactctta taattgctat actcggcctt	120
gtaataggta tcattatagg tacacttatt gcaacagtaa gagtagtacc gaaaacaagc	180
ggcgtcacia aggtgcttga tgtgcttgca aagttttatg taagtttctt caggggtacg	240
cctatcgtag ttcagcttct tttgttctat tatgtgctta tgccgcttct ttcaattaat	300
ttaaagagcg tgccgggtgc cgttattggt tttggcttaa actccggcgc ttatatttca	360
gaaattatga gagcaggat tctctctgtt gaccccggtc aaatggaggg cggccgtgct	420
gtaggcttaa gttacggcac aacaatgatg aaaattgtta ttccacaggc tgtaaaaaat	480
attcttccta cccttgga cgaatttatt tctcttatta aggaaacctc ggttgtcagc	540
ttcgtaggcg caacagacct ttatcttgca ttccagcgta tcggttctaa cacatacgac	600
tttatggttc cttatcttgt aatggctgtt atttacattg taatgggtgt tataatttct	660
actcttatca aaattatgga aaggagtttg agaaaaagtg attaccgtta a	711

<210> 1322

<211> 1257

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1322

gtcttggagg tgttgaagat gaataaggta acaagactta aatattatat tgaatcgctt	60
tgcattttacg attttgagga tgatgacgtt ttctctgctt tatatgattt gctttgcgac	120
gatgaagagg acacggtagc acttcaaagt tactttttta aggagcttgc aaaaagcgaa	180
tcgcttaaaa ggcataattc acgattaatt ttgactaatg acaatatttt cactaaagcg	240
gcatgtgcag gaaaggtaaa tcaactttca atcgcagtca taaatgcggt taaaagcgac	300
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gatgaggata ttaaggaaat ctttttgact ttaccgggct gggaggtagg caagccgctt	420
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aacggctacg gtatttatgc caaaaatatt gcattttactt ggagagatga ggaaatcact	540
ccggttaatt ccattgatcc tatccgtctt acagatttga aaaattacga acttcaaaga	600
aataaggtta ttgataatac cgaaagcttt atcgcaggtc atccggctaa taacgttttg	660
ctttacgggtg acaggggaac gggcaaaagc tcaacagttc acgcaatttt gaatgagtat	720
tggcaaaagg gacttcgtat gattgaaatt cctaagagtg ctgttgccga cttttcgctt	780
attcgtgagc aaattgccga ttcaccaatg aaatttatta tttatattga tgatttaagt	840
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aatttctctg acagggaaaa tgatgttaat aaggagata ctatgcaaga acagctttcc	1020
ctttccgacc gcttcgggtc tacaatcaca tttcttaatc ccgataaaaa ggaatatctt	1080
gatattgttg aaaaacttgc ttgcgacagg cattttgaag agcacggcgt tgacgttgat	1140
aaacttcttt tcaaagctga ccagtgggca acaaggagag gcggacgttc gccgagagga	1200
gcaaagcagt ttatcgacca tgttgagggt tgtataaagc gtggaaaaga atggtaa	1257

<210> 1323

<211> 699

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1323
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caagacgggtg agcagatgat tacagagggc ggcggaatga gttggatgac gcctaatatg 120
gttatggaaa ccacaacaaa cggcggcctc ggaaaagctt ttggcaggct cttttcaggc 180
gacaaaatgt tccaaaacag gtacacctgc cgtggcggag aaggatgat ttcatttaca 240
agctgttgcc ccggcaacat tcgtgccgtt gaaattcatc cgggtcagtc tgtcatttgc 300
caaaaaagtg cttttttagc atctacacct ggcgttaata tgtcaattta tttcaaaaaa 360
gcccttggtg caggcctttt cggtggtgaa ggctttatta tgcagaaatt tgaaggcgag 420
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caacttgttc ttgacacagg ccatctcgca attatggacg gcacttgacg tatggatatt 540
caaaccgtta agggtgctaa aaacattttt ttcggcggcg aaggactttt caacacagtt 600
gtaacgggac caggcaaggt tgttattcaa acgctccctg tcaataagct tgcgcttgag 660
ctttaccgtt atatgccaca atcaggcggc aacggataa 699

<210> 1324
<211> 324
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1324
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ggtagttata cctgctatct ttttgaaaaa ggacttgata aaatactcaa aaaagtgggc 120
gaagagtcaa cggaaatggt tatcgccgcc aaaaacggag taaaggacga aacagtcgga 180
gaaatttgcg accttattta ccataccctt gttatgatgg caaatgaggg aataactccc 240
gacgacgttg acgaggaact tagaaagcgt gccgaaaagg caggcaattt gaaaaaattt 300
cacgtggtag ataaaaattc ataa 324

<210> 1325
<211> 912
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1325

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tatacaaaaa ggaatgatac gatgcttatt aaattttattg ttgaccttgt ggcaggata	180
ggcgcaggat tgggtacggg ttttgcaggat atgagtgtctg ctgccgttat cagtcctatg	240
cttattacct ttcttgatat ggacccttat atggctgtcg gtattgctct tgcaagtgat	300
gttttggcga gtgccgcttc ggcttatact tatggaaaaa ataaaaatat tgacatcaaa	360
aacggcattg ttatgatgat atttgttttg ctgtttactc ttgtcgaag ttttgtttca	420
agtaaggtag caagcacaac catgggcgga ttttcgtttg taatgacctt gtttttaggt	480
attaagttaa ttgttaaacc tgttacagag cctaaggcac gacttacgca ggcaactcca	540
aagcaaaaaa taatccgttc agctttatgc ggcgcaatgg ttggctttat ttgcggtttc	600
attggagcag gcggcggaat gatgatgctt cttgtgctta catccgttct cggatatgaa	660
cttaaaaccg cagtcggaac aagcgTTTTT gttatggcgt ttactgcatt taccggctca	720
atcagtcatt ttgcaatcgg cggcgctccc gattgggtgga cactggcttt ttgtatgtta	780
tcaactcttg tgtttgctca aattgcagca tttcttgcaa ataaagcaaa accggaaca	840
cttaacagag taaccggcgt tatccttgta attctcgga tagttatgat aattgttaat	900
aaaatcaaat aa	912

<210> 1326

<211> 609

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1326

atgatttttaa ctcatcaaaa aggcagagga actaaggctc atctgtttct tgacggggaa	60
tatgccgcca ctactgatga aaactgttgg cttgataatt atatttcaaa tggagcagat	120
attgatgatg agcagtggca ggctcttctt gttaaaataa attacaaaaa agcgttaaat	180
aaatgtgccg actattttatc aaggcgtgat tattccgtta aagagcttaa acaaaagctt	240
ttaaaatccg ttgatgaggt aagtgtctaa aaagcagttg acagatatat cgaagcaggg	300

tatcttgatg acgaaaagta ttgccaaagg cttattgaat atttacttga ggtaaaaaag	360
ttttcaacag ctaatattaa gcaagagtgc ttttaagcgtg gtatcaacag ggagattggt	420
gacgaaaaac tgtcaattat tgaaattgat aacgtttcaa caattatcaa acttattaaa	480
tcaaagtatg ccacaaagct taatcaggaa aacgggaaag aaaaggtaat cgccgcactt	540
caaagaaaag gtttttacta ttcggatatt aaatcggcat tttacaggat agaagaatat	600
gacgaataa	609

<210> 1327
 <211> 654
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1327	
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gattatgaag ttaaaatggg agagcgcttg ataccctgct atgtttatcc tccacgtcct	180
atgccgccgt ttgagccaat accgcagcct cctcatccac ctgttcctcc atttttgaca	240
ccgactgctg cttatgctct gttttataac aattcggcaa caggcgcaac ctacgtgcc	300
ggagaaaaca ttgcttatca gtcaactctt tataatactg ccacggcaga tattgtcaat	360
aacaacggac ttatcacact ttcaggcggc acaacaggca aagcatatct tgtaaattat	420
caggtaacag gcgaaacggc taatgatgca acattggcgc ttgcaattaa cggcacagtt	480
gattcaaaca gcgaaattgt tccaaacagt gcaacaggaa cctcaaacgg cagttatatt	540
gtaaacgttc ctgcaaactc aacctctaca tttgctttaa gggttgtatc aggcacgttt	600
actaccgcct cacctactgt cggttcgtat ttatctgtaa taagaatagc ttaa	654

<210> 1328
 <211> 780
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1328	
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gttgcaaagg gtgagaggga aggctcaatt aaccgtatta ttgcaatgtg cagggaaaat	180
aaaatagttg ttaagacagt ggacaggaaa aagcttgatt ttatgtgtgc cggcggcaat	240
catcaggggg ttgcggctaa tgttccggct cacagctatt caagcgttga tgatattttg	300
gaatatgcaa aaagcaaagg cgaagcgcct tttattataa tttgcgatga aattgaggac	360
agccataatc tcggcgcaat tatcagaact gccgaagctt gcggcgctca cggaattatt	420
attccgaaaa gaagaaatgt tgggcttaat tttatcgttg caaaaacctc gtgcggcgca	480
cttgaatatg ttaaagttgc aagggtaggc aatttagttt ctgttattga agaacttaaa	540
aagcagaatg tttgggttta ctgtgccgat atggatggtc agccttggtg caaaacagac	600
ttttccagtg gctgtgcact tgttgtcggc aatgagggaa gcggtgtcgg caggctcatt	660
aaggaaaaat gcgatgtaac tgtttcgctt cctatgtgcg gaaaggttaa ttcgcttaac	720
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<210> 1329
 <211> 1158
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1329	
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gaaattaaaag acaaggaatt tgttatatTT gtaggtccgt ccggctgcgg caaatcgaca	180
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aaaacggtaa ataatatcc gccgaaagac agggatattg cgatggTTTT tcaaagctat	300
gcactgtatc ctcatatgac tgtttataaa aatatggcat ttgcgcttaa gcttcgcaaa	360
gaacctaaagg atgttataga taaaaaggtc aggcaggcgg caaaaattct cgaacttgag	420
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acaacattta tttatgtaac ccatgaccaa acggaagcta tgactatggc agacagaata	660
gttgtaatga aagacggcgt cgttcaacaa tttgatactc cgtcaaatct gtataatcac	720
ccttgcaata tgttcgtagc aggttttata ggtacgcctc aaatgaattt tatcgacgca	780
acaataatta catgttcggg agagctttgc gcacttgttg acgatattac cgtccctctt	840
cctttgcgaa tgcaggaaaa cgagaatgta aaaaaatatg tcggcaagcc tattgtttac	900
ggtataagat gtgaggatat gcatataaat tcaagttatg cacttgaaaa caagcaaat	960
gaaattacac tcaaagccga cttggcggaa atgatgggca gtgaggctta tatctattca	1020
tcaattaacg ataaagaaat aattgccaaag gtcagaagtg atacaaatat ttcctcaggc	1080
gacagcgta aactttatat cgacacggaa aaagttcatt tattcgaccc tgaaagcgaa	1140
cttctgattt gtgactga	1158

<210> 1330
 <211> 573
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1330	
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aaaaacacat ttaaagaaaa tataactgaa ttcgttaata aacacgcaga aatttgghaa	120
tttataaaat ttacatttac aggcgcttca acctcggttt tggagcttgc ggtcttttgg	180
cttttgcaat atgtgatttt taaatcgctt aacgaagttc cggtaacaga taatcaagtt	240
ctttcgttct taggcattga gtataagggc tatatgtatt cctatttcat ttctgcggta	300
atcggctatg ccgccgctta tggtatgaac agaaagctta cttttaaggc tgacgctaac	360
cctgttcttt caacaattct ttatataata atggttggtt gcacaattgc ctttaacact	420
tggtttggct catttcttgg cactcttatt aaaaacagcg gtcacgacag cgtatttatt	480
gttcttttaa caaagcttat tggtatgacg gttcctactc tttggacgta tcctttaaat	540
cgttttgtaa ttcacagaaa gaaaaaggct tga	573

<210> 1331
<211> 1410
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1331
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cctcttattt tgggaaatct ccttcagcaa atgtataaca cagccgattc aattatagta 180
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ttgattattg cttttgcgca ggggtgctgct gtcgggtgcag gtgttggtgt gtcgcaatat 300
ctcggcgcaa ataggaagca acagattaaa atatctgttc atacatcaat gtgtatagca 360
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aagctttgca taaaagaact taagataaat aaagatatcg cttttaaaat tataaaaata 780
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atttcttggg ctgtcggcgc tgttcttatg gcactttata ccaaattcgg caagtggcta	1380
ccgcatgaac aaatgaattt gaaaaaataa	1410

<210> 1332
 <211> 453
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1332	
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agcaaaatag ataacggttt tatgatttta ctcggcgtta tggacggtga caccaaggag	120
gatgctgata agcttattaa aaaaatccct gttttaagga tttttgaaga tgaaaacggc	180
aaaatgaatt tatcacttct tgatgtgttt ggcgaaattc ttcttgtatc tcagtttacc	240
ctttgcgcag attgctcgca tggaaggcgg ccgagtttta taaaatccgc accgcctgat	300
gaggcaaatt cgctttatga atacgtcgct gatgaacttg aaaaatcagg tgtaaaatcc	360
gttaaaaaaag gaattttcgg cgctgatatg aaggtcgact tattaaacga cggccccggtt	420
accataattt tagacagtaa ggaattaaaa taa	453

<210> 1333
 <211> 948
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1333	
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caaagatttg aaagcagaaa tgatatcgaa cttttactta ttgaccccgga aaagagaaaa	120
gatgcaaaaag agcgagcaaa aatgataaac gaaagtgata ttactttcct ttgccttccc	180
gatgcggcctt caattgaggc ggttgagctt gttgaaaacg acaaagtaaa aatcattgac	240
acctcaacgg cacacagaac actttttgat tgggcttacg gctttgcgga actttctgag	300
gagtttagaa ataagattga aacaagcaat cgaattgctg ttccgggctg ctatgcaagc	360
ggatttaatt ctatagtta tccacttgta aaaagcggat ttatttcaaa cgactatgac	420
attgtttgct ttgcaatgag tggctacaca ggcgaggca aaaagggcat tgcgcaatat	480

gaggacaaaa acagagataa ggaacttgac tcgccgagaa tttatgcgct tacgcaacag	540
cacaagcatc ttaaggaaat gaaggcaatt tcaaactctt caaaagagcc tattttcaca	600
ccgattatct gtgactatcc gcaaggatat cttgtaaaca ttcctcttta tacggacaag	660
atgagtaaaa aatatactaa agaggatatt tatgaaatgt ttgccgaaca tttcgacggc	720
agtgacattg tcaaggtcag acctctcggc tacagcgaga atatgattgg ttcaaataat	780
tttgcaaacc gtgacgatat ggaaattgaa attaacggaa acgatgacag aattatcatc	840
acatcccgat ttgacaatct gggcaaaggc gcttcgggcg cagccattca atgccttaac	900
attgcaatgg ggattgacga aaaaacaggt cttaatatag gagaatga	948

<210> 1334
 <211> 1263
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1334	
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ctttgcaaaa aacaatttga atatattgac gaaataacag aatataatca gcaaaagggtg	120
caaaaggcct ttatcgataa cagaatttca gaaagccatt tttgtacaag tacaggctat	180
ggctacggcg atatcggtcg agaagctctc gataaggatg gggcacaggc tttagggtgct	240
gagtcagctt tagttcgcca caacttcact tgcggcacac acacttttagc aactgcactt	300
ttcgggtgtcc tcagaccggg agacacaatg ctttgcgttt caggcacacc gtatgacact	360
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aaatatcaag aagtggcact taaaaacgaa cgccttgact atgaggcaat agaacacgca	480
gttaacgaaa acaccacaat ggtttatatt caaagaagca gaggctatga actcagacca	540
agccttttctg ttgacgagat tggtaagggtc tgcgaaattg ccaagaaaag aaatccta	600
gtaattgtaa tggttgataa ctgctatggg gaattttagt aaaaaagtga accgacacag	660
gttggcgctg atttaatcgc aggttctatg attaaaaatg caggcggagg aattgcaact	720
acaggcggat atatcgccgg caggaaagac cttgttgaaa aatgtgctta caggctcaca	780
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ggtttgtttt ttgcccctca tacagtcggt gaggcactta agagcgcagt ttacatatcg	900
gcattatatg aaagcttcgg atatgatgta actcctcgct ataatgaaat caggcacgat	960
attgttcaat ccttggggct tgaaaacgct gaaagccttg ttgctttttg ccaggggatt	1020
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gacagcaagg tggttatggc ggcaggcgca tttactcttg gttcatcaat tgaactttct	1140
gcagatgcac caatcagaga accgtattat gcatggattc aagggtggctt aaattttcac	1200
agtgccaagc tttgcgcact cttagccgca caacaaatgg aagataaagg acttttaaaa	1260
tga	1263

<210> 1335
 <211> 1053
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1335	
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aatgttgctt ttggctcaac tttttcggca tcaagtttat gcgttatgga tatgaccact	120
cggcagattc tttatgaaag taacatatat gagcacagaa gtgtggcgtc aactacaaaa	180
attatgactt gccttattgc ttgcaaaagt aataagctta atgatattgt aactgttacc	240
tctcaaatgc ttgccggtac tgagggctcg cttatatatc taaaggcggg ggataaaaata	300
tcgctttacg atttgtgctt aggtatgatg ctttcttccg gtaatgatgc cgcaaatgcc	360
gtagctgtat acctaaaagg aactattgaa aattttgcag agtatatgaa cgatacggct	420
aagagtatcg gtatgaataa tacgcacttt tccacaccgt cggggcttga taaggggcaa	480
ccctattcctt gcgcacacga tatggctttg cttgcttctt gcgctatgga aaataagatg	540
ttttcaaaga ttgtatcttt gcaaagtgcc gatataaaaa ttaatgatga cgttaaaacg	600
atttataatc ataataaact tttgtcatat aatcttaaag acggcaaatt cattggtgta	660
aaaacgggtt ttacagaaaa agcaggaaga tgcttggtaa gtgcaaaaaa atatgaaaat	720
aatacaatca tttgcgtaac acttaattgc cctgatgatt gggacgctca tacctattat	780

actgaaat	ttt gcgagaaaa	atataattat	attactat	ttt caaatgaaat	caaaattgat	840
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ggcaacgtta	aagttatgga	atattactat	ccctttgctt	acgctccgat	aaaaaagggg	960
gataagctcg	gcgaagcgat	agtttattat	aatgataaaa	tattggaaag	actgccgatt	1020
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<210> 1336
 <211> 819
 <212> DNA
 <213> Eubacterium sp. CAG:251

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attcccaaaa	cagcaatagt	tctcgggaagc ggactcggac cttttgcaaa agagattgaa 120
gaagaggttg	agtttgacta	taaagatatc cctaatttcc ctgtatctac cgtacccggt 180
cacgcaggaa	agctgatttt	cggcaaaatc gcaggcaaaa gcatagtcgc aatgcagggc 240
agatttcac	t tttatgaagg	ttacagcgca gaggaagtta cgcttcccgt tcgtgtat
cagcttttgg	gaattgaaaa	ttatatagta accaatgctg ccggcgcagt aaaccttgac 360
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ttgtttggca	aaaatgatga	caggctcggc acccggtttc cgtcaatgag cgaagcttac 480
agcaaagaac	ttattaaaaa	agcagaaaaag gcggctgaaa aatgcagtct taatattcgc 540
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gtgcacgccg	gaatgaaagt	tttgggcgtt tcgtgtatga cgaatatggc agcaggcata 720
ctcgatcaac	ctctcaccca	tattgaagtt atggaaacag gcaaaaagggt tgaaaaggaa 780
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<210> 1337
 <211> 678
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1337

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cttattttga gctttggctc tatgtcgaaa ttttaagcctc ttaaatatct tgtaaggtg	180
ctcgtttgga ttattcgagg tactccgctt atgcttcaaa ttattgtcgt tttttacggt	240
ccggggcttc ttttcggaat gcaggtcgga aatgattatc gttttaaagc ggcattaatt	300
gcgtttatta ttaactattc ttgctatctt tcggaaatct atcgtggcgg tattgaaagt	360
ataccgaagg gtcagcagga ggaggtctt gtactcggta tgactaaatc gcaaattttc	420
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gtaggtgagg attatattac aggtgcgggc cttttctggc cgctcttcta cacaggcgca	600
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agttatttta attcttaa	678

<210> 1338

<211> 780

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1338

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ccgacgggta aagtccggat gagagaaatg tttaggcaaa ttgtaataat aattttgcca	120
agttcaagca ttgcgcccc acaatattgt tggggcttct cttttgcca aaaggagaaa	180
attatggaia aaaagcaaac aaacaaaatc agacttatta caggcacggc aatgctgacg	240
gcggttgcgg tagggcttca atatgttgaa atagccatac cgattatgcc gagtttcatc	300
aagcttgact tttcagatct gccgaactt atcggcgcat tcgcttacgg tccgcttgca	360
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gtcggtgagc tttcaaactt cttgctcggc gcaagctttg cacttgtggc aggcttgatt	480
tataagcata aaaaaacaaa aggcgaagcg ctcgtggcag gaattgcggc atcacttggt	540

atggcagtaa tcagcgtgcc gattaactac tttattatat atcctcttta ttataatgtt	600
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agcattttgc aggcatgtgt aattttcaat ctgccgttta cattcgtaa aggcttaatc	720
tgtgcaggaa taacaatgct tatttataag ccgctttcca ctgttttaaa gggaaaataa	780

<210> 1339
 <211> 864
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1339	
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ggtaatttca ctctcgcttc aggtaggctt cagtcaagcc ttgaaaggaa ttataacaga	180
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tttgaagtgg ttaaatctat tgacgatgta ccgaaagacg gctggatgaa ggttatTTTT	480
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gcagggtcaag ctcccgacc tatacacaat atttgtaaat ttgaggcttg ccattgcaac	780
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aagaaagaaa ataataaaaa gtag	864

<210> 1340
 <211> 804
 <212> DNA

<213> Eubacterium sp. CAG:251

<400> 1340

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cctcagggtg acacaacaag cgggtgtcggg atagataaaa cagaaataga aaaatctacg	180
tatgatatcc ttattaatga cgaagctgct aaagatatag ttattaagac agagtttaaa	240
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aatcaatatt ttccgaataa agcttataaa acaacaattc cacgaagtgt taagcttgcc	660
gaagcaccga gttttggtaa acctatTTTT tattatgaaa aatattcaaa acccgctttt	720
gcatataaaa aatttgcaga tgagttctta aagaacaata aatttgtgga aaatcctggt	780
gaagatgtgg aaaacttcag ataa	804

<210> 1341

<211> 1038

<212> DNA

<213> Eubacterium sp. CAG:251

<400> 1341

tttatgcagg aaaccgaaat ggattttgaa agcagaatag ttacttctga ttttactcct	60
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gataagggtta aggaaaatct tgccgtttat attcaggcag caaggggaag aggggaagcg	180
ctcgaccatg ttcttttgta tggctctccc ggtctcggca aaactactct tgcagggtgt	240
attgcaaag agatgggtgt taatcttcgt gtgacaagcg gtccggctat tgaaaagcag	300
ggcgatttgg cggctcttct taaaaatttg caggagggtg acgttttatt tattgacgaa	360

attcaccgcc ttaacaggca gggtgaggaa gtcctttatc cggcaatgga ggacggagca	420
cttgatatta ttatcggcaa gggtccttcg gcaaggtaa taaggcttga tttaccgcat	480
ttcaccctta tcggcgcaac caccgtgca ggtcagcttt ccgcacctct tcgtgacagg	540
ttcggcgtga ttttcaggct tgaaatgtat acgaacgagc agctttcgtc aatagttaaa	600
agaagcgag atattcttaa tatccctgtt gatgaaaaag gcgctatgga aattgcttct	660
cgttcaaggg gaacacctcg tattgctaac agacttctta aaagaagccg tgactttgct	720
caggttaagt atgacgggtg aatcagtaag gaagcggcag ttgacgctct tgaaagaatg	780
gaaatagata atctcggctt tgataatata gacagagttt tattaacaac tatgattaaa	840
aattataacg gcggtcctgt agggcttgat acgattgcgg cggctatagg cgaagaatcg	900
gttactattg aggacgttta tgagccttat cttatgcaaa taggtttcct ttcaagaacg	960
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<210> 1342
 <211> 981
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1342	
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gataatattg aggattttaa tactatcatt cttgaccgt ttttatccgg cgaaaagctg	180
ttttatcgtg gtgagcgcat taatgaccca aaccgtcgcc tgcttccgac tttttacaga	240
gagcaaaaaat ttgcacttga aaattcagac cttggtatta agcatattaa ttcggacttt	300
gtttttgatt attataaatc tcttggcgat tttgtttatg tatttaacaa gacaatgggt	360
aatgcaagta ctgaacactt gtatgagatt tctgcttttg cgcagcatta ttatcatttg	420
tcgccgctta tcgatttcac taagagtta tatccttcgc tgtcatttgc attaaaagac	480
agaactcatt ttgacgagga tatcgtttta tatgtcttaa aacttcgaga tatggacgat	540
tatacaagtg atattcaggt tgctgataaa tggcttaatg aacttaatgt ttacgtaagc	600

tatTTTgacg aaacaagtgt aaaaaaatct attaaggaac ttattgaaaa caagaagggtg	660
tcaatctctt cagacttttag aaagcatctt gattctattg cgtcaaatgc tgctccgaaa	720
gctaagctta ttgatgttcc gactaacaca cgaatgaaat ttcaacaagg cgtattttatg	780
cttttgactg attttcaact tttcaacgat acatatttta cgaaaaatat tcgtgactcg	840
tttgaaatta ataagtatat tatagataag gaaatttgtc ctttttttagt taatatggtt	900
aaaagtgaag caccttggta tacttacgaa aatcttatgg atatcgaatc agctttttaa	960
agtaccgttt ataaaaaata a	981

<210> 1343
 <211> 1053
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1343	
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ttttcttcca atgccttggc aaatacaatg aaaacggcaa tcggcataag tttaggtcaa	120
actgttaatg aaaaagttga cagcagttca tctcaaaca aatattttatg gctgaaattt	180
gattgccttt catcaaatta ttatgatttt accgtgtcag gtgtagaatt accgttaagt	240
gacgtctttc tcacagttta tgactcagaa aataatgtta ttaattctaa tgtaaataca	300
gaaaatgaat attcttttgt gtctacaact tatttagaag ccggaaaaggc gtactatttt	360
agacttgaat gtttaaaagg aacatattcc ttttccgctt cgctaaatat tcataatcat	420
tgctatacaa actttttcgt aaaagctgtt gcggacgatg ataaagaaaa tagattaaac	480
ggcttctcaa aacttttgtg taaatcttgt tcaaatgaat atattgttca aaatatttat	540
gcgccttcta ccgttaagct ttcagcaact aaaattgcct ttaatcctta cggttcgtat	600
ccgagtgtaa ctgtttatga cagtgtagggt aatttgattt caccgagtga atatgttgtc	660
acatacgatg ataacttcaa gacgggaaaa gcgtgggtat acgtcaattt tgtcggaaat	720
aattataagg gcgaacttac ttcaagtttt atgattattc ctgccaaacc gactcctact	780
tcccttaaat ccaaaaagtc aaagcagatt acttattctt ggaacaagga ttctaacgct	840

tcgggttatc aaattcaata cagcacatca tcttcttttt ctaagaaaaa aacgaagtct	900
tatataatTT ctaaaaattc aactaagtca aaaactttct catctcttaa aaagaagaaa	960
aagtattatg taagaatgcg ttgctataaa acgattgacg gaaaacgtca gttttcctct	1020
tggTccaaaa agatgagcgt taaaacaaaa taa	1053

<210> 1344
 <211> 1221
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1344	
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gaagtaagag aacttattaa taacggtaag gctgtatTTT atatcggctt tgacccgact	120
gcggacagct tgcacgttgg tcactttatg gcactttgcc ttatgaaaag gcttcaaatg	180
gctggcaata agccgattgc ctttatcggc ggcggtaccg gtatgattgg tgacccaagc	240
ggtaagacag atatgcgtaa aatgcttaca cctgaaatta ttcagcataa ctgcgactgc	300
tttaaaaaagc aaatgtctaa gtttattgac ttttcagacg gcaaggcaat gatggTTaat	360
aatgccgatt ggcttcttga ccttaactat atcaacgttc ttcgtgaggt tggTgcgtgc	420
ttcagtgtaa acagaatgtt aagctttgaa tgttataagc agagaatgga aagaggtctt	480
tcgttccttg aatttaacta tatgattatg caaagctatg acttctatac tctttataag	540
aaatacggct gtaaccttca gttcggcggT gatgaccagt ggtcaaatat gattggcggT	600
atggagctta tcagaaggaa acttcagggt aatgcaaagT ctatgacaat tactcttctt	660
accaactcag agggtaagaa aatgggtaag actgaaaagg gtgctgtttg gcttgacgct	720
gaaaaaacct caccttatga gttctatcag tattggagaa atgtcggcga tgatgacgta	780
atcaagtgtA tgaagcttct tacatttatt cctatggagc agattaatga gtatgcaaag	840
cttgagggtg ccgagcttaa caaggTTaag gaaattcttg ctttcgaact tactaagatg	900
attcatggcg aggaagaagc tactaaggct caaaacgccg caaaagcgct ttttgcaggc	960
ggTgctgata attcacatat gcctgaaacc gtactcaccg atgatgattt cacagacggT	1020
tcaattatgc ttcttgatat gatggTTaaa gccggcatta ttaagtcaaa gggagagggc	1080

agacgtctta tcactcaggg cggtgtaagc gttaatgacg aaaaggcaac cgaccctaata	1140
atgtcattta caaccgatga tttttcaaac gaaatcattg ttaaaaaggg taaaaaagta	1200
ttccataagt ttagtaaata a	1221

<210> 1345
 <211> 390
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1345	
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agcgggtcaag atattgatga ggtaattgaa ctttacagcg aaaatgttga agcggtgagc	120
aaatatgcaa aggatgtttt tgtcggcgta aaaggctcaa taaatgagct tgatgagata	180
attaataagt attcaaaaag ttggaaagca gcaaggcttc ctaaggttac gcttgctatt	240
ctttacgttg cgctttatga gatgaaaaac gttgaggacg ttgccgacag tattgcaatt	300
aatgaagctg ttgagcttgc aaaaaaatac gcttcaagca atgacgcac atatatcaac	360
ggcgttctcg gcgctgtttc aaggggttaa	390

<210> 1346
 <211> 966
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1346	
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ataaaaaagc tcggtgattt tacccaatat gacagaacgg ctccagagca aataattgaa	120
agggctaagg gtgcaaatgc tcttattatt aataaaacaa ttttaacaag agaaattctt	180
gaaaaactta aacctgagct tgaatatata ggtttacagt caacaggata taacgttggt	240
gattgcgacg cagcaaagga acttggaata actgtttgca atattccgtc ttattcgaca	300
aatgcagttg cacagcttgt ttttgcatth attttgcaaa ttacaaataa aattaatctt	360
cattcgcagg ctgtttttta cggtgaatgg tgctcctgtc ctgatttttg cttttggaaa	420
gcgccgctta gtgaactcgc aggtaaaaca atcggcataa tcggtttcgg tgcaatcggt	480

caaaagggttg caaaaattgc agaagctttt gatatgaatg ttcttgccta tgctccaaga	540
ccgaaggata aggggtgaact taaaacagtt aaatttgttt cacttgacga gcttctttca	600
aatagcgata ttgtcacctg ccattgccccg ttaacaccgg aaaccgaagg cttgattaat	660
aaagatacta tttctaagat gaaaaataac gtaatatatta ttaatacttc tcgtggtcct	720
gttggtgacg aaacggctct tgccgacgca cttataaatg ataaaattca agcagcagga	780
cttgatgttt taagcgtaga gcctgctaag gaggataacc ctcttttaaa agcaaagaat	840
tgttttatta ctctcatat tgcttgggca gctaaggaaa caagagcaag acttttaagc	900
atattggagg acaacttgaa agcatatatt aacggtcatc ctcaaaatgt tgtaaataat	960
ttttaa	966

<210> 1347
 <211> 693
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1347	
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gctctcggct cgtttttaaa gaaaaagttt aaaaccggca tttttaaccc attgcttatt	120
tctattgtaa ttacaatagt ttttcttttg acttgcaata ttgattatga aacgtataat	180
gacggcgcaa aatatttgag ctggctttta accccggcga cagtttgcct tgcaattccg	240
ctttatcagc aaattgaact tttgaagaaa aatcataagg ctgtgcttgt cgggtattctg	300
tcaggcgttt taacaagcct tacaacaatt atgatttttg catttatattt taaactttcg	360
cacaaagaat atgtaacgat gcttcctaaa tctatcacta ccgctatagg aataggagtc	420
agtgaagaac ttggaggata tgttacaatt actgttgcgg tcattatattt aaccggagtt	480
ctcggcaata ttttagcaga aggaatttgt aagctgttta aaatcaatca tccaatcgca	540
aagggcattg caataggcac tgcttcccac gcaataggaa cggctaaggc tatggaactc	600
ggcgagattg agggcgctat gagcagtctt tcaatcgcag tatcaggtat acttacggta	660
gtcggttcaa taggctttgc aaaaatcata taa	693

<210> 1348
<211> 864
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1348
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gttgaagttc atcctctttt gactgctggt ttgtcaaadc aaacagctta tgaaagcttt 180
aaatcgttgt cacttacaga tacaatgaaa ccttttattg aggaatggaa aaagctgggg 240
gcaaaatttg acggaatact tacgggtttt gtaacagaca aggctcagct tgaaattata 300
tcagatttta ttgatgagtt taaggatgaa aatactcttg tggttgccga cccgattatg 360
gctgataacg gttcacttta tgacggttat gatatgcaaa tgtgcatgt gataagagaa 420
ttttgcttta aagccgatgt tattactcct aacacaaccg agcttgcaat tcttgacat 480
aagggtaatc ccgatgtgtt aaatgaaaaa tgggttaatg attattcaaa tattgaaaaa 540
agccttaata tgctttataa aaaaggatta agtaaaattg tcgtgaccgg ttataaggaa 600
aacggcgcaa tatcaaacat tatttttgat aacggcgaaa tttccaaagt caccaacgaa 660
aaggtcggcg gatatttcag cggcacagga gatgtgtttt cagcggtttt aaccggttcg 720
cttttaaacg gcaaatctct tgcagaagct tgcaaatgtg caggggagtt tattacaaat 780
acaattaaag ttaccgatgt ttctgacgga aatgacggta ttgcttttga aaaaacgatt 840
ggggagttga tttcttatga ataa 864

<210> 1349
<211> 831
<212> DNA
<213> Eubacterium sp. CAG:251

<400> 1349
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gacggagtaa aggttgagga aaacggaaaa atcacaaccg taaccgtttt taacaaaaaa 120
ggggcacagg cactcggcaa ggcagtgggg aaatatataa cctattgcag cgatgcggcg 180

attgacgatt cacaaatttt tgacggcaga ctcgacgagc tttctgaaat tctgacctcg	240
cttttaccctt aaaatattaa aagcgtgctt gttgcagggc ttggaaatac agatataact	300
gccgacgcac tcggaccaaa ggttgtaaata tatgttcttg ccacacgcca tattattaat	360
gattataata atgataataa atatTTTTtct gactTTTTtta atgtttcgtc aatttcaacg	420
ggcgtgctcg gtgatacggg tatagaatct gccgaaatca taaaaggggt agtcaaccaa	480
attaatcctg attgtgtgat tgcggttgat gctcttgccg cttcgtctgc ttctcgattg	540
ggcaacacgg ttcagctttg caatgccggg atttctcccg gttcgggtgt cggcaaccat	600
aggatatgaaa tatccgaaaa cactcttggt attcctgtta tttcaatcgg tattcccacc	660
gttgtttcca cctctgttat caaagggaata aacggcggcg acggtatgtt tgtcactcca	720
agggaattg acagaattat tgagcacggg gcaaagctta ttgcaatgac cgtaaacgtc	780
tgccttcaaa aaaatattga cgcaaaagat ttatTTTTtct tggtcgggtg a	831

<210> 1350
 <211> 837
 <212> DNA
 <213> Eubacterium sp. CAG:251

<400> 1350	
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ttcggcaagg catcttgccg tgtgaaagag gttgaggatg atgaagttgt cagcccgttg	180
aagcctgtaa tacgtattgc aaatgataat gaccgtgaaa aagttaatga aaataaaatt	240
aaagagaaaag aagcttttga gatttgctct aaaaaaatag aaaagcatca gcttgaaatg	300
aatttgacaa atgccgagta ttcgtttgac tgttcaaagg ttatTTTTtcta tttcactgcc	360
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cttatgtgtt gcttaaagta tgagcaaaat tcttatgaat atttacataa gattactcct	660

aaaatcggta cgtagtcga ttgcaggta ggaagaggta cggttgttga taccgcaatt	720
ttaaccgggtc agctcaaggt taggcttgat gatactcccg acggattacc tgttacggtc	780
agccgtgacg aagtgagaat agttagagaa aacaaaccaa aaatgaacaa aaattaa	837

<210> 1351
 <211> 2745
 <212> DNA
 <213> Hungatella hathewayi 2

<400> 1351	
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ggtctctatc tgccgttggg aaatccggcc ggagtcattg gggccattac cccaaccggc	180
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cagtgggtat ccctgcagcc tgaattaaga agaatctacg gctgttcttt cctgcctcat	1140
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tacgacaatc acggtatgca ggcgaggggc gtatttgaag aaaacgtgag aatgatgctg	2040
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ggcaggccgc tgccatttga taaaaagaac ccggtgggtt cccgggaaac actgctgcgg	2700
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<210> 1352
 <211> 2145
 <212> DNA
 <213> Hungatella hathewayi 2

<400> 1352	
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acggctgtga cggttgaaat aaaggagggg ggcaccacct tcatccgcgt gaccgacaac	180
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gcaagtatcg cttccgtctg ccagggtggag ctgatcacga agaccagcga agccctgacg	360
ggaagccgct acagcatcga aggcggcatt gaacggccgc tggaggagat cggcgccccg	420
gagggcacca catttatcgc cagaaactta ttctttaaca cgccggccag aaggaaat	480
ttaaagactc ccatgacaga gggctcccat gtggccgagc tggaggaaaa gatcgcgctc	540
tcccatccgg agatttcgat ccgttttatc cagaataacc agaacaagct gcatactcc	600
ggcaaccaca acttaaagga catcatctat acggtcttcg gcaggagat tgcggcgaat	660
ctgctggcag ttgaggcgaa gaagcaggat atcgccatca gcggctttat cgggaagcct	720
gtgatcgcca ggggcaacag aaactacgaa aattatttca tcaatgggcg gtatatcaga	780
agcagcatca tatcgaaggc catagaagag gcctacaagc cgtttatgat gcagcacaag	840
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<213> Hungatella hathewayi 2

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<213> Hungatella hathewayi 2

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 <212> DNA
 <213> Hungatella hathewayi 2

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 <211> 816
 <212> DNA
 <213> Hungatella hathewayi 2

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<212> DNA

<213> Hungatella hathewayi 2

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<211> 3834

<212> DNA

<213> Hungatella hathewayi 2

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<213> Hungatella hathewayi 2

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<212> DNA

<213> Hungatella hathewayi 2

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<212> DNA

<213> Hungatella hathewayi 2

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 <212> DNA
 <213> Hungatella hathewayi 2

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<210> 1382
 <211> 1512
 <212> DNA
 <213> Hungatella hathewayi 2

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 <211> 2271
 <212> DNA
 <213> Hungatella hathewayi 2

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<211> 1377

<212> DNA

<213> Hungatella hathewayi 2

<400> 1384

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<210> 1385

<211> 1749

<212> DNA

<213> Hungatella hathewayi 2

<400> 1385

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 <211> 1065
 <212> DNA
 <213> Hungatella hathewayi 2

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<210> 1387
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 <212> DNA
 <213> Hungatella hathewayi 2

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<210> 1388
 <211> 936
 <212> DNA
 <213> Hungatella hathewayi 2

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<210> 1389
 <211> 930
 <212> DNA
 <213> Hungatella hathewayi 2

<400> 1389	
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<213> Hungatella hathewayi 2

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<211> 1539
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<213> Hungatella hathewayi 2

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 <212> DNA
 <213> Hungatella hathewayi 2

<400> 1398

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1506

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<211> 1383

<212> DNA

<213> Hungatella hathewayi 2

<400> 1399

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<210> 1403

<211> 1608

<212> DNA

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<212> DNA

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<211> 1854

<212> DNA

<213> unclassified Firmicutes

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 <213> unclassified Firmicutes

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<211> 1413

<212> DNA

<213> unclassified Alistipes

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<210> 1453

<211> 687

<212> DNA

<213> unclassified Alistipes

<400> 1453

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taccgcatcg agcagggtgg atcgaacgta gtggtcgagg accagcagat cgtcgagggtg	180

acgcgtcagg agcagaaaacc gcctgagcag cccaagaagg tcgagatgca ggtggttacc	240
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gaggtgctgc aggcacccga ccgttcgctg tcggaggagg ccgtacgtgt gctcgagacc	600
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<210> 1454

<211> 1479

<212> DNA

<213> unclassified Alistipes

<400> 1454

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gaccgtttct cgaaggcaca gcgcttctgg gactggcgcg agatgtacga caaggctgca	300
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 <212> DNA
 <213> unclassified Alistipes

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ctgaaagggg tgcgatcgac aaatcccgtc gtcgtgggag acatcgtgcg ttgcgaacgc	180
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cgcgcgtcga acctctcga ggagtcgcat atcatcgccg ccaatctcga tcaggcgctg	300
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 <212> DNA
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 <212> DNA
 <213> unclassified Alistipes

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gtgtgggtgc agaagtcgga gttcagcttc accgaatatg cggctgtgat ggactatata	360

tcgctgccgt cgctcgacct gctgggcttc cgcacgggtgg agggcgacct tcggcagatc	420
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taa	2463

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 <211> 1242
 <212> DNA
 <213> unclassified Alistipes

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tcgggcatag tcaatctggt caatacggag gtcgaggaga tcatgcgccc gcgcatcgac	600
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 <211> 1128
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<211> 1683

<212> DNA

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 <212> DNA
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<210> 1462
 <211> 1017
 <212> DNA
 <213> unclassified Alistipes

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gccgatacgg tgccgtgaag	180
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ttgccggcgc cacatcggtg	300
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gactgacgac ggcgacttac	ggccgactgc
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aatacaaaagg tgtgttgaag	420
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tcatatcgcc cgcaacgcgc	480
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agcctgtcgg cagcccagtc	540
gagagcgagc gtatcgacat	cgacactaat gcactgctca
agcaggagga ttttgccgtc	600
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tcaagtcggc aaaggttatc	660
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gtgtactgtt ccgtctggcc	720

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 <212> DNA
 <213> unclassified Alistipes

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caggcgagcg gtttcatgca gccgcgcgac gagttcctgc acaacaccga gagcggcatc	900
gagggtatat tctatgccgg ggcggttacg gcacccaagt gtgtgggcga atcgctgaac	960

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<210> 1465
 <211> 1059
 <212> DNA
 <213> unclassified Alistipes

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atgaggcgat atgaccttcc ggccgcaagc atagccctca tgcgcgacga ccgcataatc	180
tacaccgccg catacggcgt taccgacacc ctgcgacata cgccgacgac catacgacc	240
cgtttccgca tagccagcct ctcaaagccc gtcaccatgg ccggcatatt gctgctggcg	300
gcacatgggc ggctgtcgct cgatgaccgc gtcttcggcg agggcgccat cctcggcacc	360
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cgttgatac ataccggctc cctgcccggc acggcggccg taatgatacg catcgacgac	960
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<210> 1466

<211> 1095
<212> DNA
<213> unclassified Alistipes

<400> 1466
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tatcccttcg tataa 1095

<210> 1467
<211> 936
<212> DNA
<213> unclassified Alistipes

<400> 1467

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gtgcagcagc agctcgtgcg tgcggggatc aacccccctga agctgcgggc ggtattcatc	180
tcgcacctgc atggcgacca cgtctacggg ctgctgccgc tgatctcgac gctcgggctc	240
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gcgcatctcc ggtacttcga cacggcgctg ccgtacgagc cacaatggca cgaggctcgac	360
accacggccc accgcatcgt cttcgagaac gactcgctgg aggtgtggtc gctgccgctg	420
cgccaccgcg taccacggc cggatatctc ttccgcgaga aggagccgc gctcaacgtc	480
agcaaatatg ccatcgaacg ctacgggctc tccgtagcgc agatcgtggc ggcaaagcgc	540
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ccataccgtc ccgtatcgta tgcctactgt tccgacacca actactcggc gcggctggct	660
tcgatggtcg agggcgtaga catgctctac catgaggcca catacgccgc cgacgagagg	720
cgcacggcac gcgatagggg gcattcgaca accgtcgatg cggccaacgt ggcgctcaag	780
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<210> 1468

<211> 1362

<212> DNA

<213> unclassified Alistipes

<400> 1468

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ggccccatta tcatatctat cggcctgata ctttcggggt cggccatcac caactgtatg	480
gctaactggg ggatcgcgct gctggccatc gccattatca tcgtggccaa catctggggc	540
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gccctttgcg ggcaggtgga ctttacggcc gtgcgcgagg ccgcatggat cggagtcccg	660
ttccacatga aggatacggc cttcgccgtc ttcgccaacc ccgactgggg gcttctcgtc	720
tcggccatca tcaccatcat gcccatagct ctggccacga tggaggagca tataggcgac	780
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gccgtctcgc tcggatttac ctcgtgtcgc ggtctggccg tagccgctat cgtgggtatt	1260
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<210> 1469

<211> 1110

<212> DNA

<213> unclassified Alistipes

<400> 1469

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aagagcatgg aggtattcgg cagagccctc tcgtcgtatt cgcagagcta cctcaccaac	180
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 <211> 864
 <212> DNA
 <213> unclassified Alistipes

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<210> 1471
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 <212> DNA
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<210> 1472
 <211> 2334
 <212> DNA
 <213> unclassified Alistipes

<400> 1472

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gatgcgctgc catacaagcc catacgccat acggccaact cggctgccat agagcgtttc	1860
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<211> 957

<212> DNA

<213> unclassified Alistipes

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<211> 1848

<212> DNA

<213> unclassified Alistipes

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 <212> DNA
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<211> 1158

<212> DNA

<213> unclassified Alistipes

<400> 1486

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<211> 1089
<212> DNA
<213> unclassified Alistipes

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<210> 1488
<211> 1179
<212> DNA
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<211> 2511
<212> DNA
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<211> 672

<212> DNA

<213> unclassified Alistipes

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<211> 1047

<212> DNA

<213> unclassified Alistipes

<400> 1492

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<212> DNA

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<212> DNA

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<212> DNA

<213> Dorea formicigenerans

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<212> DNA

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 <212> DNA
 <213> Dorea formicigenerans

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<211> 2217

<212> DNA

<213> Dorea formicigenerans

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<211> 1908

<212> DNA

<213> Dorea formicigenerans

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<211> 2067

<212> DNA

<213> Dorea formicigenerans

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<212> DNA

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<210> 1543

<211> 2094

<212> DNA

<213> Dorea formicigenerans

<400> 1543

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<211> 1914
<212> DNA
<213> Dorea formicigenerans

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 <212> DNA
 <213> Dorea formicigenerans

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<210> 1546
 <211> 1956
 <212> DNA
 <213> Dorea formicigenerans

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<210> 1547
 <211> 2436
 <212> DNA
 <213> Dorea formicigenerans

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<210> 1548
 <211> 1923
 <212> DNA
 <213> Dorea formicigenerans

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<210> 1549
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<212> DNA
<213> Dorea formicigenerans

<400> 1549
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<210> 1550
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gaaatgaacc ggctgctatt gtttgtgtcg gaggacgaca ggcaggatat tcaggatgca	240
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gtgaaatcag ataatgaaaa gctcgatgca cttacagaag agatgaaact tccgatgatg	360
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 <212> DNA
 <213> unclassified Azospirillum

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tactaccgcg attcggctcc ggttgccgt tatcgcgaag aagctccgt ttatcgacc	300
cgtcagattc aggaaaaatgt ctgtgacgaa tataatgaat acaacgattc tccgtgtccg	360
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 <211> 459
 <212> DNA
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gcgctgggggt cggacaaaac ggttctggag ctgaagcacc gtgcaacatt atataccgaa	180
aatgagcgca aatatatgtt ggacgctttg gcctgcgttc ataaagtta tatcagtcgg	240
ggttcgggggt atatggattt tgtagaagtg ttggattggg tcaagccgga cattttcttt	300

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tataaagtgt gaaagcgcgt tccgtttgcc gatttgccta ttcgttcgac aacggcaatc	420
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 <212> DNA
 <213> unclassified Azospirillum

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catcggtata tcaacccgca gcgcgacgtg ccggaagatg cttttaaggt tcacggcttg	180
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cagtatcgtg aaccaagagt atttgccgtt acggaagata ttgaagccaa gcatcgggaa	660
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 <212> DNA
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accgactgcc ccaagggcgg tattcgctgc ctttttgaca agagcaagat gttttgcgtt	180
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tttagcgacg gctccaccgg aaccttctat aatgccgata aagacgctgt cgggattgtc	300
acctacgttc accccaatac ggaaggcaac catggcatca ttatggcgct caaccagccg	360
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gccggaaaat cgacctgat gaacatgatt accggttacc tggcgccaac ctgcggcgat	180
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gaaccgaccg acggcctcga cccaatcaa aaaaccata tccgcgaact gatcacctgc	540
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gccacccgga ttatcctcat cagccgcggc cgcataatgg ccgacggtac gctgaccggc	660
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 <211> 750
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tcggtatggg gctgggcgat tattattgaa aaagtcggca ctttgcgtca ggtcaagcag	180
cgttccaaca aatttgagga gcgtttctgg tccggcgggt ctcttgaccg gctatatgat	240
tctatcggca accacccttc cgatccgatg tcggcgatgt ttgtttcggc gatgaaggaa	300
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gctattccgg ccgttatcgc ctataataaa atttcttccg acattgacag ctatgcaaaa	660
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 <211> 789

<212> DNA
<213> unclassified Azospirillum

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gcattatgga acaattttat gaacgcagat gttttaccgc atggcagcct tgaggtcaaa	180
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gcgaatctga atgtcggaaa cagccgggaa aatctgattg acacggttac gcagctgttg	720
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aaggactaa	789

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<211> 777
<212> DNA
<213> unclassified Azospirillum

<400> 1558

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tcgcgaatcc tggttatttt ggcagccatc agcatgagca tcaacatgat gctggcgctg	180
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tacttcagcg aactggaact gggttcagcaa gatgaagttt ataccgcgc caccgacctc	300
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aaaaatccat tcggatttgt ggtacagaac tattcgcttt cttatgtcgg aacaccggaa	720
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 <211> 870
 <212> DNA
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<210> 1560

<211> 429

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gggcagctga ccattaccac cgaagtggag aattttcccg gttttccga acccatacac 180

ggcacagacc tgatgcagcg gatgcgcagc caggcagaaa acgttgggggt tacaatcatt 240

gacgacaaca ttatcgaagt tgatttcagc agccgtccct ttgtctgcaa ttctgaaaac 300

taccatgtct ataccggcga aaccctgatt atgccaccg gtgccagcgc caaatggctg 360

gggctggaaa gcgaagaaaa attccgcggc tacggagtct ccggttgcg cacctgtgac 420

ggcttctttt atcgcaaccg caatgtcgcg gtcgtcggcg gaggcaacac cgctgccgaa 480

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gtcaaatacg aaattcccaa ttttataaaa tggcgcaatg aggaaaaatg ccgcaacaac	780
ggcgtggctg gctatgagcg cctggcaagc tgcgtggctg aactggccaa aaaagaccat	840
caccaatacc ccgaaacagt tcgtttttct cgttttgaca ccaaagaaga gctggaaatc	900

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ccggcgatta cgggaaacag caacaaagcc gtttatctcc gcaacgtaaa aatttatgac	1020
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gcaatggtag cctcgtcctg gagcggcggt accgatgccg acataacggt tttggtcgtt	300
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gttgaacggg acaacaaaaa ggtcatcggt ctcggcaaag gcggcagcat gataaagaaa	780
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918

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<211> 519

<212> DNA

<213> unclassified Azospirillum

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aaattaaaac cttatattga ttcccccttc cctatattca aaatcaggag aactgctatg 180

cccaatgctc aaaaatacct cggaaaaaca gtcaaaatat caatagaccg ccccttggga 240

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atttccggag acggcgaaga actggatgct tacgtccttg gcgttaatac tcccctggcc 360

gaatttgagg gaaaatgcat cgccgttatc catcgcacca acgacaatga cgacaaactc 420

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<210> 1565

<211> 567

<212> DNA

<213> unclassified Azospirillum

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agcagaatcc gcggcaatgt cggcgttatg gaaattacgc tggccgacta tcttgacaaa 180

ccgcagattg taaccaccaa acccaatatg attgagctcg acatttccga aaacaaccgc 240

tggagcgaat ccctttccac catgattcaa cgcgtgatgg cggacgatct ggcctattat 300

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tgggtcaatca agaacgcttc cggacaagtt gtcaggcagc aaaagaccgt tctttccgcc 480

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 <211> 867
 <212> DNA
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gccctgatca aaatgaaaaa atccggccaa cgcctgattt tgctgaccaa ttcgccgctg	180
cgggtacatt cgattgtcca gctgctgcgg aacaacggac tgccgccgct ggtttttgac	240
aatattgttt ccgcaggcga aatcctgcat tatctgttca aataccggga aggcgatttt	300
gccaccatcg gcacgactta ctataatctg gggcaaggcg cagatacggc aatTTTTTct	360
TTTTTggact atctcccggt tgacaaactc ggtaaagccg attttctgtt catgggaagt	420
gctgccgctc ccgaagccac aatcgaccag tatatgcaga ttttgggaata tgccgccagc	480
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ccggaaaaca tcctgctcat cggcgacaac atcaccacag acattaaagg cgccaattta	720
tccgggatcg actgcgtttt ggtttccaag ggcgttcacg ttaattttct gggcgaagga	780
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<210> 1567
 <211> 1281
 <212> DNA
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tttgaggggg attatgaggc aaagctgggtg gatttgtggc gcgagatcaa tgccgggact	180
tattatccccg gccgttccat tgctttttatt gttgacaagc cgggtcaagcg cgagatTTTT	240
gccgccgatt ttcgcgaccg gatttgtcat catttgggtga ttaataaaact gatgcctttg	300
tttgaggctt tgttttattac tgacagttac agctgccgcg aaggaaaggg cagtcaatac	360
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tatattctaa agatggacat tcaatctttt tttatgagca ttgacaagcg tattctggcc	480
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cggctgggtg agattatcgt ttatcattgt ccgcagctca actgtctggt taagggaaaa	600
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aaactttatc gagattccgg ggacgaagag ggagccgctt ttgtatatc cgtctcggg	180
gagctggaat taagccagta tcattatgac gaggccgcga cggctctggc gacggcgttg	240
gatttgatac acggcagaga ctatgccgcc aatacgtatg gcgaaacctt aatccgtttt	300
tccaaggtga ggactgcca gctgaattat gctgcggcgc tggcattgat tcgcgatgcc	360
gaaaaggttt tggaggaaac cggcagcaag gatctgggcg gcgaggctta tgaacacgag	420
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gtttatctat acggaaaaggc cgggcatcat ttgcccagg ccgaggctct gctctatttg	780
gcgcgggttg aagccgtgga tcaggaacgc ggcagctatc ccagagcgcg ggcgcattat	840
aaacattcaa tcgagcttta tgattttatg caaaatgaca ttatgaaaaa cgctgtattg	900
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 <213> unclassified Azospirillum

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aagcttccga gattgtttca gcatcgcac gcttttatgc aaaacaccat tgaagggttt	180
gattttttat acttggaaga cgttctgact tctttggaat gggccgtaaa aatcatacag	240
atttggccaa acggagggtt cagttcacta cctaaggaaa agattgacga aatctgcgga	300
gctgacgaac gaatgattga ttggaaatat ttgccttgg tcatggcgat tgcctggcac	360

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<210> 1570
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 <212> DNA
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gatttggttt tgttagatga aaaagttgaa actgccgaaa aatacgccgg acatccggca	180
ccggtttttt tgcttttgcc gggtagcaat gaaaccgccg tttccgatgt tgaactaatt	240
gcaaaccgc tttcgctttc caaattgctg gatcgctga aatcggggat tcatttgttt	300
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 <212> DNA
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cagactcaaa gcaacggccc ggtctcaatg attgtcgttg acgttacttc cgacggcaaa	240

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gatgattcta aaaaactttc cgccgcaaaa cgggaaaaat tgtacagcgc tttattggcg	240
gccgaaaagg ccggaaaagt gtcaatcggc atcggggaag caacggcgcg ggagattgat	300
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<212> DNA
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<212> DNA
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tcaactatgt ttttgaaaat cggcgaaaag gttccggttc gggatttgat ccagggaatt	360
attatccagt ccggaaatga cgcttgatc gttgccgccg aaaacctttc cggcagtgag	420
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<213> unclassified Azospirillum

<400> 1577
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<210> 1578
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 <213> unclassified Azospirillum

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gcagtagtca gcgttttggc ggccgaggct ttggggcgcg aacacgttta ctgcctgatg	180
atgaagacgg gctatacttc ggctttgagt ttggagattg cgcgggagct ggcgagatg	240
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ctgtatttgg atggaggaaa gacggctgcc gaaattaaag cgcagggatt tagttcccag	720
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<210> 1579
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 <212> DNA
 <213> unclassified Azospirillum

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gaactgattg tggttaatth tgaccgcgat aagatgacgc tgcgtattcc gatggcaaaa	180
gccgagacga ccggtttgcg tcggatttcg gcggaagaca ccatgaatga tgctttgggt	240
gtcctgaaaag gcaaggccaa ggttaaaaag gttatgtggt cacgccgggc acaggagtat	300
gaaaataaaa tcaactccgg aaatccggtg gcaatcgctg aggttatccg tgatttgtat	360
cgcagcgaag acctggcgga acagtcttac agcgaacggc agatttatga acaggcgctt	420
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 <213> unclassified Azospirillum

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gttaacctcg gactcgatct gcaaggcgga tccaatctgc ttttgagggt taaaattgat	180
gacgttctca aagaacggat gaatacgatt gaggatgaag tccgccagac gctgcgcgaa	240
aataaaatcc gctatgcaa tctccgggch ggagaaacct cggttcagggt caaaattgac	300
aatcccaatt cgcaaccaa agcggcaggc ttgttccgca agctggaccg ggattatgaa	360
gttaccgaag cagacggcgt gttaagcatt gcttataatg aagcggcgt taaaaagctc	420
aaaatgcagg ttgttgacca gtcgattgaa atcgtccgcc gccgtattga tgctcttgga	480
accaaagaac ccgtaatcca gcgtcagggg gataaccgca ttgtcgttca gctgcccggc	540
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<210> 1581

<211> 756

<212> DNA

<213> unclassified Azospirillum

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gccggaaaat ctaccttgtc ttatgttttg tccggcaaac ccggctatga agtaacctcc	180
ggaacgattc gctttaaggg ggctgacctg tgtgccctgt caacggaaga gcgtgcccgc	240
gaaggtgttt tcttgtgtat gcagtacccg gtagaaattc ccggcgtacc ggtttctact	300
tttttgaaac acgcggtcaa cgccgtacgc aaacaccaaa atcttccgga actggatact	360
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caaatgtcca ttctgaaacc ctgtttttca attctggacg aggccgattc cggcttggac	540
attgatgcgc tgaaagtcgt ggccgaagga gtcaatgctt tgcgcgacgg ttgccgttcc	600

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gtctttgccg atggccatat cgtaaatacc ggagacaaaa atctggcgct ggagcttgag	720
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 <212> DNA
 <213> unclassified Azospirillum

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gtcattatta ccggggaaaa cggttcgggc aagaccaaca ttctggaggc gatttccttt	180
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gcgttggttaa ccgacgaata tgctccgacg gagattgcca acttcagctg ggcgatttcg	300
gcaacggttc aaaagggtt tgaagaaatc gaaatcggaa cggcggcaga gaaaactgtc	360
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aaggtttctt cgcaaagcga actgggaaaa tatgtttccg ccaattggat tacgccgcag	480
atggatcggc tgtttcgggg cggttcgcaa ccgcggcgca gttttctgga ccgcttggtt	540
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tggtgccagc tgttgaaaag cggacataat gacaattcct ggctgaaaag cctggaagaa	660
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acgacgccccg aacctttttt gcgcttaaaa gacgatgcct tgtttatgac ggttcgcaac	1200
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<210> 1583
 <211> 513
 <212> DNA
 <213> unclassified Azospirillum

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cgcgggcggca ttgtctgcta tatggcttcc acccccaaaa aggatgaagg caaatatacc	180
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gtcaatatca atgccggcta tacctataag ccggattcca aggtaaccgt caaaatcggc	300
aacaaaagct ataaccgcct gtttattgac ggcgacaagg cctgggcgat tgacgaggcg	360
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attcacggcg gagcaaagcc gatatacgcc tttttaaata tcgtcgatga tgaaaatctg	180
gtcagccccg aacaactggc gctaaatacg gaagctttca gccttcttaa cctgcctgaa	240
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<211> 363

<212> DNA

<213> unclassified Azospirillum

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cagattatcg acgatgctaa aggtgcaaca gttgtttctg cttctacctt ggacaaggaa	180

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gttgacagaga gagcagccaa gtccgggggtc agcgaagttg tttttgaccg cggcggctat	300
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<210> 1586
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agataa	1086

<210> 1589
 <211> 969
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 <213> unclassified Azospirillum

<400> 1590		
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aacatggatt tgaaccggga tgaaaagctt tgtatggagc	agaatgctga atttaagtat	180
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cattatctgg actgtaaccc ggtacgctgg tgtttgga	acgattataa gggttcagagc	300
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aaatgcgtct gcaacagcca gttcagatac acttcgtcta	actgtaacgg ccaatattat	420
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ggcggaaacac gtacctgctg tacatcctgc ccgcctcccc	caacacctcc gtcaacttct	600
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<211> 1224
<212> DNA
<213> unclassified Azospirillum

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tttgatcttg ccgccgccgg gttcctgctt ttgtgcagcg ttttcttttc tccggctcat 180
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<210> 1592
<211> 1653
<212> DNA
<213> unclassified Azospirillum

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gacaagtctt acggcgctcc gaaaattacc aaagacggcg ttctggttgc caaggaagtt 180
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aagggttttg aaaccgagct tgacgttggt gaaggcatgc agtttgaccg cggttacctg 600
tctccgtatt ttgttaccaa tccggagaaa atgacctgcg aatatgaaaa tccgtatatt 660
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gttcgtacgg ctctgcaaga tgcggcttcg gtcggcgggtt tgctgattac gacagaagcc	1560
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 <211> 924
 <212> DNA
 <213> unclassified Azospirillum

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aacgacaatt tcagcgagca cgagcagctg ctgctcagca acatthttgga cctcaaagac	180
accaaattgcg gacacgccat ggttccgcgg gctgatatta tcgctthttca tcaggacgga	240
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ggcgattcgc tcgacgatat cctcggcgct gtccatgtta ttgatttgct caaacccctg	360
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ggcgggctgg tcttccacct cgcccagcat attcccaacc gcggagaaat catcgaagg	780
cgaaacggca tcaagttccg cattttggac gttgatccgc gcagaatcaa aaaagtaatg	840
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924

<210> 1594

<211> 1194

<212> DNA

<213> unclassified Azospirillum

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gcgcatgaaa aggccggttt tatgattgac atcaatgacg gacgtgatgc gtttatgatg	240
gcagaagaag ccgggctgca ggaaaacagc tttcatgaag gacagagcct gatggttcag	300
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gcgctgcttt atcggcgcgg caatccgctg tttgacgcta ttgcccgcca ccgcggaact	660
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ttaagcagag ccggattggt cgaaattgtc cgggttcgcc gccgcccag cctgagagac	1140
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<211> 357
<212> DNA
<213> unclassified Azospirillum

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gacaaaacag ctcatattgga ggctttttta gatgattttg agctgctcag gctggaaatc 180
cgcgttttgtt tggatttgaa gctcttatct tttaagaaaa tggccgagat tgcgctgatt 240
accgacagta tcagcaaaca agtaacagct tggaaaaaca gaacaaaaga taaggataaa 300
gataagtta aaaataagaa ttgccagaac ctggcggatt atggtctgac aggggtga 357

<210> 1596
<211> 432
<212> DNA
<213> unclassified Azospirillum

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gaaatttact atacaacggt tacctgccgt tattttgaca agcaaagctg caaatgcacc 180
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<211> 498
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<213> unclassified Azospirillum

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cccgatgtcg aacagttgat aaacatcgag agagggaggt ttaccggtat gtggaagttg	180
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gcttggtgcg tttgcttaaa ggaactgaga ggggcttatc attattcgcg tgaacggctg	360
gcggagatga gccatattcc ggaagagagg attaaggcta tagaagaaca ggattatccc	420
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<210> 1598
 <211> 918
 <212> DNA
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gccttttata aggaggtaa aaagctggcg gttttggccg ggcttgatcc tgcgcgggta	720
tctccccatg ttttacgtca ctcttttgca acttatctgc ttaatcatgg ggtggatttg	780
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 <212> DNA
 <213> unclassified Azospirillum

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cgcgcttgcc gggaacaagg ggtggaaatt tttactcttc ccggctgctg tgccctgatt	360
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<210> 1600
 <211> 468
 <212> DNA
 <213> unclassified Azospirillum

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<210> 1601
 <211> 2298
 <212> DNA
 <213> unclassified Firmicutes

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<210> 1602
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<212> DNA
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1026

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<213> unclassified Firmicutes

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<212> DNA

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<212> DNA

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<210> 1655

<211> 777

<212> DNA

<213> unclassified Firmicutes

<400> 1655

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aagctgatcg tttttgaggg aaccgacggt tccggaaagg ccacacagac cgagcttctg	180
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gatgtgaacg cctacgccgc gtccaccttt tacgcggtgg atcgctacgc ctctataag	360
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gcgtttgtga cggaatactg cggctggaca aagatcgact gtgccagaga cggcgtgatg	720
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<210> 1656

<211> 1599

<212> DNA

<213> unclassified Firmicutes

<400> 1656

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ctgctgatgg tgggcgtgct gggcggcatg ttcgcggtgc tggccaacgt tatgtgcggc	180
cagctggcgg agatgggtct ggactggctg tacttcgtca tcatgggcat gatggcggtg	240
tttctgggtg ctttcggcag cgtgttcaac acctattcgg ggctgtatct ggccaaggac	300
aacgacctgc tgctgtccat gccattccg gtgcggatca tcatggcgtc ccggctgctg	360
aatgtctatc tgctgggact gatatactcc ggcatcgtga ttttgccggt catcatcgtg	420

tactggtgca ccgtgccccct tacggcgggg atcattctgg gcggcgtggt gctgctgac	480
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gcgttcctgc tggcggccac ggcgctgatt atcgtgctgg cgctgggtgct gctgcggtg	1560
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 <211> 942
 <212> DNA
 <213> unclassified Firmicutes

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gacaaggcgc gggacatgat cgccctgaac cagcagaccg aggtgaccag cggcaagctg	180
acggcgggagc agtccgccgc cctgattggg cgtatctccc tcacctcaca gctggaggat	240
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ttctaccgcc agctgtgcgc cgtcgtggcg gaggacgcca tactgtgcag caatacctcc	360
ggattgagca tcacaaaaat agccgaggcc gtcacccatc cggagcgggt cgccggaatg	420
cactggatga atccacccca tattattccc ctcatgaaa tcgtggagggg cgaaaaaacc	480
gcgccggaga cagcggaatg cgtccgtcag gtggcgctgg gcatgaagaa aaagcccgtt	540
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tccctccaca tcgtgcagca gggcattgcc agtcccagg cggtggacga cgtgatgaag	660
tacgcgctgg gtttccggta cgcctgcttt ggcccccttc agacctgcga tctgggcggg	720
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ccgtttggtc tcatcagcga gtgcattgag cacgaccggc tgggcgtgaa gaacggcgcg	840
gggttctatg actactccga cggcaaggac gtggagggtga tccgccaccg ggatcacatg	900
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<210> 1658
 <211> 966
 <212> DNA
 <213> unclassified Firmicutes

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ctggcatgga cgatccacgc gctgagcgtg gatctgtgta aggatttcgg ctgcgagctg	180
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ctcagcgacc tgccccgtga catagagaac gacgccaact gcgcggcact ggcgaggtag	360
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ggcggcggca tcatccataa cggaaagatc ttccacggct ccaacggtat ggcgggcgag	480
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tgggagcgggt acgcttccgc caacgcactg aagcgccaga ccgccaaggc gtggcaggag	600
caccccgaca gcattctggc gcgggtcatc gccgaaaacg acaatcatgt gtccggccaa	660
tcggccttta tcgccgcccg tcagggtgtg ccggtggggc aggcgggtctg cgaccggtat	720
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gccattggcg gcggcgtcag caacgagtcg gatgaacagc tgctgcttcc cctgcgccgt	840
caggtagcgg ctcatagtct gccctgcaac tacgataaaa tgacgaagat cgtcaaggcc	900
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<210> 1659
 <211> 1461
 <212> DNA
 <213> unclassified Firmicutes

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ggcaacggca aagtgggata tgccatcgcc aattcgctgg cgcaggagga tcacgatatc	180
atcatggtgg acgccagcac cagcgccctg cggaaagcgg aaagcaccat ggacgtgctg	240
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gatctggtga tcgccgtcac caatcaggac gagatcaatc tggcttgctg cctgatcgcc	360
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gcgcaggaaa tcgcccggat actggccttc cccgccgcct tcagtgtgga gccctttgcc	540
cggggccgca tcgacatgat cggcttccag gtaatggaga gcgacaccat ctgcggcatt	600
cccctgagtc agggccaccg tctgcgccag gcggaggtgc tgatctgcgc ggccggagcat	660

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aaggtgaaaa aggtgtccgt gctgggcggc agccgcagcg ccatgtatTTT ggCgtgggag	840
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ggcagcaagg tggaaagcct ttacaagatg ctgggcggTc acgtggaggc gctgtccttc	1260
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aaaggactgc tggTggctgc catcgtgcgg gatcttcaca ccatcatccc cagcggtatg	1380
accaccattg aggacggcga ccacgtggTg gtggTgacac gcgccacagg actggacgac	1440
ctgacggaca ttctggcgtg a	1461

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 <211> 1269
 <212> DNA
 <213> unclassified Firmicutes

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ctgggtgcgg atatcctgtg gctgatgccc atccatccca ttggTgagga gggccgcaag	180
ggcaccatgg gcagccccta cgccatccgg gattaccggg cggTgaaccc cgacatgggc	240
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aagctgaagg	agctgaagca	gacgctgccc	atcaccggcg	gctattggct	ggaggagaga	1080
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gtgatttga						1269

<210> 1661
 <211> 822
 <212> DNA
 <213> unclassified Firmicutes

<400> 1661						
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atcatgcca	agcggatatga	cgcccagaac	accattaccg	agtatatattga	cgaggagctg	120
atcaagtcct	acatccggga	aaagcgccgt	accggcatcc	ggatcaacca	tatggccgtc	180
atcatcgccg	cctactaccg	ggccgtgatg	tataaccca	agctgaacta	cttcatcatg	240
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gcggacggac	ggcctgacga	aacatccctg	aaaattttcc	tgacgccgga	ggacaccgtg	360
ttctccatcc	agcagaagat	caccgacgcc	gtgtccgcca	acgccccac	cgagcagaag	420

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caccaccatt gctacgagtt cgggtaccacc agcgtgtttg tctgcatggg caagcctgtg	660
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gagcggatct gcaccggcta tgaatacgcc gccttctgca acgatttccg caagttcctc	780
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<210> 1662
 <211> 1212
 <212> DNA
 <213> unclassified Firmicutes

<400> 1662	
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cacggcatcg tactggccaa aaacgaggcc gccaaagcaac tgggcgtgaa aacggcggag	180
accatctggc agggccggca gaaggcgccc cacctcatta ccctgccgcc ccaccacggc	240
ctgtaccggg agtacagcca aaaggtcaac gccatctacg gccagtgcac tgatctggtg	300
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gcgggcgaca cgacccgccg ggacgagaag caggagcggc tggaacaggc catggacgcc	1140
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<210> 1663
 <211> 1383
 <212> DNA
 <213> unclassified Firmicutes

<400> 1663	
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aacgacggta ccggcgttct ggcaggcgtg tccaagggtg gcagcgtgca gggctatttc	180
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tga	1383

<210> 1664
 <211> 1251
 <212> DNA
 <213> unclassified Firmicutes

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<210> 1665

<211> 1743

<212> DNA

<213> unclassified Firmicutes

<400> 1665

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<210> 1708
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 <213> unclassified Ruminococcus

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<210> 1709
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<210> 1710

<211> 1428

<212> DNA

<213> unclassified Ruminococcus

<400> 1710

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<210> 1711
 <211> 768
 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1712

<211> 1200

<212> DNA

<213> unclassified Ruminococcus

<400> 1712

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 <212> DNA
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<210> 1715
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 <212> DNA
 <213> unclassified Ruminococcus

<400> 1715

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<211> 984

<212> DNA

<213> unclassified Ruminococcus

<400> 1716

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<210> 1717

<211> 1290

<212> DNA

<213> unclassified Ruminococcus

<400> 1717

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<210> 1718

<211> 468

<212> DNA

<213> unclassified Ruminococcus

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<210> 1719
 <211> 1341
 <212> DNA
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<210> 1720
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 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1721

<211> 1416

<212> DNA

<213> unclassified Ruminococcus

<400> 1721

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ccggagcatc tcgaaaagct caatatgata aagaaagtgc gcgaagaact caatctcccg	180
attgcgataa tgctcgacac aaagggtccc gagtacagaa tcaaaacctt tgaacatgga	240
aagatatttc ttcaggacgg cgacgagttt tcgttcacta ccgaggatat tgtgggcaat	300
caaagccgcg tcagcgtgac ctacgcggga ctcgtcaacg atatctctat aggcgaccgc	360
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<210> 1722
<211> 1344
<212> DNA
<213> unclassified Ruminococcus

<400> 1722
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tcaaagtttg aggaatacta caacgaccag ttccccggca gaaacgggct tgtcaaaata 240
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<210> 1723

<211> 594

<212> DNA

<213> unclassified Ruminococcus

<400> 1723

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tacgcctgga gttcggagct cgaaaagcgc accaatatgc ccgcgggcga gaccgcttcg	180
agcgaggagt tagaggcgct cagaacgcag aaccgcagcc tctacaacaa ctgcgtggca	240
tttgcaaagc acataaagcg ccttgaaaag ctgagagacg agcagggcag atatatggtt	300
gacgagctca acgccgcaga gagcagaaaa aagtgcctcg aaaaggagat agccgacctt	360
gaggcgaaga agagcttgct cgaggtcagc aacgaatcgg ctgcggcca agcggatgcc	420
gtaatttcgg cagcgcgcaa tcaggcgagc aagaccgtcg ccgaagcgca ggagcaggcg	480
aatctgatag tcgccgaggc gcagaagaag gccgagtcca tactccgcga gcgtatcggc	540
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<210> 1724

<211> 867

<212> DNA

<213> unclassified Ruminococcus

<400> 1724

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gagatgacgt ttgaagagga attcgacggt gaactcgacc gcagtctttg ggtcggtcac	180
tacacatacg gcaaaacctc atccgtccgc cgcggctctt actggaacaa ttacatggcc	240
tacacagaaa acggcaatct tgttatcccc ttgaaatatc tcgatgaggg catgggcgga	300
acgggcgccc ggtggtacac ggcggggctc gacacatcct cacgcgagac gggTTTTcg	360
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gcatttttga tgatgaacga ggatgtggtc aatgtcgacg gctccggtca ggacggcacc	480
gaggttgatg taatggaaaag cccgtattac gggcgcatac cggtcaacaa tgtcgtttac	540
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gaatatatatt tctatctgaa cggcatggag tatggccgca gcgatttcgg cgggtgttgc	720
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<210> 1725

<211> 1263

<212> DNA

<213> unclassified Ruminococcus

<400> 1725

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taa	1263

<210> 1726
 <211> 1086
 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1727
 <211> 528
 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1728
 <211> 1056
 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1729
 <211> 846
 <212> DNA
 <213> unclassified Ruminococcus

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<210> 1730
 <211> 1461
 <212> DNA
 <213> unclassified Ruminococcus

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atccactatc ccgcgatagg cgtagagtcg atagacagca agataaagggt ggcggcgcag	240
gagatagccg acacttttgt gggcgagggtg ccgagctcaa aacccaaggg cgagaagccg	300
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aaggataaac ccggctcggg aagaactcag gcgcagcgca acgctgatat gcagaagata	1260
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gatatgaccg ccgacgcatt cgagcagata gccgctcagc ttaacgccga gggcttcaaa	1380
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<210> 1731
 <211> 684
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1731	
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aacgcttttg ctcattgagct tatcgaccat ttcggttcgc tcaactgcgt gctcgaggcc	180
tcagccgagg atttgatgca ggtcaacgga ataggcgaga cctccgcaac gcttataacg	240
ctcacttttc agatgacaaa gaaatatctg aagaatgcct ccgacaagaa gctgaagaaa	300
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gctcacggca cgttttcggc cgcgaaatata gacaaacgct ttgtgcttga aacggctttt	480
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tcgcgcgacg atttgaacac cacaaaggcg gttggcgatt tctttcaagg tgtaaacgtc	600
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aaatttgcac ctctgtttat ataa	684

<210> 1732
 <211> 1620
 <212> DNA
 <213> unclassified Ruminococcus

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aaggaggggt atgttctctg ccgcgaggac ggcagcagtg aagctatgcg cgtcgatgcg	180
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gatcagcaga agggcgagcc tttcgattgc cccgactact cccatttcaa cagcttcgtc	420
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ggctcctatc ccgataacgg ccctgaaaac tggaaaaccg aaaactacac ctttgactac	720
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<210> 1733

<211> 2070

<212> DNA

<213> unclassified Ruminococcus

<400> 1733

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atggactact acgaggagcg cgccaagggc ggcacgggac ttatcataac cgagataacc	180
cgcgtaacg atcagaccgg cgcgagcgca tttgcgcagc tcgcagtcag ccatgactac	240
cacatcaagc cgctttccga gttcgccgag cgcatccacc gccacggcgc gaaatttttc	300
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agcatcaaat gcgaaagtct taccgcggc gcatacggga agcttctcta taaattgact	420
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aaggagctcg agcagcagtt tatcgacggc gccgtgcgcg taaagaaagc gggctgcgac	600
ggcgttgagc tccactcatc gcacggatat ctcttcagc agttcctcag ccccgtagaca	660
aaccggcgca ccgacgaata cggcggctcg ctcgaaaacc gcatgagggt cattctcaac	720
ataatcaagg gcatcaagac ggcctgcggc gaggatttcc ctgtgatagt cagactgacc	780

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<210> 1734
 <211> 315
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1734
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gatattcctg agattgaaat aaagcaaatt tcaaccgtcg gaaatcacct gtccgctacc 180
gttacggcaa aagagctgcg aggcagagac gcacagctcg agctcgactt taccgacacc 240
tccgtcagcg gaagcgcaaa gggtccgctc atcggcactg tggcgataaa agagggcacg 300
aagatagccg actga 315

<210> 1735
<211> 765
<212> DNA
<213> unclassified Ruminococcus

<400> 1735
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acgccaaca cagagacatt gaagctgctg tcaaagctgt ttgacgtttc tatcaacacg 180
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gacgggcaat atatgtatca caacatggat gacttgatag aggtttgcgt gcagaatatg 360
acaagcgaga acttctcggc cgagcaggcg cgcaataca tggcggatat gttgccaag 420
ctcaactatt ggaaacggta cgaatatctc ggcggcgcgg aaaaattcga ggaatacaag 480
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gtaaaatttc ttgacgacaa cgccacatat ctcggcaacg agctggaatg cgaatacggc 660
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<210> 1736
<211> 1026
<212> DNA

<213> unclassified Ruminococcus

<400> 1736

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ggacaggatg tcggcgattt tgccggcttg ggcatcaaga caggcgttat aatctccgac      180
aaagccgaca aggttcttga cgagagcgac gctgatgttg caatcgttac tctgttcagt      240
tttatagacg atattttacac tcacgttgaa aaatgcgttt cgcgcggtat caatgttatt      300
acaacgtgcg aagaggcgat ttatccatgg acgacggctg cgggtgcagac aaaccgcctt      360
gatgcaatcg caaaagcgaa caactgcaca ataaccggca gcggtatgca ggatatcttc      420
tggatcaaca tggtcgggtct tgttgccgga ggctgccata agattactaa aatcaagggt      480
gcatacagct acaacgtcga tgaatacggc ttggcgcttg ccaacgctca cggttgcat      540
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gagcatacct gcgctacggg agtcaaccgt atccccgcgc ttctctgcgc acctgcgggt      960
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tgctga                                           1026
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<210> 1737

<211> 1128

<212> DNA

<213> unclassified Ruminococcus

<400> 1737

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ggcagcttca agcactactt cgcaaagcta aacgaggacg agaagcgcg ctacaatgcc	180
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gagcttgaaa acgtctggct cgccctgatg tacgacaatc cggagctgat gatgctcggg	300
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gagggtcata tgtggaacgt cgtctttctc gacggtcagc cctataactt agacctcacc	720
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taccgcattc tgagcgtcgc cgacgcgggc aggcgcggct tttcaacgac acagataaac	1080
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<210> 1738

<211> 939

<212> DNA

<213> unclassified Ruminococcus

<400> 1738

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gttcaggggc tgtatgtagg cggctcctcg ggccaatgca tctatcacag tgtcgaggag	180
cgcaagaaaag ctttgaaggc cgtcatggag gaagtcggcg gacagctgac ggcatagcc	240
catgtcgctt gcaacaacac gagggacagc gccgaattgg cggcatatgc ggagcatttg	300

ggcgtggatg ccatcgctc cattccgcct atttattttc atctgcccga atatgccatt	360
gccgattact ggaacacaat ttcaggcgcc gcctgtaata cgccgtttat aatctacaac	420
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ctgatgatgg gcgcggaggc aggaatcggc ggaacctatg ccgtaatgcc cgagctgttc	660
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<210> 1739
 <211> 1185
 <212> DNA
 <213> unclassified Ruminococcus

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cttgaggacg gcggcattat cagccgtacc gcacttgtca tgctgcttgc tgtgcttgtc	180
ggcgcggcga tgtgtatcgt catatctttc attgactacg aaatagttct ccgcttttgg	240
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tccgagcttt tcaagatagc gttcataata accttcgccg tccacctcga ctatgtcggc	420
gaggatataa acaagctcaa aaacgctctt cttctctgcg ttcacggcgg agttccggct	480
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ggcatgatgt tcgcatcggg tcttgcgga agatattttg ccgccgccgg cgcaatgata	600

gtcgcggccg tgcccatcct ttggttcgcg ttcttcagcg acttccaaaa aggccgtatt	660
ctcgccgtat atgccccgaa taagctcgat accgcactat acaagaaata tatcttccag	720
cagcagcaga gcgatcaatgc cataggcagc ggccgattct tggggcgcgg ctttctcaag	780
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<210> 1740

<211> 705

<212> DNA

<213> unclassified Ruminococcus

<400> 1740

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gaacagcagg cggaatgcct cggtcggat ttagcgaacg taaggtttga caagatatat	180
tccagccata tgtgccgagc cgtgcagacg gcggcggccg ttgcacggca tcaggaggga	240
aaccccgaaa ttattattgt cccggaattc tgcgaaacgg agacgcccgg tgattttgag	300
gcaaacacag agcttctcag gtcggtctac ccgaagtga acataacaaa aacgagcatg	360
ggaaatggct gcggcgcgga tatagagcgt cttgaatatg cggttgataa gtacatcaat	420
ctccccggat attcgaacgc cacggagacg gttgtcacgg acggaaagca gaagaggtat	480
aatccggaia aaatccttat cgtctctcac gcgggagcta tctgctatat gctgagcagc	540
ctcgtgaact tccgttacga cataaacgta aatatcggtc aacacaatac ctgcataaat	600
aaattcgagc tttttttgat aaacgacgtt ccgcgcaaaa gatttctgag atataacgac	660
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<210> 1741
<211> 546
<212> DNA
<213> unclassified Ruminococcus

<400> 1741
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ggcccgcgca atgacctgcc ggagggctac gcgccccaaag aggtcattga aatgctcaat 180
gccatgaagg atgatatact ctgcgtgcgc ggcaactgtg aggcggagggt tgaccagatg 240
gtgctgaagt tccccgtcct tgccgactac gcgataatag acctcggaga cagcttaata 300
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gtgcttctgc atggacacac ccatattccg gagtgcacag agcatgaaaa ttatatttat 420
atgaaccccc gctcggcttc aataccgaaa gagaacagcc atcacggcta catgacgctc 480
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agataa 546

<210> 1742
<211> 621
<212> DNA
<213> unclassified Ruminococcus

<400> 1742
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gcaggcggtg caaagggtac gttttatctc tatttcaaag ataaatacga gcttatggat 180
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ttggtttcga tgctcacatc cgtaagctgc gacgggtgcgg ttcacggcga gccgtataag	540
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gagagggatt atgatatcta a	621

<210> 1743
 <211> 561
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1743	
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tggggatatgc tgggcgagct gtggggcaag gatgtggtga ctgttttcgt gcgcccgcag	180
agatacacct atgaatttat ggaaaagtac gataatttta ctctctcgtt tttcggcagc	240
gaatacagaa gggcgctctc cttctgcggc tccaagagcg gacgcgattt cgacaaggcc	300
gagaaatgcg ggcttaccgc ttttgagacg ggcgaaaagcg tggctttcga ggaggcaaag	360
ctgattatag cctgtaggaa gacagccttt gccgacatgg atccgtcgaa gtttattgcg	420
cccgaaatag aggataacta cagcaacggc gactaccacc gcgtctatat cggcgagata	480
acggagggtct gtaaaaaaatt aatcgctcgg gaacttccgt ctgagtcgcg agaagaaaag	540
gctttgcgag gcagttgtta a	561

<210> 1744
 <211> 1437
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1744	
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agagttccgt atctaaaagt aatagttctt atgagccttt tcacctttgt gttcttgggc	120
gcggagtttt tgttcgtaaa catgatttcc cgaatcggtt cgggacaccg ttcgggtggcg	180
gctcaaaatt atgcgctcgg cgtcagcgcg gtcggcctttg ttctgtatcc tcttttatgc	240
cgattttgca aaggaaatgc acaaacttcc gtttcggttt gcgcagccgt tatctcaa	300

gcctgccttt ttctgatgtg ccgcagcggc tcttacacgc ttacgctgat tgccggcctt	360
ctgctgtttt tgattctcgg cgtgttcgga agcgccgtgt tctataaatc cttttgcctg	420
ttggaggaca atactcatat tgcgcggcctt acgggtatct cctatatgct cgggtacaatg	480
ctccagattg cgaacagcaa tcttgttcat atagacattg ccgaagccgc gatactttcg	540
gtgtttataa tgcttttggc gcttatgctg atacgcgcgg aaaaaaacag cgttgtcccg	600
gcgctctcaa agagcgaacc cgacggcggc aacggcaggg agagcttgaa aatcagcgtg	660
attcttgtct tttttgtcgc gctcatgacc tgcattttca gcacgcttga taatgccgtc	720
accctcatcc acgcaagcgg aaaggcgaat atcgggcagt ggccgcgagt cctgctcgcc	780
ctcagcgggc ttttggcggg ctttttgttt gacacggcga gcagaaaata catgagcata	840
gttatgtact gcatcaccgt tctgtcaact acctgcctcg tcgttcttca gtttgccgga	900
ccttttacgg tagggctcgt catattttat ctggccgcgg gcttcttcgc cgttttcttc	960
acggtttcct ttatggaaat cgcccatac actgaaacgc cggagctgtg ggccggggctc	1020
ggcagagccg tcaacaatct tgtcgccgta ttgatttcgg gcggctcgct cgcacttttg	1080
aattcaggca acaatatgtc cataataacg atcgagctgc ttttgttcgt gctcgcgagc	1140
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gcggccgata agctgagcga cggcgaaagg ctgcaaaagc tcgccaagca gttctcgtg	1260
actccgcgag aagccgaggt gttcggattg ctggtgaata ccgaggacgg actgcaaacg	1320
atagccgaca atctctatgt gtcgaggcga acccttgagc ggtatgtctc cgcaatatat	1380
gaaaaaacgg gcgcgagatc ccgcatcgga cttgtcacgc tttacaacaa tgcataa	1437

<210> 1745
 <211> 777
 <212> DNA
 <213> unclassified Ruminococcus

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gatatggatc cgtatacggc agtcggcatc gcgctcgcac cgcatgtgct cgcaagcgcc	180
gtctcggcct acacctacgg aagaaaaaag aacctcgata tcaaaaacgg gcttatcatg	240
atggcgacgg ttctgacctt taccgtcgtc ggcagctatc tcgcaagcct gctcccgtcg	300
gctgccatgg gcggtttttc ggttgtaatg acattcctgc tcggagtcaa attcatcgtc	360
cgtccgggta tgacgacaaa ggaatcgatg gaaaaagttc ccgcgaaaaa gcgcgcgata	420
cagtccggtta tctgcgggac tttaatcggg cttatctgcg gctttgtcgg cgcgggcggc	480
ggcatgatga tgctgctcat tctcacatcc gtcctcggct acgagctcaa aaccgcagtc	540
ggcacaagcg tattcataat gaccttcacc gccctcaccg gcgctgtgtc gcattttgcg	600
ataggcggta tgcccgaact cacggtgctt ctgctctgcg ttgcgttcac gcttatctgg	660
gcgcgtatcg ccgcgggttat agccaacagg gctcagccca aaactctcaa ccgcgcgacg	720
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<210> 1746

<211> 912

<212> DNA

<213> unclassified Ruminococcus

<400> 1746

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aaaaagctca aggagaccga ggagagcgcc tcatccgcca taaagcggac aaaggagctt	180
gaaactcttc tctccgagca gcagacccgc gttgaggaat attctgcgct gagcgaggag	240
tatgcaaaga aaatatttgc tctcaggac gaagtcaatt ccctcaacga gaagctcaac	300
agcgttgaag tcggctgcga acgcgccaag gatgttgagg gtcaaatagg cgctctcggt	360
ctcgatgctc tgctctattc tgataagata atccgcagcg caaaggcgtc cgcaaagggc	420
atctccaatc agacgaagca gaccattgaa gaggccgcaa gcggagttga cgagataggc	480
gaggatattt ctcagatgtc cgataatttc ggcgttgtcg tcgcctccct tgtctcgaag	540
ataaattcgc tttcgaccaa cttgagcagc gttgccgata agctcgactc tcaggaggac	600
gagatagacg agcatcagtt taccttcggc gagaacggcg aggtcaagct gccgagcctt	660

accgatgagg atttcggcga ttcggacggc tccgatattg aaatatccga tgaggaaata	720
agcaatcttg tcaatgtcct caatgcgggc ggcgggcttg attttaaatt taccgcaccc	780
gacgaagacg aagccgcaga tattgaacct gacggcgtag atagcgaaga tgccgtaacg	840
gaagagccccg tcaagtccga tgaatccgag gatatatcgg agcttacaaa aaaatttctc	900
ggagaagact ga	912

<210> 1747
 <211> 1134
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1747	
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gcagacaggc tcggcgacac cttgccggat gatataaagg acagccttga ttctgcgggg	180
attgacattg ccgattggca atctctgctc tcgccctcgc cgaaaaagct cgtttcgatg	240
ctcggcgata tggcgcgcgg aagcttttcg aagccgataa aggacatggc tttgatagcg	300
ggtattgtca ttcttgctcg actcataaag ggcaactgccg ccgccgaaaa cttctccgag	360
cctctcaata cggatcatagg ctgcgcggtt gcgataaccg tgttcgcctc gtctgcgggg	420
gtcatctctc aggggggtgag cgcagtcaaa gctacctccg gctttatgct cgcgctcatt	480
cccgtattgg cgggcataat aacggccgcc gggaatcccg cactcgcctt gacctacggc	540
tccttcgcca tggcggcggc gcaggcggcg gcgcagaccg cggggaatgt gataatgcct	600
ctgtgcggcg cgttttcggc tttcggcgtg tccgcgtcgc tcagccccga gttaaggctc	660
acgaagctcg ccgagatgat aaaaaagctt gcgataggcg ttctgtcttt tgccgcggcg	720
gcgttttcgg cggttctggg actcaagagc ctgctcgccg ggagcgcgga cacgctgacc	780
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ctgcttttga agcttttagg cgtgctgtcc tcgtccatgg gcgacgacgc ttccggcgag	1020
gtgctcgaaa cgctctcgtc cgctttgacg gtaataaacg cggcgataat ttttacggcg	1080
gctctcttta ttatatcgac gggatatagtt atctcgggtga aagcgggtgc atag	1134

<210> 1748
 <211> 606
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1748	
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caggatatag tcacccgcct cgagggcttt ttccgtaccg agaagggtat ggacgtccag	120
agctctcaga ccacggacgg ttatgttatg caggcgagtc agccaaagga cggctggaag	180
acgctcacgg gaatgcgctt tgctgttacc gttcagatgg cggttgcggg agatcagctg	240
aatgtcagca taggcgaggg gcagtgggtcc gataaaatag gcgccggagc gataggcctg	300
tttgtggcgt ggccgctggc gataaccgcc ggaatgggcg cgtacaagca gaaaaagctt	360
ccctccgaag tgtttcaggt tatagagaac accattatga ccggcggaca gccggtgggtg	420
gtgtccggcg caggtcaggc cgtggcggac ggaatgacgc tgtgcccagag ctgcaaggcg	480
cagcttgccc ccggctcgaa gttctgcaac cgctgcggag caaagctcgg acaaaaatgc	540
ccgaactgcg gcgccgaaat caccgccgac agcgccttct gctccgaatg cggagtgaag	600
ctataa	606

<210> 1749
 <211> 348
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1749	
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aacggcgaaa aaatcggcga atgcatattc tcgtcggcg gaacctatgc ggagattttg	120
agcataaaga cccgcaactc ggacaggctc gttgcggagg gacttgtagc cagtgcgttg	180
aattttgccg ccaaccgcag cgcttatatg gcacgcgccg atatcggcaa agtcgaaaag	240

gagccgttca taaccctcgg ctttgaagaa aaaaacggct tttacgagtc cgatatccccg	300
tccgcactga cgggaagctg cggacattgc tccaaactac ccctttaa	348

<210> 1750
 <211> 1131
 <212> DNA
 <213> unclassified Ruminococcus

<400> 1750	
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gaattcagca agaatgctgc cggcggctcg aagcgccgca aaagctactc cgagcgcagg	120
cgcaacagaa cagtgggcat agtcctcgcg tgtattttag gcgcggctgc tgtattcact	180
gcggcatttt ttgtcaccga cacgctcctg ggcatctccg actccgaggt tgaaaccacc	240
gtcgcccccg gcaagagcga taagggcgat aagggaaca agggcaaca gggcggctca	300
aacgatacca ccgcgccccg cgcagccccg cagagctccg gcgagctgaa ggctcgcgtc	360
ggcaatgtct ccctgctcgc gggcggaagc ggactcgaca gctatatagc ctctctcaag	420
agcgcggggtc aaaatgccgt tgttatagac ttcaaggacg cgtccggcta cctctcctat	480
ccctcgtcga tagcggcggt caaggacaag accccctcgt caagggtca ggccaatgcc	540
gctcagagca taaagaaact tcggcagtcc ggcataaagg tcgttgcgcg aatatactgc	600
ttcaaggatt cgcagatgcc gcgcgttgac cgaaccacgg ccgttcacta caacaagaca	660
cagactatct ggctcgacaa tgaggcgtcc aagggcggca agccgtggct caatccctat	720
tccgaggcgg ctcgtaatta tcttctcgaa gtcgtaaagg aagtgaagaa cctgggcgtc	780
gacgtgatat tgctcgacgg cgtgcagttc cccgacctca actcgaagat agcgacgttt	840
gacggcgagg gctcggtatc gagaaacgcc gtgctcataa acttcgtcaa ctcctgcgtc	900
tccgcgtgct cgggcacgcc cgttatctgc gcgatgaagg gcgaggctgc ggcaggcggc	960
agcagcgaga tatataacgg ctctctctgg agcggaacg cctacgcctt tgcggtagac	1020
ctcagctccc tcaaggcgga ctttaaacgc agcttccccg cctcaaagaa agtaatcgaa	1080
atcaaagcct cggcctcaaa tgccgacagc acatatattt taacaaagta a	1131

<210> 1751
<211> 846
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1751
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ttcaaaccgc agatcgcaat gatccttagga tcaggacttg gagattacgc agaaacgatc 120
gagattaagg agattattga ttatcacgag attgatgggt tcccgatttc aacagtacag 180
ggacataaag gacgttttgt attaggatat gttgaaagtg ttccagttat gatcatggaa 240
ggtcgtgttc attactatga aggatattcc atgagcgatg tagttcttcc agtacgtttg 300
atgaggatga tgggagcaga aattttattt ttaaccaatg catctggagg aattaataaa 360
gaatttcatg caggagattt catgttgatc acagatcaga tagcaagttt tgttccatct 420
cctttaaatg gagtcaatat agaagaattt ggagaacgtt ttccagatat ggtcacatt 480
tatgatgaag atctacagga tatgatcagg cagagtgcag atcacctgat gatcgatctg 540
aaagaaggcg tctatatcca gcttgcagga ccgaattttg aatcaccagc tgagatacag 600
acgtgtaaag tgatcggtgc agatgcagtc ggaatgagta cagcatgtga agcgatcgca 660
gcaaaccata tgaagatgaa gatctgtgga atttcctgta tttcaaattc agcagcaggg 720
atcagtgaga atccgctaag tcatgagaat gtacaaaaaa tggcagatga agctgcaccg 780
aaattcaaatt tgcttgtaac agaagcgggtg aaaagaatgg ggaaatattt agaaacaacg 840
aggtaa 846

<210> 1752
<211> 1701
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1752
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gaacgggaaa ggtcagaaga tttaaatgct ggatatgatc agacatttga tcgatgggag 120
attatctttc gttatgcagg tgatctaaag acattaaaaa aatcatcaac aaccaatatt 180
gaaccattga gcatgggata tgcgatcgca tatatgaaag aaaatgattt agaagcattt 240

tcaagaaatg aacaagtgat cttcatagaa aaaccaaaaa atttattatt aaaccgacag	300
gtatcaatth cagcttcctg tatgttgtcg gtaaagaata cacctctttc attgactgga	360
agagggtgttt ttgttgcagt gatcgataca ggaatcgata tatttcatcc ggattttatc	420
aatgaaaaatg gagatacgaa aatttatgag ttatgggatc agacgatttc gggaatccca	480
ccacagccat ttataaatgg aactttgtat acaagaaaag agatcaatgc agcaattcat	540
tcagaaaaatg gacggcaaat gtttcaaagt cgtgatgatc ttggatcatgg aacgcatgta	600
gcatccatct gtgcaggaag aaatggtgtg gcaccagagg cagaactgat cgttgtgaaa	660
ttaggagata taagcaaaca aggattttcca aggacgacac agttgatgac agcactgcag	720
tatgtgatcg atacagcgat aagggaaaac agaccagtgg cagtgaatat cagttatggg	780
cataattacg gggatcacag aggaaattcg ttgttggaga catttgtttc acagatcgca	840
gggcagtgga aaagctctat ttgcatagga actgggaatg agggaaatag tgggcgtcat	900
aaacaaggaa agatcacgac aaaaacggag ctgattttat ttgatgtggc accatttgag	960
cagaacttga atctacaggt ctggaaagat tttgtggatg aattcaagat cagacttgag	1020
tctccatcgg gaatcacata tacgatcgtg gaccagcaag gaaaatcgca atacacatat	1080
aaggatacaa cggtttacgt gtacaatgga tactcaacgc catataatgt taggcaggaa	1140
ctatatthta gttttatacc gatggaagga aattatatag aaagcggatc gtggaagata	1200
gaaatttcac cagtgaatat aaaaaatggt gaatatcaga tgtggcttcc ggatatctgca	1260
ggaagcaatc cagaaaccag attttttagaa ccagataaag tattttacttt aacaattcct	1320
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atggcaacac catttggtac aggatcagca gctcttttga tggaatgggg aattgtaaga	1560
gaaaacgatc catatcttta tggagaacga atgaagggtt atcttcatag gggagcgaga	1620
cgattacagg gatatgatag atatccgaat gatgaaattg gatatggacg gttatgtgtg	1680
tctgaaagtt tgtatcaata a	1701

<210> 1753
<211> 1134
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1753
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atTTTTgaag atcctgaaga atttgcaaag tattatTTTg aagaagtcta tgcaccaat 120
gaagtgcttc tggcaagaga aggccagaag atcttaggaa tgatacattt gaatccatac 180
catataagaa caggggaaaa gacatacaca ttaaattaca ttgtagctgt agcggtatgg 240
aaagaataca gaagacaagg aataatggca gcaatgctta caaagtgctt aaatgacatg 300
catcagaaga gacagccgtt tacttatctg atgccggcga ataaagcata ttatgagcca 360
tttcagttta cctttgtgat ggactgggaa gaaacgatga ttcattcaat gaatgattcg 420
gacaagataa ttccagcaat acaacaagat gcaagaattg tcacagcacc agaagaagaa 480
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cctgataagc aatattttaag aagactttca aaagaaagcc agagtgggtga agggaaacctc 600
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gaagtgtata tccgatgggc atattcaacg cagccagaga atatgctcaa tgagataaaa 720
tatcgatata agaataagaa gatttatatt acagaaggta atttaaccaa aggagaaaaa 780
ataccaaaga ttatggcaag gatcacagat ctacagcgt ggggagagat ccttcatgga 840
aagagtgatt ttacattcag gatTTTgggtc aaagatccgt atatcaagga tcagaatggt 900
gtataccaat tccaatgcct gaatcataag atatccattc aatgtgtaga ttcataaaaa 960
gaaaatgcat gcaaagaagg acgatcagat gcacaagaat gggaagatga aatttcaatt 1020
gacgagctga cacaggtgtt ttttgacaac aatgcaggac agatattaaa acaacatgag 1080
tatctgaaag atatcgtgcc ggctggccca atctatattt cagaggaggt ataa 1134

<210> 1754
<211> 2190
<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1754

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tgtatgthh gctthgataa gggatatgga tggatcatcg caggaatgat cttaggaath	180
atathhgctg catctgctaa aatctcgatg aatcttgatt thhcaaatg cagatataat	240
gaaacacagg acatcatagg aaaggtagth gaagtatcg aaacaaaaac cggaaagcag	300
gcattgctth ttaaaaaatga tatgctggaa ggaaaaathh tgthtatatac atcaaatgac	360
gaagaaataa gttcaggcga tgcgtatct thhaggggta gcctthaaagt cthhgatgga	420
gcaaccaatc caggacagth thhcaacagg cattathath ttagcagagg thhthath	480
catgcatath caaaagacat actthathaa aaatctacag agthtatgct agatcaaatg	540
atcgcaagat gcagaaaaa thhthaaacaa caacttagta tgcagtatga tgaaggaath	600
tcaaththcc tgaatgcaat gatgcttgga gataaaacaa agctthaatga tactgthaaa	660
gatgaththh aagaaagcgg tctgathcat thaatggcag tatctggact tcatathhcg	720
ctggcaggaa gaagcathh thcggtgthh cgcagactth gtggcagctt tatgatcagt	780
tcagthathg gaacgatgth agcggtathh thhgtgctt thacgggath thcagthath	840
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tacgathhth tatcatcggc thhththhgct ggtgtgatat tgctthctth acgtccatac	960
aggathhthg atacagcgth cthhthactca thhacagcgg thhthhgat cggatgthth	1020
cagaggatca agccaaggct thagggcaag thhcaaaaa thagagaatc thhathgthh	1080
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ctththhcgth thhthggcaaa tgtgatagct gtaccathhg catcgacggc athhthcggth	1200
gcgthhgthh tgatctthhth thhacataca athhthhacg athhthhth gtggatgata	1260
tatgtgatct tatggctthh caaacgatca tatggaatgc thhcaatcgg gcatgtacca	1320
thhthhctggg tgathhthgth thhathgctg cthhthgthg gtactthhth aagaaataaa	1380
ctthcaathh agatcaggat tggthhthgth thhacaggaa thhgthhth thhathhth	1440

ccaaagtttc gaaagaagac gatcactttt cttgatgttg gacagggaga ctgttttatt	1500
gctgatacca atgcaggact gatcatatca gatggaggaa gcagtagtga agatcaagtt	1560
ggaaaatata ggatttctccc atatataaaa tatcttggat atcaaagggc caaaattgca	1620
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aggattgaat atcttggact tcctgaaata caaaaggatg cagcaatgga aaagatcata	1740
gaagcggcaa gacaaaataa tactaaagtt ttttatttat cgagaggaag aacaattaag	1800
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gcggcttcaa ttgtcatgca agggaatgtg cttggataca aattacttct tacaggggat	1920
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aaagtagcac atcatgggtc taagaattcc acgagcagcg aatttttgca aaaggtattg	2040
ccggaacaaa cgatcatatc ctgtggacaa aataacagat atggacatcc gcataaggaa	2100
acaattcaca ggtaaaaaag ctgccatacg aagatcaaaa gaacagacac aaatggagct	2160
gtcatttttc gagagaaaag agatggttga	2190

<210> 1755

<211> 993

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1755

ataatgctgc agaagagctt tataaacgtg ttacaggaca gatggaggaa taattgtatg	60
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gatggaacat taaaagaaaa atgggagatc aagacaagaa cagaagataa tggaaagaat	180
attatttcag atatcgcaac agcagtgaat gatcatatga aagagaatga tcttacacgt	240
gaggatgtga tcgggattgg agtcggagtt ccagggtgcag ttttgggaatt tgcaagggtg	300
aatgaatgtg taaatcttgg atggggaagt gttgatgtgg caggtgagtt gtcaaaactt	360
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atgggtgcag cagcgaaata taacagtgcg gttatgatca ctcttggaaac tggagtcggt	480

ggtggaatca tcattgatgg aaagattggt gacggaagtc gtggatatgg aggagagatc	540
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tacgagaaat caactacact gaaagacatt actgaagtaa catcaaaaga cattttcgat	720
gcagccaaag caggagatga atttgcagcc acacaggtag acaatcttgg taagaaatta	780
gcacttgtag caggaaatat tgcattgatg gtagatccag aagtatttgt gatcggagga	840
ggagtatcca aagctggaca gatcctttta gatgcgatca atgcacatta taagacatat	900
acatttggaa aagcacagga aacaaaattt gttctggcaa cacttggaaa tgatgcagga	960
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<210> 1756

<211> 960

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1756

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gggcaaaacg gagctggtaa atccacgact atgaatatta tgaccggata tatcggtgca	180
acaagcggag aggttatcat caatgggcat aacattcttg aaggacctga aaaagccaaa	240
aaatgcatcg gatattctcc ggaaattcca ccattatatc ttgatatgac tgtttcggaa	300
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ttaaaagtta tggaactgat caaacttggt aatatgaaag accgcttgat caaaaatctt	420
tccaaagggt accgccagag aacaggactt gctgccgcaa ttcttggttt ccctgatatt	480
atcatcttag acgaaccaac cgttgggctt gatccaaaac agatcatcga aatccgtgaa	540
ctgattcgta cacttgccaa agatcataca gtgatcctaa gttctcatat tcttgcagaa	600
gtgcaggaaa tctgtgacga tattttgatc atttccaaag gaaaattagt tgcagaagga	660
agtcctgagc aattagaaga tttaactcat ggaaaagaat ctgttgaact taccattcag	720
gcagatcaag tttctgtaaa acagatcctt tctgatattt ctggcattga tgatatcagc	780

tggtgaata tcaatgaaaa cagttgtcat attcagatca atacaagcaa cgatacgag	840
gaattatgtg cggatctctc tcttgcattt gcacaacaga aaatgcctgt gacacagatg	900
tttgtaaata aggcaactct ggaagatatt ttccttgaat taactggagg tgaaaaataa	960

<210> 1757

<211> 1302

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1757

atgaattaca caactcagat gaatgcagca aggcagggaa ttataacaaa agaaatggaa	60
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acgatcgta ttcctgcca caagaaccat aagtgttta aaccttttgg tatcggaat	180
tccttaaaga caaagatcaa tgtaaaccctt ggtacatcca gagactgttt aaacttagat	240
gttgagatgg aaaaagtaaa taaagctgtt gagatgggtg ctgaagcaat catggatctt	300
tcttcttttg gacatactca cgtatttcgt aaaaaacttg tcaatgaatg tcctgcgatt	360
cttggtacag ttcctatcta tgatgcgatc gtttattaca ataaagcact caaagacatc	420
acatctcgtg aatggatcga cgttttcaag atgcatgccg aagatggcgt tgattttatg	480
acgatccact gtggaatcaa tcgtaacact gcagatcggt tcaaagcgat gaagcgtaag	540
atgaacattg tttcccgtgg tggttccta atcttcgcat ggatggaagc aactggtaat	600
gaaaacccat tcttcgaata ttacgacgaa atcctcgata tctgtaatga atatgacgta	660
actttaagcc ttggtgatgc atgccgtcct ggatgccttg ctgatgcgag tgatatttca	720
cagatcgagg aactggtaac acttggtgaa ttgactgcac gtgcatggaa aaaggatgtt	780
caagttatga tcgaagggtcc tggacatatg ccaatggatc agattcaggc gaatatgaag	840
attcagcaga cgatctgtca tggagctcca ttttatgtac tcggacctct tgttacagat	900
atcgctcctg gatatgacca tattacttct gcaatcggtg gtgcgatcgc cgctgcatct	960
ggagcaagct ttttatgcta tgtaactcct gcagaacatt tacgtctgcc taatgttgac	1020
gatgtaaaag aaggatatcat ggcttctaaa atcgcagctc atgcagcaga tatcgccaaa	1080

gggtgtaaaag gtgccatgga ctgggataac cagatggcag ctgccagaca gaaacttgac	1140
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tctactcctg aaagagagga tacctgtaca atgtgcggaa agatgtgttc cgtacgtaac	1260
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<210> 1758

<211> 1341

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1758

atggatgaag catttatcaa gaaagtcag ccaaacagcc cagaggcaga acagtctgtg	60
atcggtgcaa tgatcatgga tagagacgcg atcgctgatg ttattgatat tgtaagtgcg	120
gatgatttct atcagaagca gaatggcatt ttatttgaag cgatgacaga attatatcgg	180
gaaggaaaagc cgggtgatct ggtaacgctt cagaataaat taaagaaaaa agatgtgccg	240
gaatctatga aatctcttga atttatcaga gatcttctag aagcagtccc aacgtctgcg	300
aatgcgaaac aatatgcaaa gattgtcagt gaaaaggcaa cacttcgtaa actgatcaaa	360
gtcacagagg acatcacaac ggaatgttat ctcggcaaag atgatgtgac agagattctt	420
gaccatacag agaagaatgt gtttggactt cttcagcagg caagtggaag agaagatttt	480
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gagggacgag tgacgggtat tgcaacagga ttacagatc tggattacaa attatctgga	600
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gtattgaata ttgcacagag agcggcagtc agagatcatg ttccaaccgc gatctttagt	720
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gagttgcat ctaagtgtcg aagatacaaa cagacacacg gacttgatct gatcattatt	960
gactatctgc agctgatgtc aggaggaaaa cgttccgaat caagacagca agagatttct	1020
gagattttca gatcgttaaa agcactggca agagagatga atgcgccagt gatcgcatta	1080

tctcagttaa gtcgaagagt agaagagcga aaaccagcca aaccaatgtt atctgacctt	1140
cgtgagtcag gatcgatcga gcaggatgcc gacgttgtaa tgtttattta ccgtgatgaa	1200
tactataacg aagattctga gaagaaagga atcgcagaga tcatcgtgga taaacagaga	1260
aatggttcaa cgggtagtgt agagcttgta tggctaggac aatacactaa atttggaaat	1320
aaagaaagag caccacatta a	1341

<210> 1759

<211> 2025

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1759

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gccaagtatt tagctgtttt tcttgtagtt tctattcttg gaacaatctt tttcaattcc	120
atcataacaa aatggagaaa tggaaccgag acaacgattt catacaataa atttgtcaca	180
atggttgaca aggatcaagt aaagagtgta aaagtaacag acactcagtt aaaagtgaca	240
ccaaagaaag agggaaatcc tttttacaaa acaacttaca cagtacagag aatcagtggg	300
gattatgaac tggttaatcg tctgatcaag agtaagatcg catttgagca ggaaccagaa	360
gatccgatgg atacattctt atccgtagcg atcagtttga tccctacttt actgatcttt	420
ggattccttg ttatgatgat gcgcagaagc agcggtatga tgggagttgg aaagtccaat	480
gcaaaagtat atgttgagaa gaagacgggc gtgacatttg cagatgttgc aggtcagggc	540
gaagcgaagg aaacactgac agagatgggtt gatcttctcc atcaccaga acggtataca	600
gagattgggtg cgaagcttcc aaaagggtgca ttgctttag gacctccggg aactggtaag	660
acattgcttg ccaaagctgt agctgggtgag gcaggagtac cattcttttc actttccgga	720
tctgatttcg tagagatgtt cgtcggagtt ggtgcatcaa gagtccgtga tttattttaa	780
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gaagtgaat tcaacacgat cacaactgga gcttccaatg atatcgaacg tgcaacagcg	1560
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gaatctatca caaaccgata tcttgacgga cgtgccgtta tgaactgtgc agagacaaca	1680
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acatatattc gtgaaaatat ggacattcctt gacgaagcag cgcagttttt gatcaagcgt	1800
gagacgatca caggaaaaga atttatggaa atcttcaata aatacaagaa tccggaaaaa	1860
gagtctgaga aaaatgtatc agagacaatg gaaaaagatg tagaaactga aaaaaatact	1920
caggaaaatg ttgaagtttc tgagactaag acagacgaag tgaatacatc aacatttaac	1980
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<210> 1760

<211> 1677

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1760

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ggagttgttg actatgtaaa agaagaattt aacaccgaat gtatcacagt catcgatcaa	120
agatttgcaa tcgcatacgt cccgaaaaat ggacggacat caatctacgg acaaaactgc	180
ccatacaaca cgatccaag atgttttggc ttgatggata cacagatggt agaagatggt	240

ggagttgcac aagtaaggag aagtacgtta gaactttatg gaaatggtgt cttggtcgga	300
atgatcgata caggaatcga ctatgaacac caggcattcc gctatgaaga cggtagcagc	360
aagatttatt ctctatggga tcagacaatc aaaggcaatc cagaagatac cttcctagga	420
tacggaacag aatacacaaa agaacagatc gaagaagcac taagaagtaa agtgccgcaa	480
gaaaaagtac catcgaagga tgaatccgga catggtactt ttttagcagg attaatcgca	540
ggaaatgagg acaacgaagc aggtttttca gggattgccc caaatgcagg actcattggt	600
gtcaagttaa gaaaggcaaa agattattta aaagaatact actgcattga cccaaaatac	660
gaagtatatg cagaaacaga tatcatgctg gcagtccgct atattgatgc gatcgagaa	720
caactgcaaa gacctgttgt catattttta ggaatcggaa caagccttgc atcccatctt	780
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aacagagagt ttgatctatg gcttccaatt acaaattttc taagtgaaga cacatttttt	1260
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gcagcattga tggttgaatg gggaattgta cagaaaaatg atatgcagat gaatacgacg	1560
aggattaaga attatctgat ccgcggtgca agaagagatc aaggggagaat atatccta	1620
cgagaatggg gatatgggga agttgatctt tatgagacgt ttttgggaat acggtaa	1677

<210> 1761
<211> 945
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1761
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caciaagcat tgccagattc cgttgagatc atatcttacc agaccaaagt aactgacaca 120
gaaagcttaa ttgaacgagg aaaagatgca gacattatca tggttgcaaa cctgccatta 180
aatgcagacg tgattaaagg atgtaagaat cttaagatgc ttgcagtagc atttacagga 240
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gcaaatatcg cacaggcttt tggctgcgaa gtttatgcat attcaagaac agtcaaagac 540
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gaacctccag tagcaaaaaga tcatcctctc ttacacgcaa agaactctgat cgcaacacca 840
catgtagcat ttgcaacaaa agaagcatta gtaaaacgtg cgatcattga ttttgacaat 900
gtaaaatact ggatggaagg aaatccagtg aatgtaatga actaa 945

<210> 1762
<211> 1947
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1762
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aaatatatgt cgtatgcaga agatggagaa tatgataaga tgtatgatct tctggataaa 180

gacagtcaaa aaggaatttc aaagaaagaa tttataaaaa ggaataaaaa tatatatcag	240
ggtatttgga tgaaaacact tgaagcagt gtaacgtcca agaagagaga aacaaccgtt	300
acttatcgtg tcaaaatgag gacaaatgcg ggagttatat cttataataa caaaacaatc	360
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cttgggtcgg aagataaagt aaggggtcaag acgctacatg cgaaacgagg aacgataaaa	480
gatgctagt ggaatgcact tgctatacag ggaaagatct attcagtagg gtttgtgcca	540
aaaaaaatgg attctgattc tgtaaaactt gcttcgaaga aacttggat ttccaaagaa	600
gaaattcaaa aaaagctgga acaaaaatgg gtaacaaaag attcttttgt tccattggta	660
aaattaaaaag aatattccag tgatctgtta gatgtcaaag gaatcattat atcgacagag	720
acaggaagaa tctatccatt aggtgaatcc gcagcccatc tggtaggata tctgcagaat	780
ggggaaggaa aagcaggact tgaaaagctt tataataagc agctcagtgg aacagatggt	840
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tatgggcagg gagagatgat ggtcaatcca gtacatatgg caacgatcta tacagcat	1560
tcaaataaag gaaatatgct aaatccatat ctgatcaaac aaaaaggcag taaaaagcaa	1620
gtattaagag aacatgtatt ttcaaagat gcagtaaaaa cagtcaatga tgcaatgaaa	1680

caagtgatca gcaatccaaa tggaacggga catgctgcac agatcgatgg tattgatcta	1740
aaaggtaaga ccggaactgc agagatcaag cagtcgcaga cagacacgaa gggaacagaa	1800
cttggatggg ttgtaacgat catgccaaaag acagaatata aagaatccct ggaactggta	1860
tccatgacag aagatgtaaa aaaacgaggc ggaagtggat atgtgggtcaa taaaacaaag	1920
aagatcctag aagaatacct gcagtga	1947

<210> 1763

<211> 969

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1763

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catcgtttat taaagaaatc tgatctggaa gaaatggggc aggagaatct ctttttgcct	180
gatgaaatga tccgtactgg agatggcaga aaacttgcaa ggcctactct tttaaataaa	240
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taccgtacca atcgtttctg tggctgctgt ggcatgaaa ctatccattc ttctacagaa	540
cgtgccttaa aatgtccttc ctgtggccat ctgatctatc caagaatcgt acctgcagtc	600
attgtcgggg ttaaaaaatga tgataaactt cttcttacca aataaccgcaa gggatttact	660
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cgtgaagtta tggaagaagc tggacttcgt gtaaaaaata ttcagtatta caaatcccag	780
ccttgggggtg ttgttgatga tctgcttgct ggattctact gtgaagttga tggtgatacc	840
gacattcata tggatgcttc tgaattgaaa cttgcagaat ggaaaacacg agatgagatc	900
gaattacaac caaatgattt tagtctgaca aatgagatga tgcgtgagtt taaggaagga	960

agaatttaa

969

<210> 1764

<211> 1080

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1764

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atggaaaaga aactgattga agatatcggc attaaatatt tcggaatttc ttccggaaaa	180
ttgcgtagat attttgacat caaaaacttt tctgatccat tccgtgtgat caaaggattt	240
tttgaagcga aaaaaatctt aaagaaactc cgtccagatg ttgtattttc taagggtgga	300
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tgctgtaact tccctgagac agtcaaactt cttcctgaag gtaaagctgt tttaacaggt	480
tccccaatcc gtgaagaatt atttacagga aaacgtgagg aaggacttcg tctttgtgga	540
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agcgtttatg aagaccgtga taaatatgtg gaagcaatga atacaagtga gcttgcaa	1020
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<210> 1765

<211> 1041

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1765

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tatccagcaa tgaagaagtc aggggtatth ccggaatatg cattgcatat gacagagatc	240
ggagagcaga caggaagact tgatgagacg atggaagcac tggcagctta ttatcagaga	300
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<210> 1766

<211> 1269

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1766

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aatgagcaga ctgacactag caaagataat thtgcccaga cgacagaagc thcgacaact	180

gaggcaacga cagaaaagaa aacagaagct aagccaacga cagaaaagaa agataagaca	240
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cataagaaga aaaagaaaga taccaaagac aagaagaaag ataaaaagaa agacaaaaaa	360
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<210> 1767

<211> 1353

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1767

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gatgcgttat ttacagcgac aacttcggta tgtgtaacag ggctgggtcgt tgaaaccaca	180
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<210> 1768

<211> 966

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1768

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aagaaagcaa	cagaaaaata	cgcaggagaa	gatgtagccg	atgccaagga	tagcacagag	360
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<210> 1769

<211> 1401

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1769

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ggctccaact	ctctttctac	ccagacagat	aaattagcag	cgagtatgaa	tggtcggatc	240
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gagaatggaa aatatattga agtttttggtt ccaatcacat acaagacagg aaataaaaca	420
cagattccttg gtgcagtaat agcgactgtt ccatcagaag atatgatggg tgcagtcatc	480
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<210> 1770

<211> 1956

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1770

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cttttagaac tggagaaaaa gacaaatact gtattatcca acagtccaac gatccatgtc	180

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cagatgggag gcaaagtcac aggatctgta tccaagaaaa cagattacct gatcaacaac	1860
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<210> 1771

<211> 1407

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1771

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<210> 1772

<211> 1359

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1772

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<210> 1773

<211> 1344

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1773

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<210> 1774

<211> 1776

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1774

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<210> 1775

<211> 2538

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1775

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ctgatcgttg ccggtcttgg ccttgggtgtg ggatttgttc gtggtatcct taagacaact	180
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<210> 1776

<211> 1125

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1776

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ctgcgtatgg tttctgatgg tgcgaacttc agcatccctt gtctggcaga cgtactggaa	180
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aaccagaata ctatgcataa ttttactcag cgtgattatg attttgatgc gttagagcaa	1080
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<210> 1777

<211> 1299

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1777

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atggcgattht gttttcaggg gcttgataag gaagaaactt atgagcttac gatggcaatg	180
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aaacttgaaa gtattccagg attttcaacg cagttgacag atgaacaatt tgaagaacaa	420
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<210> 1778

<211> 1137

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1778

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aatacttatg taagaggagc cattttattt ggagagaagg aaatggtaga aaacgatact	180
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<210> 1779

<211> 2163

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1779

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<210> 1780
 <211> 1557
 <212> DNA
 <213> Firmicutes bacterium CAG:270

<400> 1780	
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<210> 1781

<211> 2286

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1781

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<211> 1512
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1782
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<210> 1783

<211> 4494

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1783

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ttgcaggata aatttcagaa agtaggaacg gcaatcgaat taggtggaca ggatgcgaag	360
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gttccagtgg aacattttaa tgaattagcg caaaaaggaa cacatcttta tgatatttca	540
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<210> 1784

<211> 891

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1784

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tcttctgaaa atgggaattg gacaatggtg cttataaatc tgcttcttgc agttatctta	180
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tttctaaaga tgttggtgat tccaatcatt gcagcagttt tgatcagaaa ctttcatctt	720
gatccagtac tttcaggaat catggtatta atgtttggaa tgccgaatgg aagtatggcg	780
gtaatgatgt cgatcgatta tggtttagac agttcaatct gtagtcgagg aatcgtactg	840
acaacactgt tatcaatcat aacgctgccg atcgtggcat atttgatata a	891

<210> 1785
<211> 1260
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1785
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<210> 1786
<211> 1029
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1786
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aaattatatg gaggagttgt cccagagatt gcctcaagaa aacatgtgga gaaagtgaac 180
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gcattagcat ttgctaaaaa taagccatta gtaggggtac atcatatcga ggggcatatt 360
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<210> 1787
<211> 708
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1787

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atcattcatc cagagatcga ggtcagtgat tttattatca atttaacagg aatcgacagg	180
aatatgctga agaaaggaat ttcactgaaa gaagggtgtt agggattttt ggaatttagc	240
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gcagcttcat ttaagcataa ctttgagaga gagggagttg acacgctgaa agtggccaga	360
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aagggtcaaga aagaacgacc tgccacagca aaacaaaaga aatatttagc gcagttgata	600
gcatatcatg cgataaggga gaagattgat gttgatcaga tgacacaaag agaagcatca	660
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<210> 1788

<211> 798

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1788

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gtacaaaaag caattgatct atcgggactt gggcttgatc agattgaaga agatgatgag	180
aaattttcca taggagcaat ggtcacatta agacagatcg aacttcatga aggattaaat	240
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gcggattata gaagacattt atcagaagtc cttataagaa ggggattggc acagttagaa	780
gaaaggaggg aaaattag	798

<210> 1789

<211> 1458

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1789

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gcagttgtta taggacttct gattttcttc tattgtatac aacgttccgt tgaacacaga	120
tcacaaaaaa tgatgatgaa caatgtatca agacaaagcg tgcatttacg cacgatattg	180
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agagtttgtg gttattaa	1458

<210> 1790

<211> 2484

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1790

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aatcagtttt cagaaagagt tgcaaaagggt gttccagaaa agaaaatatc aaagattgca	180
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gtaaaagata gtaagggaag atcaatctat catattatgc cgagcctgtt agaggttgat	360
ggattaaaga atatgacggc aacaatgaga cgtacccaaa gagctgaata tcgctggtag	420
agagttgtag taaaccagaa actgaacaaa ggtgagaatt atacgattga gatcacagca	480
aaaggaatca agaaagatcg tccattatat ttatatacat caaagaaaat gggaaatatt	540
tttagtcctg tgaaagtcaa tggacagaag atggatgtac atatccgtac aagagtatgg	600
acaacacaga ttgatgtttc agcaattgtt ttaacagttg caattacatt ggcaatgatc	660
gcattgattc ttattccaat atatttgccg aaaaaatgga ataagagatt tacatggata	720
ttgtttgtta taacaccttg gatttcgttt tacatggttg agaaggatt ctataatccg	780
atcagtgtta tgaataagct ggcattcggg ctgaatgtat tatggtatta tattatttat	840

atgatcttgt tgcttatatt taacagagtg aaatgggcat tgttggttgg aaatgtat	900
ttctatgcag cagcgatagg taactat	960
ccagcagata tttatgccct tggaactgca atggacgtag cagatcatta tgtattatcc	1020
tacgataaag cagcaatcgt agcaacagtt gtattacttg gaatgtgtgt gtttgc	1080
aaacttgaaa catatccaat ctttcaatgg agaaaacgat tgattgctgt tttagttacg	1140
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ggagttaagg tgaat	1260
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aaaggtcata tgttagtgtc tgtttttggg ggagggtacaa gtaattcgga atatga	1560
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ttccacccat acaaagcaca tggatggaac agagatactg tttacc	1740
gatcagttct tagatgaaac atgcatgaat ccaa	1800
tctgattccg aggattacaa taagatcatt gat	1860
ccattattct tattta	1920
aactttaaag aagagatcaa gatcaaggat gaaaaggcaa cagatacagc aaatcg	1980
ctgtcactga tccatgaatc tgaccgtgca tttgagaaga tcattaatta ct	2040
aagaaagaac caacgatcgt tgtaatgttc ggggatc	2100
ttctatgaac tgttatatgg aaaatcatta agcaacttaa gtttgaaaga acagcagaag	2160
aagtatacag taccatttat catatgggct aactatgata ttgatgcaaa aagcgatgta	2220
gaaaatgtca gtgcaaaacta tttatcaagc ttgatgcttc agcagacaaa cttaaaattg	2280
tcaagatata atgaat	2340

gggtatgtag acaaagatgg agaaaatcat catttttcag aacaaaataa atacacaaaa	2400
ctgatcacac agtatcagta tctgcagtat aatagtttga tggataagaa acatgtcagt	2460
acagatttgt tttctgtgaa ataa	2484

<210> 1791
 <211> 921
 <212> DNA
 <213> Firmicutes bacterium CAG:270

<400> 1791	
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ataaaaaagag gccggaaaagc gcctcttctt cttaatgacg cttttgtctt agaattatta	120
tataagatat ggtataatat ttcaagaaaa tcaatacgca ggaaggaaat tagtatgaaa	180
tctgtggcaa tggcctatta taatggtgca aaatatatag atgaacaaat aagatcaatt	240
cttgccaata tggaagatac agatgaactt attatttcag tggatgatgc cagcgatgga	300
tcagaaacga tactacaaaa ttgggcccac aatgacccaa gaatccgcat aatcaaagga	360
ccggggaagg gtgtttgtgaa aaactttgag aatgcattta gacattgtcg aggggatatt	420
attttcttat ccgatcagga tgatgtctgg aaaaaaata aaatgataaa aattcagcaa	480
gcatttgaag accctaaagt gatggcagtt gttcacgatg ctcagattgt agatgaaaaa	540
ctttcatctt taaatgaaac aacatttgaa tggagagaca gcaaagcggg cttttggaag	600
aacatgaaaa agaattccta tattggatgt tgtatggcag tcagaagatc tgcattaaag	660
aggattctgc caattccaga taatatctgg attcatgatc agtggatcgg attgcttgca	720
gaacagctcg ggaaagtggg atttatagaa gaacctctga tttattatcg aagacatggg	780
ggaaatgtta ctgaattaac ccatggttcg atcacatcta tgatcaaaaa aagatatcat	840
atgatcatgg aaatcaaccg acgtgtaaaa gaatggagtg aacatgacaa acaaaatcaa	900
agacacattg aaaaaccata a	921

<210> 1792
 <211> 1368
 <212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1792

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ggcggaatct ttttacttat ttatatcata ctggcattaa ccttcggtta cactttgatc	180
atggcggaga cttctcttgg acgtatgaca aggaaaagtc ctgttggagc atttggaaac	240
tttggaaaat cccgttttat atcccttggc ggatggatca atgcgatcat tccaatcctt	300
attgttcctt attattctgt cattggcgga tgggtcatca aataacctgat cgagtatttt	360
tctggacata gcaaagcttt agctggtgat acttatttca caagttttat ttccaatggg	420
atttccaccg aaatctgctt tttgatcttt acattattta ctcttggaat tatttatgct	480
ggtgtccgca atggaatcga acgcgtttcc aaattcatga tgccaatcct aatcgtttta	540
tcattgatca tcgcagtta ttccgtaaca agaccgggtg ccatagaagg tgttaaatat	600
tttcttgtgc cgaactttga gcatttttca tggatgacgg tggatatctgc catgggacag	660
atgttttatt ctttatcaat cgctatggga attctgatca cgtttggttc ttatatgaaa	720
aaagacactt ccattgagaa atcaacagaa aatgttgaaa tttttgatac tgccattgcg	780
atcatggctg gacttatgat cattcctgct gtttttgctt tctctggagg tgatgcagca	840
actttaaaat ctggtcctgc actgatgttt atcacaatcc cgaaagtttt cgcaaacatg	900
ggatttggaa ctgcgatcgg tattgtattt ttcttattag tactgttcgc agctgtgaca	960
agttctattg cactgacaga aagtgtgtt tcaacattcg aagatgaatt gcactggagc	1020
cgtagaaaat cgactgtttt tatgggtgtg atcatgattc ttcttggaac tctttcctgt	1080
cttggatatg gtccacttgc ggattttaag attcttggaa tgcagtttct tgatttcttt	1140
gatttcatga caaattctgt gatgatgcca atcgcagcga tcgcaacatg ctttctggta	1200
tccaaagtcg ttggagtga taaattagaa aaagagatca caaaggatgg acagccattt	1260
cgtcgtaaga agatcttctg ctttatgatc aaatatcttt gtccgttttt tgacgcaatc	1320
attttgatca gttctgttgc aaatgcattt ggtattatta caatgtaa	1368

<210> 1793
<211> 933
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1793
atgagtaagt tatgtagttg tattgttcca tgttttaatg aagaggaagt aattccgctt 60
tattatgagg agatgcagaa agtaaggaaa caagaagaag ggaaaattga ctttgagatt 120
atctttatcg atgatggaag taaagataag acattagaag ttataaagaa attaagcgaa 180
caggatgaat gtattcatta tgtatcattt tccaggaact tcggaaaaga agctgcgatg 240
tatgcaggat ttgaacatgc caatggtgaa tatgtttgtga caatggatgt tgatcttcaa 300
gatccgccac atttaattcc agagatgatc cgatgcatcg aggaagaagg atatgatagt 360
gtggcaacaa gacgtgttac aagaaaggga gaaccaccga tccgctcatt tttcgcaaga 420
cgtttttatg gattgatcaa taagatctct gatgctgata tcgtagatgg agccagagat 480
tttcgtatga tgaagagaga tatggttaac gcaatccttt ccatgccaga atataaccga 540
tttacaaaag gtatcttttg atgggtagga tttaaaacaa aatggattga atttgagaat 600
gtagaacgtg cagcaggaga gacaaagtgg tcattctgga aattattccg atatgcatta 660
gaaggaatca ttgcattctc cacagtgccg cttacgatcg tatcactgat cggagtgatc 720
gtttgtatca tcgcattttt attcctgttg tttgttgtca taagagcaac aatatttgga 780
gatccggtcg caggatggcc gtcattgatc tgtgttatca gtttcttaag tggaattcag 840
ttacttgga tccggagtgt aggaatgtat ttgtctaaga catatttaga gacaaagaaa 900
cgtccgatct acattaaaaa agaaagtaaa taa 933

<210> 1794
<211> 867
<212> DNA
<213> Firmicutes bacterium CAG:270

<400> 1794
atgattatga gaaagathtt tggcaagttt cttgcagcag gactttgtat tgcatggca 60
ttatcatcag tgacagtcaa agcagatagt gtggatcaga aatatctggc acttgagct 120
gacttgacag cttcccagaa gaagaaagta ttagaacttc tgaatctgga tgacaatagt 180

gattataagg ttattacagt aacaaataaa gatgaacatg aatattttaga cagctatctg	240
tcaaagagtg tgatcggaac aagagcattg tcctctgtca ctgtggaaca gaaagatgat	300
ggaaatggtg tgaatgttac aacacagaat atttcttatt gtacatctgg aatgtatcgt	360
aacgccttga tcacagcagg aatcaagaat gctgatgtaa aagtagctgg accatttaag	420
atttctggaa ctgcagcact agttggtggt atgaaagctt atgaggaaat gacaggaaag	480
aagatttctg aaaagagcaa ggatgcagcg acagatgagc tgatcacaac aggagaagtt	540
gcagagaata ttggttctga tgatgcagag aaattgatcg cggatgtaaa acagaaagta	600
gcagaagata atctttcttc tccatcagag atcaagcagg caattgaaga atctgcgaat	660
gatttaaata tcagtctttc tgatgcagat aaagagaaaa ttcagaatct gatggataag	720
atttctgatc tagacctgaa tgtttcacag ttaaaagaac aggcaaaaga cttatatgat	780
aaattaaata atagtggaat tttagaaaag attgcagcat ttttcagatc tgttggttaa	840
tggattggaa atttgtttgg aaactaa	867

<210> 1795

<211> 2307

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1795

atgaaaaaga ctttaccaat gcttccactc agaggaaaagt acatatttcc gaatacgggtg	60
attcattttg atgtgtcaag aagccggctc gttaaagcaa tagaagaatc aatggagcat	120
gaccagctga tctttttaaa taatcagatt gatccgatgg tagaagatcc aggaattgat	180
gatttatatc gtgttggaac gttagcaagg atcaagcagg tggtaaaaact ccctaagaat	240
acattaagag tgtttgaga gggattattc cgtgcagaac ttagcaaaac tgtagaatat	300
gatccattat ttaaagtaga gattttatat gatcatgtgg agcagcaacc atttgaagca	360
ttcgaaagag aagcattttt acgaatgatc aaagaagcat ttgaaagtta tgcacaggca	420
tggtcgcatt tggaccagaa tattattaat tatatcctgc ttcagtctga tgtagagatt	480
ctggtagatg aactggcaac acatattcct ttttcctatc cggagaaaca aaagattctg	540

gaagagatgg atttaaaaga gcgctgtgaa ctgatgctcg ttatgctgga agaagaactg	600
gatgttttga aactgaaaca gaagattcag cagaaaagtta aagtaaatgt tgataagaat	660
cagaaaagaat atatgctcag agagcagatg aaagtaatcc gtgaagaact tggtgagaca	720
aatgtagaag atgaagcggg tgaatttatg aatcagttaa aagaactgag ggcatctgat	780
gaagtcaaag aaaagatcaa aaaagagatt tcaagatttc agacaatggg aaatcagaca	840
ccagaaaagtt ctgtgttaag aacatatatc gaaacaatgc tttctgtacc atgggaagaa	900
atgagtgagg acagtacaga tctagataga gcgcaggaaa tcttagacga agaccattat	960
ggcatggaga aggtaaaaga gagagtgcct gaatatctgg cagcacgtgc aatgagcggc	1020
aagaaaagatg cagcgcctct ttgcttggtg ggacctccag gaacaggaaa gacatcgatt	1080
gcaaaatcaa tcgcaagggc aacgaataag aaatatgttc gtttatcttt aggtggtgtg	1140
cgtgatgaat cagaaattcg aggacacaga aagacgtatg tcggggcgat gcctggaaga	1200
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gataagactg gaaaagatca gcgtggagat acagcgtctg cattattaga agtccttgat	1320
ccagaacaga atgagaattt tacagatcat tatcttgaag ttgctttaaa tttaagtgat	1380
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agaaaagtta cgatcacaaa gaaggcaatc aaagattatc ttggaaaacc agtctatgaa	1740
tgggagaagg atacattacg agatcagatt ggagttgttc atgggcttgc atggactgca	1800
gttgaggagg taacattaaa gattgaagtg aatgttatgc caggaaaggg tggcattcag	1860
atcacagggt ctcttgggga tggtatgaaa gaatctgcac aggcagcgat cagttatatc	1920
agaagtcaaa gtaagaaata taagatcaag aatgacttct ttgaaaaaca tgacattcat	1980
attcatattc cagaggggagc ggtacaaaaa gacggaccat ctgccggaat tacaatgaca	2040

acagcagtac tctcagcgat cacagggcac aaagtttatg gaaatcttgc gatgacagga	2100
gaagtaacga tccgagggga tgtccttcag attggtggat taaaagagaa acttcttgca	2160
gctaaaagac ttgggatcac aaaagtttta gttccaaaga tgaatgaaaa agatgttaag	2220
gaatttgaag aagaagtaat cgaaggactt gagatcgttt atgtaaaaac aatgacacaa	2280
gtgatcaaag aagcgttcgt acattaa	2307

<210> 1796
 <211> 1431
 <212> DNA
 <213> Firmicutes bacterium CAG:270

<400> 1796	
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tcaattgagg gagtatttgc agcacagaaa ccaacaggat atcattctat tcatttaa	120
atagagtcac cgaaggaaag tcagcagaat aaaacttatg caagatcata tgccggatat	180
tataatgcag cagaacaagg tcttgtcaca ttagtaaaga atcaggggaa tacagaactt	240
tggtgggcat ttggcttggc atcgctgggt gaaacatcat taattaaaca aaagaaagta	300
aaaaagaatg ttgattattc agaaaaacat ttaggatatt ttatgtataa tcgaacaaat	360
gatgcgctga ataacacaaa aggagatgca acaaaagtat caggaaactg gaaatattca	420
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agtacagctc catttaatac caataaatgg acattatcaa gcaagcttgg gcaaaaagat	540
gctgcgattt taaaaaatgg atttttcctt ggaaataatc catcaatcaa tgtagtaaaa	600
tcttacataa aaaaatatgg atcagttggt gtagcatatc atgcaccaga aacgacagag	660
gaagatgaaa aattctacga tagatcacat aaatcttata attgtacatt atcagaggat	720
gcagcaaatc atatcgtaac aattgttggg tggaatgata attacagtag agataagttt	780
ggggaggcat caaaaccaa gagaaatgg gcatggatca taaaaaacag ctggggaaac	840
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ttgtcaggtc agtttgtaaa gtcacatcaca tataaataca actatTTTTT tgatggatca	960
gcaaatccat ctgcataccg attgaagaaa ggtcagcaga tcgctaatat atacacagcg	1020

aaaaaaggaa caaagaagaa aaaagagacg ctaaaagcag tcaatgtagt tacaatgaat	1080
ccaaatgtaa aatacagcat tcaaatatat aaaaacccga agaaaggaaa accgacatca	1140
ggaaagaagc tggttaaacg tgctatgaca ggaacgatca aagaagcggg aacacatacg	1200
atcgatctga agcagaaagt cagactgggtc aaaggagaaa agttctctat agttattaag	1260
ataggttcaa cagcactcat cggatgcat cacagtgcac attttggctg gatcagattt	1320
gtgaataaaa cagcaaaaagg acagagttat gtctgcttga agggaaataa atggtatgat	1380
atgtattctg caagacttac aatgaggatt aaagcataca caacaacata a	1431

<210> 1797

<211> 975

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1797

gttaaaacaa tgaaaacaaa taaaaacatt ttggttgta tgccagtaga agatgaacat	60
aaaaaaacat tagagaaaca tgccaaagga agtcattttg tatatagttc ctacgacaag	120
gtaacaccag agatgataaa agaagccaac attatcatcg gaaatgtagc tccattttat	180
ttaaaggaag ccaaaaatct agaatggttg cagttaaatt cagcaggagc agacccatat	240
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gttgatgaac ttcatacaat ggatgatcta gataaattat tgccagaagc agatgtagta	600
ttttccgtat taccagattc aaaagctaca agaaacattt acaataaaca gcgattcaaa	660
gaaatgaaaa atacagcaat tctcttaaatt gcaggaagag gaagcgctgt caatacagaa	720
gatctatgtg aagcactgat tcaggagaaa atctacgggg caggtttaga tgtaacagat	780
ccagaaccgc ttcagacaca gcataaatta tggaatatcg aaaatgtgat catcacacca	840

catatttcag gagattttca tcatccggca acattatatc gaattgtgga tattgctgcg	900
ggaaatctgc agagatatat ggcgggagat ggactgatga atgtgggtgga tatggagaca	960
ggatataaat cctga	975

<210> 1798
 <211> 1851
 <212> DNA
 <213> Firmicutes bacterium CAG:270

<400> 1798	
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aaggtattaa aaagtgaata tgtagaagac gagaaaat taaaaaaatt tgagacagaa	180
gcacaagccg tagcaagatt atcccatcca aatatcgta atatctatga tgttgggatg	240
gaagatggca ttaactatat tgttatggaa cttgcagaag gtattacatt aaaagaatat	300
atcagaaaaa aaggatattt aagtccaaaa gaaacgggtg agatttcaac gcagatcgca	360
tccgcaatat cccatgcaca taaaaatcat atcattcaca gagatatcaa accgcagaat	420
atccttgtgt ctgatactgg aattattaaa gttacagatt ttgggattgc aaaggcaaca	480
agcagcaata cagtaacttc cacagcaaca gctatgggat ctgtacatta ttttcgcca	540
gaacaggcaa agggacgttt ttgtgatgag aagagtgata ttatttcttt aggtatcaca	600
atgtatgaga tggttacagg tcatgttcca tttgatcatg aaaatggtgt aacgatcgca	660
ttgatgcatt tgcagaatga gatcacacct ccaagtcaga tcagggatgg aattccagac	720
agcttagaaa agatcattct aaaatgtaca atgaaaaaga cggaagagcg ttataagaca	780
gcagatgatc tgatcgctga tctgcgactt gtatttgaag acacatctgg cggttatgta	840
ggtgttgtgc cgacaatcga tgattcgcca acgattatga tcgatcagaa tgagctgaca	900
cagagaatca atataccaaa gaaggatcaa aagatacaac aggaagaacc attgaaagat	960
gaagaacaga atgcgtatct tgatgaagat gatgaggaag aatccggaat gaattctaag	1020
attgagaaat tagttattgt gcttgcggca gttgttggag caatcatatt aatttcaatc	1080
attgtatttg ttgtgaaaag ttctggagtg ttcaaaccg gaaaatcaac aacgacaaca	1140

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tatattggaa tgtcattaag tgcagcaaga gagaagatcg atggcaaatt taagatcaaa	1260
gtagaagaag aatattctgc tgattatgca aaggatcttg ttataagaca ggatccagaa	1320
agtgatacag aattagagga aggcaaaaca ctgacttttag ttgtaagcaa aggtacaaga	1380
acagaagata aagtttctgt gccagaagtt gtaggcaaga gggaatcgtc agccaaaagt	1440
gagttagaag cagtaggact gaaagtatct gttaagacaa aatacagtac agatgtagca	1500
aaaggaaagg ttatttccca gtcaccaaga agtggaaatc aagttacaaa gaattctaca	1560
gtcgttatta ctgtaagcca aggtgagaaa ccagagacta tggtagagt gccaaatctt	1620
cgttatttca cagaatcagg agcaagaagt gaactaaaga attcgaattt ggtacttgga	1680
agtgtattaa cagaatatag tgacagtgtt gaaaaaggac ttgttatcag acagacagta	1740
agttcaggaa gcaaagtaaa agaaggaaca gcagtcggaa tttatgtgag ccttgggcct	1800
cgccagactg caacaacagc agatcagggt tcaacagcag atgaagaata g	1851

<210> 1799

<211> 1329

<212> DNA

<213> Firmicutes bacterium CAG:270

<400> 1799

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ccacacatta agaaattagg aatgaatgct gtttactttt caccggtatt ttcacatcaagt	180
gaccacggat atgatacgaa agattatcag ctgatcgatg aaagacttgg aacaaatgaa	240
gactttaaga caatgtgtga tgcgatgcac aaagaaggaa ttcaagtgat cttagatgga	300
gtattttaacc atgtgggaag agagttcttt gcatttgagg atgtgaaaga aaagaaatgg	360
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<212> DNA

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<400> 1837

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<212> DNA

<213> Anaerotruncus colihominis

<400> 1839

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<213> Anaerotruncus colihominis

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<213> Anaerotruncus colihominis

<400> 1848

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<211> 2613

<212> DNA

<213> Anaerotruncus colihominis

<400> 1849

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<210> 1856
 <211> 1683
 <212> DNA
 <213> Eggerthella lenta

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<210> 1857
<211> 2727
<212> DNA
<213> Eggerthella lenta

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<211> 2151
<212> DNA
<213> Eggerthella lenta

<400> 1858

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<210> 1859
 <211> 2733
 <212> DNA
 <213> Eggerthella lenta

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<210> 1860
 <211> 1560
 <212> DNA
 <213> Eggerthella lenta

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<210> 1861
 <211> 2409
 <212> DNA
 <213> Eggerthella lenta

<400> 1861	
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 <213> Eggerthella lenta

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 <211> 2004
 <212> DNA
 <213> Eggerthella lenta

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<210> 1870
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 <212> DNA
 <213> Eggerthella lenta

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 <212> DNA
 <213> Eggerthella lenta

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<210> 1872

<211> 1485

<212> DNA

<213> Eggerthella lenta

<400> 1872

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 <213> Eggerthella lenta

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 <213> Eggerthella lenta

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 <213> Eggerthella lenta

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<212> DNA
<213> Eggerthella lenta

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 <213> Eggerthella lenta

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<210> 1888
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 <212> DNA
 <213> Eggerthella lenta

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 <211> 2028
 <212> DNA
 <213> Eggerthella lenta

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<210> 1893
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 <212> DNA
 <213> Eggerthella lenta

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<210> 1894
 <211> 1860
 <212> DNA
 <213> Eggerthella lenta

<400> 1894

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<211> 1860

<212> DNA

<213> Eggerthella lenta

<400> 1897

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 <212> DNA
 <213> Eggerthella lenta

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 <212> DNA
 <213> Eggerthella lenta

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<211> 942

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1901

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<400> 1903

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 <213> unclassified Ruminococcaceae

<400> 1904	
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gcgtgcggca aggtgtatga aaaaataaca cgtcttgcca aagatcttgt tcccgtatgc	180
gaaagcattg aaaaggaact cggtatacct attataaaca aacgcatttc ggtcacacct	240
atcgcgatga tcgcggctgc ctgccggtca aaagatgtag tgaaatttgc actgaccctt	300
gaaaaggcgg ctaaaacggt cgggtgtaaac tttataggcg gttattcggc gcttgtgcaa	360
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acagagcata tatgctcatc ggtaaacata ggctccacca aagccggcat caatatggac	480
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ccgggggtcg tccgtgccgc cttggcaaaa tcaaaagatc ttaatttgtc tgaggtcgcc	720
gaccttataa agcgcacggc gttcaagata accagaatgg gtcagcttgt tgcaatgaaa	780
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agggtcatcc cggcaatagg caaggttcca ggcgacgagc tgtcgttcgg cggactgctg	1260
ggctcaggtc cggtaatgcc ggtaagcacg ctctcccctg ccaaattcat ttcacgcggc	1320
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<210> 1905

<211> 807

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1905

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gtaaaaaaaa taatcaacgc atcggtcgat cttgactcat cggcggaaaa ttgccttgct	180
ttaagccgga aatacccggt ttgcctcacc gcaataggcg tgcatcccga aacggtcgaa	240
gcaggcggca ctctcgacga gcaaagactt ctaagcctgt gccgtgagcc gtcggtcgtg	300
gcagtaggcg aaataggtct tgattatcat tattccgacg ataaaaaagc cgaacaaagg	360
gacatattca aaaggcagtg cgagatagcg aacgagctgt cgctgccggt cgtgatacac	420
gaccgagacg cgcacggcga cacattggac atagtaagcg aaacgcgccc catgggcggt	480
atacactgct tttcgggcag cacagaatcg gcacttgaat actgccggct cggcatgtat	540
atcggcatcg gcggagtaat aacctttaaa aatgcgcgca aaacggttga ggtcgcagcg	600
gctgtgccta tggaaaatat cctgcttgag accgacgcgc cgtatttagc ccctgttccc	660
tatcgcggct cgctctgcaa ttcggcattc ataataaagg cagccgaaag aatagcggaa	720
ataaagtgta ttccggtcga aacggctactt aaagtcgccg ccttaaatgc tgcgcggctt	780
ttcggcaacg cgctgaaact aaactga	807

<210> 1906

<211> 1413

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1906

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gaggagcatc ttgaaaagat cgcgcttata aaaaagggtga gaaaaaaact gaactaccct	180
atcgcgataa tgcttgacac aaaaggcccc gaatacagaa taaagacctt caaaaacggc	240
ggtgtcactt taaaagacgg cgacaccttc accttcacca cccttgatgt tgagggcgac	300
agcagcagag tgtcggtcag ctatgaagga cttgcaaagg atctgtcgggt cggcgacagg	360
ctgctgctca acaacgggtct gctgatattt gaagtaacga gccttaccga caccgatgtt	420
gtctgtaagg taatagccgg cggcgagctt acaaaccgca agagcatgag cttcccgaac	480

aaggtgttga agcagaaaata ttttaagcgat caggacaagg acgatctgct tttcggcatt	540
aaaaacggcg tagactatgt tgcctgctca tttgtttcat gcaagcagga tcttatagat	600
gtcaaggaat tcatggcggc aaacggcgct gaaaacattg atcttatagc aaagatcgaa	660
aaccgctcag gcgttgacaa catcgatgaa atatgcgccg agtgcgccgg tataatgata	720
ggacgcggag acatgggtgt tgaaattccg tttgaggagc tcccggcgat acaaaagcac	780
ctcataacaa agtgtcgcct gctcggcaaa cgcgtcatca cggcgaccga gatgctggag	840
tccatgatcc ataacccgag accgacaaga gctgaaattht cggacgttgc aaatgctgtc	900
tatgacggca cgagcgccat aatgctttcg ggcgaaacgg ctgccggaaa atatccggtg	960
ctgaccgtca gcacaatgtc ccgtattgct gaacagaccg agcagaacat tcattacgaa	1020
aaaagatttt taacgtcgga attcaagatc aagaacacag ttgacgcaat ttcccacgcc	1080
acatgcggaa tggctataga tatcgacgcg aaggctatcg ccgtctgttc aatatcgggt	1140
atgacggtca gaatggtatc ccgtttccgt tcaccggtcg atatthtagg tcttacgacc	1200
aatgaaaaaa cgtggtacaa attagccctt tcatgggggtg tcacaccggt aatgtgtgag	1260
catttcgagt cgaccgacgt tctgttctac accgcaaaac agcttgccgt ttctaccttc	1320
ggtcttaaaa aaggcgaccg catagtcgtt accggcggca tgaccaacgg cgtttccgga	1380
aacaccaata ttatcaagat agaaaccgtt tga	1413

<210> 1907
 <211> 1101
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1907	
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tcggcatgtc ttgtcgtttg ctacggaccg gggacgacca taaggacac cttgtactg	180
tcggcaaagc aggcgagtgc tactaagtgg ataccggggc ttttcctgtc gaaaagtgcc	240
gttgacagca tacttgcgag cggcgacgag gtcgatgcgg agtatgtgtc gcaggatgag	300

gtcgcaggcg atttttccga ccgctgggcg gaaaatccgg acgggcttat atatgagccg	360
gtaaacggtc cgaccttcaa aggatatgtc ctgctcataa aatcaccgtc aagggtgaag	420
gtggggccttg caagcgatga ctttacaagg ggcgcccgtg tatttgaggc cgccgataaa	480
tataacgccg cggctgcaat aaacggcggg gaatttgagg atatcggcgg tatgggcgac	540
ggcgcgacgc cgataggcct tacatatctg ttcgggaaat gcgtctggaa cgacggaaag	600
accaggacgt tcgtcggatt tgacgccaat gacaaaatgg tggtcgccga ttccatgacc	660
aaggaaaagg ctgacagcct cggcatacgc gactgcgtat gctttcagta cggaaatgtg	720
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gacggacgtt cggcaagcag tctcggagcg acatacaacg atattataga catacttttg	900
tcgtacggcg ccgtaaacgc agtcatgctc gacggcggct cgtcgtcaag catgtactat	960
cgcgatttgt tcacaaaata taacgttgat acgtccgagc ttgacacgca tcagaaaaag	1020
ggtcttgtca gcaaataacc cgcgtttgcc gagccgagaa atataccgac ctattttata	1080
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<210> 1908

<211> 1869

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1908

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aagaccgcag acggaacatc ggtgatggat tttgaccctg aggaaaagaa aaggggggta	180
tcggtttcat catcggctct tcagtttgaa tataacgata aaaagataaa ctttatagat	240
gctcccggac ttttcgattt tgccggagggt gttaccgagg cactcaccgc tgccgattct	300
gcgcttatcg tactttcggg aaaatcggga ctgaatgtcg gcgctcagct gaactacgca	360
gccgcgaaaa aggcaggagt gccggtgtcg ttttttattg gtaagctgga ttcgccgcgc	420
gcctatttct accgcgttat ttccaccctt accgcccatt acggagcggg gatatgcccc	480

gtcgttattc cgtttgttga gggatgaacag gtcgtttcat ttgtagatct gattgagaac	540
cgcgcttata aatatgacgg catcaagaga agcgatgcca aaatgcccga aagcgacgat	600
atcaaaaata tgcgcgacgt tatgcttgaa gccgttgcca gcgttgacga agcacttatg	660
gaaaaatact ttgccggcga ggagtttgac gctgccgaga taaagtcggc gcttgccgcc	720
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gtgagccttg cgcttgacat actgtcggag atagcgcctg cggctgataa acgcgagtat	840
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gcagtcgtct ttaaaacgat cgccgacccg tttgtgggaa agctttcata ttttaagggt	960
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gcaataagac cggcgaaaaa gggagacgag gaaaagggtg cgtcggggct tgcgagaata	1260
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aagggtgcagg gcaggcaca aaagcagtcg ggcgacacg gtcagttcgg cgatgtctgg	1500
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cctgacgatg tcatgggtga tgcaataggt gatataaaca agcgccgcgg acgcgtgctg	1860
ggaatgaat	1869

<210> 1909
<211> 1869
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1909
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gaggctacat accgcatagt tcgtcccgag gaagcatcaa atgatgtttc attgcttgga 240
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gctaaagcgc tgcagattct gaacgcagag ggttcgggac gtgccgacga atatataatc 420
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gcaaattatt tctgtgataa ttaccttaag cagaatcctg tttccggagg aataaattat 540
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gttgcttcca acaccggcaa taaaaccgat ggctcgggaa cacttacggT gaccgacgcg 780
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ggcaatacat ttgcgtggcc tacggcttac ggtaagactc aacttggaa accggcagat	1500
aagaccggcg ctgtgcatgt aaacaatgca agacacagtg atgacgaccg cggcttctgg	1560
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gatggtgagg cgtatgttga tcaggaactg aggggaaggcg ccgagcagct tgcctattct	1680
cagccgacct atatgcagat atccatggta ttcggttctt ccaaccaggg tcttacgacc	1740
gatgagaagg agcttaccga aaccaataaa ttcataaccg actggatagc tctttatcag	1800
aaaacaggtc agacaatgtg gcagacttcg cgcaagaatg cgatggactg gaagataaca	1860
cattcataa	1869

<210> 1910
 <211> 822
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1910	
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accggcaggg tgccttacgg tatgaaaagt gttgaaaccg ttgcaagata tgcggctgag	180
gatgagagat tccttttgtc gcacgggtgtt aaaatgataa tcgctgcctg cggaaccgta	240
agctccgtgt caaagacctt tccgcaaag ctgcctgttc cgtttatcga ggtcgtgact	300
ccggcgtcaa gagcggcggg aaatactaca aaaaacggca aaataggcgt gttggctact	360
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gatataatgc agaccgcgtg ccctttgttt gttcagcttg ttgaatcggg ctggatcgac	480
cggcacgacg aggtgacggg cgcgacggcg aaaagatacc ttaccccgat ggctgagcac	540
ggcgttgaca cggttatttt aggggtgtact catttcccgg cgataaggga gataataggc	600
gatgttttcg gcagttctgt tgcccttatc aattccggcg aacaggctgc gcttgatgcc	660
gaaagattct taaaggacca tgatatgctg ggtcacggcg gcagccgcag tttttatgtg	720

accgaccgcg tgcagatggt tgccgtaacg gcaaacacgt tattgggctc tgaaatagga	780
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<210> 1911
 <211> 549
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1911	
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ggcagccacg ggataccggt gacggctgac ataagtgaac cggagggtga ttttgatgcc	180
gcagaaggca tgatactgcc gggcggcatg cccggaacac tgggacttga acgctcaaaa	240
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gcggcaccgt cgatactcgg tcacaaagggt ctgcttaaag gtaaaaacgc cgtctgcttc	360
gagggctttg aggatcagct taccggcgcg aatgtgctga ataaggcagc cgtgtgcgac	420
ggcaacatca tcacggcgtg cggagccgga gcggcgcttg agtttggctt catgatagta	480
aaatacataa aaggcggcgc tgccgcagag catctgaggg cttccatgct atgcggccga	540
acgatataa	549

<210> 1912
 <211> 828
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1912	
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gtgttcggtc ataccgccga tgaagtaaag aaaatgtgtg aggatgccgg tgtaaagccg	180
atctcgacac atgttggaat gaatgaagtt gccaaagact tccacggat cgtaaagctt	240
tatcacgata tcggctgcaa atattttata attccgtgga tcgacaagaa ttgccttccg	300
ggcggcgaaa actaccagaa gttccttgac gaaataaagg agctttcggc tgaatgtgca	360

aagtacggaa tgaagctctg ctatcacaat cacgattttg agtttgagaa ggtcgacggc	420
aagaataagc ttgatattct ctacgcagat accactcccg agcagctcca gtccgagata	480
gacacctgct gggcacgcgt cggcggcgaa aatccggctg agtatgtaaa gaaatatacc	540
ggccgcgctc ctgttgatac tctgaaggat tactacggaa gtaagtccgc taatatgtac	600
ggacttatag attccgggtga ttcggataaa aagcaggaaa agactccgga aaattctccg	660
tttgagttcc gtccgatcgg ctacggcggt caggacattg cttctctgct caaggctgcc	720
aaagacgcag gcgctgaggc tgtcatagtc gagcaggatc agccgagcat gggcaaaact	780
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<210> 1913
 <211> 2499
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1913	
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acgttctcgg cgtttctggt ccttgccgcg ataataaagg gcgagagcgg ctggctcgtc	180
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gccgcgataa tatgcggact gcttatcttc cttacggtaa tgctgatgac cggcacaacg	540
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caacctgcgg aggaagaacc cgataccgaa acgatagagg aaaagcagaa aaaggtggtt	720
acaaaatacc gtgaccttga cagtgaggaa acggttacca atataagctc aaattccgaa	780

aaagccaaaa gcaaggcaca ggccagcgag gcacaggcgt cggcagagcc ttcggaggat	840
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cagccgtcag atactgaacc ggccggaagaa aatgaaaaca gcacacaagg cggcaacgaa	960
aaggaaaaga tcgactttga gcttaaagag ggccagctcga taaaggttga gccggatgcg	1020
gcggaataca agtatccgcc ggtgtcgctg ctgtcagaac ctctgcccga aagcacaag	1080
agcataacga gcgagcttga atcgaccgag acgctgcttg taaacacgct gtgcagcttc	1140
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cagcctgcgg caggcgtaa aataagcaag ataaccaacc ttgcagacga cattgcactg	1260
aatcttgcaa ccgcgggcgt caggattgag gcacctatac ctaataagcc ggctgtcgg	1320
atagagggtgc cgaataagaa tacaagcatt gtcaagatac gtgaaataat tgattctcag	1380
gcattctccg gcgcaaaaag caagctgacc gtagcacttg gaagagacat ttcgggcat	1440
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gcggctcgtc aaatggaaaa gcgctataag ctgttcgccg aaaatgacgt aagaaatata	1740
aacggctaca acgagcttgc cgaaaggacc gaagggtcgc tcaaaatgcc gcagatagta	1800
ataatcatcg atgagcttgc cgatcttatg atgacatcg cgggcgagggt tgaggactcg	1860
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cgcccgctcg tcgatgtcgt taccggctctt attaaggcaa atatcccgac gaggatcgct	1980
tttgcgggtg cctcacaggc cgacagccgc accataatcg acataggcgg tgccgaaaag	2040
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<210> 1914
 <211> 1038
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1914	
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cccaactgca acctgacatt tgtaacgggc accgagatga agtcggcgat aaccggttat	960
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<210> 1915
<211> 789
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1915
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gccggtcatg ccgcaggatc ggaaaatttc aagaccattg cgagatactg caataaaata 180
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<210> 1916
<211> 1743
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1916
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gactcgacaa gcgcggtcga taccgcaacc gaacgacaga taagaagcgc gcttaaaaaac	1560
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gatcagataa tagttatgga cgacggacat atcaccggta tcggtacgca tgaagaattg	1680
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tga

1743

<210> 1917

<211> 1101

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1917

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catgaccgct caaacggact gggcggcggc tttgccggat acgggatata tccgcagtac	180
gcggactatt atgcgtgca tatttttttac gacaacaaaa aagccaagat tgagtgcgag	240
gaatttttgg accggcattt tgagattgcc agccccctcg agctgccgac cagaaagacc	300
cacgatatac tcaatgagcc gataatatgg cgttatttcg taaagccgaa ctttacaagg	360
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<210> 1918

<211> 1191
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1918
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ataaccggca aagagcctaa gctatacccc gatgacggta aggagcatat atatgaaata 180
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tacaacaagg gcgtcaacga caaaaagacc tgccgctgcc gtgaggatgt tccaataca 540
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<210> 1919
<211> 1551
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1919

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atgttcatga caacggTcat ggCaggctgt gacggagcgg tgcagataac cgccagccac	360
cacctgccg accgcaacgg gcttaaattc ttcctgccgt cgggcggact tgaccccgag	420
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gtgcgtgaaa tactcggcat gatagcggag tttttctacg gctgcagatt ccttgacacc	1500
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<210> 1920
 <211> 1149
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1920	
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<210> 1921
<211> 996
<212> DNA
<213> unclassified Ruminococcaceae

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<210> 1922
<211> 789
<212> DNA
<213> unclassified Ruminococcaceae

<400> 1922
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<210> 1923
 <211> 1446
 <212> DNA
 <213> unclassified Ruminococcaceae

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gaatTTTTgt ggcaggaggg gcataccatc catgccacgg cagaggaagc caaggctgag	540
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cttaaggaat atgccggcat cacctcacgc tgcgcatccgc tcggtatgca ggagggcata	1380
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<210> 1924

<211> 1197

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1924

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tcgggataca gcgccaaaagg gtgcataatc cggaacgaaa cggcggcga gcacgataac	180
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gcggaaattt tcgcgagcga tgccgaagcc gaagccaacg tcgaatgtga acagcttgat	300

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cagatagtaa ccggcgagac caaggatttc agcgccctta tagcgctgct gaaagaaaaa	540
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cttaccgcag acaaaatgca gtcgcttacg ccggaggaaa catccggcag tgccgtctgc	720
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tccggggaaa attattcggt ggtggagcag caggcatcga cctccaaggt gctcaggata	1140
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<210> 1925

<211> 591

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1925

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cttcatgagt tggggcatat ggcagctatg aaaatttcg gctgtgcacc gggatcggtc	180
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gcgtttattg cagtatccgg accagccgct aattttgccg cagcgatttt gatgctgctt	300
atcggcagag tgacagacag cgtgaccgct tatgcatttg cggctgtgca gcttatagtc	360

ggggcggtaa atatgctgcc tgtaaagga cttgatggcg gaacgctgat gctgatactg	420
ctgagatcat taaagctgcg ttcgccgaa tttgtttttt cgtttatatc gttgtttacg	480
gctgtgggct cggttgttgc aggtgcggcg gttgcagtga aaaatacgtc gaatccgtcg	540
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<210> 1926
 <211> 951
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1926	
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accattgtat cgaccagcga atatccgaaa tatagccatt atcacgatgc ttacgagatt	180
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ctgcgcgagt atatatgtat tcagtttttg cctgaggtag ttgagttcga ccgatattta	360
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agaacacctg ccgataccga ggattttgtc gacaggggtga caaaatattt aaacgaacaa	660
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tcgaagctgt tcaaccacac cttcggtcag agcttccgtg acaggctgct gaaggtaagg	780
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<210> 1927
 <211> 1449

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1927

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aacagcaacc ttgcacaggg cggcgtggct gccgtgctcg acacggtaaa cgacagctac	180
gagctgcata tcaaggatac catgatagca ggcggtacg aaaaccgccc agaagcggtc	240
gaggtgctgg tcaaagaggg tccggacgat gtgagacgca tgatagacct cggagccgag	300
tttgacatgc acgacgggtga gctgcacaag acccttgagg gcggtcactg ccgccgcagg	360
atagtccatc accgcgatac caccggcgag gagcttatgc ggacgataat agccgcaaca	420
aaggatcttc ccaatgtgga tatagtcgag aacacctcgc ttgcctatct tgacgaggca	480
aacaacggat attacgccac gctgcttgac ggcgacggtc tgcatacggg ggctgcatcg	540
tacgttataa tggctaccgg aggtataggc agggatatata aatataccac caattcgtcc	600
atcgccacgg gcgacggaat atcgattgcc tattcgctcg gtgcgaaaat cgaaaacctg	660
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cctgccttta taaaggacag gttcccgatg atatatgagc gctgcctaag cgagggtgtg	960
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agaagcataa tgcagaagtg tcactttgtc ctgcccgaatc cggaggcggc acgcaaatac	1320
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<210> 1928
 <211> 1371
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1928	
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gacaaactaa gaccggaaca tttttatatt ccgcagaacc gccgcatatt tgaggtgctc	180
tgcagcatga gtgcggcgag tcagacaata gatthttataa ccgtgcttga aaaaataaaaa	240
gaggacgggtc tgthttgatgc tgccggcgga aagacgtatc tcaccacact tgcacagtgt	300
gtgccctcgt cagccaatat aacgacatat gccgacatag taagggaacg gtattatgtg	360
cggtcgctca tagthttcgtc gcgcgatatc attgaaatgg cttcaggcgg cgctaccgat	420
gccggcatgc tgcttgatac cgcagaacgc aaaatatatg aaataagaca gggcaaggat	480
atttccgggc ttaaactgct gcgtgacgtc attgagggtg agacctttgt aagactgtca	540
aaaataagtg accccgaaac gcgcaaggat tatatcggaa taccgaccgg cthttccgag	600
cttgacaaga taataaccgg actcaaccgc tccgacctta tcattgtcgg cgccagaccc	660
ggtatgggta aaactgcgtt tgcactgaac atcgcccgca acgttgcggt acagtcgtca	720
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acatcgggaa taaccgtgcc ggaaatgaag gctaagcttc gcagaatgaa aaaggctcgc	960
cttgthtatca ttgactacct cggacttatg cagtcggcaa aaaaaaccga aaaccgcgtg	1020
caggaggtht cggtatcac aagaaatctg aagataatgg caaaggatct cggcgtgccg	1080
gtcatagtct gcgcgcagct cggacgcgga accgagggtca agggcaagtc gcacaagccg	1140
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cataaggctg aatgtatagt tgccaaaaac cgccacggcg gactcggctc tatcgaccta	1320
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<210> 1929
 <211> 705
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1929	
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acaataatag gtcagatcga gggacacagc gttctgccgt ccgataccaa gaccacaaag	180
tacgagcatg tcataccgca gcttgtcgcc gtggaggagg atccgcgcat cgagggtatg	240
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atttccggca tgaaaaaacc gactgtgtca ttggtgctcg gaggcggaca ttcgataggc	360
gttccgcttg cgggtgtcggc aaaatgctct tttatagtgc cgtccgccac gatgacgata	420
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ggcaagctgg cgggtggaatg cggactgatc gaccacatag gcagcctgtc cgatgtgata	660
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<210> 1930
 <211> 588
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1930	
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aaggctgagc ttataagaaa agccgcaa at aagcgcggta ttataataat gaccgacagc	180

gatggcgccg gctttcttat ccgctcgcat ctttccggca tagtaccgcc taataaaatc	240
acaaacgtct ttatacccca gataaagggc accgagcgcc gcaaaacagc ggcgtcagcc	300
gaaggctttt taggggtcga gggctcttgt gaacagataa taaccgatgc cttgaaaaag	360
gcaggcgtga ttttcagccg cgaaaggcgc ggcgaaaccgg tcacaaaggc ggatctttat	420
gagctggggc ttgtaggagg cgcggacagc cggaaaagaa gagagctttt agagcaaagg	480
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<210> 1931

<211> 1764

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1931

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gaaatgcacg gagacagagc ctccatacag gtatacgagg agacctcggg tctcggcccc	180
ggcgaaaagg tcgaaagcac cggcatgccg ctgtcggctg aattgggacc gggacttata	240
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ataaacaaga tagtcgcaat gccggtaaga gaaaaaatag gcagactgaa atatgctgcc	1680
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<210> 1932

<211> 1239

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1932

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tccggggaaa tatcaaattt caagatcaat tcattcagcg gtcataattta tttttcgta	180
aaggatgaat cggctgctgt cagggtgcgtt atgttcaaaa gcagcgcggc aagaattaaa	240
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<210> 1933
 <211> 1257
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1933	
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atctgcgtcg gcggcggaag catgaaacgc ttcggcttcc ttgacagggc agagagctac	180
cttaaagagg ccggtatgga ggtcgagata ttctcaggca tcgagccgga tccgtcggtt	240
gaaaccgtaa tgcgcggtgc tgccgcaatg gaaaaattcc agcccactg gatagttgct	300
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attgcagtca acgccattgc agatgcctgc accggatcga atccgcgtca gccgagtgtt	1200
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<210> 1934

<211> 762

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1934

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ggccgccttg ccgaactgct ttgcaccgca ggattttaca aaaacgcagg cagtacgctg	180
ctgaggatat tctgcggatt tgtcttaggc tcggcttttg gactggcttt cggcatattt	240
acctttgcgt ctaaagcggc aagaacgggt tttgcacctg caatgcgcgt cataagggt	300
gtgccggtcg tttcctttat aatacttgca tttttgttta taaagggtga caggctgccc	360
gtattcattt ccatgctcat ggtcatgccg acggtatggc agtcggtgca tgacggactt	420

tgccggcaccg acaggcagct taccgagatg tgccgggtat ataaggtagg aaaggtaagg	480
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tcgatcggct acagcctttc aaggggcaaag ggaaatcttg attttgaggg cgtatatgcc	660
ctgacgctta ccgttggtg gctgtcggtg ctgtttgaaa tagtgctgaa gctgctttgc	720
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<210> 1935

<211> 1599

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1935

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<210> 1936
 <211> 1518
 <212> DNA
 <213> unclassified Ruminococcaceae

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aacatcggta tgaacgtaag gcttatagac tgcgtcgggt atatcgtaac gagctcgctc	360
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ccctttaaca tggcggcgga gtttgggact aaaaaggtaa taacagaaca ttccacgata	480
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aacagcatgt acccgagtc cgacgaggcg aaggctgtgg cacgggaaat ttcggaaaaa	660
tacaatgtcg ccgcaaaaac ggtaaactgt ctggaactta gcgaggacga tataagagat	720
atactttccg aactccttta tgagtttccg gtaagggaaa tcaaaattca tctgccgatg	780
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tcgctgcatg agcttgtaaa cgaggggctt cacaccaagc tggcacggat gccggctgac	1440
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<210> 1937
 <211> 1545
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1937	
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ccgaactggg actctcttgt tttccgcaat gatccgcagc atatggagtc actgggaaga	180
tggtttttgc cgtatgcatc agggatcagc agcaactacg agctgccgtg gctcaacggc	240
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aaaggacggc tcacagccgc tctgatcggg gccgtgacgg tgacctttcc aaccgttata	360
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gcactcaagt acttagtctg cgggtgccttg tcacttttac tttactactg tattaactcc	660
gccgttatgg cgcttatgca tgtagaatcg tctgattatc agaacatttc cggcacattc	720
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aaaggcaccg aagcagtaat aaacatgccc tgctggccaa gtgacgggtc ggtcgctgca	1500
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<210> 1938

<211> 537

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1938

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cagcagattc gaaatgacga gcttggaaaa ctggtaggcg aacaggctgt taagatcgac	180
gaatacaggc agcatgaaga ggcggtgacg cgccctcagcg aaagcatagg taagctttat	240
ctcgttgcaa aagccaatgc agccgggatt atggagtctg caaagcaaaa tgctgagcag	300
tctgagctga tcgcaaaaag caccatagat gttacgcaga cagcgcataa tgagctgcag	360
ggtattaaag atgaacttgc ggaaaagata gcacgtttca gcgatgaatt ggatcagctc	420
ggcagcagga taaatgttgc cgaacgtact gtgactgaaa atgttagatc tgtaagtga	480
aaaagcgtag aatatgaaga tgtttcacac gcagtcgcaa acagtgtcga gcagtga	537

<210> 1939

<211> 1155

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1939

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aagcgccgtt ttataagggtg tgtgaccgct cttttccttg ccgtcattgt agcgggtggct	180
gccgtggtga ccgtcacggt caaaaagcat tccaaaagca ataatgcac atcagacgta	240
tatacgatac atgagataac gagcagcggg caggaaaccg ggcagcaaag cgagcctcag	300
atcacggcac ctgtttcaac atctgcaacc gtaaagctcg gcagccagat agacagccaa	360
tatgccatac ttgtcgattg ttcaaacaat aatgttcttg ccgaaaaatc tccggatgag	420
cggatctatc cggcttcaat gaccaaggct atgacactgc ttgtcgcagc cgaaaatggt	480
gacagcatcg atggcagatt tacaatgacc aatgaaataa tagatcctct ttataaggaa	540
ggtgcctcgc gcgcaggatt ctgtgcaggc gaaaatgtca gaatagctga catgttttac	600
ggcacggtgc ttgaatccgg cgcagaagca gctgtcggtc ttgccgtata tgtatcgga	660
tcagaggaaa aatttgttga gctgatgaac caaaaagctg cacagttggg gcttacgtca	720
acactcttca ccaatgtcac cgggctgcat gacaaaaatc ttacacgac ctgccgcgag	780

atggcaataa taatgcgtgc agcgcttgaa aatgatTTTT gcaagaccgt tctttcaaca	840
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ataatatgcg tcacggcagt cggcggcgga cgctacaagc cgatattcga ctgtataaac	1080
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<210> 1940
 <211> 492
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1940	
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atttacggaa gcgagctgtt caagatactg tcgtcgctta tagatacaaa ggaagaagcg	180
gatactccgc gctgcgattg ctgcggtatc agcttcaatg aaatatcgag aacaggcagg	240
gtcggctgcg cgaggtgcta taaatttttt gaaaagcagc tgcgtcctgc cattgcaaag	300
atccacggcg ccacgaccca cgcaggcaag gtgccgaaaa gacctgaaag ttgtgaggaa	360
ggcactgccg aactgaaaa tatcaaggta gaagaactta aaatacagct gaaaaccgcg	420
gtggaaaacg aggaatacga aaaagcagca ctgctccgcg acgagataaa gggctctggag	480
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<210> 1941
 <211> 1173
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1941	
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ccggaaaagac ttgccaaaat aaaggagctc aatccgaacg tcacatgctt tgatactgct	180
gaggcaatgc tcgacagcgg aatgatcgac gcctgcatgg tctgcgttcc gcactattcg	240
cacccgaaat acactataga gtgcatgaag cgcggaatac atgtcatgtg tgaaaagccg	300
gcaggcgttt acacaaagca ggtccgcgag atgatggagg agtcaaaaaa gcatccggat	360
gtagtgttcg gtatgatgtt caatcagcgt acaaactgca tttatcgcaa aatgcgtgag	420
cttgtaaaga gcggtgagta cggcaatata cgccgtacca actggataat aaccgactgg	480
taccgtccgc aggcatatta tgattcgggc gactggcgtg caacatggtc gggcgagggc	540
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gacgacgtca ccacatatgt agagtatgaa aacgggtgcta ccggcgtgtt catcacatcg	720
accggcgacg cgcacggaac caaccgcttt gaaatacagc ttgacagagc aaagctcggt	780
gccgaaaacg gaaagctcta tatgaccgaa tatgagatat cagagccgga gttttcaaag	840
accaacaaga tccccctcgg caatctccct gcaaagacct ttgagggtgga gactgacggc	900
aaaaatcctc agcacgttgg cgttataaat gcatggggcg gcgctattct gcgcggcgaa	960
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ctgtcatcgt ggctcggcaa ggaaataact cttccctttg acgaggacat gtactataat	1080
gagcttatga aacgtgttgc gacctcaaag cgcaagaaaa gtgtcaatga ggtagtggca	1140
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<210> 1942

<211> 1794

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1942

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cataacgaaa agacgccgtc gttcaccgtt tatcccgaat atgggtcgta ctattgcttt	180
ggctgcggac agggcggaga catcatcaca ttataatga ggatagaaaa cctcgattat	240

atggacgctg tcagccggct tgccgatcgc gcagggtccc gtatgccgga aaacgggcag	300
gacgaccggg aactcaaatt aaagaacgac atttatgaag ctaaccgcga ggcggcgctg	360
ttttaccact catacctttt gaggtagggc ggccagggcag gacttgacta ttttctgtcc	420
cgtgggctga cgcctaagac catacggcat ttcggactgg gcttcgctcc ggacgactgg	480
cacgcactgc aggatcacct gcgttctaag ggcatattccg actatgtgat gcggcaggct	540
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gatacgccgg tgtttaaaaa gagcaacaac atgtatgcca tgaactttgc aaaaaactgc	780
tgctcaaagc agatgatact tgtagagggc aatattgatg ttataagcct gcatcaggca	840
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cgcacatga ccggttctgc cggaaaggac aatcccgaaa gggtgctgtt tgacagcata	1680
aaggttataa acgaggaacg tgaggcgta tcggaccgca atattgacag cctgccggat	1740

gatgaatggg cagaaaaagct aaaaaaactg acagacagca aaaaaaagag ataa 1794

<210> 1943

<211> 852

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1943

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gaggcacgcg cactgctcct gcttgagtca aagggaataca tcacccttaa agaggggtgcc 180
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ttccagcacc ttccctacct tgaggacttc aacaagcaga acggcacaaa ggtcgtgtcg 780
gtcggcgcta tacacgttga gccgatgggt ctctacggcg gaaagcagtc atcgcttgac 840
gcactcaaat aa 852

<210> 1944

<211> 948

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1944

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aacaagccgc agaccacgag gacgcgtata atgggcgtgc tgacaaaagg cgaggatcag	180
cttgtctaca tcgacacgcc gggctttcac aagccgaaaa ataagctggg cgagagcatg	240
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ccgcacggca cggcggtcgc acttgagcgg tttttcgagc gcgacacggc ggcaggcgat	720
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<210> 1945
 <211> 1284
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1945	
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cgcgaagcgc agcgcgaggc tgattcgctg agagcagacc gcaattctat ctccaagcag	180
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tttatgatcc gttcaaacgt cgtcacaggc gttatgagct ttgccgagat ggacgctatg	660
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<210> 1946
 <211> 720
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1946	
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ataaacggcg gcataacggc ggtgatgggc ggcatgtcgc ctgccttcct ttcggtatgt	180
ttattaaaag aagccgatat accggagctt gtctcathtt tcaggatgtt cgggacagag	240
gtcttttgcg gcgaagccga cgcggtgat ttaggcagtg aaaatgcgag atttgatgag	300
cttatgctgt atagcggcag cttttcattg ccgcagccgt cgcacgggaa aatatatgac	360
ctttacgccg ctttgcaaaa aggctccgac ggggatatag agctgcaaaa gcaggatctt	420

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gatgcggcgg cggtatgcgg atttatgacc gataaagtat ctcttatcac cggtgtcgcg	540
gtcgactgcg gctcacgccg gaaaggggtgc ggcagggcgg cactgctgtc gctgatagca	600
gcgataaggc ttaaatatcc agacacaaaa atttatgccg cagcacacat tagtgccgtt	660
gggttttaca aaaaatgcgg tttcaagagc agcggcaggg tagcactttt aaagtattga	720

<210> 1947
 <211> 1074
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 1947	
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<210> 1948

<211> 840

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1948

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atacttacat acctgtatct cgagaaaatg aatattgatc caaaaaatcc gcagatggaa 180

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ggtcagggaa tctccgcagc agccggaatg gcgctttcgt caaagcactt cggcggaaac 420

tggcgctgt acagcataat aggcgacggc gaatcggagg aaggacaggt ctgggaagca 480

gcaatgtttg ccggaaacaa gaagcttgac aaccttaccg tgtttgtaga ccttaacaat 540

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<210> 1949

<211> 765

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1949

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<210> 1950

<211> 573

<212> DNA

<213> unclassified Ruminococcaceae

<400> 1950

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gacgtttacg aatattatct caacagtata tgcgatcacg ttataaacgc gtattttgac	360
acgctgctgt cgggcaggac aatagacgag gatgaccgtc gggtcattgt tacggcgtag	420
agggtgcgagt cgttcgggat gataaccgaa tggataggca gcggaatgaa ggatgacctt	480
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<210> 1951
<211> 2256
<212> DNA
<213> Eubacterium rectale

<400> 1951
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<210> 1952
 <211> 1545
 <212> DNA
 <213> Eubacterium rectale

<400> 1952	
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tgcgtagtta ttgatgagca gccggcactt gcctttgtaa aagaaaacaa gggacttaag	360

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<210> 1953
 <211> 4614
 <212> DNA
 <213> Eubacterium rectale

<400> 1953	
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gagcatgata actgtggaat tggcgcagta gtaaatatca aaggatcaa aacacatgag	180
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<210> 1954

<211> 2166

<212> DNA

<213> Eubacterium rectale

<400> 1954

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aacaagcgtg agggaaaggc atctgagaac gccatcctta cagatcgtgt aattgaccgt 360

cctatgagac ctcttttccc aaaggattac agaaatgatg ttacattaaa caaccttggt 420

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<210> 1955
 <211> 1065
 <212> DNA
 <213> Eubacterium rectale

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<210> 1956
 <211> 2088
 <212> DNA
 <213> Eubacterium rectale

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ataacattga aggatggctc atcaaaagag tacagtgaag caaaaagcgt atatgaaatc	180
gcaaaagata taagcgaggg acttgcaaga gcagcctgcg caggagaggt tgacggagaa	240
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atcaaattca tgaaggaaaa ggatgagcca tacaaggtag agcttatcga ggagcttcct	600
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ggaaatgagg gtgttaagcc actttcagat ttcatcgacc agatttgcaa ggaaatccgt	2040

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<210> 1957

<211> 1761

<212> DNA

<213> Eubacterium rectale

<400> 1957

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aacggaattg cagcgattga ggaaatcgcc catgcaaagg agcttggaat gacggttctc 480
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<210> 1958
 <211> 1386
 <212> DNA
 <213> Eubacterium rectale

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tggtgggaga agcatcaagc tcatgcagtt atcttatggg cactgctttt tgccattccg	180
ttcgcgctgt tctatggagc accaaaagcc gtagagacgg tactggagtg tctgataggc	240
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<210> 1959
 <211> 2532
 <212> DNA
 <213> Eubacterium rectale

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gcaacgctgc cggttatgtc atttaatctg gataaaataa agataaacac cctccatgga	180
tatactactg agatggatcc gacaaagatg cgcgattgcg ttattccaat ttcggatgac	240
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<210> 1960
 <211> 1584
 <212> DNA
 <213> Eubacterium rectale

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<210> 1961
 <211> 2286
 <212> DNA
 <213> Eubacterium rectale

<400> 1961	
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cagaaggtag tcggaggctg ggcaaatatc gcaaacgagt atgccacaaa gagataccgt	2040
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gagtttgagg catatgttgt caaggatggt gaattaaagc catttacact gaagatgggt	2220
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<210> 1962
 <211> 1320
 <212> DNA
 <213> Eubacterium rectale

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aagagaaaatt ccaaagacac aaaggtaaca gatatgcttt atgcatgcta tgatctggct	180
gagaatgatc aggatttcaa ggttatgctc agaaaaatca aggacagata tgattcaatc	240
ataaatggcc ttcatttaaa gctggcactt gatgaggagt tcaagattat cgctgagaat	300
ttcaaggcaa aggcaggtag agattatgca gcctctcgtg gtgagtactt aaacggaatc	360
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gagaatggca attttgacgc ggaaaagaca gacaaggtag tctcaaagaa gcttgagcag	480
acagaaaagg ctgttattcc gggcttttac ggagcaggac ctgacggaaa ggtagtcacc	540
ttctcaagag gtgggttcgga tatcactggt tccatcgtgt caaaggcatg tcatgccagc	600
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aatccacagc caatcaagggt tggtacttat agagagctca gagagctttc atatatggga	720
gcatcagtag tccacgagga tgctgttttc cctgtaagaa aggcaggcat cccaatcaat	780
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gacaaggaca agatgaactc agagggtgggc ttctgtagaa aggctctcca ggcgtttgag	960
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aatgtgcgca tgattgatca ggggtcatca gaactcaata tcatcatcgg tgtaagcaat	1260
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<210> 1963
 <211> 1692
 <212> DNA
 <213> Eubacterium rectale

<400> 1963	
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cagagactgt cattcttaca gcaggatcac ttcaagtacg atgagtttac agtacttgat	300
acggttatca tgggtaataa gcgtctctat gatatcatga aggagaagga agccatctat	360
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gtgcttctcg ctcaggcact gtttggaaat cctgacatac tgcttctcga tgagcctacc	600
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acagtcacg ttgtatccca tgacagatac tttctcaaca aggtctgcac gaacatcgcc	720
gacatggatt acggtaagat ccagctctac gcaggaaaact atgatttctg gtatgaatca	780
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cacgatgaca aaattgcatt tgtcggagga aacgagcttg caaaaacaac tatgtttaaa	1140
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cagtcatact ttccaaagga caataccaca atctttgata ctgatgagct aatcgtcgac	1260
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aaagacaact aa	1692

<210> 1964
 <211> 1341
 <212> DNA
 <213> Eubacterium rectale

<400> 1964	
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ctcgaggagg atgcaaaaaga ggctgaggag gctgagaaaa acggtacagc cgaggagcgc	180
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cttgaggtaa tgccggaggg ctttggattt atccgctgtg ataattatat gccgggagat	300
catgatatct atgtggcacc tgcgagata cgccgcttca atttaaagac aggtgatatc	360
gtaaagggtg atatgaaggt gaagtctgag cgtgagaaat tccaggctct tttatatctg	420

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caggcagcag tcgataatat gcgtaaagcc ttcaacggta tgcgctctga tgaggctgtt	1260
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<210> 1965
 <211> 1488
 <212> DNA
 <213> Eubacterium rectale

<400> 1965	
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gcatcggtat ttgtgtgcat atcgggagct gtgtcagatg cacatgattt catccctgat	180
gtggtaaaga aaggtgcagc ggcagtgggt gtcgaaaaag atgtgactcc tatcgaaggg	240
gtgacatata ttaaggtaga taatacaagg cttgcacttg cgtgtatgtc agcagcttat	300

tttgattatc cggctgagaa aataaagact atcgggtatta caggtacaaa gggtaagacc	360
accaccacat atatggtaaa gtcaattctt gagtcagccg gcataaagac aggacttatc	420
ggtacaatag agtctatatg tgggtgacaag agaattccgt cagcaaatac cacacctgag	480
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gatgatgagc acttagaggg tgttatgaag ggacacacat gccaggtgga gacttacggc	780
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ggaaagggac atgaggatta tcaggagata aagggtgtga agcatcacat ggatgagaga	1440
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<210> 1966

<211> 2772

<212> DNA

<213> Eubacterium rectale

<400> 1966

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gagattaagc atgtgctgac ctcacatgag cagggagcaa gccatgcggc cgacggctat	180
gcgagaagca ccggaaaagg tggcgtctgt ctggctacaa gcggaccggg tgcgacaaat	240
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aatgtcggag tctcgttact tggaaaggac agctttcagg agatagatat tgccggaatt	360
acaacgcctg taaccaaata cagctttatt gtaaaggatg tagagaagct tgcagataca	420
atacgcagag ctttcaatat agcaagaaaa ggcagaccgg gtcctgtact tgtggatatt	480
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cgtgagacag aaacaattac agacagtgc attgataatg caattgaact cataaaagca	600
tccaaaaagc catatatatt tgttggaggc ggagtgggtc tctccggagc aagcaaagag	660
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<210> 1967
 <211> 1293
 <212> DNA
 <213> Eubacterium rectale

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<210> 1968
 <211> 1167
 <212> DNA
 <213> Eubacterium rectale

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<210> 1969
 <211> 1542
 <212> DNA
 <213> Eubacterium rectale

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ccttttgtaa agggcgcagc ttcaggtcctt gcagttggac ttcctgacgg acagatggga	180
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<211> 1647
<212> DNA
<213> Eubacterium rectale

<400> 1970

ttgagcttct tacaggaagc aaattcagcc gctaatatat tatttattcc gcgttactat	60
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actagtatag atacaaaaag tcataccggt acaaaattag aaagggtgttc tgatattgac	180
gagcataacc atgtatttga tgagcttcat gaggagtgtg gtgtgttcgg catgtatgat	240
tttgatggag gaaatgtcgc atccactatc tattatggtc tttttgcgct tcagcacaga	300
ggacaggaaa gctgtggtat tgcagtgagt gatacacacg gaccaaaggg taaggtgacc	360
acacacaagg gtatgggcct tgtaaatgag gtatttactc ctgatatttt agagcctatg	420
aagggtgata tcggagttgg acatgtcgc tattcaacag caggctcatc aacacgtgag	480
aatgcacagc ctctcgtatt aaattatgtc aagggcacac ttgccatggc acacaacgga	540
aacctcatta acgcaaagga gcttcgcaag gagcttgagt atacaggagc aattttccag	600
accacaatcg actctgaggt tatagcttat catatcgcca gagaacgtct taactcaaaa	660
acagcggagg aggcggtcag acgtgcctgc cagaagctta agggagccta cgcgcttggt	720
gttgagagcc cgagaaagct tattgcagcc agagacccat ttggttttaa gcctctttgc	780
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ggtgcagagt ttgtcaggga tatagagccg ggagagggtta tcactatcac tcctgaaaag	900
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gaatacatTT atttcgcaag acctgacagc catattgatg gagtaagcgt gtatggcagc	1020
cgtatcaagg ctggcagatt ccttgcaatg gattcaccgg ttgaggctga tatcgtgaca	1080
ggagtaccag agtcaggaaa tgccgctgct cttggttatt cacttgagtc gggcattcca	1140
tatggcacag catttgtcaa gaacggttat gtcggcagga catttatcaa gcctaagcag	1200
tcaagccgtg aatcaagcgt gcagataaag ctcaatgtat taaaggaggc tgttaagggc	1260
aagagagttg ttatgattga tgattcaatt gtgcgaggaa caacctcaga cagaatagtg	1320
cgtatgttaa gagaggcggg tgccacagag gtgcatgttc gcatcagttc accgccattc	1380

ttatggcctt gctatttcgg tacagatatt cctgcaagag agcagcttat cgcttacaac	1440
aggactattg aggatatcag acagattata ggtgcagatt ctttaggcta ctttggaatt	1500
gacagacttc atgagatggg agaggggactg ccaatctgca tgggctgttt cacaggaaaa	1560
tatccgatgg agccaccgaa ggatgatatc agaggcgagt attttgataa agaaatagac	1620
ctcgagagaa aaatgcttaa tcgctaa	1647

<210> 1971
 <211> 2652
 <212> DNA
 <213> Eubacterium rectale

<400> 1971	
gaaatattcg tggcagaagt atcaccaatg atgcagcatt atctgcagac aaaagaacaa	60
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gcgataatgg tttcaaagga gcttgagctt acactcaccg gcaaaaaactg cggacttgaa	180
gaaagagctc ctatgtgtgg agtaccgttt cacgcggcag actcatatat caacagactc	240
gtatcaaacg gtcacaaggt agctatctgt gaacagatgg aggatccaaa gcaggcaaag	300
ggaatcgtaa agcgagaggt aatccgtgtt gtgacacctg gcacaaacac tgatatggct	360
tcttttagatg aagcaaaaaa caattacata atgtcgattg tatacactga ggacaaatac	420
ggcatagcaa cctgtgatgt cacaacaggt gattttttta cgacagaggt ggatacggaa	480
agaaagctgt tagatgaggt gagcagatgt aatccatcgg aaatcatatg caacgaggcc	540
ttctacatga gcggaataga tggtgacgat atgaaaaaca gattatcaat tactgtttca	600
gcactcgact catgggtattt ttctgatggg cttgcaaatg agacactgct ttcacatttc	660
catgtacaga caataaatgc tctggggcctt gaggattatg agagtggagt catagctgcc	720
ggcgccctgt taaagtacct ttatgagacg cagatgaact cgctcgacaa tatacttgag	780
ctttatccgt actcaatagg caaatatatg ataatagaca gctcatcaag acgtaatttg	840
gagcttgtag atacccttcg tgaaaagcaa aagagaggct cactgctttg ggtactcgac	900
aagacacgca cggctatggg agcaagactg cttcgcacct atgtcgagca gcctcttattc	960

gaaaaggcag agataataaa gcgccagaag cttatcgaag cacttaatgc aaacgaaatc	1020
acaagagacg agatcagggga ataccttaat cctatztatg accttgagcg tctcatcaca	1080
agaatcacat accagtcagc aaatccgcgc gaccttattg ccttcagggga ttcattaaaa	1140
atgcttccac caataaagca gcagctttca gacataccgt gtgagcttac tgatgagatt	1200
aatgaagagc tcgacgagct taaggatata tatgagcttt tactttcatc catcgaggat	1260
gagccgccta tctcacagcg tgacggagat atcataaaaag ctggctacaa cgaggagggt	1320
gaccgtcttc gagacgcaaa aaccaaggga aagacatggc ttgctgagct tgaagccggt	1380
gagcgtgaaa aaaccggcat caaaaactta agaatcaagt ataacaagggt atttggatat	1440
taccttgagg tcacaaactc cttcaaggat atggttcctg attattatgt gagaaaacag	1500
acactcacca atgcagagcg ctacataaca ccggagctta aagagcttga ggataccatt	1560
cttgagctg aggacagact cacatcactt gagtatgagc tgtttcgtga tgtaagaaaa	1620
cagatttccg acaatgtttc aaggattcag aaaacagcca gagctatagc acagattgat	1680
gtttttgctt cgcttgcgct tgttgccagt cagaataatt actgcaagcc aaagataaat	1740
gaaagcggaa taatagacat aaaaaacgga cgcatcctg tagttgaaaa aatgattaca	1800
aatgacatgt ttatagaaaa cgatacatat ctggatcagc acaaaaacag aatctcaatc	1860
attacagggc caaacatggc cggtaaattc acctacatga gacagacagc acttatcggt	1920
ctcatggcac agattggaag ctttgtacct gcacaaactg caaatatcgg tattgtagac	1980
cgtatcttca cgcgagtcgg tgcattctgac gaccttgcaa gcggccagag tacatttatg	2040
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ctcgatgaga ttggacgagg cacgagtaca tttgacggac taagcatcgc ctgggcagtt	2160
gtagagcaca taagtaatcc aaagctcctc ggtgcaaaga cgctttttgc aaccattat	2220
cacgagctca ccgagcttga gggcaagctt gacagtgtaa ataactattg catcgctgta	2280
aaggaaaagg gcgatgatat agttttctta agaaaaatcg taaagggcgg agctgacaga	2340
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aaggaaatcg cagaacagct tcttgcaaatt gatatcacag atactgtaaa aagcatatcc	2460

gttgacactg gccacaagca taaaaaggag caccttgacg aggttgatat gacacagatt	2520
tcgcttttcg acacagtga g gatgatgat ataattgacg agcttcgaag catagacata	2580
ggcaacatga caccacttga tgcgttaaac aagctgtatc agctccagaa caagggttaa	2640
aaccgctggt ag	2652

<210> 1972
 <211> 1098
 <212> DNA
 <213> Eubacterium rectale

<400> 1972	
agtataacac gaaagggcag ggtaaagatg aaagcatttt taattcttga agatggtaat	60
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acatcaatga caggatatct ggaggctactt acagatcctt cctatgcagg acaggctgtt	180
gtaatgactt atccacttat cggaaattat ggaatcacac cggatatgga gtcagaaaga	240
ccatggccgg atggatatat agtaagagag ctgtcacgta tgccaagtaa tttccgctgc	300
gagggtacta tacaggattt cctcgagaaa aacgatattc cgggagtggc cggcattgat	360
acacgtgcgc ttacaaagat tctcaggga aagggtacta tgaacggaat gattaccaca	420
aatgagaatt acaatctcga tgagattatt ccaaagctca aggcataatac tacaggcaat	480
gtggttgaca aggtcacatg cactgagaaa aaggttttta agggccaagg aaagagggtt	540
gccctcatgg atttcggtgc caaaaacaac atcgccaaat cactcaatga aagaggctgt	600
gaagttacaa tttaccctgc acacacaacc gctgaagaga tacttggtga caatcctgac	660
ggaatcatgc tctcaaacgg acctggagat ccaaaggagt gtgtagatat tataaaggaa	720
ataaagaagc tttatgacag caatgtgccg atttttgcaa tctgcctcgg acatcagctc	780
atggcacttg caacaggcgc agatacacac aagatgaagt acggacacag aggtggaaac	840
catccggtta aggatcttgc aacaggccgt gtttatattt cttcccagaa ccatggatat	900
gtggttgaca cagataagct tgacccta atgtggctgagc ctgcatttat aaatgtcaac	960
gacggcacta atgagggact taagtatgtg aacaagaata tcttcacagt tcagttccat	1020
ccggaggcat gccctggacc acaggattca gcatatcttt ttgaccgctt tattaacatg	1080

atgggaggta accagtaa

1098

<210> 1973

<211> 1521

<212> DNA

<213> Eubacterium rectale

<400> 1973

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ttttttatag atggaggata taaaatgagt agtaacaatc aaagcttggc aatgcagcgt	120
attgctaagt tagtcgacga gaacagtttc atggaaattg gttctcttgt gacagctcgc	180
agtacagatt ttaaccttac tgcagcaaaa gctccttcag atgggtgttat tatcggacac	240
ggctctgattg atggaaatct tgtattttatc tatagccagg atgcaacagt tcttaacgga	300
acaatcggcg agatgcatgc aaagaaaatt gcttctgtat atgatatggc catgaaaatg	360
ggcgcacctg ttatcggatt tatcgttgc ggtggtatca gacttcagga gtcagttgat	420
gcattagacg gatttggctt tattttacgcc aagggaattg cagcaagtgg cgttattcca	480
cagatttgtg gtgtattcgg taattgtggt ggccggacttt ctgtagtacc ggctctttgt	540
gatttcgctt atatcgaaga gtctaagggc agaatgtttg ttaatactcc tgatgcaata	600
gagggttaacc gcgttgagaa atgcgataca gcagcagctt cattccagag tgagaacaat	660
ggatgtgtag acggaatcgg ttcagaggat gatattatcg ctgatatcag agctcttgtc	720
agcatgcttc cactcaacaa cgaggggagat gtatatacag actcatgtga ggatgatctc	780
aacagagcat gtaacagcat ggctgatatg aaggctgatc caagattcct cttatcagag	840
ctttctgatg atcatgtatt ctttgagaca aagaaagact ttgccaagaa tatggttaca	900
ggttttgtta aattaaacgg catgacagtc ggtgcagttg caaactgcag cacagtatat	960
gatgctgagg gcaagaaggc agaggagttt gcactttctc ttactgcaaa gggctgcaac	1020
aaggcagctg agtttgtatc attctgtgat gcttttctca ttctgtact tacacttaca	1080
aatgtaaacg gattcaagaa ctgcatgtgc tctgagaaga agcttgcaaa ggctcttgcc	1140
agaatgacat acgcattctc aagtgaaca tgtccaaagg ttaacctgat tacaggcgag	1200

gcttacggaa gcgcatatgt tgcaatgaac tctaagtcaa tcggagctga tatggtttat	1260
gcataccctg atgcaaagat tggtagatg gattcaaaga ttgcagctga gattatgtat	1320
ccgggcgctg atgcaaagga aattgatgag aaggcagctg attacgagaa gcttcagtct	1380
tctgtttcat cagcagcagc cagaggatat gtagacctca tcattgatcc ggctgacaca	1440
agaaaatatc ttgtaggtgc ttttgagatg ctttacacca aatatgtaga tgcaccagag	1500
aagaaacacg gaactaaata a	1521

<210> 1974
 <211> 1332
 <212> DNA
 <213> Eubacterium rectale

<400> 1974	
ttgatagcat tgactttcaa cacacacgtt tgtataataa tctcatcaat tcctagtaac	60
acaatagact atgtaagaat taacgagaag aagaaaacaa tgagatttaa tacaagctta	120
cttcatgccg gcgtgacaaa agagacaaat ggctctacac tgccaccggg atatcagaca	180
agcgccttcg agcaggagag cgcggcagat ctggaaaaaa tatttgaaaa caaagctccg	240
ggctactgtt acacaagagt tgccaatcct acgattacag cttttgagaa cagaataaca	300
aagctcgagg gaggaatagc atcggaggca tgcgcatcag gcatggcggc actgatgaat	360
accttcttaa atatactaag cagtggagat gagctcatct caagcgccag cctctacggg	420
ggcacaatag atttgttcca tgatcttgag gccttcggca tcacaaccag atatgtcgag	480
aacaacaact ggcagcagat agaggacagc atcaatgagc ataccagact gatttttgca	540
gagactatcg gtaatccctg tctggatgtt acagatattg agaagcttgc agagatagca	600
cacgcacatg atataccgct tgtagttgac aataccacat cgacagctta cctgatacag	660
gttttaaagc atggagctga tatcgtgggc aattcatctt ccaaataatat aaatggaagc	720
agcaatgcaa tcagtggat tctgacagac tcaggtaagt tcaaatggga caagaacaga	780
tatccggggg ttgcagatta tgtgaagtat ggacctatgg catttgctgc aaagctgaga	840
aacagtcttt tcagaaatat ggggtgcctgt ttagctccgg tgaatgcata cttaaattatt	900
ataggacttg agacactcgg tcttagaatg gaaagagaat gctctaattgc actcgagctt	960

gcgtcatgga tagaaaacaa ttatcctgac ataaaggtta attatccggg gctttgtagc	1020
agcaaattggc atgaaatagc aaaaaaacag ctcacaaacg gctatggagc aatccttaca	1080
atcaggggttg gcagcaagga aaaggcattt aaatttatag acagcctgac gattccatac	1140
acactcagca atatcggaga tacaagaca cttgtcattc atccgggttc cacaatcagt	1200
cttcacagca cagataagca gaaggaggat gcaggagtat ttgaggatct tataagagtc	1260
agcgtgggta tcgaggatat agatgacctc aaggaggatt ttgcacaggc ttttgcaaat	1320
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<210> 1975
 <211> 1302
 <212> DNA
 <213> Eubacterium rectale

<400> 1975	
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aaggaaaacc gtgacaaggc tgtttttgaa tacacaaaga aatttgataa agcggatgtg	180
gatgcatcaa atatccgtgt cacagaggaa gaaataaagg aagcatatga gctggttgat	240
gagaagcttc ttgccgttat aaaaaaagct cttgtaaata tcagaaaata tcacgagaag	300
cagctgcaga actcatgggt tacaacagag gacggcatca ttttaggaca gaaggtcaca	360
cctatagcaa aggcaggagt atatgtgccg ggccggcaagg ctgtctatcc ttcattctgta	420
ctgatgaacg tgcttcctgc aaaggtagca ggcgttgaaa agatagttat gtgtacacca	480
tgtggagctg acggcaaggt atatccttcc acacttgtag ccgcaaacga ggccggagta	540
gatgaaatct acaaggtagg cgggtgcacag gctatcgctg caatggcatt tggtagagag	600
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catgatgaga tggcatcagc tatcttgatc acaacaagtg aggagcttgc aaagaaagta	840

tcagaggaag ttgataagtt tgttgaggtt ctctcaagaa aagaaatcat tgagaaatct	900
cttgaanaact acggatatat acttgttgca gaggatatgg atgaggcaat tgatgcagta	960
aacgatatcg cttcagagca tatggagatt gtcacaagag atcctttctc agtcatgaca	1020
aaaatcaaaa atgcaggagc aatctttatc ggagagtact catcagagcc tttaggagac	1080
tattttgtag gaccaaacca tgttctgcct acaaacggaa cagcaaaatt cttctcagcc	1140
ttatctgtag atgactttat caaaaagtca agcatcatct catattcaag agaagcactt	1200
gagagaatac atacagatat tgagcagttt gcagagtgtg agaagcttac ggcacatgca	1260
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<210> 1976
 <211> 2229
 <212> DNA
 <213> Eubacterium rectale

<400> 1976	
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ttgaaatcag acatccatat ggggcaacga aaaggagaga taatgagtaa tatagataaa	120
tatgaaacac gaaaaaagat ggtctatgac ttcatgtgtg atgacatgta tgttccgatg	180
aaaatcaagg aactttgcat agtactcgga gtaaaaaaag aggacagacc acagcttgaa	240
cagattcttt tggatttgca ggcagaggga aggataacac tctcaaagcg cgggaaatac	300
tcaaagtcgg aaattaaaaa gacagtcggc gtattcacag cgcataaaag gggatttggc	360
tttgtcactg tggagggaga gcctgatgat atttttatcc ctgcagagta tgtaaattggt	420
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gcaagtgata attttggttt tgcagtgcct gacaatacca gatttggcac agatattttt	600
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agctatggta aaaagggcaa aaagccggag ggcaagggtt ttgaaataat cggacatata	720
gatgacccgg gtacagatat tctttctata gtaaaggctt atgatctgcc ggtggatttt	780
tcggagaaaa tcatgcatca ggtgcagaat gtggcaaagg atgtgacacc tgcggatatg	840

gccggcagga tggatttacg cgactggatg atggtcacga tagacggaga ggatgcaaag	900
gatcttgatg atgccgtgtc tttatacatg gatggcgaca attatgtact tggagtacac	960
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aatggcatat gtccttgaa tgagggatgt gacaggctgg ctctttcatg cattatgaca	1140
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cgcaggatga catacacaaa tgtaaaaaag attcttgacg ataaggatgc cgctgtgatt	1260
gaagaatata aggagcttgt gcctatgttt gaaaaaatgg cagagcttgc agcaattcta	1320
cgcaaaaaga gaatgaaacg aggttctata gactttgact ttccggagac taaagtcgtg	1380
ctcgatgaag atggcatcc gatagatata aagccgtatg acagaaatgt ggcaacaaag	1440
ctcattgagg attttatgct tatagcaaata gaaactgtgg ctgaggatta tttctggcag	1500
gaaatacctt ttgtatacag aacacatgac aagccggatt ctgaaaaaat cgcaaagctt	1560
tccacattta tcaataatth tggctatacg cttcatattg gagctgatga ggtacaccca	1620
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agactgacac tgcgctctat gaagcaggca cgatatacaa cagcttgatc aggacatttt	1740
ggactggcgg caaattatta ttgccacttt acatcaccaa tccgcagata tcctgatttg	1800
cagatacacc gtatcatcaa ggaaaatatc cgcggttaga tgaatgataa ccgcaggag	1860
cactatgagt ctatactcga tgctgttgca aagcaggcaa gtgagaccga acgacgtgca	1920
gaagaggcag agcgtgaaac agtcaagctt aaaaaatgtg aatacatgtc aaatcatatt	1980
ggtgaatgct ttgaaggagt tatatcaggt gtcacggagt ggggcttttt cgtggagctt	2040
ccaaatacag ttgagggtgact tgtgcgcgtg acagacctga cagatgattt ctatgagttt	2100
tacgaggata cctatgagct ggccggtaca gccaccaata agagatacaa gcttggacaa	2160
aaaatcaagg ttgttgtgga cagtactgac aaaattatgc gtacaattga ttttaaaccg	2220
gcggaataa	2229

<210> 1977
<211> 2457
<212> DNA
<213> Eubacterium rectale

<400> 1977
atgactggag gatatgactt gaaaccatat acaagtaagg ctaaaaaagc aatagatttg 60
gctgcacgta tatcaaagaa aatgaattac agctatgttg gaacagagca catactggct 120
ggccttataa aagagggcac cgggtgtggca gctgagggtc taacagcctg caatgtggaa 180
tatgataagc ttatttcgat gattgaagac ctgatttcac cgggggataa catcgaagtg 240
atggacaggg atggctattc accaaggaca cagagagtat tggagcgtgc atcggaggaa 300
gccgatagat ttgagtcaa tgagataggt acagaacact tgctgatggc tatagtactg 360
caggagagact gtgcagctgc aagactttta aacaccatgg gtgttaacag tcagaagatg 420
tttatagata ttcttggtgc gatgggtgag gatccgtctg catacaggga tctgatgaaa 480
agctatggta catcatacaa ttctgcgact cctgtattag atcagtattc cagagatttg 540
acagatatgg cagaggcagg gcttcttgac cctgttatag gcagaaaaaa ggagatggag 600
cgcgttatcc agatactttg ccgccgtggc aaaaacaatc catgtctgat tggagagccg 660
ggagtgggca agaccgctat agtagaagga cttgcgcagg atatagtcag tggcaatgtt 720
ccggatattc ttttgggaaa gagactgggt tcccttgata tgtccgggct ttagccaaa 780
tcaaagtatc gtggtgagtt tgaggagcgt atcaagaagg tgataagcga ggtttcaa 840
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<210> 1978

<211> 1452

<212> DNA

<213> Eubacterium rectale

<400> 1978

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<210> 1979
 <211> 1707
 <212> DNA
 <213> Eubacterium rectale

<400> 1979

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ccggagccaa acggttatit gcatatcggc catgcgaagt ctattctttt aaactatgga	180
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gagcgtctgg agttttaga gtctatcgag gccgatgtta agtggcttgg tgctgactgg	300
gctgacagga agttttttgc atccaattat ttcgacaaga tgtatgagtg tgcagtagga	360
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 <211> 2508
 <212> DNA
 <213> Eubacterium rectale

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<211> 1275
<212> DNA
<213> Eubacterium rectale

<400> 1981
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1275

<210> 1982

<211> 1611

<212> DNA

<213> Eubacterium rectale

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ggaggggcaa taaaccaggc cggttcggta aagggaagg ctacggcaaa gcatgctgtt 180

tcagactgga tggagataga aaagcagaga ggtatttcgg ttacttcatc tgtattacag 240

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<210> 1983
 <211> 2277
 <212> DNA
 <213> Eubacterium rectale

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<210> 1984

<211> 2154

<212> DNA

<213> Eubacterium rectale

<400> 1984

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 <212> DNA
 <213> Eubacterium rectale

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 <211> 1284
 <212> DNA
 <213> Eubacterium rectale

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ggagcagacc agcttgacct ctactccct atgctcgatg tcttgaaatc agacagtgat	180
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<210> 1988
 <211> 2133
 <212> DNA
 <213> Eubacterium rectale

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<210> 1989
 <211> 1113
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 <213> Eubacterium rectale

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<210> 1990
 <211> 1152
 <212> DNA
 <213> Eubacterium rectale

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<210> 1991
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 <212> DNA
 <213> Eubacterium rectale

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<210> 1992
 <211> 1056
 <212> DNA
 <213> Eubacterium rectale

<400> 1992	
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aatatgtcag atgaaattga tgtcataaag caggagataa acaaaaaagc tgatgcggtc	360
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ataaataaaa agacaccgat aatggttgtc ggagaccagg cgggaagcga gagctttaag	480
tcgttaaata cagtggagtt tgaccagtac agcatgggta cggaactggc acaaaagctt	540
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gaatccgatg cctgtaaaaa acgcattgat ggcataaagg atactcttgc ggagagcggc	660
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gctgccggat acaaaagtgt tgtaggactg gtcgatatgc tgcgtggcag tagaaaatat	960

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<210> 1993
 <211> 1395
 <212> DNA
 <213> Eubacterium rectale

<400> 1993	
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ggatttccgg tgcttgagg ggtgcttggt tcatattccg ttatgagata tggcagtttt	180
gcaaggaaaa atatggcatg ctacatgggc atctatatac tgacatgggt tatcggcacg	240
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cagtatttca aggcaactgta cggctcaacc ctgtcagaga tatgggggta tttttttgca	360
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cttaggttta tagacaagaa atttgtcaat cacaagggtga tgtggcaggc cggctgtatg	540
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tacagggtatt gcgatgaaca tgcagacagg aaagtgcgca ttcacagacg cagggttcga	660
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gaggagtggc agtcagagtc tcgctacagc aaggatgtca caggctatac ggagtgcgat	1140

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gaaagtgaca gtcattgtggg cacctgggtg ggctgcatac tggcaaaaga cgataaattt	1320
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<210> 1994
 <211> 2052
 <212> DNA
 <213> Eubacterium rectale

<400> 1994	
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gaatgccgtt tgagggtcttt tttatcagag gattcattag atgactcaga agagaaaaat	180
gtggatatta taaacaatcc gtttatagac agcatgggtg acaggaataa tctgctgaag	240
gctgttaaac agattgcaga gggagaaaaa tttgctactg tagtactgca tgccaaggaa	300
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gttgaggcaa tagggcttgc tgagcagctt gatgagcgtc ttaacgagag tgagatgggtg	420
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tatccgtaca ggatgaatcc ttctgtccgt gctatgtttg gagaagtgtg tgagtcaaaa	540
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ccaaagattc agccatactt tgggtgtgaca aaatgggagc cgggcaaaaa ggttgaggaa	1200
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tgcgtgaccg ccgagggtgt tgagagtcag gagcaggtag agtttttgaa gaatatagac	1980
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<210> 1995
 <211> 2421
 <212> DNA
 <213> Eubacterium rectale

<400> 1995	
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gatatctcaa acgtagtagt cggccttgta gaaaaatgtg agccgattcc tgagacacac	180

ctaagcctgt gtcaggtaaa tgccggagca catggcacat tccagatctg ctgtggagcg	240
gacaatgtaa aggcaggggg caaatatcct cttgcactta tcggcgcaac agtatatgcc	300
acagcaaagg atcacgttac aatagagggc gtgatggaga taaagcaggg caagctgcgt	360
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<210> 1996
 <211> 1842
 <212> DNA
 <213> Eubacterium rectale

<400> 1996	
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tacggaaaagg ttacactttc aaacagaccg gacctttgtg agttccagtg taacggagca	180
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<210> 1997
 <211> 996
 <212> DNA
 <213> Eubacterium rectale

<400> 1997

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<210> 1998

<211> 1398

<212> DNA

<213> Eubacterium rectale

<400> 1998

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ctgctcgact gtatagactc agaccttgca aaggtaaagt agaatatcta caacaagatt	180
acaacacttg caaagaatct tgtatcaaca ggaaaagaga tagagaacaa ctactgtatc	240

cctatcgtaa acaaacgtat ttcagttaca cctatcgccc ttgtcggcgg tgcggcctgc	300
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 <211> 1815
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 <213> Eubacterium rectale

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<211> 2643

<212> DNA

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 <211> 1194
 <212> DNA
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<211> 3579

<212> DNA

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<211> 1908

<212> DNA

<213> unclassified Clostridiales

<400> 2004

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<211> 1890

<212> DNA

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 <211> 1998
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<210> 2018

<211> 1065

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<210> 2025

<211> 1059

<212> DNA

<213> unclassified Clostridiales

<400> 2025

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<211> 1950

<212> DNA

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<211> 1569

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<211> 1179

<212> DNA

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<211> 3462

<212> DNA

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<210> 2045

<211> 2130

<212> DNA

<213> unclassified Clostridiales

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tattatgctg tatatttaat tccgatagtt ttactttta aagcattcag ctttttatat	240
aagagaaaag cctgtgattt ttatcacagc atacctgacc gcagaagcag tgtttttgta	300

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<210> 2046

<211> 1554

<212> DNA

<213> unclassified Clostridiales

<400> 2046

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<211> 951

<212> DNA

<213> unclassified Clostridiales

<400> 2047

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 <212> DNA
 <213> unclassified Clostridiales

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<210> 2049
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<400> 2049

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<210> 2050
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<210> 2051
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<212> DNA
<213> Oscillibacter sp. CAG:241

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<210> 2052
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<212> DNA
<213> Oscillibacter sp. CAG:241

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ggcgtgtgcg ccgccgcccg ggcccggcag ctgccggtga tctttctgac ggcctccagc	420
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aaggcagtgg tgaccctggg cgatgtccag gcggacatcg agcggggcca ggtgacgaaa	600
aacggggcgg acgtatatct gacggccctg gaataccggc tgctgctggt attcgtcaac	660
aaccgggggaa aggtcctgtc ccgcagccgc ctgctggagg agatctggga cgtggccggg	720
gattttgtca atgacaacac cctgacggta tatatcaagc gtctgcggga gaagatcgag	780
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ctatga	846

<210> 2053
 <211> 819
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2053	
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cagctgcggg gctctctggc caacatccac gcagctttgg gacgccttgc cccggagcag	120
gcgcgggacg ccagcaccga caccgaccgc agtgccgcca ttctgtgcca gagctattac	180
cgcacacctg ggggtggtgaa caatctgtcc gacgcgccta tgctggcaga ggaaaagcct	240
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gccctggccc agctgatgga gctgcggctg acctttacct gcccggaacg ggcccacacc	360
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gaccggtggc agcacagcaa tatggacctg ccggcccacg gcctggggct gggctctgcct	600
ctgtgccgcc gcattgccc gggccacggc ggcagccttg tggtgtcatc ccgggagggg	660
cagggcacca cggtagcggg gcgcctgccg gaccgccga gcggcgtgac cctggtgcgg	720

gacatgccgt tccactatgc cggcggcttc aacccccacgc tggaggagct ggcggacgcc	780
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<210> 2054
 <211> 954
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2054	
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acctgtacct tccagaggaa agagctggat gagatcgacc cggagcacia ccggggactc	180
aacgtagtgc ccagctgct gaccaaccgg gcagagcatt tcctgtgggc tgcccgggag	240
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gccgccaagc ggaagggggc gggcctgctg gcctatcccc aggagctgga ccggtgcctg	360
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gctttttcca ccgtctccgg cccctggccg gtggtgtata acggcgatat atggacggcg	600
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ggactcatgc gggaccccag cctgtgcgg cagctgcggg gcggccccgc cgcctcggtc	720
cgggaagtcc ggacgtacca tgaccggctg ctggacgcct accggcagcg gctctccggc	780
gatctgccgg tgatgcaccg gatgtgggag ctgtggacgt acctggccgc cgggttcgat	840
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gcggtggacg cactgctccg ggagcagccg ctggtataca gcaaggaggg atga	954

<210> 2055
 <211> 1023
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2055

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cagctgtgcc cggactcctt tttcggaaag gacacctggg agcaggcgga gtccgccatg	180
cagcagcggg tgctggagcg ggccctggaa aagggcgggc tgatgccc aa ggatctggat	240
tacgtcctgg ccggggatct gctgaaccag tgcatcggca ccgcctttgg cctgcggggc	300
ttcgacatcc cgTTTTTTTgg cctgtacggg gcctgtcca ccatggggga gagtctggcc	360
ctgggcagcc tgctgatctc cggcggccac gcccggatga cggcctgcat gaccagctcc	420
catttctgca ccgccgagcg gcagtaccgc atgccggtgc cctacggcag ccagcggacc	480
cccacggccc agtggaccgc caccgcctcc ggctgtgca tcctggcgga ccagggggac	540
ggcccgtata tcacccacgt tacctgcggg aggatcgtgg acaagggtat caccgacgtg	600
aacaacatgg gggccgcat gggcccccgc gcctgcgaca ccctgtccgc cctgttccgg	660
gagacgaaaa ccggccccgg ggactatgac ctgatcgtca ccggcgacct gggggctctg	720
ggccatgcca tcgtcacgga cctgctgagc cgggagggcg tggacctgtc ccggaactat	780
caggactgcg gcatgctgct gtacgacctg gataagcagg acatgcacgc cggggcctcc	840
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aggtggcagc gggtagtgtt tgccccacc ggagctctgc tgagccctac ctctccttt	960
cagggggaga gcattcccgg catctgccac gcggtggtat tttccgcca gaaggaggga	1020
tga	1023

<210> 2056
 <211> 519
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2056	
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ttttcccgga aggacttcat ttttttggca gatcgaggca tttgtatgag tttctttcaa	120
aaaattggca atgcaatggc ccgtttcatg tatggccgca acggcgtgga tcagctggga	180
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accgcctatg ccattctttc ctccatcgcc ctggtgataa cggcatgggt ggtgttccgg	300
ctgtttttcca agaacctgtc caagcgccgg gcagagaacg cgctgtacat gagcaagggtg	360
gtgtatccca tgcgccgggc cctgtcccg c agtcgggata aggagcacia atatttcacc	420
tgccctaact gccacacggt gtgccgggtc ccccgcgga aaggccgcat tgtgatcacc	480
tgtcccaagt gccacggtga gattcacggc aaaagctga	519

<210> 2057
 <211> 306
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2057	
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tctgcttttt tgacagggtgc aggtcagaag taccagcgga atgcggacag gagaatcaac	120
aggtcaatgc ccatcagaat acacggcagg acaggggacg ccgttttttc atcatccagc	180
cggaccacgg acttgataag ccaggccagc aaaaacggaa agaccataca ggtgatgatc	240
atcaatgcgt cgttcatggg agactccttt ctgtcttatc caattgtgtc tgggtcctat	300
ttctga	306

<210> 2058
 <211> 897
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2058	
aagagagagg aggaaacg cgc catgcctgac tatatcgctc aataccgcat ctatctggag	60
caggaaaagc acgcctccgc caacacgggtc agctcctata tccgggacgt cacacagttt	120
tgcgcctggc tgccggaggg cagcgacctg cgccgggtca agcctgccgc cgtgtccgat	180
tacctgacct acctgacgga ccggggccgc tcggcgccca ccgttatccg aagcgctgcg	240
tccatcaaat cggttctacaa ttacctgggtg gtttccgacg ccatgaaggc caacctgct	300
aagggcattg ccgccgcaaa ggccggagcgg aagtgccctc agatcctgac gggcagggaa	360
gtggagctgc tcctggagca gcccaagtgc gtggacgaaa aagggttccg ggaccgggcc	420

atgctggagc tgctgtacgc caccggcatc cgggtgtcgg agcttattgc gctgaatcgg	480
gaggatgtga atctgcaggc ggcgtttctg cgctgcggcg gcgaaaaacg agaacggatc	540
atccccgtgt atccccgggc ggtgaaggct ctgcgtgact atatccagac tgtgcgtccc	600
cggctggcgg gccaggagga gccggcactg ttcgtcaaca tgaacggcca gcgcatgacc	660
cgccagggct tctggaaaat cgtgaaatat tatcagggaaggaggagat caccaaggac	720
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ctgcgctcca ttcaggaaat gctgggccat gcggacatct catccacca gatttatgcg	840
cagattgtca agcagcgtct gcaggatgtc tatcacaagg cgcacacctt ggctga	897

<210> 2059

<211> 1446

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2059

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atctgcctga ccctggccct gtgtatgctg gccgggtgcg gcgcaggagg ggcgagcccc	120
acgccctccg gggctttttc cagaccggc gaggcggtag agcctgccac ggctcaggag	180
ctggcggcct gccagctggc ggccgcagac tatcccactg atccccagcg gcccgcatg	240
gaggactaca ctgacagcca agggaaacatg gacatggacg catatgacgc ggccatgagc	300
gcctatcagg aaatcctggc caagctggggg aagctgtccg ccaagccgga tatcccggcg	360
gtgcgggact ttgccgccga tacatccctg cggctgctgg ccggagagac ggagaacgcc	420
gtgtattcgc cggtagtct gtatctgacc ctggccatgc tggcggacct gagcggcggc	480
gacacgtccc agcagggtgc gcagctgctg aacctccagg acccgagggc cctgcgccag	540
cagggtgcagc agctgtggat ggccctgtac tgcgacaacg gcatcaccac ctgccgtctg	600
gcgggggtcgg catgggtggc ccagggcagc accgtccacc aggcggcgct ggacagcctg	660
gcaggggtcc accggtgcgg cgtgtatcag gcagccatgg gaaccagga ggcaaaccgg	720
gccattgctg cctggctgga ccagcagacc ggccgcctgc tccagggaga taccggctcc	780

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agcgcgggtga cggcggactt catgcaccgg gaggatgatg cggcccgata tctccggggc	960
cggggatatac aggcggcgtc cctgcccttg cagggaatc tgcagatgat cgtggccctg	1020
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acaagcatgg aggaccggca ttgctccgg tggctccgtgc ccaagttcga cgtacacagc	1140
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gcccgggtga aggtggacga ggacggcgtg gagggcgccg cctacaccga ggccatcgtg	1320
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ttcgtgttcg tgggtggccac ctccgacggc atccccctgt tcgtgggtac ggtacagtcg	1440
gtgtaa	1446

<210> 2060
 <211> 282
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2060	
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cagacgtacc ggtgccaggc caaggtattc accaagcctg ccgggggcct gcggaacaag	120
ctgggcagcc ccgacctgat gatttttttc accggcacca tgtcccacaa gatggtgcag	180
ggggccctca gccagctgaa aggccagaac accatcatcg agcgtgcca caccagctcc	240
ctgtccgctc tgcggggaat tctggagaag cacgcaggat ga	282

<210> 2061
 <211> 675
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2061	
aaacgtcaga aggtgaaaag cgtgtatttt gcatacggag aagccgaagc ttcctatttg	60

cggcaaaagg ataagcggct ttgccaggctc attgaccgca tcgggcatat cgaccgcca	120
gtggatacgg acttgttttc atccgtcgtt caccacatca tcgggcagca gatctccacc	180
aaggcacagg cgaccatctg gcagcggatg caggatgcac tgggcaccgt caatgccgag	240
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ctgtttgaaa aataccgccg tcgctttcac ccctattgca gcgtggcaag tctgtatctc	600
tgggctgtgg caggcggcgc aatcccggag atgaaggact acaagccgag taataaaaac	660
agaggcagct tttga	675

<210> 2062
 <211> 288
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2062	
atggccggca tcccctatga tccgctggac atggccagcc tgcagctctg ggcccgggag	60
aaccgggacg acaaccgtct ccagatcgag cggctgctgc ggaatctgcc catggcggtg	120
gagcaggatc tgacggaccg gcagcgccag atcctccgca tgcgctattc tcagagcatg	180
acggtcagca gcatcgcccg ggagctgggc atcaacaagt ccaccgtctc ccggactctg	240
tccaacagca ccatgaagct gtaccgttcc ctgcggtaca gcctgtaa	288

<210> 2063
 <211> 453
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2063	
gttactgaac acaaggaggt atccgccatg cattcttcca cccaacagtt tgtccgggcc	60
atggacgcca aggacatcaa gcactccgac ccggagaccg ccgccggcgg ccgggaaacc	120

gtcaccgtga tctacagcgg tgagaatatt ccctccatcc gcatgcgctt tttcttcgac	180
caggactgcc aggatgtggc catccgggta tttgacctgg tgaagggtgcc cgaggccaag	240
ctggatgttc tcctgaaggc catcaacgcc gtcaaccggc gcttccgctt tgccaagttc	300
gttctggaca ccgacgacaa cagcgtccag gccgagctgg acgccgtatt ccgcagccac	360
gacgtggggg atatctgcct ggagctgatg gcccgtgcg tggacatctg cgacaaagcg	420
tatcccgatc tgatgaaggc cctctggggc tga	453

<210> 2064

<211> 1020

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2064

atgaaaaaga ggatttgcgc gctgctgctg tgtctggcgg ccctgttttc cctggcaggc	60
tgcgggacca agccaaagac cccggtgaag gggcagaacg aaccgaaccc ggtgaaggcg	120
cagggcctgc cggaggcgga accgggctgc gttccgctgc tgctgatcta cacctgcggc	180
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gacggcgaca cggcgggtggt ggtgtatatg agctatgcag gcgatgacgc tccgcttacc	480
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caggatggga agctgatggc catgctggac cagaacagtg ccgactctgc ccagctgacc	900
ctctacggcc ccgacggaaa gaccgccgga agcagccccg tgatgacgga ggactatgtg	960

gcctccggcg gtacggcttt gccggtggag tacatcggcc agctgttccc tctgcaataa 1020

<210> 2065

<211> 306

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2065

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ggtccgctga cgaaagaacg ccaggaattt gccgaccgtc tgctgctgaa gctgctgtgg 120

cagttcggcc ttgcctttgc ggccctgtcg tttatgatca tgcgttccgt gcggttgatg 180

ggaagcagcg gccagcagat cctgctgtac attgccatta ttctgcaaat aatcggggca 240

tttgccttga ttttgccggt ggaacgcaat atgaaggat attttgacga acaggaggac 300

gaatga 306

<210> 2066

<211> 516

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2066

cagcgtccag agccattctc tgccggattg gctgcggtaa aggggggatgc tgccatgcat 60

gagacggaag cgctgcatat ccgcaggctg acggcggagg acctggagcc cctgcaccgg 120

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tgctgcgtgt accggttggc cgggaaaaac gaatag 516

<210> 2067

<211> 195

<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2067
gcggatcgaa caaaagaagc ggaggacatg gtaacgacat atcacataac cgcattcttct 60
agcaggggata aaaaagatga aaaaagaggg aaaaaggtgt tgacaaaagg ggaaaggggt 120
ggtattctaa caaagctgtc ggcgagagcg ggcggcaggg acacggacga acgaaaaaag 180
ttgaggattc ggtaa 195

<210> 2068
<211> 1152
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2068
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gacgacctgg cagacgtgga cgtcctgcag gtgggcgccc ggaatatgca gaattttccc 720
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gcagccattc cgggtgctgaa aagactgtcg cacctgcctg tgatcgtgga cccaagccac 960

gccgccggac gggcggagct ggtggccccc ctggccctgg ccgccgcagc cgccggagcc	1020
gacgggctga tggcggaggt ccacgaccgt ccggcctgcg ccctgtccga cggggcacag	1080
gctctgtcct gcgaccagtt tgacgccctg gcccggcagg tgcggcagtt gctgccccac	1140
gcataccgtt ga	1152

<210> 2069
 <211> 702
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2069	
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catatcgaaa atcaatgggc ggagaattac cgtaccacag acggtgcgat cctccacgag	180
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tacaagcgcg gcaagcccaa gcaggacacc acggacgcct tgcagctttg cggacaggct	420
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<210> 2070
 <211> 246
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2070	
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agcataacaa aaatcctttt ccggttatcc tttgacaagt ccggttatta tagcaggttt	180
gaacgaaaaa atcaaccttt tccccgcttt tcgggaacac atcagaataa aacccggatg	240
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<210> 2071
 <211> 495
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2071	
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gtgtgccagc tgggtgcgggc cttccgggaa aagcatccct ccgtggggta tgcggtgcgg	180
ctggagcgct ccgctcccct ggagccgggt cccgcaccgt cccgctattc cgcctggctc	240
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<210> 2072
 <211> 306
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2072	
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gagctgcggc gcaccatgga catcgtggaa aaggacgcgc tggagatcta tgtggacggc	180
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<210> 2073
<211> 876
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2073
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<210> 2074
<211> 900
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2074
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<210> 2075
 <211> 1266
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2075	
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<210> 2076
 <211> 717
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2076	
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<210> 2077
 <211> 717
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2077	
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<210> 2078
 <211> 1494
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2078	
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<210> 2079
 <211> 1182
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2079

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<210> 2080

<211> 744

<212> DNA

<213> *Oscillibacter* sp. CAG:241

<400> 2080

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<210> 2081
 <211> 612
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2081	
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<210> 2082
 <211> 495
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2082	
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<210> 2083
 <211> 429
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2083	
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tgcgctgtgg agtggagtga aaacgtccgg gacgctctgc cgccggacgc cgtcactgtc	360
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429

<210> 2084

<211> 783

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2084

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<210> 2085

<211> 600

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2085

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gaccgccagg agctcagcga ttatctgcat gaatacggc aggccacagc ggatggccaa	180

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<210> 2086
 <211> 357
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2086	
gcccgggtgtg tgatcagggtg cattgtagca cacctttatc caaaaagcaa ctacctgaaa	60
aaatccccgc cgtccggccc ggaaactccc ggattgacgg cggcaggga gtacggtata	120
ctgggaaaaa atgatggagg agctgctatg gaatatgttg ccgtgattgg cctgctgttt	180
gccctgtga tctgtctgct gtgcgcaggc tggttttttg tccggtggaa aaatgagcac	240
gaaaatcaaa agctggccct gcgggaccgg aaaacctgct tcgtctggct catcgccgcc	300
gccgcatccc tgggtgatctt cggcgtgctg aagctcctgt ttctatcac cgcctga	357

<210> 2087
 <211> 1323
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2087	
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tatttcttcc tgctgcggcc cagccgcacc ttgggcgtta ctgcggtggc cttcattgtg	120
gtttatgtgc tgatgaccaa ggtttatggc ggtttcgaca tcggcaaacg taagagcaag	180
cccatcgtgt tctccatggc cctggtgctg ctgctgacgg atttggttac gcattttctg	240
ctgtgcatca tgaataccac cgatcatccac ggaggccatt tcgtgtatga gcggccgctg	300

ctgctgctgg cggctctatct gctgcaggta gccctggtga tcgtcatggc ttatggcgga	360
aacgattttgt acttcaaggt caacaagccc cagcgctgcc tgatggtggc ccgccgcggg	420
gagtgcgtcg aggacctcat ccggaaggct gcccgctaca agaagcagta taacatccag	480
cagggtggcct ggctggatca gccggacctg ctgtcctgcg tggaccaggc ggatgccgtc	540
tttctgtatg agctttccgt ccatgagcgg acggaactgg tggagtactg ctatcagacc	600
cgcaaggacg tgtattacag cctggagatg tccgatgtgg ttgctatggc cggggagcgc	660
gtcatgtttg acgacaagac cctgatgttc tgccccgtcc gggagctgcg ctttgaggaa	720
cgcacgttta agcgcacagg cgacattctc atctccctgc tcggcttgat tctgacgtct	780
cccatcctgc ttgtgacggc tttggccatc cgcatggagg accacggccc ggtgttctac	840
cgccagaagc gcgccactta cgggtggccgc gtgtttgagg tgtacaagtt ccgctccatg	900
caggcccaag ccggggacat tcacgtctcc gccaccaagg gggaccagcg catcaccagg	960
gtgggccgga ttatccgcaa gttccgcac gacgagctgc cccagctgat caatgtcctg	1020
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accaatgatc ttccggagtt ccgctatcgc ctgcgggcca aggcggggct taccggtctt	1140
gccagatct atggcaagta caacacatcc cccgggata agctcattat ggacctggcc	1200
tacatccagc aatacagcgt ctggcttgac ctgaagctga tcctgcgcac ggcgctggtg	1260
ctgctgacgc cggaggaaaag caccgaggcg tttgaggaca aaaaaacgga ggaaaaaccg	1320
taa	1323

<210> 2088
 <211> 693
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2088	
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gcttttggcc tgcgtggtat aatatccgaa gaatttaagg ctttcacttt tgaaggagga	120
tgctctatga attgtcttgt tttgctttcg ggctgcggcg taaaggacgg atcctgccct	180
gaggaggtgg cactgaccta caccactctg gaaaaatatg gatgcgccta tcagcctgtg	240

gcggatgata tcccgggtgct caccgtggat catctgacgg gccagcctga tcaggaacgc	300
cagatcctga aagaatctgc tcgcctgggt cgcgggatgc tgcggaaaat tcgggatgtt	360
tgctgggagg attacgacgc actggtgata cccggcggac tgggactgtt gaccaattac	420
cagcactccc aggctgtggc tgactgtgtc cggatattttg ctgccgccag caagcctatt	480
gcagccatgt gcgctggat tgacttcctt cggggcctgt tgggcggcga tctgctgctg	540
gaagagggtgc cgccgctgaa ggcgacggaa tactgctgcg accggcagaa gaagattttc	600
tacaccctg cttcaaaaa gaccgactcc tgctatgaga tcatgcaggg catcgaatgcc	660
atgatcgcg actttgcaaa gacttccgcc tga	693

<210> 2089
 <211> 561
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2089	
atggcggaga acaagaacag gatgaataac gagccggtgt tcggcagcct ggcttatgac	60
ctgaataccc tgaactggga gcagcttgac ggcaacgccg tccgccagcc ccaggagccc	120
ctgcgccgcc cggagcggga tatccgcccc cagcgggagt ctgccgccg tccggcggcc	180
cgccccggg agcacgcctc cccattctg gtgggcggcg tggccgttct ggccctgatg	240
gtagtgggtgc tgatgatggg ctatgtgaag ctgaccagc ccagccacga cttaccgcc	300
aagcagtccc agctccagca ggtccaggag gagcgcgtgg ccctgggcgt ggcatatgaa	360
aaggccttcg accaggccgc cgtaaaggcc gccgccagc cggccggcat gaccaagcct	420
accagcgacc agatcgagta tatcgagctg ggcggtgcgg atatggccga gatctgtcgt	480
ccgaaagca ccggaccctt ggcccaggca tggacctggc tcaaggacgg catcggcgcg	540
gtggtggaat atttccgcta a	561

<210> 2090
 <211> 693
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2090
atggagattc tgcgcatcga gcatctcagc aaggtatacg gccaggggga gaatcaggtc 60
cgggcggtgg acgacgtgtc cttttccgtg gaaaaggggg agtttctggc catcatcggg 120
ccgtccgggt ccggcaagtc cacgctgctg cacatttttg gcggcgtgga ccggcccacc 180
tccggcaagg tgtatgtgga cggccaggac gtatacgccc aggacgagga ccatctggcc 240
attttccgcc ggcggcaggt gggcctgac tatcagtttt ataacctcat cccggtgctg 300
aacgtggtgg agaatatgac gctgccggtg ctgatggacg gccgtgcggt gaacaggcag 360
cggcttgacg agctgctgga tgtgctgggc ctgcggggcc gggaaaagca cctgccaac 420
cagctgtccg gcggacagca gcagcgggtg tccatcggcc gtgcactgat gaacgccccg 480
gcggtggtgc tggcagacga acccacaggg aacctggaca gcaaaaacag ccaggagatc 540
gtggagctgc tgaagctctc caaccggaag tacggtcaga cgctggtgat catcaccac 600
gacgaaaaca tcgccctgca ggcccaccgg atcattgcca tcgaggacgg gcgcatcacc 660
cgggatcaac ggatccggga ggtgcaaaaa tga 693

<210> 2091
<211> 324
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2091
tttgttaaaa cgagggaatg gacaaaaagc aacataaagc ctgtaccggg aaggctctac 60
aaagagttat ccacagtttc cacagggttt tccacaacgg ctaaattgcta tgtgccgcaa 120
ccgttttccg ggattttacc aggatttttc caggacgaaa aacgaagttt ttcactccgc 180
gaaagctggg gaaccggttt acataaccgc ataatttccg ttctcctggt acaagctgtc 240
attcttgctg gcataatagg cgctgatgca ggcggtcagc caaaatattt atcccggaag 300
gggacctggt ctacctggaa gctg 324

<210> 2092
<211> 225
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2092
gctgcgggac ttacggacc tgctggacgc tatgaggggg tgatcgacat gccattttgg 60
ggagccgctg tgctgttcat cctggcggca gccgggtttt tcgtaggacg ggccctgcctg 120
cgccgtgggc cgcgcatcgt ctgcatgatc gtatgcggca ttgcagctgc tgccagcgct 180
gcatacatgc tgctgactct gatcctggta ggcggcatac agtaa 225

<210> 2093
<211> 843
<212> DNA
<213> Oscillibacter sp. CAG:241

<400> 2093
atgaacgttg aattgattgt agattccacg gtggatgtgc cggagcgcgt ccgcagcaga 60
ctgacggtag tgccgctgac cattcatttc ggacaggagg agtttctgga cggcgtgacc 120
atggacagac accggtttta cgagcggctg gtagagagcg acgtgctgcc caccaccagt 180
caggccagcc cggcagcctt tgaccgggag cttcgccggg tgcgggacag cggcagcgcc 240
gccgtggtgc tgaccatata ctccaagctg tccggcacct atcagagcgc ctgcatcgcg 300
gcggcggact acgacaacgt ctatgtggtg gacagcggca ctgccccat tggaacgggg 360
atactggcgg agtatgccct gacctgcatc gaccggggca tggatgctgc cgccctggtc 420
cgggagctga cggagaagcg ggaggacgta tgcgtcctgg cgctggtaga taccctggaa 480
tatctcaagc ggggcggccg catctccaag accactgcgc tggccggggg gctgctgaac 540
atcaagccgg tgcttaccat cgaaaagggg gagatcctcc tgatcggcaa ggcccggggc 600
tcccgccagg gaaacaatct gctggtggag aagatccgtg cctgcggcgg catcgacttt 660
caactgcccc ttctgttggg ttatacgggt ctgacggatg tatttctgaa aaaatatgtg 720
gaggacagcc gtgccctgtg ggaaaacggc gtcgatgggc tggaatccac gctgattggc 780
ggtgtcattg gcacccatgc cgggtcccgt gccatagcgg tggccttttt ccgcagggga 840
tag 843

<210> 2094
<211> 240
<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2094

atgggaaacg cacctgatct ggactggggc aagctattca aggctgtatg gagatatgtt	60
ctgctgcttg tgggcgcatg gctggccctg cgctattgca gctatcacga cagtgtcatg	120
ggcatgttct tcgtggcctg cgtggtggtg atcatctgca ccgcatgat catccgccgg	180
ctgaaccggc tgcaaaagac catggaggaa aaaagtaacc gcactccgtt tattttttaa	240

<210> 2095

<211> 1074

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2095

atgaaaacct atgaaagccc gctgcaggag gcggcggagc gcttccccca gacgctgctt	60
tggaacgact cctgcggcgt ggccgatctg aatctggccc tgcgtcacgg cgccaccggc	120
gccacctcca acccgtcat cgtgggcaac gttctgcgca aggagatggc cgattggaag	180
gatcggctca atgccctgat ccatgtggaa atgcccgcgc ccacggatga ggaaatctgc	240
tgggctttgt ccaaggaggc cgccctgaag ggctccaaca tgctgctgcc catgttccgg	300
gagagcagcg gcgtcaaggg ctggcaggcc atgcaggtaa acccccgctt ctaccgcagc	360
acggaaaaga ccgtggccca cgccgccgag ctgtccgcgc tgaatgagaa cattctcatc	420
aagatgccccg tgtccaccgc cgacattccc gctctggagg agtgcgcccta tcggggcatc	480
tccgtcaacg gtaccgtctg cttcggcatc ccccaggccg tggccgtggc cgaggccgtg	540
gagcgcggcc tgaagcgccg ggaggccgag ggcaagccca ttgacaacgt gcattgcagc	600
tgcaccatca tgaccggccg cctggacgac tatatgaagg ccctgggtggc tgagcgggag	660
gtgccccatca cccaggaata tctggattgc tgcggcgagg ccctgttcaa gaaggcttac	720
aagctgtaca agcagcgggg ctatcgcttg aagctgctgg tggccaacaa caacagccac	780
ttcctgtgga gccgtttcct gggcggcgat attctgatga ccatcaaccc cctgtgggtg	840
cggcggatga acggcgccag gctgcccac caccgaaacca tcaacgaaga ggtccccag	900
tacatcgtgg acgagctgct ggacaagctg ccggagtatc gggccgttta ctttgaggac	960

ggcctgcagg tctccgagtt caaccagtac ggcgcttca agcgacccat gaatgagttc	1020
ttcaccggct acgcctcctt cctggagtat ctgcgcggct ttatgctgcc ctga	1074

<210> 2096
 <211> 585
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2096	
atgaccacgg agaccttttt tcagctgcac tatcacctga cggatacggg ggggctcttt	60
gacctggctc aggggatcgc ggtccagcgg cgcagactga aaaagcatga cgcccgatgc	120
cgcagcttcc ggtggttttc ccggcggctt ctgtggcagg gggccgtcct gctggcgctg	180
ggagccgttt tgctgtggct tacggccagc ctggcgctgg gccgggcgtc cggcgcgctt	240
acggggctgt gcttcggctg cggggtgctg gagctgggtg tgtgcgcgct tatgcagcgg	300
aattaccggc ggggctggcg gcagtttcag caacagaacg atcccgatgg gtgcattctg	360
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gaggattggg acgtggccgt ggtgactccc agggtcacgc tgctgacctt ccgtgttccc	480
gtgctgctgt tcttccccta tacggaggaa gcggcgatca cagtggctca tgcagcccgg	540
gccttcggca aggaggatgc ggtggtttac cggcaaaaga tctga	585

<210> 2097
 <211> 435
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2097	
atggaaacgt cttacaccgc gtcctctgct tccccgccg tgcagctgcc caccaaccgc	60
agtctgctga aattcgtcct gctgtccatc atcaccctgg gcatttacgg cctggtggtc	120
atgaccaaga tcagcaccga gatcaacacc attgccggcc cctatgataa caaaaaaacc	180
atgaactact gcctggtggt cctgatcttc tcctggctga ctatgggcat cgtgcccctg	240
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tatcagttcg acgccgaac cttctggctg tggaacgtgt tgggttcgct gattgttgta	360

ggccccctttg tctacacgca caagctgctc accgctatga acatgctctg caccgactat	420
aacgccaagg gctga	435

<210> 2098
 <211> 1002
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2098	
atgagactgc tgcggaatcg ggagggttcgc cgggagctgc tgctcctgac ggggatcacg	60
gcggctcttt gcgccgtggg ctgggctatg gcgggccctt gctgcgccgg gctgctgctg	120
gtgtccgggg cggcgtctgc ggcggtgtat ctggtatccg cccggcggcg gtaccgggcg	180
ctggcggaca tgagtcagga catcgaccgt gtactccatg ggttggacag ccagaccatc	240
gccgcctgcg acgagggaga gcttgccatc ctgtccagcg agatccggaa aatgactgtc	300
cggctgcggc aggcggcgga cagccagcat cgggaacgca tgcagctggc ggatgccatg	360
gcggacatct cccaccagct gcggacgcct ttgacagcca tcaacctgac gctgtccatg	420
ctgggacggg aggggctgcc ggaacaggag cgccgggcac ttctgcagga gctgcggcgg	480
ctggtgacct gcatggagtg gctggtggag acacttttga aaatgtcccg cattgacgcg	540
ggagcagtat cgttccggga ggagtcctgc cgggcggcgg acatcatccg gcgggcggcc	600
cagcctctgg cggttcctat ggagctgcgg ggcatctacc tggaaacggc ggcaggagag	660
gagtgcctca ccggcgacgc cgcttgagc gccgaggccc tgggaaacgt gctgaaaaac	720
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gagcgattct accgggggaa ggatgcagct ccggccagcg tgggcattgg cctggccctg	900
gcccggatgg tgctttcggc ccagaacggc accatccgcg ccgataatgc ctgtcccggc	960
ggcgcgttat tcaccttgcg ctggtacagg agcacggtat ga	1002

<210> 2099
 <211> 915
 <212> DNA
 <213> Oscillibacter sp. CAG:241

<400> 2099

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atactaaata aaaagactga cagaaagcga gtgggaaaaag tggcgaaaat cgtagcgatc	180
gtgaacccaaa aaggcggcgt tggaaagact accacctgcg tcaacctggc tgcggcacta	240
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gacaccgcca aagccatcgt cgccacgcct tacggcgacg tgctgcccag cagcaaggcc	420
ctggcaggcg gcggcgtgga aatgatcgag ctggcagacc ggcaatttct gctgcgcaac	480
gccctgaacg gtgtacggga aaactacgac tacatthttca tcgattgtcc cccttccctg	540
gagcttctga ccctcaacgc tctgtgcgct gcagattccc tgctgggtacc cttgcaggga	600
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aacctggcta tccagggtggc gcaagagggtg aagcgattct tccccggcaa ggtatatgcc	780
acggtgatcc ccagaaatat tcgcctgtcc gaggcaccca gtcacggaaa gcccattacc	840
gcctatgatc ggacctgccg cggtgcggag gcatatctgt cactggccaa cgaatttctc	900
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<210> 2100

<211> 687

<212> DNA

<213> Oscillibacter sp. CAG:241

<400> 2100

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acgccggagc agcaggagct ggcccagggc atggtacggg tgaatcacct gtatcgagc	120
gctctgaagg tcgccgtcac ccagctggag atcctggacg aggaatttgc cagcctgtac	180
gaccactctc ccatccacca tatcgagtac cgcatcaaaa ccgtggacag tatcgtggaa	240
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gtagccggcg tccgggttat ctgcaactat ctggacgata tctactatct ccgcagtctg	360
ctggcccgca atgagaatth caagatcatc cgggaggtgg actacatcca gcagcccaag	420
gagtcgggct accggagcct gcacctgatc tgcgatgtgc ccatcgtgat ctctgaggga	480
atgctgcacc tgccggtgga gatccagctg cgtaccattg ccatggacat gtgggcccagc	540
ctggagcatg agctgcgcta taagtgcgag cgggactttt cccctgacga cgcggcgcgc	600
ctgcgcctgt gtcgacgc catcagcgag atcgaccggg aaatgcagga tatctaccag	660
ggcagaggcc cggaatacca cgcatag	687

<210> 2101
 <211> 3561
 <212> DNA
 <213> unclassified Butyricimonas

<400> 2101	
atgaaaaaaaa atcgaatcgg cacaagatcc gatggttggg tttttgtccg aaaatgcgtg	60
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gtgtattctc aacaggcgaa agtgtctgtg gagtttcgga acgtgtcgtt ggaaaaagtg	180
tttcaagagt tggaacgaca atctaattgt agtttccttt acaatcaccg ggtggtggaa	240
gctcgaggta gggtagtat tcaagttgtt gataaagagt taagtcaggt tcttgacgag	300
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cgtacttcga tgtgggggaa agattctgtt caaaagggat cgcggatcgt ggggagagtc	420
gttgacgaga aaaaacaggc catgcccggc gtgacggtga aattgacggg aacgacttta	480
ggaacggcga cggattccaa gggaatthtt agtatgacgt tacctttggc aaaggagcgc	540
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gcatacggaa cgacaacccg tcgggaggca accggggcca tctcgtgat taaagcggat	720
gaattgaggg gaattccgtc ggggagtatt gccagcctgt tgcagggacg ggttgcggga	780
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ggatataatt ctttggacgt ggaacagaag agtcgccagt tttcgaatcc cttgtgggtg	900
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atttatgggt ctcgtgcggc aaacggcgtg attatcgtga caacgaaaaa aggacgggcg	1080
aatcaaaagg ctactttttc agtcaatgtt tcccaaactg ggagcgtgtt acccaagtta	1140
ccgacgctga tggttggacg ggctgaacga tgggtggcgga taaaggcatt acggaatatg	1200
cctaaagctt atctggattg ggaaaacagg caatataaat acccgagttc tatatccgag	1260
atggaaaaga atcgattgtc ttttttggat tggttttatc ccaaaagtga ttccaaccg	1320
gcagacggga ttattcttca ggatagtttg aatgcgtttt ataatcatgc gacaaatttc	1380
tttccaatgt actttgaaac ggggaaaagt acgaatgcga atatacaggc atacggggga	1440
tcggacagga taaactatgg tatcggtttg ggatattata acgaggcagg tgtgttgaaa	1500
ggaactggat ttaatcgtgt cgatttgacg accaacctga acgtcattcc gacgaatcgt	1560
ttaaactgtg atttgcgttt ctatctttca ttgacgaatc gtaaaagaag ttccgagaat	1620
caaatggaag gttttcaaac cagtacgaac gtggatgtta ttcccggatga tccttttgaa	1680
ttgacaacct tacttcccgg taaagggagc gtgggtgtggg atgagggtgtt gaaatctctt	1740
cagggtataa aagaaaagaa tcgatccgtg aggggaaggg ctaatatataa gatcggttat	1800
gacgtgttgg aggggttgaa tgtatcaact tctcttgccg cggattactc gattcataga	1860
cgtcactatt tctcgccgtc ttatttggat acggacgggt attctataag cataggggag	1920
accggaatta acgtgatggc tttgagcgaa accatgttaa cctacacgaa gacgcttaag	1980
gaagaccaca cgtttaatgt gcttgcgggg ttttcctacc aatatgatca agaggaatat	2040
aatgggggca gtggccggaa ttctcccagt gataagatcc agtatgtacc caatggtttc	2100
ccgacgttag cggaaaaaga aatttacgat tataaggagg tgattccctt gcaggcatac	2160
gaatcagaca tgaaagaaaa atccttacta tcgtggtttg cccgtttgga gtacgattat	2220
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<211> 1659

<212> DNA

<213> unclassified Butyricimonas

<400> 2112

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<211> 2820

<212> DNA

<213> unclassified *Butyricimonas*

<400> 2115

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<212> DNA

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<212> DNA

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<400> 2117

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3495

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<211> 1509

<212> DNA

<213> unclassified *Butyricimonas*

<400> 2123

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<211> 3039

<212> DNA

<213> unclassified Butyricimonas

<400> 2124

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<210> 2125

<211> 1842

<212> DNA

<213> unclassified Butyricimonas

<400> 2125

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aattcgcaag gggattacac gatacaggcg aatgtaggag atactttacg attcagtttt	240
atcgggttag aaattttata tatcccggtg aaagagaaga cattaaacgt ttacctgaat	300
acggatgacg aaacggcaat ggtaagcgag tgcattgtta ccggatacga aaccatacac	360
cacgaaagtg ccgtgcttaa actccgttcc ggaatgcccc taacattaac ttccgagcaa	420
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gcttatgatt accccgcccc acgaggaaat gacccggtaa gtatcaccac cgaggtttcc	660

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<211> 1059

<212> DNA

<213> unclassified Butyricimonas

<400> 2126

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gaattcgaga aaatattaaa agaaacctgc gaaggtttcg gcagcctacg tgacatccgc	240
tacttgcgag attggagttc tatccaattc ggcttggata ccgccatagc ggatttaa	300
aatggaggta aacgcatcat ttaccccacc cttttcaccg aaggacaaac agatgtcgaa	360
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<211> 903

<212> DNA

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<400> 2127

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 <211> 1365
 <212> DNA
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<210> 2129
 <211> 1257
 <212> DNA
 <213> unclassified Butyricimonas

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<210> 2130

<211> 3693

<212> DNA

<213> unclassified Butyricimonas

<400> 2130

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<212> DNA

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<213> Subdoligranulum sp. CAG:314

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<212> DNA

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 <211> 396
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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 <212> DNA
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<211> 927
<212> DNA
<213> Subdoligranulum sp. CAG:314

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acccgcgttt tgttggtctt caaacggaa aaaccggaaa aaataagggc ggcgatgaag	600
gagattttgg aaaaaaagaa gcttacccaa ccattggaat atccgagcgc gggcagcata	660
ttccgcgccg agggcggcgc gcccgcgga cttttaatcg acaggcggg tttaaagggg	720
ctgcgcgcgg gaggagcggg aatttctctc aagcatgcaa acttcattgt gaacaagggc	780
ggagcaaccg caaaagacat actcgagctt atggacgcgg cgggcagcgc ggtcaagcgc	840
aagttcggcg ttgtgctgag gcctgaaata aaatatcttg gagacaccga tgatatcggg	900
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<210> 2162
 <211> 606
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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tgtttttaca taaatttcga ctacggagct ttgcttgctg tagcgggtgtt tcttattgct	120
gcattttaccg attttctcga cggttacatt gcaagaaaaa caaatcagat taccgaactt	180
ggaaaattgc ttgaccccgt tgccgacaag cttttggtgg cgggtggcgt ttttatggca	240
acaggcgctc gcgtgcttga aaatgagttt attccttatt atattacgga catctgcgcg	300
tcaattatta tcggaaggga gctttttata agcgttttca ggcaaattgc agcagctaag	360
ggctttgtaa tgcaggcgaa tgtttacggg aaaatcaaaa cagttgtgca agatattgca	420
ttgccgctga tgttgtttct taaaatgaag gatgtgatta tcggatgggtc gcagactttt	480

tacgacgttg tattctacaa tgcattggga ttgttgattt tggcgacaat attaactatt	540
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tgtaa	606

<210> 2163
 <211> 369
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2163	
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gccgccggcg ccaagccggt tatgagcgcg tttctcgaag aggtttccaa acgcaattta	180
aagcacgtcg ttgtgagcca aacgggctgc ataggcatgt gcaagctgga accgattgta	240
gaagtgttcg taccgggaca ggaaaagggtg acttacgtca aggtcacgcc cgaaaagggtg	300
tcgagaatag tcgccgagca tattgtcaac aatcagcctg taaaagaatt tacagtagat	360
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 <211> 747
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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gcaatcagcg atttacattt gtccactacg gtaaacaac ctatggatat cttcggacct	120
aattggagca atcatttcct tgcaatcaag gaggattggg aaaaaaagggt atccgacgaa	180
gacgtagtgc ttatgccggg tgatttcagc tgggcaatca aatcggagga cgccgaaagc	240
gatttcgcat tgttcaagga gcttaaaggc aaaaagggtta ttctcagagg aaaccacgat	300
ttttggtgga acacgataag tcaggtaaga gcaattttac cggaaggctt tttcgccata	360
cagaacgacg cgtaaagtt cggcaacctg attgtttgcg gttcgcgcgg gtgggttttg	420
cccgagccta acagaccgct taatgaacgc gacaacaaaa tttatttgcg tgaaatcgag	480

agaatcaagc tgtcgcttgc cgctatggag aaactgcggc aggaggggtga ccgtgtgata	540
tgtattatgc attatccgcc cttcaacggc aggcgcgagg aaagcgaatt tgtcaggcag	600
ttgatactgc acgacgtgga cacggtcgta tacggacatc tgcacggcaa ggaagtcaga	660
agcgacttgt ttgtcagaaa attcaacatg aatttctggt tgacttccgc cgatttggtg	720
gatttcaaat tgaccgaaat aatttga	747

<210> 2165
 <211> 312
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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gtgaaggaag ccaaagctcc tctttacaag gtcaagcacg ccaaaggcga caagccttac	120
caactcagcg acaaaaaaat caaggtcacg cttgtaaaaa gcactatcgg ctgtttgaag	180
gtgcagcaga ggacggttga agcggtggga ctcaaaaaga ttcgctcttt taaaattctc	240
aacgacaacg acgccgttcg cggcatgatt ttccgcgtga agcatcttgt gaccgtcgag	300
gagcttaaat ag	312

<210> 2166
 <211> 855
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2166	
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gtaaaggttg tggacgcaat aggttacgtc cttgactgcc gtgctccttt ttcttgtttc	120
aatcccgtt tcggtcagta cactgaaaaa aagccgtgcg tatttctgtt aaacaagtcc	180
gaccttgccg acgaaaagac caccgacagg tggcttgcac attttgcttc aaaggagac	240
aaggcgattg ccttgaacgc aaacgaaaag ggggtgcgcaa aacagggtgt aaaggcattc	300
gattcgctgg aaatgaaaaa tgttttgcgt ttaagacaaa aaggagtagt cagacccgtc	360
aggataatga ttatcggcgt gcccaattca ggtaaataca gcatcataaa tcttttgagc	420

ggcaggaaaa gcgccgttac gggaaacaag ccgggcgtga cgccgggaaa gcaatggatt	480
cgtctcggcg acggcttgga gctgcttgat acgccgggca cgttgtggtc aagattcgag	540
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tgtatcaagc gcggctgtct aaacaaggga gagcctgaca gggaaagatg cgccgccgcg	780
attatcgacg atttcagaaa aggaagaatg gggcgcgtgt ctctggaagc gccgcaagcg	840
gaagatgaag cttaa	855

<210> 2167
 <211> 1254
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2167	
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gaaggatttg cgagtatcat gtcggaaatc gaaaatccca cgtttgtcgg ctggctggtc	120
aaagggttgc tcgacgcggt ggggaattac ggctgggccg tggtgctttt taccgtaata	180
ctcaaaatca ttactttgcc gctggatttc tggcagcgtt tttccatgaa gaaaaacgca	240
aaaatgatgt ccgagcttgc gccgattatg gcaaagctgg acaaggctta cgccaacgac	300
aaaaacaagc tcaatcagga aaagcagaag ctttacaaaa agcacggcta caatatgctt	360
tcgggctgtc tgcccatgat tgtgacaatg acaatctttt ttgtcatgtt cggcggcttc	420
aatcaatgtt ccgcttacgt caacctcaag gtttacagcg agcttagcgt gcactacacc	480
gatacgcttt ctgccgagct gtcaaagcac acggaggaat acgaaagcaa gcgctatgac	540
attttgcttt cgggaaaatc gacggcaatc gaggattaca agacgtggct gggcggtcag	600
ggcgttgccg aaagcgcttt cgacgcggaa ataagcgcgg cgacaagccg tatttcccaa	660
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aaggagggtt ttttgtggat taccaacata agccgtcccg acacttgggt tgagtccttt	780

ccggaaacgg cggaaaagtt taccggcacg ctcacaaaga aatacagggc gtacaaggac	840
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cagcagctcg accccaacgc ggcgggcggt cagagcagca acaaggatgat gatgttcgtc	1080
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cggattgcaa aaatagagtc caaggtggaa aaacccgatt acaggagaaa ataa	1254

<210> 2168
 <211> 711
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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ttgacgcggg cgggcgtaaa ggtcgaatat tcggcgggct tcaatccgca tatgcttctg	180
tatTTTTcgc ccgcgctttc gctgggcata gaaagcgagt gcgaatacgt ttgcgccgcc	240
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tgccctcaaag ttttttcttt gccctgtgaa cccaacctta ccgcgaggtc ttacgccgcg	360
cattatgtgt tcaaagcgcg cggacttgga aagcaggaac tttcttccat tgcgggaaac	420
cccgatttta ccgtcttggt caaggacaag aacggagaaa aagtcaaadc cgccggcgaa	480
aaaatctata tgctcaaagc tgtcggcgat gatgccgcgg aagccgtcct tgcctgcggc	540
aacgacaatc tgcgcgcaga cagagtgttg aagcagctgt gcgcggatth ttctctcgat	600
tgggacgccg caacgataac caaaatcaga ctgctgcttg acggagcgga ggacgcggac	660
gaatttctth tgaagctgca aaaaaacgcg gccgcagctt gcaaaaattg a	711

<210> 2169
 <211> 675

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2169

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gcaaagcttt gtttctcttt cgaggtcgaa gtcgtcgtcg aggagtatgt ctttgggcat	120
aagccccaac tcggctttgc atatatcgca catttcctgc ctgctgtcga tataattcaa	180
atcgcagcgg gggcatttaa tgtaagtaat tttgctcata aacctaaaaa acctctgttc	240
tcggattttgc ctgcatatta tatattcaat tatccgaatt gtaaactgtt taaggcgaat	300
ttttttcaaa aaaaatatac ggagtatcgg aggcaaccga cggcggcgca aaagagtgt	360
aaaacgtcgt ttttgggcac aattctgaaa caaaactctt ttttcgcata tactacatat	420
agagggtgaaa aattgcgaaa agtaacgacg gacatcaaca ttgcgaaaaa aagagtggat	480
atgttaaagg gcaaggattt gcttgtgaga tacaacaagg ggcgcaacaa aatcagttat	540
ttcaagggca gaataacgga ggcgcacaga aacgtttttg taatcatggg tttcgacgag	600
atattcgaca ggctgagctg ttcctactcc gaccttttgt gcggggacgt ggcgtttaag	660
gaaatcaaaa gttaa	675

<210> 2170

<211> 1116

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2170

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cgtacccttg cgtgtctgtt ctgcacgcta gcggttgtgt gcgcttttaa aaatataaga	180
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atcacctttt tgccgttggg ctttctcgtg ctggaatcct gcgcgcagag aaaatatctt	360
gcttttgttt ttgtcatgca aaacgtcgcc gcaaacctcg gcggaatgct cactcccttc	420
ggcaatcctc agaatctgta cctgtattcc ttctattcct attcggcggg agagtttttt	480

cgcggttatgg ctgtgccctt tgccgttgcc tttataactca ttttggcgtc ctgtctgttt	540
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actgttgcgt attccgtact gtttgcagtg tcggtgctca tagtttttcg tgtttttccc	660
tattgggtggg ggctggcagc cgtcgttgcg gcgttggtgc tccttgaccc ggcaagtctg	720
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cccgtcgcgt ctcttgcaag tctgattacg cttggagaat accgctccgc aaacggcggc	1020
ggcgctcggc gttatctcgg tttgttttcc gcaatcaatt tttcgtttct tgcaatcctg	1080
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<210> 2171
 <211> 882
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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acacttgctg ggacgcttat ggcgctggga atctatgtct tcgtgctgcc ctgttccgtt	120
gtggcggggg gaataggcgg actgagcaac atcctgtatt atacctttaa catacccgctg	180
agcataggca gcatagcgct gaacgcgccg ctgctgattg ccgcgctgtt caaactcaaa	240
aagtcctatt cagtcaggac ggttttcgcc tgcgtggttt attcgtcggg gacgctgctc	300
tttgaaaaaa taaatttctt tcagtttttcg gacagcagga ttatcggcgt ggtaatgggg	360
ggagcgcttt cggctgcggc cataacgggt gcttactttg ccggcggcag caacggaggc	420
agcgaaatcg taaccggact ggtcagcgtc aaaaatcccc acgtggaaat gggcaagggt	480
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cagggtgcttt actcgtgct gatgtcatat gtgacctcct tctgcgtcaa aatttttatg	600

aacgggatag accccgtgct gaaatacacg gtgataacca aaaaatcgca ggagcttgac	660
gcggaacttt tcaaggtttt caagagaggc gccacgaata tagaggtagt gaccgaatac	720
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<210> 2172
 <211> 378
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2172	
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agttttgttt tcgccacaat acttgtgctt gtcttttcac tgattgtcaa gcttacgaat	120
atgtcggcaa ccgccgtgcc gatagtaaata caggtaataa aaattttaag cgtatttcta	180
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gcgggattcg gaattgacct ggcaatcgac gcggtttagt gggcgattgc aggcattatt	360
tcggttttga gaaaataa	378

<210> 2173
 <211> 459
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2173	
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ccaaagcatt gtattggagg tcaagatgat ttcaaccttg ttggcggctt ctgccggact	120
tattttgggc atcagaataa cattgatggc gttgatgcta atctgcgccg tctgtataat	180
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cgaaacgcag gacagctttt acggcaaaaa caagtccaag agaaaggaaa gcagactcaa	300
gctgtggacc atgatttgcg gcatagtgat agccgttttg agtatagctt ggtttgttgt	360

ggaattgctg gtttgacaac gtacctgacg gcagagcttg gtttctgccg tttttttatt	420
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<210> 2174
 <211> 888
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2174	
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gccaccatat acgttgtgaa caagccctct cagaaggaca acgaaatact tataaacgag	600
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<210> 2175
 <211> 573
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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<210> 2176
 <211> 1323
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2176	
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caatattccg ccgacgaaac ggcggaagcg caggctgaaa tcgaagccct taaagaaaaa	180
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aatcagggcg actatcacgg caaacgcgaa aatatgccct tgaacgtcgc gcttaaagcc	360
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ggcgaacctc tcatgaattt cgacgttttg cgtcagacgg ttagttacgc caaagaacag	480
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tgctcggcaa atgcggtgca cttcaacggc gacataaaca agccattttc tcaggcgtgc	1260
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taa	1323

<210> 2177
 <211> 669
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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aactgcggcg aagaaaagac agaggctgcg cccgaaacgg aagcggagtc tgacaagact	120
ttaacgcaaa acgccgaaga aatggacgct atggacgagc cgcttcttag ggaatacgca	180
aaagctttga ttgacgggtt gaccaaggaa aacgagattc tgataaagga gcaggcggag	240
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gattttgaaa attatcgag gcgcaccaac gctcaggcgg aaaacagcga aaaggagggc	360
aggctgttcg taataaaaaa gcttttgccc gtgctcgaca ctttcgacag ggcgagggaa	420
atgcttgacg aggtcaccat gacgacgttc aacctgatag tcaggcagtt cgacaagggtg	480
cttgccgact gcggcgtgga ggtaatcgac gtgctggggc agccctttga ccccgccaca	540
gcaaacgcgg tgcacagtct ggaaacggac aaggaagagg aaaaaaacgt cgtgctggaa	600
gtttatgcaa acggctatcg ctacggcgac aaggttttga gatacgcgca ggtttgcgtc	660

ggagtctga

669

<210> 2178

<211> 852

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2178

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gacgcaaadc ccgtcgccac gctgacgctg cgctacaccg atataaacga ggaatcgagt	180
ggcgagggtt atacggtcgt tatcgaatac gagcttctta tcgacaaagc gcccattacc	240
gtcataaatt tcatgaatct cattcagcag ggattttacg acaacacggg ggtggattat	300
ataggcgaaa gataccttat cgccggcaga tattcggagg aggacgacaa gtttataacc	360
aaagaatccg gttacacgat taagggcgag tttcttgcca acggcttcaa ggttgacgaa	420
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gcgcgagact ccacgaaaaa ttatttcgac accgcaagca gcgcgttttt catggctttt	540
accaacgagt tttcaacggc gacggcggtta cccatgtcca aggacaatta cgctgttttc	600
gcatacgtca agagcagccg catgatgggt tccgaaaacg gaggtttcta tcccgcaggc	660
gggacaggca gctccaattc gacgggtttg gtttccaaat tcgttgacga tatgagaaat	720
tacgaaacgg atacgcagga aacggacggc tccgacttgc agaacgctcc ggaggaaacg	780
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aaaaaggctt ga	852

<210> 2179

<211> 627

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2179

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ggcttcgagg ctgccgatgg cgaccttgta ggccggcgcg attttgacgg agacgccgat	180
ttcgacggag gcagcgacat agctcagagc gacttgggcg ctttcggcat gaagctgctc	240
ggcataagaa gcataatggc gtttctgtgt attttttcgt gggtagggcta cacctgcgtt	300
tatctcatgg attggtgggtg ggctttgctc atcgggggtgg gcgccggcgt cgcggcgtcg	360
ctgcttgttg cgttgctcat gactctcgtc gaaaggactc agaccgacgg cacgacaaac	420
atacgccgtg caatcggttg cagcgcgga gtttatctgc gcatacccg ctagcgagc	480
ggtacgggaa aaatcaatgt tatcgtgcag gaaaaaatgg ttgaggtaa cgcgtaacc	540
gacgaaaacg aggatattcc caccggcgcg gcggtcgtcg tggacagcgt tgtgtcggac	600
ggtctcgttg tagtcaaaaa acaataa	627

<210> 2180
 <211> 597
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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tgggaaatga gcgaaaacaa ggaagccaag tggtatatc tgcacaccta tgcgggat	120
gaaaatatag tcaaggcaaa tctggaacag atgattgaaa acaacaatct tcaagaacag	180
attctcgaca taaaaatccc taccgagcag accatagagg aaaagaacgg caaaaagaaa	240
gcgggtggaaa acaagacgat gccttggttac gttttcgtaa agctgggtta ctcctcccag	300
ctgtggtata tgctgacata tacctgccgc ggcgtcaccg gctttgtcgg tccgcagggc	360
aaggcatggc ctctcgacga ggacgaggtc agacggctgc gtctcgaaga ggtcgttgctc	420
gatttcgata tggaaatcgg agacagcgta aaggtgggtca acggacctt cgagggactt	480
atcggagtga taaaatcaat cgaccgcgcg caccaaaagg tgggacttgt gctcaatatg	540
ttcggacggg aaaccgccgt cgaaatggat tttgtgcagg tcgaggcatt gaaatag	597

<210> 2181
 <211> 594
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2181
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aacaacgggtc ttggtttcga gcttgccgtt tcgtccaaca cgcttgacag tcttaaaacg 120
ggcgcggacg ttaagctggt tacttatctt caattgagag aggacgggct tacgctattc 180
ggttttgcaa ccgtcgaaga aaaagagatg tttctcaaac tcatttccgt ttcggggatt 240
gggtcccaagg tagccctgtc cgtgttgtct gggcttaaaa tgtccgacct gtcttccgca 300
atcgtcacgg gagatatagc cgtgcttaca agcgtaaaag gtctcggcaa aaagactgcc 360
gagagaattg ttctcgagct taaagacaaa gtagacgtgt ctcgcaagc attcgtaaac 420
gtatcgcccc ccgcaaaagg cagtctgctt tcttccgaag ccaacgaagc cgtttcagtg 480
cttgtttcgc tcggactgag cagacaggat gcggcggcaa gaattaaaaa cgcgtcggaa 540
aacggcgcgg aaacaacgga ggaattgctt tcctacgcgc ttaaaaacag ctga 594

<210> 2182
<211> 960
<212> DNA
<213> Subdoligranulum sp. CAG:314

<400> 2182
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aacgcggatt ttgttttgcg ggagcctgcg ctggttttgg cggacgcccc caacgaaagc 120
gattttcttt ccgcgggact tgccgcaaaa aaggcagccg actcggaaaaa ctcgaagctt 180
gtctatcctt tcgccgaggg ctgcgtcgcg gacaaaaaag ccgccgattt ttttctgcgg 240
aaggcaatgg aaaagcttct gccgtccacg gcgtttcccc ccagagtgga cgtttgctgt 300
cttgtgcctg tcggctcggg caacggcgaa aaaaagggtt tggaagaaat tttcaacaat 360
ataggcgtca aatcggtcag attcaaagag tccgtgcttg ccgccgccgc agcctgcttc 420
aaggagtttg acaaaaagagc gggaattgta gtggacatag gtcctcagt gaccgacctt 480
gcggcgggtga gagaggacaa aatcgttgcg ggctgttctt tttatatcgg aggagcgtat 540
tatacgcagc aaatttccga ttacgttctg aaaaaatacg ggctgcaaata aacctttgcc 600
gaggcggaaa agctcaaact caaatgcgcg ggactttatc ccaacgacgt ttctttcggc 660

acggtggcgg gactcaacat aaacaagggc gcagcgggaag aaataactgt caccgcgcgg	720
gaaattttacg acgtttttggc agctcttacc gacaagctgt gtcaggctgt gacaagcctt	780
ttgctcaccg ttcctcagga aacgagcgtt tattttcaagg aaagcccgat ttttctctgc	840
ggcggcggcg ctcagctgtc gggatatggaa aaatatTTTT tgcacaaaat gaatatgggc	900
gtgcttggtc cgtcggacag ctttctcgca gcggtaaagg gcgccaagct ctttttgtga	960

<210> 2183
 <211> 1071
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2183	
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gtcataggcg cgacggtggt aagcgtagcc acgaccttgc ccgagcttct tgtttccatt	180
atagccacgg cggaggggaaa tcttgacata gcggtaggca actccgtcgg ctcggttgtc	240
gcaaacatcg ggcttattat gggcatatca atggtttgcc tgccttcggt gatgaaacgc	300
agggacctgc tcggcaaggg aatattgctt gttgctagca taaccctgct atggatTTTT	360
tcgctgggag gcaaccttaa tttttgggaa ggaataatag tcctgcttat tttcggactg	420
tttattttttg aaaaatctccg cagcgccaaa aagcacgaat tgaagccttt gccgacatcg	480
gagggcgcgg cggagtTTTT tgcggacgct caaaacgtgt ttgccgaaac aaaggctcggc	540
tccgacggag gcgaagcgtc ctctgcgggc ggaggcgcgg cgggcgtcaa gcgcgacaag	600
cgcactataa cgataaatat tctcaaattc ctgttcggta cggctttcat agtcgccggc	660
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ataaacgcgc agacggtggt tctcgatatg cccgtatgtc tgggattcgt gctcatttcc	960

gtcgtgccgt caatgataac ggggaaattc gcgcgctggc aggggattac cttgcttgcg	1020
ctctatatcg gctatatattgt tgttctgagt acgggtgtgc tgggcttttg a	1071

<210> 2184
 <211> 1530
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2184	
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aattttacat caaacggttt cgtaacgctg gacaaatctc agctcatcat caacgcgctg	120
cttgccgcaa aggacgacgt aaaggaaatt ctcagcgtgg acgtggagcc gcaggtgact	180
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tacaaaaacg agcttatcga gccaaacagc tctcttacat ttgaagcgga cgtggttgac	360
gcaaacgccg ccgtcgaaaa cggagcgata aaggtggaaa tagtagccga cttgaacgga	420
acccttactg aaacggctca gaactcctgt ctgtcccgcg ccgaggggtat atacgtcaag	480
gaggacgtaa tcacggttgg cagggttgct gcgactgttt cggacaattt tacagtttcg	540
ggagaggcgg aggtcaaata cggcatagaa aaggtgctgc tcgcgcaaag cgacgtgtgt	600
cttgcgcatg cggaagctcg cgacaatgtt ttgactctcg aaggggattg cgcgcttggt	660
ttgacttaca tagccgtcgg cggcggactc aaaagtcagc tgataaaaaat accgttcagg	720
gaggaagtga acgccgaagg cttttcgggc gagggagaaa taaacgtctt ctgccgcgtc	780
agaaatacga gaatacatct cgacgtgctg gaagacgccg aaaacaatat atttacggcg	840
gaaatcaata ttgcggtgcg ggcgcaaaac atcgtggagg aggacgagga cgtaatctgc	900
gacgcctatt ccgccacgca cgagcttgaa ctgtcgttct gccgtgttgc aagcactgtt	960
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ggcaaaactta cgcttgaagg cgtgctcacc ggaacgctgc ttgcttccgg cgggggcgac	1140
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aatctttag	tcagggcgga	cgcggcggt	accgagtttg	aataccgtca	gggcagaaac	1260
gtcagcatga	atttcacggt	ctgcgtttcg	gcgaacctgt	atcgcaacat	agaagaaaac	1320
tgcgtagccg	acgcggtaga	gggagaggag	ctttccgaaa	ccatgggggc	aatagagggtg	1380
tgcatagcaa	aggcgggcga	aacgctttgg	cagatagcaa	agagtctgcg	catgagcaag	1440
gaggatatca	tggcagccaa	tcccagagctt	gtgactcctt	tggaaaagga	cgaaaaatta	1500
gtcgtttatc	attgtattgc	aaaggactga				1530

<210> 2185
 <211> 942
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2185	
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acgggcacgt	aaacaagctg
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gtaaacgaat	tgggcagctg
gggctttttc	aaggttat
accgcaacga	tatgctgaaa
	120
attctcggca	tgaacatact
catgctgatt	ttattcgtgc
ctgtcggtta	tcttgcttac
	180
agatatctta	tacaggtgtc
gcagttttacg	tcacgactgc
ccgttggcaa	cgcaatcggc
	240
ttcggctacg	cgccgtggct
tggcgtcggc	gctgaaatat
caagactcac	aaatcttgcc
	300
atgtcggagc	ttttgctgtg
gatgctggca	gcaggcgccg
tggtagggct	gtcggttgcc
	360
ggcggcatgg	cgataataag
ggattctttc	tggacgggcc
gtctcaaggt	tttcaaggcc
	420
ttcgggcgcg	gaatcgttga
aaacggcggt	gcgtgcgtcg
tttgctttgt	tctgcttggtg
	480
ggctgtgtaa	acggcattta
ccacgcctcc	gtcgccatga
gggcttttcc	cgcatgggca
	540
agcgttcttt	tgcaggtggt
tatgtggctt	gcgttggctt
ttctgacgct	gtatgtcatg
	600
acctttttta	gcgtcaattc
cacatacaag	caatccgtgg
gagtaaattt	gaagagtgcg
	660
tggcatatac	tgatgcgcta
tatcgtatcg	acgattttca
aatttatcat	tgctttgctt
	720
cccgtagcgt	tgcttttgct
caccttcggc	aatgtaatat
tctcgtttgt	catagctggt
	780
ttcgcaatct	tcggtttctt
ctacgtgatt	ttcgtatggc
agagccacat	gatgattatt
	840
ttttccattt	acaatccagt
ggaaaaaatc	aagattgtaa
aaagaaaaac	gcagcagccc
	900

aaggctcagg ccgaaaacaa aacggaaaat cagacggctt ga 942

<210> 2186

<211> 510

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2186

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tcctacctat tgtggaacgg caaaatagag accactctgg caagagccaa agagggtgcag 120

aagctggctg agaaaaatct cacgcttgca ataaatacgt atcaggacgt cgtgaaggta 180

cagaaaacca aagtagtcaa cggcaaggaa acaaaggttg acgtcatcaa cgacggtccc 240

aaaaagcttg cggcaagaag aaagctcatc tccaatcttg tcgacattca ggaaacaaaa 300

ggacaaaagg agagcaagag cgcttacaat ctgagaacaa aggacatcaa gatgcctttg 360

atagaaaaga ttttcaacgt ttacgctccc aaattcgcag agcgctccga acaaatcggt 420

cagaagggcg gctataccac cattcacaag ctgggtatgc gtcgcggcga cgctgcggaa 480

atggcaatca tcgaagtatt gcccattctga 510

<210> 2187

<211> 558

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2187

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ggcaagctgg cgcttatgtt catacccaac gtagagggtg tgagcatact gcttgccgtt 120

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gaaactgcgc tctggggctt caacacctgg gtgattcttt attttgtcta ttggccgctt 240

gtttccctgc ttttcgggct tatcggcaaa tcgcgcctta aaaacagggtg ggttacggcg 300

gggcttgctg cggtatgac cttttttttc ggctgtctgt caagcggtat cgacactctc 360

attgctttcg gcggcggagg ctttgtgttc aacggcgagg atttttttct gcggttcggc 420

attcttttac caaggggaat cgtatttttt gcggtgcaca ttgtatccaa ctttattctt 480

ttcgcaactgc tgttcagacc gctgtgcgag ttggtgaaca aacttaaaat aaaaatgttt	540
cccgaggagt cgctgtga	558

<210> 2188
 <211> 597
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2188	
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atgcaggaaa aagattttgt gtcctacgaa tacaggacaa aaacagtcaa aagcaaggac	120
atgacaaaagg cgacggatat gtacgaggcc ttcggttggg aagtgcctc cgcgccccat	180
acagccgtcg acaacacgac tctttcttta aaacgcgaca ggaaacaaaa acacaagcag	240
gagctttcgc gtcttgaaag acaggcggag gaaattttcg gcacgataaa caacttgcag	300
cgcgcaaaaa ccttgggagc aagcgtattc tcttacattt tcggctgcat cgctgcgctc	360
ttgctgggcg gcggaatgag cctgattatg ctaaatacaa acaatttcgc cgcgtttgct	420
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aaaaaaatgg tcgaaaagaa aaccggagaa ctgctgccga tcatcgacga caacgaagaa	540
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<210> 2189
 <211> 849
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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gcacactact ttgttgccaa aaaatgcggc tacaagtgca attgtatagc ggtttccgcc	180
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gcgctggcgg gacctgcggc aaatgcggtg tgcgccttgg ttttcgtagc gctttggtgg	300
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ctgataaatc tgctgcccgc ctatccgctg gacggcgggc gcgttttcgt ttctctgctt	420
tccgcgaaaa ccgattacgc aaaagcgttg aaggtaagca aaatcctttc ggtggcgctg	480
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ttgggattgt ttgcggtcct cgtcctgtcc gccgggctgt ccgaaacaaa gggcgaaatt	600
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aagacgctgg tgttttcgga ggaggcgacg cttaaaaagcg ttgccaaaag aatgtcgcac	720
cactttgttt atcggataga ggtggaggag gcaaaggacg gagaggtaaa aaaagtcttt	780
tcgcacgcac agttcctcaa tcttctttcc tcccatgcgc ttgacactcc gttgaaagag	840
ttgttataa	849

<210> 2190
 <211> 627
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2190	
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gacaaggagg atttgcgaat ccgcagaaca aaaacctttc tcatgcaggc gttgataaga	120
ctcatggaaa agcagagttt cgagcagata agcgtaatag acatctgcaa cgaagcgctt	180
gtgcaccgag ccacctttta caagcactac aaggacaaat acgacctttt gaccaacacg	240
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gacaaggagc tgtttttgaa cgtggcggac tgcgcgctca gctttttcga ggcgaccgc	360
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tacaccacgg aaaagacgct taaacgcttt atcgagtgca gaatcgagca gactcaaaag	480
acgccctccg tgccgctgcc cgtcatagtt tccttttttt cgggcggcctt ttcctctctc	540
attttgtggt ggataaacca cgaggacgtc tgcacaaaaa acgagatttt aagctacatc	600
acacgccttg tcgaagcgcg gatttga	627

<210> 2191
 <211> 867

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2191

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gtggagtcta ccgcggtttc tttgacggct gctttgttga gcgagttaat caaaaacaaa	180
gtcaacatatt tgttttgcga cgaaaatcac aatccggttt cacagctggt gccgctttac	240
ggaagacacg attgcagcgg agttttgcgg cggcagctca attggaaaga agaacataaa	300
agcgcgggtgt ggacggcgat tgtccgtatg aaaataaaaa agcagatgga atttctttcc	360
gaactttgct gtcctcagag cgagcttttg aaaagttagt tcgacggtag cgaattgaat	420
gacagaacaa accgtgaagg acacgcggca aaggtatact tcgacgcatt gttcggattg	480
agctttaaaa gaggagacaa aacctttctg aacggggcgt tgaactatgg atataccatt	540
ttgctgtctg cgttcaacag ggaaatcgcg ggattgggtt tcaatacaca gctcggattg	600
gcgcaaaaaa gcgagttcaa tcaattcaat ctgagctgtg atttggtgga gcctttcagg	660
gtgattgtgg acaaagcggg gttcggaaag gataattgcc aatttacgcc ggatttcaaa	720
cgataccttt gcgatattct caacagagaa ataaagatag acgacaaata ttttgttgta	780
aacgatgcaa tcggtatata cgccaagagc gttttcaacg cgttggaaga cggggatagc	840
tcaaaaataa aggaatatga gtttttag	867

<210> 2192

<211> 837

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2192

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ttgctttcaa agggacttgc aaaaaaatg gaccgcattg tgagcaattt tatcgtggta	180
atcgtcaagt tctgtctgtg tatggtgctt gttttcgtgc ttgcgggcat catgaacatc	240
aacacgacgg gacttgtcgc ggtcatcagc gccgcgggac tcacgctgtc gctgtcgttg	300

caggacagtc tcagcaacgt ggcgagcggg atgctgattg tgtcgcaaaa gccttttaag	360
gaaaaggatt acgtcgaaat agacgggggtg ggcggtcaga taacgcgcgc atggcgtgttt	420
accacggagc tgggtcacgtt cgacaaccgc aaaataaccc tgcccaaccg ctccgttact	480
tcaagcccga tagtaaatta cgacgctatg cccacgcgcc gcgttgacat aaagttcaaa	540
gcttcgcttt cttgcgagat tgacaaaatc aaagccgagt cggaagagat tatttacgag	600
gacccgagaa cccaaaaggg cagcttcacc attgtgggtg acaatctcga cggcggcgctc	660
gcctttgtca tcaagtattg ggtagatacg gcggattatt gggacagcct ttttcttaac	720
aacgaaaaaa tattcaagat gcttcaaaaag ctggacgtcg cgctaaacgt gtcggcgggtg	780
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<210> 2193

<211> 894

<212> DNA

<213> Subdoligranulum sp. CAG:314

<400> 2193

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tactttatca caaggaggcc gatagaattg aaaatagctt taatcgggtg ggatacggaa	180
agcaaagcca aaatcaggga atattttgct caaaacaatg attatgaatt tgtgtttgac	240
gaagcggacg gctacaaggc gctgcaatat ttcgacgaaa acgacgttga cgtgggtgata	300
acgcccatta tgctgcccga attgaatgcg ttcgacttga tggagcattt cagaaacaaa	360
aaatccatga agtttctgat tttgtcggaa ttgaagtcgg aggcttttat gatgagatgt	420
ctgacaagcg gagcggcggg atattttgtt aagccgggtc actgcgcggg gctcgccgaa	480
aagctgcaaa atcttcaatc ggcaaaaaca acctttacga ctacgggcaa gccgtccaat	540
ctcggcaaaa ctttggacga aaagatttca aacattttca taaccgtagg cataccgcg	600
catatcaagg gttatcagta tctgcgcgac ggcatcaagc tggttgtcga aaactcgcag	660
aaaatcaaca gcataacaaa atgtctctat cccgagattg ccaaacgctt cggcaccacg	720

tcaagcaagg tggaaagggc aatcaggcac gcaatcgagg tcgcctggaa cagaggcaaa	780
atagaaaaca tcaacaattht gttcggcacc aaaatthata ccgccaacga aaaaccgacc	840
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<210> 2194
 <211> 1872
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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thttttggcgt gcaatcccag cataggaggc accgccaaag gacagatagt aaaggaaatc	180
gacgcgttgg gcggacaaat ggcgctgatt gccgacaaat gcacgctgca aatgcgtatg	240
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taccacacag agttcaagaa actcctcgaa agcaccgaag gtctgaggct taggcaggga	360
gaagcggtag gaataaaaaa aataacaaaa aaatcccaaa ccctgtggga ggtaagcacc	420
gcggcgggag aaaaattccg ctgcgtttcc ctcgctgctg ccacgggagt ctatttgtca	480
agcagaatca tcgtgggcaa gtacacaaaa aaacaaggcc ccaacggatt tgcgggctgc	540
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ggtctgttht tcgcagggca aatctgcggc acaagcggct acgaggaggc cgcaggctcag	1140

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agccccgcgg atattcaggt tttgtcgggtg tggctggcaa taaaatcaag aaacgaaaag	1860
aaaggagact ga	1872

<210> 2195
 <211> 288
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2195	
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ttcggaaaaa gaatcaagga agtcatttcg gagacctttg ccgaaatggg cgtcaaggac	180
ggctttgtag acgcgacgga caagggcgcg ttggattgca caataagggc gagagtcaag	240
gcggcgttga tacgcgctct tggcaaggac agaaataaat gggaataa	288

<210> 2196
 <211> 972
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2196
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aaaattgtcg ttgagccgtt ggaaagaggt ttcggcatca cgcttggaata cgctttgaga 120
agagttttgc tttctgccct tcccggaggt gccgccgtag gcgtaaaaat cgacggcgta 180
cagcacgaat tctccacaat aaacggcgtc aaagaggacg ttacagaaat tattctcaat 240
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atcagcaagg tcggtccctg cgagggtgacg gcggcggaata tttccaccga cgccgaagtg 360
gaaattctta acccctcgct ccatactgac acgatagacc agggcggtca gctgaactgc 420
gaaatcacgg tcgggcgggg cagaggatac gtttcggcgg agaagaataa ggaagtcaac 480
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gtcaaaaagg taaattacaa tggtgacgcg gcgcgcgtgg gacagaatat aggctttgac 600
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gcggcgaaaa tcctttgcga gcacgttcag atgtttgtgg acctgtccga gtctatgggc 720
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atagacgaca tggatttgtc ggtcagaagc tacaactgct tgaagcgcg caatattcag 840
acggtaggcg accttaccag aaagacggaa gaggatatgc tcaaagtcag aaatcttggc 900
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aaagaagatt ag 972

<210> 2197
<211> 519
<212> DNA
<213> Subdoligranulum sp. CAG:314

<400> 2197
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cattggtacg aaattcaggc gcaggaggag gcgcgacctg cgcttatgct ccgccgctat 180
ctcatagaca acagtgtgcg cgtaaccttc ggtgaaattg ccaagcccga caaagagtac 240

aaaccgcata tgtgtccttt ggaggcgggg ctaacacgaa aaatacgtta cgtcgtgat	300
tgccgcaatt tatcgcgccg cgttcgacga aaaggatttc aaaactatgc agttcctcga	360
ttggtttgtc aaggagcagg gcgaggagga gaaaaacgcc gacgacctca tcaaaaagat	420
gaagcttttc gggggagatt ccaaaggtct gtatatgctc aatcaggagc tgaacgcccg	480
cgtttacacc gcgcccgcaa acgctgcgga ttgacgtga	519

<210> 2198
 <211> 1119
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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ggattcaatt atttcgacac cgccttcgct tacgcaggca gcgaggacgc gataaggcag	180
gctctggtca accgcgtgcc gagagaaaaa ttttttcttg ccaccaaaaa cgccgcatgg	240
ctcaactgca agaccaaaga cgacgcggtg gctcagtttg aaacctcttt gagacagacg	300
ggtgcgggct atttcgattt ttatcttttg cacaatttgg gagagtcgcg cacgcacttt	360
ttcgacgatt tcgatatgtg gagctggatt caggagaaaa agcgcgaggg gcttgtcaga	420
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gaaattaaga aggttccgct cattccgtgc acgacgtgca actattgcgc caaggtttgc	900
ccgcagaata tcggcatatc ggggacgttt acggcggaca attatcttac gctttacgga	960
aacagggata tggcgctctc gcaggcggat tggctggtgg acaggcacgg cagacagcgc	1020

gccgacaaat gcgtcggctg cggaattgc gaaaagggtg gccctcagca tatagaaata	1080
cgcaaagagc tgaaaaaatc ggtgaaggag ctttattga	1119

<210> 2199
 <211> 960
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

<400> 2199	
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tcgggcagtc tgggctgttc gcttacgtcg gaaaacaaaa gactgcttga atttgccgga	180
gaaatcgtat attcgcttta cggactcaaa accgaaataa ggcgcgagga aactaaaatc	240
aagggcaaca gcctgtggtc ggttttcatt gcggaggaaa agacgctttc cgactgcgga	300
cttgcgctgc tgtcaatgga gggctatctc aaaatcaacg agggatataga caaatacatc	360
gtagagcagg actgctgcaa aaacagctat gtcgccgcgc tgtttgccgc ctgcggctcc	420
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accgccaaca tagacaaatc ggtagacgcg agcgaaaagc acattgccgc gataaacaaa	780
atccgcgccc gcgagggaat gttcgacagg cttgcgccgc atctgaaaga aatagcggcg	840
gcgcgggttg aaaacccgtt ttccacgctt gacgagcttg cggacaagct cgggcttaca	900
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<210> 2200
 <211> 933
 <212> DNA
 <213> Subdoligranulum sp. CAG:314

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ttgcccgcgc tgtttccttt tttctttctt tcaaaactac tgattgagct ggacgctttc 180
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tgctcgacgg gaggcccgat ttttattatt ggtactgtcg gcggcgtata ctttaaaagt 420
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gtcggcagcg gaaaaataat gctgttcaaa ttgactcagg cgattttctc cgcagctttt 900
tgcgctccgc tcaccttttt gtttctgaaa tga 933

<210> 2201
<211> 963
<212> DNA
<213> Sutterella sp. CAG:351

<400> 2201
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cccagggttc aggatccgat ttacgatacg ctaccacgc ttcaggaatc gacggaaatc 180
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tcctctgacc gcccgcattg gttcgggtctc cgcgtgatca agaccgcgga aaccagctt 300

ggaaccccggt accgcgccgg cgctgaaacg cccggggcgcg gttttgattg ttcggggcctt	360
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cacgttggga cgcgggtcga tctcgcggac gcgaaggcag gcgacatcgt tgttttcaag	480
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cacgcgccgc gttccggtga ccgtgtgcgg gagtcggagc ttacgggcta ctgggcgcgg	600
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gacgttgaag tggcgacgga tgacctcgaa gaaaagatcg ccgataccga gtcccgcgac	720
gccgcgttta accccggccc cgcgcttgag tatcaggaga aggcggagcc cggccgggtc	780
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aagtctgcta aggtcgcgaa ggcctcgcgc gccggcaaga cccgcgcctc gtccggtaag	900
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tga	963

<210> 2202
 <211> 687
 <212> DNA
 <213> Sutterella sp. CAG:351

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aaggttgggg acgcgcttgg gaagtactcc ggctgcgtcg aaaagaccgc caagtggctg	180
aaattttcaa ccgatcagat taagagcgga gtggaattta cctgcgaact gaagccgagc	240
gcagaactct atgccggcat ccgtaaggaa gcggttgacg caaagagcgg tgtgcaggtg	300
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gatatgtcga agaatatcga cacgatgatc gcggcgaccg gtgtcacgaa gaacgagctg	420
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acgaagttct tctgggggaa agattctgcg aatctcgcga atccgaagga tagcctccac	540
gcggtttatg ataatgtgcc gtttgtcgcg aacaccgcag gtaaggagaa gactttccgt	600

gaggatctct tcaatctcta taacacccgt acggtggcag cgggctctgc accggcttcc	660
gcaccggcat ccagtcctgc aaagtaa	687

<210> 2203
 <211> 1212
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2203	
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aagggttcca tcatgaagat ggacgacacg agcgtcgcgc aggatatcag cgtcgtgtcg	180
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cagtacgccg aaaagatcgg cgttgatctg aagaagcttc tgatttccca gccggataac	420
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gagctgctct ga	1212

<210> 2204
 <211> 774
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2204	
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gagcagggtga gagactttta ccggcatcag agaccggaac tgattttacgc ctgcacagtg	180
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acaaagctcg gtcctgatcg ctggtacgcg gcgctgggtg ctgtgagcaa acacccggac	360
gagaaccttc tcattgttca gatggggacc gcgctgacag cggacagcat catctgccgg	420
ggagaggggg aatacgaata cctgggcgga cgtatcgccc cgggaccgac catgatgttt	480
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gccgctcact attatgagaa agccttcgag cgggtatttcc cggactatct gatcgaggat	720
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<210> 2205
 <211> 615
 <212> DNA
 <213> Sutterella sp. CAG:351

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aatttcacgt cagaaagaaa tctcaaaggc gcctcaaaac ctctcgtcgc taagggcagg	180

atggctctca tcgaagggaa gggagtggtc tgggagcaga catcaccgtt cgcggaagag	240
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acgaagaaat cacagccgcg ggcgttcgct ttcgcgagcc tcatgcggaa tctcgccggg	360
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acgatcaagg gcggtgacgc cgtgacgggt gtctctttcc tctcaccac gaaagaccgg	540
acccggatcc ggtttgatga tgtccatgtg aacgaagggg ggctcgccga tgccgaagaa	600
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<210> 2206
 <211> 651
 <212> DNA
 <213> Sutterella sp. CAG:351

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aggctcgtcc ggcgctgag accgtttgtc gggatcgtcg atatcgtttt ctgcccgatc	300
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tttatggaga acgcggggga actcgagctg ctcgatccgg acatcaccga gtcggagctc	600
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<210> 2207
 <211> 942
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2207

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gctgctagtc accagctttc ggtgctgaag gacgccgcgg gcgaccccct cttcctccgg	180
accgataaag ggctcgcgcc gacctccgcc atgaaggagc tcctcccgaa gcttgaatcg	240
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tgcgatatcc ggatcctcac gtacgacatg gggtagctcg cgttcgtgct tcccgtggtt	360
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<210> 2208

<211> 1938

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2208

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atactcgtcg gacgcttcat ctggctgcag gtgatctgcc acgatcagta caccacacag	180
gcggaaaagca accgcaccgt gagcatcccc gtgcaggctt cccgcggcct catcatagac	240
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gccccatctcc tcggctatat gggccgtatt tcggagagtg acgcgaagcg gatcgagaag	600
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ttcggtgcca cagcggccgc gcctatcgcg cgcgccgcgc tcgactactg gtcctctggc	1860
aagaacagcc ttggtcttcc cccgccccag tacctgcgcg atcagacacc gaaaaccgcc	1920
gcggaggcaa aaccatga	1938

<210> 2209
 <211> 387
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2209	
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catgtccagg caactgacga tcctgtggca attgcggtgc tgagtacat ccgcgatgaa	180
gaaaaagccc atatcggcga actgatgacg ctgctccgtt atctggatcc ggatgaagcc	240
aagcatttcg caagcggcga ggctgaagtg gctgaaatgt ttgagaaact cggtatcaag	300
acggatgaaa ctgcggctgc ggcggagccc gaggctgaag ccgctcccg gccttctaag	360
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<210> 2210
 <211> 855
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2210	
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tacctgtcgc cgctcgctt cgccgcagtg atgaccttg ccgtggcggc ggccatctgg	120
gagtggctga ggatgctggg agtcagagcc gcgcttccgg ttgctgcagt aatggggatc	180
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<210> 2211
 <211> 1101
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2211	
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gaggctcatc ggattggaaa cacaaatggt gtcctcggcg tcattgattc cggcgttccg	180
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cctgagctga agaacgggta cttcgggtgtc ggtgtcggcg tgacgcccgg tcttcataag	1020
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<210> 2212
 <211> 885
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2212	
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cagaccgaag ccgaggaaga actcggcgctc gctggcagca cgagaggcgg ggacgtgaag	180
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<210> 2213
 <211> 582

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2213

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atgcagaatg cggcggaaacg cgaagcagcc gtccgagagc tttttggttc ctgcggcaag	180
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ggtgctgtcg tcacgaaaga tgtcccgat aactgcgttg tcgacggtgt gccggcccg	540
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<210> 2214

<211> 606

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2214

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606

<210> 2215

<211> 1821

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2215

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gttatcgcg ttcggtgac cgccggatct tcttctctga tcgcatgct gctcgggaaa	180
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<210> 2216
 <211> 792
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2217
 <211> 954
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2218
 <211> 2445
 <212> DNA

<213> Sutterella sp. CAG:351

<400> 2218

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 <212> DNA
 <213> Sutterella sp. CAG:351

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 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2221
 <211> 990
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2222

<211> 1269
<212> DNA
<213> Sutterella sp. CAG:351

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<210> 2223
<211> 258
<212> DNA
<213> Sutterella sp. CAG:351

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cccgagcccg tgctgaaaag cgcccgggcc ctgaggggaa tgcagtcagg agacattctg 120
aaggtgatct gcctcgaccc ggtttctgtc catgacctga aggcgttttc tgatcagaca 180
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tggtctgagaa agcgctga 258

<210> 2224
<211> 1212
<212> DNA
<213> Sutterella sp. CAG:351

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 <211> 807
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2226
<211> 447
<212> DNA
<213> Sutterella sp. CAG:351

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ccgccgatca acgtgacgat caataacgct cccgcctctt cctcgggtggc aactcaggat 360
tatttctatt gccccgcgca gaagggtac tatccgacaa ttcccagctg tccgaccggc 420
tggatcaaga tcacgccccca aggctga 447

<210> 2227
<211> 1203
<212> DNA
<213> Sutterella sp. CAG:351

<400> 2227
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<210> 2228
 <211> 900
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2229
 <211> 441
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2230
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 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2231
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 <212> DNA
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 <213> Sutterella sp. CAG:351

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<210> 2235
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<212> DNA
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<210> 2237
<211> 2361
<212> DNA
<213> Sutterella sp. CAG:351

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 <213> Sutterella sp. CAG:351

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<210> 2239
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<212> DNA

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<400> 2239

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<210> 2240

<211> 2094

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2240

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<210> 2241

<211> 1170

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2241

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<210> 2242
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<210> 2243
 <211> 885
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2243	
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aaagcgaagt tcgcggtccc gctctgcgcg gttctcgcgc tcgccggtgc tctctgcatc	840
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 <211> 921
 <212> DNA
 <213> Sutterella sp. CAG:351

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<210> 2245
 <211> 885
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2245

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<210> 2246
 <211> 1095
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2246	
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accggcaatg cttga	1095

<210> 2247
 <211> 1110
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2247	
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<210> 2248

<211> 1053

<212> DNA

<213> Sutterella sp. CAG:351

<400> 2248

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<210> 2249
 <211> 798
 <212> DNA
 <213> Sutterella sp. CAG:351

<400> 2249	
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<210> 2250

<211> 1395
<212> DNA
<213> Sutterella sp. CAG:351

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<210> 2251

<211> 744

<212> DNA

<213> Megasphaera elsdenii

<400> 2251

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<210> 2252

<211> 546

<212> DNA

<213> Megasphaera elsdenii

<400> 2252

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<210> 2253
 <211> 468
 <212> DNA
 <213> Megasphaera elsdenii

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cgcggcagtt tggaaggcaa taccttgtac tttgaacaca atggcgatcc gaaatatgct	420
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<210> 2254
 <211> 447
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2254	
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<210> 2255
 <211> 789
 <212> DNA
 <213> Megasphaera elsdenii

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ggactctga	789

<210> 2256
 <211> 438
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2256
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 acttatatatt tgaatcgcgg tgctgctttt ggaatcctgg aaaatcagca gtggttcttt 180
 ttagtcatag ccctggctctt attcctgctg tatggcctgt tccgcaagca gctgccggcg 240
 aacccttggg tctatggcgg atccggcctg cttttaggcg gtgccctggg aaatgcgctg 300
 gatcggacgt tccgcggggc cgtcacagat ttcttcgatt ttcgtatctg gcccgtcttc 360
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<210> 2257
 <211> 579
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2257
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<210> 2258
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 <212> DNA
 <213> Megasphaera elsdenii

<400> 2258
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 gaagaatcgg aacatcccga agtcgtacaa ggccatttctt actactatgt cccgtccatg 180
 ttcacgcgta cggaaaagct ctatgaagcc cagccggggc agtcttatga cgccatcaag 240
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<210> 2259
 <211> 1155
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2259
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tctttgtcgc tgggacaggg aaattctgtc tggggcgaat tgacgcggcg gtccggctcc	1020
aatatgacgc cgacatggag cgtcaacggc ggcttgggcc tcaagtgggg cggtgccagc	1080
cggacgacga gggaacggat gaaagccctg aaaaaagacc cgcacagcct cgatttggat	1140
attaagaaaa aataa	1155

<210> 2260
 <211> 633
 <212> DNA
 <213> Megasphaera elsdenii

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acgtatggaa tgaaaagtct gtgtcaggcg gcacaggctt ttttgccatg ttccggcatc	180
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ggcatcgacg tcgtgtggaa cgaccaggcc ggtgaaggca tggcggcatc gctgcgctgt	300
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<210> 2261
 <211> 759
 <212> DNA
 <213> Megasphaera elsdenii

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gaaaataaaa agtattttcat caaacgccgc aggggcaacg gccgcaatgc ctttgccaaa	180

cagaacccgt ctgccgcgtt ctggtgcgaa gcctataaaa tcatgaccgt caatgcccgc	240
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ggcaagaccc tgcagggcgt cgccaaagaa gcagaatatg ccgacgtccg ccaggaggcc	360
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tatggcagcg tcgaaggcag cgaccaggta ttcacggcgc tgaaagcctt catcgcagac	660
caccacactc tcttcgcggt gtgtcacgcc ctgaccccct tcggctggat cgacgtcgtc	720
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<210> 2262

<211> 834

<212> DNA

<213> Megasphaera elsdenii

<400> 2262

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cgtatcgttg ccggccggtc ggccaaggaa gagacgaacc gcctgaaggc cgtgcgccgg	180
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ccgccgaaac tgctcatcct ggggacgtcg aaacacatga tccaccgcat ctgccaggcc	300
ttggatctgc cggaagcgtc gcagttcatc cgcacgagg atgtatcgtg cccgtccgag	360
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atggaactga agccccatth ccagggctat ctcttgacc cgatacgctc cttcttctac	480
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aagctcatga gccgcatccg caaggctatc cagcaggaag tagaatacac gacgggcatg	780
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<210> 2263
 <211> 1560
 <212> DNA
 <213> *Megasphaera elsdenii*

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gaaacggcgc gggaaatgct gttggccggg gattggttgt cgccgcgcac tttcggccaa	180
tattggtacg ataaaccacc actcttctac tggctggaaa tgctgtcata cagcttcttc	240
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<210> 2264
 <211> 162
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2264	
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<210> 2265
 <211> 996
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2265	
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<210> 2266
 <211> 354
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2266	
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caggaaaact gcaataccat tgccttcatc aaatgcatgc gcgcagccag cgtctccatc	180
gacggcctgt cgcggtatat ggaactcttt cagcaaggcg aggcgacgcg caaagaacgg	240
cgtcaaatcc tcacagaaga acgggaccat ttagaaagcc gcatgaaaga tattcaagag	300
gccctgcagc acctgaactg gaaaatcaag atgtacgatg aagggaagtt ctaa	354

<210> 2267
 <211> 630
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2267	
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cacaccagcg ctgacttcga ctatgtccgc aacctgcgct tcagcccagg cgccgtcgaa	180

caggccctga cgccttgaa atcgggctgt actatcgtga ccgataccaa tatggcctgc	240
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<210> 2268
 <211> 861
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2268	
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ggcaggggac ggctcctggg cggcggggaa aaggcccgtc gggctttgga cctgggcccgg	180
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861

<210> 2269

<211> 936

<212> DNA

<213> Megasphaera elsdenii

<400> 2269

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gtcacgcaag gcgacaaaat cctcgatgtc cctttggccc gcatcggcgg caaaggctctg	180
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<210> 2270

<211> 1056

<212> DNA

<213> Megasphaera elsdenii

<400> 2270

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<210> 2271

<211> 678

<212> DNA

<213> *Megasphaera elsdenii*

<400> 2271

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<210> 2272

<211> 852

<212> DNA

<213> Megasphaera elsdenii

<400> 2272

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ttggcggatt ccatccgtca gcatgggctt gtccagcccc tcgtcgtcca aaagaccgga	180
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<210> 2273

<211> 231

<212> DNA

<213> Megasphaera elsdenii

<400> 2273

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cacgatacga tgaagaccta tgcccgcccg ttgaaggatt tcatgagcga agtcgataaa 180

gaaaaatatc cccgtgctga acaggattat cgtttcgtca agattaaata a 231

<210> 2274

<211> 681

<212> DNA

<213> Megasphaera elsdenii

<400> 2274

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ctggaccgca tcggtcagga gcacttcgac ctcatcctgc tggacatcat gctgcccgcac 180

gtcgaatggcc tgaccatctg caagcgaact cgggaattat cgaatatccc gatcatgatg 240

ctgtcggcca aagacgacat cgaaacgaag gtcgtcagcc tggacatcgg cgccaatgac 300

tatctgacca aacccttcaa cagcaaggaa ctctttgccc ggatccgcgt actcctgcgg 360

gaacgccatc agttagcgga ccggggaaat tttctccagc tgaatgacct caccttattt 420

ctcgaccgcc atgaagtcac gaagggcacg aagaaaaataa aactgacgaa aaaagaattt 480

gagctcctcg cttatttagt ccggaacaag aacatcgctc tctcacggtc gcgcattgtc 540

gaagaagttt ggggctatga ttacatcggc gatacgaata tcgtcgacgt ctatatccgt 600

tacctgcgca gcaagctggg accgaatggg cgcacctata tccgtacggc ccgtggagtc 660

ggttatgtgg cagaagatta a 681

<210> 2275
<211> 633
<212> DNA
<213> Megasphaera elsdenii

<400> 2275
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ccggtggctc ctgtcatgaa gccattgaaa taa 633

<210> 2276
<211> 807
<212> DNA
<213> Megasphaera elsdenii

<400> 2276
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<210> 2277

<211> 936

<212> DNA

<213> Megasphaera elsdenii

<400> 2277

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ggacggggca aaaagggtgac tttttcgccg gtgaaagaaa aggccctgga actgggaatc	180
cccgttttcc agcccgattc catgcgccgt gacgatgtca tcgaacagct gcgcagcctg	240
gcaccggatg tcatcatcgt catgcctac ggcaagattt tgccgaaagc cgtcctcgac	300
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ccgggaacca tcttgatgt gaccaagaag cagttcacca tccagaccgg aagcggcgcc	840
ctgcgcatcc gcgaagtcca gccggaaagc cggaagcgga tggctgctgc ccaatatctc	900

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936

<210> 2278

<211> 900

<212> DNA

<213> Megasphaera elsdenii

<400> 2278

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ttacaacatg ccatcgatat tgccaaactg accggcgctt cgattacgct gctgaacgctc 120

gccaatatgg ccgacatcat caatcagttc agtcaaattg aaaatacgag cgaattgaca 180

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ccgtgcccgg tcctcctggc tcacgacgaa aagaaagggc cgtaccgtca catcctggta 480

cccgtagacg gctcggaatc atcgctccag gccctgaagc aggccgaaat cctggccaag 540

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tccaaaggcc ataacgcctt cctgcgtgac caggaacaac tatcgtctga cctcccccta 720

caatgtcttt ataaaatcgg ctctcccggc ccggtcatct tgcagaccgc agccgatatt 780

gatacagacc tcacgtcat gggcagccgc ggccatgaacc gcatccaaag cgtcctctta 840

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<210> 2279

<211> 963

<212> DNA

<213> Megasphaera elsdenii

<400> 2279

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gatatggact atgaaattat ctttgtcgac gatggttcca aagatgcgac acccctcatc	180
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<210> 2280
 <211> 486
 <212> DNA
 <213> *Megasphaera elsdenii*

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gctgctgttg ccgcctatgg ctattcaccg gcagctatcc gctctatccg tccgcagaag	420

cgcggttata aacgccatcg ggaaaattgg gctatggcag cccgcctggg tggcatgagt	480
cgtaa	486

<210> 2281
 <211> 675
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2281	
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<210> 2282
 <211> 660
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2282	
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<210> 2283
 <211> 423
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2283	
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taa	423

<210> 2284
 <211> 1482
 <212> DNA
 <213> Megasphaera elsdenii

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<210> 2285

<211> 390

<212> DNA

<213> Megasphaera elsdenii

<400> 2285

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<210> 2286

<211> 1287

<212> DNA

<213> *Megasphaera elsdenii*

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<210> 2287

<211> 1254

<212> DNA

<213> Megasphaera elsdenii

<400> 2287

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ttcgtagccg gaacggcggc tgctacaaag gagtgcatac catgcgaaaa ttaa	1254

<210> 2288
 <211> 171
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2288	
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gtcggacagc ctcttttttaa gtttgatgtt gaaagtttga tgtttgatgt gactggtttt	120
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<210> 2289
 <211> 987
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2289	
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gcgaggacc gccaaaggcgg cacgggctgc acggtcttgg tattttccga tagcgcgccc	120
tgcgccgtcg atgtccgcgg cggcggcccc gccagccggg aatcggaact cctcagtccc	180
atggcggctg cgtcgggcat ccacgccatc ctgctcagcg gcggcagcgc ctttggcctc	240
aatgcctcga caggggtcat gcagtacctg gaagaacagc acatcggtt cgatacggt	300
atctgcaagg tgccccctgt cgtcgagtcg tgcatttatg acctgggctg cggcgacaac	360
gtccgtcccc atgcggccat gggctatgcg gcctgccagg cagcggaac gggggacttc	420

cgtgaaggct gctacggcgc cggcacaggg gcgacggctg gcaagctctg cgggtccggac	480
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gccgtcgtcg ccgtcaacgc cgtcggcgat gtcctcgacg aacaggggca gatcctggcc	600
ggcatgcgca gccgcgacgg ccagggtttt gccgacacgc ggagggtcat gctggaagaa	660
gcggggcaga cgccgaccct cttttcccag cgcgccgtcg ggacgacgac caatacgact	720
atcggcgctg tcgtcaccaa tgggcgggtt gacaaggccc agtcaagaa aatcgccgcc	780
ctgggcagca acggcatcgt ccgcgccatc cgtcccgtca atacgacggc tgacggcgat	840
tccctctatg cagccagtgt cggcagcgtt tcggctgaat tgagcctgac cggcaccatc	900
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ggcatcgagg cgtgccagga tgtttga	987

<210> 2290

<211> 1440

<212> DNA

<213> *Megasphaera elsdenii*

<400> 2290

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tacaagggga cgatccagaa catcctgccg tcgctgcagg ccgctttcgt caacatcggc	180
cgccacaaga atgctttcat ctatatgggc gatatgttcc cgcgggcggc gtcgaaagag	240
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gaacagggca tgaaaggacc caaagtcacg accaatgtca gcctggccgg ccgttatgcc	360
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cgcaccgtcg ccaaaggcgt gtcccgggaa gaactcttag gcgacttgaa gtatctcctg	540
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<210> 2291

<211> 666

<212> DNA

<213> Megasphaera elsdenii

<400> 2291

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aaggaaatct cgtcgtataa agaatatgtg ctgcccgaat atacgacagc catgaaccag	180
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caggccttcg accatttcct gacttggtgc aacgaaggct gcccgaatgc ctacgaaatg	300
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gccaccaagc cggcagaacc gctgaccttc tccctggccg acgccttccg cgctgcccgc	660
aagtaa	666

<210> 2292
 <211> 750
 <212> DNA
 <213> Megasphaera elsdenii

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cagcgggtcg gcatgatttt ccaagatttc tgtctggctg atacgtgtac gtgtttgcag	300
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<210> 2293
 <211> 354
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2293	
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atccgcctca tcgactgggt cggcttgacg caggaacagt gcgccgctca gatcaatgtg	180
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atccatggca aacgtctcgt catcgaaggc ggccatatcc aagtttgtga acgttccggt	300
acgtgctgtc atgcctgctg tcacgccgga aaaaaagaat acaaaggaga atga	354

<210> 2294
 <211> 1308
 <212> DNA
 <213> *Megasphaera elsdenii*

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gcgacgggggt gtacggaacc gattgccctg gcctatgccg cggcgacggc agcccgggaa	120
ctgggcgaac cgggtgcgctt cgtcgacggc tgggtctcgg ccaacctgat gaagaacggc	180
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gctctcggcg gcgatgccga tgcgggcttg caggtcctca aggccttgac gccagacgtc	300
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accttggcag atatcgtcga ttttgccgaa caagtgccgc tcgaagacct tgctttcctg	600
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cattcggccg aagaatgtct gaagaatgtc ggccctcctgg cctcgcgggg gatgcagcag	1260
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<210> 2295
 <211> 720
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2295	
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gctgtggcgg ttatattcct cggtttgacg ggaacgggtca aagagatgct gcaaactcggc	180
gctgatgggg gagtgacgct cgtcgggacg aactgtatgc ttgcgagtct catcggtaggt	240
gcagtcatcg gtgaagccat cgacctgaa gaccgcatgg agcgtttcgg gcactggctc	300
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agcgccgtcg gcaatatcct gatcttctgt gtcggcacga acctcttcgg cctgcctcac	660
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<210> 2296
 <211> 300
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2296	
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gggaataccc tcatcgatgc gacctttggc cgcaagaccc ggtcggtcct ggtcatggat	180
aacggctgga tcatcttata ggccttgcag ccggaaacga tttcccatcg catcgtccct	240
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<210> 2297
 <211> 486
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2297	
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aagcatttga aacggggccgg cctcgattac tggtcgctcg tcgatgtcca gatccatgaa	180
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ccgatggtcg aacaggcgcg cagcctgaac ctgtccaata ccgtcgctat cgtgtcttac	420
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ctttaa	486

<210> 2298
 <211> 924
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2298	
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gaacaacgga tccaggattt ggggcagacc attggcggga ccgtgcgcat tggcagttcc	300
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<210> 2299
 <211> 558
 <212> DNA
 <213> Megasphaera elsdenii

<400> 2299	
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ccggaacggg cgcgatag	558

<210> 2300

<211> 900
<212> DNA
<213> *Megasphaera elsdenii*

<400> 2300
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<210> 2301
<211> 3525
<212> DNA
<213> *Oscillibacter* sp.

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<213> *Oscillibacter* sp.

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<211> 6927

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<213> Oscillibacter sp.

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<210> 2315

<211> 1806

<212> DNA

<213> Oscillibacter sp.

<400> 2315

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<210> 2316
<211> 2601
<212> DNA
<213> *Oscillibacter* sp.

<400> 2316
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<210> 2317

<211> 1737

<212> DNA

<213> Oscillibacter sp.

<400> 2317

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 <211> 1560
 <212> DNA
 <213> Oscillibacter sp.

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<210> 2319
 <211> 1686
 <212> DNA
 <213> Oscillibacter sp.

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<211> 2382

<212> DNA

<213> Oscillibacter sp.

<400> 2326

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<211> 2082

<212> DNA

<213> Oscillibacter sp.

<400> 2327

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 <211> 3723
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<210> 2329

<211> 2514

<212> DNA

<213> *Oscillibacter* sp.

<400> 2329

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 <211> 2457
 <212> DNA
 <213> Oscillibacter sp.

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<210> 2331
 <211> 1911
 <212> DNA
 <213> Oscillibacter sp.

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<210> 2332
 <211> 1965
 <212> DNA
 <213> Oscillibacter sp.

<400> 2332

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<210> 2333
 <211> 1899
 <212> DNA
 <213> Oscillibacter sp.

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<210> 2334

<211> 2376

<212> DNA

<213> Oscillibacter sp.

<400> 2334

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taa	1683

<210> 2344
 <211> 1944
 <212> DNA
 <213> Oscillibacter sp.

<400> 2344	
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<210> 2345
 <211> 2493
 <212> DNA
 <213> Oscillibacter sp.

<400> 2345	
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<210> 2346
 <211> 1578
 <212> DNA
 <213> Oscillibacter sp.

<400> 2346	
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gtcatccccg aagattaa	1578

<210> 2347

<211> 1815

<212> DNA

<213> Oscillibacter sp.

<400> 2347

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1815

<210> 2348

<211> 1941

<212> DNA

<213> Oscillibacter sp.

<400> 2348

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tacccaatt acattgccta tgagttcatg ggcaaaacca ccacctacgc cgagatgtgg 180

cagaagatca acgcctgtgc caagagcctg aaggccatcg gtatccggga gggtgacaag 240

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aacaacgaca tcaaagaata g	1941

<210> 2349
 <211> 1257
 <212> DNA
 <213> Oscillibacter sp.

<400> 2349	
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<210> 2350

<211> 1377

<212> DNA

<213> Oscillibacter sp.

<400> 2350

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<210> 2351

<211> 1923

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2351

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<211> 2100
<212> DNA
<213> unclassified Ruminococcaceae

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<211> 2373

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2354

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<211> 1449

<212> DNA

<213> unclassified Ruminococcaceae

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<210> 2356

<211> 1833

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<213> unclassified Ruminococcaceae

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<211> 2565

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2357

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<210> 2358

<211> 2910

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2358

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<211> 1350

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2359

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<210> 2360

<211> 1953

<212> DNA

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<211> 1326

<212> DNA

<213> unclassified Ruminococcaceae

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<210> 2363

<211> 1338

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2363

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<211> 2967

<212> DNA

<213> unclassified Ruminococcaceae

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<211> 1341

<212> DNA

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<211> 1068

<212> DNA

<213> unclassified Ruminococcaceae

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<210> 2370

<211> 1497

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2370

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ttgttcacaa cgttgacgaa tgtaacttt gataatcatt ctattaaaga gtttattaat	180
cgtgttatta atgaacgaaa ttccatagga ggcagtgaga tcgatttgggt agagctgtgg	240
aaaggagaaa cggacattgt ttctctgcga tctacgcttt tgtttggaaat gaagggaatg	300
gcggcgatat cacacatgc catgaattta ggatatgatg acagtaccgt aacacattgg	360
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aagaaatatt ctcathtagc cggcaacttc ggtacagctt ggcaaagcca gcaaaaggaa	720
tttgaggata tccctgctcc tgttttgttt actactaact gtttgatgcc gcagcgtcct	780
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ccgacactgc cggcatttat gtcggagaca gttgtaaaga ctttggtaaa tacctatgga	1440
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<210> 2371

<211> 1392

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2371

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aaattacgga cagccagctt tttgattgcc aatatttctg tttatcagga tattaagcc	180
gatcctgtga tacagtgcta tattgattta cttgagaatc tgactgatga cgagtgcggc	240
ttgccgttaa attatttggg ggcagagtat gctgccattt gcgcacagct atatgagtcc	300
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gagtcggaac ctttttgta ccgcaatatc ggctgttggg gagacaatgc ggcaaaaata	600
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cggcatttaa tcaaagagac cttttcttcc cgtgaggagg atgaaatcca tcgggcagat	1140
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<210> 2372
 <211> 1614
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2372	
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gccgatcgag ttggtttaca aatgccggaa agcgggtgtag acgatacgca ggcaaagcta	180
aagatgcgaa tattggagat gaacagagaa gcggctcgat tttttcacia atgtttgtcg	240
actcctgacg gacaagcagg gcttgcctat ctgaaaaaga gagaattgtc caatgaaacg	300
attaaacatt tcggactggg atttgcgctt gacagttggg acagcttgcg gaagcatctg	360
cgaagcaaag gattcaccga tgaggaaatg tatcgggggt ttttggtttc aaagagcagg	420
acgggaagtt attttgatat ttaccgcaac agagtgatgt ttcctatctt ggatttgcg	480
ggcaatgtga tcgcttttgg cggacgggta ttgggtgata caaaaccgaa gtatattaac	540
tccagtgata ctccggtgtt taaaaagacg aaaaacctgt tttgtttaaa ctttgccaaa	600
agtgaattaa acggcagact gattttggct gagggttata tggatgtcat tgcaatgtat	660

caggcagggtt tccataatgt agtggcaacg ctgggaactg cactgacgca ggaacagtca	720
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caggaaaccg gtgtgtccag ggaagtcatt gttgcgcaag tcaatgctgt tattaaaaaa	1140
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tatatagacg tgcttggttac gcataataat agattaacag gcgaaaagat tgccggaatg	1560
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<210> 2373

<211> 1422

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2373

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ttctatgatc accagggcgt cgattggaaa cgtacctttg cctctttcgc aaacctgttt	180
ttgcattttt atgatacgaa acagggcggt tccaccatta cgcagcaggt tatcaagaat	240
gtaaccaatg atgatgatca aagtattccg cgtaaagtca gagaaatatt ccgtgcaatg	300

aacatggaac gggaatTTTT aaaagatgat atTTTggaat gctatatgaa tattattgcg	360
ctcggcggag atcaatatgg ggtgcaggca gcatcaaaat attattTTaa caaggacgta	420
aaggatttga ccttagcggga aggcgcctct ctggcagcta ccattaaaag cccaaattcg	480
ctgaatccca aaaaaagtcc ggaaaaaaac aaagcccgc gaaatgatta tacgctcaaa	540
gaaatgaaaa agcttggact gattacggaa gaacaatatg aggcggcaat caaggaagaa	600
atcgTTtag ccggaacgca gaccgataaa accgaaactc ccataaaaaa agtccaaagc	660
tattTTaccg atcatattat taacgaagtc attgaagacc tgatggaaac ttatgactgg	720
gacaaaactt atgcacagca taagctatat accgccggct atcgaattta tacaacgatg	780
gatattgaat tgcagaaaac acttgaggat aaatataaag atcccccttac gTTTTataaa	840
acaagcaagg tcaaagatcc tccgcaatct gctatgattg ttcttgatta cagcggaaac	900
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accatggcga atttaggaat tggTTcttcg atcaaaccgc tgtcagtata cgctccgatg	1020
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caagacggta ctatgggacc aaagaactat gaaggcaaag gtaccaatca atggattacc	1140
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gattaccgcc aaaaaagctt tgactTTatg caaaacaaat tacggatctc ctcttggtta	1260
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gcgcgTTtag caatgggatc gttggtTTac ggtgtaaaat tatccgaact tgctgccgca	1380
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<210> 2374

<211> 1479

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2374

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atctatgcc cctgccccga aacagcgctt attctccata aatgtatgct ttcccccttat	180

ttggagggtg aagtaatcag cgtaaaaccg aatggattat atactgttaa tgacaccgtc	240
gtaacgatca aaaagccaaa cggagaaaca gaggatttaa cgctttgtca gaaatggccg	300
atccgccgcg cccgtcctgt aaaggaacgg aaaccgatta ccagaccgct cattacgggg	360
cagcgtgtta ttgataccct tttcccgtt gcaaaaggcg gtaccgccgc aatccccgggc	420
gggtttggaa ccggaaaaac aatgaagcag catcagcttg caaaatgggtg cgacgccgac	480
attatcgtct atattggatg cggatgaacgc ggcaatgaaa tgacacaggt gttggatgaa	540
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gccaacacct ctaatatgcc ggtggcagcc cgtgaagctt ctatttatac cggaatcact	660
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cgttgggcag aggcgcttcg tgaaatcagc ggacggttgg aagaaatgcc ggctgaagaa	780
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aaatgtcgcc agcaaatatc caacctcctt tctcaggaag cgcagttgat ggaaatcgtc	1140
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atcaagataa aatacgatgt accgaatgat aaattggatt tatttgacag ctattataaa	1440
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<210> 2375

<211> 1491

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2375

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gaggaaagca gcaatatgga aagcacagcc gaattatcat catcgcccgc tgacatgata	180
acatcatccg aatcaacctt gtctgccggg gagccatcaa aacggacttc ctctgcggca	240
tctaaagtgt cctccaaagc aaacgctctg tccagtcagg gaacttcttc ctcatcgcag	300
aagacaggat atatatcaaa agccaacaca aaggttgaac caaccggac gctaacacag	360
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cccaaaacag gagaatcttc cgcacctttg ttgtataatg cggcagaaat cttatctgtt	540
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ggcaatgcgt ccggtatgtt tggggtagcg ccgaatatgc caatatgggc agaaatggtt	960
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aatgcgacag attctacaca ggggctgaag gactgcaagg tgaaagtggc aaatcaaaaa	1080
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aagaaacgct tttttgacat gaccgcaa ataacgtcaatc atccgaatga ttttttagta	1440

cgagcgcagg cacagaatgt cctgtctttg ctgattgaga actatcaata g 1491

<210> 2376

<211> 1767

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2376

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ctggcagagt ttattttttca gattgactgt aatggagcat cttttacagt cagtgagcaa 180

aattgtgcag gacaatctgc tcagcgggaa aataaaatth ttaaaactta ccatcattct 240

ttttttgaag tagaagttgt atatgcagca gaagatgatg ttttccgaaa aagaatgcgt 300

tttaccgcaa aaaaagccct tcgtatccgt tacgccaaaa cagaattgtg taaatgtgat 360

gcgcttttgc gcagaggcgg agagggacag ccgatactga ttaatgaaat ggcttttatg 420

ggaattgagt ttccggcttc tgtcaatcgg attaccaacg atacgatttt attggagcag 480

tctcctttta ttgacttagc tgaaggcgaa acatatgagt tttatccgat tgtgtacggg 540

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agcgacccgt tggatgaagc aatggcgctg cgattgctcc attccttaaa tgatgcaaaa 720

gaaaaataca atgtttcatt cgatacctat ttaatggatg ctttttggtg tgaagaaaaa 780

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<210> 2377

<211> 1590

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2377

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aaggtgacgg ctgtctttaa cgggaaaacg attacgttaa gcgagcttga gagcgccgac	180
ggagagaaca aggattctac ttatacttct tatgtgggta actttactgc gccgaaatcg	240
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gagagcaaaa caggcgcttc tgttacgctc ctcaaaaaaa tagagatacc ggattggctg	360
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tctgccaagt attattcact gcccaaggga acgattgatt atgttgattc tcagcgcgta	540
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acaacattta cgggtaccta taacggaaac aacgctttgt ctgagatgga gttcagtga	660
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ggtaaataatg tggaaaacaa tgaaacatat atcgtaaagg agtcggaagt taatcttaaa	1140
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gaggaagagc gggcaaagta tatggcgagt gccgggggac tgcctgatcg ttataaatcg	1260
ggacagcgct tcaaggccga aatcatgttg tcggtgcact gtaacgcaag cggttcgagt	1320
gccagtggaa cagaggcgtg gtatactacg ccgttctcta tgcctcttgc ccgggaaata	1380
tccgcgggaa tcgcggcttc cgcaggaatt aataatcgag gtccgcataa taatcgtttt	1440
gcggtgaatc gcggcagaac ttttccgtcc gtattagtag aaactgcgtt tatttcaaac	1500
gacaaagagg ttcgtatatt aaacagcgcg gaaggacagg ataaaattgc tgcgggtatt	1560
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<210> 2378
 <211> 1854
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2378	
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tggctgttgg ggatgattgg aattcgatat acggctcctg atcaggtaga taggttaatg	180
attttagatg ctattacaac attaagcgct tcctttatac cgcccttttc actgctgttt	240
gcaatctgtt atacaaaaga atatgatact tatttgccaa aacgctattg gtggctgctg	300
gcagttccta cgctgacaac gctgatgatt ttcacaaata agtatcatca cctctattac	360
aagggtgttt cactttccag tacagaggta cggtttgggc cgtattttct tatccattcg	420

gcttatacat atatttgcgt agtatcttct atttttatta tcattcgttt tgcgataaaa	480
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gatatcaaac cgattgctat gcagcaactt attaattgga tcggtgacgg atatattgta	720
actaatcaat ccggttttgggt ggtcagctat aaccgcgctt tttcggagggt gttcggtgaa	780
cagtatcatg ttagggaaaa cgttcatttg caggaatggt ttcaggatga ggatgctgaa	840
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gacggcaatc atgacattat tgtacgtctg gataaggacg atcaattcct gaaaattaca	1620
atcaccgatt tcggttccgg catttcggat acggttcggc gaaagttggt ccaggagatg	1680
gttaccagta aaggaacaat ggggacgggg cttggcatct ttattttcaa cacggtgatt	1740
cgtgcaaagt ttgacggaac catgtggttt gaagataatc cggaaggcgg aactgtctgg	1800
ggaatctcca ttccttttga caatgttact tttatttcgg aggaaaggag ttga	1854

<210> 2379
<211> 1629
<212> DNA
<213> unclassified Ruminococcaceae

<400> 2379
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ccatcactga ccgaggcaat taacaatgca caggacggag acactattac tctgctcaag 180
gattgtagtt ttggctggaa ctctgcatat caattcgaga aaagcttaac ttttaccggt 240
aattatacaa tgacaaccaa cacctatggt ttttatataa agccgggaaa aacgatcaaa 300
ctggacggat ccaagctgaa tatggtaa atttcatact cgcataatgg ggacggccaa 360
gtgaactgga catctatcat tatgggatct gaatccaaac ttatactcga taacgaggca 420
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aacgccgaaa tcaccttaga caacaaatca aaaattaata tcaaagactg cggagaagat 540
gcttttgagc gtgtaagcaa tgacctcaat accaaagaca aaatcaatgt gctcaaccac 600
tctgaaatcg aagtagatca ttgcagaggc gctttcatca acacttttga cattacaatt 660
acagaatcca ttgttaatgt gcatgattgt accggcaatg cttccaacgg cagtaacttt 720
tatattaccg actctacggt atctttcata aacagcgggt cgcacgggtat ttctgcttct 780
gaatttatcg tcgataattc taccgttact tccaataaaa atggagcaaa cggaatcact 840
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gccccatccac tggaaaaata cactgttact gttaaattatc ttgacaagtc aaccaacgaa	1440
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tatgataaaa tcaaagtaga aaaatatagt tataactcca caaccggcga caaattatct	1560
gacgtttttg acaaggacaa agttattaac gtatggattt ctgcagtggg agatattgat	1620
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<210> 2380

<211> 1083

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2380

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gatgtggggc ttccgaaagc gcatacctgc tgtacccttg aggatgtaga ggacgcgcgc	180
gatgtcgcgt tctctctgaa tatgccttat tatgttttta attttaccga cgatttcgcc	240
ggtcaggtaa ttgaccgctt tgtatccgca tatgaaaacg gagcgacgcc caatccctgc	300
attgactgca accgctatat gaaatatcag aagctgtatc agcgtgcaaa aatcatggat	360
tgtgatacca ttgtaaccgg tcattacgcg cggattgaat atgattccga caccggacgg	420
tggttgctga aaaaggcgcg gaatcttgcg aaggatcaga gctatgttct gtattttatg	480
acgcaggagc agttaaagca cacgaagttt ccgttggggg attttgcaag caaggatgaa	540
gtccgtaatg ttgccgctaa atatgggttt atcaatgcga aaaagcatga cagccaggat	600
atttgttttg tacaaaaacgg gaaatacgcc gattttattg agcagtatac cggaataaac	660
tatccttcgg gttcgtttgt ggatttgcgg ggcaatcaac tcggcaggca taaaggaatc	720
attcggtata cggtcggaca gcgaaaagga ctggggcttt ctttgccggc accgatgtat	780
gtctgccgca aatgtcccga ggacaacacg gtgggtattat cctccgaaaa ggagctttat	840
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ttgccggatc aaacggtacg ggtgatgttt gacgagccgc agagggtgt gactaaagga	1020
caggcgggtg tgctctacga cggagatatt gttatgggcg gcggaacgat ttgcagggga	1080
taa	1083

<210> 2381
 <211> 1482
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2381	
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gcttatattg atgtgctggt tgacaccgga ctgattggat ttatcctttt tgcagcattt	180
gttttgttgt gtggattgcc gattctgaaa tatgtttttg tcaaaaaaag aggaccggac	240
gatatcatca tcaagctggt gattactata tttgctatgt tgctgatttc aggtttttat	300
gaaactttta tcttgtttaa tttgcaggta tttacattag tattgttctc agtattagga	360
tttttaaatt acctgctggt tcaatatcaa cgtccgcaac atcaggatcg agtattgatt	420
tttttaatgg gcagctataa gcttatgacg gctttaacag tgaaaaaaca attttatgcc	480
gatcgtccgg tagatttgggt gttgacctcg gaatgtcata ccgatgagca ggaactggcg	540
cgcttgaaaa gctgcggtgc atttgatgaa atcattgtga taccggctta tccgcggccg	600
aacatcatgc aaaagtggaa aaagtggctc gatttcagaa cattgaaaaa acaaataacg	660
tattataact gttatggcga ttatttgtat gttgcggatt gcgacctct tctgtatgat	720
ttgctgagat atgagaatcc ccagctgaaa gcgtattggc tggatgacgg aaccggttca	780
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tactattatc tgcagcaaat tgacggtgca tttttgtttg cacctcaaat ggatatgctc	900
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tttgatcagc cgagaaatgc gaaaaagcgg gaaaatgatt gttatgatcc gaaaatagaa	1080

cagagagaaa acgaattgct tgagctgatt atcgaaacga ttggagcgaa tcaactggga	1140
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cgggaattgt tctgggagca atactgcagc agggccaaac tgtcggataa aattttaata	1260
tcggttgatt cttcggcttt gatgacgcca aaaataatat ttgataagga accgtatgtc	1320
atagcgctat atcgtttatt tgaggatccc actatcaatc ggacagaaat tgatgatctg	1380
tttgggaaat tgcagacatt gtgtgcgccg ggaaaagtgt tgattccaca ttctaccag	1440
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<210> 2382

<211> 1221

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2382

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caagccgaaa agtgccgcaa ggtgttggtt catttcggag gaaaaagcgc aaaggaatcg	180
ggattgcttg atcgcattha tcatagctta aacgaggcgg gcatcgatta tgtcagcttg	240
ggcgggtgtg tgccgaatcc gcggttgtct aaagtttatg aaggaatcg tctgtgcaaa	300
aaggaaaaacg tggacttttt gctggcagtc ggcgaggagaa gcgtaataga ttccgaaaa	360
gcaatcggct acggtatggc gaatgaatgt gatgtatggg atctttacag tcaaaaatct	420
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gactattctc gctgtcgttt tgctgtgtta aatccggaac ttacctatac gttccccct	600
tatcagacgg cttgcggctg tgtggatatt ttaatgcata ccatggaacg ctattttaca	660
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tgggcgggaa gtttggcaca taacggctta accggatgcg gcaggacggg tgattgggcg	840
agtcaccaat tagagcatga gttaagcgga atgtttgatg tcgcgcatgg cgcaggactt	900

gctgcaatat ggagcagttg ggctcgatat gtttatcaag cggatgcaga acggtttgca	960
cggtttgccg tacagggtcat gggaatttcc gagcaatcac aaacgcggga agagcttgcg	1020
ctggaggga tctcggcaat ggaacgggtt tatcatcaaa tcggtatgcc ggtttccggt	1080
tctgagttgg gtattttact gactgaggag caatgccgcc agcttgctta tcattgcagc	1140
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atttacaaat cggcgcggta a	1221

<210> 2383

<211> 1065

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2383

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gtgttcgttt tggcggtttt tttgatttcg ctgaccacat ggggttatgc atatggcatt	180
atatcctctt taatcagcgt actagcgggt aattatgctt tcacgtttcc gttttttaag	240
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ataaccagcg ccttgacaac caagatcata cggcaggaaa aagtaaaagt ggaaagcgaa	360
aaagagatca tgcgtgcaaa cctgcttcgt gcggtgtcgc atgatttgcg gacgccgctt	420
acaagtattt acggttcttg ctctgctatc atagagaatt atgacagact ttccaaagag	480
cagcatttga agctgctcgg cgaaatgagt gaggatgcgg aatggttaat acagatgggtg	540
gaaaatcttt tgtcggttac tcggattgac gggcaaaaaa ttaatgtcgt aaaaacaccg	600
actgtgcttg aagaattgat tgatgccgtt gtggtcaagt ttcataaaag atatccaaag	660
caggatatta gggttgaaat cccggatgat tttatcagta ttccgatgga tgcgatgctc	720
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gaactttctc tgaagggtgt tacagcaggg aatcatgccg tttttgaaat tgcggatgac	840
ggatgcggta ttcctccgga acgattggag gaccttttta ccggatacct ggaaacaaaa	900

ggtgcttcag cggatcataa aaagcataat atggggatcg gattgtctgt ctgtgcgacg	960
atcattaagg cgcacggagg aactatctgc gccgaaaatc gcaaatcggg gggcgctgtt	1020
tttcgattct cattggattt ggaggactcg gaagatgagc aataa	1065

<210> 2384
 <211> 663
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2384	
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attacagcgc tgtttgttgt caaaacggta gtaagcccgg agggaatgt taaaatttcc	180
aatgtcccca ttacgattaa tctggatgga tcaacagctg ctacgtcagg attaaaggta	240
atttccaaag aggttgatac ggtaacggct gttatcagcg gaaaaagcta ttgggtcggg	300
aatttaaccg cagatgatat ttcggtgaca gcaagggtgg tagatgtaac caaagccgga	360
gagtacacac tggattttatc agtagctttg ttgccggaag cgcaaaagga ttctgattat	420
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tttccgatta cgggtggaac cggaaaaatt gaggttggcg aaggattaat tgtggatact	540
gcttttgcac aacctgaaaa aatcacgggtg agcgggtccgc aaaaagatgt ggaaacaatt	600
gccaaatgtg tggcaaagac cgaagcagtc ggcatgttt cggaacgggt ggtaaaaaa	660
ggc	663

<210> 2385
 <211> 1236
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2385	
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ttgatttaca gtgaagatat ctgtacggcg gcggccattt atacacagaa caaggttaag	180

ggggcgccga ttgccgtaac aaaaaagaat atcaaaaacg gcaaagccca agcgattatt	240
gtaaacagcg gaaatgccaa tacctgtaat gccgacggag agcaaaaagc gcagatgatg	300
tgtgatttaa cggcaaaaagc gctcggcatc aatcagcagg atgtgattgt tgcttctacc	360
ggcgtcattg gtcagggtgct ggatattgaa ccgattcaag acggtatgcc gcaattgggtg	420
tcagagcttt ccgacggcgg aagcaacaat gccgctgaag cgattatgac caccgacacg	480
gtaaaaaaag aaattgcggt agagtttcat atgggtgatg ccgtttgtaa aatcgccggt	540
attgccaagg gaagcggcat gatccatccg aatatggcaa ccatgctttg ctttattacc	600
accgatgtgg caattgaagc ggaattactg caatcggctt taaaaaagggt ggcggaacgac	660
acgttcaata tggtaaagtat tgacgggtgac acctcgacca atgatatggc atgcgtactg	720
gcttccggaa aagcgggaaa tccactcatt gataagcagg ataataacta tgaaattttc	780
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aaagtagcaa aatcgggtcat tacttccagc ttgtttaagt ctgcaatgtt cggcgcagat	960
gcaaattggg gcagaatatt atgcgccatc gggatatgcgg atgcagaatt caatattggc	1020
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ggggttgact ttagcgaaga aaccgcaaaa gaaattttgc tggaggatga aatcaaaatt	1140
attgtcagtc tcggaaaagg taaatattct gcggtggcat ggggctgtga tttgacctat	1200
gattatgtaa aaatcaacgg tgattaccgg acttaa	1236

<210> 2386

<211> 1821

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2386

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gtaaatgata ccgggacgct ttcttttgcac cgggagctgc ggtatccgct gctccgcaca	180
ttgccaaaag atacttacgc aaccctgggg tgccatcacg agcaaataca gtcttttagc	240

atagacggca aaacaataca ggagtatccc gagcggtttg tttttgatgg ggttgtccat	300
gtttattcca aggatgcaga caataaggta gtgatcaagc gttctctgtt tccctgccgt	360
aacagcaagg cttatgttga acatgtgacg atcactaatt gctcccaaaa accggtgatt	420
gtgtcaagtg aagccatctg tgaacgccgc tttgagcggg gtgctaaggg tgtttatccg	480
gtagatattg atagcagagc aatggcgggg gttacacttg tgccggggga cagcgttgtc	540
aatgacctga tcttcagcgc acgactgccg atggaaaaac cgattagatt ggacggagcc	600
tctgagttgg cggccagaat ggatctggta catcagatgt tttcagattg tttggatttg	660
gaaacaggcg atgataaatt agattgtatg tttcgctttg ccaagctaag agcggcagaa	720
agcatttttg acacagcggc aggaccgctt cattctccgg gcggcggcgc ttactatgct	780
gcggtttgga caaatgatca aattgaatat gccggacctc tttttccgtt tttgggctat	840
gatcgggcaa atacagccag tgaatatgct tttaaactct atctgccgtt tatgggtgaa	900
aacctgtatc gcataccatc ctctatcata gatgaaggta atgatctttg ggaggagca	960
ggcgaccgcg gggattcagc gatgtatcta tatggtgtca cccggttctt attggcgtac	1020
gggaaacagg aaacggcaga gcaatattgg gatgctattg attggtgtgt gcgctattgt	1080
cgcttaaaaag tgaatgaaga cgggtgaatc gcttctgatt ccgacgagct ggaggaaagg	1140
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tatgcgctga gaggcatttt gaatgccgga catagcgatg aagtgtatca atttctggaa	1560
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ggaatgtttg gttttgtgcc gcgcggcttc cgctcgtttg aactgcatcc gtccgttccg	1740

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acggtagaac acgccggaga c	1821

<210> 2387
 <211> 1335
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2387	
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gatattgatg ccgaacggct aaaggacagc gaaatgatgc tgagcaccat caaccacaac	180
agcaacaatg acagagcaac aatcaaaaagc tatttaggag tggaaaaccg caaggaagct	240
ctgcgcaacg ccaactttgt ggtaaagtc attcaagtgg gattatatga tccttgtagc	300
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cacggcgata tggttcgata tgactatatt gacaaattag gttattattg cacggaatcc	780
agtgaacata acgcagaata caatatgttt tacataaaat ccaaatatcc ggaattaatc	840
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ccctgttttg tagacgggaa cgggtattcat ccgtgccgcg taggacgttt accggtacag	1140

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acccgtaaaa aagaacacat ttatcaagca gctatgctag agccccatac cgccagtga	1260
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<210> 2388
 <211> 1569
 <212> DNA
 <213> unclassified Ruminococcaceae

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atgatatcgg ggatttatcc cccggatgag ggacgcattt tcattgacgg agaggaagtc	240
atgatccgtt ctccgaaaga tgctttccgg tatcggattg gtatgatcca tcaacatttc	300
aaattgggtg acgtttttac tgccaccgaa aacattgtac tcggactgaa agaaaaaggg	360
cgctttaaca tcaaaaaagc agcggaaagt gtgcgggaaa tcagtgagaa gtatggattt	420
gaaatggatc cgatgaaaaa aatatatgag atgtcgggtt ctgaaaaaca aacggtcgag	480
atcatcaaag ttctgtaccg cggtgccgat attttaatac ttgacgagcc gacggctgtt	540
ttgactcccc aggaaacaga aaagttgttt gcggttttgc gtcggatgag cgacgacgga	600
aaagcaatta ttatcattac acacaagctt catgaagttt tatcgctttc ggaccgtgta	660
tcagtgttta gaaagggcga atacatcgat accgttaaaa cttccgaaac aaatgaatca	720
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cagcaaaaag agcgcgggtgt cgcagttatt tttgtgggag aagaccttga tgtactgctg	1440
gaactgtgtg accggattat ggtaatcggg tcaggcaaaa tcaacggaat gatagacggc	1500
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 <211> 1368
 <212> DNA
 <213> unclassified Ruminococcaceae

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gcaaaccgcc atattttacaa cagcaaagca atattatcag gcgccggcag tattaccgac	180
cgcaatggaa ttgttttggc acaaaccata gacgggtgaca gagtatacaa caatgacaaa	240
aatatccgca aagccttatt acacacggta ggagattcct ccggattaat taaaaccggt	300
ctgcaaaaaca gctattggaa aaagctgggt ggctataatt tagtaaacgg cgtatttcag	360
cccagcggtc aaggaaatga tattactctg acgtagacg ccaatctttg tgccacagcg	420
ttaaaagcgc ttggaaaata cagcgggtaca gtaggcgttt acaactataa gaccggtgaa	480
atgctctgta tggtcagtac accaacctat gatatcaata atccgcctga aatctccgaa	540
gaagatgaaa aatataccgg cgtttatctg aaccggtttc tttcttcttc ctacacgccc	600
ggttccactt tcaaagtagt aaccgcagcg gcggcactgc aaacctttga tgaaatggaa	660
aacatggagt ttacctgcaa tgccgggtgtt gaaattgagg gcgaatgggt cagctgttta	720

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gatgaaagtt tgccgcttgc ttttgccgtc gttgccgaaa atgcgggaag cggaagccga	1320
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<210> 2390
 <211> 1758
 <212> DNA
 <213> unclassified Ruminococcaceae

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gttatggatt ccaacgatct ggaacgggag cgcgccatca caatttttagc caaaaacacg	180
gcagcgcatt ataaaggcgt aaaaatcaac atcattgata cccccggaca cgcagatttc	240
ggcgggtgaag tagagcgtgt gctcaagatg gtaaacgggtg tgcttctgtt agtagatgca	300
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cgtattattg ttatcgtaaa taaaatcgac cgtccggatg cccgtctgga cgaaattgca	420
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attttattct gttccggccg ttccggtacc gcttccttgt cccaatatga agccggcact	540
gatttggttc ctttgtttga caccatattg gattatatcc ctgcgcccga aggcgatccg	600
gatgatgatt tgcaattact ggtatcttct atcgattaca atgaatatgt cggacgaatt	660

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<210> 2391

<211> 1380

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2391

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cttgcgagg aatccacctt taaccaagct ggcaatttct actataccca cgcgctcaat	180
accatgaaac agtgcacca atattccggc aaggtttctc ttgactttat taacttagag	240
aaaaacccca cctacggcac cggaaaatat tccgagagtc tgcaagccgg caatatcatc	300
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tgcaatgatt tagtcggcaa agaagacaac acattaaaca tcgttccgaa atccgacagt	1260
tccgaaacac ttgatattac cgaagcaaca gtaaaagtat tccagattat cttcgtaatc	1320
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<210> 2392

<211> 2082

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2392

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ttcgggtatcg atattgaaaa tgactttgaa ccgaaatata tcaacgtggg tggcaaggga	180
gatgtcatta aggatctgaa gaaacaggca aagaaatgca gtaaagtata tctcgcgacc	240
gacccggata gagagggcga ggcaatttca tggcaccttg cacatatctt aggtttatcg	300
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ggaacgggag ccattatggc agtaccggga catgatacca gggactatga ttttgcgaaa	420
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<211> 1824

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2394

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attaccgaaa agaaaggatt ttatgttgtc atgaaattaa atggttcaga aatactttta	180
gaatgtttgt tggaacaagg cgtggatacc gtctttggat acccgggcgg atcgggtcttg	240

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ccgcagcaag ctcatcccga ctggattcaa cagattgtcg catggaaagc ggaatatccg	1200
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gaagagatag aaccggttct gcgcgaggct cttaccggca atcaaccggt gttgatcgaa	1740

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 <211> 1566
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2395	
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<210> 2396
 <211> 1257
 <212> DNA
 <213> unclassified Ruminococcaceae

<400> 2396	
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gaactgccgg attatcagct gcggatcaca gcctgccata tcaatcatct gctgcgcgga	180
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caatttcgta tatttgacag acatattaca aaaagtataa aaaaactgtt caatgaagcg	1200
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<210> 2397

<211> 1299

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2397

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gtcagatata ttgatgctct gtatacttct accagtgtctg tttgtgttac aggtctgatt	180
gcaatagatg cgggagacac ctttacggcg gtaggacagt tttttcttgc ggctctgatt	240
caagtcggag gtcttggcgt taccgctgtc ggcgcgggga ttattctggc aatgggcaaa	300
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ggacttgta attttgtaaa atctattttc ctgacaacag tgatttttga gctgacgggg	420
gcgcttctca gttttactgt ttttgtgcgc gattatccgc cgtagaagc actgggtatc	480
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caaaatttga ttccttatcg tgataatgtg atgttaaatt tggttacctg cggattaatt	600
atattcggcg gtatcggatt tttggtaatt cgggaactct ggacaacaag attgtgctgg	660
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gatttttcct taacggatat tttatttgaa gtaaccagt cctttggtac ggttggtttg	1140
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tatatcggac ggctgggacc attgacgggt gcttctttgt ggtatttcac aatgggggag	1260
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<210> 2398

<211> 1869

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2398

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accgtaataa tgccgttcgg cggcgcctat cagatgacgc ccacacaggc aatggttgca	180
aaaataccgg tgttaaaggg agaaacctcc acttcttcgg taatgggctg gggattcaac	240
ccatacatca gtgaacaaag tccctatcac ggtgcaatgc ttgcagtcac tgaatcggtt	300
gcaaaagttg ttgctgccgg cggaagctat aaaaaatgct gggcatcttt ccaggaatat	360
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gaaaatgttt caaatgaatt gttatttaat gctgtatacg gcggttttat tgtggaatta	840

gacgaacgag ctgacatatc cggcgatttc aaagtaatcg gttatacagc cgatgaatac	900
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<210> 2399

<211> 1353

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2399

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gagcaaaatc cgaagctgat tgaagcaggc attgttgacc gcatcgttga acccgaaaga	180

gtcattcaat tcagagtatc ttgggtagat gacaacggaa aggttcaggt aaaccgtggt	240
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<210> 2400

<211> 1368

<212> DNA

<213> unclassified Ruminococcaceae

<400> 2400

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gcggcgtatg ttccgatgtt accaaaattc ccgatcggga gattgcaata tatggttgaa	180
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aaaaaagaac ttccaactta tatgattccg tctgaaattt atgaattgca gacaatgcct	1320
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<210> 2401

<211> 942

<212> DNA

<213> unclassified Clostridiales

<400> 2401

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<210> 2402

<211> 1395

<212> DNA

<213> unclassified Clostridiales

<400> 2402

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<210> 2403

<211> 1896

<212> DNA

<213> unclassified Clostridiales

<400> 2403

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attgttgcga acggcgtgga tgcgattacg aaatacaaga aacttgtgga aatgggcgaa	180

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<211> 2673

<212> DNA

<213> unclassified Clostridiales

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<211> 1539

<212> DNA

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<211> 1377

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<211> 975

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<211> 1536

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<213> unclassified Clostridiales

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<210> 2427

<211> 1659

<212> DNA

<213> unclassified Clostridiales

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gattcgcacg agatgattac gctgtactac ggcgaaaggc tttcggaaga agatgccgcc	1560
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<210> 2428

<211> 1269

<212> DNA

<213> unclassified Clostridiales

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<210> 2429

<211> 1467

<212> DNA

<213> unclassified Clostridiales

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<210> 2431
 <211> 1395
 <212> DNA
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aacggtcgtt ttattaaana catcgtcaga atcaaaaagg cggcggctat cgtcaatgca	180

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<210> 2432

<211> 1194

<212> DNA

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 <212> DNA
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<211> 2331

<212> DNA

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<211> 1377

<212> DNA

<213> unclassified Clostridiales

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<211> 1908

<212> DNA

<213> unclassified Clostridiales

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<211> 2472
<212> DNA
<213> unclassified Clostridiales

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<210> 2438

<211> 1956

<212> DNA

<213> unclassified Clostridiales

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<211> 1419

<212> DNA

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2109

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<211> 4266

<212> DNA

<213> unclassified Clostridiales

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<400> 2462

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<211> 3558

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<210> 2468

<211> 2496

<212> DNA

<213> unclassified Clostridiales

<400> 2468

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<210> 2469
 <211> 2754
 <212> DNA
 <213> unclassified Clostridiales

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<210> 2470

<211> 1893

<212> DNA

<213> unclassified Clostridiales

<400> 2470

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<210> 2471

<211> 1989

<212> DNA

<213> unclassified Clostridiales

<400> 2471

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ttaaagacga gttcaatgac tgttgaaagc atcgcgcttt ctgttggcta tcaaaatgta	1920
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<210> 2472
 <211> 2844
 <212> DNA
 <213> unclassified Clostridiales

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<212> DNA

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<211> 2280

<212> DNA

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<211> 2196

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<211> 2658

<212> DNA

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<211> 2607

<212> DNA

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ccaactgttc ttcgtgatag aaatatggta agagaaggca tggttatgcc ggcttactac	1440
ggagagacag caaatgcatg tgcgcttgac cgctgtatgg agcactgcaa gaagatgttt	1500
aactgggatg aaaagtatcc tgttcgcgac atgggcaatg gcaaagtgcg tgcagcaggt	1560
gttggtatgg caatgcaggg aagctgtatt tcaaacttag acgttggctc tgcaacatta	1620
aagttgaatg aagacggcgg ctacaatttg cttatagggtg ctgctgatat ggggtactgga	1680
tgtgatacta ttcttgaca gatggcagca gaatgcatgg actgcagcgt agatgatatt	1740
gcagtatttg gagcagatac agatgcttca ccgtatgatt ctggatcata tgcatcatca	1800
actacttata tcaccggaaa ggcagtagaa aaggcatgtg ctgacttaaa gaaaaagatc	1860
tgcgagattg cagcacagat gatgaactgc gagaaggaag atgttgcatt tgagagcagc	1920
cgtgtgcgct gtatttcaac tggacagaca gtgtcattgt cagagattgc ctataagaca	1980
cagctggcaa gcaacagcaa tgcagaggca acagcgtctc atttttcacc tgtatcaccg	2040
ccgccgtata tggttggaat ggcagagata gaactcgata agctgacagg tgagggttaag	2100
gtgcttgact ttatggctgt tgtggactgt ggtattccga tcaatccggc actggcaaga	2160
atccaggcag agggcggaat tgtgcagggt atcggtcata ctttgatgga gaatgtcacc	2220
tacgacaagt ctggccgtcc aattgagtct acctttatgc agtacaagat tccgacacgt	2280

cttgatatgg gcaagctgaa ggtagaattt gaacacagct atgaaccaac gggaccgttt	2340
ggtgcgaagt caataggcga gattgtaatc aatacgccgg caccggccat tgctcatgcg	2400
atttaccgcg caacaggagt atggcacaga gaattgccta tcacaccaga acaaattgct	2460
atgtcgatta aataa	2475

<210> 2500
 <211> 1842
 <212> DNA
 <213> unclassified Clostridiales

<400> 2500	
atggaaaata aagaatatac ccctggacag aaccgcccgg gcagaagagg cggtatgcgt	60
ggacctggca tgggaagagg tcctgctgag aaggcatctg attttaaagg aacatgggtca	120
aatctgattt cgtattgcaa aagctatctt ccggttgtga tcattgcact tatctgcgcg	180
gcaggaggca cggttttgac gcttcttgga ccagataagc tgtcagagat gacaaaggaa	240
attggaaaag gtcttgtaac aggcgttgat atggacgctg tttctaagat tggatttaca	300
ttaattgcat tttatgtgtg cggtgctttg ctgtcatttg gtcagcagtg gattatggca	360
acagtgcac aaaatatttc aaaaaagctt agagggtgata tttcaggaaa aattaaccgt	420
ctgccgatga gctattacag ccgctctacg acagggtgata tcctctcacg tgtcacaat	480
gatgttgata cgatatcaca gtctatgaat caaagcatcg gaaatcttgt ctccgcagtt	540
acgctttttg tcggttcact ttttatgatg tttaaaacag atgtgattat gacgatcact	600
gcaattgtgg cgacattgat tggctttgta cttatgacag ttattgcaaa gcgctccagc	660
agatatattcg tgcgccagca gcgctgcctt ggtgagatca acggtcacat tgaggaaatt	720
tacacaggtc atacagttgt aaaggcatat aatggagaag cgcaggcaac agcagaattt	780
gagcgcatga ataataattt aagagaaagt gcatttcgtg cacagtgcct tgccggactc	840
atgccgccta ttatgacatt tatcggaac ttaggctatg tggcagtcct tgtggcaggt	900
gcagtgtga ctatgaaggg aactattggc tttgaagtaa tcgttgcat tttgatgtat	960
gtgcgttatt ttacacagcc gttatctcag atcgcacagg cggcacagtc tttacagtca	1020
gcggcagcag cagggtgagcg tgtctttgag tttcttgagg caaaggagat ggatgacgag	1080

agcaataaga caaagacgct tgacaatgta aagggtgatg tatcatttga acatgtaaag	1140
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caaaaaattg ccattgtcgg tccaacggga gcaggaaaga caacacttgt caatctgctt	1260
atgcgttttt atgagattca gggcggaaaa atctgcattg atggcattcc gactaatcag	1320
gtaaaacgtg aaatggttca ttctcagttt tgtatggttc ttcaggacac atggctgttt	1380
gagggtactg ttagagaaaa tcttgtatat tgtacgcaa atgtctctga tgagcgcag	1440
aaggaggcat gccgcgctgt tggctttgac ctttttgtga gaacactgca gaatggctat	1500
gatacagtgc ttaatgatca ggtaaatctg tcacaaggtc agaagcagca gttaacaatt	1560
gcccgtgcaa tgatcgctga caagcctatg ttgattctcg atgaggcaac aagctctgtc	1620
gatacaagaa cagagcttca aatccaaaat gcaatggacg agctgatgaa gaatcgctact	1680
tcttttgta ttgcacatcg tctttccaca atcaaaaatg ccgatcttat ctttgtgtta	1740
aaggatggag atgtaattga aagcggaacg cacgaagaac ttttggcaaa gaagggttt	1800
tacgctgatc tgtacaacag ccagtttgac caggcatcgt aa	1842

<210> 2501
 <211> 291
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2501	
atggaaaaga tagaattcaa aactgtagag gaactatata aaagagtatc acctgcttta	60
tattcaaaac ttaaagagat taaaagaatg ggttacacat tagtaacaga aaaagatata	120
tggaattatt tagttgataa tgattggaaa aatagaacta atttagaatt atacgattta	180
attagtgata ttatgaatgc tgataattat aaaataaatt tatatgttac agataaactt	240
tcaagaatga aaagtaaact agataaaaca aataatacag atatacttta g	291

<210> 2502
 <211> 531
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2502
atgattatta tgaaaaagat taaaattata ggtgtttttg ttataatgcc tttatctatt 60
ttatgtcatt ttttatatga atggaatagt aattttattt ttagtgtgct ttgtccgatt 120
aatgaaagta tatgggagca tatgaaatta atggctactc cttttctctt atatggtatt 180
tttgaatgga tttattataa gaaaaagaat atcaattatg ataatttatt aatatcactt 240
tgtatttcta taatagtagg tataattgct tatttagtac cttatcttat tattgataaa 300
tttattagtc ataatatgat agtatctatt agtttattat ttttagatta ttgttttatg 360
gaatatttaa gttttaagat aattaatata aataaaatta aatattcaaa ttatatagga 420
attattttat tgtttttgat atatttaatg ttttattatc ttacttataa tccacctcat 480
acttatttat tttatgatac taaagataaa atttatggaa ttaaaaactg a 531

<210> 2503
<211> 861
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2503
atggaaaaac aagtacaaga atatataact tatttaacac cagagtatat ttatatacct 60
tatgataatg aaatgttact tacattaaat aaaaataaat tagtttatca taatatgagt 120
cttgggacta ataatgatgg aagtgaata tttagtcttg ttagtggttaa aattattggt 180
ataaaagaga tggaatttaa taataagaaa agtaacacac ttgtaataat gaatgattac 240
aaagataaac gtgaaaaatt aaatccatca agaaatataa ataagggttaa aaaaagtgat 300
atagtagcat ctttacaaaa atataatctt aataaaaaaa ttaatagtaa gactactctt 360
gtagtaaaatt ctttatataa taaaaactat gatcttaaag atatgggttat taattatgag 420
tcatatgagg gtatacttga agctatagat gaatttatgt ctatatttaa tatgaagaat 480
tgttatatat gcattcctaa aactgattta tattctactt gtgcatatga aaaatatatt 540
aatgcattta tgaatatatg tttagttcat tctaatagta agtttaaaga tagtacttgt 600
gtattttata gtattgaaga aatacttgct atacataagg ctatacatth agattatatg 660
tatgataaca caataataac aataaataat ggtaaaagta caatagtaaa agtaaaacta 720

tatacttcac tttatgaagt tttaaaagca ttaagaatag cttataaagg taaaaagata	780
ctagttaata ataaagaaat aaatgaaata aaagactttg ttatagattc tagtataaga	840
agcgtaataa taaaggatta a	861

<210> 2504
 <211> 462
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2504	
atgaattatg aaattacata tgatactcaa gttatagcac ctatcgatag tgaaacatca	60
agagttattg aaacagaagc agaatatatt gttaataacc caccattaaa tatacttgaa	120
tatagttgtg aatactttgg aagttcatat gaaggaagaa aagagggaaac taaaaaactc	180
cttggcataa cacataagtc accaatagta gtagaagaaa gtagaaaaat aatctttttc	240
ccaactacat cagcagaaaa tgaaaaatgt gtatggatta atttagaaaa aattgataag	300
tactataaac ttgacccaaa aagaacagca atagtattta agaatggcga tttaatagaa	360
ttagacatat catatgggtc actcaciaaat caaattttaa gagctagcag attaaaaattt	420
ttactagatc aaagaatact aaaaaaagat aatataattt aa	462

<210> 2505
 <211> 519
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2505	
atgttaatta tgaaaaaatc aagtgttatt atatttggag tactaataat ttttgctatt	60
ttagttgttc caaagttaat taaaaagttt agtaatgata gtaaagttga taataccaat	120
actactacta aaattagtaa tgatagattt attgttgaaa caaaaagaat gataagaaat	180
gttcaacatc aatattttaag tgatttttgt aaatggaatt attatgcttt agatggatca	240
agggataaaa attcaaattc tgtaactact aaagaatgta catcagctaa tggatatgat	300
gtaacaactg atgttagcgg aaatattaaa caatattgca gaatacatca tgaaaaagaa	360
ataatattta aaagttttat agttactttt aatgctagcg atgggtcaagt aaatacatta	420

tatgctaatag atggtacata cgaatatact ttcaatagca atggtggtac agttgcattt	480
gatgctacta aagttacagc tactgaaatt ggtaaataa	519

<210> 2506
 <211> 696
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2506	
aagaatagta ggttaaatat gaaaaagcag gaattaaaat attataaata taaactaaaa	60
ctaggaatag gtaatatagt tgtatcatta ataatgatac tactttttact attattatat	120
tttacatttg atgattatta ctttaatttt ggatataaaa aaatattaat aatgataggt	180
tacttcatgc tacacgaatt acttcattat ataggctatt taataaataa aaatgtcaat	240
aataaagact tatgttttagg aatgtgcctt gaaaaaggag taatgtattg tagatgtaca	300
aatgaaataa gtaggtcatc tattatgata tcacttctta ctccatttac actaataggt	360
attatcacat taataataag ttatatattt gatatgccat ttctagcatt cttatcagta	420
tctaatatag caggttctta ctttgacata cttatgttta taaaaatatt aaagatgcca	480
aaagatataa aattcgcaga atatgatgaa tgtgatgcat attatataat aagtaataaa	540
gatttaacta acattaaaaac aaaaggaatt tcttttagtaa agacagagaa cattaataaa	600
gataaactaa aatctaaaaa taataaaaaag atagaaatat caacattcag tataataata	660
cttattatat tagtagcatt atctttttata atttaa	696

<210> 2507
 <211> 519
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2507	
atggcacaag ttaaaaactaa aaaagaaata gtaaaaatgc tactaaaaaa taaagtatta	60
gaagacaaaag acgaaacaga actaatggaa atgttatttg atcaagaaat agcagtagat	120
gttgataaat atgttgaaga aaatgcaaca tggaaaagata ggtagccga tagaataact	180
aaaagagcag gtagttgggg tttcataata ggatttataa tattttttatt actatggatg	240

gtaataaatg gagtaatact ttgtgatgga aaagcttttg atgaatatcc atttatatta	300
ttaaacttat tcttatcatg tgtagcagcg ttacaagcac caataataat gatgagtcaa	360
aatagagccg ctgaaaaaga ttcattacgt ggtaaaaatg actataaaac tgatttaaaa	420
agtgaattaa tattagaaga actacatgag caaatgacta aaatgatatc taatcaaaat	480
aaaataatta aattattaag tgacgaagat aaaaagtag	519

<210> 2508
 <211> 642
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2508	
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ggatgcgatt atagtgctaa agactttgat gatttaagat atgatgcatt atataatata	120
ttaatggaag gtaaaacatc tatagtagct tttctatcaa ttgaaaagaa taaatttgga	180
cgtgaatatg taacaccatt cttatattta agagctagaa atacaggtag agatgcagtt	240
gatttattaa gttttaaaac aaaatgctca cttcttactg aaaatggatg cgaatatgac	300
gcatcaaaaa gaccaagtgg aggattaaat ttaatacctg ctgaaaatgg atgttatcct	360
cttgaagatc cacttgagat tgtaatgaca tggaagaact atcaaaaagt acttgctaaa	420
cttgttaaaa gaattaccgg taaatcagta gaaaaacaac ttgaatgtga catagaaaaa	480
ttatttaatg atatattaaa tgagaatctt gaaaatgtta cttatagaga aagacatgaa	540
ataggtcctc ttgttacaaa attagcacat atgtatccga gcattttaca taaatcagta	600
agtaaaaaaac aaagtagtga acttatctta caaaagaaat aa	642

<210> 2509
 <211> 558
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2509	
tttatatcaa aaaatattat aattataata ggagaaaaata tgaaaaatgt attatatgca	60
caacttattg gtgtagtcgc aatgctcact atatcttttt cagttcaatg tagaaaaaag	120

aaacatatga tgatggttca atctttcgct cacatgttat atgcttttca atatgcttta	180
cttgggtgcta tttcagctgc atatatggat ataatggcag tagtaagaaa catacttttt	240
tataaatatg ataaaaatag aagacaagtt ccaattgttt tatcaggaat aataattata	300
gtaacaggaa taattggata cttaaattat acaaatcctt tatcactatt acctgttata	360
gttgcaatac tttatactat aggagctaca tttaaaaatc caagagtata taaatatgta	420
tttggatttt gtgctatagc atgggttattc tataatttaa aatttaaagc atatgtttgt	480
gttataggta acattatgga aatcacttca acaataattg cattagttag agaaactaaa	540
aataagaaca aaaagtaa	558

<210> 2510
 <211> 1068
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2510	
atgaaagata gatttggtaa aattagttta tggaaaatttt tattttctat aatgattata	60
atatttcatg ttggtaatgt tcttgattat aataaattta gatttaattt tggatcagga	120
agtatagcag tagatttttt ctttgttgta agtgggttttt tctttttag aaagtatata	180
aattataaga ttaaaaaatc acttgagaa gatagtttta actatttagt aaatagaaca	240
agtagattta ttaaataatat tataatttta ttaattattg ctattccatt ttctatattg	300
tgtttaaaat ttaattttac aagtgttaata aatgcttttt ataaattatt atatatacct	360
tatcatggta aatgtaattc agaaattttt ggaataacat ggtatattat ggctatgatt	420
ttagttgaat caatgttatt tccattttta gttaaataata aaaaagaatt tgtatatatt	480
gtttctccga ttattattgt ctattggga agttatttat taattagata tggacatttt	540
gctactcctt ggaaaatggg aagtatactt tataaaggaa tattaagggg tattttcgaa	600
ataaatatag gaatgtattt atatttaatt agtgaaaaga ttagtaatat taagtttact	660
aaattatcta aaatattact tttattgttt gaaataactg gatatttaag tatttttata	720
cttgtaaatt taaataatgc tcatagaaga tttgatgttt taatgttaat tatattatca	780
atatgtatac taatatctac taataaagat atgtatttat ataaattttg taataataaa	840

ttatTTTTatt acttagaaaa attaagTTta cctatgtata tttatcaatg gcttattatt	900
gaaatattgg tatttatact aactaagttt aatattcatt tatcataatt atgtttttct	960
ggTattacaa ttataatttc tattatTTTT ggaatgatta tattaaaatt aattaatttt	1020
tatgatagta aaaagaaaaa aattaaatta ttattcattg caaattaa	1068

<210> 2511
 <211> 735
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2511	
atgagatatt taatgaatat tacttatgat ggaagtaagt tttatggata tcaagttcaa	60
aagaatgaaa agactattga aggagaactt gaaaaaactg tttctaaaat atttaatgaa	120
agtattaata taataggtac atcaagaaca gataaaggag tacatgcat aaatcaatat	180
tgtcattttg atagtataaa aaagattaat attgatagac ttaaacaatag tataaatagt	240
ttaatagatg aatctattta tattaaagat ataaaggtag taagtaatga atttcattcg	300
agatataact gtataaagaa agaatatata tataaaataa atatgaatga atataaccct	360
atagagaaaag attatgtata tcaatataat aagaaaatac caaaagaatt acttgataaa	420
tttataagta aaatgaatgg taaacataat tttaagagct ttactagtga taaagataaa	480
aagtcatatg aaagaatact taaaatggat tataagattt ctaaggaaat actttactta	540
agatttgaat caagtggatt ctttagatat atgattagaa acatagtggg attattactt	600
gatataaata atggtaaaaa gagtattaat gatatagata atatatttaa aagtgaaaat	660
agaattagtg ctggtatatg cgctagtcca gtaggacttt atttaaataa aatttatTTT	720
gataagaggt gctag	735

<210> 2512
 <211> 639
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2512	
atgaaaaaga gaaaattaga tatattatat gaagataaac atttaataat agtaaataaa	60

aatggtaata tgccaactat taaatgtgat aactataaag ataatttata tagtgaagta	120
tttgattatt tacataaaaa gaatcaaaaa gtattttag tagtgaagta	180
actagtggta tagtagtatt tgcgaaaagt gaaagagtaa aagaatcact acaaaatata	240
tgggattaca cagaaagaaa ttatatagca gtagtacatg gaataactaa agataaaggt	300
acaataaaaat cttatctaaa agaaacaaaa acactttaca cttatagtag taatgataaa	360
agtggtaaat atgctgaaac aagttatgtg agagttaaata caaataaaca atactcatta	420
cttaaaataa atatcaaaac aggtagaaaag aatcaaataa gtagtacatat gaaagataat	480
aatacgctaa tattgggaga caaaaaatat ggtaaaaaag atggttatag aaaaatgatg	540
ttacttgcga atgagataaa atttatacat ccagttacta aagaaataat ccatattgat	600
ttaaaaatac ctaatgaata tagcaaaatt gtagaataa	639

<210> 2513
 <211> 897
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2513	
atggtagagaa aagtgaagat attaatgata aaagaacat atgcaactct tatatgtaat	60
aagaaaaagt ctattgagac aaggagttat aagacaaatt atagaggaga attatatatt	120
catgcaagtg tatctaagat tgacaaagaa actttaaata ataaagaatt aatggatata	180
gttgataatg atacttttag ttatggaaaa ataatatgta agtgtaaact ggtagattgt	240
gtttacatga caagtgacta tatcaaagag attgaaaaaa ataaacaaga atatacttgt	300
ggatactatg aagttgtag atatatgttg gtacttgaag atattgaacc attagataca	360
aagatagacg cagtaggtaa tttaggcata tggaattatt atactttaga tgatacagtt	420
aacattatga ataattatga atatggatat attgatagtg ataataaaag acatactgaa	480
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aaattaggat tatgttatga ccaagtagag ttagagagat ttttacttca aaagaataaa	600
tggaatattg aaacatattt tatgattggg aaaagtagta aatatcatat tcatacattc	660

ttaatatTTTg aaaaagataa taaatattat tggTtagaaa attcatggaa aagattttaag	720
ggTattcatg gatataattt taaaagtga ttaatgaatg atgttaaaaa taaattttatt	780
aaatatgaat tagataacat tgataatata gaaatacata agtatagtaa accaaaatac	840
aatataacat tagaacaata taataatcat tgtttaaatg gggaaatata tgaataa	897

<210> 2514
 <211> 1176
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2514	
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gaaaaagaaa ctattgttga taaaataact caaaaagaca atcttgtttt tgaatatgct	120
gataaaatta aattatatga tttagttaat acagaagaaa aattaacaag cgataataat	180
tatatagata catataaact tggtaataat gaagtaaata ttaactattt aaacagtaaa	240
aataagaaaa agaaatacaa agttacatac gaaatagttg atactacaaa acctatcata	300
ttactttctt catcaataac agcatataaa ggtaataatg ttaaccttgt taataaagca	360
atatgtgctg ataactacga taaaaaacct aattgctata ttgaaggaga ttacgatatt	420
aataaagttg gtaaataataa tttaaaatat atcgcaatag attcgaataa taataaaaaat	480
gaaaaaaaaat ttgtattaaa tgtaaaagaa aaaaagaaaa gtaataataa tacaagtaca	540
agtagaaata aatattttaat taaagactta attaaagaac ataaaaatga taagacaatg	600
attggtatag atgtttcttc atggcaaggT aacgtcgact ttaaaaaggT taaagatgct	660
ggTgttgaat ttgttatcat tagaattgga tttggtcata agaatggTga aattgtttat	720
gataatagat ttaatgaata tttaaaaaat gccaaaacaa atggTcttaa agttggatta	780
tacttctatt cttatgctaa aaacataaaa gaatctaata aacaagcaaa atggattata	840
aaagaattaa atggTgaaac acttgattta cctatcgcat ttgattggga aatatttagt	900
ggattttaata attataattt aagtttaact gatctaaatt taattggTga atcattcata	960
aaagaaataa ataatgcagg ttatgaagga atgctttaca gtagtaaata ttatttagaa	1020
aatatgtgga acttaaatga atataaaaca tggcttgctc attatataga taaaactaat	1080

tataaagg	tg	aatactacat	atggcaactt	tctaatacag	gtaaagttga	tggaataaac	1140
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<210> 2515
 <211> 498
 <212> DNA
 <213> Clostridium sp. CAG:524

<400>	2515						
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gaaattaaga	atggtaaaat	taaattagat	agagttttat	atagtgtctat	ggcatatcca		120
gctgaatatg	gattcattga	taacactcta	gctggtgata	aagatccatt	agatatatta		180
gttattggaa	cagaacctac	atatccagga	tgtattattc	cagcaagggt	aataggggta		240
cttaagataa	ttgataatgg	atttgaagat	tataaaataa	tatcagtagt	agatgtagat		300
cctagatacg	aagaaataca	tgaacttaat	gatctatcta	agtttatatt	agatgaaatt		360
agaaaactttt	ttgaaaatta	taaagttctt	caaaaaatag	atgttaaagt	tgaaaaatat		420
tatcctaaaa	ataaagcatt	aaaaattata	gaacaatcac	gtaagaatta	cttgaaaagt		480
aatggtgaag	aaaaatga						498

<210> 2516
 <211> 465
 <212> DNA
 <213> Clostridium sp. CAG:524

<400>	2516									
atgaaaacga	atgtaatgag	aatacttgat	caaaagaaga	taagatatgt	tattcatact		60			
tatcagaatg	ctgttagtgg	tatagaagta	gcagatactt	taaatgaaag	ttatgataaa		120			
gtttttaaga	cattagttac	tgtatctaata	acaaataatc	attatgtttt	tgttgtgcct		180			
gttaataagg	aattagat	ttt	aaaaaaagca	gctaaagtag	taggtgaaaa	gagtatagat	240			
atgttaaagt	cagcacttct	gcttccactt	acaggatata	ttcatggagg	atgttcacca		300			
gttggaatga	aaaaacaatt	taggactatt	gttgataaat	ccgcttcaaa	taaagataga		360			
atatttg	tta	gtgg	tggtg	taa	aatagg	ttat	caaattgaaa	tagaattaag	tgaacttaaa	420

aaagttgttg attttgaatt tgaagatata actaaagata attga 465

<210> 2517

<211> 645

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2517

gataaaatat tatataatgt gatatactta aatatatgga gatgttatat gaaatatata 60

ttatatagaa ttgtaagaac tcttggttat cctatatatatt tattattata tagaccagag 120

tttgaaggaa gaaataatat tcctaaaagt ggtagtggtta tacttgctgg aaatcatact 180

aataatttag atgctgcgat aatgcttgct ggacctaaaa gagtagttca tatgcttgct 240

aaaaaagaat tattttaaag taaaataagt aatgcatttt ttagaagtat gggatgtatt 300

ccagttgata ggaaaattca tgatgaaaat gctaaaagcg aagcaataga agtacttaaa 360

aataacgaag taattggtat atttcccgaa gggacagtca atagaacaaa tgatataatt 420

cttccattta aatatggagc agtatcattt gcaaaaaaga caggtgccta tattgttcca 480

tttactataa caggtaaata taaattatatt agaagaagta ttaaaataac atatggaaaa 540

ccatataaag ttactgatga cttagaaatt gaaaataaaa aacttatgaa tataattaca 600

aaaatgctta taaaggagag aagtaatgtt aaaagaaaaa gataa 645

<210> 2518

<211> 699

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2518

atgcttgat atggtagaaa tgtagtacgt gaaatattaa atagtaatac taaagtatat 60

aaagtatttc tagataataa ttttcaagat aatgaattat tagaaaaaat agataaaaag 120

aatctaaaga aatttcatat tgataaaaat aaaatagata agatgtgtgg tagtagtact 180

aatcaaggta ttgcattaga tatagaagaa tatggatatt taaatattga tgtattagaa 240

aatgatgata aagcaaattt tattgttatg ttagattcta ttgaagatcc acataatttt 300

ggagctatta ttagaacttg tgaatgtgct ggtgttgatt atataattat acctaaaaat 360

agaagcgтта gtgttaacag cactgtttat aagacttcta gtggtgcatt aaacaatgтт	420
aaaataatag aagtagtaaa tcttaataat acaataaaga aactcaaaac acttggattт	480
tgggtatatg gtagtgatgc tttaggaaaa gactatagaa gtattaagta cgatttctaaa	540
acatgtctta taattggtag tgaaggacat ggtcttaaaa aaatagtaag taattcatgt	600
gatgagatta tttctatacc aatgaaaggt aaagtaaatt cattaaacgc atcagtcgca	660
tcaggaatac ttatatatga aataatgaaa tataaatag	699

<210> 2519
 <211> 1137
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2519	
atgattgatt ttaaagaact tatagaatta tttatattaa gaatattacc tagtatcaag	60
agtgaaaaag agatacctaa tattaatttt atatttgata ataatagtat agaattattт	120
aattatgtaa tgaagcatcc atttagaaaг aaagatgtat ggactgaaga tatcacttct	180
aaggatttag aaattactaa agaaattaat aatatgaatc caaattctaa tactattatt	240
attgatgatg gagtatcatt ctttgattat ctaacttcta ttgtaaatga acatttaaag	300
ctatttaagg agtatgaata tactttaatg attagaagta ctacaatgtc attattaact	360
agaatatggc ttagaatgga tgataatgac ttcaatgatg ttatatcatt tttaagaaaa	420
gaattagact tttataaaga tagaacactt gataaatata gaacggaaac atatataagt	480
tcttatgaag gaattgattc ttatgctgaa tgtaatatta atgagtcatg ggatgaaact	540
actagaagta tgaatttttag attagaaaaat agtggtgaaa gtcatactat atcaagggta	600
ctttatgata taagaagtga aaatggaatt aaagtatgтт atatatatgg tgttcaaaat	660
aatctattta atataacaaa taaaagaata gaaagaaaac tatataaatt aaataaaggt	720
attgataatc ctaaagtaca tcctaataca ttatatctc ttatactatt tttagaaata	780
ttaaagaaaг aaggaattac tactattaaa gtacctaaga atcaaacatt aagttatggt	840
tatcataaga tattaagtaa taatgaaaaa acaaatttta aagcaaaatg gcccgcaaaa	900

aaagttagaa agatatatag tagtgatgat gaagacagta ttaataaaaag acatgaatat	960
gagcttgata aagagtgggt caaacatatt gttggtaaag aagatacaat agaaagactt	1020
aaaactgata aattatttga actacttaga agattatggt tatatgatcc tagttttgaa	1080
tttgttgga taagtcctaa taatgatgaa atttttagtat ataaattaag aaaatag	1137

<210> 2520
 <211> 687
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2520	
atgttatgtg gatgtggaaa agaaagtaat aagattgtta tggttacaga gtcaggattt	60
gcaccctatg agtatagaag tggggatgaa gtagtaggag tagatgttga cattgctcgt	120
gaaatagcaa aagagcttaa taaagaactt gttataaaaag atgttgactt tggttcaatt	180
attaatgaac ttaattctgg taaagctgat ttgacagctg ctggtatgag catagatgaa	240
gaaagaaaaa agagcgttga cttttctatt gaatatgcga ctagtgaaca agttgtagtt	300
gtaagaaaag gttatgataa gattaaaagt atgaatgact tagaaaataa gactatatct	360
gtacaacttg gtactgttgc tgatacatat ttaactgata aattcagtaa tgttaaatta	420
tttagacaaa agaaattttt agcagctgca gaagatgtta aaactgctaa atcagattgt	480
attgtaatgg ataaattacc agcaatagaa cttgttaaata caaatccaga acttgaaata	540
ttaaatgtaa cattattttac agataaatat gcaatcgcag ttaaaaaagg aaatactgaa	600
ttattaaata aaataaatag tgtttttagaa agattaatga aagagggtaa aatagaagaa	660
tatattatta atcattcttc taattag	687

<210> 2521
 <211> 717
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2521	
atgataaatt ttgtaattgt ggatgacaat aatatgcaca ggaaaaaagt aagtagtatt	60
attatgacaa ttatgatgaa taataagggt agttttgaaa ttcaagaatt tgggtgatttc	120

aattctacat tgttgaatta ttttaagaat ccaaagccca attccattta tatattagat	180
ttagaacttc caagtgggtga tggatttgat attgctagaa agatcagaga tgaatataat	240
gattggacta gtcctattat aatttttaact gctcatacat cactgtatfff tcaagtctat	300
aagcaaagac tgcaaatatt agatttttatt ggtaaatacag ataacataga aaagaatatc	360
aatgaaaata tagcaatatg ttttaagaatg ctgaatatgg atagaatata taaattttacc	420
tatagacaca ctgactatac aataacctata aataaaaatag actatatattca aagagatgac	480
agaagaatca aaattgtttg taagaatgaa gaatattata caattgatac aattaattct	540
attaaagaca atttttccatc atattttcata atatcttgta aaggaacatt attaaatatg	600
aataatgtat taaaaataga ttggattaat tgtaaagttt atttcaaaga tggattagaa	660
gcattttag tag tatcaaaaaag tcataaaaaag gatatagaca attatgaaag aaattag	717

<210> 2522
 <211> 549
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2522	
atgaaaagta taataagaga agtaaatagaa aaatcagatg atattatttag agaaaataat	60
tttcttgtaa ttggttttca aaaaagggtta tctactagaa ttatgcatat ttttcaaaaa	120
tataaaaatag tgggttaataa taatattgtg tcaaaaaaac tagaagaaaaa tttatcaa	180
aatatgattg atattaattt tgaagtata agtaagtata gatatatgtt gagaaagtat	240
gaagaaattg tacaagaaca tgtaaaaaaac aaattatcaa cagatgaaat taaaaagtct	300
actattttgt ttgttagcaa gattaatgaa aaaaataagt taatgttaaa tgggtactatt	360
gctacaaaatt ttattgaaga tatgaattct ataatacttg tatatgataa tgcaaaaatta	420
aatgaagaag tattaagag aataaatatt gatacaaatg agattataaa tgaaattaat	480
acaaaataatt ataattatgt tattgagtca ataaatatga taattaaaaa tataattagt	540
tcgctttga	549

<210> 2523
 <211> 804

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2523

atgaaagctg ttggagtaga attcaaagat aaaggcaaat tatatacttt ttttgacaat	60
gatttggaaa taaaattaaa tgataaagtt attgttaata ctgaaagagg attacagttt	120
ggtaaaatag gtgcaatttt tggagaacta aatgatggaa aagaccatgc actagtatat	180
aaaattgcta cagaagaaga tgaaattcaa aatcaaaaaa atgtagaaga agcagaaaaa	240
gccttaatta aagcacaaga aattgctgaa aaaacaaaac tagatatgaa attttttagat	300
gcatttttta catttgatag aaaacaatta gtattttcaat ttttatctga taatcgaata	360
gatttttagag aacttgctaa gtcactagct ggaatttaca aaacaagaat tgaattaaga	420
caagtaggag taagagacaa agcaaaaaat atatctggaa ttggacaatg tggaagaaaa	480
atttgctgtt caagttttct aaatgattta gattcagttg gaattgcaca ggtaaaaaat	540
caaaatttag cgtaaatacc aagtaaaata aatggaatat gtggaagatt attatgctgt	600
cttaaatatg aagatgattt atacacagaa tatagaaaag gattacctga agtgggcat	660
aaaaaacat atgaagatga agcaggaaca gtaatttcag tagatattcc aaatagaaaa	720
tatacattac tcacagaaaa aggaaataaa attgaagtaa aggtaccatt aaataatgaa	780
agaaaattca acaagaaaaa ttaa	804

<210> 2524

<211> 630

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2524

atgattaaaa aatatgaaaa aatgttaaatt atggatgcaa ctataacaaa gaaattat	60
gatagagtta attatccatg ggaagtactt ccacttataa atgattatat tttagaaatt	120
attcctactt taggaagtga ttacattaaa ttaaaagata atgtttatgt acataaaact	180
gttaaaatag aagaaggagc atatataaat ggaccaacta taatatgtga aaatagtgtt	240
ataagacata atgcttatat tagaggctca gttataattg gtaaaaattc tgttataggc	300
aattctactg aggtaaaaaa ttccatactt tttgataagg tagagtgtcc acactttaat	360

tatgttggtg attctgtttt aggtgaacat gctcatttag gagctggagt aatactctca	420
aatgtaagaa gcgataagaa agaagtaaat ggtcttcgta aatgtgggttc tatttttagga	480
aataatgctg aaattggatg taatagtgtg ttatgtcctg gaactatagt aggtgaaaat	540
agtagtgttt atccacttac aatggtaaaa ggtgaagtag aaagtaatat gatagttaaa	600
tcaacatatg aaatagttaa gaagaagtag	630

<210> 2525
 <211> 969
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2525	
atgaaagtag gtgtacttgg agcaggggca tatggacttg ctcttacaca tatttttagta	60
aacaataaag ttgaagtaac tatgtggaca catgacgaaa atgaaagaaa aactcttgat	120
gaaacaagaa aatcaaaaaa attaaatgat taaaaatac caaatgaaat aaaattcact	180
tgtgatttga atgaagcagt aaatgacaaa gatttaatcg ttatggctat tccagcattt	240
gcttttgaag atgtaactat taaacttagc aaatatataa agaagaaaca accagtatta	300
attgctacta aaggatatcca acaaaataca tgtttgtttt taaatgatgt atttgctaaa	360
tatttaaaga atggtatagc tggtataagt ggtcctactt ttgcagtgga tataattaaa	420
gattcaccag taggattcag cttagcaaca aaaaataata aaactgaaat ggttggtcga	480
aagtgttttc aaaattcgac aactaagttt agaagaacta aagatatagt aggtatcgaa	540
atatgtggta gtattaaaaa tgttatggct attgcctctg gcatgcttga aggtatgggt	600
gtaacagatt caacaagagc acttttctta actgaaagta tgaatgatat taaagaatta	660
attgatgctt taggtggcaa aaagaaatca atattatcct ttgctggatt tggatgatatc	720
ttaatgacat gcactagtaa gaattcaaga aatttttagtt ttggatatatt aataggtagt	780
ggagctacta atgaagaagt aaataaatat ttagaaacta ctacagttga aggaatgtat	840
acattaaagt caatacataa acttggttaga cgtaagaaag taaaaatgcc tataataaac	900
ttaatacatg atattataga aggtaaaaaa gataaagaag aaatgttaaa atttttgata	960

aataaataa

969

<210> 2526

<211> 1299

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2526

atgttaatga aaaaaatatt aagtatatgt tctattttaa caatttttac attttcatgt 60

gggtttgtta aaacagatac aataataaat atagataaaa ataaaaatgt tagtatagaa 120

aaaacagttt taatgactga tgaatttagt gaagatacta ttagtcagtt tactgatggt 180

gaaaaagtta aaagagatgg attaaaagtt gaagtaaaaa aagaaaatgg atattcaggc 240

cttgatggta aaaaagaata taaattagat aacatttcta gtgataatgt taataaaata 300

gaaatagata aatttctaaa tagtgatttt gatgataaaa atcttataaa ggttgaaaaa 360

ggatttttta aaaataaata tacaattgat ttacttata atagagataa agtaaaagct 420

tttgaattaa tttttgctat tagtaatcct tatgataaag ataataaagg taatgtactt 480

cttgagggtg ctaagtatac taattgttta agtatgattg aagaaaataa gactaatgaa 540

gcaaataaga atactaaaac aaaaactaaa gtaaatacta aaactaacag taaagttacc 600

aatgaagagt tacttaattg ccaaacatat gtagaagggt atgaagctta ccagaaagaa 660

atgaaagcaa aagttgaaaa actatcaaaa gaagtagaat ataatttaac aataacttta 720

ccaactaaag caatagaatc aaatgaaaca gtaaagagta atgatggtaa aaagctaaca 780

tggacatttg taaaagaaga acctgcttca gttaattgta gttttgagat attaaatatg 840

actaatatth acttagtggg tgggtggatca ctagtattag ctattataat tattttatta 900

ataataatgt taaataaaaa gaaaaaagaa aagatagaaa atattgaaac tgacaagcca 960

atacatactg attatgatcc tagtattgca tctgaaatag atgcgatggg tggattttatt 1020

gatagaggta gtgaagtacc aataacctgat gttgatatgg taactaatac tgtaaatagt 1080

acagcaacta atactacaaa tattttcaaat gaagaaatta ataaacgttc ttatgaatat 1140

acattaccac atgaaatacc aaatgtagta aaagaaaaag agccagaaaa agcgcctgtg 1200

tttattacat cgcagaatac aaaagaagat gaaatagtta tagaagaaaa gcctaagaa 1260

gtaaaaatta ttacaccaga aataactgat attaaatag 1299

<210> 2527

<211> 480

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2527

atgaataaaa ttgttttagt tggaagatta acaaaggatc ctgaacttag aagtacaact 60

gctggatttt ctactgctag ttttacagta gcagtaaadc gtaattttta aaataaagac 120

ggtaattatg atgctgattt cttaccttgc gtagcattta gaaatacagc aacatttgta 180

tcaagatatt ttaagaaaagg taatttaatt tgtgttgaag gtagggtaga aactagaagt 240

tatgatgctc aagatggcag taaaagatat gttactgaaa tcgtttaga aaatgctgag 300

tttgttggtg gaaaaaatga aggttctgct cctagcgcta atacagatac tacatatatg 360

gatgctccaa gtgaagcacc tattgatgca atgccagagt atgatatttc aaagtcagat 420

ccatatgaaa attatgataa ggatgtatca ttaagtgatg atgatttacc atttctataa 480

<210> 2528

<211> 1254

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2528

atggaaaata taaattataa tatatatgaa attattagta gacttgttct tgaagataag 60

ggaattattg aaatatcaca agaattaaat cttgaaaaaa gttttgtagt aacaatactt 120

aagaaagcac gtaatgaata cattctttct tttgatgaaa aaaagtatta tcttgatca 180

aaaatagatg aactcttaaa tagaaaaaag aaaagaaaga tcattaataa ttttggtggc 240

aaaaaagata ttatttttaa attaatatgt gatggtaaaa gtagtgctga aatatgtgat 300

atactcgga taagtataga aggctatatt aatttcttaa aatatatgta ttatgagata 360

tttctttatg gtcaatataa tgaaaaaata tatttatctg ttataagaag tgctcttata 420

gaaggatata aagtattaag agataatact cttgttaaaa gaaaaagtgg agaagttaac 480

attattccat ctattatgag gttacgcggt cttaatgaag aagtgatatt aacaaatagt 540

cctgtgtcctt cattagaaac tattgattgt agcgatactt ttaaaatttat tgttatatct	600
gatttacacg ctggaagtag atttgaaaat cttgattatg taaaaaaggt atatgatgaa	660
gcaagtaaata taggcataaa agatatatctt atatacaggag attttataga aggctgtcat	720
tgtaattata gtagatgtcc ttctaaatat agttcaacta tctcacaagt tatgcatatg	780
ttaaatgatt atccatttga taatagtatt acaaatcata tattacttgg taatcatgaa	840
gcatttccaa ttattgtaga agaatacgat atgtttatgg atttaaaacg tagaaatgat	900
tttaaagtaa gtggatatag aagtggatat tataaaatta agagtgaata catatcatta	960
aaacatgaaa taaatagagt tattaatgaa ataaatgata atgtagtatt atttaatttt	1020
cttggtcata gtcacataa taaatgtaat tatgatggca aatatgttac atttagagta	1080
ccaacttggt cagacttaga aggagataca aaagaatcta ttgttaataa aggttattta	1140
atatgtgaag ttcacttga tagtataggc aaagcaaata acttaagtgt aatatataaa	1200
gattttgaga acgttgatac agaaattaaa ttgaaagaa gacttgtaaa ataa	1254

<210> 2529
 <211> 447
 <212> DNA
 <213> Clostridium sp. CAG:524

gtgataaatg tgagtaaagg tgaaatttat aaaattgata gaaaggataa taatagaaaa	60
aatacatatc aggtaaacaa gaaagatgat ttagtttcat ttatagtagg tatacttggt	120
tatgctactg tacttatgat agcaaatagt ctatttaaag gtattgaaat agaaaatttt	180
ttctatgcaa ttattgctgc attaatactt agtggattaa attatacaat taaacctatc	240
ttgatataatt ggacgcttcc acttagtggt atgacatttg gaatagcata tccaatagta	300
aatatgatta ttttaaaatt gtgtgatatt attatgggaa gttcatttaa tataaatgga	360
ttctttgcta cttttgtaat agcaatattt ataagtgagc ttaaaataat tcttgataat	420
ataattacta agaatgtagg gagataa	447

<210> 2530

<211> 690
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2530
atgagaaagg ttaatttaat tttatttagt attttatgct tattttatttt tactttttaa 60
gtagatgcag tatgtaatga taaggcgta aatgaatggg ctacaaatgc tacaattgaa 120
tatatggagg atgttgatat aagagatcca gaagataatc ttatacatag taaggaatac 180
ttgtatctat tattttatttc tacacaaaat gaaaaaggaa aaataatggg aaaagattca 240
gaagatgaaa atgaatatga aataaaatat gatgatgaaa tattttatgg atatgtagta 300
ggctcatatc tacatatgaa tgaaaaaaca tatacattta cattatatgg ggcagagaac 360
tctgcgtgtc ctaatgaaaa acttagaacg atagaatata aagtacctgc atataatgta 420
tattcaagat caaaatattg tttagaaaat ccaacagaag atatttgtaa aactaatagt 480
aatgaaatga aagatgtaag tgacaaagaa tttattgaga ttattaataa aaaagaagaa 540
gaacaaaaaa ttgctaaaat gaactttttt gaaaaagcat tatattattt aaagaaaaat 600
tggtacttta tagtaatacc tatagtatta gtttctgctt tctatgcgat tagaatttat 660
atattaaaga agaaggtgga tgaagaatga 690

<210> 2531
<211> 750
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2531
atgaaagtaa tagttttagg aagtagtagt agtggaaact ctacatttgt taatataaat 60
aatataaaat tcttaattga tgcaggctct ctttttgga aacttaaaga tgcattatat 120
gaaatagggtg aaaatcctga aaatttagac tttataattg taacacatgc tcactctgat 180
catgtaagaa gtcttcattc atttaataga gtatataata ccaaagtata tatatcaata 240
gagacattta atgaatataa taaaaaagat tatataaaga attatgaatt ttttgatgaa 300
tttgacaata ttatgggaat taaatttact aaaataccta taagtcatga taaaaaagga 360
tttgggttcg tatttgaata tgataacaaa tcattagtat acatgacaga tacaggcatg 420

atacattcta gatcatga gaaacttaaa aataaaacag tttatttact tgaaagtaat	480
catgatgttg aaatggaaat gaatggtaag aaatttgaat atattaaata tagaaatata	540
ggagatgaag gtcacttaag taatgaagac tgtgcaatgt attttaatca ttttataggt	600
ccagatacaa aagatataat gttagttcat ataagtgaag atgataacac atatgaaaaa	660
gcatatgaag caaatagaga aagaatagat ccaagcatcc ctatttatat agcatataaa	720
gataaaaatta gtgaagtaat tgaagtatag	750

<210> 2532
 <211> 633
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2532	
atgataaaga aaatattaaa agaaaattat atatacataa taattataat acttcttatt	60
ataacttttt tgattgtcaa aaatactagt ttatataata aggttggttaa ttttgattat	120
agtgttatag agcttatggg taatcatgtt gacaaaagat taacagaagt ttttagcttt	180
ttaacaaaatt ttggtgattg gtacatacca tctctaataa tcgtgtgtat tttaatattt	240
ataaaaaata aatgggtactt tggattactt gctggaagtt atagtgtgtc aggattaaca	300
gttttagttt caaaacttat agtaagaaga ccaagacctt tgaatgcatt aatcgaaata	360
cctaaaagtt atagttttcc aagtggccat actttaactt ctatagtgtt ttatatgata	420
ttatggcatt tagttactaa gaatactaata acatttaata gaattatatt ttttatgtca	480
tttacaatat tagctgtatt aataggtttt tctagagtat atttaggtgt gcatttcctt	540
tcagatgtta tgggtggact tatattagcg ataccttgta cattaatgtg tataaatatt	600
attgataaaa attttgagga taaattaaaa tga	633

<210> 2533
 <211> 687
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2533	
atgatagata ctgatttaca aatatatagt atatgtattt ttatatcatt tatattgaat	60

ataatagtta tatgtttgct taataaaaaat aaagacaacc ttatatatta tatgcttata	120
tatgagaata ttggttttat atatggagga aaactattta catatttaac taacttaa	180
aaatatgaca gttttgattt tcttaaaata ggtttttcat cattaggtag tcta	240
ggcatattat ttcttatatt attttgtatt caatttaaaa gaaatataaa agaaacatta	300
actctattta taaagcctat acctcttatg tatgcagtag gtaaactggg atgtttttta	360
gtgggatggtt gttatggaat aaaatataat ggaccattta gtatagtata taattatgca	420
tctaatagata taaatgggtat aagattattt ccagtacaat tagtagagag tatagtcttt	480
atgatcatat ttattttta	540
atgataaaatg tatataaaac tatattttata	540
tggttcactat ctaaattctt acttgatgct ttaagattta aaagtaacaa tatgatatta	600
agtgtaaatc aaataggatg tcttattata atgataattt ctttaatttt aatatataaa	660
agtaatgaaa agaaaaaaca aatatga	687

<210> 2534
 <211> 639
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2534	
atgaaaataa aaatactagt tatTTTTTtTc ttggcattaa ttttgtcatt tataatctat	60
aatgtaacac ttaataatag aaaatcaata ttgatacttg gggataacca tttacttgat	120
tcaaattata aaacatatga taaatactta tatgatgact ttaaaggtga tgtagttttt	180
tttaatgaac tatTTTactga agaagataaa acatacaaag atatcataaa cgatattaaa	240
aataataaat atgttatTTTc taagaataaa aatatatatt tgaatcaatt gatatcta	300
gctaataatta taatttttgaa tgctaataat agtgaatatt ttaaaaaatg taataaatct	360
aaaagtataa ttaaagaata taataaaaaa gtatcta	420
atatagattc tcttataaaa	420
attattaata agatatcaac atctaaaata atagtgatag gtaattattg tttaaatgat	480
gaagattata gtagttatta tagtaaatat aattatatta atatgaataa gttagtatca	540
aataatgaaa atattttctag ttttagaacg tttaaattat caaatgaagg caattttacg	600
ttatataagt atgtaaaatc tatta	639

<210> 2535
<211> 657
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2535
atgaaaaaga aaatatattgt aatacttatt agtatatttg taatgattag ttcagtaaatt 60
gcaacatgtg atgataatga aagaaataga cttaaaagtt tatcaaaaaga tataacttac 120
gaaacttctt acagcataag tactaaaaca tttaacaatta aattttataa tgtattttcca 180
ggattaataa taggaattaa tgatggtaca attaaagggtg gagataataa tgacagttat 240
agtgttacaa ttgataatat taaagaagggt gaacatttaa cagccgacat atacgatagt 300
ataggttgta atgaaaaatt aaatacatta tttaatacat taccatatta caataatttt 360
tatggaacac aaaaatgtga aaaatatgtt ggaaagctaa cacaatgtac atataagttt 420
ctatcatacg aattaacaga agatatatta gacggagcaa taaaatcaat agatacagaa 480
attaaacctg ttatccctga acctgtcgta aaaaaaacat tttttgaaaa agcatatgaa 540
acagtaaaaa catttcttac tgactgggga attaacattg gcttattctt attctttgga 600
atagttacag cagtaatagg agaaaaaata tatagaaaga taaaacatgg tatataa 657

<210> 2536
<211> 393
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2536
atgtggtata atatttatga agtgatgaaa atggaaaata tcaaagttaa taatataatt 60
gaggggcaag taatgggcgt tacaaaagtat ggaatatattg ttagtttgtg tgataattat 120
actggaatga ttcatatatc tgaggtttct aataaatttg tttaaaattt agaggaaaaa 180
tttaaaattg gagatgttat caaagtaaaa gtattatcca taaatgaaga taaattacaa 240
gttagattat ctttaaaaaag aattagtcga atgaataaaa tgaataaaaag tattaagaa 300
aaaggtaatg gttttcagcc ttatctcaa aaaatgcctg agtggattaa taaaaaata 360
aaagatttag aaaaaaataa caatattgct tga 393

<210> 2537
<211> 1143
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2537
atgaagaagt ttaaaaaata tattattcta atttgtttat ttgttattgt tatggtagga 60
atacttatat tctttatatt tagatacgat agaattcact tattaataa aggtaagggc 120
ttagttaaat atgtatataa tcttgataat ggattatata aatataaata tgggtgtactt 180
gataataatg gtaatatcat tgaaactaat tttttatag atgggtactgg tgaaatagaa 240
aaagataaat atggtaatgt aagattatat attgaaagta aagaatattg tatatacaaa 300
acatathtag gaaaaataaa tgtcattaaa gataaatgta atgactttaa agatttagaa 360
gtaagactta gtaaaaaata tacaataata tcatttgatt ttaataataa agttagttca 420
tatatgattt caaataatga tgactttaat ggtaaattga atgatataatc aaataacaat 480
ctaatactta aatattataa taatggtaaa aaatacatat ggtttcgcga taatgaaggt 540
aatattagta atgttattag ttttgatata gaatgtttaa acacaagtaa aagtaattat 600
gataaagata tttttatttg taatggttca actgtatata ttaattctag tgaatggata 660
gtattatcaa ataataaaaa agaaattaca ttgatgaaat atttaccttt aagtgaaaaa 720
ttatctcatt gtagtagtaa tgacagtact ttttgtagtg aaagtaataa gtataaatgg 780
agtaattctt atataaacta ttatcttaat aatgactata ttaattcatt taaagactat 840
gatttagtta gctatgatat atgtgatgat attgataata agagttgtga tggatgaatat 900
tgtgggtggat acactcgtga agaaatagaa agtaataaat ggagttgtag tatatatact 960
aagagtaaaa taagaattat aaattattat gaatttagtg ttcttgcgaa taaatatagt 1020
gatatgtcat ttttaaggg tagttattgg atgagtata ttagtaatga taaaggttat 1080
tcagtttcaa atactgatgt atatatttat gaagactata ataataaatt agatattaga 1140
cca 1143

<210> 2538

<211> 1752
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2538
atgaaactaa tatatttaaat aacaggtata atatttttaa tatcattact aattaatttt 60
aaattaaaaa gaaatagtaa aataaagtca ggaaatttat tcttttgttt atctttattt 120
atattaattg gatataattt agaaatagta atttatttac tttcaaatac tattggttca 180
agtaatataa ttatagatat atataaaaaat ttatactata tattttactat atcatggtat 240
ttaatattaa atacttatat attcattata acaaatacta aaaataactaa attactttat 300
ataatagaat gtatcactat tataatatta tcgataataa ttacattatc taagaatagt 360
atattagtac ttgctatatc aatattaact ataaatattg tttcattgat acaagtaata 420
ttaaatcata aaataataaa agttactaaa tcaaatagta tttattctat attaatatta 480
ttatttgat taactatatt acaatttaaa tttactagtg ttttagtacc aacaactata 540
atgttattca taacgtattt aatatatatg tatattgaaa gtccttctat aaaagaatat 600
aatatcataa atgaattaag agttaatgca ttaaagaaag atatgaataa aactaatttc 660
ttaagtaata tatctcatga attaagaaca ccacttacat caataattaa ttctatagaa 720
tatatgagta tgcatactga taatttatca aatgagataa aagaaagtat aaatgatctt 780
aatgatgcct cttcttcatt attagattta gttggtaatg ttatagatat aaataagata 840
gaaaataaag aactagaatt aaaagaaaag aattatgata taagaaaaga agtagaaaga 900
ttaatactat taaataagaa aatgtctagt aaaaaagatg tagtatttaa atattcaata 960
tctgaaaata ctccgaatgt tttatatgga gataagacta aaataaaaaga aataataaat 1020
aatttactta ctaatgcatt taaatatact gataaaggaa ctattacttt aacaataaat 1080
agtgttattg aaaataatat atgtaattta caaatagaag taaaagatac tggaataggt 1140
attaagagtg aagacttaaa taagatatatt agtaaaaaag gtatagataa tgatattaac 1200
agtgatgttg atagagatgg tataggatta ttagtatcaa aagatttaat atatttaatg 1260
aatggtacta ttaatgtaag aagttattat ggacgcggtg gtgtatttag tatagaaata 1320
ccacaaaaaa tatcaaagt agtagataat aattctaagt ataacaatat tacatatgat 1380

aataaaaacta tattacttgt tgatgatgat gaacttaata ataaagtttt atctagatta	1440
ctttctaaat ataataataa attatcgaca tgtaaaaatg gtagtgaatg tattgataaa	1500
ataaataata atgaaaaata tgatcttata tttatggata taatgatgaa agatatgaat	1560
ggtgttgata cattaaaaga attaaaaaat ataaataatt ttaatactaa ggcatagct	1620
tttactgctg atgctcttac ttcactctaaa gacaaatata taaaatatgg atttgatggt	1680
tatattttcta agccatttaa aaaagaagat ttagaaaaaa tacttaatga taatttaata	1740
aataataaat aa	1752

<210> 2539
 <211> 291
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2539	
atgaaatatt taaaaaaata tggcttatct cttaatgata taaaagaaat agaagaatca	60
cttgatgata tggattttaa tttattatat gttaatgaag ataaagtaat aagtattctt	120
gattatcttg tatctatagg atttactaat ataaaagaat tacttatgta taaatctaata	180
ctattttata ttaaattaga tgttattatt gatagaataa gtaaagataa agagaatatt	240
attaaagaaa taaatgaaga tgtatcttat ttagataagg tagggttata a	291

<210> 2540
 <211> 699
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2540	
atgataaatc taattaaaaa tgaatttata aaactaggat ttaaaaaaca atttatatca	60
tttattgtat taacaattat aatcataatt aactatttta ttaacaatga aaaattaagt	120
gtggataata tgtttactct tatacctttt ataggaataa ttatatcaat attatttagt	180
ggtatcatta gtgaagaaat agattctggt acttttagat tttatttaac aaagcctgtt	240
aatagaacta aaatttatat atcaaaattg ttaacaatta taatttttac ttttgaattg	300
ttaatataata cattacttat ccacattata ttgaaaatag atgtaaaaaa tgtaataaac	360

ttctttataa ctagcatttc gttagtatth atatcaacaa ttataatgth attaatgaca	420
tttattaaga atagaagtat tacatcagga ataagtatat tgttattaac atttggaatt	480
actataactg aactattact ttctaaagat attaacattg ttaaatatac atttttacca	540
tatatagatt taaactatta taataataat ttaatagata cgataaatca gttatatgat	600
attaatttgt cattaaaact tggatatacca atattaatat tttatagtag gttatttatc	660
attattggaa ttaggatatt taagaaaaaa gacatataa	699

<210> 2541
 <211> 537
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2541	
atgaaagaga aagtaaataa aatattatta aatgagtata ttataaatag ctcagattta	60
ttagaaataa ctaacagtag tgaatttcta aatatgatta aaaatgttga tattaataaa	120
gaaataatag ttaaaaagtaa actcattcat aaaaacaata tttctttatt agaattata	180
ttatttggca tagataatta tttatcattt ttaaaaaata tattaaatgt taaccagtta	240
gaaataagat atatagctat gctcactatc tttaatgata attatttatt tggatgataaa	300
tattattatg ataatataga atattttaat aatatttaca aagatattat aatgaataaa	360
tatataaaga atgtaaaata tttatctaag tataagaata ttaatattha tacttatgaa	420
caacttatta acaaaaataa caaaaataa aatagagcat acatttattt tgaagatata	480
aatcaaaaata atgctctata ttattttaat atctatgaat ataatgattc tatttag	537

<210> 2542
 <211> 909
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2542	
agtccatatg tagctaataa tcatcaatat tataatgcac ttgatttagt taataaaaag	60
ataagtattc ttattgaaga aaaagattta gataaaaata cacttattaa agcaatagat	120
gaaatatttg atgaaaatac tttaaaagaa ataaaaagta atttaaaaga aataaaagac	180

gtagcatcta gtactttaat agtaaataat ataaaagcaa tattaaagga aaagaatgca	240
aaaaagggtta agagaaaaatt caactttaag aaattcttat tctttataat atttctattc	300
ttattatata tgggactttc atacttatta tctatcaaga caaaaaatat agttatatta	360
aataatagtt attatagtga tgatgatata atttatactg ctaatataga agattatcct	420
aagtttattc tattaaataa aagtaaaata aaagataaat tattaaaact tgatttaata	480
gaagatgtta ctattaaaaa gaaatatgga tttattttag aaattgatgt caaagaaaag	540
aaaatacttt attatgtaag aagtactgat acatataaag catctgataa taataattat	600
aaacttgata atataatagg tgttcctacg ttaattaatt atattccaga agatatagag	660
aaaaactttg ttaaaaaagtt aagtaatgta gataagagta tacttgatat gataagtgaa	720
atagaatata gtaagacttc atatgatgat aaaagattcc tactttatat gaatgatggt	780
aatatggtct atattactgt atcaaaagca gaacttttaa ataaatatgt tgaaataata	840
aaaaagggtg ataataaaaa gggatatatta tatttagata gtggaaacta ttttgaaatt	900
aaagagaag	909

<210> 2543
 <211> 798
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2543	
ttgaagaaga tatatcagta tttcgaaaaa ttatataatg aagataaaat aagtcaagca	60
tttctaatag gaaatgttgt ttttgatgat gttaaaagtg aattagaaga aacattgaat	120
agtttctttt ttcaaaaataa tataacttta gaagaaaatc ctgatattta tttgctaaaa	180
actgaagatg ggtacgtgag taaagacaaa atcaaagaat tattaaaaaa cttatctaca	240
acatcacaat ttaacaacac aaaagtatat attatagaag acacagaaaa aatgagtgat	300
acagtttata atgcaatact aaaaacatta gaagaaccaa gtcctggcat atacgcaata	360
cttctaacaa ataatataga tgcagttaaa ccaaccatcg ttagtagatg tcaaaaaata	420
tttgttaatg ctaataaaga aaaagaaaca ctagaagaaa atacaaatat agaatgcat	480

gaaataatag aaaatttaga attaaatggt gttgaatcaa tagctaaata taataaaatt	540
tataccataa ttagtgatag agataaaattt ataaaaatat tatatgcaat gctagataga	600
tataaaaaag tattatatga tatagttaat gaaaaaaatg atgaaaaaaa tgatataata	660
tatatgaaaa acgacataaa tactctatca aagaagatac ttattattga taaatttatt	720
agtttatcag caaattattt aaataaaaac ttaatgatag atagatttat tatagaaatg	780
tggggaaata ataaatga	798

<210> 2544
 <211> 756
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2544	
atgtattcta ggaattcatt tggttcatat tatccaattg attcttcagt acatagacta	60
aatcctatta ttaaattaat tgattttctt ataataatat ttttagttat attttgtaat	120
tcattatata taaatttatt tatgctagga cttgttatta taatgatgtt acttagtttt	180
gtacctttga agttttatat gaataacctt tggctcttaa gatataattta tatttttagta	240
gcatttatat gtgctagtat gagaatgaat atgaatgggt acttaactat atttgccaaa	300
atagttgtag tagtagaata cttaaataata ataagctata caacttctcc tagtgaaagt	360
gcttatggaa tagagaagtt tctagcatgc tttaatatat tatatttacc aatatcagga	420
cttgcattha aaataaattc aatgcttaga tatgttccac tttatatgaa tgtagaatat	480
aaaactttta aagcacaagc ttcaagagga atagattatt atcatactaa tatttttgga	540
agaatgtatg ctgttatgag tttatatatta aatgtacata gacttacaag aagaaagaat	600
agagaaaattg ctttatcaag agaacttaaa ctatttaatt taagacgtta tagaactaat	660
tatagaacta ataaagtagg tttttatgat atatttttta cagcatttca tattttatta	720
atacttgcat atttaaagga taaaggtgta atatga	756

<210> 2545
 <211> 507
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2545
atgaatatga aaaaagatgg atttgtatTT gtagaaagcg taacagtgtt aatagttgtg 60
gcattatcac ttactatgtc attatctagt tatgaattat tatcaagtaa atctaagcaa 120
agaaagtatt atgatttagc tagtgataaa tatttattat ggacttttaa tgaacttggt 180
aataaaacag gttcaagtta tcaaaacaat atggttgctt ctaaagataa ttgttctagt 240
acaactatgg gaactgtact tagtaattgt gtacaagtat ttaaggatac tgatttagtt 300
tattttataa aaataaatga tgtagaaaag gcacttaaaa atgacccatg tagaggttat 360
tatgctacta aaacttatga taatggaaca atagaatatt taaaaacttt aaaaagaaaa 420
gaagatgata atactacacc tattaattat atagttggag tgttttatag aaaaggaaaa 480
tattattacg catcaataat attatag 507

<210> 2546
<211> 744
<212> DNA
<213> Clostridium sp. CAG:524

<400> 2546
atgataatTT ttatagttat tgaaaggagt attatgatag aattaatcga tatttatttt 60
gaaagagata ataaaaataat attaaatgat ataaatttga aacttgaaaa gaataagttt 120
tattcattga ctgggcctaa tggtagtgga aagagtacac ttgctaaagt cataatgggg 180
cttacgattc cagataaagg taaaatcttg tttaatggag aagatattac caacaaaagc 240
attgatgaaa gagctaaact tggaatagga tttgcatttc aaacaccagt atgttttaaa 300
ggaataactg tttatgattt attaagtgtt gcttctaata aaagtcttac taaaaagaa 360
gcatgtgata tattaagtaa agttggacta tgtgctttag aatatattga tagagaagtt 420
aataaatcac tttcagggtgg agaacttaag agaatagaaa tagcaagtgt tatcgcaaga 480
gatcctaaat ttgctatatt tgatgaacct gaagctggaa tagatttatg gagtttcaat 540
agtctaaata aagtatttaa gaatattcaa gaaaataatg atgcgactac tttagtaata 600
tcacatcaag aaaaaatact tgatattgct gatgaaataa tacttatgga aaatggaact 660
attaagaaaag ttggttctaa agaagaagtt atatctaaca taaatagtaa accatgttgt 720

aaagtaggtg agatgaatga ataa 744

<210> 2547

<211> 714

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2547

atgaaagaat ttgatagttt tttagaagca tttatgacag gagattatTT tttaatatTT 60
ttaatattaa tgTTaattat attagttgtg cttgttttag cacttgTTaa aacacgtaat 120
gattacatgg aagtaataac aagagaagaa aagaaattag attctccaga cttcctagaa 180
gatttaacat cattaaagac tagtatgaag gatgaagaag aaaaagatat atttgaaagt 240
attaaagaag attcacatga agaagattta ttcgaaagtc taaaagcaga tacaaaagaa 300
gatactattg atgaaaataa gccattaatt aaacaaatag atgttcctaa tgtaatgact 360
tatgataaag ttatagatga atatgaagat agtgaagaat caaatgctgt tatttctaca 420
gaagaacttg aaaaagttac tagagataga atggatactt taggacttaa tgataatcaa 480
gcagcaatag ctaaatatga agaagaacaa gaaaagaaag caataatcag ctacgaacaa 540
cttctaaaga atgcatcaaa tatcacatta tcatataaga aagagaataa tgaaaagggt 600
tgtccaaaaa taaataaaat agaagttaaa gagaaaggag taactcaagc aataagttat 660
ttagaagaag aagaattctt aaaaatactt aaagagtTTa gattgtcgtt ataa 714

<210> 2548

<211> 942

<212> DNA

<213> Clostridium sp. CAG:524

<400> 2548

atggaaaata aaaaaacaat acttactTTa gttatatgTT taatattagt tggaataggt 60
acaataataa ataacttagt ttttaaaact gaagataaaa tagttgataa aggtaaaaat 120
tataatgaac ttgttagtcg tggatacaca ttagctgatt taaataaacc atcaaagctt 180
atagatggct ataaaatata tactaaaaaa gataatgatt acttaaataa taatgaaaaa 240
gtaacaatat tagtagaaaa taatattgca tattttaaat atcttgaaaa taaatatcaa 300

attaatgttg agaatgttat tgattattat atgtatgtta atgataatac aatgcatata	360
tacctactta gtaatgatta taaaatatat tatttaaatt ataaaattaa tatcaatgat	420
gaaatattaa atacaataga cttaatgtgt aactcattta aattaattaa tactgataaa	480
aatatagtta gctttaaaaa aatagttaca atacataaac tattagataa tacaoattat	540
gaatatttag ttggagtttc caatgataaa aaagagtata agataaataa tgaaactcta	600
gaagaaataa ataattatta tgatagagta tactattata atgatgaagt gtatgtagac	660
gataaaaaatg aacttatgat atctgatcaa gatacactct ttaaagtaaa atatatatta	720
agtaattatt ttgtttcaaa agataactat ttatataaag ttgataataa aaatataact	780
aaagaatata atgaaaaaat acaatatatg ttttattata aatatgatag tatatttaaa	840
cttgctttta tatttgaaga taatagtatg aaacatattg atttaataat aaaagattat	900
ggttatgaaa tacagggat agatattaaa acaaaaaaat ag	942

<210> 2549
 <211> 459
 <212> DNA
 <213> Clostridium sp. CAG:524

<400> 2549	
ataatattaa tggatgaatga aatgaaagag aaaaatgagt tattaatgca tatttatgat	60
atatcatata tgggaagtta tagtactaat aaattattaa caacgctaaa gaacaaggat	120
aataaaatta agaaattact cgaagatgaa ttacaagtat atgatttata taagaaaaag	180
agtgaaaaat taattaagaa ggctaaatta gaactaccag ctcaaaatat aatgtcaaaa	240
atgatgagtt ctatgggaat aatgatggag actatgaaag ataatagcga tgccgctatt	300
gcaagtatgc ttgccgaagg atttaccatg ggaatagttg aaatggagac taaaataaag	360
aattacaggg aagaagtaga taaaagtact ttgaaacttg ctaaagaatt attgaaattt	420
caacaaaaag aaatagaaaa tcttaaaaca tttatgtaa	459

<210> 2550
 <211> 687
 <212> DNA

<213> Clostridium sp. CAG:524

<400> 2550

gtgaaaaaac tacttgttag tgactatgat ggtacattta atattcataa taatagaagt	60
gttattgata gtaatattga tgctgtaaaa agatttatag ataatggtaa tatattttca	120
cttgcatacag caagaagttt taattcactt aaaagagaaa tagataaata taaaatacca	180
tataattatt tagtgtgtaa taatgggtgg gttgtatttg ataaagatga caatataata	240
ttctttcatc ctgtacttaa tagttcttta ttaaaaacat taaaatattt aaataaatta	300
ggtatattaa aacgtatatatt attcaaggac ttttatggta atataacaac tgatttaaac	360
gaagtatgtg atattatttg tactattaat acagataatt tagataaatt aaatcaaata	420
caagaagaat taaattattt atgctctact ccattctttc atttacttgt ttttagtgag	480
aagatggata aagttgatgg cattgatatt atagcttgta aagaaagtat aactgaagaa	540
gcaatatata cagttggaaa tgatTTTTTT gataaaaata tgttattaag atataatgga	600
tatagaatga ttaatagtaa tccacttctt tatagaaatg gtattaggaa aactgcatca	660
gtaaaatcat tagtaaggag attatag	687

<210> 2551

<211> 3306

<212> DNA

<213> unclassified Faecalibacterium

<400> 2551

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<400> 2556

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<210> 2557

<211> 1959

<212> DNA

<213> unclassified Faecalibacterium

<400> 2557

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<210> 2568

<211> 1080

<212> DNA

<213> unclassified Faecalibacterium

<400> 2568

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<210> 2569
 <211> 1260
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 <213> unclassified Faecalibacterium

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<210> 2570

<211> 1329

<212> DNA

<213> unclassified Faecalibacterium

<400> 2570

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atgcacgtcc tgttcccga gaatgtctat gaaacggcac tgcctgcggt catttcggat	180
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<210> 2571
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 <213> unclassified Faecalibacterium

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gatcaggatg cgccggaact ggaagatttt gagtatgatg ccctgacccg ggagctgaaa	240
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<210> 2572
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 <212> DNA
 <213> unclassified Faecalibacterium

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<210> 2573

<211> 2160

<212> DNA

<213> unclassified Faecalibacterium

<400> 2573

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<211> 1230
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<213> unclassified Faecalibacterium

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<210> 2575
<211> 1401

<212> DNA

<213> unclassified Faecalibacterium

<400> 2575

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<211> 1353

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1053

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ccggaggaca ggggtgtggt gcttttgctg gacgaccgct ttgcccggcc ggattatgcc	2400
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<210> 2592

<211> 1776

<212> DNA

<213> unclassified Faecalibacterium

<400> 2592

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gaggccgtca agctgctggc ggcgcgggcc ggaatgcccg aaccgcagga ggacgacaag	300
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<210> 2593
 <211> 960
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 2593	
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acgcagctgc ggctctcggg cgagcctgcc aacgttgccg ctgcaaaccg tgccgtggaa	180
gggatgctgc ttctgatgga aaatcatacg ccgctggagg atcagacggg gcgttactgc	240
atcagtctgg ctcacgacgg tgcggaaaag cgggtcaagg aactgaccga ggactttgta	300
acggtgacgg tcaagggccg tcctatccgg cctaagacct tgggacagaa agaatacctg	360
aatgcgatcc gcagcaatgc catcaccttt ggcgttggcc cggcgggcac aggcaagacc	420
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gagacctatg agcgtcttgt ggaaaaacag atcattgagg tggcgctct tgcctatatg	660
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gagcagatga aaatgtttct gacccgcatg ggagtgggtt ccaaggctgt ggtcaccggt	780
gatgtgaccc agatcgacct gccagagcga acacgcagcg gcctttaga cgactgcat	840
gtgctcaaga atgtgaacgg cattgcgcag tgctacttca cggaaaagga cgttgtgcgt	900
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<210> 2594
<211> 1080
<212> DNA
<213> unclassified Faecalibacterium

<400> 2594
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cagctggatg agctgtatgc tgcattggag acccgcggcg tacatctggc cgaagaagag 180
accgagctgc ctgcactgga cgaaacgcag atcggcaggc tggagcatga gctttcggcc 240
gaaggcgtgg cactggatga cccggtaaag acctatctga aggagatcgg acaggtgccg 300
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gccgggaggc gactgccgtt tcttgatctg attcaggagg gcaatctggg tctgatgaag 480
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cgggagcttt tgacgtggc acaggacccc atcagtctgg aaacaccagt gggatgaagaa 780
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<210> 2595
<211> 1488
<212> DNA
<213> unclassified Faecalibacterium

<400> 2595

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tgggccgtgc gcgcctttga cgcgtgctg gccgacaatg ccgcctgtta cacgggtgcag	180
gatgccatca aggacgaaac acaggctttt gcacgctatg tgcggcagcc cacctcggaa	240
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ttcgattatg cccgcatcgg tgcggaacgc tatgcccga catggaacct tttgcagggc	360
tacgagggct accggcagga gcgggacgct tttttacagc tttcgccctc agcggatacc	420
tacattgaac ggatgtacca tgtgatggcc ctgcaggatt atcttgctga gtatgcactg	480
cggctgacgc aggccacact ggaacaggaa aatacccttt acagcagcac ggagccccc	540
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ccgggcggca aaatgcagg atacagccgc gcaggccgc gcacagtggg gcggtttgag	1440
atcccacaga cgcagtggac ggaagaaagg gagggagaac cttcgtga	1488

<210> 2596
<211> 663
<212> DNA
<213> unclassified Faecalibacterium

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cactgccggc tggacgacct gatccccctt tgcaaatatg ccgtcatccc ctattttgca 180
tggttcgtgt ggatcccatt cacactgttc tatctgctgt ggcgtgcccc gcgggaggac 240
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tga 663

<210> 2597
<211> 693
<212> DNA
<213> unclassified Faecalibacterium

<400> 2597
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gcatggcagc tgcttgtcag tgtccggctg gccgcgcagt gtacggatgc ccgcgtgaat 180
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gaagaactgc tggctctgcc cggcgtgggc cgcaagagcg caaacctcat catgggcat	420
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ccgcccagg aaggcagcga tctgtgtcat cgttttgtga tgcattggccg ggctgtgtgc	600
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<210> 2598
 <211> 948
 <212> DNA
 <213> unclassified Faecalibacterium

<400> 2598	
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ctgttccggg agcaccgcgc gtatttctac gactgggtgc agatcggttc catctacgga	180
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ggcagcgcgc tgatcctgga atttctgctg tactacatga caaagccgga atatcagctg	900
cagggtgcggg aagcgatcta tctggacagt atgctggatc tgttctga	948

<210> 2599
<211> 1326
<212> DNA
<213> unclassified Faecalibacterium

<400> 2599
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atggcgtttg gccttgtgat gctgtacagc gcaagctaca ccaccggcta cctgcgcatg 180
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<210> 2600
 <211> 1176
 <212> DNA
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gtttataata agcatgaaaa cgtttacaca caacaatgca ccccaaaaga gagaagtacc	180
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cggatcctgc tgcagatgct ggaagagaag gaatatggcg gcccggtgcg tcaggtgacg	1140
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<210> 2601
<211> 957
<212> DNA
<213> Holdemanella biformis

<400> 2601
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ccttgatatgc tgacaaatga aaaaagcgca tccattgttt atgcgacaga aggctatatt 180
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ttaaagagca cgaataaaac gtatttaaatt ggaaaagaag tcaagcgaag gatgcgttta 900
aaaaatggaa tgaaagtacg atttggcgat gttgaatgtg aatttaaaga aggatag 957

<210> 2602
<211> 1116
<212> DNA
<213> Holdemanella biformis

<400> 2602
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gaagaaatca ttacaccaac aattgagtat tatgagacgt atgaaaatgc atttaaaaat	180
attcaaacga cggatatgta taaatttttt gatgagaatg gaagaattct aacattaaga	240
actgatatga ccgttcctat tgcacgtgta tgtgcaagta aatttaaaga ttcgaagcct	300
ccatttcgct atcgatatac ttcaaagtga tttaaagtac gacaaaagtt tgccggtaaa	360
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caagtattat gttgtgcttt agaagtgatg aagaatttta aaaactacac attggaaatt	480
ggaaatgtac aattttttca agccgcttgt aaagtcgttc gcttaagcac agaagaaatt	540
aatacttttag cggatttgat tgataaaaag agtatggtcg atttaaaaat atatttagat	600
tcattatatt taagtgaaaa aattgtggat ttctttatgc acctgccatt tctttgtgga	660
gatgtaaatg tcttgatga agcatacgca tattgttttg atgaatcttt aaaagaggtc	720
ttggattcga tgaaagaatg cattcaatct ttaaataaat tgggatgttt agaaaatgtg	780
acaatcgact taggaaaagt ggcacatctt gactactata caggaatcat ttttgaaggc	840
tatgtatctg gtgttgaac aagtatttta agtggaggaa gatatgattg tttacttaaa	900
aaatttggtc gagacctacc ggcattgtggc tttagtgtaa agctagatcc actgattgat	960
catgtggatg tgcaacttaa aaagaaattt atactttatt atccagaatc caaacaact	1020
gaagctatga aacaagcaaa taagttacga aaagtaggaa gtgtaatatt agagccttcc	1080
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<210> 2603
 <211> 837
 <212> DNA
 <213> Holdemaneella biformis

<400> 2603	
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tggacatatt tgaaatatgg tttgattcaa tatccactat catcgattgg aaatgcggta	180
aatgattttt caaatttatg gcatgcctat gacgataatg aatatttgac gaaacaatta	240

gctcaacaaa aaaactatca aacggcatat gaagatgaaa gaaataaaaa caaacactt	300
gaagccttgt tggaaatgaa aggtgggtcta ggggatgcta agacaatcag tgtatctgta	360
ttagaacgtt caggcgattc atggcttcag acggtaacga tttcagcagg aaaaaacaa	420
ggtgtcgaaa aaaatatgct tgtggcaaca agcgatggcg ctataggatt agtggatagt	480
gtacaaaccg ttacaagtac tgttcagttg ttgacaagtc aacatttaaa taatgatatt	540
gcgatcaaga tgtcattaga agatggaaca agcgtagaag gtgtactaca gtcttatgat	600
actgaaaaga aggcctatcg tgtttcatta tttgataatg atgcgattgt cacaaaagga	660
caaaaagtag ctacaagtgg taagggtgga aattatccga gtggaatctt aattggagaa	720
gtaaaagatg tgtctttaaa cgatgattcg attatttcaa cggtctatgt ttcgccagta	780
tcgaatatga aaagttttga ctattgtctt gtgattggaa aagaggagag taaatga	837

<210> 2604

<211> 792

<212> DNA

<213> Holdemanella biformis

<400> 2604

aaatgcaagc ttagagattt taaaggttat tggcgtatga gaaaactaaa aataggtaga	60
attttaactc tttttgttgt cttaattctt gtggtgacag ctagtgtata ttgtattcga	120
acattttttc gacaagatga gataatagaa gaaaaaagtt attacgattt agatttattt	180
tctatggaaa atggttggat gacctataaa gattcttctt ataagtcttt aacaggaatt	240
gatgtttcaa gccataatca gtatattgac tggatttctg taaaacagga tggaattgat	300
tttgcgataa tcagagttgg ctatcgtggt gctcaagaag gaatcttaca tgaagatgca	360
tattttaata cgaatatgca agcggcaatt cagaataaaa tcaaagttgg agcgtatttt	420
ttctcgagcg ctattacaga agatgaaatt gatgaagaag tgaatatggt attaaatgag	480
attcgaaatt ataaaattga tatgcctatt gtctttgata tggaagaatt tgaaaaaggt	540
ggaagaatag ataacttgac acaagagcag cgaacaaatt tggcacttcg attttgtggt	600
aaaatcaaaa aggctggata tgatcctatg atttatggaa atatgacttg gctttatcaa	660
aattacgatt ttgaaaagat atccaagtat ccaatatggt tagcgtctta ttcttcagat	720

tgtccaatgg aggataagtt tgaaatgtgg caatattcaa atattggcca agtgaatggg	780
gtagaaggag at	792

<210> 2605
 <211> 1197
 <212> DNA
 <213> Holdemanella biformis

<400> 2605	
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agtacaagtg caccgagtac tgaaaaacag ttggtgtag ctctgaatt aaaaaaagaa	120
tgtgaatcat taggttttga ttctgttgaa ttaacggata caggaatcgt atatgcttac	180
ttaaatgcga atacagataa aaagatggat cgtattggct ttattgcgca tatggatacg	240
gctagtgaaa ttacgggtgc gaatgtgaag tgtcgtgtga tttcaaagta tgatggaaat	300
acaattcaat taaatgaaga gtattcaatg tgtaaagaag aatttccagc tttggcaaac	360
tgtattggtg atgatttgat agttacagat gggacgactt tacttggtgc tgatgataaa	420
gcaggaattg cgattatatt agaggctatg gaacagttga ttcaatctga aaaggaacat	480
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gaattagata agtttgccgt ggattatgcg ttacaattg atggagatcg tattgattct	600
gttgattatg aaacatttaa tgcagcacag gctgttgta catttgatgg aacgagtatt	660
catcctgggg atgcaaaaga tcgtatggtc aatgcaagtt tattagctat ggaatatgct	720
tcaagtcttc caaagaaaca aacaccttca catacacaag gtcgtcaagg tttctatcat	780
ttagtgggga tggaaggaat ttgtgaagat gcaaaattaa cttacattct tcgtaatcac	840
agtaaacaga gttttattgc aaaaaacag aagatggaag caattgcgga taagatgaat	900
gaaaagtatg ggaatcgtgt tcatgtaacg attcgtgatc aatatgaaaa tatgcgtcaa	960
tatatgcatg gagatatgcg tagtgtgaat aaggcaaaat atgctttgcg tcaatgtgat	1020
gttactcctg ttagtacgcc aattcgtggt ggaaccgatg gggctatgtt gacggctaga	1080
ggacttattt gtcctaactt aggtacaggt tcttttaatc atcatggctcg ttttgaattc	1140

gcaagcattc aaaagatgga aaagatgggt gaaattgtat taaaaattgt tgagtag 1197

<210> 2606

<211> 729

<212> DNA

<213> Holdemanella biformis

<400> 2606

atggaaaagac tacaaaaagt aattgcccac gcgggtatgt gttcaagaag aaaagcagaa 60

gaattgattt tagatggaaa agtcaaagtg aatggtgaaa tttgtgatgt attaggtaca 120

aaagtatcaa aacaagatat catcgaagtc aatggtaata tgatttcgaa agaagaaaaa 180

gtctattaca tcatgaataa acctaagggt tgtctatgta caagtagtga tgataaggga 240

agaaaaatgg tactagacta catgcctaaa aatgaaagaa tcttctctgt aggacgtttg 300

gattatgaca caagcgggtgt tttattattg acaaagatg gcgaattttg taaccatatg 360

attcatcctc gttatcattt agaaaaaacc tatgttggtta atcttcaagg tatcttgagt 420

gaagatgata tcaaacaatt aagaaaagggt ttaaagacaa aaacagaaaa atatcagccg 480

gctaaagtat ttgtgcttca aaaagattta acgcgtaatc gtacgcagtt tgagcttaca 540

atttctgaag gtaaaaatca tcaggtaaag aatatgatgt tggcattagg ccatgaagtt 600

cgtcgtttgc acagagtaaa atttgcgttt ttagatgtta aagatttaag agcgggtgaa 660

tatcgtcgtt taaaacctta tgaaatcaaa caattaaatc gtttggctat ggaaggcgaa 720

aacaagtaa 729

<210> 2607

<211> 1020

<212> DNA

<213> Holdemanella biformis

<400> 2607

atgacaacaa taacagtttt taaaggagat ggaatcggac cagaaatcac ggatgccgtc 60

attaaagttt taaatgctgc aaacgcaaag cttgaatatg aagtgtttta ttaggtgca 120

aaagtatatg aggaaactgg ggaatatatt cctgaaaaag cttttgaatc ttatgaaaag 180

aacaaaattt tattaataatc acctatcaca acaccggttg gtaaaggatt tcgttcttta 240

aatgttacat tgcgaaacaa atatgattta tgggcaaata ttcgtcctgc taaatccaat	300
ccttgtattc ctacaaaatt tgacaatgta gatatcgtaa ctttttagaga aaacacagaa	360
gatctatatg ttggtaaaga agagcagatt gatgaaaata cagtttatgc ctataagatc	420
atcacaaaaa aagcaagtac aagaattatt agagctgctt ttgaatattg tattaagaat	480
aatcgtaaaa aattaacttg tgtgcataag gctaataattt taaaaatgag cgacggctta	540
tttcttcata tttttgaaga tattgccaaa gaatatcctc aaattgaatc caattcctta	600
attgtggata acacttgcac gcagcttggtg atgcatcccg aacaatttga tgttatgggt	660
atgccaaatc tttatggaga tattgtttct gatttaacga gtggtttaac tggcggatta	720
ggtttacttc caagttgcaa taaaggatgat gattatgcca tgtatgaagc tgtgcatggt	780
agtgtccag atattgcagg aaaacatatt gcgaatccga gcgctttatt attatcggct	840
tgtatgatgt tagaggatct tcatcaggaa agtgtggcca caaaaattcg aaatgcatta	900
aacaaaacat ttgaagaaag aaaggattaa acttttgatc ttggcgggaag tgcttctaca	960
gatgcattca cggatgaaat tattaataat ttagaggcat catcaacaag tgtgggtaga	1020

<210> 2608
 <211> 1035
 <212> DNA
 <213> Holdemanella biformis

<400> 2608	
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ttgttgaatg ccaatgaagc aagtaaaaat gtgaatgaaa cagttaaaca agaaattata	120
gatgcgattt caaatctatc cttaaactcg tatccagata caacttgcca ccaattacat	180
cgtttatatg cagaggttat gaatgttccg tcttcttgga tcttatctgg aaatgggtcg	240
gatcaaatgt taggattttt aattcaatat tatttacagg aaaataaaat actttatact	300
ttgagtcag acttctctat gtatgactat tatgtagggt tgaatcattc aaagattgaa	360
aaatatgaaa caaatcaaga tggttcattt gatgttgaag cgtttatctc aaatggaaaa	420
gataaaaatg tagatatggt tttattttca aatccaaata atccgacagg acattccatc	480
gcgttaagtg aaatgaaaaa gattagtga gcgtttaagg atattcctgt tatctttgat	540

gaggcttata tggagtttgg taaagaaagt gcagtttggt tattgaaaga gcatccaaat	600
gtatttgtat gtcgaacatt atccaaagca tatgggtcttg cagggattcg ttgtggcttt	660
atgatttctt cacaagttga aaagttaagt gcactcttta ttccttatgc cttaaagtagt	720
gtgacacaaa ctatcgcaag tgttgtctta agacatgcag atgagtataa ggatactatt	780
gcgacaatta tttcagaaaag agaaagaatg tatcaagaag taaaggaatt taagcaactg	840
acaatgtatc cttccaatgc gaatttctta tttggaagaa gtgaaaaaaaa ggatttgttg	900
cttgcgatgt ttaaagaaaa gaatatcacg attcgaaatt atgaagatgc aagttttcgt	960
ataacgattg gtacaaaaga agaaaatgaa atggtattag atgttctaag gagatttgag	1020
tatgcgaata gctga	1035

<210> 2609
 <211> 567
 <212> DNA
 <213> Holdemanella biformis

<400> 2609	
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atgaatgcat ctttattcag tgtggatttt acatattctt ccctatcttt tgtcagtc	120
ttatgttttt gtggatgcat acttgttgtg agtcatgaaa aaagcttgaa tcgactttta	180
tatgcatgcc tatgcggcct ttgtgtagga ttgttcttta cttcggattg gttttttaaa	240
atgattctat ttggcctttt tggatggcta tcgggactat ttaaaaatgc aatggatcaa	300
gatcactggg tacaatttgc tcttgtcttt ttaatgatgt ttataaatga ttttaattgt	360
tttttggggg caaaattatt tggatatctt acaatgagct ttgtgaaatg gtttattcac	420
gttgaagcac ttacattaat atttaatggg gcttggatat ttgtattgct ctatattatt	480
acggtattca atcgatatgc aactataaaa aatattcgtc ttaaacgaat ggaaaagttg	540
catatgcaaa atattcgaag gaaatga	567

<210> 2610
 <211> 1767
 <212> DNA

<213> Holdemanella biformis

<400> 2610

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gtaatgtctc actatatcac acttgaaaaa caaggcaaaa attataaagc catatgtcct	120
tttcatgatg atcatgatcc aagcttatcg atttcgacgg ataaacaaat attcaaatgt	180
tttgtgtgca atacaggtgg gaatgtattt acttttggtc aaaagatcga aaatatttct	240
tttctagaag ctgtatgtaa ggttgctgaa tggattcatt atcctttaca tttggataca	300
tctaaatttc aaccgaaagt cgatgaaaat caacctttat ttgattgtat acaatcgtat	360
attcgttttt tgacatttga actcgaaagt gaaaatggag aaagcgtaaa aaggtattta	420
agtcaacgaa aaataaatga agatattata aaaagatttg aaattgggta tgcacctgaa	480
tcgagtcgta gtgtgaagta tctcaaggca aaaggtttta acgaacaaat actattagac	540
acaggattaa ttcgtactca tgacttgaac acctatgccg tatttgatca tcgattaatg	600
attccaatcc atgatgaaca tggaaatcca gttggtttta cggcaagacg attaaatgaa	660
gataaagata tcgcaaagta tatcaatact tcagaaacaa agatctatca caaaggaaat	720
ttaatattta attatcatag ggcgaaagag ttgcgaaaa agaataagcg atgcatatta	780
gttgaggggg ctatggatgt cattgccttt gaaaaggcgg atattcatga aagtattgct	840
tgtttaggta cagcttgtag caaggaacaa atgacattat taaaacgttt aaatgtacca	900
ctagtggatg gttatgatgg ggatagagct ggtaaggcag ccacttataa atttggaaag	960
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gatgaaatth ttaatgaact tggtaaagat gaattgtatt tatccgttca taaaaccgtg	1080
tcgtttgttg aatttttatt cgaatattha ccaaatcaat atgatttaga caactacgag	1140
gataagaaaa aattcacttc tgaaatgcaa gcttttattg aaagaacatg cacagatttt	1200
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gcaagtgctg ttgcacaaat aaaagaacca agaaataaac catctgttat tcgaaatatg	1320
gagccattaa aaaatggaag aacacttgcc gagtatgggtg tgttatggat gattcttaaa	1380
agtaaattag cggccgacca atttaaagat cagattggct tttttcaaga tccaatctgc	1440

gaagaattgt cattatattg ttatgacatg tatcgaaata tggaccatat cgattttgat	1500
gttttaaatga gttatatcga aaaagaagag gttcgttaatt tattggtaag cctaattggaa	1560
aatccgtttc atgtttatga atataatgaa gacttcttta acgatagttt aatgaagatc	1620
aaagaatgta ctttacaaga ccaaatcgat cagatcaata atcagatcaa gaatgttcaa	1680
gatccgatga ttaaaaattag tttggcgagt aaaaaacagg aattaattat tcaaagaaac	1740
gaaatcaacc atcgaaagga aggataa	1767

<210> 2611
 <211> 1341
 <212> DNA
 <213> Holdemanella biformis

<400> 2611	
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gaagaaggta agattttctat gtatgtatgt ggacctacag tatacaatta tccacatatt	120
ggaaatgcac gtcctatcgt tgtattttgat acattaaaaa aagcattgtc tgcacaaggc	180
tatgaagtga cttttgcttc aaattataca gatgtagatg ataagatcat caaacggca	240
attgaacaaa acgtgtctga aaaagaaatt acagataaat tcattgttgc ctacaatgat	300
gtacgaagag gactacatgc agatcttccc gattatgcac cacgtgtaac agaaactatg	360
gatcgaatta ttgagttcat tgataagatg gttaaaaaatg gttcagctta tcaagttgga	420
ggcgatgttt atttccgagt taatagtgat aaaaaatatg gagaactatc tcatcaaagt	480
attgatgatt taatggtagg agctcgtatt gatgaaaatg aaaagaaaga aaatccatta	540
gattttactt tatggaaaga gacaacagaa ggtattaaat gggattcacc ttggtcaaaa	600
ggacgtccag gctggcatac agaatgtgtt gtaatgattc aggatgtatt caagaaaaca	660
ttgattgata ttcatggtgg tggattggat ttaaaattcc ctcatcatga aaatgaaatt	720
gccaatgtg aagtatgcaa cgatacgac ttggcaaata tctgggtaca caatggtatg	780
attaacatta atggtatcaa gatgtctaaa tctttaggaa atgtatggtg ggctaaagat	840
ttgattgccca accacggagg taatttaact cgttggttaa tgatttctac acattatcgt	900

gcaccattaa atttaaacga agaagctttt acaacttcaa agaaggaact agacaagatt	960
gcggcagctt ataaacaagc ttgtgtaaaa ttagctttat tagatggaaa agaaacatcc	1020
gcatttgatg aaacgtatac ttcattttatt gatgcattaa atgatgattt aaatacgcca	1080
aatgcgataa gtgttgtata tgaattgggtt aagaaaatca atcaggccgt acgtcaaaga	1140
gaaatcgatg ttgaaaattt agctgtttta gtacatacat tagaaaaaat gctttatatt	1200
ttaggtattg aatttgataa agtttcaatg actaacgaag acaaagagat gtatcaaac	1260
tggagaagtg ctgtaaaaga aaaagatttc aaaacagcgg atacacttcg tcaaacattg	1320
attgaaaaag gaattctgta a	1341

<210> 2612
 <211> 624
 <212> DNA
 <213> Holdemanella biformis

<400> 2612	
ataggagaaa ttatggaaaa gaaaattaag ttagtatgtc ctgaatgtaa taaggaattt	60
aatacagaca tttatacttc aatcaatgtg caattggaca aagatatgaa gacaaagata	120
ctgagtggaa agctttttga catagaatgc gaacattgtc attctaagtt tcatatacca	180
tatcctgttt tatatcacga tatggaaaag aagcttttaa ttcagtatac cgaagaaaaa	240
gacttaaaat cgagcgaaat cgcttttaaaa aatgccaatg tagatgcaga ttatacagt	300
cgtatagtcg ataatgaacg agactggatt gaaaaaattt tgatttcaga tagtggattt	360
gatgatcgca ttatggaatt gtacaagctt ttaatacttt cacaatatga agatgctgaa	420
aatgtgaatg gtttatatta ttggaatatt caaacattag aaaatcctca ttacgtaatg	480
gtgttggatg aaaaggaaaag tgataaaatg cattttatgc cattccatga aggtgtatat	540
aaacaagtag aagaagtatt cttatccgat attcaacaag actatattat tgatgcgaac	600
tgggcaattt cgaatacaaa gtag	624

<210> 2613
 <211> 840
 <212> DNA
 <213> Holdemanella biformis

<400> 2613

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gaagaagctt tatcttatgg agctaatagcc tgtatgatct atacaggacc gcctagtaat	120
acgcgtcgag tggatgtatc aaaattaaag atggaagaag ctaaaaaaat aatggctgaa	180
catgattttt caatcgatcg tgttattgta catgcaccct acattatcaa tttggccaat	240
gctctaaaac ctgaaacggc tttgtttggg cacgactttt taaaggcaga attagaaaga	300
gtttctaaaa ttggcgctaa aacactagtg cttcatccag gaagccatgt aggcgctgga	360
atggatattg gtattgaatg gatcatcaat ggtttaaag aagtcctaga tcatgataca	420
agtgatgtca agattgcgct tgaacaatg gccggaaaag gcaatgaatg tggttttaca	480
tttgaacaac ttcaaaaaat ttatttaggg attcataaaa aaagccgcat tggtttttgt	540
atggatacat gccatatttg ggatgcgggt tatgatatca ctactttga tgaagtcctc	600
aatcaatttg attcaatttt aggcttagaa aatctattat gtatgcatat caatgattct	660
aaaaatgaat tgggtgcccc taaagatcgt catgaaaata taggtaaagg ctacattggc	720
tttgatgtat tgtacgctat cgtgcatcat ccaaagttag aacatgtcac aaaaatatta	780
gagactccat ttgtggatgg aaaagcttgt tataaagaag aaatctcagc actgcgctga	840

<210> 2614

<211> 1056

<212> DNA

<213> Holdemanella biformis

<400> 2614

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gttgctggaa gtccttgtat gttgaaggta ggacaacagc ttgttgcgat aacacaagaa	120
aaaatgatgc cgaatgatac gaaaaatatt gttcaacagt tgtatggttt tgcaccttat	180
tgttcatatg agaattttga aaaaaatggg gaagatgatt tttcgttttc gttatcacia	240
gtaggccgat ttagggtaaa tgtatatcgc caaagaaatt cagaagccgc tgttttgcgt	300
gtagttaaat ttgaacttcc aaaaccagaa gattttcata taccagaatc tattttaagt	360
ctttcaaadc gtagaaaagg aattatttta gtaagtggtc ctgctggaag tggaaagagt	420

acaacttttag cttgcttgat tgatcgaatg aatgaaacta gaaattgccca tattattacg	480
attgaagatc caattgaatt tttgcattcg cataagaaat cgattgtttc acaacgcgaa	540
gtgtatcatg atacaaagaa ttattttaacg gcattaaaaat cggctttgcg tgaagcacct	600
gaaattatTTt tattaggaga aatgcgtgat gaagaaacgg tttctacagc actttctgct	660
gcggaaacag gacatttaat tttatccaca ttacatacag ttggtgcagt aaatacaata	720
gatcgtattg tagatatgTTt tcagggacat caagaccaag ttcgtagtca attgtccatg	780
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gtattttgaaa ttatgcaagt aaatccggct attcgatctc agattcgtga aaataagatt	900
catcaaattg aaaatacaat ggcattccaat cgacaaaatg gtatgggttat gatggatgat	960
tcaattttttg aattgtatca acagaataaa atttcaaaag atattgcgat tcaatatagt	1020
ttacatccgg atcgtatgaa aagtagagtg caataa	1056

<210> 2615
 <211> 939
 <212> DNA
 <213> Holdemanella biformis

<400> 2615	
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gttcttggtg tatccgatca ggcaattgct tatttatata aggatttaga tacgattcaa	180
attcagtatc caattttctca tggTcaaatt cttcattcga ttgagccttt gattcatgaa	240
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ccaagtgaat tgtcacaaag acaacgtgag ctttggcagc aggcatTTTT aaattgtgga	360
gtacgtaagg ttgaatttat ttcaaattta gaagttttac aagaagaaaa tccttgTTTT	420
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tatatgaaga cgggttattt tatcacaaaa atggatgcgg cacatttaaa ggaaatggca	600

agtgatgcat tttggcagca gaaaaataact ttgttgatgt gctatggttt tgattcaagg	660
caaaacctac atccaattca gattgaatca agtatagtat ggccctgccat tgaaatggtt	720
tcatcgcaaa tttctttgtg ggttaagcat tgttttgata ctcttccagc ttctttacag	780
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tcgcaattta tttctcagaa tatttcgtgt ccagttcttt gtacaaaacg tggacaatac	900
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<210> 2616
 <211> 1077
 <212> DNA
 <213> Holdemanella biformis

<400> 2616	
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agtagtgaat attctgtttc attacattct gtcacttcct ttttacgtca aattcatgca	120
gacaactatg aaatgacttt aattgggtatt aataaaaatg gacatttcta tttatataat	180
ggagatgtgg attctattga acatgataca tgggaaaatg aagaaaacttg tgtatcttgt	240
gcatgggtaa acgggggaat catgccatta gatggttcaa ataaagtgat tgaactagac	300
tgtgtattcc cggtactgca tggtaaaaat ggtgaggatg gattgattca aggtttactt	360
gaattgatga atattcatta tgtaggttgt gatgttatgt caagtgctat gtcaatggat	420
aaagaaatta tgcatatttt gtgtaaagaa gcaaaaattc cttgcgctga ctacatttgt	480
ttatatgcca atcgagaaaa tcctacattt gagcaaattc aagaaaagat tgaattgcca	540
tggatcatta aaccatgtaa tgcaggaagt agctatgggtg tgcattttgt caacaacaaa	600
gaagaatttg aaagtgcattg taaagatgca ttcttctatg atggtagagg taagatcttg	660
gtcgaaaaag taattaaggg ctttgagatt ggttgtgccg ttatgggaaa tgaagaaatc	720
tttacaggat ctattgatga aattgaaatt acaggtggat tcttcgattt tgaaggaaaa	780
tatgaaatga aaggagccgc tatttattgt ccggctcgta ttgatgaaaa aacatttaaa	840
gaagcgcaag aattagctcg caaaacatat attgcgatga attgctgcgg aatggcacgt	900
gtagatatgt ttgtgacaga agataaagaa gtaatcttga atgaattgaa tacaattcct	960

ggattaacag cgacttctcg ttatccttct atgatgaaag aagccggtat tgaatttgcg	1020
gatttaattg ataagctaata tgaactagct atgcaaagga caattggagc atgctag	1077

<210> 2617
 <211> 720
 <212> DNA
 <213> Holdemanella bifformis

<400> 2617	
agcaatatta tgtataaacg tgtttttatta aaattaagtg gtgaagcatt atctagtcct	60
gaagctgctt ttgatccaga aatcttaaag agattagcaa aagaattaaa agaagttcaa	120
aaattgggag tagaacttgc aatcgttgtc ggtgggtggca acttcattcg tggtaaaatg	180
atggctgaaa tgggaatgaa tcgcgctcaa gctgattata tgggtatggt aggtacagta	240
atcaatgcat tagcagttca aaatgcttta gaacaagaag gtgtgcaaac acgtgttcaa	300
acagctgttg aaatgcaaaa agttgctgaa ccattcattt taagacgtgc attgcgtcac	360
ttagaaaaag gaagaatcgt tattttttgga gctggaacag gttctccata cttctcaaca	420
gatacaaccg ctgcattacg tgcttctgaa attaatgcag atgttatctt aatggcaaaa	480
aatgggtgttg atgggtgtata tgattcggat cctaaaaaga atccgaacgc gaaaaaatat	540
gatacactca attatatgga cgtactaaat gaaggtttac aagtcatgga ttcaacagct	600
attagtatgt gtatggataa tgatattgat ttagttgtat tcaatatgaa tgaaccagga	660
aatattgtta aggctgttcg ccgtgaagta aatgggtacta caatcactaa aaagaaataa	720

<210> 2618
 <211> 789
 <212> DNA
 <213> Holdemanella bifformis

<400> 2618	
gtggagcaaa aaaaatgct taatcgattc gatgttcata atagtgaac tttaaattatt	60
caaattgatc gtcatgatca aaaatcttat ttgattgaat taagcaaaga ttgcacaaaa	120
ttagatttaa gagtggaaatg tttagaaaat tctttttcaa aattctttat tctaaatcat	180
gctgaaaatg catgtgaatt aaatattaat atgggtactta aacaagatgc caattgccag	240

atgggtgtct tggatttaga aaaaagcccg ctaaaatgga atcattatgt agatcttcaa	300
gaaccgggtg cagaatatga aattttaagt ggtcaattgt gtcaggaaca tatcgaaaaa	360
gtatgcgata tggaagtaag acataatgca ccgcatacaa atgggtcaa at gaaaaatttt	420
gctgttctat ttgatcatgg tcaataccaa atggttgcca atggcaatat caaaaaagga	480
tgctttgatg cacaatctca tcaggcaacg cgtgtactaa ctttaggtca aggacacaag	540
acgaaagtta ttccattatt attaattgat gaaaatgatg taaaggcaag tcatgccctt	600
acaattgggtc agccagatgc agatcagtta tattatttac agtctcgtgg attaagtaca	660
aaacaagctg ttggcttatt aagtgtaggt tacttcttac ctgtcattga tttagtagaa	720
gatgaagaat taaagaacag tcttcgtcaa gaaatggaaa gtaaggttgg attgtatgga	780
catcagtaa	789

<210> 2619
 <211> 903
 <212> DNA
 <213> Holdemanelle bifformis

<400> 2619	
atgacgctac aacaattgcg ctacgtgatc caggctcgttg aatctggatc ttttaattcc	60
gcagccaaaag ccttatttat ttcacaacca tctctttcga aatccattca tgatttagaa	120
gaagaaatgt ccatctgttt atttgttcgc acaaacaag gtattttact ttctgaacaa	180
ggtgaaaaat ttttaggata tgctagacaa gtcgttgaac aagcaactt acttgaagaa	240
caatataaaa atgccgttcc tgcaagaact gtatttgcga tatcaagtca acattatgcc	300
tttgtgggtca atgcctttgt tgccctagtc aaagagtata atcaaagtga atatgaattt	360
tctttaagag aacaaagaac atacgatatt attgatgatg ttaaaaatca tcgcagtcaa	420
ttgggtattc tttatctttc ccattttaat cgtgaagtta ttcaaagtat tttaaagaaa	480
gaacatttaa cattcacaaa actatttgag gctagacctc atgtctttgt atctaagaca	540
aatcctttat ccaataaaaa attagtgaag atggaagatt tagaaaaacta tcctcgttta	600
acttatgaac aaggaaccaa caattcattt tacttttcag aagaattaca cagtacgcaa	660

ccatctaaaa agagtattgt tgtttccgat cgtgctacct tatttaattt attgattgga	720
cttgacggat atacgatttc ttcaggatc ttaagcacgg atttaaatgg aaacaatatt	780
gtatccattc cactagatag tgatgaagtc atggaaatag gctatatcag tgatggagtc	840
ttatccaaca tggcaagaaa ctatctaaat catctaatac aatatattga acagaccaag	900
taa	903

<210> 2620
 <211> 1635
 <212> DNA
 <213> Holdemanella biformis

<400> 2620	
gtgattgaac aattgtcagt aaaagattat gtattattcg aatcttgtat catagatttt	60
acaaatggaa tgagtgtgat tacaggtgaa acagggtccg gtaaatacggtt attgattgat	120
gcgattggat atttgagtgg ggatcgcatt aaatccaatg tgattcgtaa tggaaaagat	180
aaggccatat tatctatggg ttttaacttcg aatgaaaaag taaattcgat cttagaagag	240
aatggctttg aagtggatga tcaagtgatt atttcgcgta caattttaaa taataataaa	300
agtactgtac ggatcaacca acagatcaca actcttttctt ttgtgcgtaa aatcgtcaat	360
ttattagtggt atgttcattc acaaatggat acatatcggt taatggatac aaaacttcaa	420
atggaattat tggatagtta tgccaaggta gaggatttaa aatcatctgt aaaagaggct	480
tattttttcat attcaaagt tttaaatgaa ttagaaacat taaaaaatga agaattttca	540
gattcggaaat tggagttttt aactgcacag ctagatgaaa ttgaaaatgc gaatatacaa	600
gaagatgaat tggagtcggt gaacgaacag attcatgaag cttcaaactg gtttaaaaat	660
aaagaagatc tttctatgtg tttatatgag atggataaag aaaatgggtgc gttagattct	720
ttgtatacgt tatataaaca agcttcaaaa tcatcaatac taaatgcata tgaagaaaca	780
tttaaaaaatt tatattattc tttacaaagt gtagatgaag aacttaagca tattcgtgat	840
acacattcaa atgacgcttt agatttggat agtcttcaaa atcgtcaata tttaatcaaa	900
aaattgtatc gtaagtatgg tggttcctat atgtcttttaa tggaatctaa aaagaatatc	960
atggataaaa ttgatcgaat cattcatcgt caggatgtgt ttgataagtt ggaaaaagaa	1020

aaagcagaat cttttgcggc ttatatgaag ttcgcaaaag aattatcatt aaaaagaaaa	1080
gctgtctttt ctgaattaga atccaaagta atggaacatt gtaaagattt gatgttagaa	1140
aatgctcgat ttaaaatttc ttgtaccgaa aagaagccat cttcaaatgg tattgatgaa	1200
attgaatttt tagtgtcaat gaatcctggc caggatTTTT caagtTTaag tgtatctgcc	1260
agcggTggTg aactatctcg tttgatgttg gcattaaagg ttgtatttca ggcatcaaT	1320
ggaattgaaa ccattatttt tgatgaaatt gatacaggTg tcagtggtaa agtagctttg	1380
gcaatggggg ctaaaatgaa ggctttatcc aacaagtatc aagtattatg tattacgcat	1440
ttagcgagTg ttgccgtaat ggcaaatacg cattatttag taagtaaaaa atcgactttt	1500
aatgaaacaa tcacgcgtgt tcaaaaaacta gatcatgacc aaacgattca agagttagct	1560
atcatgacaa gtggTgaagc gagTgtaaag gcaaaagaat ctatgcaaga tctatgggTg	1620
aagattcatg gctag	1635

<210> 2621
 <211> 549
 <212> DNA
 <213> *Holdemanella biformis*

<400> 2621	
aattttatca tgtcagaaaa aagcaagaga tcttttatcc gtgatggatt atataacata	60
aatcgaacaa tgcagcttga tcctgcagcc cattctaaat gggaaTgtt ttggctatat	120
ccgcacatca aagcgattgg cttgcaccga atggcccatT ggTTTTgggt gcacaatcat	180
acatttattg cccgttgggt aagtaatcga gcaaggcatT ggacgggtat tgaaattcat	240
cctggTgctg tgattggTcg tggattgatg attgatcatg gtatgggtgt tTgtattggT	300
gaaacggcaa ttattggTga tgattgtcag ctttatcatg gcgttacact aggtggaaca	360
ggtaagcaac atgtaaaaag acatcctact ttagaggatg gtgtatatat tggTtTgTggg	420
gccaaatgtt taggaaatat cactttaaaa aaaggTgtc gtataggggc caatgcgTta	480
cttttaaaag atgtacctga aggtgcaaca gccgtaggta ttcctgcaag aattatagag	540
aagaaatag	549

<210> 2622
<211> 1200
<212> DNA
<213> Holdemanella biformis

<400> 2622
atgaactata ttcaaacgca aaaatttagc gatgtctatg tttcttgtaa aacaatgatg 60
ccttttaatc gaaatacaat tacagcactc aatgttcttg tatatatgat gaaggcaaaa 120
acagaaaaga tggattcaaa acagaaatta gcctctacgt taaatctagc ttatggtacg 180
aaaatatctt atggattaac atctttcggg gatttaattc aagtggatgt gcgttttcaa 240
tttgttcgtc cagactggat tgaagatgag aattatgtaa ataaaatcaa agatattatg 300
gatcaagctt tatttcattc ggtattggat gaagaaaact tcaaagagtc tgtatattta 360
ttgaaaaata gggtatttagc acaaatggat gatccagcca atttatcctg tatgtatgcc 420
tttgaaatgg ctcatgacaa gcattcgatt tcgattcctg tacaaggaag tttaaaggac 480
ttagaaacgc ttactttaaa agatgtcaaa caaatatata cactctatat ggatatggct 540
aaacatttct atatttgtgg atatgttgat caagaattat atgattttat tgattctttg 600
gattcgcatt gtccttttat ttcagaaaga acattgcttc caaaagtaga aacgagttat 660
aagacatttg aaaaggatat ttctcaaacc tgtatttcgc aagtgtattc tacaggtgtg 720
gatatttcaa gtgcagacta tgaggcagaa ttgcttttgt gtagtatttt aggacaaagt 780
caaaagaatt tgatgtttga tgagattcgt gagaagaata gcctttgtta ttcaataagc 840
tcatcaatca ttcgttttga tggtgcaata ttgattcata cgggtgtaaa tcgtaaagat 900
gttactaaag tattgaattt aatagaaacc caaatggatc gattattgaa tatggattat 960
gacgatgcct atttagaaat tgcgaaaatg ggatttaaaag atcgccttgt tggcgggttg 1020
gatcaggcac tctctttaat tgcccaagcg ttttttagatg atttgttgca tcgtaaacta 1080
acaacagaac aaagaattga aaggattatg aaggtgacaa aggaagatat ttcgcgtgtt 1140
gctttacaaa tgaatttggc atcagtagcc attgttgcgg agaatgaaaa tgaattataa 1200

<210> 2623
<211> 747

<212> DNA

<213> Holdemanella bifformis

<400> 2623

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gagtttactg ttggcgatac tttaacggaa aatgattatg ttattatttg tggtgatttt	120
ggttgtgtct gggatggaag tacaggagat aacttttggt tgaaatgggt agattcgctt	180
ccttggaata ctttatttat tgatgggaat catgaaaact ttgatgtctt aaatacatat	240
cctatagaag aatataaggg tggtaaagtc catcgtattc gttctaaagt atttcatttg	300
atgcgtgggtg aagtttttga tatagatggg tataaattct ttacaatggg tggaggattt	360
tcgcatgatg tatgttatcg tacagaacat aaaaattggg ggaaagatga gatttgtacg	420
atagaagagg caaaacacgc atttgataca ttggaaaaaa atgagtggaa agtagattat	480
attttatctc atgacatata ttcattctcat ccattggctc ataaatatga aatagatatg	540
agtttatatg gagataatta ttatgattta catgattggt tagaaacgat tgaaaagaaa	600
acggaatata aaatgtgggt tagtggacat tatcatgatg atttaattca ctattcagat	660
tcacaaaaac cttgtttgac tttatttgat aaagtgatgt tgttagaaac tataaatgaa	720
gaaatgaaaa gcctgactaa aatttag	747

<210> 2624

<211> 900

<212> DNA

<213> Holdemanella bifformis

<400> 2624

atgaaagggg taagaacttt tttatatgaa cttaaatatg cttttttaca aatgaaaaga	60
catatcatgt tatgtttttc cgccattagc gcaattggta ttacgttatt attaattgga	120
gctgttctaa ttataggact gcatgtgaat tatttttcga atgacgtaca aaaagattta	180
agcattcatg tcatattaaa tgaggatata aaggatgaag cttctatgca agatataaat	240
gataaaatct ccaaattaaa aaatgtggat aaagttgaat tttcatccaa agacaatgaa	300
ttggaattga tgatcaaaga aaaagggttcg gcttttaaag catatagagg agattcgaat	360
cctttgtcaa atgcgttctt tgtttatcta aaggatgctt ctaacattcg taaaacaagt	420

gcacaaatca agaaaatcga tggcgtagcg agtacagctt ttggtggaga tagtgtcact	480
tcttttagttg aaatgttgaa tatgattcaa aaaattgggt tgggccttgt tgcattgttg	540
gtcatattat ccttatatct gatctataat acgattcgca caacaattga ttcaaggcaa	600
gatgaaatca tgatcatgcg aactgtaggt gctacaaatg gctttattag taatccgttt	660
attgtagaag gaatcttaat tggattactt ggagctgtaa ttccgtatct aattgttcat	720
tttgatatg aaaagctata tacaagtcta ggtggacaat tatttacacc gatgtttgcc	780
atgtttaaac caaacacaat ccgttttcaa gtaggattct ctatcattct tgcgggtgtt	840
ttgattggtg gctttgcctc tttgcttgcg gcaagaaaat atttaaaaat gaaacgataa	900

<210> 2625

<211> 756

<212> DNA

<213> Holdemanella biformis

<400> 2625

atgaatgaaa tgtcacaaact taatttttca attggaacat tttctcaatg catgagtttt	60
tcacctcaaa atatacaaat cgataatctt gaagactgta cactctattg tattgactgt	120
gaaaatgtcc aacaattcga tattaatata ctgaacgcca caagtcctag cgttttcttt	180
ttctttggaa actttgaaaa aataggacaa aaagcatggc aacaaatctt tgcgattgcc	240
aaagattttc ctaattccta ttgtttcaat acacacccaa gtcaaaaagaa ttttgcggac	300
atctattgtg ctacacttct tgggtcaagtt gtcgccaatg ttatacctaa aaaaattctt	360
cttgtcacia atgatcaagg atttcatggt attaaacaag ctttaatggt tcaaggtaaa	420
gacatcgaca tcgaaaatct acaacaaga gaccattctt tattgccatt aaaagaagaa	480
cagccaaaac aagttcaaaa agcaaaaaaa caacagccac aaacaaatca aaagccaaat	540
gaggcgagt atgaagaggt tttagaagtt ttaaaaaagt atcctaaaat caatacacgc	600
tatgcatcga ttgatgattt aagcaaatat ctaatgccta tcttagcgaa taaacaaaag	660
aagtgtaaac tttcaaaatg gatcgaaagt gattacgcaa aaaaagtagg tcgatataaa	720
aaggattcga aaggaaaata ttataaatta aaatga	756

<210> 2626
<211> 771
<212> DNA
<213> Holdemanella bifformis

<400> 2626
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acaactgcag ctcaagcgca gccagtaaaa ctacaaagac tatcacgtgt ggatagtggt 120
tcacatgcca ataagccatt gtatccacat gatacgggtgt gtgttttctcc aactgtaaaa 180
gaaatgccta cttctccagt tatggaagat cttcttgggg aagtgaaca atacaatatt 240
gataatggaa atcgtattac agatgatacg cagatcaata ttttaaaaca attggattca 300
acgagtgaaa caagaaaaag aaatcaacat gtgattccaa tggaaacaga tgatgaagat 360
ttaggttcga caatgaagat ttcaaacct acaacgcaag agtttgaaag acctgttcgt 420
caagaaccaa aggaagaaaa aattgtctta acaagtgatg atgtagaaga tgtcaaaaaa 480
cctgtggatg acaatttgga tttaatgttc ttatctgggtg atgattttga taaaacagaa 540
gaacaacaaa aaaatgaaaa gaagaaaaag tcaaagcgta aaaaagaaaa acgtgatgaa 600
cttgaatcta tgcctagtgc aaaaatgcgc atgaaaactt cggattttga aaaagcaagt 660
aaaaaaggga agaagggttc agaaatcgta ttaaattgtcg tattaggtat attgattatt 720
gccttagttg cgattattgg ttatttgggtt tggacattta agaatattta a 771

<210> 2627
<211> 1863
<212> DNA
<213> Holdemanella bifformis

<400> 2627
atgagaaaga ttagtcaagt gtatgatatt gaatcaccac gtcaaatcaa ggatttgaca 60
atcgatgagc ttacacaatt gtgtagtgat attcgagctt ttttaattga ttcaatctca 120
aaaacagggtg gtcatttatc aagtaactta ggcatgttg aagtcacagt ggctatgcac 180
tatgtctttg attcacctaa agataaaatg atttttgatg ttggacatca atgttacaca 240
cataaaatat taacaggaag atccacgcaa tttgcgacat tacgcaaaaa aggtggtcctt 300

tcaggttacc aaaagcgtag tgaaagtaaa tatgattggt gggaagctgg gcattcttca	360
acctctttat cggctgcact cggctatgcg attgcacgcg atctaaaaca ggaggattat	420
aatgtcattg cccttattgg agatgggttca ttaacagggtg gaatggcact tgaagcatta	480
aatgatattg gttctaaaca aaaaaagatg gtcattatat ttaatgataa taatatgtca	540
atttctaaga attatagcgg agttgaaaaa cgtataacgg atattcgtgc ttcacattta	600
tatattgatt taaaacatga tgtaaagaat aacttaaaat cgaataaatt aggtagtaat	660
gtattaaaca aactgtctca ttttagagac agaattaaat atgaagtgat tgatgcacct	720
ttattttaaag agtttaattt agattatatg ggacctgtgg atggcatga tattcaaagt	780
ttaattaagg tgtttgaagc tgccaaagaa catgatggtc ctattgtagt tcatgtatta	840
acacaaaagg gtaagggtta taaatatgca gagcaagata aagttggaaa atggcatggc	900
gtaagtcctt ttgatgtggc tacaggtaaa tccttaagtc ttcttccacc aaatgaaatt	960
tcttgggtccc aagttatttc taatacgggt atggatcttg ccgaaaaaga taaaacgatt	1020
gttgcgatta caccggctat ggcgaggga agtaagttat tagaatttca aaaacgtttt	1080
ccagatcggt tctttgattg tggatttgca gaacaacatg ccgtaacaat gtcttgtgca	1140
atggcactag gtggtttaaa accatttgtc agtatttatt cttctttcct tcaaagagct	1200
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cttagaagtg ttccgaattt gattttgtca caacaaaag atgctaaaga agctcaaaat	1380
atgatttata cagcttttga atcaaaaaaa ccattctgca ttcgttatcc tagaggaaat	1440
gcgttatatg ccaaaaaata atcgtattca ttaattccga ttggttcttg ggaaaaattt	1500
gtggttgga ctccaacaca aattgtgatt acatatgggtc cagacgttga tcatgtgatc	1560
aataaggcaa gagaaaataa aatgggttta ttggttgatc atgcacgttt ctttaagcct	1620
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acagatgtta aaattggagg actttcaagt gctatattag aatttataaa tacacttgat	1740
gaaaagattc atataatagg tattgaggat cactatgtat gtcattggtt gattcgttct	1800

ttgctattc aagaaggat tagcacagaa tgtttatttg aggaattaga gaaacatgga	1860
taa	1863

<210> 2628
 <211> 861
 <212> DNA
 <213> Holdemanella biformis

<400> 2628	
atggaaaata aaattgttct tgtgactgga atgtcagggtg caggtaaatac aagtgcctatg	60
aatgccttgg aagatttagg gtattattgt atggataatt ttcctaagga attactagat	120
aatttagaag aattattaag aaaagatgag acgcattata aaaatgtggc attaagtgtg	180
agtgaatag attatcaagc ttttgtcagt tattttgaga atataaatag agaactacaa	240
attttatttt tggattgtag tgatgaagaa ttgttggtgc gctatcgctt tacaagaaga	300
caacacccaa tgattgtaaa tcatttagct acgacattag aggatgcgat tgaagttgaa	360
cgtgattttt tggatcatct acaagaaaat tcacagaata ccattcatat tgatacgaca	420
aaattaagta cttcagcttt agcaagtcgt gttttacatc gttttaaaag tgcaaacga	480
agtgtattta cagtaacatt tcaatctttt ggatttaagc acgggggtgcc attagatgca	540
gatatggta ttgatgttcg tttcttacc aatccattct atgatccttt gttgagagaa	600
aaaacaggaa atcaaaaaga agtttatgat tatgttatga ataaaacaga aacacaggaa	660
tttattgttc atctaaaaaa ttattgtgat tttgtattta atcaatatga gaaacaaaat	720
aagtcacata tgattgttc gataggttgt acagggtggac aacatcgctt ggtttctatt	780
tgtaattggg tatatgacac atataaagat acatatcggt gttttaaatc acatcgcgat	840
attggagtgg atgaagaatg a	861

<210> 2629
 <211> 747
 <212> DNA
 <213> Holdemanella biformis

<400> 2629	
atgaaaatat cagtattaac attattccca gaatattttg aaccattaat gacgacaagt	60

attcttaagc gtgccaaaga aaaagatttg tttgaatttg aaacgattga ttttcgaaag	120
tttacaaaag aaaaacatgg tcatgtagat gacacgcctt atggtggtgg ggctggaatg	180
gttttgatgt gccaaccaat attagatgca ttagaatcga ttcgtacaga aaatagtaca	240
gtcatcttat taacacctca aggcaaaacg tttaatcaac aaatcgcaaa agaattatcc	300
ttaaaggaac atttaatttt tatatgtgga cattatgaag gctttgatga aagaattcgt	360
gattatgtgg atattcaaat gtcttttaggt gactttgtct taaccggtgg agaaagtgcc	420
tgtatggtta tgtgtgattg tatattacgt atcttacctg gtgttattag gcaggattca	480
agtgatgatg attcattttc aaatgggctt ttagaatatc cacaatatac tcgtcctgaa	540
gtatataatg gaaaaagagt tcctgatgta ttattgagtg gtcatcatgc gaatattaaa	600
aaatatcgcc atgaagaatc tttgaaacga actgccttat atcgtccgga tttattagaa	660
aatttagaat tagataaaga agatcaaaaa gtagttgata ccgtgttaaa aagctcaatt	720
gtaaaaactaa atcccattga gaaatag	747

<210> 2630
 <211> 843
 <212> DNA
 <213> Holdemanella biformis

<400> 2630	
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acaaaagatg cgatggctta ttcattaatg aatgggtggaa aaagagtacg tcctatgttg	120
ttgttttctg tactagaagg ctatggaatg gatgctcatg ttggatatcc ttgtgcttgt	180
gccattgaaa tgattcatac ttattcatta gtacatgatg atcttccagc tatggataac	240
gatgatttgc gtcgtggtaa accgagttgt cataaagcct atgatgaggc aacggctatt	300
cttgcagggg atggactact taccaaagct tttgaagtcg tacttgatag tgaatgtagt	360
gcgaaacaaa aagtggcatt agttaagca ctttcttggt atgcaggtat tgatggtatg	420
atctatggtc aaacattaga tttgcaggct gaaaatgata caaatccaac atttgccctt	480
ttgcaagaaa ttgatcacta taagacaagt aaattattaa ctttgccttt agtatgtggt	540
tgtatttttag cgaataaatt tgacgacatt gaccatttcc gtaagattgg tcttgtgtta	600

gggttggaat ttcagatgca agatgatatt ttagatgttg ttggtagtga agaagtggtt	660
ggaaaatcat tgagtgatga agataatcat aaagtaacag ctgtatcttt attaggtctt	720
gaaggagcta aggatatggt taaaagttat gatgaaacca ttcgtaaatc tttagataaa	780
gtcagttgtg atgtaacttc actaacaaaa gtattggata ctttattaaa gcgtacatat	840
taa	843

<210> 2631
 <211> 897
 <212> DNA
 <213> Holdemanella biformis

<400> 2631	
atgaaagaaa aacaggaaca aattgtaatg cgtatttctt tttgggccgg tgttgcat	60
gcacttgacag aattgattat ggccatctat tctaaatccc agtcgggttct agcagatacc	120
gtttatgatt caactgaact tgttggttatt ggattaacaa tttatattat tcctttattt	180
tataaaccag taaccgaaaa gcatcccttt ggatatgcac aacttgaaag tatagtgatc	240
ttattaaaag gatttatggt tatagcgggt atgatgggtt tgattatgaa taatattcaa	300
attatgttga atggtggaaa tgaaattgat catatgcagg tttctatggt tgaaacgatt	360
ttaacatggt tttccgcatt gattttattc atacttatgc aaattaataa aaagtgaca	420
tctcctacag tggatgtcga aatttatgga tggaaaattg atgtattctc aagtgttggt	480
gtatcgctag cgtttttctt atcttcggtt ttaacacata cgccacttgc ttttatatca	540
ccctattttg atcaaattgt ggcaatcgta ttggcattag gtatgatgaa agaacctatt	600
caaatgattg gagatagttt tagaagctta atgcttttaa gtccagatga agaagaagtc	660
acaaaaataa aacatatttc ttcattctata ttaaataatt atccctatga ccctgtcttc	720
tatgatatca cgacaacagg aagaaaaatg tggatatcta tttactttac tacacgagtt	780
gacacaatgt cttttacaga acttgaagta gccaatcgag aattaaaaat tgctcttcaa	840
aaagaatatg aagattgttt tgtggaactt gttcccaatg ttttagcgaa taaatag	897

<210> 2632

<211> 756
<212> DNA
<213> Holdemanella bifformis

<400> 2632
cttgtgaagc aggaagtgc gacccatgtc gagaaagacc agaaaagttc tttagttagg 60
aggaacatta tgattgattt aaaagatgtt tcaaaagcat atcccaatgg ggtacatgct 120
ttaaatcatg taaatttaca tattgataaa ggtgaatttg tgtatgtgat tggagctact 180
ggttcaggaa agtcaacatt gatcaaagtg ttaaatggcg aaattgttcc agatgaagga 240
actgttattg taggtggagt caatgtaggt gcattgaaac atagaaaagt tccatactac 300
agacgtaatg ttgggtgtgt ttttcaagat tatcgtttat tacctaagct aactgtttat 360
gaaaaatattg cgtttgctct agaagttgtg ggtatgccac gtaaacaat tcgaaagcgt 420
gtcatggaag tcttagatct thtagacttg aaagaaaaag ccagaagcta tccagatgaa 480
ttatctggtg gacaacaaca gcgtgtcaca attgggcgtg ccatcgcaaa taagccaatg 540
gttttgattg cggatgaacc gacaggaaat ctagatccag aaaaaagttt agaaatcatt 600
accttgcttg aaaaaatcaa taaaaaactt gatacgacga ttatgatggt tacacatgat 660
aaagttttgg tggatcgttt taaaaaacgt acgattatgc tcgataaagg atatgtgatt 720
cacgattcaa atagaggtgg gtataagagt ctatga 756

<210> 2633
<211> 1059
<212> DNA
<213> Holdemanella bifformis

<400> 2633
ttgcgtgagg tacttatattt gattagtaaa aaagaaatgc gagcacgtgt tttattgatc 60
gtgatttggt ttgcggtggg atgtttttgt ctttaccata tggataagtc atatgatccg 120
ttagccagg atccttatac gacggatgca aatcgtgata tcattctaga atatttagat 180
agtaatgata ttgattattt gatcaatcag catattacgc cagataagtt tatggatttt 240
attaagctag atggatttag tttaaaaaac acgttgtatt ataaagaggc aaaagatacg 300
caggatgcgg ataatagaata tattgtcaat tttgtgaatc gtttccgtaa gaatttttcg 360

tatgattcctt taaaggaatt gttgtcgcac tattcctata ttgatttaac aacatattat	420
gaaaaatgagg ctgtcctata ttcggattta cgtttggtgg cagatcctac aaatccatat	480
gttgtccttaa accaggaaaa tacagtatat aaatatgcac cagaaaaattt agtggatttt	540
aatggtatat atgttcaaag tgctatgggt gataacttat cgagtatgtt agatagttat	600
gcttcggtta tggatggaca agatcatttg agtgtctcaa gtggttactt gaattatgaa	660
caagtcttag atcagtatgt caatgcgtca aaggaatttg cgggtgttga taattatatg	720
tatggggctg gaaagaatga gcagcaatta gggatatacga ttgttttaga tgggtcaaaat	780
gaatggatag agctttgtaa gcagcatcta aatgaagata tggactatac gcaagtcgaa	840
gaagaattgt ctaaggaaaa taaaaatcgt gtagaatgga tattggaaaa tgcgtatcgc	900
tatggttttg tgggtgcgtta tggaaaaggt catgaaaaga agacgggaca ttggtatttg	960
ccatttgtag ttcgatatgt gggatagag aatgctaaga tcttgcatga tggtgataag	1020
agtatggaac aaatgtcttt tcaagatgaa ctgaattag	1059

<210> 2634
 <211> 1038
 <212> DNA
 <213> Holdemanella bifformis

<400> 2634	
atgactgata ttttacgaaa taactggttt gtcgtcctaa ttgccataat tattattggt	60
tttattggct actttattta tgacacaaat aaagacaatg tatccgcaaa atcatcaa	120
aatgagcaag ttgttgcttc aatcgataaa gacgatatta ccgcaaatga tttatatgac	180
gaatccgcac catatgatgg ttcaactatc tacaatatgt ataaaaatgc cgtcatcgat	240
caatcaatcg aaactacaaa agatattaaa aaacaggcaa atacattgga atctaatt	300
aaatcaaacg catcaaaaaca aagtgcgat tatgaatcca ctttaacttc agaactagct	360
aaatatggct attcatcctt tgaacaatta aatgactatt gcataacaag cgtaaagaa	420
aaagaaatga ataaaaaata tatcacaaaa cattttgatg aattaaata agcctgggaa	480
gaaaaaagcc ctagaactgt ttctatcatt aaaatggaag taagtgatgc agataattta	540
acagaaacag aaacaaaaaa gaaaaataac attgataaag ctttagaaaa agaaagtttt	600

gcggatgtcg caaaagcatt ctctgaagat tcaaataccg caaacaaaaa aggttttgca	660
ggatatgtag attcagattc aacaagctca gaaacaagct cagactcaag ttcaacttct	720
actgtacctg ctgatgtagt tacagctgcc attaatctta aaaaagggtga aactagcgac	780
tggattacag ttacaaattc aagtggcaca agcttatata gagtttatgt aaaagaaaca	840
gattcaaata aaatcttcaa cgcaaaaaat gacacagttt caaaccaagc attatatgcg	900
atcttaaaca gtgactcttc tctttcatac aaaattctaa attcatacgc gaaaaaatta	960
gatattaaat tcaacgataa agacactaag aaaaaatttg acaactatgt aaaaacgact	1020
tatggaggtg atcaataa	1038

<210> 2635
 <211> 1104
 <212> DNA
 <213> Holdemanella biformis

<400> 2635	
atgaaatgga aaaaaaagaa agaaaggcgt atacttgaga tatggaggat gactatgaac	60
agaactcaaa ctcgtcaagt tcaagtaaaa aatcttgaaa ttggacataa taatcacgtt	120
attattcagt caatgtgtaa cattgaaaca aaaaaggcag atgaggtagc caaacaaatt	180
ttaaaccttg aaaaaatggg ctgcgaatta attcgtgtca gctgtatgga tatggaggat	240
gccaaagcca taaaagatat aaaaaaaca attcatattc cattagttgc tgatgttcac	300
tttgattatc gtttagcttt agcttgtatt gaagcagggtg ctgataaaat tcgtttaaat	360
cctggaaata ttggttctag agaaaatgta gaaaaagtcg ttaaggcttg taaagaaaaa	420
catattccaa ttcgtattgg gatcaatggg gggtcttttag aaaaagacat tcatgaaaaa	480
tatggtaagc caaccgcaca aggtatgatt gaaagtgcc aagacatgt aaaaatctta	540
gaagatctcg atttttatga tactgtcctt tcttttaa at cgagtgatcc acttttatgt	600
attgaagctt atcgtcttgc agctaaaaca tttgattacc ctttacattt aggtgtaaca	660
gaagccggta caaccatgac aagtgccatc aaatcgagtt tagctttagg cactttatta	720
aatgaaggta ttggaaatac aattcgaatc agtgттаатg gtgcacctga aaaagaaatt	780

ccaatcgtaa aggaattatt aaaagactgc aagctcatca aaaatgtacc caatctaadc	840
gcatgtccaa catgtgggcg aactcaatgg gatatggagc cggttgtcaa tgaaattgaa	900
agctatcttc aaacgattca taaagaagta acagtagcca tcatggggttg tgcgggtcaat	960
ggctctgggtg aagctaaaca tgcggatatt gcgattgcag gtggcaaaaa agaaggctta	1020
ttgattaaga agggtgaaat cattgaaaag attccacaag atcagattgt agctcgttta	1080
aaagaagaaa ttgataaatt ttaa	1104

<210> 2636
 <211> 756
 <212> DNA
 <213> Holdemanella biformis

<400> 2636	
atgttgacaa aaagaataat accttgttta gatgtgaaag atggccagggt ggtgaaaggc	60
attcattttt tgggcctaaa agaagttgga gatccagttt ctctggcaaa aaaatattat	120
gaagacgggtg cggatgaatt ggtgttttta gatattagcg caactataga aaaaagaaaa	180
acaatgggtcg atgttgtag gcgcgtcgca aaagaaatat ttattccttt tacagtaggt	240
ggagggtattt caacaattga agatgtgcgt gctatgttga tggccggagc cgataaggta	300
agtttaaata gtgcagctat tcgaaatcct tctttaattg aagaggcaag taaacgattt	360
ggcaatcaat gtatcgtatt ggcgggtggat gcaaaaaaaaa gagccgataa tacagggttg	420
aatgtatatg tagaaggggg aagaaaagat acaggaatcg attgtatgga atggatctta	480
aaaggggtat ctttaggagc cggagaaatc ttgttgacaa gtatggatgc ggatggaaca	540
aaagatggct ttgatttaga tttatataga gctgtttcta aaattgtaaa tgtacctgtg	600
attgcttctg gtggatgtgg taaattagaa gattttaaat cggcattaga agtaagtgat	660
gctgcacttg cggcaagtat ttttcattat gaagaatcta gtgttttaaa tgtaaagaag	720
tatttaaaaag aagaaggagt cgcagtaagg ttatga	756

<210> 2637
 <211> 600
 <212> DNA
 <213> Holdemanella biformis

<400> 2637

atgattggaa ttatagatta tggatatgtcc aatttacaca gtgtaaaaaa tgcttgtgat	60
tatttaaatt tagatagtgt tgtttcaaaa gatgtttctg ttttatctaa atgtgataaa	120
ttgatcttac caggtgttgg agcttttcaa gattgcatga acaccttaca ttccatggga	180
ttatacgatt ttgttgttca acaagtga aaagatgttc ctttattagg aatttgttta	240
ggaatgcaag ccttgtttga atcgagtga gaaaatggat attgcctagg ctttggcttt	300
ataaaaggcc atgtttgtca tatggaagat acaagcgta aaattcctca gattggttgg	360
aatgttttag aaagtagtca ggcacaaaac atctttaag aaaacacgta tgtgtattat	420
gtacattctt attatgccaa agatatggaa aatcaagatt taattggata ttccatgtat	480
ggaaaatga aaataccagg tcttgtgatg cacaaaaata taatgggatg tcagtttcac	540
cctgaaaaaa gtggaaaaga tggattaaaa atattggaat attttggaaa ggagttctaa	600

<210> 2638

<211> 1038

<212> DNA

<213> Holdemanella biformis

<400> 2638

agtttataca atttaaatta tgatcaaagtg tgcgaatatg cattggatca tggatggaaa	60
tcttatcgtg gacatcaaag ttttcaatgg ttatatcgta accgcgtatt tgatattgat	120
gaaatgacaa atgtatcaaa ggaaacaaga gaaatcttga agaaagattt tattgtgaat	180
cctttagaat taataaaaaa acaagtttca catgatggaa cgacaaaatt cttgtttaaa	240
acaagtgatg gagccctatt agaaagtgtt atgatggctt ttgactatgg aagaagtgt	300
tgtgtttcga gtcaagttgg atgtaatatg ggttgtgcat tttgtgcaag tgggcttaca	360
aagaaaaaaa gagatttgac aagtggagaa atggttggcc aagttatgta tgttcaaaaa	420
gaattggata aagataactt acgcctatcg cacattgttg tcatgggaac aggcgagcca	480
tttgataact atgacaatgt tatgaatttt ttagctacgg taaatcatga tcgtggcttg	540
ggtattgggt ctagacacat cacaatttca acttgtggaa ttgttccaag aatctatgat	600
tttgccaatg agcatacca atacaatttg gccatcagtt tacatgcacc aaatgatgaa	660

ttgcgtgatc aattgatgcc tgtaaaccat gcatatccat taaaggaatt gatggaagca	720
attcagtatt atggtaagga aaataatcgt cgtttgacat ttgaatatat tttattaaag	780
ggtgtcaatg atcatcctga acatgccaaa caattatcga agctttttaca tggaatgaat	840
gcctatgtaa atttgattcc atataatgcg gtggatgaaa aaggcttcaa atcggttaca	900
catgatgagg cgatgggtatt ctatgatttg ttgatgaaaa atcatgtgcg ttgcacaatt	960
cgaaaagagc atggtaatga tattgatgca gcttgtggtc agttaagaat taaggaaata	1020
aaaaaggaag gaatttaa	1038

<210> 2639
 <211> 633
 <212> DNA
 <213> Holdemanella biformis

<400> 2639	
ttatgctgcc acaaaaaaat gagtgaaata cgaaattttg atattttctt ttataatgat	60
ttgattgttt gtccggattg tatgaaaaat tttaaagtgc ataaacagac gtacagaatc	120
aaggaaacat tcatgtatgt attgtatgaa tatgatgaat ttttagaaag attgtttttt	180
caatataaag aacagaggga tattgtttta aaagatgttt ttttaaattt tcataaatac	240
ttgagtaaga cttttaaaca ttattgtgtg tgtagtttat gtagtagtga tgctaagcgc	300
atggaaaagg gatttgagcc agtgggtggat atatatgcga ctttaggtgt ctttgtgcat	360
tcgccatttt ataaaaaaga aaatgtaaaa caatcttcaa aatccaggct tgaaagagca	420
catataaaag atgtattagc tttaaaagag atgtatccac tgcctaaaaa aaagaaaata	480
ttgcttgtgg atgatgtgtg tacaacggga aatacattgt atgctgcttt ggatttgatt	540
catccagatt gtatatattgt gatagcggcg catcctttat ggattaaggc aaataaagaa	600
aacatagtgg tcaaatcaaa ggggttttgg taa	633

<210> 2640
 <211> 2103
 <212> DNA
 <213> Holdemanella biformis

<400> 2640

atgaaagagc catatgaggc ttatttagat gattataatt gtttggatgt ttatatgtcc	60
aaaaattttt ttggtggaaa aagccgaatc ttccacatga aggatacaaa gaatcgtatt	120
atcccctttga caatacggtc acaatccgac ttatataatg gattcaccca ttatgccctt	180
tctttaaatg gaaatttaga gattggccaa gaatatacag tatatgatga acattgtaag	240
acttgtgtcg ccaaataattc tcatattgtc aaaacagagc gttttgcgaa agagtttacg	300
tatgaaaaag atgatttagg tgtgacatat acacctgaaa aaactacttt taaagtatgg	360
gcaccaacag ctttatctgt caatgttga tatgtcttga atggtaagag aatcgttgaa	420
tcgatggttc gacaagataa ggggtgtttt tcacttactg ttaattcaga tcttaatggc	480
gtacattact cttatttagt tcgagtcaat ggtgaatata aaggggtaac agatccatat	540
acttgtttta gtggccccaa tgcacaatat agtgtgggtga tagatcctaa aagtttaa	600
cttccaaaaa aaatcaaatt gaaaccaatg gatagtgaat gtgatgcat catatatgaa	660
gcaagtgttc gtgatatgac tagccaaaca ggaattggca tatcacattc taaaaagttt	720
gtgggattta cggaagaaaa tgaaatcaca aagaccata atacagggtt tagttattta	780
aaatcattgg gcgttacaca cgtacaattg atgcctgttt ttgactttgg cagtgtcgat	840
gaagtatatc caaatatatt ctataattgg ggatatgac cggtgcaata tcgttgttta	900
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ctcgttcatg attgtcataa agcagggtt cgtgtcaatt tagatttggg gtttaatcat	1020
gtatatgtga aagaaaactt tgcacttgaa aatatgggtc cagattatta tttcttaatg	1080
aatcgggatg gtgaattctc gaatggtagt ttttgtggaa atgatattga tactcagcct	1140
tatatggcac gtaaatatth tattgaaaca tgtaaaaaaa tcattgaaat gtatgatgtg	1200
gatggattcc gttttgatct aatgggaatt cttgatttta acttgatgaa tgaaattagt	1260
gaagagtgtg aaaaagtaaa acctgatttt atgatttatg gagaagggtg gaacatgcca	1320
agttttgtgg ctgaagagat tcgtgcttca caattgaatc aagcgaagat gccacatgta	1380
ggtcatttct cggatcgttt ccgtgaagtg gttcgtggat caaatgatga actttcacgt	1440
aaaggatttg cctcagggtc agcggatttg atctatcaag tgaagtgttg tatggcagct	1500

agttgttttag atcacgtggt cgatagtcct acaaaaagtag tcaactatgt agagtgtcat	1560
gataatcata cgctttggga taaaaaccgt gtatgttgtc atggtgagag tcgtgattta	1620
agagagaaac gtcaaatact tgcgaatgcg atggtattac ttgcgcaagg aattccattt	1680
attcattgtg ggcaagagtt tggtcgtacc aaacaaaatt taggcaacac atataatcgt	1740
tctgacaatt ataatcgtgt ggattatcaa agaagagatc atcatattga aattgttgag	1800
cgtacaaaag aattgattga aattcgtaaa acacaccctt gtttttagatt aagtacgggt	1860
gagcagattg aacaagggtgt tcaatttgat acgatatatg atcagggtctt agtctattct	1920
tgtcaaaaag acaaagatca ttgtgtagct ttctttaatc cgacaaatat tccatatgat	1980
tatcacttgg atcaagaagc tcgaatcttg tttgataatg gcaacagcaa ttcttttagat	2040
acgtttgata ttcatattgc agcatttagt gttgtcgttt gtcaatttgg cttgacggct	2100
tag	2103

<210> 2641
 <211> 933
 <212> DNA
 <213> *Holdemanella biformis*

<400> 2641	
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tgtgccacaa atgtattcgc aatcgataca tctgtcattg atgaaaagtg gggtaaacca	120
accgttgtat atggtgggtg ttttaacgaat gatcaaattc aaagtacacg caatctcttc	180
gatattgaag atacaaataa cgtatatgaa acaagcgttg atgccaatga tctatataac	240
taccttggaa ttgctgggtg cgatacatct agcttgattt caagtgttat ggtgcaaaaa	300
caagatgcag gaaaagggtgt caaagttaag atcatcacag aagataacat cacaaaaatc	360
acttcaaacc aatatgccaa tgccgccatc acagctgggtg ttagcgatgt tgaaattgat	420
gtagcttctg tttcaaaaagt aacgggagaa tctgcattaa ctgggtgttta taaagcttta	480
gaagccaatg gcgaaacatt agatttagat cgtactcaag ttgcccaaga tgaacttgaa	540
acgacaaatg aaattgccga aaataatgca gataattcaa attttgattc tggacgctta	600

gatcaagcta tggttgaaat caaacaagaa cttgccgaaa tcaaaaaaaaa tcaaggaagt	660
gctgcaacag ctgaacaagt cgaacaagtt gtaacagacg ctttaaagaa atttaattta	720
agtgacatca tctcacaaga tgatattgat aaattaattg cgtttgccaa gaaataccaa	780
aatacttcag ccatcgattc acaagaagta ttggaacaat taaacaaatt gtctggtaat	840
ttgaaaaatc aattatctgg acttatcaac aaagcacaat ctgagggttg gttcgataaa	900
atcatcaact ttatcaaaaag tctattttaac taa	933

<210> 2642
 <211> 2415
 <212> DNA
 <213> Holdemanella biformis

<400> 2642	
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tttaaaacgg atgtttggga tttttcaaag ccaaaatttt atgcgttaga tatgtttcca	120
tatccaagtg gagtcggact tcatgcagga caccctgaag gatatacagc tacagatatc	180
gtttcacgta tgaaacgtat gcaaggctat aatgtacttc acccaatggg atatgattca	240
tttggtttac cggctgaaca atatgctgtt caaacaggaa acaatccaaa tggatttaca	300
caagaaaata ttaaaaacttt cacaaatcaa ttaaaagaat taggttttga ctatgattgg	360
tcaaaaatga ttgcgacatc cgatccagat ttctatcact ggacacaatg gattttttaa	420
caattgtata aagatggata tgcaaaatat gtggatatgc cagtaaaactg gtgtgaagaa	480
ttaggaactg ttttatcaaa tgacgaagtt attgatggta aaagtgaacg tggtaggctat	540
ccagttattc gtaaaaaatat gaagcaactt tgtattgacc aggctgcttt tgcggaaaga	600
cttttagaag gcttgaatga aattgattgg cctgaatcca caaaggaaat gcaaagaaac	660
tggattggac gatcaacagg tgttgaagtt caatttgaaa tcgtaggtgg aggaaaattc	720
tctatcttta caacatgtat cgaaactatc tatggtatta catttatggc ctttgcacca	780
gatggagatt tagtgcaaga attaatgcca agaatacaaaa accaagatga agtaaaaggct	840
tatatccagg aaactgtatc gaaatcgga atggatcgta cagagttaaa taaaggtaaa	900
tctggttgcc gcttagaagg tattaaggca atcaaccag tgaatggtag agaagtggaa	960

gtctttattg gagatttcgt attagctaac tatggtactg gtgctgtcat ggctgtacca	1020
agtcatgadc aacgtgactt tgaatatgcg attgcccaca atattgacat gattcaagtt	1080
attgaaggac aagacgtcag tgagcatgcc ttgaaaaaac aagattactt aggtaagggc	1140
tgcaagctaa tcaactctga agaatttaca ggtcttactg tagaagaggc aaaagtagct	1200
attactaaaa aattgggtga tatgggtatt gccaaagaaa cagtaaatta tcgtttccgt	1260
gaatggatct ttgcacgtca acgttattgg ggagaacctg taccaattgt gcatttagaa	1320
gatggtacag attatgtact tccagatgaa gaattgcctt taattcttcc agaacttgaa	1380
gattataaag gacacaatgg aaaagcacct cttgaaaatg cgacagattg gaaacaatac	1440
aacccaaatg gtgtaaaggg agttcgtgaa acaagtacaa tgccagggtc tgcaggatct	1500
tcattggtact atttacgtta tattgatcct caaaataaag aacaattagg aaatccagaa	1560
ttattgaaac actggatgcc ggtcgattta tatgtaggtg gtcctgaaca tgcggtaggt	1620
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gccgatacac ttcgtttata tgaaatgttt atggggccat tagaacaag taagccttgg	1860
tcaatggcag gttgtgatgg tgctagaaga tggatcgacc gtgtttatcg tttatttatt	1920
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ggtcatgaag ataccattgc gtatgagcct tggccaactt atgatgaagc aaaattagt	2220
gaagatacag taacttgtgt tgtacaggta aatggtaagg ttcgtggtaa atttgtggcg	2280
gctgtaggtt caagtaatga agaattagaa aaacaggcta tggaacttga aacagtaaag	2340
cgccaaattg aaggaaaaac aattcgtaaa gttatcgttg taaaaggtaa agttgttaat	2400
attgttgcca actaa	2415

<210> 2643
<211> 1554
<212> DNA
<213> Holdemanella biformis

<400> 2643
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aaatgggCGT attggacaag taaacagctt ttaaattccag tttctgaatc gaaatgtatg 120
gaaagattta aagaacgaat attaaaggct gtttcaaattc gtgaaaaagt aattgtagca 180
ggagactatg attgtgatgg tatcagtgc aacaacaatca tgggtgtcagg ctttaagaaaa 240
ttaggccttg aatgtggcctt ttatatccg gaccgtatta aagaggggta tgggcttagt 300
gaagcaacag tgatgttggc acataagaaa ggatattctt tgattcttac ggtggataat 360
ggcattaaaa gtaagccggc tttagcactt tctaaagaat tgggtatgga tgtaattgtt 420
acggatcatc atacaatgga tgaagaagt aattgtgata ttgttgata tccagattta 480
atggagccat gctttgaaac cttatgtgga gctggaatag cctatgaatg tatgcgaaaa 540
cttgggtgtag aggggtgatta tcttttacag cttgcaggctc ttgcgagtat ttcggatatg 600
atggttgtca aaggcgaaac gcgagctttg attcagaatg cattaagatc aatcaatgaa 660
acacatgaaa aacatatattt ttcttttagct acagatcgtg acttaaatga aacaagtatt 720
ggttttcagg tgggttcctaa attaaatgcg attggaagat tgagcaatct tgccaacgctc 780
aacaatgtgg tccgatattt tttagcacat gatgatgaaa caatttatac tttgggttcg 840
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ggaatcatag gtttagtggc ggggtgcactt tgttcaagat ttaataagcc ttgtattgtt 1020
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aaggaatata tgtatagtgt gaaaaagaaa aaaacattaa ttataacgga tgatgaattg 1260

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cctagttttg aaattattca tcctcaaatt aagtcgttgt atgattttca aaatcataaa	1380
catcgtaaat atacattaga atctggccta cagtgtatgc gttttaatca aagtgaagta	1440
gagtataaaa aaagtgtgaa tgcgattcat tcttttatag gtacggctca aatcaatcaa	1500
tatcagggcc gtaagcaggt aaattttgtg attgatgaga ttgtatatga gtag	1554

<210> 2644
 <211> 1281
 <212> DNA
 <213> Holdemanella biformis

<400> 2644	
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acacaagatt taagtacaga cgtactgggtg gctgtatcaa atattattca ggatgtaaaa	120
aataataaag atgaggcctg tttaaaatac actcgtgagt ttgatcatgt tttgttagat	180
acaatggaag tgacggaaga agagttagat attcagattt ctaagtgtga taaagatttt	240
gtagaagcta tgaaacttgc taaaaagaat attgaagatt tccataaact tcaaaaacaa	300
aacggatatt tacttcaaaa agaaatggga atctatttag gacaaagagt tcttccttta	360
gaagctgtag gtatttatgt gcctggagga cgagcacaat acccaagtag tgtcttaatg	420
aatgcactgc ctgcaaaaaat tgccggagta aaaaatgtag tgatggtaac cccaccagat	480
tcagaaggta cgattcatcc taatattgca tatgccgcca agcttgcagg tgtggataaa	540
atttataaga ttgggtggagc ccaagccatt gcagccttag cttatggaac acaaacgatt	600
gatcgtgtag ataagattgt ggggtccagga aacatTTTTg tggcagctgc taaaaaatta	660
gtatatggaa ccgttgatat tgatatgatt gcaggtccaa gtgaaatctt agttgtagcg	720
gatgaaaatg ccaatccaga atatgtggca gcagatttat tatcacaagc tgaacatgat	780
cctatggcaa gtgcgattct tttgacaaca agtgaagatc ttttaaattc tgtgaatcaa	840
cagctttcaa aacaaaagtc aattttacct aaaaaagaaa ttgttgaaca atccttaaag	900
aattatggta aggccattgt ttgtgattcg cttgaagaat gtatttcaat tagtaatgag	960
attgcaccag aacatttaga attaattgatt tcaaattcaa tggaatatct acaagaagtt	1020

aaaaatgcag gtagtgtttt cttaggctat tatacttgcg aaagtattgg tgactatttt	1080
gggggaacca accatgtttt acctactagt ggcactgcac gattttctag tgcattatct	1140
gtagatagct ttataaaaaa atcatccttat ttatattatt caaaacaagc aattgaagct	1200
tacgcaaaat atattgagac tatagctagt gaagagcgtt tacaggcaca cgcaaatgcc	1260
gcaaaagtga gggaaaaata a	1281

<210> 2645
 <211> 1167
 <212> DNA
 <213> Holdemanella biformis

<400> 2645	
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ctattgattg gaatggttat ctattatttt gaaaagatct tttgtttttt aggttggatt	120
ggacaaatgt gcttaccatt tttacttgga gccggtttgg cttttgtgtt taatattatt	180
tcgaataatc taatgcgcta ttcgataaaa tggtttgaca tcaaagatac aaaaatcaaa	240
cgaattattt cgaatgtatt atcggttcta atcgtttttg ccgtctttgt cgcatttggt	300
ggaattgtca taccaagaat tttattttct attcaattgc tgctgacaaa ttttccaaaa	360
atgatttatg aattatatat ttggctttta gatgtcacia aaaatattga tgtgattcat	420
gattccttaa aaaacttaga catcaacgcc tttagtacat ttgcgattga taatgtctca	480
aaaaaaataa gttcatggct tgtttcaggg ggagctaacg atatattcgg ctctattttt	540
acaattttat ccacaacatt ttcattggtt gcgcaagcct ttatcaccat tgtcttttct	600
tttttattgc tctttaataa agaacaagtc gtacatgaaa caaaatcttt attaaaagct	660
tatcttcctg aaaaaaatta tgatcgagtg cgccacgtat taaaacttat tattcgcata	720
tttacaagtt atgtgggagg aacctgctta gaatgtttta ttcttgcaag tttagtcact	780
gtaggatcct tgatttttaa aataccatac gcatttttag ttggacttgt cgtgggtatt	840
ggcgcttttg tacctatggt tggagctttg gttgccgcca tattatgcgc tttctttatt	900
gcgatgacat cccctgtaca aggtctaact tttatcatta tgtttatttg tatccaacaa	960

gtcgaaggaa actttattta tcctcatgtc gttggaaaat ccgttggctt tccacccatg	1020
tatattattg ttgcgatcac aattggagcg aatgttgagc gtattattgg aatcattatc	1080
tttattccaa tttgttcatg tatttatcaa ttggtgagtg aagatgtgtt aagtcgtctt	1140
caaaaagtaa aagaggtaac cgattaa	1167

<210> 2646
 <211> 2475
 <212> DNA
 <213> *Holdemanella biformis*

<400> 2646	
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tctgtattct ttgtacttgt gaacattatt aatgatccag atggcatgcg tttttcacia	180
gacggcttaa caacattatc caattcaaga ttatatgact cttcaggaaa tttattctat	240
gaactcgggtg atgaaatccg tgaagacgtt acatattcac agattccaca atcggtagtg	300
gatgccttcc tttctatcga agattcacgt ttctttgatc acaacggatt tgacttgcca	360
cgattcttaa aatccgcaat ggcaaaactta aaatctggta gtttttcaca aggtggttca	420
accctaacta tgcagatgat tgataatgca tttacgaaaa accaagagaa aaagattgaa	480
acagaacaag gctctgtttc aacagttcaa aagttaaaat taaaagtaca agaaatctac	540
ttatctttta ttgctgaaca aagtatcaac aaagaacaaa tatttgaata ttatgtaaac	600
cgaatttgggt ttggttccgg aaacaatacg cgtgggtattc aaaaagcagc acaatacttc	660
tttaataaaag acgtgtccca attaaactta ggtgaagctg cattcttagc tggttgtatc	720
aatgcgccag acacataata cccattaaac aatttaaacg aagctaatac gacaacagat	780
cacttgaaag cagctcaaaa tcgacgtaat gtgacttttg aattaatgat gcaacatgga	840
tatattacag aagaagaata taatcttgct tcaaatacag acatatcttt ctctttacaa	900
tatattgaaa gaacaagtga tgatccaaac caagcttata ttactcaaac acttagtgaa	960
gttatggaat tgaccggaca agatcctgcc attattccaa tggatatcta taccgcatta	1020
aatcaagatg ctcaaaaaca agccgatgaa atctgtaatg gtaatatcgt acaatatcca	1080

gatgaagcat ttgatgtagg tttctcaatg attgaaaatg atacaggaga aatcattgcg	1140
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aaacaacctg gttcaacaat gaaaccattg cttgcctatt caagtacatt tgatattcctt	1260
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tatgattact ggatcgattt ctgtaagaag cttggttacg atgaagatgt agctaagca	1500
ttcaatgaac aatatgcatg tgggtggttct ggaatgtatg cgagcactgt ccaacaagca	1560
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agtgaacaag ccgcttggat gatgtcgcaa ttgcttgaaa aagttgttag tgggtggctac	1740
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gattggcaaa atgaagggtgc tcaatatggg attcctgctg gtaccgcaaa agatgaatgg	1860
tcttttaggtt atacaaacaa atatacgatt gcttgctgga gtggatatac aacagaatat	1920
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tctcactata tgtagatta catgcaaaaa tatgcaacat attcagctat tgaaagacca	2040
agtgggtattt ccgattataa gaacggatat atcaaagatg agttttaaadc taaaggagat	2100
acagcttctg aaaacgcaga cgaacaagaa gcatgtgttg ccagtgggtg tgaatgggat	2160
gcagaagctg gaacttgtaa gaaagctgac gatgaagaaa aagaagcttg tgttgccgat	2220
ggcggaactt gggatggaac tacttgtaaa aaagaagata cagaaaccaa cgatgcagaa	2280
acaacatgtg taaataatgg tgggtacttg gatggaagtg cttgtacata tccaactaca	2340
ccagatcctg aaccaacacc agatcctgaa ccaacaccag atcctgaacc aacaccaaca	2400
ccagattctg aaaatccaac aggatatgtc tggatatgat gaagaaattt atataacata	2460
tttgatagac ttttag	2475

<210> 2647
<211> 834
<212> DNA
<213> Holdemanella biformis

<400> 2647
atgaaacttg tttttttaga tgccgatggc acactatttc atcacgaagg ctacattcca 60
gatagcgcaa ttaaagcttg tattcaagca caaaaaaacg gtcataaaat cattttatgc 120
acaggaagac aacgcattga aatcttttgt cccatgtag aaatcgacta cgatgcgac 180
attgccggaa gtggtgcaac cattgaatgc gaacataaaa ttattgaaga aaacgcatta 240
tccaaagaag aaagtcaata tttatcaaac taccttctta aaaataacat tccagctaac 300
tttgaagca gtacaggcat ctatgccaca caatatacaa aagatacgat gttaaaaatg 360
gtcgaagaac aatgtgcggg taaaacccaa gaagaaaagg ccaaacatgg ccttacgatt 420
cttacaagtc aaattacagt tgtcgacaac attcaagact taatctacaa taaagtatct 480
gtcattgaca atggaaaaac accctacaaa aaaatccaac aagatctttc ggataaatat 540
gatgtaattc ctgcaacatt tgcgcctttg ggaaaagaaa gtggtgaagt cacatcttat 600
catatcaata aagcaacagg catggatgcc gtagtcagat actttcatgc cgacatcaaa 660
gatactattg cgattggaga tggttttaat gatcttccta tgtttaaaaa agcacatcta 720
agcattgcca tgggtaatgc accacaagaa atcaaagata aagcagatag gatcacaaca 780
tccctagagg aggatgggtat ttatcatgcc tttaaagatt tgaatctgat ttaa 834

<210> 2648
<211> 1152
<212> DNA
<213> Holdemanella biformis

<400> 2648
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gtaaaagaag ttaaaaagct tgtaaaaaac acaaaaatca tgggaattgt gaaagccaat 120
gcgtatggct taggtgatgt cgcatgtgct aaggctctac aaaaatgtgg tgtggactat 180
tttggcgttt ccagtattga tgaagcatta aatcttagaa atgcaggaat ccaagataac 240
atcttgattt taggatatac accaagcatg cattttcatt atcttcatga acagaatatc 300

gttcaatctt tagtatccat tgaatatgct agagaattaa atgcctatgc caaagaaaat	360
gatgtaaaga ttcgttgtca ttgtaaagtg gatacaggta tgtgtagaac aggtattgta	420
tatcaagaac aagataaaca tattgaagat atttatgaag agtatcgctt agaaaactta	480
tgtgtagaag gaatcttttc acattttcca gtgagtgatt gtttagatga agattgcact	540
gaatttaca aaaaacaaat tcaattgttt gatgaagtga ttgatttatt aaaatcgcaa	600
ggatttgatc cgggtattcg tcatcttcaa aatagctatg gaatcttgaa ttatccagaa	660
cttgaatatg aatattgtag acctggccta ttatatatgg gtgttacgag tgatgatcat	720
attaaaaatca agacgaatcc tgattttatt cccatcatgt ctatgtatgc caatgtaagt	780
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tccaatcaag gattcgaagt attagtacat ggtcaaagat gtaaattgat tggaaactta	960
tgtatggatc aatgtatgat cgatgttaca gaagtagaaa atgttaaaga aggcgatgtg	1020
gtatgcatcg ttggtcatca aggaaatgaa gtggtaactg tagatcaaat cagtcgtatg	1080
gctaagacta tcaacaatga gacattaact tcaatttctt cacgtgtgcc tagattaaag	1140
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<210> 2649
 <211> 1761
 <212> DNA
 <213> Holdemanella bifformis

<400> 2649	
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tttatcaatg gtgtagcttc atcgagtcaa aatatagaat tgttttttga caagaaagta	120
gaccgggatt ctagtttagt tatttatgat ggaaaacaag tggatctaag tcacgatcat	180
atttatattg atgttcaaaa agaagggtgtt acacaactca tttatatatt aaaagatgtg	240
gatggttatg ctttagaaca aggtgaaaaa tccattcttt tagatacaac gattccagat	300
attgtagtta aggtaaagaa tcataatatt atggatgttt tgcctttaga aaataaagaa	360

acaattcatg ttgagattct agaagaaaac ttaaaaagtg tagaagtgt tttagatgat	420
gaaaaaatgg attgtgaagg caaagaattt gatatagatg tgacaagtca aaatcataca	480
ttaagcattc tttgtagaga tgttgcgggc aatgaagtag aacgaaagat tgatatatta	540
ccaatcgtgt ttcctgaatg cgagttaaag gacacgttat atacaaaaga gaataagatg	600
gatcttaaat ttgatggaat ttgtgaaatg ccattttatt tgaaggata ttgtggacaa	660
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aatggaacgt atacatttgt tctagaacat aaggaatatc ctcaaattaa aaaagcatta	780
gaaggatcga tagtatattc aaacataact cccatcatca ctttacagcc atcaagtaaa	840
gtttcaaatg aagatgtatt tgtaggttta aattggtagt ttccatatat aaagaaagct	900
tatgtagatg tagaactcga tggaatcaaa gatcgtcatc cgtttaatga agatatttgt	960
ttaaaggctg tagaaaataa agattttatt tataaagttt ttgcgtatgc tttagatgcc	1020
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agtttgtatt taaataatga acaggtattg gataaaaaaa taattaagaa attacctgaa	1140
tttgaatttt tgatcgatga caatcgtgca aatatgcgta ttgaatatta cataaatggt	1200
gtattgatgg atatggatat cgaaaaagta ttcaatcgta tgattaaaga tgatgtgtta	1260
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gatgaagtgg ctacatttga acgaatatgg agtgtaaagtg aaaagaatga attggtctta	1440
gaaaaaaaata caaaagttct tacttcaaaa ttgaagccga agattcatta tgtgcgaaaa	1500
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tcaaaaacga ccattgaagt caaagctaaa aatgattcgg gtgttactac gataaagaaa	1680
tcagaaatta aaaaaccaat cttaaaaaaa tcatttctaa aacaattgtg gatttggatt	1740
tgtcgtatct ttaaattatg a	1761

<211> 585
<212> DNA
<213> *Holdemanella biformis*

<400> 2650
cccatacaaa tcattttata tgatttgatg ggcttttttt atgctataat cttaacgaaa 60
aagaggattt gtatggaaga aaaattgatc tataaaggta ttatctttga tttagttcaa 120
aagaatgtaa aaatcaaaga taaaatgtat aaacgagaca tcattcgaca tccaggaggt 180
gtgggtgtca tttgtatcat cgatggcaag atcttacttg tacgacaaga gcgtccggca 240
attggtaaag aaacacttga aattcctgca ggtaaactcg aatatggtga agatcccatg 300
gaatgcggac ttcgtgaact aaacgaagaa acaggcatgg cctgtgataa attagaacta 360
ttattaagtt ttgtatcaac accaggcttt tgtgatgaaa gaatttggat ctataaagcc 420
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ctatggttgg atttagaaac ggcttatgaa tatacaagaa atggaaaaat tgatgatgga 540
aagactgtca ttgcgattag tcaaatgatg gcagaaagga aataa 585

<210> 2651
<211> 1518
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2651
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atcaagctcc caagcctcaa agtagttaat gacgtccgtt ctggattatt tgctattggt 120
gaagataata aaactgctaa ttatcgaaag aacatggcag caatcactga taatattgaa 180
ggcttcaagg aactgattag cgattatcag gttgatgata ttaaattcta tggagcctat 240
gaagatatgg atagcgtcac cgcaagttat gttggtgatc agctgaaggt tcgtacggga 300
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gatcagttac cagaatttaa gaatttaagc aagcattgcc tgtatatatt gagtattgga 420
ttagatagct caacactggc atttttccat catggtaatt ttgagacttc atgggaaatt 480
gatcttggcg gggcccagat tcaccgcctt gttaaccagt tacggcagac gacgactaat 540

ccgacagaaa ttattcagga ttacattggg agtaagcttg gttacttagc gcctgaatta	600
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gtggataagc accaaaaaat tgggtgaaatt gaccgtcaaa aattccgtga aacgtttaat	720
cacctattaa ttcctcagga tcgatacatg tataacaatg atattgaccc gacagaagct	780
caggatgaat atattttacc aaactatttg gtgattgctc gaatgtcaga tctgattaat	840
ccatcaagtc tttatgtgac aaacctttcg attatggatg gcatttcaaa cgggatcgca	900
acggccaatg atgtttctca agctaccgta aataatatga ttcagacctc tgctgataat	960
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aagaacgggc gactaattat taaagcgact agctcagacg atttagtact agaaagctgg	1440
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gaaaaagagg ggcggtaa	1518

<210> 2652
 <211> 408
 <212> DNA
 <213> *Lactobacillus vaginalis*

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gaacttgaaa aaatgtgggg catttgctga gaagttaatg gcctgttgac acccctttt	180
gaaaaagcag gaatgcaatt agttgacttt aaattagagt ttggtcgggtt aagcaatggt	240
gaaattatcc tagcagatga attttcacct gataattgcc ggttatggga tattaagacc	300

gaccagcaca tggataagga tgtttatcgg cggaagctag ctgacttaac tcaaacctat	360
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<210> 2653
 <211> 759
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2653	
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tatagacgcg ttaaaggaat gaaccttact gataatctca cgccagcagt cttggccttc	240
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tatgagtttt ggggtgaccg cttgtatcag gagctgtttc gggataatca attagtgatt	480
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gcaaaaatgg ctcgggggaa tatggttcgt tttttaacag aaattaacgc agccaaatca	660
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<210> 2654
 <211> 1029
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2654	
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gcgttgcttc ttgggattgc aatgcaactg acaccaagta aactacaagc tgatgcaaaa	180

tcaggaatgg gctttatctc aaacaagttt ttacgtctcg ggatcatcct acttggtttc	240
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gtttcaccac agattgaaac taccgatgaa gaacggaaac gggaaaatga ggttctcgcg	480
gtagcagttg tttgtgttat gggaactgtt ttcaccttgg ttgaaattgg tcttaaacca	540
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<210> 2655
 <211> 1239
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2655	
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tgttgcacac tttcggcaga aattgttgca ttattaacaa ctctcaaaag tttcttacca	240
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ctgattaact tctacggctg aagtattgtg aaggtgggtca ataacgtttc ggcagctgcc	360

aagatcttga cactgattat ctttatcgtg gttgggggtgt tctttattca caaggctaac	420
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<210> 2656
 <211> 303
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2656	
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aaaatcaaat taattgggtgc ttatcctgga ataggaaccg atgttactga gctgtatggc	180
tttgagaaac agacttacgc tatcttaatt ggcatagtt acggtatctt ttaccgatta	240
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aaa	303

<210> 2657
<211> 1149
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2657
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aacgatatca ttaggaagga tattgacgac tttatggcag tcctaaagaa gatggctgag 240
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ttggattaa 1149

<210> 2658
<211> 1143
<212> DNA

<213> Lactobacillus vaginalis

<400> 2658

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tatgatgatc tgaccgaact tgttgctaaa ccatttgaat tgaatgctga cgggattgat    180
aacctacttc aaaacgttga agattcagga atcagtgttg ttgatgaaaa cggtgatcct    240
gatccgcgag cattaatggc caccgaaaag ctatcccaaa aagcgatgaa ggatacttcg    300
gctccaactg gagtaaagat taatgaccca gtacggatgt acttgaaaga aattggtcgg    360
gtaaacctgt taagtgctga cgaagaagtt gctcttgctc tccggattga acaaggcgat    420
gaagaagcta aacaagaact tgctgaagcc aacttacggg tagttgtttc cattgctaag    480
cggtatgttg gtcgggggat gcaattcctt gatttgattc aagaaggtaa catggggttg    540
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<210> 2659

<211> 1056

<212> DNA

<213> Lactobacillus vaginalis

<400> 2659

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atatcaataa aacttaccgt ggttgttacg tacattgcat taatcgtggc aatttacttt	240
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accagtattg gcacaatgac aattaccttc ctattgtcat ttattcttag cttcttttac	480
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atcgtcctcc tggttgctga gcacttcttt ggtacatggg gattaatcgt tggggtccca	960
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cttagagtgc atcatcaaga aaaaaatgaa agttaa	1056

<210> 2660
 <211> 876
 <212> DNA
 <213> Lactobacillus vaginalis

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gttgatcacc gaaaagttcg accaacgacg aagatattgc ctaaccagcc attaactata	180
attgctcaac cggagttgcg tgacttatcg gtaaaattga gtgatgcccc gcttaatatt	240

gtttatgagg acgataattg gctagtaatt gataagcctg caggggtaac gtcaattcct	300
ggccctacag ttgacaatgg aactgtcctt aatcgtgcag tccactactt ggttgaagaa	360
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attgataagc caattgctcg tcgtgaagga caggttcagc gagttattgc tgaagatggt	600
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<210> 2661
 <211> 1056
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2661	
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<210> 2662
 <211> 321
 <212> DNA
 <213> *Lactobacillus vaginalis*

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gtaccggaag aacaacgata a	321

<210> 2663
 <211> 339
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2663	
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<210> 2664
 <211> 855
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2664	
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<210> 2665
 <211> 696
 <212> DNA
 <213> Lactobacillus vaginalis

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<210> 2666
 <211> 594
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2666	
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<210> 2667
<211> 1386
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2667
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gttacttcag cccctgggaa aagaaatgcg gatgatatta aggtaaccga tctcttaatt 180
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aaccgcctcg gccatcctgc ccggtttgtc actcccgaag aagtgggctt aaaggctcgt 480
gggacgcaa ataatgctac tgtgattcca gaaacttatg cacgattagc caacttttct 540
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catgctgaaa tgtatgagaa tttcaccgac gttgatgcaa tctactccgc taacccaaat 720
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gttggcgaag ggatgcgtaa tcggaccggt gttatcaatg acatcttgaa tccccttgcc 1260
gaaaagcata tcgctgtacc aatgattaac atgggggctt cccgaattgc gattatgatt 1320

gggacatata accaagacgc agatgctgca gttcgtgcaa tttaccaccg cttttttggtt	1380
aactag	1386

<210> 2668
 <211> 822
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2668	
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ggaaagattg caaagattac catgaatcgg cccaagaaaa tgaatgcctt tacgccagta	120
acaattcaag aaatgattga tgctttttacg atctgtcgtg atgatagcac aattggcgtg	180
attatcctaa ctggagcggg tgataaggca ttctcttctg gcggtgacca gggagttcgt	240
ggaaacggtg gatatgttgg tccagatcat attgctcgt taaatgtttt ggatcttcag	300
catctcattc gaattattcc taaaccagta attgcaatgg ttaaaggatg gtccgttggc	360
ggtggttaata ttttgcaatt agtttgcgac ttgacaattg ctgctgacaa tgcaaaattt	420
ggccaaaactg gtccaaaagt tgggagcttt gatgctgggt atggttctgg ttacttagct	480
cgagtaattg gtcataaacg agctaaagaa gtttggtttt taaaccactt ttactcagct	540
gaggaagctt accaaatgaa ctggattaac aagggtgtac cattggatca ggttgaatca	600
gttacccttg attggtgtaa tgaaattcta aaaaaatcac caactgcatt gcgctttatc	660
aaagcagcaa tgaatgctga tacggatggc ctagctggtc ttcagcagct tgggtggagat	720
gctacgatgc ttttctacac gactgatgaa ggaaaagaag gtcgcgatgc gttcaatcaa	780
aaacgggatc caaactttga ccaattttcca aaatttcctt aa	822

<210> 2669
 <211> 1344
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2669	
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gcgatcattt tgcttggcac gattttgcta tcattgccga ttgcaacgcg gtccggtcgc	120

agtgatgata tcatgaccgc ctttttcaca tccactagtg caacgtgtgt aactggctta	180
actctggtgc cgaccgcgac ttactggtct ttcttcggtc aagtggatgat tgcgatccta	240
atggaagttg gtggactcgg tttcatgacg tttgcgggta tgatgtcggt gctgattcac	300
cagcgaatga ggatgtctac gcgattgtta acccaagagg cgcttaacct tgatcacctt	360
tcacaactaa acgtgggtaa tttgatcatc cgcttatcaa ttattattca ggtggcgggg	420
atgggattac tctttattga tttttatccc cgttatggcc taaaaaaggg actatgggtt	480
agcggttttc attctatttc agctttttgc aatgctggct ttgatttaac cggcaatagt	540
cttgagaact atgccaagga tccctacatg ttaacggtaa tggccgtatt aatcattacc	600
ggttcctttg gcttcttggg ttggcaggat ttgcttcaat tccctaaacg ccaccattta	660
tcacttcata cccaccttgt cctttgtact ggggcggtaa tctttgtgat ttcagtttta	720
gtttattttc tgactgaaca taacttaggc cagtttagta gggaattatc ctatcccca	780
cggatattta atacgatctt catggcaata actccccgga cggcaggact cgttaccatc	840
ccgtatacga aactaagtgc ggccggaatt agtacgacaa ttattttgat gttcatcggt	900
ggtgctcccc gttcgactgc tgggggggatc aaaaccacca cgattgggtt gctgactctt	960
cagagtatcg ctactctgcg tggtcgtcgg gacacgggtct ttgctcaccg gcgatttacg	1020
gacgaaaatg tctttcgggc attgacgctg ctttttggtt cttttgcaat tttgatgatt	1080
tcgattctgt tattagttga aacacaagca cttccccggc acgattcctt gacttacggt	1140
acctttgaag caaccgcagc ctttgggaca acgggaattt ctcttgggat cacgcctagt	1200
ctaaattttg tcggcaaatt aattattatg tttttaatgt ttattggacg ggtcgggatc	1260
tatacgggta tgtattcaat cctcaatgct cagccaaagc aacgggaata ccgttatcca	1320
aaggaagggtg tcttaattgg ttaa	1344

<210> 2670
 <211> 921
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2670	
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gaacacggtt accttttcca cgacgaagaa acccgtaagg actctgcaca gggtgctggt	120
aagatttcct tcaagccagg tcctcctgat gttgaagcat ttaaattctt gaaaagtctt	180
acggatggta aagacgtcac tcctcggcaa agtattccag caccggctca attctatgcc	240
gaattagttc gtggtgacga aaacattgct gctttacgga aatactaccc taccgatgat	300
gaactcttcc atgatattgc aaaagcctat cacggtttaa tcctggcact ctatgatgca	360
ggctgccgcg atgtcaagat tgatgattgt acttggggaa tggtcgttga tgatgaattc	420
tgggcaacaa tggctaaagc tggctttgac cgggaagcac tcgaaaatac ctacctgaaa	480
ttaaacaatg atgcatcgc ggaccttcca gatgatctaa ccgtcactac tcatatttgt	540
cgtggaaatt atcactcaac ctgggctgct aagggtggtt acggaccagt agccgatcac	600
cttttcgcta aggaaaacgt tcaagccttc tatctcgaat atgactctga ccgtgcagga	660
aactttgaac cattagcaaa ggttcccgat gacaagtatg tcgttctcgg tttggaacc	720
tctaagagtg gcgacctga agatcccca acaatcattg accgaatcaa ggaagctgct	780
gaattccatc cccttgatca cctttgccta agtacccaat gtggttttgc ttcaaccgaa	840
gaaggaaaca tcttaaccga ggatcaagaa tgggcaaaga tcaagctcgt taagcaaatt	900
gcagaacagg tttggggcta g	921

<210> 2671
 <211> 921
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2671	
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gttgcgttag ttaaataataa aaattacaca cgggttgcta aagaatttaa ggtttccag	120
ccgagcatta cccaagcaat tcaacgatta gaaagggaat ttaataccca attagttcgt	180
aaggatcgct ttcaccgaga tgaaatgatt acgcgaagtg gggtgcttct ttatgaaaat	240
gctgttctga ttaatgacaa gattgattta acccgaaagg aaattgatcg tgctaacaaa	300
aagcagatca ggtttggctt gccaccgatt attgggaaat tatatatttc taaaattgtt	360

gaggagtttt ctggtgactt gctttcccg	ctccgaataa cctcggttgg	ttcccatgat	420
ctgcttaatc agttgcggaa gggaaaaatt	gatattgcaa ttttaggatc	gactgcgccg	480
attaatgagg aagatatattt tgctgagtta	gtagcaacac gcccgttcgg	aataattgtt	540
agtgagcaaa atcaattggc ccaaaaggat	gccgttcatt ttaatgaatt	agcagagcaa	600
aagtttatca actataatca gcaatacgtt	catcaatctg catttcaagc	atattgtact	660
tatgcccaga ttaagcctca gattgttggt	tatcggttac cgaatgtttc	ttggattaag	720
gaacttgtcc ggcagaataa gggaatcagt	ctaattggtta aggatgccgc	gacaaatgag	780
ccaggaatca aagcattgga tattcttgat	ccaattccag aaaaatttta	tatttcgatc	840
gtaattcggg aagggtatgt tcttagtgat	gacgaacaag actttattca	acgagtaaaa	900
caaattcagc ttgataatta g			921

<210> 2672
 <211> 843
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2672			
atgaataact gggaattctt taataataag	tggttcttgc ggatcacttc	tcttgttctg	60
gctctcttcc tctttttcta cgtaataat	ggtagtaatg gctttttaag	acaaaatacc	120
aggcagcatg accagacgag tgccctgatg	tctaacaaaa ccgcggttat	caagatgcca	180
cttgacatta cgaccgataa taattacgtt	gtagcggct accccaaaac	tgtccgcgta	240
accgtaaata gtccttcagc gttggtaaca	acaacttcaa atacgcaaaa	ctttaaggct	300
tatattgacc tgactaacgt tggagtagga	aagcaccggg tgaaagttaa	aactagcggc	360
ttgaattccg aacttcacgc aacagtaaag	ccacagtatg taacgggttaa	tgtccagcca	420
cggaagacag ttactaaaaa aattactgtt	cggttaagtt cccattcact	aagtaataat	480
tatcagggtg gaacgccacg gactgatgtt	gatcatgttc aaatatctgg	atccgcgaa	540
gaagtcaata aggttgaccg ggttcttgcc	ttcgtcgcag tgccaactaa	ggcaacgtcc	600
gatattcacc ggtagtaac tctacaagcg	gtggataaaa atgggtcaa	ac ccttaacgtg	660
gtaatcgagc caaacacaac taacgtaacg	attccaattc atggtgaggg	cgataatact	720

agtagttcag caagcgataa tgataatgca cagtcaagct caagcagtag tcacgctagt	780
cgtgcaagtt caagtgaaag cagttcatcg agcagtagct cacaagcaag ttcaaatgag	840
tag	843

<210> 2673
 <211> 1026
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2673	
atgttaaaaa ttaccatggt ttcgtctgcc gacaagggtg ccggacaagg ggtcggcagt	60
gcttacttgg aattaatcca tctcttaaaa actcgttttg ccgatcagtt tgacattgcg	120
attaataaat atcgaaaaag ccagatcagt cattaccaca cgattgatct gcccttttat	180
ttctcaacat tttctaaaaa gcgggggacgg aaaattggct acgttcattt ccttcccgaa	240
acttttagagg gaagcttaca aattccacaa ccatttcgtg gaatctttta tcggtacgta	300
atcgcctttt ataagcggat ggatcactta gttgtcgta atccatcctt tattgataag	360
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ccagcagaca agtttgtggt tctcggaagc ggtcagatcc aggaacgaaa aggagttccc	540
gattttatta aactggccca acagaatccc aatatccagt ttgtgtgggc aggtggcttt	600
tcgtttggcc gcttaactga tggttacagt gagttaaaaa aagttgttga taatccaccg	660
acaaatttgc tgtttacggg aattgttagt cgaaaagaaa ttgcagaatt aaataatgct	720
gctgacttat tcttacttcc atcattcaac gaactatttc caatgtcagt tcttgaagca	780
ttcagttgtg gtacgcccgt aatgcttcgt gatcttgatt tgtatcattc aatcattgat	840
ggggattacg aaccggcgaa ggatgtcagt gaaatgcaaa ctaagcttgt agaactcacc	900
cataatccgg aaagattgaa ttacttacgg gaacgagcag ttgaaacttc aaagcgttac	960
tcgaaagatc acttagcaaa agtttgggat cgcttttacc gtcaacaagc aaaggaggct	1020
aattaa	1026

<210> 2674
 <211> 1038
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2674
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 ttgacaaatg atcacgggtgt ccaagcggga atccttagact ttgctggact attacagtca 120
 ttttaagggtgc caaccaagga tggcggtaag gccgatatgg tcttaactac tgaaaacctt 180
 gatgacttta ctaacaatgg tttttgcact aaccgtttta ttggccgggt tgccggaaga 240
 attgctgatg gccaatgtga aattgatggt aaggaatacc acgttgaaca aaacgagggt 300
 aaaaacacgc ttcattggtgg gactaatggt ttctacagct acatttggga tgttgattct 360
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 gatactttcc ctggaaagat tcatgttacc gcaacctaca cattagacaa tgacgataac 480
 ctgaccttga agtttgggtgc tacatctgat gcagatactt tgtttaaccc aactaaccat 540
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 aattccaaga accacttagc cgttgacgat ggcaagatcc caactggaga aaagttagcc 660
 aatgaaggaa caccatttga ctttagcacc ccaactcgtc ttggcgtatgc actcgaagga 720
 atggcttcaa ctaaagaaaa cgggtttgat gatatttggg aagttgaacc aagtcttacc 780
 aagccagttg ccacccttga agatcctgaa agtgggtcgta agatgaccct ttactcagat 840
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 gaagttcatc cccacttagg aattgcaatg gaagctcaaa ccctttcaga tgctatccac 960
 catccagaat ttggtgacat cacccttcat ccaaacgagg aaaagaacta cacaattaag 1020
 tggcacgtag aatactaa 1038

<210> 2675
 <211> 969
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2675

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cgattaaaga tgggtgcttga tgatgagttt gctgtctcgg tagatcaaaa tgaatttctc	120
caaattgctc ccgcttattt aggattaaag atttctccgc gatcaccgtt ttttggttaa	180
tttcgccaac tagtaatgga tgcttaccgc acttctcgtg gattgaaaga agatgaactc	240
gggagaaaac tccacctttt tcggagttac cttgacttgt tttatttgaa ttatattcat	300
cagtaccccg gtcaaaacga ttttcagcga ttattaaatt ttgctcacag acaaaaaata	360
caattagact acgagacagc tagtaattat cacaaccgaa ccagaaatgg tgcctgttat	420
cctcataata tgaaggttca actaatgcgt aattcttggc ggcttcgtaa taatcccgca	480
cgaatggttg aatttattat taatattgat cgaggcgagt ttattagtga gtggaataca	540
tataagctaa ctgaaaatgg tgaagttgat agtgatctaa cgcattactc aattgaagag	600
ttaggggaag ttgcgaatac tgaatcgttt aactatggga ttccgcatgg cggttattac	660
gtttacccgc gttttcaacg aaccaccaa ttcttagatg ttcaacagcc acgcgacaat	720
ttggttcgtc aacgggcaaa gaaaatttat cgggcgcaa agggatatca taacggtggg	780
cagtttgccg acttaatcaa atcaggcgga gttaaagatg cgaaagcttg gcagcggatt	840
ccgcatgatt ttcgcgcaga agtatatcaa tcatttgta aacatttagt aagttcagga	900
atgcctaatt ggggaatcaa ttattatcta agctcaacga tgcggtatcg gcagtactct	960
gtgatttag	969

<210> 2676
 <211> 1431
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2676	
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gatggttcaa ccatgattgc acggaatgaa gattattacg atggtgttaa cccaaagact	120
ttccaggtat atcctgctaa ggactatact ggtgaacact ttaagtcaac ttataatggc	180
ttggaagttg acttggatgg tcaaggctgt cgttttaccg ccacgacaaa cggtgacatt	240
aataacggtc ggtgggatga acaagggatc aacgagtata acgttgcgat gagtgcattc	300

gaaaccgaaa tgactaacc tcgagtactt ggccacgacc cgcttggtga aaagggtggt	360
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caacgacttg gtcacttaat tgaaacttac gggactgggtg aaagtaacgg gattgcattt	480
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cggattccgg atgatgccta tgcaatttgt cctaatatca tgtgcattga agagggtaac	600
tttgaagatc cagacaactt tatgtttgcc tcaacaatcc aacaatttgt tcaagacaat	660
aatttaaata cataccagg tagtttcaac ttccggaaga ttttcggaac taatgacgaa	720
gctgaccaat attacaacac cccacgttca tggatatggtc aaaagctggt tacaccatct	780
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gctgttgaag atattgaata cttcctgtca tcacactaca atggcacacc atatgatcca	900
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gaccggaacc aaagctcatg cattttgcaa attcgggaata acgttccggc agaattgtgcc	1020
gcaattcaat ggattaactt tggcttcttt gcgtacagcc catacgttcc attctttacg	1080
aacattaatg caacgccggc atcatacgat cacgctggca acaagggtga tgacagtgca	1140
tactggctac aaaaacaatt ggaagtaatc gttgaacctc gttaccatga atttattaac	1200
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gacaagaccg caaccacgc catggacgct accaaggacc ttctcaacag tcttatccac	1380
caatccctct taaactccaa gttccagttt gagagagggg ataattatta a	1431

<210> 2677
 <211> 522
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2677	
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gctgaagcaa aaaaagcagc gttgctagat gaagttccta ttggtgcagt agtgacctat	120

caaggga	aaaa	ttataggacg	cggccataac	atgcgagaaa	aatttcagga	cgtgacttat	180
catgcagaaa	tgctagcaat	tatggaggcc	tgttcctacc	ttcatagttg	gcgccttgaa		240
gattgtgatc	tatacgttac	tcttgagccg	tgcatgatgt	gtagcggagc	aattgtaaac		300
gcgcgaatca	gaaatgtctt	ttacggggca	actgatccta	aggcgggaac	agtcgatagt		360
ttatatcatt	tacttggtga	tgaccgatta	aatcatcagg	cttatgtgac	tgctggcggt		420
cttggtgaac	agtgtagtca	aatgttaaag	gactttttcc	gggcagtgcg	gaaaaaacgt		480
aaactggccc	gaaaaaagaa	aaagactagt	aattctaaat	aa			522

<210> 2678
 <211> 843
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400>	2678	
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gagaacgact	ttaataattc	agttgttggc acaaccttca atgctgaaca agcatttgaa 120
gatgttattc	gcttgagtat	tgatgttatg tttgttaacc cgtccctgtc acagattaac 180
gggattgagc	taattaagcg	aattcaacaa agcaaccatc accctcactt cataatgggt 240
agtcaggcat	tcgatcctgc	aggaagaaca aacgcctacc gagccggagt tgacttctgt 300
atcgaaaagc	ccttgaacgt	tgctgaagtg aaaactgtta ttaaattaat tgggtgaaaac 360
attaatatgt	caaaccgaat	gttgcagata cttgatctgg tcagtggagc tgccaatcag 420
aacacgacta	atattaactt	caagagtaag gaaaaagaga acgtgaagtc aattcttcgt 480
tttctcggga	tcacaaacgg	ttctggcgcc caggacatta cccgaattat caatgttatg 540
attgagcagg	gaatcacggt	tgacaatatt aactttcatg aaatttttcg gtgtgacgat 600
catggtaaaa	agattattct	tcaacggatt cgtcgtgacc tcaagactgg tctaaataac 660
cttgcccata	tgtgcattga	ttatccagaa aatgatatta ttttgggaata tgctaataac 720
ctttttgaat	acaagaatgt	tcataatgaa atgaaaatta ttaatgggtac tgcctcacgt 780
ggcggccagg	tctcagtcaa	gcactttttc aacgggtctag ttcaagaaag tgctcaaaag 840
taa		843

<210> 2679
<211> 456
<212> DNA
<213> Lactobacillus vaginalis

<400> 2679
cagaaatggg aagatgccgg attatcaaatt gactttgttt tcagtaaggt gataattgat 60
ccaaagattt gtcaggaagt aattcaacgt gttttaccgg agttgaaaat tgatcatatc 120
aaactaccaa atagccaaga agagattaat tttgctccag atgCGaaagg agtccgcttt 180
gatgtattta ctcgggatac gaaaaataat tgctatgata tagaaatgca ggTTgcagat 240
gaaaaagatc tgTtaaaacg agcgcgatat taccaagcga tgacatcact tgattcgtac 300
gaaaaaggga aaaattacca agaagctaatt aattcatatg tgattttctt ttgctgcttt 360
gatccgcttg gcttaggctt gcagcaatat accattcatc gacatgttga tgaaagtcca 420
gaacatatTg cagacgatgg gacacaattt tcttaa 456

<210> 2680
<211> 363
<212> DNA
<213> Lactobacillus vaginalis

<400> 2680
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ttagggTtca gtcacgcgaa gaaaagtaac acatcggtcg cgttaccgat attctatgct 120
ggTacttggc aatattatga tcatgaacgc aaccgaaccc ataaaattac catctctcca 180
gaattaaaaac tgggaattga caatcaagaa attcccGcaa cagttcaact agttcgtgaa 240
gataaattag tttatctcga taaatttggc tatcatatta caattcaagc aaatgatcag 300
cgtccagttt cattaattga cgaagctgat gatcaagtct atacaattca accactaaaa 360
tag 363

<210> 2681
<211> 1731
<212> DNA
<213> Lactobacillus vaginalis

<400> 2681

atgtccacac ttttgaatgg cttggcggcg agcagtggga ttgctattgc tcctgcctac	60
ctattagtgg gaccagattt atctgttaac caacaatatt cagcaaatga gaatcatgag	120
gtcaaacggc ttcattgattc ttttacttta acgctgaatg aagttcagac aattcgccag	180
catgcccata aatcattggg gaagagggca gcggcagttg ttgatgatca gctggcaatt	240
ttagatgacc ggtccctcca tgctgaaatt cttaaaaaag ttaatcgtga ccatttatct	300
gcagaatggg caattaagaa aactgcagat gagcaattaa aaattctcga aaaaatgaac	360
gataatgact atcttccgtc gcgagcaacg gcaattaagg acgttactaa aagagtgctt	420
agtcatttga tgggggttga acttccccgat ccaactcttt tggatcatcg ggcaattttt	480
gtagctcaaa atattacacc aactgatacc gcacagtttg accggcgatt tgttgccgga	540
cttgttactg atgacggggg tagaacctct cattttacaa ttatgagtaa gactctatcg	600
ttaccagcag ttgttgggac cgagaaggct actaaaataa taaaaaatgg cgatttactg	660
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tatcagcgat tagccgcca atttgatcg gaacaacaag agtgggggac attaaaggat	780
gaacaaaccg ttagtaccga tggccgccac tttaaggttg ttgctaattgt cggaacgcca	840
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caatttttaa ctgaaatgcc agggcaacga gtagtgggtc gcacgcttga tattggtggt	1020
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caagtagcag ataacatcga agtcgggatg atgcttgaga ttccttcaag tgccgtgatg	1320
gcagatgcct ttgcccgtga ggtggatttc tttagtatcg gcagtaatga tctaattcaa	1380
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ccggctgttc ttcgtttagt taagaaagtt attgatgcag ctcatgctga aggtaagtgg	1500
gtaagtatgt gcggtgagat ggcaagcaac ccattagcaa cccattgtt aatggcgatg	1560
ggattggatg aattctccat gaatagtagc agcattttgc atattcgctc attaattaat	1620
caacttagta ctctgcaatt acaaccgcta gttcacaagg ctctcaatgc gacaactgct	1680
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<210> 2682
 <211> 1776
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2682	
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gatgcagcaa ttgggggaca cgttggccca aaccttgga ttatggaaac aacgattgca	180
tatcattatg tttttgattc tcctcacgac aaggttgttt gggatgtttc tcaccaatgt	240
tatccgcata aaatgttaac cggtagaaag atcggcttta tggatccaga tcattatgag	300
gacatttctg gatatacttc tcctgaagaa agtgtccatg acttttttga aattggacac	360
acttcgacgt ccgtttcatt ggacgttggc ctggcacaag cacgtgattt aatgcatcct	420
gactccactg ataatatcgt tgcggtaatt ggtgatggct cgctaagcgg tgggttagcc	480
tttgaaggat tgaataatgc ggctaagctc cattctaatt tgattattgt tgtaacgat	540
aatcaaattg caatcgataa ggatcagggt ggtctttatc aagggtgaa ggaattacgt	600
gatactaatt gtaaggcaga gaataacatt ttcaaattca tgggcctaga ctataagtat	660
gttgctgatg gtaatgacct tcagacaatg atcgatgcct ttaaggaagt taaagatatt	720
gatcacccaa ttgtccttca tgtaataact ttaaagggtg agggatataa gccagccgtt	780
gaagataaga tggattggca ctggcagcca ccatttgata ttaaaactgg tgagggttaag	840
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atcactactg cagtcgccat ggcaactgct ggtgcacgcc cagttgtctt tcaaaatagt	1080
acgttccttc aacgggcata cgatcaattg atccatgata tggctcttaa tgatgcacca	1140
gtagtaatga ttgtcagagg tgggacaatt gcaacgaatt ctgctactca ccagggaacg	1200
tttgatattt caatgatttc caacttgcca aacattgaat atcttgcccc aacgaacgtt	1260
gaagaattga tttcaatggt aaagtgggcc cttagccaaa ccgaacaacc agtgataatt	1320
cgggaacccg aaaagaaact ccttcacgga aaagttagtc aagatgatta cagtgttatt	1380
cattatgacg tagcgcgtga aggtagtga gttgctatta tggctgttgg tgacttttgg	1440
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attaacccga agtccttaac cggaattgat caaagttatc tgcaccacct ttcagaaaat	1560
catgatgttg ttgttacctt ggaagatggt aacgttagcg ggggctttgg tgagactatt	1620
tctcgttatt atggacctaa agcaatgaaa gtcttgaact tcggtgctcc tcgtgaattt	1680
gctgataacg ttccactaga agtcctttat gagtggatc atttaacacc agatcaaatt	1740
gttgatgaca ttgaaaaggt tattcacgcc ctttaa	1776

<210> 2683
 <211> 750
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2683	
atgggaaata atttgtcaca agaaatttat aaattcactc accagcgaac ttctctttac	60
ggccttctta ttatgatcgc gctaattgctt tatagcagca ttcctgcata caaggttaac	120
cccttcttga tcaactcaggg atttggggct attcaatggt gtgcgattat tatggttgct	180
gtcagtgctg attctatttc aatggaatat cgtaacaaca caatggtcac acttcttttt	240
aagagtaacc acccgtttac catttacctt gctaaattga ttactctagt ggtttatggg	300
attactttgt tattggctgg ctttatattgc tcaactgattt tgatgctgct tctaggaaat	360
aactattcgt ggtctgacaa ttttcatggt tattccctga ttacagcggt aggggtataac	420
tttctaggcg cttttatcta cctactgttt accattttctc tctcactact tttggttatc	480

ttgttgaagt caaattcaat tgtcatcatt attggccttg cagtcgattt tttgggagct	540
aatTTTTctg ggctattaat gaatatcctt ccgaaacaat tatgggcgtg gaacccgctt	600
aatatgatta acatcattgt tcaactatct aatcaaagtg taattaaaaat tacccatctc	660
agtaattttg aattatttct cggtaatggg tgctataccc tactattcat tattttggga	720
ctgtgggcct ttaaaaaacta ccaaaaatag	750

<210> 2684
 <211> 798
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2684	
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tcggaaattg gctttgccgg aggagcattt gccgtcttta ttggctggcc ggtcttaaac	180
ggaatgatcc ttttcacaat gcttagttcg attcttggtg gtcaaatgag tattaagaa	240
tcccgccgtg aagcagtaac gagtgcagtc tccgctcttt ttatcggctt gggaatcctt	300
tttctttctt taagtagtgc gaatgctagt tcagcaacta atatcttatt tggaagtgtt	360
gtcgggatta acctaactga ggtttggcaa ttaatatacc tatctatcgt tgttatctta	420
ataatctttg cagtttaccg ccagttaaag ttcacttcgt ttgacgctat tgggtgcacga	480
gtaagcggac ttaatgctgc actatattca gttattttct taattgtttt agcgctgagc	540
gtgagtgtgg cagcaciaat agttggttcg ttgttaattt ttatcttatt aaccctaccg	600
gcagctagtg cgaaatattt cactcatgga gttgctaaga tgatcggttt agcgatcctc	660
ttttctcttt taggaacctg gttggggcta tttcttggtt acttaactaa ttggccagtt	720
agtttcttta ttgcggtgat tgaagttgga atttattgct gtgctctagt taaacaaaaa	780
cttagcgggg cggcataa	798

<210> 2685
 <211> 807
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2685

atgcggaaaa aagtaatgtt catcgttccc tatgctttat ggatcatcct ctttgtggtt	60
gccccgtag cactgatttt ttatcaatca ttttttgata ttaatagcca tttcacactt	120
gctaattacc aggattacct aacatcgcca acatacttaa agatgaccct gaattccgtt	180
tggtagcgg ctctaattac agtagtgacc ctcgtgatta gctatccgac tgcttatgtc	240
cttactcaac tgcagaatcg tcaattctgg ttgttaattg tcattttgcc gacatggatt	300
aaccttttgc tgaagacata tgcattcatt ggtctttttt cgcgaaccgg gtcgattaac	360
caatttttac ggtttggtgg tttgggaagt catcaactgc ttttactga cgctagtttt	420
atgttcgttg cggcatacat tgaaattccg tttatggttt taccaatcta taatgcatta	480
atcgaaaatta atccctcatt gttaaagtct agcaaggatc tcggggcgac ttcttggcag	540
acgttccggc gaattgtttt tccattatca atgccaggag taaaggctgg aatccaagcc	600
gtctttatcc cttcgtctc cttttcatg atcactcggg taatcggtag taaccgggta	660
attacttttag ggaccgcaat tgaagagcac ttcttaacga cccaaaactg ggggatggga	720
tcaacgattg gggttgtctt gatcctggca atgtttattg taatgtttgt tactggtgat	780
acgcgtgaga aaggaggctg gcgttaa	807

<210> 2686

<211> 933

<212> DNA

<213> *Lactobacillus vaginalis*

<400> 2686

atgggaactc ctgaatttgc agttccaatt cttcaaagtc ttattgacgc gcctgaatat	60
gacgttaaag ctgttttaac ccagcctgac caccgtgttg gccgtaaaca tgttttaacc	120
ccatccccag tgaaaaaact tgccgtagaa aaccaaatta aggttttaca accagctaag	180
cttagtggtg gtcaagagat gacagagatt atcgaactgc atcctgattt gctgattact	240
gctgcttatg gtcagttctt gccaaacaaag ctattagatg ctgcacagat cgctgcaatt	300
aatgtccatg gttcactatt gcctaagtat cgtgggtggg caccagttca atattccatt	360
atcaatggtg atcgggaaac cgggggttacg attatgtaca tggttaagaa aatggatgct	420

ggtgatatga tttctcagcg agccattcca attgaacctg atgatgataa cgttacaatg	480
tttaagaagc tgagtatcct tggtcgggat ctcttgtag atacgctacc tgacttgatt	540
agtggaaatg ttaaaccaca aaaacaagat ccggaaaagg taactttctc accaaatatt	600
tcaagtgaac aagagaaaat tgactataca atgtcagcac agcaaattga tgataagggt	660
cgcggttgc gtcctgcccc aattggtaac atgaagattg atgggcttcg aactaagatt	720
tatgatgtga caccattgac tgaaaaaact gaattggaac caggtaaagt cgttcggatt	780
gataaacacc acctggttat cgctgctggt aagggaacta catatcaaata taatgagtta	840
aagcctgccg gtaagcaaaa aatgaacatt acggcttact taaatgggtca ccaaacatt	900
aaggaaggga tgcaagtggg aaccgatgac taa	933

<210> 2687
 <211> 1092
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2687	
ttgcccggat tattaataa gactaaaata aaattatact atttggcttt tattatctgg	60
ggtatgatta tgaaaagatt gaatttatatt atatttttaa tgttttggtt ctttgggtta	120
ttcttggtat caactcagca acaagctaata gcggtgcgg tagataagca gacgcaaca	180
caacttcatg attattttaaa atcgccaccat attaattggtg taatattggt taatggtaag	240
ggaagccaag cggttaccat tgcaaacaat gaaactacta ataagaagca gattgttaag	300
gccaaccgac tatttccaac tgcttcactt cagaaaattg tgaccgggac ggcaatttat	360
caactaacac agaaaaagca attgggatgg gacacgtccc taaacactta ttttccgcag	420
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ggacacatga gaaacgatca cggtcatacc tgggattacc aggacgttga ttatgaacta	600
ttagctgcga ttatcagtaa gcaatctcat tctagttata atgcttatat tcatagaaac	660
tttgctaagc cgcttcacct acaccaaatt aaggatttct ctgaagttgc caaaaaggaa	720

gttccgcaac caatggatcc cgctattgat tggcatcagg taactgttac gacctcttca	780
gattttgggg cagggaacct ttttatctca ccaaataatt actggaaatt tatttacaat	840
tatgttttaa aggatccaaa gatgatcacc gaattctatc aagaatcgca aaaacaggaa	900
gttgcttatt ttggcggggt atattttgat ggtgacatta tccgtgctaa cggtagtatt	960
ccaggttaca atgcttgcgt tatcgctaata tacaagacca agaaaatgat aatgtttttc	1020
tctaacaaca tcgattatct gaccttaaag actgtatcag atgacttaat gcataactat	1080
atgggagcat aa	1092

<210> 2688
 <211> 912
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2688	
atgataaaaa tgaaatcaac agactattta gtaaaaagta tcagcaagga tggcaagttt	60
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tggagtgcctt cttcagctgc tttaggctga acactaattg gaactctcct tttggcaact	180
gctagtctcc aaggggaagc aggaatgacc gttaaaattc agggatgatgg tccagttggc	240
tttattgttg ctgatgggac ggcacaagga acagttaagg gctacatggg gaataaccac	300
gttagcttgc cagccaatga aaaaggaaaag atcgatgttt ctggagcagt tggtaaaccac	360
gggacattat ccgttaccaa aatggcgcct ggagataaga ccccatatac cggacaagtt	420
aatttagttt ctggagaatt aggggatgac tttacatact accttgctca atcagaacaa	480
attccgtcag cggttgggtct ttccgtcttt gttaatcctg atgagtcaat tgaagttgct	540
ggtggcttta tgatccaagt ctttcctgga gcaagtgatg aagagattag caagctagaa	600
aagaaattga aggacttacc actagtgtca gaaatgcttc gtgacggcga tactcctgaa	660
gatatcttga aacgaatctt tggatgatcaa ctgaaaatct tagaccggat gccagtttca	720
tatcgctgtg attgcagtaa ggaacgcttt gctcatgcct tggcaagcat cgctaaaaaa	780
gacttggaaa agatgattaa tgaagatcac catgccgagg cagtttgcca attctgtggt	840
aagaagtacg aatttagcga acaagagctg aaggatattt atgacaaaat ggatcaagaa	900

gaatccaaat aa 912

<210> 2689
<211> 798
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2689
atgaaaaatg atcaagaagt gatccacagg tatccttttc agcctacctt aaagattggt 60
ggctttgaag gaccgctcga tcttttggtta cacttaattc gtcagtcaaa aatggatatt 120
tatgatattc aaattgagca gattactcaa caatactttg attattttacg ggcaatgaag 180
agtcaccaac ttgaagtagc tgggtgattat tttgtgatgg cggcaacatt aatgaatata 240
aaaagtcgtt tattgttacc acaaccggaa gaagaggtag aggaatcaga tgaagaagta 300
gcggaacccgc ggcaagaact ggtcgaacag ctattagaat accaacgata ccaaaaagca 360
gccgctcatt taaaagataa agctgatttt cgacaagctg aatataccag gccggcaatg 420
catgttccta ctgaaatgat tgctcagcac gttgaacctg gggttaccct tggacagctt 480
caacgagcat ttgcagatgt tcttaggcga cgtcagttaa ccgcaccggg tcatgagacg 540
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caagcagcaa cgaggtttaa tgatctattt gctgggtcaat gtaccctga tgagctagta 660
acaacttttt tagcagtttt agagttaact aagcatcagg cgatctctgt tcatcaagac 720
gagctattcg gaccgattat tttagtggag ggatcaaaga gtgaacaata tcgagccaac 780
aaacctagcc aagattga 798

<210> 2690
<211> 441
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2690
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ggctttcgtg aaattggggg tttccaatac aacgataaaa atgagagtaa gagttcatta 120
attgcccgct ttgatgggat gctggcggga gttgaattgg gcgatgtgat cgttttccaa 180

tcgccatcct ggaattcagt tgaatgggat acggcactcc ttgaacgaac cttatattat	240
gacgggttaa aacggattat ttttatccat gacgtgattc ctttaatgtg ggaaagtaat	300
cgctattttgc tggataagtg ggttaaatat tacaatatgg ctgatgtgat cattgctcca	360
tccaatcta tggttgatct tttgcgtcaa catggcctaa ctgtaaaaaa agttgttatt	420
caaaaaatgt gggatcacat c	441

<210> 2691
 <211> 1203
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2691	
atggcaaaaa tagcgatata tatgacggga ggaattgctc tttataaggg aattgaggta	60
attcgttcct tagaaaggga tggacaccag gttcgcgtgg caatgactga gtccgcaacg	120
aaactagtaa ccccttcaac gttacatgca ctaacgcacc atcctgtaat gacgacccta	180
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atcgtgttac cagcaactgc taatattatc ggtaaaatgg cgaacggaat tgctgacgat	300
gcggtatcca caaccctttt ggccacggca gctcctaaaa ttgttggtcc agcaatgaat	360
accaacatgt ggaataatcc agcagttcaa cggaacgtgg ctcaactaaa gcaagatgga	420
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gccgcagatg caggtgctac tgttgaaactg gttcttggtc agatttcgat tgctcagcca	720
gtaaaccgc aaattagcat ttaccagggtt ggaagtacgg aggaaatgca gaagaaagtc	780
acggaactct ttccggcagc tgatatTTTA atcatggcag ctgcagttgc tgattttcgt	840
cctgcacggg ttgccaatca aaagataaag aagcaggatg atcaagaaca gttagaactt	900
caattagtga aaacaacgga tatttttaaaa acggttgctgg aaaagaaacg tgcagatcag	960

ttcgtagttg gttttgctgc ggaaaccgct gatttagtac aaaatgctaa taagaagtta	1020
aaaagtaaga atgctgatat gatcattgct aacagtgttg ctggcaacaa tgggtgcattt	1080
ggcagtgacc taaaccaagt aacaattctt caattaggga ctgagccggt tcaatgggtca	1140
agaatgacca agacagaagt ggcaataaaa ctaattcagt tacttgctac caagataaag	1200
taa	1203

<210> 2692
 <211> 1011
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2692	
atgaaaaact taaaaacggc taaatttaat tattgtgctc aagcagaatg gttgttacta	60
attgctgact tattaaggag cggtttttcc cttcgccatg cgattgaatt ttcaggagca	120
attttaaaaa gacaccaaatt tctttttcag gaaattaatt tagcaatgca agatggcaaa	180
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caagaaaaac aacgccaaaa attaatagaca ttattacagt atccgttaat cttactgggg	360
ttattgggtga gtttaatggg aacgttaaaa atatttgttt ttcccagagct atctcaatgg	420
ggaacgggaa attcacaaaa ctgggctgat tattatttat tagaaataat tgcctatctt	480
agtggaggaa tattagtac aagcttacta gtaggactgc ggtggctgaa attagatcag	540
ttacaaagga tcaatgcatt atgttcctta ccagtaattg gcaagtgtta ccaactgttt	600
tacggctact atgtggtcac taatcttgca atgatgattc gccatggatt aacgattaaa	660
gaaatttgcg caattgttag tgaaaaactct gagcaaagct tcttatcaat gctaggggaa	720
attacaagaa ctgcggttaa ccagggatac ggattaacgg aaccgttttag gcgtgcacaa	780
tttttaccgg gagaactaaa aataattgtg gcgaaagggt cgaccttatc agatctaggt	840
agtgatttaa cagcttttagc taatatTTTg ttactcgat taactagacg aattgagcga	900
ttattagcac ttattcagcc aattattttt agcatgattg cgTTaatcat tattggactt	960
tatttacgac tgttgttgcc aatttactat tcaatgcagg gggTggTTta a	1011

<210> 2693
<211> 777
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2693
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gaattcgttt ttcaactaaa taagcaactt gaacgtcaag gagttgctaa agaaaagcgt 180
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gtttggctag ccgtttacat ggcttccagc ttggcgcta atgtaatcaa ccctcgatta 660
aatgcttggg cctacattat ccttgggtga attgcctttg ctggagatat tgtcttccgg 720
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<210> 2694
<211> 1854
<212> DNA
<213> *Lactobacillus vaginalis*

<400> 2694
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ttaaagggtg gctttcttgg tgtcccgtta ttcttattaa tctcaggcta ttttattact 180
taccagttca gtaaaaagat tgaacgtggg gatcgacttg gattaaagca tttttatgct 240
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<210> 2695

<211> 1389

<212> DNA

<213> Lactobacillus vaginalis

<400> 2695

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caggagcttc ccgcaagctt acgtccccaataaataattgttg cccatgtcaa tcaccgggta 180

cgaaagcaga gtgaagaaga ggaacaattt attcgggatt attgtgaaga tcaccggctt 240

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catttgaagt ggtacgagga tttactaac cgtgaactga ctgttagtcg caatcgcttt 600

cgtcatcaag ttattccatt attagaaaaa gaaaattcca acttcttagc cgccttaagc 660

aactaccatg aacagttaga attagcgggt gaacttgaaa atcagtttgc tcaggaacag 720

ttagcaaagc ttagtaataa ggaaggacat ctggatataa aagcactatg tcagttgcct 780

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aaacggggat tcgttgaaca ggtactttca gatattaata atcgtcattt accccaaatt 900

aagcgtcgag ttaccctga tttggctcta tttagaact attctgagct atttgtaaaa 960

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cgttggtatt caattgaaaa cgattatcaa atcgccgttg ctaaagagaa gacgttcttt 1080

aatcaagggg aacactgtca agaaatgtgg ttagcgcctg aacagttacc attaaaagtt 1140

cggcgggtggc gagaacaaga tcggctgcca ttaaagaatg gcggtcacca aaaagttagt 1200

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gacgctcaag atactgttgt ctgggttggt ggtcgcaagt ggggatgggt cactcgtccc	1320
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<210> 2696
 <211> 1833
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2696	
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ctggggaaga gtgcctttta tatcgtccag gaaacgtctt cgctgacgct gctttctagt	180
ttaggggtaa ttattttaat gttcctctct ggaatggaaa ttaactttga cctctttaag	240
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tttacagcgg ttatcattac tgcctttatc ttgggagtca tcctgtactt catggggtta	360
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gaagtgcgga aacggcttgg tcgtcgtggt taa	1833

<210> 2697
 <211> 1233
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2697	
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aagggaatca agaaggaaat tgttattgaa gccttagaac aggctttgga actcgcatat	120
aagcaaaaatt atggtgaaaa gaacgttgaa gttgactttg acgggggttac tggtaatatc	180
aaggtttatg ctgttaagac gattaccgat aacgaagacc tggttgagga agatgacaac	240
gagtatatga gccttgctga tgcgcggaag ttgccacatg gtcaaggata cgatgttggt	300
gatgagattc gtgaagaagt tacaccacgt gattttggtc gaattgcagc ccaaacagca	360
aagcaagtgg taatgcaacg gttacgcgaa gaagaacgca agatcatcta taataagtac	420
aagacttatg agaatgaaat cattaccggt gaagtttctc gtgaggacaa acgttttact	480

tgggttgacc ttggtgatgg tgttgaaggt gccatggggtt accgggacaa gatgcctaata	540
gaacactacc acattcatga ccggatccaa gtttacgttt cgaaagtaaa tgatgatcgt	600
catggcccg c aaatctttgt cagccggaca gctccagaat tattgaagcg gttattcgaa	660
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<210> 2698
 <211> 975
 <212> DNA
 <213> Lactobacillus vaginalis

<400> 2698	
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gtagaaccaa ttttacttgg ctcaaagagt gaaattgaag caacagctaa tgaaaataat	180
tttgatatta ctggtttgca aattattgat ccagcagctt atccagaagc agacaagaag	240
gccatgtttg atgcactttt ggaacggcgg aagggaaga ataccctga acaagttgaa	300
aagatgctgg aagacgttag ttactttggt accatgcttg tatacatggg caaggccgat	360
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cagcgggtaca tttttgctga ttgcgcaatc aatattgagt tagatgcgga caccatggct	540

gaagttgctg ttcaaagtgc cgaaactgcc aagctatttg gaattgatcc taaggttgct	600
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gatgctgctg ttgttccttc agttggtgag ttaaaggctc caggttctaa ggttgccggc	780
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caacgttttg gcggctttac ggctgtgggc ccaattcttc aaggcctgaa tgctccaatt	900
gctgaccttt cacggggatg cagtgaggat gatgcataca aggtggccat tattacagca	960
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<210> 2699
 <211> 1350
 <212> DNA
 <213> *Lactobacillus vaginalis*

<400> 2699	
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aaaccgcag atcaacgttt ggtaacgaca attgtctacg gaacgcttca acaccagctt	180
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<210> 2700

<211> 720

<212> DNA

<213> *Lactobacillus vaginalis*

<400> 2700

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cagttactcc ataatgctac taaggaagcc caaaagtitt tgacgaacga aactttccgt	180
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<210> 2701
<211> 1959
<212> DNA
<213> unclassified Clostridiales

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ctggagaagc agaaggaagg caaaaagaag atgcggaatc ttggtacagt gcagggtgcct	1920
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<210> 2702

<211> 1386

<212> DNA

<213> unclassified Clostridiales

<400> 2702

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 <212> DNA
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<211> 1287

<212> DNA

<213> unclassified Clostridiales

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<210> 2705

<211> 894

<212> DNA

<213> unclassified Clostridiales

<400> 2705

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<210> 2706

<211> 888

<212> DNA

<213> unclassified Clostridiales

<400> 2706

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<210> 2707

<211> 1191

<212> DNA

<213> unclassified Clostridiales

<400> 2707

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<210> 2708

<211> 1362

<212> DNA

<213> unclassified Clostridiales

<400> 2708

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<210> 2710

<211> 1434
<212> DNA
<213> unclassified Clostridiales

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<211> 1326

<212> DNA

<213> unclassified Clostridiales

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<210> 2713

<211> 1272

<212> DNA

<213> unclassified Clostridiales

<400> 2713

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 <211> 852
 <212> DNA
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<210> 2716

<211> 1650

<212> DNA

<213> unclassified Clostridiales

<400> 2716

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<210> 2717

<211> 1332

<212> DNA

<213> unclassified Clostridiales

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 <211> 609
 <212> DNA
 <213> unclassified Clostridiales

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atcagataa 609

<210> 2719
<211> 768
<212> DNA
<213> unclassified Clostridiales

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tcgccctatg cggtagcggg acacgccatg gccatcctgc aggccgcaa ccgccgcatc	660
accaaggcgt acaacaaggt gaaggacaac aacttcgccc tgaacggtct gctgggcacc	720
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<210> 2720

<211> 1479

<212> DNA

<213> unclassified Clostridiales

<400> 2720

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<210> 2721

<211> 1203

<212> DNA

<213> unclassified Clostridiales

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 <211> 1848
 <212> DNA
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 <211> 981
 <212> DNA
 <213> unclassified Clostridiales

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<210> 2724

<211> 1380

<212> DNA

<213> unclassified Clostridiales

<400> 2724

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<210> 2725

<211> 948

<212> DNA

<213> unclassified Clostridiales

<400> 2725

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<210> 2726
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 <212> DNA
 <213> unclassified Clostridiales

<400> 2726	
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ttccttttcc tctttgacta tgctttgctg ctggcctcca ccatgtacgg tatcagcgg	360
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<210> 2727
 <211> 1368
 <212> DNA
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<210> 2728

<211> 888

<212> DNA

<213> unclassified Clostridiales

<400> 2728

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<210> 2729

<212> DNA

<400> 2729

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gacggcgcaa agcccacgtc gaagctgggtc aagaccaaga ccaccaaccc ggtcaccag	600
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<210> 2730

<211> 1158

<212> DNA

<213> unclassified Clostridiales

<400> 2730

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<210> 2731

<211> 885

<212> DNA

<213> unclassified Clostridiales

<400> 2731

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gccgccctct atctggacga gaccatcacc ctcatgggca tcggcggggc ggtcctcatc	840
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<210> 2732
 <211> 1014
 <212> DNA
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<210> 2733
 <211> 795
 <212> DNA
 <213> unclassified Clostridiales

<400> 2733

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<210> 2734

<211> 582

<212> DNA

<213> unclassified Clostridiales

<400> 2734

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<210> 2735
 <211> 2604
 <212> DNA
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2604

<210> 2736

<211> 891

<212> DNA

<213> unclassified Clostridiales

<400> 2736

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<210> 2737

<211> 1536

<212> DNA

<213> unclassified Clostridiales

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<212> DNA
<213> unclassified Clostridiales

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<211> 567
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<213> unclassified Clostridiales

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<211> 1146
<212> DNA
<213> unclassified Clostridiales

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<210> 2741
<211> 1827

<212> DNA

<213> unclassified Clostridiales

<400> 2741

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<211> 1377

<212> DNA

<213> unclassified Clostridiales

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<211> 816

<212> DNA

<213> unclassified Clostridiales

<400> 2743

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<210> 2744
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<210> 2745
 <211> 2160
 <212> DNA
 <213> unclassified Clostridiales

<400> 2745

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<210> 2746

<211> 1071

<212> DNA

<213> unclassified Clostridiales

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<210> 2777

<211> 3543

<212> DNA

<213> unclassified Dialister

<400> 2777

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<210> 2778

<211> 1842

<212> DNA

<213> unclassified Dialister

<400> 2778

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<210> 2779

<211> 2157

<212> DNA

<213> unclassified Dialister

<400> 2779

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<210> 2780

<211> 1965

<212> DNA

<213> unclassified Dialister

<400> 2780

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<210> 2781

<211> 2133

<212> DNA

<213> unclassified Dialister

<400> 2781

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<210> 2782

<211> 2370

<212> DNA

<213> unclassified Dialister

<400> 2782

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<212> DNA

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 <213> Coprococcus catus

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<211> 3249

<212> DNA

<213> Coprococcus catus

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<213> Coprococcus catus

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 <213> Coprococcus catus

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 <211> 2565
 <212> DNA
 <213> Coprococcus catus

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<210> 2830

<211> 2142

<212> DNA

<213> Coprococcus catus

<400> 2830

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<210> 2831
 <211> 1977
 <212> DNA
 <213> Coprococcus catus

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<210> 2832
 <211> 1968
 <212> DNA
 <213> Coprococcus catus

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<210> 2833
 <211> 1686
 <212> DNA
 <213> Coprococcus catus

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 <213> Coprococcus catus

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<211> 1824

<212> DNA

<213> Coprococcus catus

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 <211> 1950
 <212> DNA
 <213> Coprococcus catus

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<210> 2837
 <211> 2331
 <212> DNA
 <213> Coprococcus catus

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<212> DNA

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<210> 2846
 <211> 2058
 <212> DNA
 <213> Coprococcus catus

<400> 2846	
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2058

<210> 2847

<211> 1857

<212> DNA

<213> Coprococcus catus

<400> 2847

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<210> 2848

<211> 2181

<212> DNA

<213> Coprococcus catus

<400> 2848

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2181

<210> 2849

<211> 1818

<212> DNA

<213> Coprococcus catus

<400> 2849

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<210> 2850
 <211> 1650
 <212> DNA
 <213> Coprococcus catus

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<211> 831

<212> DNA

<213> Clostridium clostridioforme

<400> 2851

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<210> 2852

<211> 1509

<212> DNA

<213> Clostridium clostridioforme

<400> 2852

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<210> 2853
 <211> 978
 <212> DNA
 <213> Clostridium clostridioforme

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 <212> DNA
 <213> Clostridium clostridioforme

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 <212> DNA
 <213> Clostridium clostridioforme

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<211> 1695

<212> DNA

<213> Clostridium clostridioforme

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<211> 1530

<212> DNA

<213> Clostridium clostridioforme

<400> 2859

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<210> 2860
 <211> 348
 <212> DNA
 <213> Clostridium clostridioforme

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<210> 2861
 <211> 867
 <212> DNA
 <213> Clostridium clostridioforme

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 <211> 510
 <212> DNA
 <213> Clostridium clostridioforme

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<210> 2863
 <211> 1137

<212> DNA

<213> Clostridium clostridioforme

<400> 2863

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<210> 2864

<211> 1146

<212> DNA

<213> Clostridium clostridioforme

<400> 2864

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 <213> Clostridium clostridioforme

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<210> 2866
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 <212> DNA
 <213> Clostridium clostridioforme

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aacgccggag acggaggcca tcagcatccc acccagacct taaccgatct tatgaccatc	420
cgttccatga agggacgtct ggacaacctg accgtgggct tctgcggaga ctttaaattc	480
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ctgatatccc cgcctgagct gcgcatcccg gacaacatcc gtgacgacgt gctcactgca	600
aataatgttc cttttgagga agtcggcaac ctggacgacg ctctgggcca gttagacatt	660
ctctacatga cacgtgtgca gaaggaacgc ttcttcaacg aggaagatta catccgtttg	720
aaagactgtt atattctgga taagaagaaa atgaaacttg ccaaggaaga catgtatgtg	780
ctccatcctc ttcccagggt aaatgaaatc tccgtggaag tggatgacga cccaagggct	840
gcctacttca agcaggcaca gtacggcgta tacgtgcgta tggcattaat catgagatta	900
ctggaggtgc agaaaccatg ttaa	924

<210> 2867
<211> 1050
<212> DNA
<213> Clostridium clostridioforme

<400> 2867
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aaccaggcat ttggagaaga agcagaaatc gtggctaccg ttatctgcgg cgactcctat 180
ttcaacgaga acgttgaagc tgctaagaag accattctgg atatgatcag cagccagaag 240
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accgttgcac tggcagttaa ggaagaatta aacattccgg ttctgacagg tatgtacaaa 360
gaaaacccgg gcgctgatat gtacaagaca aaagtatata tcgttgagac caggaacagc 420
gcagccggca tgagaagtgc tgttgccacc atggctcctc tggcaattaa gcttgccaag 480
ggtgagaagc ttggttcctc caaggaagag ggctatatgc caaacggcat ccgtgtcaac 540
ttcttcgagg acaagagagg ctctcagaga gcagttgaga tgctgggttaa gaaactggcc 600
ggcaaggaat tcaccaccga gttcccaatg cctgatttcg acagggtaga tcctaataccg 660
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aaagaaggaa aaatcggcag cctgcacaga tatttctata ctacagttgg caacggtaca 960
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<210> 2868
<211> 2229
<212> DNA
<213> Clostridium clostridioforme

<400> 2868
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ccggtaaaaat tcaagcatgt aaatactcgc agggatgatg tgagccagat atattttaag	180
aaggtccttg accgggaatt tggatttgac atccagtttc cctatgagcg ggggaaggat	240
tattacctgc tgatccgctg cgagggacgt caggcaaaaa tcaagtacaa tgaggagctg	300
attgccaagc gggccagcgt ggcccacaag cgcatggaga agcttaagga cctgatgaac	360
atggagacag tccatgtggc catggaatth tggaggagc acggccttaa ggcccttggtg	420
gtcaagtcaa agcacaagct gcaggggaatt gacaatgatt atgattacag cgagtgggtat	480
gagctgacaa agcccacaga cgaggagctg gcggagcaga gaaagcatat atttgacttt	540
gagcccatgc tgtccgttgt gattcccgcc tataagaccc cggagcgcta tctcagggaa	600
atgctggact ctatcatgga acagacctat acaaactggg agatatgcgt tgcggacgga	660
agccccaggg gagagggacc ggaacgtgtg cttagaagt acgcggaccg tgaccggcgt	720
gtgcgctatg agattctggg cagcaaccgc ggaatctcag gcaataccaa tgcagccctg	780
gatatggcca ggggagactt tgtcatcctg gctgaccatg acgatacact tcctcccaat	840
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gatgaagata aactggacat ggatggaaaag gctctcttcg accctcattt caaaccggat	960
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gaggctggtt ccagagccat catggccac tatgagcgga tgggaattcc ggcggtgacg	1260
gtggagaagg gtgtggatta cggcatttac cataccacgt ttgagataca gggatgaacct	1320
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gcaaagggtg aatacctgct gctgctcaac aatgatacgg agctgattga cggggacagt	1620
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gcccaggact acagcgccgt cacggcggcc tgtctcatga caaagaaatc cgtctttgac	1860
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aaagtacgcg ccctggggaa actggtagtg tatgcgcctt attcatgctt ttaccattac	1980
gaatccaagt ccagagggtc ggaggatacg cctgaaaaga tagcccgttt taaccgggag	2040
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cccaacctga cgctgcgcaa atcaaatttt gcgctcaggg accttctgaa ggaaaaaata	2160
ggtgagcctt atgaccttaa gatttaccaa cagtttgcgc cggaggacga tacgaaagca	2220
catgagtga	2229

<210> 2869
 <211> 372
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2869	
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gaatatatgc atataggaat cccggtccta aataaaaaag agggaatgac atataacgag	120
gacatgaagt tctgggtaag caatgtggac gactatgatt ttaagataga gtacctgaaa	180
ttcgaggagg gaacaccctt cccggagatt ctttccaagc agccccatgt ggcttacagg	240
gtggacgatt tggaccacta tgcctcccag gctcagagga tcatattcgg gccggctgac	300
tgcggtcctg gcgtgcgcct ggcatittgta atctgggatg atgccatcgt tgaactctat	360
gaggaaaaagt aa	372

<210> 2870
 <211> 303
 <212> DNA

<213> Clostridium clostridioforme

<400> 2870

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atgcagggac agagaggacg gagtgaacgc cattccgggg tattcctgga catggtgcac      60
ctgatacttg ggattgccat tgtaatcctg gctgtgctgt cattcattaa cccggaggga      120
aatcatatgc ttttccctct ggtgtttttg ctggcagcat tgttaaatgc ggtaaacgga      180
atatattgagc ttaagaccag gggaagggat aagaaaaagt tcggtgccag catcctgcag      240
ctggcttttg cggcaggctt tatggtcctt ggcatcgtaa gcgccatcag tatctgggca      300
tag                                                                           303
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<210> 2871

<211> 735

<212> DNA

<213> Clostridium clostridioforme

<400> 2871

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agtatcaaaa agagggatat ctcttatata aaagacctgg cagcggaatt gaacatttcc      120
ctgtccactg tgcgcaggga tgctgctgct ctggaacagg aaggcagcgt catcgtcatg      180
cgcggaggcg cggttaagta taaggcggag gacttcgatg aacctgtggt aaagaaaaaa      240
ctgattcaca gcgaggagaa ggagatcatt gccaggaagg cggccgcgct ggtggaggac      300
ggagactgcg ttacgtgga ttcaggcacg accacgggtgg ggatgcttaa atatctccag      360
ggaaaacgaa tcaccattgt ctccagcagc acggaactgc tggacaatct gcccgtcaag      420
aacgcgaagt gtatcctgct ggggggagag gtgagggatg atttggaatc cgttctgggc      480
gccctgacgg aaaagatgat atccgacatg tattttgaca aggcgttcat tggcgccaac      540
gggtatatcc cggacggagg catctacacc tatgatgaca gagaggccag gaaaaagggtg      600
attgtaaaag accattccaa ggcggtctat gtgctgatgg atacatcaa gaagaataag      660
tatgcgttct ccaagggtgt tgatttgggg gaggcggttc tgattacaga ggaggaagat      720
tcagaagatt catag                                                           735
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<210> 2872

<211> 531
<212> DNA
<213> Clostridium clostridioforme

<400> 2872
tattttaagga ggctgtacat gttagataaa aaggtagcag aacttattaa cacacaggta 60
aacaagaat tttactccgc ttatctgtat ctggattttg ccaactacta caaggacgcg 120
gagctgaacg gcttttccaa ctggtaccag gtccaggccc aggaggaacg cgaccatgcc 180
atgctgttca tccagtatct gcagaacaac ggagagaaaa taacgctgga ggccatcgcc 240
aagccggaca gggatatttga ggacttcagg ggacctctca ctgccgggct ggagcacgaa 300
aactatgtga ccgggcttat tcatgatatt tatgacgccg cgtattccgt taaggatttc 360
cgtaccatgc agtttttggga ctggttcgta aaggagcagg gcgaagagga gaagaacgcc 420
agtgaactgg taaagcgttt cgacctgttc ggccatgatc ccaagggact ctacatgctg 480
gattccgaac tggcggcaag ggtctacacc gctccctcac tgggtgctgtg a 531

<210> 2873
<211> 801
<212> DNA
<213> Clostridium clostridioforme

<400> 2873
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ttctgtctgg caggcatgct gttcggaatt tacaccaacc ggtgcctggg catggcagcc 120
ggcgtgggac ttatttttagg ggatcttccc accggcctgg ccatgggagc tgtaggagag 180
ctggcattta tgggatttgg cgtatcccag ggcggttccg taccgcaaaa ccccatgggc 240
ccgggaattg tgggaaccat catagccatt accatgaagg attccgggtat tgatgtgggc 300
tctgccctgg ctcttttcatt cccctttgca gtggctttcc agtttgtgat tacagccacc 360
tatacctttg ccacaaccct tacaagctat gcttataagg ccctggataa gaagaatttc 420
cgcggttca ggatagctgc caatgcaacg gtctgtgtat ttgcagtggc cggctttatt 480
atcggattcg gcggcgctt cagctccgag ggactccaga aggtgatttc actgattccc 540
gcatggctca gcgcgggtct gggcgtggca ggcaagatgc ttcccgccat tggctttgcc 600

atgattctca atgtaatggc aaagaaggaa ctgataccat ttgtactgtt tggctatatc	660
gccattgcct acctgaacct tcctgtcatg ggagtggctg ttatcggtag gccattgcg	720
ctgcttgtat ttttccatgc cggcaaagga aacggcgaat ctgtagaaga agtggagggtt	780
gaatttgaag atggcattta a	801

<210> 2874
 <211> 741
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2874	
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gcccttacac tgggccggga aggcgagcc gtaatcgtga attataatgg ctctgcggca	120
aaggcagagg aagtagtgaa ggaaatcgaa gcagcaggag gcaaggcaga ggcagttcag	180
tgcaatgttt ccgattttga gagctgcggc aggatgatgg cggacatggt ttccaggtat	240
ggccgtctgg atatcctggt gaacaacgct ggaatcacca gggacaacct gctgatgaag	300
atgtcggaag aagattttga cgctgtcata agcacgaacc tgaagggcgt atttaactgc	360
atcaaacaca tttcccgcca gatgttaaag cagaaggcag gaagaatcat caacatctcc	420
tccgtatcag gagttctggg caatgcgggc caggccaatt actgcgcggc caaggccggc	480
gtcatcggca tcaccaaadc agctgccagg gagctggcca gcagggggaat tacgggtgaat	540
gcgggtggctc ctggtttcat tgccacggag atgaccgatg ttctcagtga cagcgtaaag	600
gcagctgcca cggagcagat tccaatgaag catttcggaa gcacgcagga cattgcagag	660
acagttgctt tcctggcttc cgataaggca ggatatatca ctggccagggt cttaaagcgt	720
gacggcggaa tggccatgta g	741

<210> 2875
 <211> 435
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2875	
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aagagcctgg acatctacta tcacctgggc ctggacaagc tggaatgcca ggtagccatc	120
atcaaaaaacg cccgcagcaa caagatggga cgcaaggaca tcattaaaat cgagggaggc	180
ctggatacgg ttgacttaaa ggtattgggc tacattgacc acaacataac ggtgaacatt	240
atccgcgggg acaagattgc cgaaaagcgg gcattaaagc ttcccaagaa aatcaccaat	300
gttattcagt gcaagaaccc ccgctgcatc acatccattg aacaggagct tccccatc	360
ttctacctgg cagatgagaa ggcagagggt taccgctgcc agtactgcga agagaagtac	420
agcgaattta aatag	435

<210> 2876
 <211> 999
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2876	
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caatttgaca cctacttaaa gaagatagag cgcaccctgc atgtgaccat gattgccagg	120
gacggcgaaa taaaaatcat cgggcctgag aaaaccatag gccaggcaaa aagcgtgttc	180
aacaacctga ttgaactgtc caagcggggc aataccgtca cggaacagaa cgtggactat	240
gccctgtccc tgtcttttac ggagaatgac gggcagattt tggagattga caaggacatc	300
atatgccgga ccatatccgg caagccggtg aagccaaaga cgctggggca gaagcattat	360
gtggatgcta tccgcaagaa gatgattgtg ttcggcatcg gaccggccgg cacaggaaag	420
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atccttacca ggccggccat tgaggccggt gaaaagctgg gatttttgcc gggcgatctc	540
cagagcaaga ttgaccgta tcttcgccct ctttatgacg ccctgtacca gattatgggg	600
gcggaaagct atctccacaa ttcggagaag gggctgattg aggtggcgcc cctggcctac	660
atgagaggaa gaacactgga caatgcttat atcatcctgg atgaggccca gaacaccacc	720
ccggcccaga tgaagatgtt cttaccaga atcggttttg gttccaaggt catcataaca	780
ggagaccaga cccagaagga cttccggga ggcgaggttt ccggtctgga cacggccctt	840
aagggtgctga aacgaattga cgacattggg ttctgttacc tgaccagttc cgatgtggtg	900

cgatcatccgt tgggtgcagaa aattgtacag gcctatgaga catatgaaca aaagaataacc	960
ccgcctgcag gacggcgag gatacgggag cggaattaa	999

<210> 2877
 <211> 711
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2877	
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cttaaggat ttccggaatt caagcccaac ctggtactgc tggacctgat gcttcccggg	180
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tatatgataa aaccctttga ttccaaggaa ctggttgccc gcgtcaaggc agtgctgcgc	360
cgttaccagg cagccccggc cccggctcct tcgtccaccg aacagcaggg cgaatacgtg	420
gagtaccggg acctgattgt gaaccttacc aattattccg taatctatat gggccactcc	480
gtggaaatgc cgccaaagga gctggagctt ctgtattttc tggcggttc cccaaccag	540
gtatttacca gggaacagct tctggaccat atctggggct atgaatacat tggggatacc	600
cgtaccgtgg atgtacatat aaagcgtctg cgtgaaaaga taaaggacca caacagctgg	660
gccatcacca cgggtctgggg aatcggctat aaattcgagg tgaaacgatg a	711

<210> 2878
 <211> 357
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2878	
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ggatcgggaac agggggggagt gcgccctgtg ctgattattc agaatgacgt gggaaacaag	120
cacagcccca cgggtcatatg tgcggccatt acatccagga tgaacaaagc caagctgccc	180
acccatgtgg agctgcccac caggcgtgt gccatgatta aggattcggg cattctcctg	240

gaacagctgc gcaccattga caagcagaga ctgaaggaga aaatctgtca tattgatgag	300
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<210> 2879
 <211> 810
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2879	
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gcgtatgaac tatgccagaa gcgcagcagc ctggttgtgg gaggcattgg gtggcttaag	120
atgaccagtg tgaccaaacg taccatcgtg gacctgtccg gcctgggact tgataaaatc	180
gaggaaacca aggaagaatt caggattggc gccatgtgca ccctgcgcca gttggagaca	240
gaccaggggc ttgaccagta tttcggaggc gtttttaagg aatgtacacg ccatatcgtg	300
ggcgttcaga tgcgcaacct ggctacgggt ggaggcagca ttacagccg ctttggattt	360
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gaaacggatt tcccggcat agcctgctgt gtatcccgt ggggcaatga ctggtatgtg	600
gcggtgggag ccaggccggg acgggcccag gtcgtgaaaa tcaaggacga cgggtatgac	660
agtctggcgc agcttgccgg ggaggcggct gattccttta cctatggcag caatacgagg	720
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<210> 2880
 <211> 1041
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2880	
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gagctggtga ccctgggtga aaaccgcatg atcattaaca ataagctggc tgaagccgac	180
agggttacta ttgtgactca gggcggctcc ggccatgagc cggctatcag cggatttgtg	240
ggagaaggaa tgggtggatat ctccgtggtg ggagatgttt tcgcggctcc cggacctcag	300
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gatgacagga gaggcctggg gggatgtatc cccacctata agatagcggg agcagcggct	540
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gatctgggcg aggatgaaat ggaaatcggc atgggacagc acggagaggg cggcggcgga	720
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acactgatgg agctgttcat catttaccgc aggtgcgtat cctacctgaa ggagaagaac	900
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cagatgttca tggcaaggat ggacgatgag cttctgcact actggaatgc accgtgcaat	1020
acgccgtata tgaagaaata a	1041

<210> 2881

<211> 690

<212> DNA

<213> Clostridium clostridioforme

<400> 2881

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gcgctgaagg aagactatga tcttttgatt ctggatctga tgctgcccgg tacagatgga	180
tttgagatat gtaagagagt acgggaagta aagaacacgc ccatcattat ggtttcggcc	240
aaaaaaggagg atattgacaa aatccgcggt ctgggactgg gagcagacga ttatatcacc	300

aagccattca gcccaagcga gatggtggcc aggggtgaagg cgcacatggc caggatatgag	360
cgccttattg gcagcgggca gccggccaat gagctgattg aaatccgcgg cctgaaaata	420
gataagacag cccggcgcgt gtgggtcaac ggggaggaga aaacctttac cacaaaggaa	480
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ttcagcaaga tatgggatat ggagtccatt ggggacattg ccaactgtaac ggtgcatatt	600
aagaagattc gcgagaagat agagtttaac acggccaaac cgcagtatat tgagacgata	660
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<210> 2882

<211> 1419

<212> DNA

<213> Clostridium clostridioforme

<400> 2882

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gacgaaggcg tgctaaagcc ccaggatatat tttatggcgc ttatTTTTAT cgtgcccata	180
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tcggaactgg ccaatatctg caaggccaat gtcatcggcc ttatgctctt tacgttcgta	300
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aacgccacca tgaaacggat agtggattta gccggcgctc tgtttgggtct gattgtatTT	900

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ttcagccagg agaggatagg gctgcacaac cgtcccttta agatgtacaa gttccgttcc	1020
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<210> 2883
 <211> 381
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2883	
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caaatagaca ccacaaaagg aggattttac atgagcgttg tcattatcgg aggccatgac	120
cgcattgtaa gccaatataa aaagatttgc aggaattaca agtgaaggc aaaagtattt	180
acccaaatga gcgccagcct ggataaacag attggcagtc ctgacctgct ggtcctgttt	240
accaacactg tgtcccacaa aatgatacgc tgcgccctgg acgaggtggg aagcggcacg	300
gagattgtcc gctgccatac cagcagcggc acagccctca cagaaatcct ggaagaaaaa	360
tgcgcggtct gtgccgtata g	381

<210> 2884
 <211> 1512
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2884	
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cacaaatcat ttccgggagt caaggcgctt catgggggtgg acctggagct gagggccggc	120

gaggtccacg cattgctcgg tgaaaacggg gcaggcaa at ccacgctgat taaggttctg	180
ggcggcatct acattgcaga agagggcgag atttttattg acggaaaaaa ggtaaccatt	240
gacggggtaa atgcatctca cagcaacgga atttccatta tccatcagga attggtactg	300
gtgcctcaca tgactgtggc ggaaaatatc tttcttggca gggagccgtc aaaggggctt	360
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gtgggaatca tatatatatc ccataagatg gacgagctgg agcagatctg cgaccgggta	660
accgtgctga gagacggaac ctatgtggga accgagaggg taaaggatac tacaaggac	720
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gccagctttg aactgcgtga aggggaaatc attggttttg cggggctggt aggcgccgga	900
agaagcgaga ccatgaagtg tatcttcgga ctgacgccc gctgcacggg cgatatcagt	960
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tcgtcagaac tgctgaaat tctcaacatg agcgaccggg tctatgtcat gtgtgacggc	1440
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gcggcaaagt aa	1512

<210> 2885
<211> 684
<212> DNA
<213> Clostridium clostridioforme

<400> 2885
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ggaagcggag gccgtgagct gggggtaaag ctggcagaaa agctggacat cccattttac 180
gacaaggagt taatctccat ggctgcggac gatatcaata ttgcagaaga ggcatttcaa 240
aactacgatg agcatatcgt aattcacgac ccgttagaca ggcagtatta ccatgctttt 300
tctgacattt acaaagttcc catgtcggac cagattttcg tggcccagtc caacgtcatc 360
cgcaggctgg ctgctcacgg tccatgtgtt attgtgggac ggtgtgcgga catgattctg 420
gatgacagca ttaacctgtt catctactcc aaaatgaggg accggattaa gcgtatgctt 480
atactggagc caggttctga cgagaaggag atggagcgcc gtatccgaga ggtggaccgg 540
aaacgcaagg agtattacca gtattacacc ggcaacacat ggggccgggc ccagaactac 600
cacttatgcc tggacagcgg gctgacaggg gtggacggat gtctgcgggc ggttctggct 660
tatctgggag aattgtcaga gtaa 684

<210> 2886
<211> 528
<212> DNA
<213> Clostridium clostridioforme

<400> 2886
tgtgtaccgc cgtatttagg gaaaatgaaa cacggaaagg aaagacagat ggcaggagag 60
gcatccagga ataaagtga tataggggag tcgtccctga ttcttatttt catcgttctg 120
tgcatggcaa cctttggact gctgtcctta agcagcgccc agggcgattt aaagctggcc 180
gggcgcaatg gggaggcggc ccaggcttat tatgaggcgg acagcagggg gcagcagtgg 240
cttaaggaag tggaccaggc cctgacagag gaaatggggg agggaaaagga ttccaccag 300
tgcagcctgg atatcaagga caggctggga gagctttaca acagggaac cggccttatt 360
tccacggaca tccctatgga caggggacag tctctgcgca ttgagctggt tctcatgtgc 420

ggggaaaagc attacgatat aaagtcatgg tatgtatatg ccagtgatga gtatgaaata	480
gataattcta tgcctgtgtg gggcggagca gccccgtccc aggaataa	528

<210> 2887
 <211> 1209
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2887	
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ccgattatgg gactggagga gattgcaaag gcaaggacat tccacgaaag cttccccag	120
tacaccaaaa caccactcac caagctggac cacatggcag cttacctggg agtaaaggaa	180
atctacttaa aagatgagtc ctaccgtttt ggccctcaacg cattcaaggt tctgggcggt	240
tccttctcca tggcccgtca cattgccaag gaaacaggca gggacgtatc cgaacttccc	300
tactcagtcc tcacttctga ccagttaaga gaagaattcg gccaggctac cttcttcacc	360
gccacagacg gcaaccacgg acgcggcggt gcttgggcag ccaaccgtct gggacagaag	420
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gaaattccat cctggattat gcagggttac ggaaccatgg ccatggaggc cggggagcag	660
ttaaaggaat acggctgcga acgtcccacc cacatctttg tccaggcagg cgttggttca	720
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gactgggtag ccgcaaacgg tatgcgtatg ctgggcgctc ctatcaaggc cgacgcgcct	1020
gttacctccg gagaatccgg cgcagctcca ttcggcgcgc tggcagccat catgtccatg	1080
gatgaatatg ctgacctgag gaaggacatt ggccctggatg agaattccag agtactgctc	1140

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gataaataa	1209

<210> 2888
 <211> 1623
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2888	
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cagttggcag atacagtgcg tgttacactt ggaccgaagg gacgcaacgt tgtcctggat	120
aagtcctttg gcgctccgtt aattacaaac gacggcggtta ccattgcaaa ggaaatcgag	180
ctgcaggatc catatgagaa catgggtgcg cagctgatca aggaagttgc ttccaagacc	240
aacgatgtgg ccggcgacgg caccaccaca gcaactgttc tggctcaggc catggtaaac	300
gaaggcatga agaacctggc agccggcgca aaccaatcg tcctgagaaa gggcatgaag	360
aaggctacag acgcggtgtt ggaagctatc aagaagatga gcaagccaat caacggcaag	420
gatcagatcg caagggtagc agccatctct gcttccgacg atgaagtagg aaccatggta	480
gcggacgcta tggagaaggt ttccaaggac ggcgtcatca ccattgaaga atccaagaca	540
atgaagacag agcttgacct gggtgaaggt atgcagttcg acagaggta cctgtccgct	600
tatatgtgca cggatatgga taagatggaa gctaacttag acgatccata cgtgctgac	660
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gaggaactgg gtctggattt gaaggatgca accatggagc agctgggacg tgcaaaatcc	960
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acaagagcgg ctgttgagga aggcattcatc gcaggcggcg gttctgctta tgtacacgca	1260
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ggctccgtta ttgtaaataa ggtaaaagaa tcctctgtag gccacggctt tgacgcttac	1440
aaggaagagt atgtggatat gattgaagca ggcatcctgg atcccgtaaa ggttacaaga	1500
agcgcacttc agaacgctac cagcgttgct tccacactgc tgacaaccga gacagttggt	1560
gccaacatca aggagccggc tccagcaggc ccggcagcac ctgatatggg cggaatgtat	1620
taa	1623

<210> 2889
 <211> 663
 <212> DNA
 <213> Clostridium clostridioforme

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gccaaccgtt atgattataa ccccatcgag catatcaaat ccagactgaa gtcagctgaa	180
agcattgtca tgaagcttaa gaaggacgga tatgaggatga ccattgagaa tatgatggaa	240
tgccctcagcg atatcgccgg tatcaggatt atatgttcgt tcacgtcgga tatctaccag	300
atagccgaca tgatagcggc tcagggggat gtgactgtcc ttcattgtaaa ggattatatc	360
aagaacccca agcccaacgg atacaagagt tatcatatgg tagtaactgt gccggtctat	420
ctcacggatg gaccggtgga gaccaaggat gagattcaga tacgttccgt tgccatggat	480
ttctgggcca gcctggaaca taagattgag tataagttcg agggaaatgc cccggagaac	540
ctgctgaagg aactaaaggc ctgcgccgat atggtggata tgctggatgc caagatgttt	600
tcgcttaacg aggccatcac ggcatctgcc agggagcaga aggaaaggc ggaagaatct	660
taa	663

<210> 2890

<211> 1011
<212> DNA
<213> Clostridium clostridioforme

<400> 2890
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gctgtgatcg gttacggcag ccagggacat gcacatgctt taaacttaaa ggagtcagga 120
tgcaacgtaa ttgtaggcct gtatgagggc agccgttcct ggaagaaagc agaggagcag 180
ggattcgagg tatatacagc agctgaggca tccaaaaaag cagatgtcat catgattctg 240
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gagaccacct tcagagtgga gaccgagacc gacctgttcg gcgagcaggc agtgctctgc 600
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gagagcgggt ttgcaggcat gcgttattcc atttccaata cagctgagta cggcgattat 780
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gatatccagg acggttcctt tgcaaaagag tggcttcttg agaaccagggt tggctgcccc 900
catttcaatg ccatgaggaa gaacgaggca gagcagccgc ttgagaagggt gggagctgag 960
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<210> 2891
<211> 432
<212> DNA
<213> Clostridium clostridioforme

<400> 2891
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tgtctgatga atcgtcacga ccatacctacg gcagacgccc tatacgccag catccgtgaa 120

gaatttccca atatcagtct gggaacgggtt taccgtaacc tgaatctgct ggtgatgacc	180
ggcgagatac gaaagctgac ctgcggggac ggtgctgttc actttgatgg agatacccgt	240
cagcattacc attttgtgtg cagcgagtgt aatcagggtt acgacatgga attaggcgcc	300
atggaggacc tgaataagga agcccaggaa catgcgccgg gcatcatcga cagccactac	360
gtactgttct acgggcggtg caacagctgt ttacaaaaaa aagttgataa agctattgac	420
aaaccagcct aa	432

<210> 2892
 <211> 450
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2892	
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aaaatagcgg gcgggggtgat tccgtcagcc actctgtatg aggatgagga ttttcgcgtg	120
attctggatt tgggaccggc gtccagagga catgctctta tccttccaaa acagcatttt	180
gcagatgtat gcgcactgga tggggatata gccgccaaag tccttcctct gggtgccaag	240
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ggagaggcag ccgggcagac tgtgttccat ttccacatgc atgtgattcc aagatatgag	360
ggaggtccgg ccatggtcag ttggactccg ggaaaggctt cgccggagga attggcagag	420
gttgccgata aaatcaaagg ctgtctgtaa	450

<210> 2893
 <211> 699
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2893	
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gatgacgagc tctatactct gttaaaatgc tgtgcctcgg agcagggtgct ttatgaggac	120
ggggaataca tcttccgcat gggagaatcc gtcaatacgg tgctgggttct gctgagggga	180
aaggcatgtg tcatccagga gaatttctgg ggacatcagg aacacatata tcatataaag	240

gaaggggagc tctttggcca atcctattcc tgcgccagga ccccggtgct gccggtgagc	300
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tgtccccctgg cctgtgattt ccataccaga ttcatacaca acatgctgcg tctggtgtcg	420
gagcataatg tgaagctgga aaataagctg gagcatgtgt gccgcaggac caccagggaa	480
aagcttttat cctatctgtc agagcaggcc atggcaaaag ggggaagaga ttttgacata	540
ccccataacc gccaggagct ggctgagtat ctctgtgtgg accggagcgc catgtccagc	600
gagctgagta agatgcgggc tgaggggata ctggattttc agaagaacca ctttgtgctt	660
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<210> 2894
 <211> 558
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2894	
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atcgaggaca ctgtgctggc tgccctggat tatgagggct gcccctatga ggcagaggtc	180
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gaccatgtgg agggaggctgt ggaggattac ttcaatcctg aaaccggaga gctgatgctg	360
ggggatattg tgatttccgt ggataaggtg gaggaacagg ctgagaaata cggccattcc	420
cagaccaggg agctggcctt cctgacagcc cacagcatgc tccacctgtt tggttacgac	480
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aggggggtata caagatga	558

<210> 2895
 <211> 1227
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2895

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gcttcggagg gagccgtgct catggatgct gccacgggaa ccgtcctgtt ttccaagaac	120
ggggacaaac agttctatcc ggcaagtatc accaagctga tgacagccct gctgggtggcg	180
gagaactgca gtctggatga caaggtcaca ttttcagcaa cagctaccac gaacctggaa	240
gcgggcgctg tatccatcaa tatgacggca ggggatgtga tgagtgtgcg ccagtgtctt	300
tatgccctgc ttctcaaadc agccaatgaa gtgggaaatg cccttgcgga acatgtggct	360
ggcagcaatg ccaaatttgc ggagatgatg aacgccaagg cagcggccct ggggtgtacc	420
aatacacatt ttacaaatcc tcacggcctc aatgactcca atcattacac cacaccccat	480
gatatggctc tgattgcaag ggcggcgctt cagaatgatg tggngaagac ggtggcgtcc	540
acgcgcacgt atacgtgcc tgctaccata aagaatcctt ccgggcttac cgtgaccatt	600
ggacacaaga tgctgaaccc caacgatgcc aggtattatc cgggcgttat cggaggaaag	660
accggttata cgtccaaagc gggaaatacc ctggtgacag cagtggagaa ggacggagtc	720
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aacggggcca aggctgcca tgagtgggtt acggcagacg gtgtttccta ctggattgat	1020
tccaatacat atatggcca gggatggcgc caggtaaagc gcaaatggta tttcctgcgc	1080
tccaacggag ccatggccag gaaccagtgg gaaaagggtg aagaaaacgg ccagtgggtt	1140
tatctgggcg cggacggcgc catgctgacc aacacaacca cgccggatgg ctgcgggtg	1200
gatgagagcg gggcatgggt gcagtaa	1227

<210> 2896
 <211> 1371
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2896	
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gaaatatcca atatctccta cagtacctgg ctggaaccct taaagccgca ctcttttaaa	120
gacaacacag taaccatcat tggtcccgaa cagacctttt tacaatatgt aaataaaaaa	180
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cgtgagctgg agggagccct gacaaaaatc gtcgcgttat caaggcttaa caaatgcgac	1020
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gaccatacca ccattataca tggcgccgag aagataaccg gtgacatggc aaaggacgac	1320
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<210> 2897

<211> 483

<212> DNA

<213> Clostridium clostridioforme

<400> 2897

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tgcatgattg ccgttctggt gttctgggtcc gcagtggcca gaaccatcgg aatgccggtg	120
aactgggccc aggatgtttc gctgctggca tttggatggc tgacctttat cggctctgat	180
atcatcatca agagcggcgg cctgattcga atcgacatgc tgtccaaccg gttccccagg	240
gcgggtccaga agactctgat gctgggtgttt gactttttca tgctgctgtt tttattgatt	300
ctgattgttt acggattcct gctgggtgtcc cagagctgga accgtacctt taataccctg	360
aagatgagct atgcctgggtg taccctggcg gtaccgggtgg gctccctgct gatgtttttc	420
agcatgattg gcaagatgct cggtgatatc aggaaaccaa tgaaagaatg ggggggttaat	480
taa	483

<210> 2898

<211> 804

<212> DNA

<213> Clostridium clostridioforme

<400> 2898

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aaaagatatg cagaggctat gaaaaacgta gaccgtgctg cactttatga cattgctgat	180
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atcagaacag gatgtgacgg acgtcatgct gaccagcaga ttcgtggcgc tgttgttctt	300
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gtaaccatgg acgtaaccaa ggctatcaac gacatcaaag ctggtaagat tgaatacaga	600
ctcgacaaga caaatattat tcacgtgcca gtaggaaaag cttctttcac agaggagcag	660
ttagcggaca acttccagac gcttattgat gcgatcatga aggctaagcc aagcaccgtt	720

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<210> 2899
 <211> 534
 <212> DNA
 <213> Clostridium clostridioforme

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actcccattg aaattgacaa gtccagccgc cacatcacc tggcctattt tggccagaag	180
agtaccgtgg actatatcgg ggccgtgcag gggattccgg tgtgttttga tgccaaggaa	240
tgcgcggtaa agacatttcc ctttcaaaat atccatcccc accagatcga attcatgggg	300
gaatttgaga aacagggcgg aattgcattt atcattctct attttaccgg cctggacgag	360
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<210> 2900
 <211> 1557
 <212> DNA
 <213> Clostridium clostridioforme

<400> 2900	
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ttgaaggagc ttccaagcca cctgagaagt tttgaggatg ccgttaacta tatgccgaac	180
caggtatata ttggcaatga aaagccacag aaaatggctg aagttggatt tccatggtat	240
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gagttctacg gcctgattca gatctgcgac gtatttgacc tggttaaact ggaaaaggga	360
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gcaatccttg ataagaacag tgagacaaca caggaagaaa tcgctgctct ggtaaataac	480
gagcacgcag agccgctgta cttcaacaat gcactgggtg gcgctgttaa gagagctcat	540
gacgtggatg ttaatttatc cgcacacgtt atgttggaga acctggtaac aaaggcttct	600
aacgtattat ccttacttaa cttggtaaaa aaagcaggag ttaatcccg c tgacatagat	660
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gccaacgatg gttctgcttc aaaggagagc ggcggtgtag atgagagcaa ggtaaaggct	1500
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<210> 2901

<211> 1395

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2901

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ggcggcggca aggtcggcac ggctctggca cgtcagctca gcgaggaagg ccacaacgtg	120
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actgtggtgg acaccaacaa agcgcgcgtg gagcacctga ccgaaagcta cgacgtgctg	180
ggcattgtag gcaatggctc gtccatcacc accctgtctg aggcgggcat tgaggatgcg	240
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gcaaaggaga tctctcatct gctgcggttc cccggtgcca gcaagatcga tacctttgcg	480
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ctgctgtgct gcattacccg cggcagcaag attttgatcc cccgcggcgg cgaccagatc	1320
caggtgggcg acaacgtcat cgtggtcacg ctggagcatg gtctgcacga tctgcgcgat	1380
atcgtggagc actga	1395

<210> 2902

<211> 1359

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2902

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catgaccgca tccccaagga cctctatcgg gagttcgggg tcaaggccgg cttgcgcgat	120
gagactggca agggcgtgct ggcaggctctg accaacaatct cggacatccg ggcgttccag	180
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gagtgccgca ccatgcccac caactttacc cgcgatgtca ttatgaaggc acccagccac	420
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gcagatttgg acaccgcaa cgtgctgcgc cagagcatcc agctggcggg catcttcccc	540
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gatatgcagt acaccccgct ggaagccgc gtactggacg tggcgctgct gctgcacgcc	720
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cgcacgagg agctgctcag cgccaacaag atcatccgcc cggcctacaa gagccttggc	1320
ggcaccacg attatatccc gcgcagccag cgggcataa	1359

<210> 2903

<211> 3279

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2903

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ctgatgtgca ttgccccga tatgcgcact gcggcccaga agtactatgt gcagcagaat	180
gtgttcgacc tgcgggtgct gtccaccctt ggcctcagcc agagcgatat caacgccatt	240
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tggacagggg acgagcagac cacggtggcg cggctgtatc agctgcctgc cgacccgcag	360
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gtggcagacc ccctgctgac ctacgcggaa accgccctgc gcaacgccga aaaggcgtg	1140
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<210> 2904

<211> 2112

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2904

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ggcagcggca aaacctttac catggccaac gtcattgccc agtgcaaccg ccccacgctg	240
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gagcgcctga cccgggagat	gaaggaggcc gcgaagctgc	tggaatttga acacgcagcc	1980
ttcctgcggg atcagatcga	ccgcctgcgc cgtggcgaga	acccaccgt ggactctgcc	2040
gccgagaccg agcgcaagca	gaaccatgca cagacacaac	gaaaaggag aaaatacctt	2100
ggcaaacgat aa			2112

<210> 2905

<211> 1197

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2905

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acgggtggtgg atgccggtgg gctgactgtg ctgcccgcac ttgtggatct gcactgccat	180
tggcgcaccc cgggctttga gtacaaggag gacatcgaga ccggcagccg cgccgctgcc	240
gccggtggtt acacctttgt gaacctgatg cccaacacca agcccgtctg ctcctctgcc	300
gcacaggcca tgatggtgga gcagaaggct gccgaggtgg ggctgtgca tgcaaaccag	360
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gagatcagtc cgtgggatta cgtctggcc gaggatatcg agacgggtgc caactgctgg	600
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gacgccatcc gcatggcaaa gctgcggggg gcacccgtca cctgtgaggt gacccccac	720
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gaaaaggaaa agctgcactc caagagccac aacaccccct ttgacggcgc acagctttac	1140
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<210> 2906

<211> 1422

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2906

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atgttcggca gcatcathtt ccagcagctg tacaacatcg cggaatgtct ggtagcgggc	120
---	-----

aagttcattg gtgaaaatgc gctggctgcg gtgggcaaca gctacgagat caccctgatk	180
ttcatcgccct ttgccttttg ctgcaacatc ggctgctcgg tcatcgtgtc ccgctacttt	240
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gtgctgtgcg ccgtgctgat gggcatcggc ctgtttggct gcgacgccct gctggagctc	360
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<210> 2907

<211> 4548

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2907

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caccagacgg tggacgatgc actgtccatc gtggagcggc tggagcaccg cgccggtaag	180
gacgccgagg gcaagaccgg cgacggcgtg ggcatcctgc tgcagatcag ccacaagttc	240
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gtggtcacc gcaaggagg gctggagttt ctggcatggc gcgaagtgcc cgtagacccc	420
gatgccgttg ggcagaaggc gcgggactgt atgcccgcga tctggcagt cttcatcaaa	480
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gtgttcgagc aggccagcaa cggcacctat gtgcccagcc tgtccagccg cactatcgtg	600
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<210> 2908
 <211> 1368
 <212> DNA
 <213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2908	
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cagatcatcg aagatgtgcc cacgccgttc cacgtctacg acgagaaggg catccgggag	180
aatgtccgcc gcatcaacaa ggccttcagc tggaacaagg gcttcaagga gtactttgcg	240
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gcctacatca atctggacga cgccaccatg gtggagtttc tggagcgggt ggccgggggtg	480
ccgcaggaga tcttctgccg ctataacccc ggcggaacct tccagctggg cgagagcgaa	540
gagggctttc aggtcatgga caagcccggc gatgccaagt acggtatgac cgagcagcag	600
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gcccacggct ctgctatggg ctacaactac aacggcaagc tgactgcgc cgaggtgctg	1260
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<210> 2909

<211> 1392

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2909

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attaccggcg gtaagcctct gcacggagaa gttactatct ccggcgcaaa aaatgcggct	180
gtgggcattc tgcctgccac cattctggca gcggatgtct gcgtgatcga aaatctgccc	240
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gatgtgcgtg gtgccggtac ggatgttatc aaggtagcgc gtgtggaaaa aatgcacggc	780
tgcacttaca gcatcatccc ggatcagatc gaggccggca gctatatggt ggctgcggct	840
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<210> 2910

<211> 1533

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

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catggcttta agaataccac gctgggtgtt gatatgttct tccgcaaaaa cccggataat	180
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<210> 2911

<211> 1674

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

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ggaaaagatgg ccgtctgcct gtcccagctg tatcatgaat ataagcgggg cgtcaaggct	780
ggctacgcca agttcgagac cttccccatc tggaacattc ccctgaagca cccgggtcaat	840
ttggcctacg aggctgctac cgccgacctg aacgatgtga acatgatcga ccccttccat	900
ctggaagcct acggcgttac caccgtgaac tacaaccgcg acatcgagat cttcccgggtg	960
gtgaatgcga tgttcgagtt gatcgcaggc cagagcccct ataagtcccc cacggacatg	1020
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aaggagatcg tgcgccggtg ctacaagtgc ctgtgcgagc agaagatcac cggcaccgcc	1140
aaggagagcg agcgctacaa gctggagctg ctgatgaatc aggccggact gaccatgggg	1200
gccccgggaag tggaaaagca ggcacacgcc cgcagcgagg ctaccggcgg cgcaccggct	1260
gctgccattg agctgagcga cggcactgtc atcaccggca agaccggccc gctgctgggt	1320
gctaccgcaa gcgccctgat caatgcgctc aagtatctgg cgggcatccc gcaggagacg	1380
gatctgggtca gcgccgctgc catcgagccc atccagaccc tcaagaccaa ctatttgggc	1440
ggcaagaacc cccgtctgca taccgacgag atcctgatcg ccctgtccag ctctgctgcc	1500
tccagcgagc ttgccgcagc agccatgcac cagctgccc aacctcaaggg ctgcgatgtg	1560
cactccaccg ttctgctttc cagcgtggac agcagcacc tgaaccgtct gggcatgtac	1620
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<210> 2912

<211> 1581

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2912

atgcggaagt cctgcttttt tgcttgtctg ccgaagaaaa gttcgcttaa aggatgcagc	60
atttcttcat ataaaaagtc atacttattt tacatcttat ctgcattttg ctataatatt	120
ttcgtttttt tgcaaagcat ccgaaccgca gaaaccttta aaaccttgag gagagtggaa	180
tttttgaagg aagtcaagct tgaagaagcg gcttatcagt ttgaagccaa aatgtccctg	240
cggcaggcca tcccgtggg cttgcagcat gtctgcgcta tgttcgtggg caacctgacc	300

ccgctgctga tcatcactag cgcctgcggc attgcaggcg gcgagtttgc agacctgcag	360
gtcacccctgc tgcagagtgc catgttcgtg gcaggatatcg tcacgctggg gcagctgttc	420
accatcggac ccgtgggcgg cgcagtcct atcatcatgg gtaccagttc cggctttatc	480
ggcgtgttca acagcgttgt tggcacgatg ggcggcgggtg tgctggccta tggcgcgatt	540
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ctgcgcagggt tcttcccgcc ggtggtcacc ggcacgggtg tgctttccat cggcttttcg	660
ctgatctcgg tgggtatcaa ctcttcggc ggcggaaca aggccaagga cttcggctct	720
gtggagaacc tgcttctggc actgttcgtg ctggtggtca tcctgttctt caaacactgg	780
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aaccgtgagc cctctgataa agagctgtcc ggcggcgtca tctgcgatgg cctcggctcc	1140
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gtggccatga ccaagggtgt caaccgtatg gcactggcct ccggtgccgt gttcctgatc	1260
ctctgcggcc tgatcccaa gctgggcgcg ctgatctcta tcatgccga ggccgttctg	1320
ggcggtgctg ccgttatgat gttctcttcc atcgtggtca gcggcatcca gctgatcacc	1380
aaggaaaaga tgactccgcg ccacctgacc atcgtgtccg tggcactggg cgtgggctac	1440
ggcatgggtg ccaacagcgg cattctggca caggctccgc aggccttcca gctgatctgt	1500
ggcgagtccg gcattgttcc ggccgccttt gtggcaattc tgctgaacgt gctgctgccc	1560
aagaacgata tggcagaata a	1581

<210> 2913

<211> 939

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2913

atgcctgaat ttttgcgcga tacacgcagc aaaggagttt ttactatgaa gaagcctgtc	60
tttaccggtg cgggtgttgc catcatcacc ccgatgtacg aggacggaag catcaacttt	120
gacgagttgg gccgcattat cgaggatcag atcgccccgcc acaccgatgc catcatcatc	180
tgcggcacca ccggcgagtg ttctaccatg accgacgagg agcagctggc cgccatcaag	240
ttcaccgtgg atacggtcaa tcaccgcgta ccggtcattg ccggtgccgg ttcgaacgat	300
accgaccacg gctgcgcact ggcagcaaag tctgccgcct gcggtgccga tgccctgctg	360
atggtcaccc cctactacaa caagacctcg caggccggtc tggcggcgca ctttaccgcc	420
atggctgagg ccggcggcat cccggtcatc ctgtacaatg taccctcccg cacgggtctg	480
aacattgcac ccgagactgc tctggagctg agcaagcacc cgctcatcaa cggcatcaag	540
gaggcctccg gcaacatttc tcaggtggcc aaggtggctg cactgtgcgg tgatgcgctg	600
aacatctact ccggtaacga cgatcaggtg gttccccctgc tggcactggg cggcaagggt	660
gtcatcagcg tgggtgtcaa tgttgcgccg gaactggtgc ataactgctg tcaggctttc	720
tttgacagag ataccgcaa ggccctgcgct ttgcagctgg aaatgctgcc gctggaggag	780
gctctgttct gcgaggtgaa cccattccg gtcaagtatg ccatgaacgt gctgggctgg	840
aacgcaggcg aatgccgtct gccgtggta gagcccagcg atgccacaa ggcaaagatc	900
gagcaggctc tgctggctgc aggtctgatc aaggaataa	939

<210> 2914

<211> 2661

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2914

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ggatcatctgc gtctggacag cttccccctg gtaccaaga acgaccccag cctgctgctg	120
atcaacagcg gcatggcccc catgaagaag tggttcctgg cacaggagga gccgccccgc	180
caccgcgtga ctacctgcca gaagtgcac cgacccccgg atatcgagcg cgtgggcatc	240
actgccccgcc acggcacctt ctttgagatg ctgggcaact tctccttcca ggattacttc	300

aaggacgagg tcattccttg ggcttgggag ttcctgacca gcgatgagtg gatggctatc	360
cccaaggacc gtctgcacat ctctgtgtat gaggaggacg acgaggccta cgatatctgg	420
accaagaagg ttggcatcgc cccggaccac atggtgcgtc tgggtaagga ggacaacttc	480
tgggagcacg gctccggccc gtgcggcccc tgctccgaga tctactttga ccgcggtccc	540
gagtacggct gcggcaagcc gacctgcggc gtgggctgcg actgcgaccg ctatatggaa	600
atctggaacc tcgtgttcag ccagttcgat gccgacggca agggtcacta cgagcgtctg	660
gcacgcccc aacattgatac cggcatgggc ttggagcgtc tggcctgtgt gatgcagaac	720
gtgggcaacc tgttcgaggt ggataccgtg cagagtgtgc tgcaccatgt ggagcacatt	780
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cccgagctgc gtgagcatga cgcctatatc aagaagggtca tcggcaccga ggaagcaaac	1080
tttgcccgca ccatcgatgc cggatatgaac atcctgaaca acatgatcga ccgtctggag	1140
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accggttacg acaccctgac cgacaagggc accgttgtgg cgctgagcga tgaagagacc	1440
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aagaccccct tctacgcaga gatgggctgg caggctgccg accacggcgt gctgaacggt	1560
gccgagtgc gcctgcgtgt gctggacgtg aaaaagaccc ccaagggtta ctacgtccac	1620
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aagggtacc gcatggccat tgcccgaac cacaccgcta cccacctgct gcaggctgcc	1740
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accacttcg actttacca cttcagcgcc gtgacccccg aggagctggc acgggtgcag	1860
aagatcgtca atgataagat ctttgactcc atgaacgtca ccgtgcagga gatgccggtg	1920
gaggaagcca agaagctggg cgcaatggct ctgtttggcg aaaagtacgg caaggtggtc	1980
cgcgtgggtg atatcgaggg ctggtctacc gagttctgcg gcggcaccca tgtcaagaac	2040
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ctgcatgatg tggccaacac cctgaaggcc aacaacgtgg cttctctgcc cgccgcgcc	2220
gaggctgtga tggctgagaa caaggccatg agccgcgagc tggacgagat gaaggccaag	2280
atcgccgcct ccaaggtgga cagcctgttc gacaatgccg aggaggcaga cggcgtgaag	2340
atcgccctccg catactttac cgggtactact ggcgacaccc tgcgcggtat gtgcgacagc	2400
atccgcgaca aggccgtgaa ccccggtggg gctgttctgg tgggcaaggc tgaggataag	2460
atcaccatgg ctgttaccgt gaataagctg gcacaggaaa agggcctgaa ggccggtgtg	2520
ctggtcaagg agttgtctgc tattgccggc ggcaagggcg gcggcaagcc ggactttgca	2580
atggccggtc tgaaggacga gaccaagatc gacgaggcac tggcttctgt gagcgccatc	2640
gtcaagaagg ctctgggcta a	2661

<210> 2915

<211> 1479

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2915

ttttttgcct gtgcaaccaa ttgggtcttg catacaacag gcaaaacggg tacaatagaa	60
ttgcagctta ttttgcacat tttaaaaaa gcaaatacac aagctgcaaa tatttttgtg	120
tcagttgcgg cagatggctg ttttgccgtc ccggtccgtt ggagtgagc ggccgacaga	180
ccactttact ggacggtgcg gaaagccgtt tgcccggcag cggacacatt ttattatgat	240
ctgaaggagg tttccatggc caagaatatc atcattggtc agagcggcgg ccctaccgcc	300
gtgatcaact ccagccttgc aggcgtatac aaagctgccc gcagtctggg tgcagacaag	360

gtgtacggca tgaagtacgg catcgagggt ctgctcaagg aagagctgct ggagctcaac	420
gttctgctgg atgaccgcat gagcatcgag ctgctcaagc gtactccgtc cagctatctg	480
ggcagctgcc gcttcaagct gcccgacccg gataccgatg cactccgtt cgtcaagctg	540
ttcacctgt ttgacaagta cgacatctgt gccgtgttct acatcggcgg caacgactcg	600
atggatacca tcgaaaaact gtcccgtac gggcagcagg tgggcagcaa tgtgcggttc	660
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ggtgcggcct gtctggcagg cggcgaggac tgcgaaggcc ccgacctgat cctgctgccg	900
gaagtgccct ttgatcagga caagttcctt gcccgggtgg acgagctgca gcgggtaaag	960
tccaacgtta tcatcgcagc cagcgagggc gtaaagaccg cagacggtac ttacctgtgc	1020
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gcctacgccg ttggcggtgc cgccgccgct gctgcctttg caggcgagag cgcccgcatg	1260
atcgccctca agcgggtctc caactacccg taccagtgc tcaccgagtc tgtggatgtg	1320
cagcaggtgg caaatctgga aaagaagggt cgcgtggaat ggatcactcc ggacgggatg	1380
caggtgaccg aagcttttga ggagtacgcc cgtccgctga ttttgatga ggtgaccccc	1440
gtgtatgtga acggtacccc ccgccacatc cgtctgtga	1479

<210> 2916

<211> 870

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2916

accggccgct cgaaaccgat gctggccggt tctttttgca gtacgggctg cggacgggct	60
gtcttgaccg tcaaaaatct tgatgtcagg agcgaatacg attccatgat cgattttgaa	120
cacgtttcca aagaatataa aaagggtggc cgccttgac tggaggatat caacttccac	180

gtggatgaag gcgagttcgt ctttctgctg ggtcactccg gcgaggcaa atccaccctg	240
ctcaagctga ttctgcggga ggactgcct acctccggca aggtgaccgt gctgggcaag	300
gacgtagcca agctgcgccg ccacaagatc cttacctgc gccgtcagat gggcatcatc	360
tttcaggact tccggctgat ccccagcatg accgtgtacg agaatgtggc ctttgccatg	420
cacgtcctca acgtgccccca caaggagatc cgtccccgcg tggagtacat tctggagctg	480
gtgcatctgg aggataaggc caagtgtac ccggataccc tttccggcgg cgagcagcag	540
cgtgtggctg tggcgcgtgc gctggtgcat aacccaagc tggtcatcgc ggacgagccc	600
accggcaaca ttgaccggga gctgagtctg gaaatgatgc agctgctgga gcgggtgagc	660
aaaatgggca tcacggtgct ggtggtcacc cacgagcacg agctggtgca ccgcttccat	720
cagcgtgtgg ttaccctgag ccatggccgc atcgtctcgg acgtgcccgc agaccccgctg	780
gccgccgccg aggatgatct ttcgctggat gttgccgcct ttgatgcgga cgatgcggcc	840
gctgcaaaga aggaggtggc tgccgtatga	870

<210> 2917

<211> 1425

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2917

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gggaagcctt cagaggatgc ccgcatacgc gggcagatca aaaacgggaa ggtgaatgat	120
atggctgaaa aaatttttgt agtgggcggc ggcgccgcg agcacgcat catcaaggca	180
ctgaaaaaga gccccgactg cggcgagatc tggcgcgcac cgggcaacgg cggcatcagc	240
tatgacgcca agtgcaagaa catcaaggcc accgatgtgg ataccatggg gggctttgca	300
gtggaagaaa agtttgatta cgttgtggtg gcgaggacg acccccttgc actgggcatg	360
gtggacgcac tggcaaagggt gggcatcccc gccttcggcc cggacaaggc cgctgcccgc	420
atcgaggcct ccaagggtgt ctccaaggac ctgatgaaga aatacggcat ccccaccgca	480
aagtacgaga ctttcgatga ccccgcaaag gtcattggatt acatccgcgc cgagggcaag	540

tacccggtgg tcatcaaggc ggacggcctt gcactgggta agggcgtgct catctgcgaa	600
aacgagcagc aggccgccga cggcgtaag gagatcatgc tggacaaaaa gttcggcgca	660
tccggcaacc atgtggtggt ggaggagttc ctcaccgggc cggaggtcag tgtgctgagc	720
tttacggacg gcaaggtggt caagcccatg gtctccagca tggaccataa gcgcgccaac	780
gaccacgaca ccggcctgaa caccggcggc atgggcacca ttgccccaa cccctactac	840
accccgagg tggctgcgga gtgcatggaa aagatcttcc tgcctaccat ccgcgccatg	900
aacgccgagg gctgccccct caagggctgc ctgtacttcg gcctcatgct caccgccgac	960
ggccccaagg tcatcgagta taactgccgc ttcggcgacc ccgaaacgca ggtggtgctg	1020
ccgttgctgg aaagcgacct gctgcacatc atgcagtcct gcaccgacgg cacgctggca	1080
cagcaggaag tcaagtctc cgatggtgct gcggcctgtg tgattctggc ctccggcggc	1140
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gacgaggaga acgtgacggt gtaccactcc ggcactgcca tcaccgagga cggccagctt	1260
gtgaccaacg gcggtcgcgt gctgggcgtt accgccatcg gcccgcgctt gaccaacgcc	1320
ctgagccacg cctatgaagc agccgaaaag atcagctttg aaaagctgca caagcgcagc	1380
gatatcggcc tgcgtgccct gaaagcgctg gcagagaagc agtaa	1425

<210> 2918

<211> 2109

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2918

ttgcagatag aggagaaaaga agaaatggcg aaactggtta tcgtggagtc gcctgcaaag	60
gcgaaaacca tcggcaaata tctgggcgat gactacgagg tcaccgccag catgggccat	120
atccgcgatc tgcccgcatc tcagctgggc attgatgtgg agcatggcta taccgccaa	180
tacatcagca tcaagggcaa ggaaaagctc atcaaggaaac tgaagagcaa ggccaaacac	240
gccgacggcg tgctgctggc gaccgacccg gaccgcgagg gcgaggccat cagctggcat	300
ctggccaata ttctggggct ggacccccat gagcccaacc gtgtcacctt tgacgagatc	360
acaaaaagg gtgtgaagga gggcatggcc caccgccgc ccatcgacga ggatctgttc	420

aacgcccagc aggcgcgccg cgtgctggac cgtctggtgg gctacaagct cagcccgttt	480
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ctgatcgacg accgggaaaa ggagatcgaa aacttcaagc ccgatgaata ctggaacgtg	600
gacgctaccc tgggtgccgg gcacaaaagc tttgtggcac gccttgccac ggacgccaac	660
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ggcgcaagct atgtggtgag cgagctcaag gcgggcaagc gcgcaaagca gcccactccg	780
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cgcaccatgc gcgccccca gacgttgtag gaaggcgtgg atattgccgg acatggcatg	900
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gccgccaagg agtatatcgc cgggtgcttac ggcgaggcgt atatctgccc ctataagcgc	1020
acatggaaga ccaaaagcgc cacggcagcg caggatgccc acgaagccat ccgtccctct	1080
gtgccgtccc tgaccccgga cgagggtggac aagagcatca gcggcgatac cgcaaagctg	1140
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gtgtcggta ccgtcagcgc ggcggtattac cacttcaagg ccagcggcta caccgtgacc	1260
tttgacggct ttaccgccct gtacgaagaa gccaccgacg aaaaggaaaa gaaggaaacg	1320
aaccttcccc cgctggagca gggacagggtg ctcaagctgc gggagctgaa gagcgagcag	1380
aagttcacc agccgcccgc ccgctacact gaagctaccc tcatcaaggc gctggaagaa	1440
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gccttgtca aggataccgg cggcatctgc cccaagtgcg gcaagggacg tctgttgga	1920

cgcaagagct ccaagggacg catctactac ggctgcgagt gctacccgga ctgcatgttt	1980
atgacttggg atatgccggt ggccaccaag tgcgaaaagt gcggcagcac cctgttccgc	2040
aagggcggca agctgtactg cgccaaggag ggctgctggc ttgagatgcc ggtacccaaa	2100
aaggactga	2109

<210> 2919

<211> 1728

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2919

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tacggccgct ggctggctaa caaatggggc atcgaccccg cagccaagac tccggctgtc	120
gtccacgagg atggccggga ctatgtgccc accaatggct ggacgggtgtt tgcccaccag	180
ttcagctcca tcgctgggtgc aggccctgtc accggtgcca ttcaggccgc agctttcggc	240
tggctgccgg tgctgctgtg ggtgctgctg ggcgcatct tcttcggtgc cgttaccgac	300
tttggtgccc tgtatgcttc cgtaagaac gacggcaaga gcatgggtat gctgattgaa	360
aagtacatcg gcaagaccgg ccgcaagctg ttcctgctgt tctgctggct gttctgcggc	420
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ggcgcaatgg ttgaagctgc caagaccaac ggcgctgccg gtatgggtgtc catcatgttc	540
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<210> 2920

<211> 1998

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2920

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<210> 2921

<211> 3693

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2921

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cagctcatca gtcagggtga gcgcccgtg gtgcgctctg cccgtgtcta cctgctggag	360
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<210> 2922

<211> 1548

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2922

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ggcgagggca acttcctgcg tgctttcgtg gactatttct acgatattgc aaacgagaag	180
gccggctata acggcaaggt caagctgggt cagcccatcg gcaacttccc ccagatggca	240
gactggatca acgagcagga gggctgttac accctgtacc tgcgcggcag cgaaaagggc	300
cagaaggtgg acgcaaagcg ggtgatctcc tgcgtgtccg actgcgtgtg cccctacatt	360
gataacaagt gggacgaggt tctggctctg gctcgtctg aggatctgga aactgttgta	420

tccaacacca ctgaggccgg cattgcctac accaagggcg acagccagtt tgatcaggtt	480
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gcacacaagg acgacaccgc tgcgcagctg gtgcacgctg tgctgaccaa caccagatg	1440
tgggatcagg atctgaccaa gatcgagggt ctggaggctg ctgtgctggc agatctggaa	1500
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<210> 2923

<211> 1287

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2923

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aaaaacgcaa ttgtcgggtca gtccggcggc ccagctctg tcatcaatgc cagtctggcg	120
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ggtgtctttg aaagctgcaa gaaccgcggc gcagacatcg tgtacggtat gtgcaacggt	180
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tacgcccgtc cgctgattca ggccgagctg accccgctgt acatcgccgg tctgccgcac	1260
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<210> 2924

<211> 1818

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2924

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gaggatcaga tcctggacaa catggatatc gagcgcgagc gcggcattac catcaaggcg	180
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<210> 2925

<211> 1962

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2925

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gtggtagagg agccccgcct gaacagccac gccgccattg ccggttaaggc actgctgaag	1860
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<210> 2926

<211> 1335

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2926

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ttttgcggca agcatcagga cgaagtggag cgcatgatca ttggccccgg ggtcaatatc	120
tgcagcgagt gcatcggcct gtgccacgat ctgctctctg acaagccgga tcagcccaaa	180
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ctggatatca acatcatgac cccggccgag atcaaggaag gtctggatca gtatgtcatc	300
ggtcaggacg aggcaaagcg tgtgctgtcc gtttcgggtct acaaccacta taagcgtatt	360

ctcagcggca agggcggcga cgtggaactg caaaagtcca acgtgctgct gctgggtccc	420
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gccattgcgg atgctactac ccttaccgag gccggttatg tgggcgagga cgtggagaac	540
attctgctca agctgatcca ggccggcagat tttgatgtgc agaaggcaca gatcggcatc	600
atctacattg atgagatcga caagatcacc cgcaagagcg aaaaccctc catcaccgc	660
gatgtgggcg gcgagggcgt acagcaggca ctgctgaaga tcttggaagg cactgtcagc	720
aacgtgccgc cgcagggcgg ccgcaagcac ccgcagcagg agttcatcca gatcgacacc	780
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gagcgcgcat tgctgcgcaa ggtagagccc cacgatctgg tcaagttcgg cctgatcccg	960
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atcatgtacg aggtgcccag cgatgccacc atcatccgcg tgaccgtgga tgaggacacc	1260
gtggagggcg gcgaggcaca tctggaatac ggtgccgtgc gcaaacgcta taaaaatcag	1320
gccgctctca gctga	1335

<210> 2927

<211> 1290

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2927

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gccaccgatg cccgtgcggt gcccatctac cagactacgt cttatgtgtt ccgcaacagc	120
cagcacgccg ccgaccgctt cggctctggcc gatgcaggca acatctacgg ccgtctgacc	180
aactccacgc aagatgtgtt tgaaaagcgc atcgacgcg tggagggcgg cgtggcagca	240

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atcgtggtgc actctgctac caagttcatc ggcgggccacg gcaccacgct gggcggcatc	660
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tctatcttta cctttaacat caagggcggc cgcgaggagg cctttacctt cattgataac	1080
ctgaagatct tctctctgct ggccaacgta gcggacgtga agagccttgt catccaccgc	1140
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aacaccatcc gcctgtccat cggcaccgag cacattgatg atatccttgc cgatctggaa	1260
gccggcttcg cagccgtccg cggcaagtaa	1290

<210> 2928

<211> 2163

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2928

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aatgagggaa aaaccgatat gaaatacgca agcaacaaca tccgcaatat tctgattgcc	120
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ggccatgccg gcagcggcaa gaccacgctg accgaagcac tggctctattt ttcgggcgct	180
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gccgagcgta tgggcccgggt tgaggacggt accacgattt cggactttga tcccaggagaa	240
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gcaaagcgca aggccagcct gtcggcttcc gttgtgccgg tggagtacga gggcatcaag	300
tacaacctga tcgatgcacc gggctctgttc gactttgaag caggcgagta cgagggcatc	360
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gagaaggcgt tccagctggc ccgcaagaac ggcaaggcca ccatggtgtt cgtgtccaag	480
tgcgatctgg aaaacgccaa ctatttcaag atccttgagg atatgaagat ccgcttcggc	540
tccaccatct gcccctgtgt cgtgcctgca aagctggatg acggcacccc tgtgtacatc	600
aacctgttca gccagaaggc cttcaagtac gagggtggca agcagattca ggtagacctg	660
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accgacgatg agctgatgga aaagtcttc ggcggcgaac cttttaccac cgaggagatc	780
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aacgcccga ccggcgagggt ggaaaagatc actaagcccc tgaccgtcct tggcaagaag	1140
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cagggccgcg gctggttcac caccgagttt gcccgtatg aggttctgcc cgagatgctg	2100
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tga	2163

<210> 2929

<211> 927

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2929

tgccgtaaaa atttgtgcgt tttgctggaa aaatctgtat ttcaatggta taatagccgt	60
aagttccccg atttgtggga aaattggaat ttcgcccgtc ggaagcggcg gcgcgtactg	120
atgatgggga aattacagat ggacagagaa tggacagagc aggatctgcg tacctttgcc	180
gagggcgcac aggctgcgtt tgaaacggta ttgctggacg agctgccaca ggacaccggc	240
tggcaggacg aaggcctgca ggtgagttat agcctgtgca acggccgggt aagctgcgta	300
ctgcgccgca cgggtgcgggc agacggcaag ctgtggcgga tcaccatgtc tgccccgctg	360
gcaggcaacc tgctgccgga ggagcgcgatg agcggccgcg agcgggaact atgccgcgag	420
gacctgaacc acgatTTTct ttccggcgtg tacaaccgcc gctacTTtga gaccgtgatc	480
gccgccgagc tggatcgctg ggcagagcag gggcgcaagg ccgctgtggc gctgatatcg	540
ctggatcacg gcgcacagct gcgggacacc tacggtcagc cggatgatgga tcagctgatc	600
tgctttgtgg caaaccagtg gaaaaagtat ttcgacatcc cgggcagtca gatcgtctgc	660
cgcctgaccg gcaccacctt tgtggtaggc tgtctggact tggacggcgg ccagctggcc	720
gagcagatgc ggaacatcta cgccgaaatg cccacgagt gcatcacctc catgggcatg	780

atgaaacggg tgccctttac cctgagcgtc gcagtggcag ggctggacga gctggacagc	840
gccgccaact gctggcagcg cctgtacgcc atctgtgacg agcggctgcg cggtatccag	900
atctccggcg gcaataagat ctgctag	927

<210> 2930

<211> 3945

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2930

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ccgtatctga tgggtggcac cgtgtatccc ggtgccagcc cggagcgtgt ggagaccgag	180
gtctcggacg tgctgcaaaa cgcgcttacg gtgccgggtg tttcaaagat caccgccacc	240
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gcactgggtgc aggtgtccaa caagctggat caggccaaga gcgacctgcc ggagacggcg	360
ctgacccctt ctgtgataca gtacagcatg aacatgaacg cttttatgac cgtggctgtc	420
agccgcgagg gcagttcggg gtacgacctt tctgatttta tcaagaacac catgactccc	480
tacgtccagc gcaagggcgg cgtgtccagc gtatcctcca gcggccttgt ggagcagctg	540
gtgcaggtgc agctgaatca ggaaaagggtg gacgccatca acgaaaagct gatggagctt	600
atcgacactc agctggaagt ggcgcacaca cagttggagg aggccgaggc caagatcaag	660
gccggccgcg cagaatacga taagcagttc aaaaacttcg gcaataaccgt gtccaacacg	720
gtcatgggca ccctcagctc cgaggtcggc gaagccgtag aagtagtgcg caagcaggcg	780
gaggcgctgc tgcaaagcgt caacaacctg atcgccgtgg tcaaggagcc tgaggtgcag	840
caggcactca tcgagggtgca ggctggtttg cagcgggtca tggacaagtt caacaacacc	900
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aagtataaga tcaacgtcaa gctcaacgag gagctttcct cttccaagat cgacgccgcc	2640

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<210> 2931

<211> 1485

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2931

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cagccgctac gagcaaaacg gagtacgac ccccgatggg tcgaagaaga tgaacaagga	120
gaatctacca tgaaaaactg catttcccg cgttccttcc tgaaggctgc cggatttctg	180
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gagtgggtgga acatgctgca gcgcgtgggc tccggcgagg ccgtcgagac tgccgtcaag	1440

accttcgtgg acaacgcaaa cgcagccgct gccgccgagg cataa 1485

<210> 2932

<211> 2613

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2932

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gctgtggagt accagcaciaa cgcgctggag cccgcccacc tgctgcacgc actggttgcg 120

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ttgcagcagc ttaccgccgt gcgcggcaac cagcgggtga ccaccgataa cccggaggac 480

acctacaacg cgctacagaa gtacggtcag gatctgggtg aacttgcccc caagcagaag 540

ctggaccccc tcattgggtc agatcaggag atccgcaatg tgatccgtat cctgtcccgt 600

aagaccaaaa acaaccctg cctgatcggg gagcccggcg ttggtaaaac cgccatcgcc 660

gagggtctgg cgcagcgcac cgtgctggg gatgtgcccc aaaacctgaa gaaccgcacc 720

gtgttcagct tggacatggg tgctctgggt gccgggtgcaa agtaccgcgg cgagttcgag 780

gaacgcttga agagcgtgct gaacgagggt aagaagagcg agggcaaaat catcctcttc 840

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aatctgctca agcccatgct ggcgcgcggc gagctgcact gcatcggcgc gaccacgctg 960

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accctgatcg ccaaggccat catcaagggc ggttatgccg agggcgatac cctgacgggtg	2580
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<210> 2933

<211> 1368

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2933

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atgatcccgg cggtcgttgc acaggtgggtc aacctgctgt ataacatcgt ggaccgcatt	120
tacatcggac atattaccgg catcggcgcg gcagcgctga ccggcgtggg actgttcacc	180
cccatcctta tgctgctgaa cgcattcgcc atgctgggtg gcgcgggcgg tgcaccccg	240
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tttaccatgc tgctgctctt ctcgggtgggtg ctgaccgtgg cgttctacgc cggggcaccc	360
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cgcactctaca ttctgggctc ggtgtttgtg ctgctgggtg tgggcatgaa ccccttcac	480
accacgcagg gctttgcca gaccagtatg cttaccaccg tcatcgggtg ggtcatcaac	540
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gccaccgtgc tcagtcaggc tgtgggcgcg gtgtggatcc tgcacttcct caccggcaaa	660
aagaccatcc tgcgcctgcg caaggactat atgcgcccgg aaaagaaggc catcctgccg	720
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gtctttctgg cagagccggt cagcgatatt ctggccgcca ccattaccac catcacctt	1320
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<210> 2934

<211> 1320

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2934

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actgcgctgt ttgctgatgg tgcagtgagc gctgcctgcg gctatgctgc aggtcagcag	120
gcttacgccg tttatcagaa tggcgaggct gtcaccgtaa aggatgttga aaagaacatc	180
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ggtgcaaagc tggccgaggg tctggacgtg ctgaccgcca gcgcaaagct gaatgcacag	300
atcgcaaagg tctccgggtgt tgttccgcag gtggccgttg ttctgggtgt ctgcggcggc	360
accagcgctc tgagcgctgc caacgcagac gtctgcatca tggccgaggg cgagagctg	420
ttcttcaccg ctccgtttac ctccgctgcc aagggcgata aggtcgccga cgaggcagc	480
gctgccgctg ccgccaaggc aggtgtagcc tccatcgtgg ctgccgatgc tgcagaggct	540
gctgaaaagg ccgctcacat cgtgggtctg ctgcccgcga acaacctgac tggcccggca	600
attttcgagt tcgagcagcc caccgctgtt ctggctgccg gtgccgagcc cgcaaaggcc	660
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gctgccgata tgagctgtga tgccgctaata gtgcgtgccg gcgttggtggc tgcactggag	1260
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<210> 2935

<211> 1323

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2935

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ttggtggcat tctccgcctt tttctccgca tccgagaccg cattttcttc cctgaatcag	120
atccgcctga aaagccgcgc cgaggacggc gatgcctctg ccgcccgggt gctggcaatg	180
gctgaaaaat acgataagct gctttccacc atcctcatcg gcaacaatat cgtgaacatt	240
gccgcagctt ctatcggcac catcattttc accaagatgc tgggtgcaga gcggggcgct	300
acgggtgtcca ccatggtgct gaccgtgggtg gtgctgatct ttggcgagggt gacccccaaag	360
agccttgcca aggagatgcc ggaaacggta gccaccgcag ttgcgccggc gctcagcctg	420
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cactttgtcc acagcaccga ggaggacacc atcaccgagg gcgagctgat gactatggtc	540
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caggaaaaga cctgccgcct gcccaaggta ggcgaccgct ttacgctggg cagctacgac	1200
ggcgtggtca cccgcaccgc caagcgccgc gtgaccgagg tgcgtctgac cccggcggaa	1260

aagcctgaca ccaaaaagga cgaagaggaa aaaggccact ttggccggat aacctctaaa	1320
taa	1323

<210> 2936
 <211> 1449
 <212> DNA
 <213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2936	
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gcgcacatcc ttttccccca gaacgtctac gaaacggcgc tgcccatcac catctccgat	180
accattgaag cggacggcgt gctgctgttt gacgagacct gcattttccgg cagcggcaat	240
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tataccgatg ccaatcaggc ggtgctgcgc cagcagctga cccagctcac cagccagatc	360
gacctgttgc agcgctccca gaacaccgca gccaccacagc tggacggctt gctcaaggag	420
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gacgaaagca ccgatgccta tttgctggcg cagaacaagc tgtggatcac caccggcgat	540
accgccggct ttgcggatca gatcgcgctg cttgcccagc aggcacagac cgtgcaggca	600
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aaggaggacg gcaccgaggc cgagacgcag ggcgaaaact atattcccgg cgtgtacgtc	1140
aagtacggca acatcgcccc tttctgcaag attgccccgg tggatgccga ccatccgctg	1200

atctcgggaag acgattacat ccttgTTTTg cccaagggaa cggacggTtc tgtcagtcag	1260
gtaaggcttt atgacgaaat aatcgtctcc ggacaaaatt tatatgacgg aaaacttttg	1320
tatttattga catctgctga aaaaaatcag ataatagtaa aagctatttg cattcttttt	1380
gcaaagaacg ccaggcagcc gggcgctgcc cgaatgaaag gagcagataa ttatgtcttt	1440
gctggatag	1449

<210> 2937

<211> 1164

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2937

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gaaaaggggt atccatttat ggccaataga gtatttcaaa gcgtgatcta ccagatgaag	120
gacgcaatca atcgggtggt cggcgttgtg gatgagactg gcgctgtcat ttcctgctcg	180
gagctgaatc tgatcggcga agtgcgcgag ggctatatgg ccgagcgtct gaccgcaggc	240
gaccgctttg tgcgcgacgg ctatacttac cagcagttct ccaacgcca gcataacgat	300
tatgccgtgt tcgtggaggg cgccgacgag actgcagggc agtttgccgg tgtactggcc	360
atcagcctgc agagcatcaa gcagtaccac gacgaaaagt tcgataagtc caactttatc	420
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gatatggaaa agctggctgc cagcattgtg gataccctct ccggcgagca ctacatcaag	720
gccgtggtag gcattggcac cccattgcc aacgtgaagg atctggctac ctcttttaag	780
gaagctcaga tcgccatgga agtgagcaag gtgttcgata ccgaaaagca gatcatccgc	840
tacgataacc tgggcattgc tcgtctgata taccagctgc ctaccaccgt gtgcgagatg	900
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accatccagc gcttctttga gaacaacctg aatgtgtccg agaccagccg cggcctgttt	1020
gtgcaccgca acacgtgggt gtatcgtctg gaaaagatca aaaagctgac cggctctggat	1080
ctgcgtgagt tcgacgacgc tatcgtcttt aaggtagcgc tgatggtaaa gaagtacctg	1140
tccaacaacc cggccaaata ctga	1164

<210> 2938

<211> 1464

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2938

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tgcagcggct cgggtgcacgt tgtggacgag gtggcctacg atgtcatcgc catgtacccg	120
gagcataccg cagacgagat cgttgccgcc atgctggcaa aatacggcag ccgcccggac	180
gtgaccgagg aggatctgcg ccagtgcacg gacgacgtga ccagcctgaa ggaaaacggc	240
aagctgtgga gcccggatgt ctataaggac atggcctttg acttcaagaa ccgcaacacc	300
gtggtaaagg cgctgtgcct gcacgttgcc catagctgca acctgagctg ctcttactgc	360
tttgccctgc agggacgcta ccatggcgac cgcgccctga tgagctttga ggtgggcaag	420
cgcgccatgg acttcctcat cgagaacagc ggcacccgcc gcaatctgga agtggacttc	480
tttggcggcg agccgctgat gaactttgat atggtaaaaa agctgggtggc ctactgccgc	540
gagcaggaga agatccataa caagaacttc cgctttacca tgaccaccaa cgggtgtgctc	600
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gctgttacct cctggggcga tctgtacccc tgccaccagt tcgtgggcga cccaagtac	1140
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gaactggcag ccaagggcat cgagggtgcct attgagctgg gttctacctg caacgcctgc	1440
gctgacggcg aagcctgcga atga	1464

<210> 2939

<211> 1332

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2939

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ctgcagttct ccatcgatgc agaggccttc aagaaggctg ttgccgatgt tttcaaaaaa	120
gagggcaaga agtaccctgt gcagggccttc cgcaagggca aggctcccaa ggctctgac	180
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gcttttgagg ctgccgctaa ggaagccggt gtggagcccg tgggccgtcc tgaggtcagc	300
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gagggtcaagg ttggcagcta caatggtctg accgtggaaa agactgtcca tactgttacc	420
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ggtgttgcat tcgagggcgg caaggctgaa cactacaacc tgactctggg cagcggcagc	600
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aagatcaagc tgcatgaggt caagtacaag gagctgcccc ctctggatga cgagctggca	780
aaggactgct ccgagtacga cactctggac gagttcaagg cttccatccg caagaacaac	840

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gtgcgtgagc tgatcaacct cgaggatctg aagcaggatc tggctcgcac caaggccatc	1260
gacttcatca agagccacgc caatatcgtg gagaagcccg cagaggctga gaaggctgct	1320
gacgctgagt aa	1332

<210> 2940

<211> 1695

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2940

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cagcgttccc gcgtggacga gctgaacgtt ttccccgtgc cggatggcga caccggcacc	120
aacatgggca tgaccgtggg ctctgccgtg cgtgagctgg aggctctgga cgacagctgc	180
accgtgggcg aagctgccaa gactgccgct tctgccatgc tgcgcggtgc gcgcggcaac	240
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tgcacccagt tcctcatcaa taagtacgag ggtgccagcg ccgccaagat gcgcgccttt	780

gcagagtcca acggcgacag tgtggtctgc attgaggatg acgatgttat caacctgcac	840
gttcacaccg ccgaccccgg caagatcctg agcgaggcca tcaagtacgg ctacctgacc	900
aacttcaaga tcgagaatat gcacgagcag ttcctcgccc gccagaagca gggtaagagc	960
cttgaaaagc aggcttctgc cgagaaggct ccctctcagg ccagcgagtt catctatgct	1020
gccgtggacc ccagccgtga ctacggcttt gtggccgttg ccgccggtga gggctctgaag	1080
gctgtgttca ccgatctggc agcagacgct gtgggtgtccg gcggccagac catgaacccc	1140
tccaccgagg acattctggc agccatccag agtgtgcccc ccaagaccgt gttcgtgctg	1200
cccaacaaca agaacatcat tatggctgcc gagcaggcac agaagctggc ggaccgtcag	1260
gtgggtgggtgc tgccccaccg caccgtgccc atgggcatta ccgcactgct gaactttgac	1320
ccctctgtga atgccgagac caacaccatc aacatgatgg ctgctgccga caaggatatcc	1380
accggtctga ttacctacgc cggccgcgac agcgagtacg acggcaagcg catccgcaag	1440
ggcgagatca tggcactgga gaacggcaag atcgtttcca cctccaccga tatcaccaag	1500
gccacctacc gtctggcacg caatatgtgc aagaaggatt ccagctttgt caccatcatc	1560
tctggctgtg acgtgagcga cgaggacgcc gaaaaggtta ccgagatcgt aaaggcaaag	1620
tgccccaacc atgtggaagt aagccacatc cgcggcggcc agcccgttta ctactatatg	1680
atcagcgtgg agtaa	1695

<210> 2941

<211> 1401

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2941

atgccgaacg aacgacgtta ttccaatgaa ctgaatctgg agagcgtggg catcaatctg	60
ccctacaata tgcaggcaga gcagagcgtg ctgggcgcgg tgctgctcaa gcccacacc	120
ctgaccgatc ttgtggagat cctcaagccg gaaatgttct acaccggca gaacggccag	180
atctggaccg agatgtgcg cctgttcacc aacgaccaga ccatcgattt tgtcacctg	240
ctggatgcag tgggtgtccga tgggtgtgttc ccagcgcag acgaggccaa gatctacctg	300

accggtctgg cagaaacggt gcccagtatc tccaacgtaa aggcttatgc ccagatcgtg	360
caggaaaaat atctggtgcg ccagctgatg ggggtagcca aggacatttt gcaggacgcc	420
ggggacgagc cggacgccga ctttctgctg gaaaatgccg agcagcgcat ctacgagatc	480
cgctccggcc gcgattccag caccctgacc ccgctttcgt ccagcatggg ggaaacgctg	540
accaacctgc aaaagatcag cggcccgat gcggataagt acaaggcat ccccaccggt	600
ttccgcctgc tggacaccgt gcttaccggc cttggccgcg gtgatctggg cattctggca	660
gcccgtcccc gtatgggcaa gaccagtttt gcaactgaaca tcgccacccg cgtggccatg	720
cagcaaaagg tgccggtggc catcttcagt ctggaaatga ccaaggagca gctgaccaac	780
cgtatcctct cgtcggaggc cggtatcgac agtcaggcct tccgtaccgg tgcgctgcgc	840
gccgaggact gggagtatct ggcgctggca actgaaaaac tgcacgatgc accgatctat	900
atggacgata cctccggtat caccatcacc gagatgaagg ccaagatccg ccgggtgaat	960
caggaccctg ccgccccaa cgtgggcctg atcgatcatg actatctgca gctgatgacc	1020
accggccagc gcagcgagaa ccgtgtgcag gagatcagct ccatcacccg aaacctgaag	1080
atcatggcta aggagctgaa cgtgccccatc atcgcgctga gccagctgtc ccgtgcagtg	1140
gaaaagcagg gcaacaactc cagccaccgc ccgcagcttt cggacctgcg cgactccggt	1200
tccatcgagc aggacgcaga ctgcgttctg ttcttgtagc gcgactccta ctaccgagc	1260
cagaacccgg atggcgccga ggtggatgcc gataccgccg agtgcatcgt ggcaaagaac	1320
cgtcacggcg agaccagcac cgtgccgctg ggctgggatg gtgcccacac ccgctttatg	1380
gatgtggact tcaaacgctg a	1401

<210> 2942

<211> 810

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2942

atgtctgtaa aaaagcaagg tttttcgtca ggtttgtgtc ttgtgcacag cggcattttt	60
cagtacaata aaaaggcaga gaagaaaaat aagcgctgcg accggaacgg gttgccgcgc	120
tgttttgtat ttgctggcgc agctgcgccc ggtgaaaaaa aggagtgtctg tacaatgatc	180

aacatgggtca agcttcccccac cagcaaaaagt gaactgtttcc tgcgggtggc caagggacat	240
tttgccacca gccacagcca catcaactat tacatcgacg tgaccaccca aaagacccgc	300
ctttccgagg caaaagccgt ggcaaaggag ctggtcagcg cttaccagca cagcaccatc	360
gtggataccg tgctctgctt ggacggcaca caggtcattg gcacctgcct tgccaacgag	420
ctgaccaagg acggctttac caatatgaat gcccacaaga ccatctacat cgtcacccccg	480
gaatacacct ccggcagcca gatcattctg cgggacaatc ttgcccccat ggtcaagggc	540
aagcacgtcc tcattctggc cgcattccatc accaccggct acaccattca ggcagctgtg	600
gaagccgtaa actactacgg cggcatcgtg gccgggcttt cggctatttt tgccaccact	660
cacgagtgcc tcggctaccc ggtcacctcc atcttcgacc ccaccagcct gccggattac	720
gccagcttcg actcccgcga ctgccccctg tgcaaggccg ggcagcacat tgacgcgctg	780
gtgaacagct tcggctactc ggcgctgtaa	810

<210> 2943

<211> 1407

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2943

ccgctgccaa aaagtaacct gaatatgctt aaaaagggcc ggtcagcact gaccggctct	60
tttcagatac acccaaggag gtttattttt atgatcgcat ccgaagtccg tgaaatgctg	120
tccttcatcg acggcaaccc caccgcatac cacaccaccg ccgctgtgcg ggatatcctg	180
ttgaaggcag gctttgccga gctgctggaa agccgcaagt gggcgctgga acccggcaag	240
gactactttg tctgccgcaa cggttccagc atcatcgctt tccgcatggg cgaccagctg	300
gaaaattaca gcttcaacgt tgccgccgcc catacggatt ctccctgctt ccgcatcaag	360
gagaacgccg agatccacat ggggcagaac tacaccaagc tgaacaccga gggctacggc	420
ggcatgatct gcgccacatg gatggatcgt ccgctgtctg tggcgggtcg tgtgctggtg	480
caggagaacg gcgctatcgt atcccgtctg gtggcactgg accgcgacct gttgatgatc	540
cccagcgttg ccatccacat gaaccgcgag gtcaacgata aggcttcctt caacaagcag	600

gtggatatgc tgcctgtgct gggcggcgcc tgcgaggagg gcgcgctgaa aaagctgac	660
gcagaggagc tgaagggtgc cgaggagcag atccttggca gcgacctgtt cctctatgtg	720
cgggaaaagg ccaccgtctg gggctgcaac gaggagttca tctcctgcgg ccgtctggac	780
gaccagcagt gcgtttacgg catcctgaaa ggtctgctga ccgccaagaa cgcccgtcc	840
atcggcgtgg cggccttctt tgataacgag gaagtcggct ccggcaccaa gcagggcgca	900
gcttccacct tcctgtacga tgtgtgcac cgattgccc agagccttgg cggcaacgac	960
gaggacttcc accgtgcggt ggcttccagc tttatggta gcgccgacaa cgcccacgcc	1020
gtgcaccca accacccgga gcacaccgat gtgaacaact gcacctacat gaacaagggc	1080
gtggtcatca agaccacgc aggtcagaag tacaccagcg acggcatgag cgttgccgct	1140
gcccgggagc tggctgcccg cgccggtgtg ccgctgcagt actttgcaaa ccgctccgat	1200
aagggtgggcg gcagcacgct gggcaatctg gcgatggcac aggtgtccat gaactgcgtg	1260
gacatcggcc tgccccagct ggcgatgcac tcctgctacg agaccgccgg cgagaggat	1320
accctctcgc tcatcaagct gatgcaggag ctgtacagca gccactttga agagactgca	1380
ttcgggtaccc tttccatcag caagtaa	1407

<210> 2944

<211> 1455

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2944

agcccgcgcc ttgttgcga gcggcctgca cattgcccgc agaaggaaga gcggcagctg	60
ataacgcat ttttattgta ttttaccct ttttaagaaag gaggagacc catgagcaaa	120
ccgatcgtag cagtgggtggg ccgccccaac gtgggcaaat ccacctgtt caataagctg	180
tgcggccagc gccttgccat tgtggaggat accccgggca ttaccgcga ccgcattttt	240
gccaactgcg agtggaaagg ccacgagttt ttgctggtgg ataccggcg catcgagccc	300
aaggccaccg agggcattct ggcccacatg gcgagcagg cgagatcgc cattgacacc	360
gccgactgca tcatcatggt cacggacgtg cgcaacggcc tgaccgcagc cgacaggat	420
gtggcacata tgctgcgcc cagccataag cccatcattc ttgccgtgaa caagtgcgac	480

aaggtgggcg aggctcccat ggaactgtac gagttctaca acctcggctt tgacgaggtg	540
atgcccattt cttccgtgca tggtcacggt acgggcgatc tgctggatgc cgtgtgcgcc	600
catctggact tcagcgagac cgtggaggag gaggaccgta tccccgttgc catcatcggc	660
cgtcccaacg tgggcaagtc cagcctgacc aaccgcattc tgggcgagaa ccgcatgatc	720
gtggccaacg aggccggcac caccctgat gccatcgaca ccccggtgga caacgcctac	780
ggcaagttca tctttaccga taccgccggt ctgcgcaagc gcagcaacat cagcgatggt	840
ctggagcgct acatggtggt gcgtgcactg gctgctgtgg agcgcagccg cgtggcgctg	900
atccttgtgg atgccactgt tggctttacc gagcaggaca gcaagggtggc tggctacgcc	960
cacgagcagg gcaaggcctg catcatcgtg gtaaacaagt gggatgccgt ggaaggcaag	1020
gagaccaaca ccatggagct gcagcgccgg ggctatgccg agtgcttcag ctttatgggc	1080
tatgcacca ttatcttcat ctctgccag actggctaca acgtgaacaa actgatgcag	1140
ctgatccggg atgtggatgc cgagaacggt gcccgcgtgc ccaccggcgt gctgaacgag	1200
atgctggccc gcgcgaccgc ccggatgcag ccccccagcg acaagggccg ccgcctgaag	1260
atctactacc tgacgcaggc ctccaccctg cccccacgt tcgtggcctt cgtgaacgca	1320
aagcacctgt tccacttcag ctatcagcgg tatctcatca atcagatccg cgaaaacttt	1380
ggtctggagc atacgcccac ccgtctggtc gtgcgggagc gcggctccgg cgagggtgggt	1440
gccaaggacg tataa	1455

<210> 2945

<211> 1635

<212> DNA

<213> Faecalibacterium prausnitzii 1 (SL3/3 - M21/2)

<400> 2945

atggcaaagc agatcaagca gggcgaggac gcccgaagg cactgtgtgc cgttattgat	60
accctggcta acaccgttaa gattaccctc ggccccaagg gccgcaacgt ggtgctgggc	120
aaaaagttcg gcgcaccggt catcaccaac gatggcgtga ccattgcaaa agagatcgag	180
ctgaaggatg agttcgagaa catgggcgca cagttgggtgc gtgaagtcgc aaccaagacc	240

aacgatgccg caggcgatgg caccaccact gctaccgtgc tggcacaggc catggtcaac	300
gagggcatga agaacgttac cgccggcgca aatcccatgg atatccgccg cggcatgagc	360
aaggccgtta ccaccgctgt ggagaccatc aaggcacaca gccagaaggt gaaggacagc	420
aacgatatcg cccgcgtcgg caccatctct gccggcgacc ccgagatcgg ccgtctgatt	480
gccgaggcta tggagaaggt cacctctgac ggcgttatca ccatcgagga gaacaagacc	540
accgcagaga cctacaacga gatcgtggaa ggtatgcagt ttgaccgcgg ctatctgact	600
ccctatatgg tcaccgatac cgacaagatg gtggccgatc tggacaacgc tgctatcctg	660
atcaccgata agaagatcag cgtcattcag gatctggttc ccctgctgga gcaggatgatg	720
cagaacggca tgaagctgct gatcgtggct gaggatatcg agggcgaggc tctgtccacc	780
ctgatcgtca accgtctgcg cggcactctg aatgtcgtag ctgtcaaggc tcccggcttt	840
ggcgaccgcc gcaaggagat gctgcaggat atcgctaccc tgaccggcgg caccgtgatc	900
tcttctgatc tgggctatga gctgaaggac gcaaccgtcc agatgctggg tcatgcccgt	960
caggatgaagg tgaccaagga gaacaccacc atcgtagggcg gcgcaggcga taaggacgcc	1020
attgcagccc gcattgcca gatccgcagc cagatcgagg ccgctaccag cgactttgac	1080
cgcgagaagc tgcaggagcg tctggctaag ttggccggcg gcgtggctgt catcaaggtc	1140
ggtgctgcta ccgaagtcga gatgaaggac aagaagctgc gcattgagga tgactgaac	1200
gctaccaagg cagctgtgca ggagggtgtt gtagccggcg gcggtaccgc tcctatcaat	1260
gcgatccccg ctgtgcgcgc cctgtgcgac acgctggagg gcgacgagcg caccggtgcc	1320
aagatcgtgc tgaaggctct ggaggctcct ctgcgccaga tcgccaagaa cgccggtctg	1380
gagggcagcg tcatcatcga caagatcatc tctgctaaca agcccaacta cggcttcgat	1440
gcccagaacg aggtctttgt cgaggatatg atcgctgcag gcatcgtgga cccgaccaag	1500
gtcaccggtt ccgctctgga gaacgcagct tccgtcgtg agatggtgct gaccaccgag	1560
agccttgttg ctgacctgcc ggaacccccg gctcccgcc cacctgccgg cggtgacatg	1620
ggcggcatgt actaa	1635

<211> 1398

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2946

atgattaaag caatgcaatg ttggatacaa caagcctgta aaaaacgact gtccccgcag	60
gggaaacaca aggaggaacc catggcactt catgttctgg acgaagccaa ccgctgcctc	120
ggctgcaaaa agccgatgtg tcaggagggc tgccccatcc acaccaatat cccggaagtc	180
atccgtctgc tcaaggcaaa ccagatggac gatgcaggcc ggatgctgtt tgaaaacaac	240
cccctgacca ctgtatgcag tctggtgtgc aaccacgaaa agcagtgcga gggtcactgc	300
atccgcaacc ggatgcccag ccacgacccg gtgcactttt ccatcatcga ggactatatc	360
tccaccacct acgccaacaa gatgaccgca ggccctgccc cgaaaaacgg catgaaggcc	420
gctgtgggtg gctccggccc ggcaggcctg accatcgcag tgctgctggc acgctggggc	480
tacgatgtga ccatctttga cggccgggat aagatcggcg gcgtgatgcg ctacggcatc	540
cccaactacc gcctgccgga cagtgtgctg gacgatttcc agtatcgtca tctggaactg	600
aagggcatac aggtgcgccc caataccacc atcggcaaga ccatcaccat cgacgatttg	660
ttccgcgacg gctataagag cgtgttcatc ggcgccggtt tgtggaaagc caacgccatg	720
cacatcaagg gcgagagcct tggcaacgta gcctttggca tcgactatct ggcaaactcc	780
aaggccttcc gtctgggcga tgacgtggcc gtcacggcg tgggcaactc cgctatggac	840
tgcgcccgca ctgccatccg caacggtgcc cgccacgtta cctgctacgc ccgccgggac	900
gaaagctgca tcagcgcttc cgagtacgag gtgagctacg ccaagctgga gggcgtgggc	960
ttccgtttct gcaaggcacc ggtggagatc cgggaaaacg gcctgatctg ccgcgacacc	1020
gttaagggcg aggacggcaa gtttacgcag gtagagggca gcgagacttt ttacccccac	1080
accggcgtca tcgtgtcggt cagtcagggt tctgagagca acctcgtcaa gaccacgacc	1140
ggcatcgaga ccaaccagaa gggctctgctg agcgtcagcg aggacggccg caccacccgc	1200
gagggcgtat ttgccggcgg cgacgccgtc atgggcgccc gcaccgtggt ggaggctgtg	1260
gctgttgcca aaaaggtggc tggcgccatg gacgagtata tgaagagcct gcccgccgac	1320
accgctgccg acccctatgc cgatatcccc gtgttccaga cccctacctc tgacgtgctg	1380

gcaaaacagc agttgtaa

1398

<210> 2947

<211> 999

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2947

ataagggaga gcattatgaa actgggcatt cttggcacgg gtaagatcgt gcaggaattt	60
ttgccatggc ttgtggagca cacgccgttt actgtgcagg cgggtgtgcag caccgccgcg	120
tcggcggcaa aagccgcaga gctgtgtgca caatatcaga tccgcagca cactaccaat	180
tattttgagc ttttgcagt ggtggacgcg gtctacatcg ccgtgcccac cttacagcac	240
gcccgtacg cccgggtggc gctggaggca ggcaagcacg tcattgtgga aaagcccatg	300
gcggtgaccg ccgccgagac cgaggagctg gctgcgctgg cacagcgcaa gcggctgttc	360
ctctttgagg cgatgaccac ccagtaccag cccaactacg ccaaactccg ggagctgctg	420
ccccgggtgg gcacggtgcg catggtacag tgcagcttca gccagtattc cagccggtac	480
gacgcctttt gcgccgggca gaccccgccg gtgttcgacc cgctgtgcgc gggcgggtgca	540
ctgatggatt tgggcgtgta caacgtcagc tacatcgtag gtctgttcgg tgagcccaac	600
aaggcagtat acgccgcaa catggagcgc aatatcgaca ccagcggtgt gctgatgatg	660
gattacagcg gtttcaaggc ggtaagcctt gccgccaagg actgcgcagc ccctgcccgc	720
tgcatcattc agggcacgaa gggctacatt ctgaaaaat ccaccccgaa ctactgcggc	780
ggtgtgacct tccatcccaa cgagggaag gaggagcact acaacctgaa cggggatcgt	840
ccccggcagg cggcagagtt cgaggccttt taccgcgcca tgaccgccgg agaccaggag	900
ctgtgcgccc gcatgctgga taccagcatc gcggtgagcc gggtgctcac ggtagcgcgc	960
cgcagcgccg gggtagcctt cccggcgac agattctga	999

<210> 2948

<211> 1137

<212> DNA

<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2948
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ggggcttgcc ccttgcccgg tgcagacacg gaggatacga acgtgaaaaa gtttagtatt 120
ggtgttcttg gtgcaggcac ctggggcatg gctctggcac ggatgctgac cgtcagcggc 180
aacgatgtac aggtgtggtc ggccattgag gccgagggtg ataacctttc caccacccgg 240
gtgcacccta atctgccggg gatgggtcatc ccgcaggagc tgcgttttac caaaagcata 300
gaggaagtgt gcaccggcaa ggatgtgctg ctgtttgcag tgccgtcgggt gttcgtgcgt 360
gccacggcgg ccaaggcgcg gccctatatc cgctccggcc agatcatcgt ggatgtggca 420
aagggcattg agcccgatac cttatatacc atgaccgaga tccttgccga tgagctgagc 480
cacgagaacg gccccggggc ggtgcgtctg gtggcgctca gcggccccac ccacgccgag 540
gaggtggcgc tggatctgcc caccaccatc gtttccgcca gcccggatct ggaggctgcc 600
gaggtgggtgc aggaggtgtt cagcaacacc tgtatgcgcg tgtacaccaa cactgatatc 660
aagggcgtgg aactgagcgg tgctatgaag aacgttatcg cgctgggtgt cggcatctcc 720
accggccttg gctacggcga taacgcccgc gccgccctga tcacccgcgg cattgccgag 780
attgcccggc tgggtgtggc tatgggctgc aatgtccaga cttttgcggg tctggccggc 840
atcggcgatc tgatcggtac cgccaccagt atgcacagcc gcaacaaccg cgccggtatc 900
ctgatcggca agggtgaaaag cccggagcag gctgtgaagg aggtcggcat ggtagtggag 960
ggcatcaacg ccctgcccgc cgccatggaa ctggccgaga agtaccatgt ggaaatgccc 1020
attgcccaga cggatgaacgc catcgtcaag gagggcatga gcgccagcga cgcgctgcgc 1080
aacctgatgt cccgcgaccg caagagcgag atgccgcagg gctatgagag cgtgtga 1137

<210> 2949
<211> 3573
<212> DNA
<213> *Faecalibacterium prausnitzii* 1 (SL3/3 - M21/2)

<400> 2949
atggaaaaca acgttttcga ttccattaaa atcggccttg cctccccgga gcagatccgc 60
gcttggagct acggcgagggt caaaaagccc gaaaccatca actaccgcac cctgaagccg 120

gagcgtgacg gcctgtactg cgagcgcatt tttggaccta ccaaggactg ggagtgccac	180
tgcggtaagt acaagcgcac ccgttacaag ggcaagggtgt gtgatcgctg cggcgctcgag	240
gtcaccaagg ccaagggtccg ccgtgagcgt atgggtcaca tcgagctggc cgctcctgtg	300
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ccccgcctgc tggaaaagggt gctgtacttt gcaagctata tcgtcaccga tcccggctctg	420
accccgctgg ataaaaagca gctgctgacc gagaagggaat accgcgaaat gtgcgagcgc	480
tacggcgacg agttcgaggc tgccatgggc gccgaggctg tccagaccct gctgaaggag	540
atcgatctgg atcagctgag cgctgagctg accgccgagg tggagaagtc ctccggccag	600
aagcgcgtgc gcatcctcaa gcgtctggag gtcgtggagg ctttccgcat ctccggtaac	660
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gttcagctgg acggcggccg cttcgccacc tccgacctga acgatctgta ccgccgcgtc	780
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cgcaacgaga agcggatgct gcaggaggct gtggacagcc tgatcgacaa cggccgccgc	900
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ggcaagcagg gccgtttccg tcagaacctg ctgggcaagc gtgttgacta ctccggccgt	1020
tccgttatcg tcgtcgcccc tgagctgaag atggatcagt gcggtctgcc caaggagatg	1080
gctctggagc tgttcaagcc ctttgtcatg aaggatctag tggagaaggg cattgccaac	1140
aacatcaagt ccgcccga gatggctgag cgtgcaaagc ccgaagtctg ggacagcctc	1200
gagaccgtta tcaagggtca ccccgctgctg ctgaaccgtg cacctaccct gcaccgtctg	1260
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