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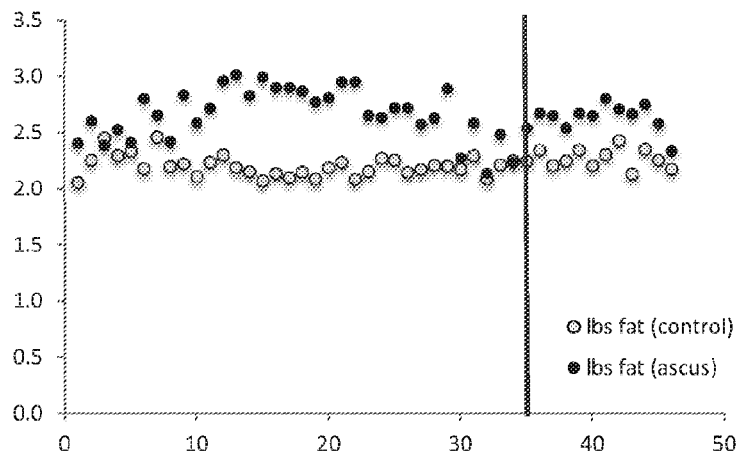
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(54) Title: METHODS FOR IMPROVING MILK PRODUCTION BY ADMINISTRATION OF MICROBIAL CONSORTIA

(57) Abstract: The disclosure relates to isolated microorganisms-including novel strains of the microorganisms-microbial consortia, and compositions comprising the same. Furthermore, the disclosure teaches methods of utilizing the described microorganisms, microbial consortia, and compositions comprising the same, in methods for modulating the production and yield of milk and milk components in ruminants. In particular aspects, the disclosure provides methods of increasing desirable components of milk in ruminants. Furthermore, the disclosure provides for methods of modulating the rumen microbiome.

3A Average Milk Fat Produced over Time



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- *with sequence listing part of description (Rule 5.2(a))*

METHODS FOR IMPROVING MILK PRODUCTION BY ADMINISTRATION OF MICROBIAL CONSORTIA

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of priority to U.S. Provisional Application No. 62/276,142, filed January 7, 2016; U.S. Provisional Application No. 62/276,531, filed January 8, 2016; U.S. Provisional Application No. 62/334,816, filed May 11, 2016; and U.S. Provisional Application No. 62/415, 908, filed November 1, 2016; each of which is herein incorporated by reference in its entirety.

FIELD

[0002] The present disclosure relates to isolated and biologically pure microorganisms that have applications, *inter alia*, in dairy production. The disclosed microorganisms can be utilized in their isolated and biologically pure states, as well as being formulated into compositions. Furthermore, the disclosure provides microbial consortia, containing at least two members of the disclosed microorganisms, as well as methods of utilizing said consortia. Furthermore, the disclosure provides for methods of modulating the rumen microbiome.

STATEMENT REGARDING SEQUENCE LISTING

[0003] The sequence listing associated with this application is provided in text format in lieu of a paper copy, and is hereby incorporated by reference into the specification. The name of the text file containing the sequence listing is ASBI_002_02US_SeqList_ST25.txt. The text file is 893 kb, was created on October 31, 2016, and is being submitted electronically via EFS-Web.

BACKGROUND

[0004] The global population is predicted to increase to over 9 billion people by the year 2050 with a concurrent reduction in the quantity of land, water, and other natural resources available per capita. Projections indicate that the average domestic income will also increase, with the projected rise in the GDP of China and India. The desire for a diet richer in animal-source proteins rises in tandem with increasing income, thus the global livestock sector will be charged

with the challenge of producing more milk using fewer resources. The Food and Agriculture Organization of the United Nations predict that 70% more food will have to be produced, yet the area of arable land available will decrease. It is clear that the food output per unit of resource input will have to increase considerably in order to support the rise in population.

[0005] Milk and milk components from lactating ruminants are predominantly utilized in the preparation of foodstuffs in many different forms. Nevertheless, milk and milk components find numerous alternative applications in non-food areas such as the manufacture of glues, textile fibers, plastic materials, or in the production of ethanol or methane. There have been many strategies to improve milk production and content in ruminants through nutritional modulations, hormone treatments, changes in animal management, and selective breeding; however, the need for more efficient production of milk and milk components per animal is required.

[0006] Identifying compositions and methods for sustainably increasing milk production and modulating milk components of interest while balancing animal health and wellbeing have become imperative to satisfy the needs of every day humans in an expanding population. Increasing the worldwide production of milk and further modulating desirable milk components by scaling up the total number of livestock on dairy farms would not only be economically infeasible for many parts of the world, but would further result in negative environmental consequences.

[0007] Thus, meeting global milk and milk component yield expectations, by simply scaling up current high-input agricultural systems—utilized in most of the developed world—is simply not feasible.

[0008] There is therefore an urgent need in the art for improved methods of increasing milk production and further increasing yield of desirable milk components.

SUMMARY OF THE DISCLOSURE

[0009] In some aspects, the present disclosure provides isolated microbes, including novel strains of microbes, presented in **Table 1** and/or **Table 3**.

[0010] In other aspects, the present disclosure provides isolated whole microbial cultures of the microbes identified in **Table 1** and **Table 3**. These cultures may comprise microbes at various concentrations.

[0011] In some aspects, the disclosure provides for utilizing one or more microbes selected from **Table 1** and/or **Table 3** to increase a phenotypic trait of interest in a ruminant. Furthermore, the disclosure provides for methods of modulating the rumen microbiome by utilizing one or more microbes selected from **Table 1** and/or **Table 3**.

[0012] In some embodiments, a microbial consortium comprises at least two microbial strains selected from **Table 1** and/or **Table 3**. In some embodiments, a microbial consortium comprises at least one microbial strain selected from **Table 1** and/or **Table 3**. In a further embodiment, a microbial consortium comprises at least two microbial strains, wherein each microbe comprise a 16S rRNA sequence encoded by a sequence selected from SEQ ID NOs:1-30 and 2045-2103 or an ITS sequence selected from SEQ ID NOs:31-60 and 2104-2107. In an additional embodiment, a microbial consortium comprises at least one microbial strain, wherein each microbe comprise a 16S rRNA sequence encoded by a sequence selected from SEQ ID NOs:1-30 and 2045-2103, or an ITS sequence selected from SEQ ID NOs:31-60 and 2104-2107.

[0013] In some embodiments, the microbial consortia of the present disclosure comprise at least two microbial strains, wherein each microbe comprises a 16S rRNA sequence encoded by a sequence selected from SEQ ID NOs:1-30, SEQ ID NOs:61-1988, or SEQ ID NOs:2045-2103; or an ITS sequences selected from SEQ ID NOs:31-60, SEQ ID NOs:1989-2044, or SEQ ID NOs:2104-2107.

[0014] In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_1801, Ascusf_45, and Ascusf_24. In a further embodiment, the microbial consortium comprises at least one microbial

strain comprising Ascusb_7, Ascusb_1801, Ascusf_45, and Ascusf_24. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_268, Ascusf_45, and Ascusf_24. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_268, Ascusf_45, and Ascusf_24. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_232, Ascusf_45, and Ascusf_24. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_232, Ascusf_45, and Ascusf_24. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_249. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_249. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_353. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_353. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_23. In a further embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_23. In one embodiment, the microbial consortium comprises at least two microbial strains comprising Ascusb_3138 and Ascusf_15. In a further embodiment, the microbial consortium comprises at least one microbial strain comprising Ascusb_3138 and Ascusf_15. In one embodiment, the at least one microbial strain comprises Ascusb_3138. In another embodiment, the at least one microbial strain comprises Ascusf_15.

[0015] In one embodiment, a composition comprises a microbial consortium of the present disclosure and an acceptable carrier. In a further embodiment, a composition comprises a microbial consortium of the present disclosure and acceptable carrier. In a further embodiment, the microbial consortium is encapsulated. In a further embodiment, the encapsulated microbial consortium comprises a polymer. In a further embodiment, the polymer may be selected from a saccharide polymer, agar polymer, agarose polymer, protein polymer, sugar polymer, and lipid polymer.

[0016] In some embodiments, the acceptable carrier is selected from the group consisting of edible feed grade material, mineral mixture, water, glycol, molasses, and corn oil. In some

embodiments, the at least two microbial strains forming the microbial consortium are present in the composition at 10^2 to 10^{15} cells per gram of said composition.

[0017] In some embodiments, the composition may be mixed with livestock feed.

[0018] In some embodiments, a method of imparting at least one improved trait upon an animal comprises administering the composition to the animal. In further embodiments, the animal is a ruminant, which may further be a cow.

[0019] In some embodiments, the composition is administered at least once per day. In a further embodiment, the composition is administered at least once per month. In a further embodiment, the composition is administered at least once per week. In a further embodiment, the composition is administered at least once per hour.

[0020] In some embodiments, the administration comprises injection of the composition into the rumen. In some embodiments, the composition is administered anally. In further embodiments, anal administration comprises inserting a suppository into the rectum. In some embodiments, the composition is administered orally. In some aspects, the oral administration comprises administering the composition in combination with the animal's feed, water, medicine, or vaccination. In some aspects, the oral administration comprises applying the composition in a gel or viscous solution to a body part of the animal, wherein the animal ingests the composition by licking. In some embodiments, the administration comprises spraying the composition onto the animal, and wherein the animal ingests the composition. In some embodiments, the administration occurs each time the animal is fed. In some embodiments, the oral administration comprises administering the composition in combination with the animal feed.

[0021] In some embodiments, the at least one improved trait is selected from the group consisting of: an increase of fat in milk, an increase of carbohydrates in milk, an increase of protein in milk, an increase of vitamins in milk, an increase of minerals in milk, an increase in milk volume, an improved efficiency in feed utilization and digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an increase in energy corrected milk (ECM) by weight and/or volume, an improved efficiency of nitrogen utilization, and any combination thereof; wherein

said increase or reduction is determined by comparing against an animal not having been administered said composition.

[0022] In some embodiments, the increase in fat in milk is an increase in triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and/or fatty acids. In some embodiments, an increase of carbohydrates is an increase in oligosaccharides, lactose, glucose, and/or sucrose. In some embodiments, an increase in polysaccharide degradation is an increase in the degradation of cellulose, lignin, and/or hemicellulose. In some embodiments, an increase in fatty acid concentration is an increase in acetic acid, propionic acid, and/or butyric acid.

[0023] In some embodiments, the at least two microbial strains or the at least one microbial strain present in a composition, or consortia, of the disclosure exhibit an increased utility that is not exhibited when said strains occur alone or when said strains are present at a naturally occurring concentration. In some embodiments, compositions of the disclosure, comprising at least two microbial strains as taught herein, exhibit a synergistic effect on imparting at least one improved trait in an animal. In some embodiments, the compositions of the disclosure—comprising one or more isolated microbes as taught herein—exhibit markedly different characteristics/properties compared to their closest naturally occurring counterpart. That is, the compositions of the disclosure exhibit markedly different functional and/or structural characteristics/properties, as compared to their closest naturally occurring counterpart. For instance, the microbes of the disclosure are structurally different from a microbe as it naturally exists in a rumen, for at least the following reasons: said microbe can be isolated and purified, such that it is not found in the milieu of the rumen, said microbe can be present at concentrations that do not occur in the rumen, said microbe can be associated with acceptable carriers that do not occur in the rumen, said microbe can be formulated to be shelf-stable and exist outside the rumen environment, and said microbe can be combined with other microbes at concentrations that do not exist in the rumen. Further, the microbes of the disclosure are functionally different from a microbe as it naturally exists in a rumen, for at least the following reasons: said microbe when applied in an isolated and purified form can lead to modulation of the rumen microbiome, increased milk production, and/or improved milk compositional characteristics, said microbe can be formulated to be shelf-stable and able to exist outside the rumen environment, such that the microbe now has a new utility as a supplement capable of administration to a ruminant, wherein

the microbe could not have such a utility in its natural state in the rumen, as the microbe would be unable to survive outside the rumen without the intervention of the hand of man to formulate the microbe into a shelf-stable state and impart this new utility that has the aforementioned functional characteristics not possessed by the microbe in its natural state of existence in the rumen.

[0024] In one embodiment, the disclosure provides for a ruminant feed supplement capable of increasing a desirable phenotypic trait in a ruminant. In a particular embodiment, the ruminant feed supplement comprises: a microbial consortium of the present disclosure at a concentration that does not occur naturally, and an acceptable carrier. In one aspect, the microbial consortium is encapsulated.

[0025] In one embodiment, an isolated microbial strain is selected from any one of the microbial strains in **Table 1** and/or **Table 3**. In one embodiment, an isolated microbial strain is selected from the group consisting of: Ascusb_7 deposited as Bigelow Accession Deposit No. Patent201612011; Ascusb_32 deposited as Bigelow Accession Deposit No. Patent201612007; Ascusb_82 deposited as Bigelow Accession Deposit No. Patent201612012; Ascusb_119 deposited as Bigelow Accession Deposit No. Patent201612009; Ascusb_1801 deposited as Bigelow Accession Deposit No. Patent201612009; Ascusf_206 deposited as Bigelow Accession Deposit No. Patent201612003; Ascusf_23 deposited as Bigelow Accession Deposit No. Patent201612014; Ascusf_24 deposited as Bigelow Accession Deposit No. Patent201612004; Ascusf_45 deposited as Bigelow Accession Deposit No. Patent201612002; Ascusf_208 deposited as Bigelow Accession Deposit No. Patent201612003; Ascusb_3138 deposited as NRRL Accession Deposit No. B-67248; and Ascusf_15 deposited as NRRL Accession Deposit No. Y-67249.

[0026] In one embodiment, an isolated microbial strain of the present disclosure comprises a polynucleotide sequence sharing at least 90% sequence identity with any one of SEQ ID NOs:1-2107. In another embodiment, an isolated microbial strain of the present disclosure comprises a polynucleotide sequence sharing at least 90% sequence identity with any one of SEQ ID NOs:1-60 and 2045-2107.

[0027] In one embodiment, a substantially pure culture of an isolated microbial strain may comprise any one of the strains or microbes of the present disclosure.

[0028] In one embodiment, a method of modulating the microbiome of a ruminant comprises administering a composition of the present disclosure. In a further embodiment, the administration of the composition imparts at least one improved trait upon the ruminant. In one embodiment, the at least one improved trait is selected from the group consisting of: an increase of fat in milk, an increase of carbohydrates in milk, an increase of protein in milk, an increase of vitamins in milk, an increase of minerals in milk, an increase in milk volume, an improved efficiency in feed utilization and digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an increase in energy corrected milk (ECM) by weight and/or volume, and an improved efficiency of nitrogen utilization; wherein said increase or reduction is determined by comparing against an animal not having been administered said composition. In an additional embodiment, the modulation of the microbiome is a decrease in the proportion of the microbial strains present in the microbiome prior to the administration of the composition, wherein the decrease is measured relative to the microbiome of the ruminant prior to the administration of the composition.

[0029] In one embodiment, the method of increasing fat in milk is an increase in triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and/or fatty acids.

[0030] In one embodiment, the method of increasing carbohydrates is an increase in oligosaccharides, lactose, glucose, and/or galactose.

[0031] In one embodiment, the method of increasing polysaccharide degradation is an increase in the degradation of lignin, cellulose, pectin and/or hemicellulose.

[0032] In one embodiment, the method of increasing fatty acid concentration is an increase in acetic acid, propionic acid, and/or butyric acid.

[0033] In one embodiment, the method of modulation of the microbiome is an increase in the proportion of the at least one microbial strain of the microbiome, wherein the increase is measured relative to a ruminant that did not have the at least one microbial strain administered.

[0034] In one embodiment, the method of modulation of the microbiome is a decrease in the proportion of the microbial strains present in the microbiome prior to the administration of the composition, wherein the decrease is measured relative to the microbiome of the ruminant prior to the administration of the composition.

[0035] In one embodiment, a method of increasing resistance of cows to the colonization of pathogenic microbes comprises administering a composition of the present disclosure, resulting in the pathogenic microbes being unable to colonize the gastrointestinal tract of a cow. In another embodiment, a method for treating cows for the presence of at least one pathogenic microbe comprises the administration of a microbial consortium of the present disclosure and an acceptable carrier. In a further embodiment, the administration of the microbial consortium or microbial composition results in the relative abundance of the at least one pathogenic microbe to decrease to less than 5% relative abundance in the gastrointestinal tract. In another embodiment, the administration of the microbial consortium or microbial composition results in the relative abundance of the at least one pathogenic microbe to decrease to less than 1% relative abundance in the gastrointestinal tract. In another embodiment, the administration of the microbial consortium or microbial composition results in the pathogenic microbe being undetectable in the gastrointestinal tract.

[0036] In one embodiment, the microbial compositions and/or consortium comprise bacteria and/or fungi in spore form. In one embodiment, the microbial compositions and/or consortium of the disclosure comprise bacteria and/or fungi in whole cell form. In one embodiment, the microbial compositions and/or consortium of the disclosure comprise bacteria and/or fungi in lysed cell form. In some aspects of formulating microbes according to the disclosure, the microbes are: fermented → filtered → centrifuged → lyophilized or spray dried → and optionally coated (*i.e.* a “fluidized bed step”).

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSE OF PATENT PROCEDURES

[0037] Some microorganisms described in this Application were deposited on April 25, 2016¹, with the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) Culture Collection (NRRL[®]), located at 1815 N. University St., Peoria, IL 61604, USA. Some microorganisms described in this application were deposited with the Bigelow National Center for Marine Algae and Microbiota, located at 60 Bigelow Drive, East Boothbay, Maine 04544, USA.

[0038] The deposits were made under the terms of the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure. The NRRL[®] and/or Bigelow National Center for Marine Algae and Microbiota accession numbers for the aforementioned Budapest Treaty deposits are provided in **Table 3**. The accession numbers and corresponding dates of deposit for the microorganisms described in this Application are separately provided in **Table 25**.

[0039] The strains designated in the below tables have been deposited in the labs of Ascus Biosciences, Inc. since at least December 15, 2015.

[0040] In **Table 1**, the closest predicted hits for taxonomy of the microbes are listed in columns 2, and 5. Column 2 is the top taxonomic hit predicted by BLAST, and column 5 is the top taxonomic hit for genus + species predicted by BLAST. The strains designated in the below table have been deposited in the labs of Ascus Biosciences, Inc. since at least December 15, 2015.

Table 1: Microbes of the present disclosure, including bacteria (1-89) and fungi (90-123).

Predicted Taxa of Isolated Microbes	BLAST Taxonomic Top Hit	Blast % Ident.	Query Cover	BLAST Taxonomic Top Hit w/ Genus + Species	Blast % Identity	Query Cover	Strain Designation	Sequence Identifier for Associated Marker	MIC Score
1. <i>Clostridium</i> IV (Cluster)	<i>Clostridiaceae</i> <i>bacterium</i>	96%	100%	<i>Ruminococcus</i> <i>bronii</i>	91%	82%	Ascusb_5	SEQ ID NO:1	0.85694
2. <i>Ruminococcus</i> (Genus)	<i>Rumen bacterium</i>	93%	84%	<i>Ruminococcus</i> <i>bronii</i>	91%	82%	Ascusb_7	SEQ ID NO:2	0.97384
3. <i>Clostridium</i> IV (Cluster)	<i>Rumen bacterium</i> <i>NK4A214</i>	89%	97%	<i>Intestinimonas</i> <i>butyriciproducens</i>	85%	100%	Ascusb_26	SEQ ID NO:3	0.82051
4. <i>Roseburia</i> (Genus)	<i>Lachno- spiraceae</i> <i>bacterium</i>	89%	100%	<i>Pseudobutyrvibrio</i> <i>ruminis</i>	89%	96%	Ascusb_27	SEQ ID NO:4	0.87214
5. <i>Hydrogenoan-aerobacterium</i> (Genus)	<i>Lachno- spiraceae</i> <i>bacterium</i>	87%	93%	<i>Roseburia</i> <i>inulinivorans</i>	86%	93%	Ascusb_32	SEQ ID NO:5	0.81269
6. <i>Clostridium</i> XIVa (Cluster)	<i>Eubacterium</i> <i>ventriosum</i>	92%	100%	<i>Eubacterium</i> <i>ventriosum</i>	92%	100%	Ascusb_79	SEQ ID NO:6	0.82765
7. <i>Saccharofermentans</i> (Genus)	<i>Rumen bacterium</i>	87%	100%	<i>Faecalibacterium</i> <i>prausnitzii</i>	91%	76%	Ascusb_82	SEQ ID NO:7	0.93391
8. <i>Saccharofermentans</i> (Genus)	<i>Saccharofermentans</i> <i>sp.</i>	100%	99%	<i>Saccharofermentans</i> <i>acetigenes</i>	83%	92%	Ascusb_102	SEQ ID NO:8	0.82247

9. <i>Butyrivibrio</i> (Genus)	<i>Clostridium</i> sp.	87%	100%	<i>Ruminococcus</i> <i>flavefaciens</i>	86%	99%	Ascusb_89	SEQ ID NO:9	0.74361
10. <i>Papillibacter</i> (Genus)	<i>Rumen bacterium</i> <i>NK4A214</i>	91%	99%	<i>Clostridium</i> <i>saccharolyticum</i>	88%	82%	Ascusb_111	SEQ ID NO:10	0.82772
11. <i>Ruminococcus</i> (Genus)	<i>Ruminococcaceae</i>	100%	94%	<i>Clostridium</i> <i>lentocellum</i>	85%	99%	Ascusb_119	SEQ ID NO:11	0.8263
12. <i>Hydrogenoanaero-</i> <i>bacterium</i> (Genus)	<i>Rumen bacterium</i> <i>NK4B29</i>	85%	98%	<i>Ruminococcus</i> <i>flavefaciens</i>	85%	100%	Ascusb_145	SEQ ID NO:12	0.81161
13. <i>Pelotomaculum</i> (Genus)	<i>Faecalibacterium</i> sp.	86%	93%	<i>Faecalibacterium</i> <i>prausnitzii</i>	86%	82%	Ascusb_205	SEQ ID NO:13	0.81461
14. <i>Saccharofermentans</i> (Genus)	<i>Bacterium</i> <i>MA3003</i>	99%	91%	<i>Saccharofermentans</i> <i>aceligenes</i>	90%	79%	Ascusb_232	SEQ ID NO:14	0.81428
15. <i>Lachnospiraceae</i> <i>incertae sedis</i> (Family)	<i>Bacterium</i> <i>VCD3003</i>	95%	93%	<i>Blautia</i> <i>luti</i>	88%	92%	Ascusb_252	SEQ ID NO:15	0.8196
16. <i>Butyrivibrio</i> <i>sensu stricto</i> (Genus)	<i>Ruminococcaceae</i> <i>bacterium</i>	91%	77%	<i>Clostridium</i> <i>lentocellum</i>	83%	99%	Ascusb_268	SEQ ID NO:16	0.74813
17. <i>Lachnospiraceae</i> <i>incertae sedis</i> (Family)	<i>Bacterium</i> <i>YAB2006</i>	96%	92%	<i>Coproccoccus</i> <i>catus</i>	88%	100%	Ascusb_374	SEQ ID NO:17	0.76214
18. <i>Anaeroplasma</i> (Genus)	<i>Anaeroplasma</i> <i>varium</i>	97%	100%	<i>Anaeroplasma</i> <i>varium</i>	97%	100%	Ascusb_411	SEQ ID NO:18	0.76213
19. <i>Clostridium sensu</i> <i>stricto</i> (Genus)	<i>Clostridiales</i> <i>bacterium</i>	100%	93%	<i>Clostridium</i> <i>stercorarium</i>	81%	91%	Ascusb_546	SEQ ID NO:19	0.83869

20.	<i>Butyrivibrio</i> (Genus)	<i>Clostridiales</i> <i>bacterium</i>	88%	91%	<i>Aminiphilus</i> <i>circumscriptus</i>	80%	77%	Ascusb_672	SEQ ID NO:20	0.74829
21.	<i>Butyrivibrio</i> (Genus)	<i>Clostridiales</i> <i>bacterium</i>	89%	89%	<i>Aminiphilus</i> <i>circumscriptus</i>	97%	27%	Ascusb_765	SEQ ID NO:21	0.74111
22.	<i>Rikenellia</i> (Genus)	<i>Bacteroides</i> sp.	93%	64%	<i>Alistipes shahii</i>	93%	64%	Ascusb_812	SEQ ID NO:22	0.73874
23.	<i>Tannerella</i> (Genus)	<i>Alistipes shahii</i>	86%	100%	<i>Alistipes shahii</i>	86%	100%	Ascusb_1295	SEQ ID NO:23	0.8365
24.	<i>Howardella</i> (Genus)	<i>Clostridiales</i> <i>bacterium</i>	85%	100%	<i>Oscillibacter</i> <i>valericigenes</i>	89%	41%	Ascusb_1763	SEQ ID NO:24	0.75083
25.	<i>Prevotella</i> (Genus)	<i>Bacteroidetes</i> <i>bacterium</i>	97%	95%	<i>Odoribacter</i> <i>splanchnicus</i>	77%	86%	Ascusb_1780	SEQ ID NO:25	0.89749
26.	<i>Butyrivibrio</i> (Genus)	<i>Bacteroidetes</i> <i>bacterium</i>	95%	99%	<i>Tannerella forsythia</i>	83%	92%	Ascusb_1801	SEQ ID NO:26	0.89664
27.	<i>Clostridium sensu</i> <i>stricto</i> (Genus)	<i>Bacterium XBB3002</i>	96%	93%	<i>Hydrogeno-</i> <i>anaerobacterium</i> <i>saccharovorans</i>	84%	86%	Ascusb_1833	SEQ ID NO:27	0.73989
28.	<i>Clostridium sensu</i> <i>stricto</i> (Genus)	<i>Clostridium</i> <i>butyricum</i>	98%	100%	<i>Clostridium</i> <i>butyricum</i>	98%	100%	Ascusb_3138	SEQ ID NO:28	0.76524
29.	<i>Saccharofermentans</i> (Genus)	<i>Rumen bacterium</i> <i>NK4A214</i>	87%	99%	<i>Faecalibacterium</i> <i>prausnitzii</i>	90%	76%	Ascusb_6589	SEQ ID NO:29	0.76539
30.	<i>Lachnospiraceae</i>	<i>Roseburia</i>	90%	100%	<i>Roseburia</i>	90%	100%	Ascusb_7921	SEQ ID	0.86201

<i>incertae sedis</i> (Family)	<i>intestinalis</i>			<i>intestinalis</i>				NO:30	
31. <i>Succinivibrio</i> (Genus)	<i>Succinivibrio dextrinosolvens</i>	95%	99%	<i>Succinivibrio dextrinosolvens</i>	95%	99%	Ascusb_11	SEQ ID NO:2045	0.50001
32. <i>Prevotella</i> (Genus)	<i>Bacterium MB2027</i>	100%	93%	<i>Prevotella ruminicola</i>	91%		Ascusb_36	SEQ ID NO:2046	0.55431
33. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	100%	99%	<i>Prevotella ruminicola</i>	100%		Ascusb_67	SEQ ID NO:2047	0.49156
34. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	97%	100%	<i>Prevotella ruminicola</i>	97%	100%	Ascusb_87	SEQ ID NO:2048	0.59635
35. <i>Ruminobacter</i> (Genus)	<i>Ruminobacter sp.</i>	92%	99%	<i>Ruminobacter amylophilus</i>	92%	100%	Ascusb_101	SEQ ID NO:2049	0.75099
36. <i>Symbiophococcus</i> (Genus)	<i>Blautia producta</i>	91%	100%	<i>Blautia producta</i>	91%	100%	Ascusb_104	SEQ ID NO:2050	0.70044
37. <i>Succinivibrio</i> (Genus)	<i>Succinivibrio dextrinosolvens</i>	96%	99%	<i>Succinivibrio dextrinosolvens</i>	96%	99%	Ascusb_125	SEQ ID NO:2051	0.44408
38. <i>Pseudobutyrvibrio</i> (Genus)	<i>Butyrvibrio fibrisolvens</i>	99%	100%	<i>Butyrvibrio fibrisolvens</i>	99%	100%	Ascusb_149	SEQ ID NO:2052	0.50676
39. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	99%	99%	<i>Prevotella ruminicola</i>	99%	99%	Ascusb_159	SEQ ID NO:2053	0.5744
40. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	96%	99%	<i>Prevotella ruminicola</i>	96%	99%	Ascusb_183	SEQ ID NO:2054	0.50204
41. <i>Prevotella</i> (Genus)	<i>Prevotella</i>	99%	100%	<i>Prevotella</i>	99%	100%	Ascusb_187	SEQ ID	0.56688

	<i>ruminicola</i>			<i>ruminicola</i>				NO:2055	
42. <i>Prevotella</i> (Genus)	<i>Bacterium XBB2006</i>	100%	94%	<i>Prevotella albensis</i>	87%	97%	Ascusb_190	SEQ ID NO:2056	0.56183
43. <i>Lachnospiraceae incertae sedis</i> (Family)	<i>Lachnospiraceae bacterium</i>	91%	100%	<i>Roseburia inulinivorans</i>	89%	100%	Ascusb_199	SEQ ID NO:2057	0.62487
44. <i>Syntrophococcus</i> (Genus)	<i>Ruminococcus gnavus</i>	95%	100%	<i>Ruminococcus gnavus</i>	95%	100%	Ascusb_278	SEQ ID NO:2058	0.51235
45. <i>Ruminobacter</i> (Genus)	<i>Ruminobacter sp.</i>	100%	99%	<i>Ruminobacter amylophilus</i>	99%	100%	Ascusb_329	SEQ ID NO:2059	0.4754
46. <i>Butyrivibrio</i> (Genus)	<i>Butyrivibrio sp.</i>	100%	100%	<i>Butyrivibrio hungatei</i>	99%	98%	Ascusb_368	SEQ ID NO:2060	0.60727
47. <i>Clostridium XIVa</i> (Cluster)	<i>Eubacterium oxidoreducens</i>	100%	96%	<i>Eubacterium oxidoreducens</i>	100%	96%	Ascusb_469	SEQ ID NO:2061	0.66345
48. <i>Prevotella</i> (Genus)	<i>Rumen bacterium NK4A111</i>	99%	99%	<i>Prevotella brevis</i>	91%	100%	Ascusb_530	SEQ ID NO:2062	0.44804
49. <i>Prevotella</i> (Genus)	<i>Prevotella sp.</i>	100%	93%	<i>Prevotella copri</i>	100%	93%	Ascusb_728	SEQ ID NO:2063	0.55431
50. <i>Lachnospiraceae incertae sedis</i> (Family)	<i>Eubacterium ruminantium</i>	99%	100%	<i>Eubacterium ruminantium</i>	99%	100%	Ascusb_756	SEQ ID NO:2064	0.72136
51. <i>Roseburia</i> (Genus)	<i>Lachnospiraceae bacterium</i>	89%	93%	<i>[Clostridium] xylanovorans</i>	89%	91%	Ascusb_810	SEQ ID NO:2065	0.65527
52. <i>Lachnospiraceae</i>	<i>Lachnospira</i>	99%	100%	<i>Lachnospira</i>	99%	100%	Ascusb_817	SEQ ID	0.46512

<i>incertae sedis</i> (Family)	<i>pectinoschiza</i>			<i>pectinoschiza</i>				NO:2066	
53. <i>Butyrivibrio</i> (Genus)	<i>Butyrivibrio</i> <i>fibrisolvens</i>	98%	99%	<i>Butyrivibrio</i> <i>fibrisolvens</i>	98%	99%	Ascusb_826	SEQ ID NO:2067	0.65357
54. <i>Pseudobutyrvibrio</i> (Genus)	<i>Pseudobutyrvibrio</i> <i>sp.</i>	100%	95%	<i>Pseudobutyrvibrio</i> <i>ruminis</i>	97%	100%	Ascusb_880	SEQ ID NO:2068	0.52295
55. <i>Turicibacter</i> (Genus)	<i>Sinimarimbacterium</i> <i>flocculans</i>	87%	69%	<i>Sinimarimbacterium</i> <i>flocculans</i>	87%	69%	Ascusb_913	SEQ ID NO:2069	0.55141
56. <i>Lachnospiraceae</i> <i>incertae sedis</i> (Family)	<i>Bacterium</i> FB3002	100%	91%	<i>Butyrivibrio</i> <i>fibrisolvens</i>	90%	100%	Ascusb_974	SEQ ID NO:2070	0.53487
57. <i>Pseudobutyrvibrio</i> (Genus)	<i>Pseudobutyrvibrio</i> <i>ruminis</i>	97%	99%	<i>Pseudobutyrvibrio</i> <i>ruminis</i>	97%	99%	Ascusb_1069	SEQ ID NO:2071	0.55299
58. <i>Anaerolinea</i> (Genus)	<i>Chloroflexi</i> <i>bacterium</i>	88%	99%	<i>Anaerolinea</i> <i>thermophila</i>	90%	57%	Ascusb_1074	SEQ ID NO:2072	0.50893
59. <i>Roseburia</i> (Genus)	<i>Lachnospiraceae</i>	98%	99%	<i>Enbacterium</i> <i>rectale</i>	94%	100%	Ascusb_1293	SEQ ID NO:2073	0.61745
60. <i>Propionibacterium</i> (Genus)	<i>Propionibacterium</i> <i>acnes</i>	100%	100%	<i>Propionibacterium</i> <i>acnes</i>	100%	100%	Ascusb_1367	SEQ ID NO:2074	0.54046
61. <i>Clostridium</i> XIVa (Cluster)	<i>Lachnospiraceae</i> <i>bacterium</i>	88%	100%	<i>Pseudobutyrvibrio</i> <i>ruminis</i>	86%	97%	Ascusb_1632	SEQ ID NO:2075	0.46826
62. <i>Olsenella</i> (Genus)	<i>Coriobacteriaceae</i> <i>bacterium</i>	98%	100%	<i>Olsenella</i> <i>profusa</i>	97%	100%	Ascusb_1674	SEQ ID NO:2076	0.51533
63. <i>Streptococcus</i>	<i>Streptococcus</i>	95%	82%	<i>Streptococcus</i>	95%	82%	Ascusb_1786	SEQ ID	0.48678

(Genus)	<i>dentitrousetti</i>			<i>dentitrousetti</i>				NO:2077	
64. <i>Clostridium_XIVa</i> (Cluster)	<i>Butyrivibrio sp.</i>	99%	96%	<i>Butyrivibrio proteoclasticus</i>	93%	100%	Ascusb_1812	SEQ ID NO:2078	0.64367
65. <i>Clostridium_XIVa</i> (Cluster)	<i>Bacterium DAZ2002</i>	99%	91%	<i>Butyrivibrio mangatei</i>	96%	99%	Ascusb_1850	SEQ ID NO:2079	0.57807
66. <i>Roseburia</i> (Genus)	<i>Lachnospiraceae bacterium</i>	95%	99%	<i>Eubacterium oxidoreducens</i>	89%	100%	Ascusb_1879	SEQ ID NO:2080	0.45014
67. <i>Clostridium_IV</i> (Cluster)	<i>Ruminococcaceae bacterium</i>	87%	99%	<i>Ruminococcus bronii</i>	85%	91%	Ascusb_2090	SEQ ID NO:2081	0.75266
68. <i>Clostridium_XICa</i> (Cluster)	<i>Bacterium MA2020</i>	99%	99%	<i>Clostridium algichrysanolyticum</i>	85%	90%	Ascusb_2124	SEQ ID NO:2082	0.4673
69. <i>Lachnospiraceae incertae sedis</i> (Family)	<i>Bacterium YSB2008</i>	94%	94%	<i>Eubacterium ruminantium</i>	91%	100%	Ascusb_2198	SEQ ID NO:2083	0.55249
70. <i>Erysipelotrichaceae incertae sedis</i> (Family)	<i>Catenisphaera adipataaccumulans</i>	90%	91%	<i>Catenisphaera adipataaccumulans</i>	90%	91%	Ascusb_2511	SEQ ID NO:2084	0.50619
71. <i>Solobacterium</i> (Genus)	<i>Erysipelotrichaceae bacterium</i>	92%	99%	<i>Solobacterium moorei</i>	91%	100%	Ascusb_2530	SEQ ID NO:2085	0.53735
72. <i>Lachnospiraceae incertae sedis</i> (Genus)	<i>Eubacterium ruminantium</i>	95%	100%	<i>Eubacterium ruminantium</i>	95%	100%	Ascusb_2597	SEQ ID NO:2086	0.52028
73. <i>Clostridium_XIVa</i> (Cluster)	<i>Butyrivibrio proteoclasticus</i>	99%	100%	<i>Butyrivibrio proteoclasticus</i>	99%	100%	Ascusb_2624	SEQ ID NO:2087	0.55465
74. <i>Ralstonia</i> (Genus)	<i>Ralstonia sp. 94</i>	100%	99%	<i>Ralstonia insidiosa</i>	99%	100%	Ascusb_2667	SEQ ID	0.52371

								NO:2088	
75. <i>Clostridium_XIVa</i> (Cluster)	<i>Butyrivibrio sp.</i>	97%	94%	<i>Butyrivibrio proteoclasticus</i>	95%	100%	Ascusb_2836	SEQ ID NO:2089	0.43374
76. <i>Eubacterium</i> (Genus)	<i>Eubacteriaceae bacterium</i>	84%	100%	<i>Casidella massiliensis</i>	87%	82%	Ascusb_3003	SEQ ID NO:2090	0.56301
77. <i>Lachnobacterium</i> (Genus)	<i>Rumen bacterium</i>	89%	98%	<i>Eubacterium xylanophilum</i>	90%	91%	Ascusb_3504	SEQ ID NO:2091	0.52856
78. <i>Acholeplasma</i> (Genus)	<i>Acholeplasma brassicae</i>	86%	72%	<i>Acholeplasma brassicae</i>	86%	72%	Ascusb_3881	SEQ ID NO:2092	0.4402
79. <i>Selenomonas</i> (Genus)	<i>Mitsuokella jalaudinii</i>	91%	97%	<i>Mitsuokella jalaudinii</i>	91%	97%	Ascusb_4728	SEQ ID NO:2093	0.4761
80. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	98%	100%	<i>Prevotella ruminicola</i>	98%	100%	Ascusb_4934	SEQ ID NO:2094	0.56204
81. <i>Clostridium_XIVa</i> (Cluster)	<i>Butyrivibrio sp.</i>	99%	99%	<i>Butyrivibrio fibrisolvens</i>	97%	100%	Ascusb_4959	SEQ ID NO:2095	0.42892
82. <i>Succinivibrio</i> (Genus)	<i>Succinivibrio dextrinosolvens</i>	86%	84%	<i>Succinivibrio dextrinosolvens</i>	86%	84%	Ascusb_5525	SEQ ID NO:2096	0.51758
83. <i>Ruminobacter</i> (Genus)	<i>Ruminobacter sp.</i>	100%	99%	<i>Ruminobacter anylophilus</i>	99%	100%	Ascusb_12103	SEQ ID NO:2097	0.52909
84. <i>Sharpea</i> (Genus)	<i>Lachnospiraceae bacterium</i>	97%	100%	<i>Sharpea azabuensis</i>	100%	91%	Ascusb_14245	SEQ ID NO:2098	0.61391
85. <i>Prevotella</i> (Genus)	<i>Prevotella</i>	87%	97%	<i>Prevotella</i>	87%	97%	Ascusb_14945	SEQ ID	0.80101

	<i>ruminicola</i>			<i>ruminicola</i>				NO:2099	
86. <i>Prevotella</i> (Genus)	<i>Prevotella</i> sp. DJF	88%	89%	<i>Prevotella ruminicola</i>	87%	94%	Ascusb_17461	SEQ ID NO:2100	0.44777
87. <i>Prevotella</i> (Genus)	<i>Bacterium</i> MB2027	100%	93%	<i>Prevotella ruminicola</i>	91%	99%	Ascusb_20083	SEQ ID NO:2101	0.52538
88. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	99%	100%	<i>Prevotella ruminicola</i>	99%	100%	Ascusb_20187	SEQ ID NO:2102	0.59156
89. <i>Prevotella</i> (Genus)	<i>Prevotella ruminicola</i>	100%	100%	<i>Prevotella ruminicola</i>	100%	100%	Ascusb_20539	SEQ ID NO:2103	0.4912
90. <i>Piromyces</i> (Genus)	<i>Piromyces</i> sp.	93%	100%	<i>Neocallimastix frontalis</i>	84%	100%	Ascusf_11	SEQ ID NO:31	0.81719
91. <i>Candida xylopoae</i> (Genus + Species)	<i>Pichia kudriavzevii</i>	100%	100%	<i>Pichia kudriavzevii</i>	100%	100%	Ascusf_15	SEQ ID NO:32	0.76088
92. <i>Orpinomyces</i> (Genus)	<i>Orpinomyces</i> sp.	100%	100%	<i>Neocallimastix frontalis</i>	86%	100%	Ascusf_22	SEQ ID NO:33	0.76806
93. <i>Orpinomyces</i> (Genus)	<i>Neocallimastix frontalis</i>	86%	80%	<i>Neocallimastix frontalis</i>	86%	80%	Ascusf_23	SEQ ID NO:34	0.85707
94. <i>Orpinomyces</i> (Genus)	<i>Orpinomyces</i> sp.	95%	100%	<i>Neocallimastix frontalis</i>	86%	100%	Ascusf_24	SEQ ID NO:35	0.85292
95. <i>Candida apicol</i> (Genus + Species)	<i>Candida apicola</i>	100%	100%	<i>Candida apicola</i>	100%	100%	Ascusf_25	SEQ ID NO:36	0.70561
96. <i>Candida rugosa</i>	<i>Candida</i>	100%	100%	<i>Candida</i>	100%	100%	Ascusf_38	SEQ ID	0.78246

(Genus + Species)	<i>akabanensis</i>			<i>akabanensis</i>				NO:37	
97. <i>Neocallimastix</i> (Genus)	<i>Neocallimastix sp.</i>	99%	100%	<i>Neocallimastix frontalis</i>	99%	100%	Ascusf_45	SEQ ID NO:38	0.86185
98. <i>Orpinomyces</i> (Genus)	<i>Orpinomyces sp.</i>	99%	100%	<i>Orpinomyces joyonii</i>	96%	96%	Ascusf_60	SEQ ID NO:39	0.72985
99. <i>Orpinomyces</i> (Genus)	<i>Neocallimastix frontalis</i>	86%	78%	<i>Neocallimastix frontalis</i>	86%	78%	Ascusf_73	SEQ ID NO:40	0.76064
100. <i>Neocallimastix</i> (Genus)	<i>Neocallimastix sp.</i>	98%	100%	<i>Neocallimastix frontalis</i>	93%	100%	Ascusf_77	SEQ ID NO:41	0.83475
101. <i>Neocallimastix</i> (Genus)	<i>Neocallimastix frontalis</i>	97%	100%	<i>Neocallimastix frontalis</i>	97%	100%	Ascusf_94	SEQ ID NO:42	0.77644
102. <i>Ascomycota</i> (Genus)	<i>Basidiomycota sp.</i>	85%	98%	<i>Sugiyamaella lignohabitans</i>	97%	26%	Ascusf_95	SEQ ID NO:43	0.7089
103. <i>Piromyces</i> (Genus)	<i>Caecomycetes sp.</i>	94%	100%	<i>Cyllamyces aberensis</i>	86%	89%	Ascusf_108	SEQ ID NO:44	0.68405
104. <i>Orpinomyces</i> (Genus)	<i>Orpinomyces sp.</i>	95%	100%	<i>Orpinomyces joyonii</i>	87%	96%	Ascusf_119	SEQ ID NO:45	0.80055
105. <i>Cyllamyces</i> (Genus)	<i>Caecomycetes sp.</i>	90%	100%	<i>Caecomycetes communis</i>	90%	83%	Ascusf_127	SEQ ID NO:46	0.66812
106. <i>Piromyces</i> (Genus)	<i>Caecomycetes sp.</i>	91%	100%	<i>Caecomycetes communis</i>	92%	83%	Ascusf_136	SEQ ID NO:47	0.73201
107. <i>Cyllamyces</i> (Genus)	<i>Cyllamyces sp.</i>	97%	100%	<i>Cyllamyces</i>	94%	89%	Ascusf_193	SEQ ID	0.7586

				<i>aberensis</i>				NO:48	
108. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	92%	100%	<i>Neocallimastix frontalis</i>	84%	100%	Ascusf_228	SEQ ID NO:49	0.83403
109. <i>Piromyces</i> (Genus)	<i>Caecomyces sp.</i>	94%	100%	<i>Cyltanyces aberensis</i>	86%	89%	Ascusf_249	SEQ ID NO:50	0.78679
110. <i>Neocallimastix</i> (Genus)	<i>Neocallimastix sp.</i>	98%	100%	<i>Neocallimastix frontalis</i>	92%	100%	Ascusf_307	SEQ ID NO:51	0.77859
111. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	94%	100%	<i>Neocallimastix frontalis</i>	83%	100%	Ascusf_315	SEQ ID NO:52	0.81028
112. <i>Neocallimastix</i> (Genus)	<i>Neocallimastix sp.</i>	100%	98%	<i>Neocallimastix frontalis</i>	100%	90%	Ascusf_334	SEQ ID NO:53	0.76456
113. Saccharomycetales (Order)	<i>Candida ethanolica</i>	100%	100%	<i>Candida ethanolica</i>	100%	100%	Ascusf_353	SEQ ID NO:54	0.82628
114. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	91%	100%	<i>Neocallimastix frontalis</i>	83%	100%	Ascusf_448	SEQ ID NO:55	0.70021
115. <i>Orpinomyces</i> (Genus)	<i>Neocallimastix sp.</i>	88%	91%	<i>Neocallimastix frontalis</i>	96%	88%	Ascusf_786	SEQ ID NO:56	0.63201
116. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	91%	100%	<i>Neocallimastix frontalis</i>	83%	100%	Ascusf_836	SEQ ID NO:57	0.65492
117. <i>Phyllosticta capitalensis</i> (Genus + Species)	<i>Tremellales sp.</i>	96%	74%	<i>Tremella giraffa</i>	83%	96%	Ascusf_923	SEQ ID NO:58	0.76115

118. <i>Orpinomyces</i> (Genus)	<i>Neocallimastix frontalis</i>	87%	77%	<i>Neocallimastix frontalis</i>	87%	77%	Ascusf_1020	SEQ ID NO:59	0.68043
119. <i>Orpinomyces</i> (Genus)	<i>Neocallimastix frontalis</i>	85%	80%	<i>Neocallimastix frontalis</i>	85%	80%	Ascusf_1103	SEQ ID NO:60	0.73004
120. <i>Orpinomyces</i> (Genus)	<i>Fungal sp. Tianzhu-Yak6</i>	99%	100%	<i>Orpinomyces jeyonii</i>	94%	96%	Ascusf_81	SEQ ID NO:2104	0.44471
121. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	99%	100%	<i>Neocallimastix frontalis</i>	84%	100%	Ascusf_206	SEQ ID NO:2105	0.49752
122. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	96%	100%	<i>Neocallimastix frontalis</i>	82%	100%	Ascusf_208	SEQ ID NO:2106	0.4176
123. <i>Piromyces</i> (Genus)	<i>Piromyces sp.</i>	99%	100%	<i>Neocallimastix frontalis</i>	82%	100%	Ascusf_1012	SEQ ID NO:2107	0.55922

Table 2: Microbial Deposits Corresponding to the Microbes of Table 1

Predicted Taxa of Isolated Microbes	Strain Designation	Sequence Identifier for Associated Marker	Deposit #	Predicted Taxa of Isolated Microbes	Strain Designation	Sequence Identifier for Associated Marker	Deposit #
<i>Clostridium IV</i> (Cluster)	Ascusb_5	SEQ ID NO:1	PATENT201612001, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	<i>Streptococcus</i> (Genus)	Ascusb_1786	SEQ ID NO:2077	PATENT201612011, PATENT201612012, PATENT201612013
<i>Ruminococcus</i> (Genus)	Ascusb_7	SEQ ID NO:2	PATENT201612005, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012, PATENT201612013	<i>Clostridium_XIVa</i> (Cluster)	Ascusb_1812	SEQ ID NO:2078	PATENT201612011, PATENT201612012
<i>Clostridium IV</i> (Cluster)	Ascusb_26	SEQ ID NO:3	PATENT201612005, PATENT201612009,	<i>Clostridium_XIVa</i> (Cluster)	Ascusb_1850	SEQ ID NO:2079	PATENT201612015

			PATENT201612011, PATENT201612012				
<i>Roseburia</i> (Genus)	Ascusb_27	SEQ ID NO:4	PATENT201612009	<i>Roseburia</i> (Genus)	Ascusb_1879	SEQ ID NO:2080	
<i>Hydrogenoc- aerobacterium</i> (Genus)	Ascusb_32	SEQ ID NO:5	PATENT201612006, PATENT201612009, PATENT201612012	<i>Clostridium_IV</i> (Cluster)	Ascusb_2090	SEQ ID NO:2081	PATENT201612007, PATENT201612009
<i>Clostridium XIVa</i> (Cluster)	Ascusb_79	SEQ ID NO:6	PATENT201612011, PATENT201612012	<i>Clostridium_XICa</i> (Cluster)	Ascusb_2124	SEQ ID NO:2082	PATENT201612012
<i>Saccharofermentans</i> (Genus)	Ascusb_82	SEQ ID NO:7	PATENT201612005, PATENT201612006, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612012	<i>Lachnospiracea incertae sedis</i> (Family)	Ascusb_2198	SEQ ID NO:2083	PATENT201612012
<i>Saccharofermentans</i> (Genus)	Ascusb_102	SEQ ID NO:8	PATENT201612005, PATENT201612007, PATENT201612010, PATENT201612011, PATENT201612012	<i>Erysipelotrichaceae incertae sedis</i> (Family)	Ascusb_2511	SEQ ID NO:2084	PATENT201612001, PATENT201612007, PATENT201612009
<i>Butyricoccus</i> (Genus)	Ascusb_89	SEQ ID NO:9	PATENT201612011, PATENT201612012	<i>Solobacterium</i> (Genus)	Ascusb_2530	SEQ ID NO:2085	PATENT201612011, PATENT201612012

<i>Papillibacter</i> (Genus)	Ascusb_111	SEQ ID NO:10	PATENT201612005, PATENT201612007, PATENT201612012	<i>Lachnospiraceae incertae sedis</i> (Genus)	Ascusb_2597	SEQ ID NO:2086	PATENT201612013
<i>Ruminococcus</i> (Genus)	Ascusb_119	SEQ ID NO:11	PATENT201612011, PATENT201612012	<i>Clostridium_XIVa</i> (Cluster)	Ascusb_2624	SEQ ID NO:2087	PATENT201612009, PATENT201612011, PATENT201612012
<i>Hydrogenoanaero- bacterium</i> (Genus)	Ascusb_145	SEQ ID NO:12	PATENT201612011, PATENT201612012	<i>Ralstonia</i> (Genus)	Ascusb_2667	SEQ ID NO:2088	PATENT201612013
<i>Pelotomaculum</i> (Genus)	Ascusb_205	SEQ ID NO:13	PATENT201612005, PATENT201612006, PATENT201612011, PATENT201612012	<i>Clostridium_XIVa</i> (Cluster)	Ascusb_2836	SEQ ID NO:2089	PATENT201612013
<i>Saccharofermentans</i> (Genus)	Ascusb_232	SEQ ID NO:14	PATENT201612010, PATENT201612011, PATENT201612012	<i>Eubacterium</i> (Genus)	Ascusb_3003	SEQ ID NO:2090	PATENT201612009
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_252	SEQ ID NO:15		<i>Lachnobacterium</i> (Genus)	Ascusb_3504	SEQ ID NO:2091	PATENT201612011, PATENT201612012
<i>Butyricococcus sensu stricto</i> (Genus)	Ascusb_268	SEQ ID NO:16	PATENT201612007, PATENT201612011, PATENT201612012	<i>Acholeplasma</i> (Genus)	Ascusb_3881	SEQ ID NO:2092	PATENT201612007
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_374	SEQ ID NO:17	PATENT201612007, PATENT201612009,	<i>Selenomonas</i> (Genus)	Ascusb_4728	SEQ ID NO:2093	

			PATENT201612010, PATENT201612011 PATENT201612012				
<i>Anaeroplasma</i> (Genus)	Ascusb_411	SEQ ID NO:18	PATENT201612007, PATENT201612011, PATENT201612012	<i>Prevotella</i> (Genus)	Ascusb_4934	SEQ ID NO:2094	
<i>Clostridium sensu stricto</i> (Genus)	Ascusb_546	SEQ ID NO:19	PATENT201612013	<i>Clostridium_XIVa</i> (Cluster)	Ascusb_4959	SEQ ID NO:2095	
<i>Butyricoccus</i> (Genus)	Ascusb_672	SEQ ID NO:20		<i>Succinivibrio</i> (Genus)	Ascusb_5525	SEQ ID NO:2096	
<i>Butyricoccus</i> (Genus)	Ascusb_765	SEQ ID NO:21	PATENT201612013	<i>Ruminobacter</i> (Genus)	Ascusb_12103	SEQ ID NO:2097	PATENT201612001
<i>Rikenella</i> (Genus)	Ascusb_812	SEQ ID NO:22	PATENT201612005, PATENT201612006, PATENT201612011, PATENT201612012	<i>Sharpea</i> (Genus)	Ascusb_14245	SEQ ID NO:2098	PATENT201612001, PATENT201612008, PATENT201612009, PATENT201612011, PATENT201612012, PATENT201612013
<i>Tannerella</i> (Genus)	Ascusb_1295	SEQ ID NO:23	PATENT201612007, PATENT201612009, PATENT201612011, PATENT201612012	<i>Prevotella</i> (Genus)	Ascusb_14945	SEQ ID NO:2099	

<i>Howardella</i> (Genus)	Ascusb_1763	SEQ ID NO:24	PATENT201612011, PATENT201612012	<i>Prevotella</i> (Genus)	Ascusb_17461	SEQ ID NO:2100	
<i>Prevotella</i> (Genus)	Ascusb_1780	SEQ ID NO:25	PATENT201612013	<i>Prevotella</i> (Genus)	Ascusb_20083	SEQ ID NO:2101	PATENT201612006
<i>Butyrivimonas</i> (Genus)	Ascusb_1801	SEQ ID NO:26	PATENT201612005	<i>Prevotella</i> (Genus)	Ascusb_20187	SEQ ID NO:2102	PATENT201612009, PATENT201612011, PATENT201612012
<i>Clostridium sensu stricto</i> (Genus)	Ascusb_1833	SEQ ID NO:27	PATENT201612006, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	<i>Prevotella</i> (Genus)	Ascusb_20539	SEQ ID NO:2103	
<i>Clostridium sensu stricto</i> (Genus)	Ascusb_3138	SEQ ID NO:28	PATENT201612005, PATENT201612006, PATENT201612008, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012, PATENT201612013, NRRL B-67248	<i>Pitomyces</i> (Genus)	Ascuf_11	SEQ ID NO:31	

<i>Saccharofermentans</i> (Genus)	Ascusb_6589	SEQ ID NO:29	PATENT201612005	<i>Candida xylopycae</i> (Genus + Species)	Ascusf_15	SEQ ID NO:32	NRRL Y-67249, PATENT201612014
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_7921	SEQ ID NO:30		<i>Orpinomyces</i> (Genus)	Ascusf_22	SEQ ID NO:33	PATENT201612002, PATENT201612004
<i>Succinivibrio</i> (Genus)	Ascusb_11	SEQ ID NO:2045	PATENT201612001, PATENT201612008, PATENT201612009, PATENT201612011, PATENT201612012	<i>Orpinomyces</i> (Genus)	Ascusf_23	SEQ ID NO:34	PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_36	SEQ ID NO:2046	PATENT201612013	<i>Orpinomyces</i> (Genus)	Ascusf_24	SEQ ID NO:35	PATENT201612002, PATENT201612004
<i>Prevotella</i> (Genus)	Ascusb_67	SEQ ID NO:2047		<i>Candida apicol</i> (Genus + Species)	Ascusf_25	SEQ ID NO:36	PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_87	SEQ ID NO:2048		<i>Candida rugosa</i> (Genus + Species)	Ascusf_38	SEQ ID NO:37	PATENT201612004
<i>Ruminobacter</i> (Genus)	Ascusb_101	SEQ ID NO:2049	PATENT201612001, PATENT201612005, PATENT201612011, PATENT201612012	<i>Neocallimastix</i> (Genus)	Ascusf_45	SEQ ID NO:38	PATENT201612002, PATENT201612014
<i>Syntrophococcus</i> (Genus)	Ascusb_104	SEQ ID NO:2050	PATENT201612005, PATENT201612006	<i>Orpinomyces</i> (Genus)	Ascusf_60	SEQ ID NO:39	
<i>Succinivibrio</i> (Genus)	Ascusb_125	SEQ ID	PATENT201612001,	<i>Orpinomyces</i>	Ascusf_73	SEQ ID	

		NO:2051	PATENT201612005, PATENT201612006, PATENT201612008, PATENT201612009, PATENT201612011, PATENT201612012	(Genus)		NO:40	
<i>Pseudobutyrvibrio</i> (Genus)	Ascusb_149	SEQ ID NO:2052	PATENT201612001, PATENT201612008, PATENT201612009, PATENT201612011, PATENT201612012, PATENT201612013	<i>Neocallimastix</i> (Genus)	Ascusf_77	SEQ ID NO:41	PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_159	SEQ ID NO:2053	PATENT201612005, PATENT201612006, PATENT201612007, PATENT201612008, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	<i>Neocallimastix</i> (Genus)	Ascusf_94	SEQ ID NO:42	PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_183	SEQ ID NO:2054	PATENT201612008, PATENT201612009	<i>Ascomycota</i> (Genus)	Ascusf_95	SEQ ID NO:43	

<i>Prevotella</i> (Genus)	Ascusb_187	SEQ ID NO:2055	PATENT201612007, PATENT201612008, PATENT201612010, PATENT201612011, PATENT201612012	<i>Piromyces</i> (Genus)	Ascusf_108	SEQ ID NO:44	PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_190	SEQ ID NO:2056	PATENT201612005, PATENT201612006, PATENT201612007, PATENT201612012	<i>Orpinomyces</i> (Genus)	Ascusf_119	SEQ ID NO:45	
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_199	SEQ ID NO:2057	PATENT201612011, PATENT201612012	<i>Cyllamyces</i> (Genus)	Ascusf_127	SEQ ID NO:46	
<i>Syntrophococcus</i> (Genus)	Ascusb_278	SEQ ID NO:2058	PATENT201612008	<i>Piromyces</i> (Genus)	Ascusf_136	SEQ ID NO:47	
<i>Ruminobacter</i> (Genus)	Ascusb_329	SEQ ID NO:2059	PATENT201612010	<i>Cyllamyces</i> (Genus)	Ascusf_193	SEQ ID NO:48	
<i>Butyrivibrio</i> (Genus)	Ascusb_368	SEQ ID NO:2060	PATENT201612011, PATENT201612012	<i>Piromyces</i> (Genus)	Ascusf_228	SEQ ID NO:49	
<i>Clostridium XIVa</i> (Cluster)	Ascusb_469	SEQ ID NO:2061		<i>Piromyces</i> (Genus)	Ascusf_249	SEQ ID NO:50	
<i>Prevotella</i> (Genus)	Ascusb_530	SEQ ID NO:2062		<i>Neocallimastix</i> (Genus)	Ascusf_307	SEQ ID NO:51	PATENT201612002, PATENT201612014
<i>Prevotella</i> (Genus)	Ascusb_728	SEQ ID	PATENT201612008,	<i>Piromyces</i> (Genus)	Ascusf_315	SEQ ID	

		NO:2063	PATENT201612009, PATENT201612011, PATENT201612012, PATENT201612013			NO:52	
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_756	SEQ ID NO:2064		<i>Neocalimastix</i> (Genus)	Ascusf_334	SEQ ID NO:53	PATENT201612014
<i>Roseburia</i> (Genus)	Ascusb_810	SEQ ID NO:2065	PATENT201612011, PATENT201612012	Saccharomycetales (Order)	Ascusf_353	SEQ ID NO:54	PATENT201612014
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_817	SEQ ID NO:2066	PATENT201612001, PATENT201612006, PATENT201612009, PATENT201612012, PATENT201612013, NRRL B-67349	<i>Piromyces</i> (Genus)	Ascusf_448	SEQ ID NO:55	
<i>Butyrivibrio</i> (Genus)	Ascusb_826	SEQ ID NO:2067	PATENT201612011, PATENT201612012, PATENT201612013, NRRL B-67347	<i>Orpinomyces</i> (Genus)	Ascusf_786	SEQ ID NO:56	
<i>Pseudobutyrvibrio</i> (Genus)	Ascusb_880	SEQ ID NO:2068	PATENT201612008, PATENT201612009	<i>Piromyces</i> (Genus)	Ascusf_836	SEQ ID NO:57	
<i>Turicibacter</i> (Genus)	Ascusb_913	SEQ ID NO:2069	PATENT201612007, PATENT201612008,	<i>Phyllosticta capitalensis</i> (Genus)	Ascusf_923	SEQ ID NO:58	

			PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	+ Species)			
<i>Lachnospiraceae incertae sedis</i> (Family)	Ascusb_974	SEQ ID NO:2070	PATENT201612013	<i>Orpinomyces</i> (Genus)	Ascusf_1020	SEQ ID NO:59	
<i>Pseudobutyrvibrio</i> (Genus)	Ascusb_1069	SEQ ID NO:2071	PATENT201612011, PATENT201612012, NRRL B-67348	<i>Orpinomyces</i> (Genus)	Ascusf_1103	SEQ ID NO:60	
<i>Anaerolinea</i> (Genus)	Ascusb_1074	SEQ ID NO:2072	PATENT201612005, PATENT201612007, PATENT201612008, PATENT201612012	<i>Orpinomyces</i> (Genus)	Ascusf_81	SEQ ID NO:2104	
<i>Roseburia</i> (Genus)	Ascusb_1293	SEQ ID NO:2073		<i>Piromyces</i> (Genus)	Ascusf_206	SEQ ID NO:2105	PATENT201612003
<i>Propionibacterium</i> (Genus)	Ascusb_1367	SEQ ID NO:2074	PATENT201612007, PATENT201612009, PATENT201612012	<i>Piromyces</i> (Genus)	Ascusf_208	SEQ ID NO:2106	PATENT201612003
<i>Clostridium_XIVa</i> (Cluster)	Ascusb_1632	SEQ ID NO:2075	PATENT201612011, PATENT201612012	<i>Piromyces</i> (Genus)	Ascusf_1012	SEQ ID NO:2107	PATENT201612003
<i>Olsenella</i> (Genus)	Ascusb_1674	SEQ ID NO:2076	PATENT201612001, PATENT201612009				

Table 3: Bacteria of the present disclosure.

Predicted Closest Taxa of Isolated Microbes	Strain Designation	Sequence Identifier	Predicted Closest Taxa of Isolated Microbes	Strain Designation	Sequence Identifier	Predicted Closest Taxa of Isolated Microbes	Strain Designation	Sequence Identifier
<i>Corynebacterium</i>	Ascusb_3	61	<i>Sharpea</i>	Ascusb_6473	692	<i>Prevotella</i>	Ascusb_11892	1356
<i>Prevotella</i>	Ascusb_50	62	<i>Dongia</i>	Ascusb_6499	693	<i>Leifsonia</i>	Ascusb_11896	1357
<i>Comamonas</i>	Ascusb_90	63	<i>Eubacterium</i>	Ascusb_6505	694	<i>Clostridium_IV</i>	Ascusb_11901	1358
<i>Clostridium_XIVa</i>	Ascusb_117	64	<i>Prevotella</i>	Ascusb_6507	695	<i>Victivallis</i>	Ascusb_11903	1359
<i>Hippea</i>	Ascusb_171	65	<i>Clostridium_IV</i>	Ascusb_6519	696	<i>Treponema</i>	Ascusb_11929	1360
<i>Anaerovorax</i>	Ascusb_177	66	<i>Parabacteroides</i>	Ascusb_6525	697	<i>Cyanobacteria</i>	Ascusb_11952	1361
<i>Clostridium_XIVa</i>	Ascusb_179	67	<i>Brevundimonas</i>	Ascusb_6535	698	<i>Sporotomaculum</i>	Ascusb_11954	1362
<i>Rummeliibacillus</i>	Ascusb_224	68	<i>Clostridium_XIVa</i>	Ascusb_6540	699	<i>Spirochaeta</i>	Ascusb_11955	1363
<i>Clostridium_XIVa</i>	Ascusb_234	69	<i>Ruminococcus</i>	Ascusb_6541	700	<i>Clostridium_III</i>	Ascusb_11960	1364
<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_274	70	<i>Thermotalea</i>	Ascusb_6558	701	<i>Clostridium_XIVa</i>	Ascusb_11962	1365
<i>Prevotella</i>	Ascusb_276	71	<i>Victivallis</i>	Ascusb_6561	702	<i>Anaerovorax</i>	Ascusb_11963	1366
<i>Anaerovorax</i>	Ascusb_293	72	<i>Anaeroplasma</i>	Ascusb_6563	703	<i>Oscillibacter</i>	Ascusb_11964	1367
<i>Pseudothraustothrix</i>	Ascusb_327	73	<i>Oscillibacter</i>	Ascusb_6564	704	<i>Victivallis</i>	Ascusb_11988	1368
<i>Prevotella</i>	Ascusb_337	74	<i>Ruminococcus</i>	Ascusb_6570	705	<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_11993	1369
<i>Clostridium_XIVa</i>	Ascusb_357	75	<i>Clostridium_XIVa</i>	Ascusb_6578	706	<i>Spirochaeta</i>	Ascusb_11997	1370

<i>Clostridium_XIVa</i>	Ascusb_357	76	<i>Clostridium_XIVa</i>	Ascusb_6581	707	<i>Clostridium_XIVb</i>	Ascusb_12000	1371
<i>Coprococcus</i>	Ascusb_361	77	<i>Clostridium_IV</i>	Ascusb_6586	708	<i>Oscillibacter</i>	Ascusb_12004	1372
<i>Pyramidobacter</i>	Ascusb_388	78	<i>Roseburia</i>	Ascusb_6593	709	<i>Prevotella</i>	Ascusb_12013	1373
<i>Syntrophococcus</i>	Ascusb_425	79	<i>Eggerthella</i>	Ascusb_6612	710	<i>Anaeroplasm</i>	Ascusb_12046	1374
<i>Prevotella</i>	Ascusb_444	80	<i>Clostridium_III</i>	Ascusb_6614	711	<i>Adlercreutzia</i>	Ascusb_12054	1375
<i>Clostridium_XIVa</i>	Ascusb_456	81	<i>Clostridium_XIVa</i>	Ascusb_6621	712	<i>Clostridium_XIVa</i>	Ascusb_12061	1376
<i>Prevotella</i>	Ascusb_492	82	<i>Lactobacillus</i>	Ascusb_6630	713	<i>Beijerinckia</i>	Ascusb_12069	1377
<i>Roseburia</i>	Ascusb_523	83	<i>Bacteroides</i>	Ascusb_6633	714	<i>Prevotella</i>	Ascusb_12106	1378
<i>Clostridium_XIVa</i>	Ascusb_526	84	<i>Cellulostypticum</i>	Ascusb_6635	715	<i>Coprococcus</i>	Ascusb_12110	1379
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_570	85	<i>Brevundimonas</i>	Ascusb_6645	716	<i>Lentisphaera</i>	Ascusb_12116	1380
<i>Clostridium_XIVa</i>	Ascusb_584	86	<i>Clostridium_IV</i>	Ascusb_6670	717	<i>Clostridium_XIVa</i>	Ascusb_12119	1381
<i>Acidothermus</i>	Ascusb_605	87	<i>Prevotella</i>	Ascusb_6672	718	<i>Saccharofermentans</i>	Ascusb_12127	1382
<i>Adlercreutzia</i>	Ascusb_606	88	<i>Helicobacter</i>	Ascusb_6676	719	<i>Porphyrobacter</i>	Ascusb_12128	1383
<i>Prevotella</i>	Ascusb_617	89	<i>Clostridium_IV</i>	Ascusb_6683	720	<i>Rhodobacter</i>	Ascusb_12140	1384
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_635	90	<i>Proteiniclasticum</i>	Ascusb_6684	721	<i>Oscillibacter</i>	Ascusb_12153	1385
<i>Proteiniclasticum</i>	Ascusb_642	91	<i>Brevundimonas</i>	Ascusb_6701	722	<i>Roseburia</i>	Ascusb_12160	1386
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_647	92	<i>Clostridium_XIVa</i>	Ascusb_6704	723	<i>Prevotella</i>	Ascusb_12175	1387
<i>Anaerovorax</i>	Ascusb_656	93	<i>Prevotella</i>	Ascusb_6706	724	<i>Aquiflexum</i>	Ascusb_12177	1388

<i>Prevotella</i>	Ascusb_669	94	<i>Desulfovibrio</i>	Ascusb_6708	725	<i>Rhodopirellula</i>	Ascusb_12187	1389
<i>Bacteroides</i>	Ascusb_681	95	<i>Coraliomargarita</i>	Ascusb_6709	726	<i>Bacteroides</i>	Ascusb_12191	1390
<i>Clostridium_III</i>	Ascusb_704	96	<i>Eubacterium</i>	Ascusb_6715	727	<i>Bacteroides</i>	Ascusb_12216	1391
<i>Prevotella</i>	Ascusb_706	97	<i>Sphingomonas</i>	Ascusb_6718	728	<i>Clostridium_XIVa</i>	Ascusb_12221	1392
<i>Acinetobacter</i>	Ascusb_717	98	<i>Prevotella</i>	Ascusb_6730	729	<i>Clostridium_IV</i>	Ascusb_12227	1393
<i>Erysipelothrix</i>	Ascusb_752	99	<i>Clostridium_IV</i>	Ascusb_6734	730	<i>Prevotella</i>	Ascusb_12243	1394
<i>Bacteroides</i>	Ascusb_790	100	<i>Paraprevotella</i>	Ascusb_6735	731	<i>Mogibacterium</i>	Ascusb_12248	1395
<i>Clostridium_XIVa</i>	Ascusb_797	101	<i>Ruminococcus</i>	Ascusb_6746	732	<i>Prevotella</i>	Ascusb_12252	1396
<i>Butyrivibrio</i>	Ascusb_802	102	<i>Saccharofermentans</i>	Ascusb_6756	733	<i>Clostridium_XIVa</i>	Ascusb_12269	1397
<i>Eubacterium</i>	Ascusb_805	103	<i>Clostridium_III</i>	Ascusb_6757	734	<i>Prevotella</i>	Ascusb_12270	1398
<i>Prevotella</i>	Ascusb_828	104	<i>Clostridium_III</i>	Ascusb_6774	735	<i>Capnocytophaga</i>	Ascusb_12276	1399
<i>Eubacterium</i>	Ascusb_890	105	<i>Turcibacter</i>	Ascusb_6792	736	<i>Acholeplasma</i>	Ascusb_12282	1400
<i>Prevotella</i>	Ascusb_909	106	<i>Prevotella</i>	Ascusb_6796	737	<i>Clostridium_IV</i>	Ascusb_12310	1401
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_924	107	<i>Clostridium_XIVa</i>	Ascusb_6803	738	<i>Succinivibrio</i>	Ascusb_12327	1402
<i>Coproccoccus</i>	Ascusb_955	108	<i>Fusibacter</i>	Ascusb_6813	739	<i>Pseudonocardia</i>	Ascusb_12339	1403
<i>Prevotella</i>	Ascusb_958	109	<i>Clostridium_XIVa</i>	Ascusb_6824	740	<i>Clostridium_XIVa</i>	Ascusb_12353	1404
<i>Clostridium_XIVa</i>	Ascusb_980	110	<i>Clostridium_IV</i>	Ascusb_6833	741	<i>Butyricimonas</i>	Ascusb_12354	1405
<i>Prevotella</i>	Ascusb_982	111	<i>Rummelibacillus</i>	Ascusb_6848	742	<i>Anaerovorax</i>	Ascusb_12355	1406
<i>Catonella</i>	Ascusb_990	112	<i>Mogibacterium</i>	Ascusb_6852	743	<i>Prevotella</i>	Ascusb_12383	1407
<i>Methanobrevibacter</i>	Ascusb_993	113	<i>Bacteroides</i>	Ascusb_6864	744	<i>Butyricimonas</i>	Ascusb_12399	1408

<i>Ruminococcus</i>	Ascusb_1013	114	<i>Pelospora</i>	Ascusb_6875	745	<i>Parabacteroides</i>	Ascusb_12407	1409
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1021	115	<i>Eggerthella</i>	Ascusb_6880	746	<i>Clostridium_XIVa</i>	Ascusb_12413	1410
<i>Caprococcus</i>	Ascusb_1033	116	<i>Eubacterium</i>	Ascusb_6887	747	<i>Clostridium_XIVb</i>	Ascusb_12417	1411
<i>Clostridium_XIVa</i>	Ascusb_1090	117	<i>Blautia</i>	Ascusb_6889	748	<i>Bacteroides</i>	Ascusb_12428	1412
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1108	118	<i>Clostridium_XIVb</i>	Ascusb_6901	749	<i>Cyanobacteria</i>	Ascusb_12452	1413
<i>Prevotella</i>	Ascusb_1113	119	<i>Ehrlichia</i>	Ascusb_6907	750	<i>Riemerella</i>	Ascusb_12461	1414
<i>Anaerovorax</i>	Ascusb_1114	120	<i>Eubacterium</i>	Ascusb_6930	751	<i>Anaeroplasma</i>	Ascusb_12487	1415
<i>Asteroleplasma</i>	Ascusb_1116	121	<i>Prevotella</i>	Ascusb_6943	752	<i>Ruminococcus</i>	Ascusb_12489	1416
<i>Clostridium_XIVa</i>	Ascusb_1118	122	<i>Clostridium_XIVa</i>	Ascusb_6952	753	<i>Verrucomicrobia</i>	Ascusb_12499	1417
<i>Caulobacter</i>	Ascusb_1123	123	<i>Treponema</i>	Ascusb_6954	754	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_12511	1418
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1128	124	<i>Hydrogeno anaerobacterium</i>	Ascusb_6957	755	<i>Syntrophococcus</i>	Ascusb_12512	1419
<i>Roseburia</i>	Ascusb_1152	125	<i>Selenomonas</i>	Ascusb_6964	756	<i>Clostridium_IV</i>	Ascusb_12520	1420
<i>Clostridium_XIVa</i>	Ascusb_1166	126	<i>Saccharofermentans</i>	Ascusb_6966	757	<i>Barnesiella</i>	Ascusb_12534	1421
<i>Acinetobacter</i>	Ascusb_1170	127	<i>Clostridium_IV</i>	Ascusb_6971	758	<i>Olivibacter</i>	Ascusb_12553	1422
<i>Bacteroides</i>	Ascusb_1176	128	<i>Clostridium _sensu_stricto</i>	Ascusb_6976	759	<i>Clostridium_XIVa</i>	Ascusb_12574	1423
<i>Erysipelothrix</i>	Ascusb_1182	129	<i>Anaerovorax</i>	Ascusb_6979	760	<i>Cryptanaerobacter</i>	Ascusb_12577	1424
<i>Coprococcus</i>	Ascusb_1199	130	<i>Spirochaeta</i>	Ascusb_6997	761	<i>Saccharofermentans</i>	Ascusb_12578	1425

<i>Clostridium_XIVa</i>	Ascusb_1201	131	<i>Brevundimonas</i>	Ascusb_7001	762	<i>Clostridium_IV</i>	Ascusb_12599	1426
<i>Bacteroides</i>	Ascusb_1218	132	<i>Eubacterium</i>	Ascusb_7017	763	<i>Coprococcus</i>	Ascusb_12600	1427
<i>Coprococcus</i>	Ascusb_1239	133	<i>Clostridium_XIVa</i>	Ascusb_7025	764	<i>Barnesiella</i>	Ascusb_12606	1428
<i>Anaerovorax</i>	Ascusb_1269	134	<i>Anaerovorax</i>	Ascusb_7031	765	<i>Clostridium_sensu_stricto</i>	Ascusb_12618	1429
<i>Pseudoflavonifractor</i>	Ascusb_1296	135	<i>Ruminococcus</i>	Ascusb_7039	766	<i>Hydrogeno anaerobacterium</i>	Ascusb_12627	1430
<i>Pseudoflavonifractor</i>	Ascusb_1296	136	<i>Papillibacter</i>	Ascusb_7040	767	<i>Clostridium_XIVb</i>	Ascusb_12628	1431
<i>Prevotella</i>	Ascusb_1298	137	<i>Clostridium_IV</i>	Ascusb_7043	768	<i>Selenomonas</i>	Ascusb_12661	1432
<i>Lachnospiracea incertae sedis</i>	Ascusb_1304	138	<i>Hydrogeno anaerobacterium</i>	Ascusb_7046	769	<i>Prevotella</i>	Ascusb_12662	1433
<i>Roseburia</i>	Ascusb_1320	139	<i>Asaccharobacter</i>	Ascusb_7048	770	<i>Hydrogeno anaerobacterium</i>	Ascusb_12679	1434
<i>Prevotella</i>	Ascusb_1330	140	<i>Clostridium_XIVa</i>	Ascusb_7054	771	<i>Spirochaeta</i>	Ascusb_12703	1435
<i>Coprococcus</i>	Ascusb_955	108	<i>Rhodocista</i>	Ascusb_7078	772	<i>Enterorhabdus</i>	Ascusb_12704	1436
<i>Prevotella</i>	Ascusb_958	109	<i>Clostridium_XIVa</i>	Ascusb_7087	773	<i>Thermoanaerobacter</i>	Ascusb_12709	1437
<i>Clostridium_XIVa</i>	Ascusb_980	110	<i>Beijerinckia</i>	Ascusb_7091	774	<i>Armatimonadetes</i>	Ascusb_12719	1438
<i>Prevotella</i>	Ascusb_982	111	<i>Lactobacillus</i>	Ascusb_7101	775	<i>Syntrophococcus</i>	Ascusb_12723	1439
<i>Catonella</i>	Ascusb_990	112	<i>Cryptanaerobacter</i>	Ascusb_7102	776	<i>Sphingobium</i>	Ascusb_12731	1440
<i>Methanobrevibacter</i>	Ascusb_993	113	<i>Prevotella</i>	Ascusb_7113	777	<i>Clostridium_XIVa</i>	Ascusb_12737	1441
<i>Ruminococcus</i>	Ascusb_1013	114	<i>Anaerovibrio</i>	Ascusb_7114	778	<i>Geosporobacter</i>	Ascusb_12740	1442

<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1021	115	<i>Anaerovorax</i>	Ascusb_7123	779	<i>Enterorhabdus</i>	Ascusb_12746	1443
<i>Coprococcus</i>	Ascusb_1033	116	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_7128	780	<i>Verrucomicrobia</i>	Ascusb_12747	1444
<i>Clostridium_XIVa</i>	Ascusb_1090	117	<i>Enterorhabdus</i>	Ascusb_7131	781	<i>Clostridium_XIVa</i>	Ascusb_12749	1445
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1108	118	<i>Clostridium_XIVb</i>	Ascusb_7141	782	<i>Parabacteroides</i>	Ascusb_12750	1446
<i>Prevotella</i>	Ascusb_1113	119	<i>Selenomonas</i>	Ascusb_7148	783	<i>Cryptanaerobacter</i>	Ascusb_12769	1447
<i>Anaerovorax</i>	Ascusb_1114	120	<i>Eubacterium</i>	Ascusb_7149	784	<i>Anaeroplasma</i>	Ascusb_12775	1448
<i>Asteroleplasma</i>	Ascusb_1116	121	<i>Thermotalea</i>	Ascusb_7151	785	<i>Spirochaeta</i>	Ascusb_12779	1449
<i>Clostridium_XIVa</i>	Ascusb_1118	122	<i>Enterorhabdus</i>	Ascusb_7153	786	<i>Prevotella</i>	Ascusb_12804	1450
<i>Caulobacter</i>	Ascusb_1123	123	<i>Clostridium_III</i>	Ascusb_7159	787	<i>Roseburia</i>	Ascusb_12819	1451
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_1128	124	<i>Acetanaerobacterium</i>	Ascusb_7164	788	<i>Pedobacter</i>	Ascusb_12826	1452
<i>Roseburia</i>	Ascusb_1152	125	<i>Treponema</i>	Ascusb_7168	789	<i>Pedobacter</i>	Ascusb_12835	1453
<i>Clostridium_XIVa</i>	Ascusb_1166	126	<i>Clostridium_XIVa</i>	Ascusb_7176	790	<i>Eggerthella</i>	Ascusb_12838	1454
<i>Acinetobacter</i>	Ascusb_1170	127	<i>Enterorhabdus</i>	Ascusb_7180	791	<i>Prevotella</i>	Ascusb_12853	1455
<i>Bacteroides</i>	Ascusb_1176	128	<i>Prevotella</i>	Ascusb_7188	792	<i>Rikenella</i>	Ascusb_12873	1456
<i>Erysipelothrix</i>	Ascusb_1182	129	<i>Desulfovibrio</i>	Ascusb_7199	793	<i>Anaerophaga</i>	Ascusb_12894	1457
<i>Coprococcus</i>	Ascusb_1199	130	<i>Aminobacter</i>	Ascusb_7213	794	<i>Spirochaeta</i>	Ascusb_12901	1458
<i>Clostridium_XIVa</i>	Ascusb_1201	131	<i>Clostridium_IV</i>	Ascusb_7224	795	<i>Clostridium_IV</i>	Ascusb_12910	1459

<i>Bacteroides</i>	Ascusb_1218	132	<i>Rikenella</i>	Ascusb_7225	796	<i>Weissella</i>	Ascusb_12931	1460
<i>Coprococcus</i>	Ascusb_1239	133	<i>Gordonibacter</i>	Ascusb_7240	797	<i>Butyrivibrio</i>	Ascusb_12946	1461
<i>Anaerovorax</i>	Ascusb_1269	134	<i>Papillibacter</i>	Ascusb_7245	798	<i>Hahella</i>	Ascusb_12953	1462
<i>Pseudoflavonifractor</i>	Ascusb_1296	135	<i>Syntrophococcus</i>	Ascusb_7246	799	<i>Acholeplasma</i>	Ascusb_12960	1463
<i>Pseudoflavonifractor</i>	Ascusb_1296	136	<i>Clostridium</i> _sensu_stricto	Ascusb_7256	800	<i>Clostridium_XIVa</i>	Ascusb_12962	1464
<i>Prevotella</i>	Ascusb_1298	137	<i>Hahella</i>	Ascusb_7257	801	<i>Cellulostypticum</i>	Ascusb_12987	1465
<i>Lachnospiracea</i> _incertae_sedis	Ascusb_1304	138	<i>Vampirovibrio</i>	Ascusb_7264	802	<i>Verrucomicrobia</i>	Ascusb_12995	1466
<i>Roseburia</i>	Ascusb_1320	139	<i>Coprococcus</i>	Ascusb_7275	803	<i>Clostridium_XIVa</i>	Ascusb_13002	1467
<i>Prevotella</i>	Ascusb_1330	140	<i>Coralimargarita</i>	Ascusb_7299	804	<i>Pseudoflavonifractor</i>	Ascusb_13028	1468
<i>Ruminococcus</i>	Ascusb_1336	141	<i>Clostridium_III</i>	Ascusb_7300	805	<i>Calditerricola</i>	Ascusb_13035	1469
<i>Atopobium</i>	Ascusb_1341	142	<i>Clostridium_XIVa</i>	Ascusb_7304	806	<i>Clostridium_IV</i>	Ascusb_13039	1470
<i>Eubacterium</i>	Ascusb_1347	143	<i>Desulfotomaculum</i>	Ascusb_7325	807	<i>Clostridium_IV</i>	Ascusb_13050	1471
<i>Robinsoniella</i>	Ascusb_1355	144	<i>Helicobacter</i>	Ascusb_7373	808	<i>Adlercreutzia</i>	Ascusb_13054	1472
<i>Neisseria</i>	Ascusb_1357	145	<i>Syntrophococcus</i>	Ascusb_7380	809	<i>Bulleidia</i>	Ascusb_13088	1473
<i>Ruminococcus</i>	Ascusb_1362	146	<i>Lachnospiracea</i> _incertae_sedis	Ascusb_7384	810	<i>Lachnospiracea</i> _incertae_sedis	Ascusb_13089	1474
<i>Prevotella</i>	Ascusb_1364	147	<i>Clostridium_IV</i>	Ascusb_7385	811	<i>Mucilaginibacter</i>	Ascusb_13115	1475
<i>Stackia</i>	Ascusb_1389	148	<i>Paludibacter</i>	Ascusb_7395	812	<i>Victivallis</i>	Ascusb_13128	1476
<i>Prevotella</i>	Ascusb_1400	149	<i>Lachnospiracea</i>	Ascusb_7401	813	<i>Anaerovorax</i>	Ascusb_13130	1477

			<i>_incertae sedis</i>					
<i>Clostridium_XIVa</i>	Ascusb_1410	150	<i>Lachnospiracea _incertae sedis</i>	Ascusb_7412	814	<i>Clostridium_XIVb</i>	Ascusb_13134	1478
<i>Bacteroides</i>	Ascusb_1417	151	<i>Adhaeribacter</i>	Ascusb_7419	815	<i>Clostridium_XIVa</i>	Ascusb_13154	1479
<i>Anaerorhabdus</i>	Ascusb_1426	152	<i>Clostridium_IV</i>	Ascusb_7420	816	<i>Prevotella</i>	Ascusb_13155	1480
<i>Bacteroides</i>	Ascusb_1433	153	<i>Cryptanaerobacter</i>	Ascusb_7424	817	<i>Bacteroides</i>	Ascusb_13163	1481
<i>Prevotella</i>	Ascusb_1439	154	<i>Idiomarina</i>	Ascusb_7435	818	<i>Schwarzia</i>	Ascusb_13165	1482
<i>Corynebacterium</i>	Ascusb_1440	155	<i>Clostridium_IV</i>	Ascusb_7437	819	<i>Pyramidobacter</i>	Ascusb_13226	1483
<i>Atopobium</i>	Ascusb_1468	156	<i>Selenomonas</i>	Ascusb_7440	820	<i>Eubacterium</i>	Ascusb_13230	1484
<i>Streptophyta</i>	Ascusb_1473	157	<i>Acetanaerobacterium</i>	Ascusb_7444	821	<i>Lachnospiracea _incertae sedis</i>	Ascusb_13244	1485
<i>Prevotella</i>	Ascusb_1485	158	<i>Bifidobacterium</i>	Ascusb_7446	822	<i>Clostridium_XIVa</i>	Ascusb_13249	1486
<i>Roseburia</i>	Ascusb_1490	159	<i>Clostridium_XIVb</i>	Ascusb_7449	823	<i>Roseburia</i>	Ascusb_13254	1487
<i>Prevotella</i>	Ascusb_1492	160	<i>Asaccharobacter</i>	Ascusb_7450	824	<i>Clostridium_XIVb</i>	Ascusb_13276	1488
<i>Prevotella</i>	Ascusb_1528	161	<i>Eubacterium</i>	Ascusb_7452	825	<i>Enterorhabdus</i>	Ascusb_13284	1489
<i>Eubacterium</i>	Ascusb_1538	162	<i>Anaeroplasm</i>	Ascusb_7455	826	<i>Pedobacter</i>	Ascusb_13291	1490
<i>Rhodocista</i>	Ascusb_1543	163	<i>Saccharofermentans</i>	Ascusb_7456	827	<i>Clostridium _sensu stricto</i>	Ascusb_13296	1491
<i>Prevotella</i>	Ascusb_1546	164	<i>Ruminococcus</i>	Ascusb_7467	828	<i>Clostridium_XIVa</i>	Ascusb_13328	1492
<i>Clostridium_XIVa</i>	Ascusb_1553	165	<i>Clostridium_III</i>	Ascusb_7470	829	<i>Clostridium_III</i>	Ascusb_13343	1493
<i>Prevotella</i>	Ascusb_1554	166	<i>Acholeplasma</i>	Ascusb_7472	830	<i>Desulfotomaculum</i>	Ascusb_13349	1494

<i>Prevotella</i>	Ascusb_1571	167	<i>Pedobacter</i>	Ascusb_7476	831	<i>Clostridium_IV</i>	Ascusb_13353	1495
<i>Sireptophyta</i>	Ascusb_1578	168	<i>Sphingomonas</i>	Ascusb_7487	832	<i>Proteomiclasticum</i>	Ascusb_13371	1496
<i>Ochrobactrum</i>	Ascusb_1580	169	<i>Verrucomicrobia</i>	Ascusb_7525	833	<i>Prevotella</i>	Ascusb_13412	1497
<i>Mogibacterium</i>	Ascusb_1591	170	<i>Anaerovorax</i>	Ascusb_7533	834	<i>Faecalibacterium</i>	Ascusb_13417	1498
<i>Adlercreutzia</i>	Ascusb_1600	171	<i>Spirochaeta</i>	Ascusb_7534	835	<i>Microbacterium</i>	Ascusb_13419	1499
<i>Prevotella</i>	Ascusb_1609	172	<i>Paraeggerthella</i>	Ascusb_7539	836	<i>Leucobacter</i>	Ascusb_13424	1500
<i>Rtemerella</i>	Ascusb_1627	173	<i>Lachnospiracea incertae_sedis</i>	Ascusb_7542	837	<i>Prevotella</i>	Ascusb_13426	1501
<i>Prevotella</i>	Ascusb_1640	174	<i>Bacteroides</i>	Ascusb_7543	838	<i>Sphingobacterium</i>	Ascusb_13457	1502
<i>Roseburia</i>	Ascusb_1645	175	<i>Paenibacillus</i>	Ascusb_7549	839	<i>Fusibacter</i>	Ascusb_13458	1503
<i>Slackia</i>	Ascusb_1647	176	<i>Prevotella</i>	Ascusb_7553	840	<i>Howardella</i>	Ascusb_13463	1504
<i>Clostridium_IV</i>	Ascusb_1656	177	<i>Bacteroides</i>	Ascusb_7553	841	<i>Pedobacter</i>	Ascusb_13488	1505
<i>Syntrophococcus</i>	Ascusb_1659	178	<i>Clostridium_XIVa</i>	Ascusb_7563	842	<i>Caldithea</i>	Ascusb_13504	1506
<i>Prevotella</i>	Ascusb_1667	179	<i>Clostridium_XIVa</i>	Ascusb_7568	843	<i>Turicibacter</i>	Ascusb_13513	1507
<i>Treponema</i>	Ascusb_1689	180	<i>Roseburia</i>	Ascusb_7572	844	<i>Clostridium_IV</i>	Ascusb_13516	1508
<i>Prevotella</i>	Ascusb_1708	181	<i>Clostridium_XIVa</i>	Ascusb_7581	845	<i>Alistipes</i>	Ascusb_13546	1509
<i>Anaerovorax</i>	Ascusb_1723	182	<i>Clostridium_III</i>	Ascusb_7591	846	<i>Clostridium_XIVa</i>	Ascusb_13547	1510
<i>Prevotella</i>	Ascusb_1727	183	<i>Pedobacter</i>	Ascusb_7599	847	<i>Clostridium_XIVa</i>	Ascusb_13567	1511
<i>Methanobrevibacter</i>	Ascusb_1739	184	<i>Robinsoniella</i>	Ascusb_7614	848	<i>Prevotella</i>	Ascusb_13597	1512
<i>Corynebacterium</i>	Ascusb_1773	185	<i>Anaeroplasma</i>	Ascusb_7615	849	<i>Clostridium_XIVa</i>	Ascusb_13611	1513
<i>Clostridium_XIVa</i>	Ascusb_1793	186	<i>Clostridium_XIVa</i>	Ascusb_7622	850	<i>Butyrivimonas</i>	Ascusb_13648	1514

<i>Alkaliphilus</i>	Ascusb_1795	187	<i>Hydrogeno anaerobacterium</i>	Ascusb_7626	851	<i>Anaerovibrio</i>	Ascusb_13663	1515
<i>Ruminococcus</i>	Ascusb_1797	188	<i>Turcibacter</i>	Ascusb_7638	852	<i>Prevotella</i>	Ascusb_13675	1516
<i>Clostridium_XIVa</i>	Ascusb_1806	189	<i>Papillibacter</i>	Ascusb_7645	853	<i>Pseudoflavonifractor</i>	Ascusb_13679	1517
<i>Eubacterium</i>	Ascusb_1819	190	<i>Clostridium_XIVa</i>	Ascusb_7647	854	<i>Corynebacterium</i>	Ascusb_13763	1518
<i>Bacteroides</i>	Ascusb_1835	191	<i>Saccharofermentans</i>	Ascusb_7648	855	<i>Leucobacter</i>	Ascusb_13780	1519
<i>Roseburia</i>	Ascusb_1886	192	<i>Clostridium_XIVb</i>	Ascusb_7650	856	<i>Kerstersia</i>	Ascusb_13819	1520
<i>Lentisphaera</i>	Ascusb_1901	193	<i>Sporobacter</i>	Ascusb_7662	857	<i>Slackia</i>	Ascusb_13835	1521
<i>Eubacterium</i>	Ascusb_1905	194	<i>Asaccharobacter</i>	Ascusb_7663	858	<i>Lactococcus</i>	Ascusb_13839	1522
<i>Roseburia</i>	Ascusb_1918	195	<i>Bacteroides</i>	Ascusb_7669	859	<i>Prevotella</i>	Ascusb_13840	1523
<i>Clostridium_IV</i>	Ascusb_1922	196	<i>Anaeroplasm</i>	Ascusb_7677	860	<i>Clostridium_IV</i>	Ascusb_13845	1524
<i>Hahella</i>	Ascusb_1947	197	<i>Sporobacter</i>	Ascusb_7680	861	<i>Prevotella</i>	Ascusb_13848	1525
<i>Butyricococcus</i>	Ascusb_1969	198	<i>Streptomyces</i>	Ascusb_7690	862	<i>Bacteroides</i>	Ascusb_13867	1526
<i>Clostridium_IV</i>	Ascusb_2016	199	<i>Arcobacter</i>	Ascusb_7694	863	<i>Lactobacillus</i>	Ascusb_13881	1527
<i>Prevotella</i>	Ascusb_2024	200	<i>Clostridium_XIVa</i>	Ascusb_7699	864	<i>Prevotella</i>	Ascusb_13892	1528
<i>Clostridium_IV</i>	Ascusb_2058	201	<i>Barnesiella</i>	Ascusb_7706	865	<i>Clostridium_XIVa</i>	Ascusb_13895	1529
<i>Desulfovibrio</i>	Ascusb_2081	202	<i>Lactobacillus</i>	Ascusb_7723	866	<i>Clostridium sensu stricto</i>	Ascusb_13903	1530
<i>Sphingobacterium</i>	Ascusb_2101	203	<i>Flavobacterium</i>	Ascusb_7728	867	<i>Syntrophococcus</i>	Ascusb_13904	1531
<i>Roseburia</i>	Ascusb_2105	204	<i>Victivallis</i>	Ascusb_7733	868	<i>Clostridium_XIVa</i>	Ascusb_13921	1532
<i>Bacteroides</i>	Ascusb_2131	205	<i>Clostridium_XIVa</i>	Ascusb_7735	869	<i>Victivallis</i>	Ascusb_13923	1533

<i>Ruminococcus</i>	Ascusb_2141	206	<i>Ureaplasma</i>	Ascusb_7748	870	<i>Bacteroides</i>	Ascusb_13940	1534
<i>Prevotella</i>	Ascusb_2156	207	<i>Acetanaerobacterium</i>	Ascusb_7752	871	<i>Acidobacteria</i>	Ascusb_13951	1535
<i>Asteroleplasma</i>	Ascusb_2168	208	<i>Slackia</i>	Ascusb_7753	872	<i>Clostridium_XIVa</i>	Ascusb_13953	1536
<i>Syntrophococcus</i>	Ascusb_2182	209	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_7761	873	<i>Prevotella</i>	Ascusb_13954	1537
<i>Victivallis</i>	Ascusb_2199	210	<i>Oscillibacter</i>	Ascusb_7763	874	<i>Verrucomicrobia</i>	Ascusb_13955	1538
<i>Lachnabacterium</i>	Ascusb_2210	211	<i>Prevotella</i>	Ascusb_7765	875	<i>Clostridium_XIVa</i>	Ascusb_13981	1539
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_2211	212	<i>Proteiniphilum</i>	Ascusb_7767	876	<i>Treponema</i>	Ascusb_13982	1540
<i>Clostridium_IV</i>	Ascusb_2218	213	<i>Spirochaeta</i>	Ascusb_7784	877	<i>Pyramidobacter</i>	Ascusb_13983	1541
<i>Anaerorhabdus</i>	Ascusb_2221	214	<i>Ruminococcus</i>	Ascusb_7788	878	<i>Robinsoniella</i>	Ascusb_13992	1542
<i>Altererythrobacter</i>	Ascusb_2236	215	<i>Prevotella</i>	Ascusb_7792	879	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_13995	1543
<i>Clostridium_XIVa</i>	Ascusb_2246	216	<i>Butyrivococcus</i>	Ascusb_7796	880	<i>Clostridium_XI</i>	Ascusb_13996	1544
<i>Clostridium_XIVa</i>	Ascusb_2263	217	<i>Devosia</i>	Ascusb_7817	881	<i>Bifidobacterium</i>	Ascusb_14005	1545
<i>Proteinclasticum</i>	Ascusb_2264	218	<i>Anaeroplasm</i>	Ascusb_7828	882	<i>Bacteroides</i>	Ascusb_14013	1546
<i>Bifidobacterium</i>	Ascusb_2308	219	<i>Oscillibacter</i>	Ascusb_7829	883	<i>Gordonibacter</i>	Ascusb_14016	1547
<i>Clostridium_XIVa</i>	Ascusb_2322	220	<i>Barnesiella</i>	Ascusb_7831	884	<i>Enterorhabdus</i>	Ascusb_14055	1548
<i>Clostridium_XIVa</i>	Ascusb_2323	221	<i>Atopobium</i>	Ascusb_7837	885	<i>Lactobacillus</i>	Ascusb_14059	1549
<i>Desulfovibrio</i>	Ascusb_2332	222	<i>Clostridium_XIVa</i>	Ascusb_7838	886	<i>Bacteroides</i>	Ascusb_14074	1550
<i>Clostridium_XIVa</i>	Ascusb_2353	223	<i>Methanobrevibacter</i>	Ascusb_7839	887	<i>Prevotella</i>	Ascusb_14086	1551

<i>Nitrobacter</i>	Ascusb_2375	224	<i>Butyrivibrio</i>	Ascusb_7849	888	<i>Tannerella</i>	Ascusb_14141	1552
<i>Enterorhabdus</i>	Ascusb_2414	225	<i>Butyrivibrio</i>	Ascusb_7853	889	<i>Bacteroides</i>	Ascusb_14145	1553
<i>Clostridium</i> <i>_sensu stricto</i>	Ascusb_2429	226	<i>Asaccharobacter</i>	Ascusb_7855	890	<i>Prevotella</i>	Ascusb_14151	1554
<i>Oscillibacter</i>	Ascusb_2435	227	<i>Enhydrobacter</i>	Ascusb_7871	891	<i>Clostridium_XIVb</i>	Ascusb_14163	1555
<i>Nautilia</i>	Ascusb_2437	228	<i>Treponema</i>	Ascusb_7872	892	<i>Gelidibacter</i>	Ascusb_14189	1556
<i>Corynebacterium</i>	Ascusb_2447	229	<i>Clostridium_XIVa</i>	Ascusb_7873	893	<i>Cyanobacteria</i>	Ascusb_14213	1557
<i>Ruminococcus</i>	Ascusb_2452	230	<i>Adlercreutzia</i>	Ascusb_7874	894	<i>Rhodoplanes</i>	Ascusb_14224	1558
<i>Coprococcus</i>	Ascusb_2461	231	<i>Prevotella</i>	Ascusb_7890	895	<i>Selenomonas</i>	Ascusb_14226	1559
<i>Eubacterium</i>	Ascusb_2462	232	<i>Pseudoflavonifractor</i>	Ascusb_7896	896	<i>Escherichia</i> <i>/Shigella</i>	Ascusb_14256	1560
<i>Rikenella</i>	Ascusb_2470	233	<i>Syntrophococcus</i>	Ascusb_7898	897	<i>Rikenella</i>	Ascusb_14278	1561
<i>Clostridium_XIVa</i>	Ascusb_2482	234	<i>Clostridium_IV</i>	Ascusb_7901	898	<i>Coprococcus</i>	Ascusb_14285	1562
<i>Paenibacillus</i>	Ascusb_2487	235	<i>Demequina</i>	Ascusb_7902	899	<i>Clostridium</i> <i>_sensu stricto</i>	Ascusb_14290	1563
<i>Ruminococcus</i>	Ascusb_2492	236	<i>Lachnospiraceae</i> <i>_incertae sedis</i>	Ascusb_7904	900	<i>Hyphomicrobium</i>	Ascusb_14304	1564
<i>Prevotella</i>	Ascusb_2503	237	<i>Saccharofermentans</i>	Ascusb_7924	901	<i>Erysipelotrichaceae</i> <i>_incertae sedis</i>	Ascusb_14320	1565
<i>Haematobacter</i>	Ascusb_2504	238	<i>Sphaerisporangium</i>	Ascusb_7925	902	<i>Verrucomicrobia</i>	Ascusb_14324	1566
<i>Prevotella</i>	Ascusb_2523	239	<i>Anaeroplasm</i>	Ascusb_7939	903	<i>Staphylococcus</i>	Ascusb_14335	1567
<i>Clostridium_XIVa</i>	Ascusb_2537	240	<i>Geobacillus</i>	Ascusb_7958	904	<i>Verrucomicrobia</i>	Ascusb_14358	1568

<i>Lachnospiracea _incertae_sedis</i>	Ascusb_2538	241	<i>Prevotella</i>	Ascusb_7959	905	<i>Victivallis</i>	Ascusb_14359	1569
<i>Enterorhabdus</i>	Ascusb_2565	242	<i>Clostridium_XIVa</i>	Ascusb_7967	906	<i>Selenomonas</i>	Ascusb_14423	1570
<i>Blautia</i>	Ascusb_2591	243	<i>Victivallis</i>	Ascusb_7973	907	<i>Desulfobulbus</i>	Ascusb_14425	1571
<i>Sporobacter</i>	Ascusb_2592	244	<i>Bacteroides</i>	Ascusb_7989	908	<i>Clostridium_III</i>	Ascusb_14450	1572
<i>Oscillibacter</i>	Ascusb_2607	245	<i>Demequina</i>	Ascusb_7990	909	<i>Spirochaeta</i>	Ascusb_14451	1573
<i>Clostridium_XIVa</i>	Ascusb_2608	246	<i>Paraeggerthella</i>	Ascusb_7994	910	<i>Kordia</i>	Ascusb_14514	1574
<i>Atopobium</i>	Ascusb_2613	247	<i>Paraprevotella</i>	Ascusb_7996	911	<i>Bosea</i>	Ascusb_14521	1575
<i>Sporobacter</i>	Ascusb_2626	248	<i>Pseudoflavonifractor</i>	Ascusb_8013	912	<i>Enterococcus</i>	Ascusb_14525	1576
<i>Clostridium_XIVa</i>	Ascusb_2629	249	<i>Roseburia</i>	Ascusb_8018	913	<i>Clostridium_III</i>	Ascusb_14530	1577
<i>Candidate Phylum OD1</i>	Ascusb_2643	250	<i>Gelidibacter</i>	Ascusb_8038	914	<i>Xanthobacter</i>	Ascusb_14538	1578
<i>Oscillibacter</i>	Ascusb_2645	251	<i>Clostridium_IV</i>	Ascusb_8069	915	<i>Lactobacillus</i>	Ascusb_14555	1579
<i>Clostridium_XIVa</i>	Ascusb_2647	252	<i>Rhizobium</i>	Ascusb_8076	916	<i>Prevotella</i>	Ascusb_14583	1580
<i>Clostridium_IV</i>	Ascusb_2649	253	<i>Acholeplasma</i>	Ascusb_8081	917	<i>Acidaminococcus</i>	Ascusb_14595	1581
<i>Mogibacterium</i>	Ascusb_2653	254	<i>Clostridium_XIVa</i>	Ascusb_8084	918	<i>Eubacterium</i>	Ascusb_14596	1582
<i>Roseburia</i>	Ascusb_2663	255	<i>Bacteroides</i>	Ascusb_8091	919	<i>Bacteroides</i>	Ascusb_14611	1583
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_2671	256	<i>Bacteroides</i>	Ascusb_8105	920	<i>Clostridium_XIVa</i>	Ascusb_14613	1584
<i>Pelotomaculum</i>	Ascusb_2696	257	<i>Papillibacter</i>	Ascusb_8107	921	<i>Lactobacillus</i>	Ascusb_14626	1585
<i>Pelotomaculum</i>	Ascusb_2712	258	<i>Fusibacter</i>	Ascusb_8113	922	<i>Devosia</i>	Ascusb_14628	1586

<i>Clostridium_XIVa</i>	Ascusb_2713	259	<i>Coralimargarita</i>	Ascusb_8120	923	<i>Pedobacter</i>	Ascusb_14667	1587
<i>Robinsoniella</i>	Ascusb_2730	260	<i>Papillibacter</i>	Ascusb_8123	924	<i>Clostridium_IV</i>	Ascusb_14747	1588
<i>Coprococcus</i>	Ascusb_2746	261	<i>Clostridium_XIVa</i>	Ascusb_8149	925	<i>Clostridium_XIVa</i>	Ascusb_14785	1589
<i>Wautersiella</i>	Ascusb_2757	262	<i>Acholeplasma</i>	Ascusb_8167	926	<i>Corynebacterium</i>	Ascusb_14790	1590
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_2762	263	<i>Catenibacterium</i>	Ascusb_8169	927	<i>Spirochaeta</i>	Ascusb_14792	1591
<i>Planctomyces</i>	Ascusb_2764	264	<i>Clostridium_IV</i>	Ascusb_8172	928	<i>Anaeroplasma</i>	Ascusb_14828	1592
<i>Treponema</i>	Ascusb_2800	265	<i>Clostridium_IV</i>	Ascusb_8173	929	<i>Clostridium_XIVa</i>	Ascusb_14869	1593
<i>Coprococcus</i>	Ascusb_2806	266	<i>Clostridium_IV</i>	Ascusb_8179	930	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_14888	1594
<i>Paracoccus</i>	Ascusb_2809	267	<i>Nitrobacter</i>	Ascusb_8182	931	<i>Saccharofermentans</i>	Ascusb_14898	1595
<i>Ruminococcus</i>	Ascusb_2811	268	<i>Victivallis</i>	Ascusb_8189	932	<i>Slackia</i>	Ascusb_14906	1596
<i>Atopobium</i>	Ascusb_2814	269	<i>Selenomonas</i>	Ascusb_8196	933	<i>Limibacter</i>	Ascusb_14951	1597
<i>Prevotella</i>	Ascusb_2825	270	<i>Enterorhabdus</i>	Ascusb_8200	934	<i>Sphingobium</i>	Ascusb_14952	1598
<i>Clostridium_IV</i>	Ascusb_2832	271	<i>Eubacterium</i>	Ascusb_8202	935	<i>Clostridium_XIVa</i>	Ascusb_14987	1599
<i>Clostridium_XIVa</i>	Ascusb_2838	272	<i>Roseburia</i>	Ascusb_8206	936	<i>Riemerella</i>	Ascusb_14990	1600
<i>Clostridium_XIVa</i>	Ascusb_2843	273	<i>Prevotella</i>	Ascusb_8211	937	<i>Saccharofermentans</i>	Ascusb_15032	1601
<i>Clostridium_XIVa</i>	Ascusb_2853	274	<i>Asaccharobacter</i>	Ascusb_8222	938	<i>Bacteroides</i>	Ascusb_15048	1602
<i>Prevotella</i>	Ascusb_2857	275	<i>Bacteroides</i>	Ascusb_8230	939	<i>Prevotella</i>	Ascusb_15076	1603
<i>Deftiosulfobivrio</i>	Ascusb_2872	276	<i>Clostridium_XIVa</i>	Ascusb_8238	940	<i>Selenomonas</i>	Ascusb_15097	1604
<i>Clostridium_XI</i>	Ascusb_2885	277	<i>Gelidibacter</i>	Ascusb_8245	941	<i>Victivallis</i>	Ascusb_15122	1605

<i>Clostridium_IV</i>	Ascusb_2907	278	<i>Brevundimonas</i>	Ascusb_8254	942	<i>Howardella</i>	Ascusb_15128	1606
<i>Saccharofermentans</i>	Ascusb_2909	279	<i>Clostridium_XIVa</i>	Ascusb_8260	943	<i>Pelospora</i>	Ascusb_15132	1607
<i>Clostridium_sensu_stricto</i>	Ascusb_2912	280	<i>Prevotella</i>	Ascusb_8266	944	<i>Clostridium_sensu_stricto</i>	Ascusb_15151	1608
<i>Roseburia</i>	Ascusb_2914	281	<i>Oscillibacter</i>	Ascusb_8268	945	<i>Selenomonas</i>	Ascusb_15156	1609
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_2930	282	<i>Asteroleplasma</i>	Ascusb_8280	946	<i>Fibrobacter</i>	Ascusb_15181	1610
<i>Candidate phylum SR1</i>	Ascusb_2946	283	<i>Anaeroplasma</i>	Ascusb_8283	947	<i>Clostridium_III</i>	Ascusb_15215	1611
<i>Hydrogenoanaerobacterium</i>	Ascusb_2948	284	<i>Oscillibacter</i>	Ascusb_8311	948	<i>Sphingomonas</i>	Ascusb_15220	1612
<i>Victivallis</i>	Ascusb_2966	285	<i>Bilophila</i>	Ascusb_8317	949	<i>Selenomonas</i>	Ascusb_15226	1613
<i>Clostridium_IV</i>	Ascusb_2983	286	<i>Oscillibacter</i>	Ascusb_8318	950	<i>Eggerthella</i>	Ascusb_15326	1614
<i>Pelotomaculum</i>	Ascusb_2988	287	<i>Clostridium_IV</i>	Ascusb_8320	951	<i>Treponema</i>	Ascusb_15352	1615
<i>Clostridium_XIVa</i>	Ascusb_2990	288	<i>Prevotella</i>	Ascusb_8321	952	<i>Mogibacterium</i>	Ascusb_15357	1616
<i>Saccharofermentans</i>	Ascusb_3005	289	<i>Geosporobacter</i>	Ascusb_8329	953	<i>Adlercreutzia</i>	Ascusb_15390	1617
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_3008	290	<i>Butyrivimonas</i>	Ascusb_8363	954	<i>Selenomonas</i>	Ascusb_15394	1618
<i>Coprococcus</i>	Ascusb_3010	291	<i>Pseudoflavonifractor</i>	Ascusb_8366	955	<i>Methylomicrobium</i>	Ascusb_15404	1619
<i>Clostridium_XIVa</i>	Ascusb_3022	292	<i>Barnesiella</i>	Ascusb_8367	956	<i>Leuconostoc</i>	Ascusb_15413	1620
<i>Clostridium_XIVb</i>	Ascusb_3029	293	<i>Selenomonas</i>	Ascusb_8370	957	<i>Pyramidobacter</i>	Ascusb_15427	1621
<i>Fapilibacter</i>	Ascusb_3053	294	<i>Prevotella</i>	Ascusb_8374	958	<i>Butyrivibrio</i>	Ascusb_15438	1622

<i>Barionella</i>	Ascusb_3056	295	<i>Enterorhabdus</i>	Ascusb_8379	959	<i>Bacteroides</i>	Ascusb_15454	1623
<i>Clostridium_IV</i>	Ascusb_3058	296	<i>Oscillibacter</i>	Ascusb_8384	960	<i>Butyricimonas</i>	Ascusb_15455	1624
<i>Eubacterium</i>	Ascusb_3061	297	<i>Pelotomaculum</i>	Ascusb_8394	961	<i>Ruminococcus</i>	Ascusb_15461	1625
<i>Asaccharobacter</i>	Ascusb_3066	298	<i>Cellulosilyticum</i>	Ascusb_8396	962	<i>Clostridium_sensu_stricto</i>	Ascusb_15482	1626
<i>Clostridium_IV</i>	Ascusb_3073	299	<i>Clostridium_IV</i>	Ascusb_8402	963	<i>Butyrivibrio</i>	Ascusb_15488	1627
<i>Blautia</i>	Ascusb_3074	300	<i>Parabacteroides</i>	Ascusb_8410	964	<i>Corynebacterium</i>	Ascusb_15494	1628
<i>Prevotella</i>	Ascusb_3079	301	<i>Papillibacter</i>	Ascusb_8413	965	<i>Proteiniborus</i>	Ascusb_15526	1629
<i>Ruminococcus</i>	Ascusb_3087	302	<i>Bacteroides</i>	Ascusb_8439	966	<i>Spirochaeta</i>	Ascusb_15539	1630
<i>Selenomonas</i>	Ascusb_3120	303	<i>Prevotella</i>	Ascusb_8440	967	<i>Aceitomaculum</i>	Ascusb_15549	1631
<i>Treponema</i>	Ascusb_3142	304	<i>Hydrogenoanaerobacterium</i>	Ascusb_8447	968	<i>Selenomonas</i>	Ascusb_15552	1632
<i>Adlercreutzia</i>	Ascusb_3147	305	<i>Clostridium_XIVa</i>	Ascusb_8470	969	<i>Altererythrobacter</i>	Ascusb_15556	1633
<i>Butyricoccus</i>	Ascusb_3161	306	<i>Prevotella</i>	Ascusb_8480	970	<i>Atopobium</i>	Ascusb_15587	1634
<i>Pseudoflavonifractor</i>	Ascusb_3163	307	<i>Clostridium_IV</i>	Ascusb_8484	971	<i>Clostridium_IV</i>	Ascusb_15615	1635
<i>Corynebacterium</i>	Ascusb_3165	308	<i>Howardella</i>	Ascusb_8487	972	<i>Clostridium_XIVa</i>	Ascusb_15624	1636
<i>Adlercreutzia</i>	Ascusb_3188	309	<i>Slackia</i>	Ascusb_8498	973	<i>Clostridium_XIVa</i>	Ascusb_15695	1637
<i>Selenomonas</i>	Ascusb_3197	310	<i>Methylobacter</i>	Ascusb_8500	974	<i>Clostridium_IV</i>	Ascusb_15703	1638
<i>Coraliomargarita</i>	Ascusb_3213	311	<i>Treponema</i>	Ascusb_8508	975	<i>Clostridium_III</i>	Ascusb_15720	1639
<i>Paraprevotella</i>	Ascusb_3225	312	<i>Clostridium_XIVa</i>	Ascusb_8514	976	<i>Candidate phylum TM7</i>	Ascusb_15737	1640

<i>Oscillibacter</i>	Ascusb_3229	313	<i>Devosia</i>	Ascusb_8518	977	<i>Desulfotomaculum</i>	Ascusb_15741	1641
<i>Anaerovorax</i>	Ascusb_3240	314	<i>Ruminococcus</i>	Ascusb_8537	978	<i>Pedobacter</i>	Ascusb_15746	1642
<i>Clostridium_XIVa</i>	Ascusb_3242	315	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_8569	979	<i>Bacteroides</i>	Ascusb_15750	1643
<i>Saccharofermentans</i>	Ascusb_3248	316	<i>Clostridium_III</i>	Ascusb_8580	980	<i>Asaccharobacter</i>	Ascusb_15754	1644
<i>Erysipelothrix</i>	Ascusb_3263	317	<i>Methanobrevibacter</i>	Ascusb_8595	981	<i>Microbacterium</i>	Ascusb_15768	1645
<i>Agaricicola</i>	Ascusb_3275	318	<i>Paraprevotella</i>	Ascusb_8600	982	<i>Treponema</i>	Ascusb_15824	1646
<i>Denitrobacterium</i>	Ascusb_3285	319	<i>Desulfobulbus</i>	Ascusb_8627	983	<i>Dehtiosulfovibrio</i>	Ascusb_15830	1647
<i>Armatimonadetes</i>	Ascusb_3299	320	<i>Butyricoccus</i>	Ascusb_8639	984	<i>Oscillibacter</i>	Ascusb_15832	1648
<i>Asaccharobacter</i>	Ascusb_3304	321	<i>Clostridium_XIVa</i>	Ascusb_8657	985	<i>Selenomonas</i>	Ascusb_15846	1649
<i>Anaeroplasm</i>	Ascusb_3322	322	<i>Dialister</i>	Ascusb_8669	986	<i>Eubacterium</i>	Ascusb_15864	1650
<i>Prevotella</i>	Ascusb_3333	323	<i>Selenomonas</i>	Ascusb_8681	987	<i>Ruminococcus</i>	Ascusb_15877	1651
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_3339	324	<i>Spirochaeta</i>	Ascusb_8696	988	<i>Treponema</i>	Ascusb_15915	1652
<i>Clostridium_IV</i>	Ascusb_3351	325	<i>Clostridium_IV</i>	Ascusb_8712	989	<i>Spirochaeta</i>	Ascusb_15951	1653
<i>Streptococcus</i>	Ascusb_3376	326	<i>Cellulosilyticum</i>	Ascusb_8713	990	<i>Roseburia</i>	Ascusb_15963	1654
<i>Cellulosilyticum</i>	Ascusb_3393	327	<i>Prevotella</i>	Ascusb_8714	991	<i>Ruminococcus</i>	Ascusb_15992	1655
<i>Asaccharobacter</i>	Ascusb_3405	328	<i>Pseudoflavonifractor</i>	Ascusb_8715	992	<i>Butyricimonas</i>	Ascusb_16010	1656
<i>Enterorhabdus</i>	Ascusb_3408	329	<i>Clostridium_III</i>	Ascusb_8728	993	<i>Pedobacter</i>	Ascusb_16051	1657
<i>Treponema</i>	Ascusb_3415	330	<i>Oscillibacter</i>	Ascusb_8733	994	<i>Spirochaeta</i>	Ascusb_16066	1658
<i>Roseburia</i>	Ascusb_3417	331	<i>Faecalibacterium</i>	Ascusb_8746	995	<i>Parabacteroides</i>	Ascusb_16101	1659

<i>Victivallis</i>	Ascusb_3422	332	<i>Clostridium_XIVb</i>	Ascusb_8753	996	<i>Methylococcus</i>	Ascusb_16111	1660
<i>Prevotella</i>	Ascusb_3424	333	<i>Eubacterium</i>	Ascusb_8758	997	<i>Enterorhabdus</i>	Ascusb_16113	1661
<i>Roseburia</i>	Ascusb_3446	334	<i>Clostridium_III</i>	Ascusb_8762	998	<i>Clostridium_sensu_stricto</i>	Ascusb_16124	1662
<i>Ruminococcus</i>	Ascusb_3451	335	<i>Prevotella</i>	Ascusb_8769	999	<i>Gelidibacter</i>	Ascusb_16149	1663
<i>Mogibacterium</i>	Ascusb_3456	336	<i>Paenibacillus</i>	Ascusb_8771	1000	<i>Sporobacter</i>	Ascusb_16168	1664
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_3467	337	<i>Pedobacter</i>	Ascusb_8782	1001	<i>Pedobacter</i>	Ascusb_16185	1665
<i>Prevotella</i>	Ascusb_3479	338	<i>Butyricoccus</i>	Ascusb_8786	1002	<i>Cyanobacteria</i>	Ascusb_16194	1666
<i>Clostridium_sensu_stricto</i>	Ascusb_3480	339	<i>Clostridium_XIVa</i>	Ascusb_8787	1003	<i>Syntrophococcus</i>	Ascusb_16198	1667
<i>Victivallis</i>	Ascusb_3481	340	<i>Roseburia</i>	Ascusb_8799	1004	<i>Slackia</i>	Ascusb_16200	1668
<i>Cyanobacteria</i>	Ascusb_3482	341	<i>Hydrogenoanaerobacterium</i>	Ascusb_8804	1005	<i>Mogibacterium</i>	Ascusb_16215	1669
<i>Treponema</i>	Ascusb_3483	342	<i>Adhaeribacter</i>	Ascusb_8807	1006	<i>Prevotella</i>	Ascusb_16239	1670
<i>Stenotrophomonas</i>	Ascusb_3484	343	<i>Eubacterium</i>	Ascusb_8815	1007	<i>Pseudoflavonifractor</i>	Ascusb_16244	1671
	Ascusb_3492	344	<i>Bacteroides</i>	Ascusb_8822	1008	<i>Veillonella</i>	Ascusb_16257	1672
<i>Clostridium_XIVa</i>	Ascusb_3494	345	<i>Victivallis</i>	Ascusb_8835	1009	<i>Clostridium_XIVa</i>	Ascusb_16278	1673
<i>Sphingobium</i>	Ascusb_3495	346	<i>Roseburia</i>	Ascusb_8840	1010	<i>Bacillus</i>	Ascusb_16299	1674
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_3512	347	<i>Treponema</i>	Ascusb_8857	1011	<i>Pedobacter</i>	Ascusb_16316	1675
<i>Oscillibacter</i>	Ascusb_3518	348	<i>Prevotella</i>	Ascusb_8860	1012	<i>Clostridium_IV</i>	Ascusb_16329	1676

<i>Methylobacterium</i>	Ascusb_3523	349	<i>Prevotella</i>	Ascusb_8870	1013	<i>Fibrobacter</i>	Ascusb_16330	1677
<i>Zhangella</i>	Ascusb_3530	350	<i>Hydrogeno anaerobacterium</i>	Ascusb_8873	1014	<i>Paenibacillus</i>	Ascusb_16336	1678
<i>Lachnospiracea incertae sedis</i>	Ascusb_3545	351	<i>Clostridium_XIVa</i>	Ascusb_8883	1015	<i>Brevundimonas</i>	Ascusb_16345	1679
<i>Oscillibacter</i>	Ascusb_3546	352	<i>Bacteroides</i>	Ascusb_8884	1016	<i>Desulfovibrio</i>	Ascusb_16373	1680
<i>Clostridium_III</i>	Ascusb_3548	353	<i>Bacteroides</i>	Ascusb_8886	1017	<i>Clostridium_XI</i>	Ascusb_16374	1681
<i>Coraliomargarita</i>	Ascusb_3563	354	<i>Lactobacillus</i>	Ascusb_8888	1018	<i>Helicobacter</i>	Ascusb_16383	1682
<i>Eubacterium</i>	Ascusb_3575	355	<i>Adlercreutzia</i>	Ascusb_8892	1019	<i>Prevotella</i>	Ascusb_16420	1683
<i>Enterorhabdus</i>	Ascusb_3578	356	<i>Deftiosulfovibrio</i>	Ascusb_8916	1020	<i>Clostridium_XIVa</i>	Ascusb_16423	1684
<i>Clostridium_XIVa</i>	Ascusb_3587	357	<i>Lutispora</i>	Ascusb_8934	1021	<i>Prevotella</i>	Ascusb_16436	1685
<i>Saccharofermentaris</i>	Ascusb_3592	358	<i>Turcibacter</i>	Ascusb_8942	1022	<i>Herbiconiux</i>	Ascusb_16453	1686
<i>Clostridium_IV</i>	Ascusb_3600	359	<i>Cyanobacteria</i>	Ascusb_8953	1023	<i>Clostridium_IV</i>	Ascusb_16461	1687
<i>Clostridium sensu stricto</i>	Ascusb_3602	360	<i>Clostridium sensu stricto</i>	Ascusb_8956	1024	<i>Rikenella</i>	Ascusb_16470	1688
<i>Vicivallis</i>	Ascusb_3638	361	<i>Cyanobacteria</i>	Ascusb_8972	1025	<i>Clostridium_XIVa</i>	Ascusb_16473	1689
<i>Coproccoccus</i>	Ascusb_3642	362	<i>Bulleidia</i>	Ascusb_9004	1026	<i>Hippea</i>	Ascusb_16536	1690
<i>Pseudoflavonifractor</i>	Ascusb_3647	363	<i>Aquiflexum</i>	Ascusb_9015	1027	<i>Lactobacillus</i>	Ascusb_16537	1691
<i>Anaeroplasm</i>	Ascusb_3674	364	<i>Lachnospiracea incertae sedis</i>	Ascusb_9026	1028	<i>Eubacterium</i>	Ascusb_16541	1692
<i>Anaeroplasm</i>	Ascusb_3687	365	<i>Lachnospiracea incertae sedis</i>	Ascusb_9073	1029	<i>Clostridium_IV</i>	Ascusb_16546	1693

<i>Bacteroides</i>	Ascusb_3700	366	<i>Clostridium_III</i>	Ascusb_9075	1030	<i>Clostridium_III</i>	Ascusb_16560	1694
<i>Actinobacter</i>	Ascusb_3717	367	<i>Roseburia</i>	Ascusb_9081	1031	<i>Lactobacillus</i>	Ascusb_16565	1695
<i>Victivallis</i>	Ascusb_3724	368	<i>Glaciecola</i>	Ascusb_9086	1032	<i>Lactobacillus</i>	Ascusb_16574	1696
<i>Victivallis</i>	Ascusb_3725	369	<i>Clostridium_XIVa</i>	Ascusb_9090	1033	<i>Desulfotomaculum</i>	Ascusb_16578	1697
<i>Mogibacterium</i>	Ascusb_3728	370	<i>Hydrogeno anaerobacterium</i>	Ascusb_9095	1034	<i>Prevotella</i>	Ascusb_16618	1698
<i>Oscillibacter</i>	Ascusb_3746	371	<i>Clostridium_IV</i>	Ascusb_9097	1035	<i>Staphylococcus</i>	Ascusb_16628	1699
<i>Butyricimonas</i>	Ascusb_3748	372	<i>Sphaerobacter</i>	Ascusb_9098	1036	<i>Tenacibaculum</i>	Ascusb_16632	1700
<i>Dethiosulfovibrio</i>	Ascusb_3750	373	<i>Cyanobacteria</i>	Ascusb_9105	1037	<i>Parabacteroides</i>	Ascusb_16655	1701
<i>Pseudothiovibrio</i>	Ascusb_3751	374	<i>Prevotella</i>	Ascusb_9109	1038	<i>Clostridium_XIVa</i>	Ascusb_16668	1702
<i>Clostridium_IV</i>	Ascusb_3762	375	<i>Turicibacter</i>	Ascusb_9112	1039	<i>Clostridium_IV</i>	Ascusb_16671	1703
<i>Anaeroplasmia</i>	Ascusb_3763	376	<i>Ruminococcus</i>	Ascusb_9122	1040	<i>Clostridium_IV</i>	Ascusb_16674	1704
<i>Oscillibacter</i>	Ascusb_3768	377	<i>Clostridium_IV</i>	Ascusb_9131	1041	<i>Pedobacter</i>	Ascusb_16682	1705
<i>Herbiconiux</i>	Ascusb_3775	378	<i>Clostridium_XIVa</i>	Ascusb_9145	1042	<i>Helicobacter</i>	Ascusb_16686	1706
<i>Eubacterium</i>	Ascusb_3779	379	<i>Saccharofermentans</i>	Ascusb_9151	1043	<i>Proteomiclasticum</i>	Ascusb_16691	1707
<i>Armatimonadetes</i>	Ascusb_3789	380	<i>Clostridium_XIVb</i>	Ascusb_9154	1044	<i>Anaplasma</i>	Ascusb_16711	1708
<i>Selenomonas</i>	Ascusb_3796	381	<i>Ruminococcus</i>	Ascusb_9160	1045	<i>Bacteroides</i>	Ascusb_16734	1709
<i>Clostridium_IV</i>	Ascusb_3811	382	<i>Fibrobacter</i>	Ascusb_9169	1046	<i>Clostridium_IV</i>	Ascusb_16749	1710
<i>Mogibacterium</i>	Ascusb_3825	383	<i>Proteomiclasticum</i>	Ascusb_9176	1047	<i>Mucilaginibacter</i>	Ascusb_16803	1711
<i>Clostridium_IV</i>	Ascusb_3838	384	<i>Anaeroplasmia</i>	Ascusb_9178	1048	<i>Verrucomicrobia</i>	Ascusb_16829	1712
<i>Roseburia</i>	Ascusb_3849	385	<i>Cyanobacteria</i>	Ascusb_9184	1049	<i>Selenomonas</i>	Ascusb_16884	1713

<i>Anaerovibrio</i>	Ascusb_3866	386	<i>Algoriphagus</i>	Ascusb_9189	1050	<i>Parabacteroides</i>	Ascusb_16931	1714
<i>Clostridium_III</i>	Ascusb_3875	387	<i>Clostridium_XIVa</i>	Ascusb_9196	1051	<i>Eubacterium</i>	Ascusb_16933	1715
<i>Saccharofermentans</i>	Ascusb_3903	388	<i>Howardella</i>	Ascusb_9200	1052	<i>Coprococcus</i>	Ascusb_16948	1716
<i>Saccharofermentans</i>	Ascusb_3911	389	<i>Clostridium_XIVa</i>	Ascusb_9201	1053	<i>Weissella</i>	Ascusb_16968	1717
<i>Prevotella</i>	Ascusb_3914	390	<i>Barnesiella</i>	Ascusb_9211	1054	<i>Pedobacter</i>	Ascusb_16992	1718
<i>Clostridium_XIVa</i>	Ascusb_3919	391	<i>Clostridium_IV</i>	Ascusb_9234	1055	<i>Clostridium_XI</i>	Ascusb_16995	1719
<i>Robinsoniella</i>	Ascusb_3950	392	<i>Prevotella</i>	Ascusb_9238	1056	<i>Sphingomonas</i>	Ascusb_16998	1720
<i>Brevundimonas</i>	Ascusb_3952	393	<i>Clostridium_XIVa</i>	Ascusb_9251	1057	<i>Treponema</i>	Ascusb_17013	1721
<i>Anaerotruncus</i>	Ascusb_3970	394	<i>Butyrictomonas</i>	Ascusb_9261	1058	<i>Geobacter</i>	Ascusb_17017	1722
<i>Victivallis</i>	Ascusb_3982	395	<i>Blautia</i>	Ascusb_9264	1059	<i>Clostridium_XIVa</i>	Ascusb_17018	1723
<i>Bacteroides</i>	Ascusb_4008	396	<i>Prevotella</i>	Ascusb_9274	1060	<i>Filomicrobium</i>	Ascusb_17036	1724
<i>Clostridium_XIVb</i>	Ascusb_4019	397	<i>Clostridium_XIVa</i>	Ascusb_9277	1061	<i>Prevotella</i>	Ascusb_17038	1725
<i>Prevotella</i>	Ascusb_4033	398	<i>Blautia</i>	Ascusb_9282	1062	<i>Pedobacter</i>	Ascusb_17057	1726
<i>Ruminococcus</i>	Ascusb_4034	399	<i>Clostridium_IV</i>	Ascusb_9291	1063	<i>Pedobacter</i>	Ascusb_17058	1727
<i>Pelobacter</i>	Ascusb_4040	400	<i>Flavobacterium</i>	Ascusb_9292	1064	<i>Clostridium_XIVa</i>	Ascusb_17064	1728
<i>Clostridium_XIVa</i>	Ascusb_4063	401	<i>Prevotella</i>	Ascusb_9300	1065	<i>Bifidobacterium</i>	Ascusb_17066	1729
<i>Clostridium_XIVa</i>	Ascusb_4067	402	<i>Clostridium_XIVa</i>	Ascusb_9301	1066	<i>Saccharofermentans</i>	Ascusb_17092	1730
<i>Clostridium_XIVb</i>	Ascusb_4083	403	<i>Clostridium_XIVa</i>	Ascusb_9302	1067	<i>Ruminococcus</i>	Ascusb_17136	1731
<i>Coprococcus</i>	Ascusb_4085	404	<i>Eubacterium</i>	Ascusb_9313	1068	<i>Flavobacterium</i>	Ascusb_17138	1732
<i>Clostridium_IV</i>	Ascusb_4086	405	<i>Butyricoccus</i>	Ascusb_9340	1069	<i>Rhodopirellula</i>	Ascusb_17161	1733
<i>Clostridium_IV</i>	Ascusb_4095	406	<i>Fluviicola</i>	Ascusb_9343	1070	<i>Roseburia</i>	Ascusb_17171	1734

<i>Coprococcus</i>	Ascusb_4114	407	<i>Anaerovibrio</i>	Ascusb_9354	1071	<i>Prevotella</i>	Ascusb_17177	1735
<i>Vichvallis</i>	Ascusb_4115	408	<i>Blautia</i>	Ascusb_9355	1072	<i>Limibacter</i>	Ascusb_17182	1736
<i>Clostridium_III</i>	Ascusb_4118	409	<i>Verrucomicrobia</i>	Ascusb_9367	1073	<i>Saccharofermentans</i>	Ascusb_17203	1737
<i>Anaerovibrio</i>	Ascusb_4120	410	<i>Clostridium_sensu_stricto</i>	Ascusb_9368	1074	<i>Clostridium_sensu_stricto</i>	Ascusb_17206	1738
<i>Anaerovorax</i>	Ascusb_4124	411	<i>Spirochaeta</i>	Ascusb_9369	1075	<i>Clostridium_III</i>	Ascusb_17243	1739
<i>Proteimiclasticum</i>	Ascusb_4142	412	<i>Clostridium_XI</i>	Ascusb_9372	1076	<i>Prevotella</i>	Ascusb_17275	1740
<i>Anaerovorax</i>	Ascusb_4143	413	<i>Anaerovorax</i>	Ascusb_9376	1077	<i>Pseudoxanthomonas</i>	Ascusb_17283	1741
<i>Selenomonas</i>	Ascusb_4149	414	<i>Roseburia</i>	Ascusb_9381	1078	<i>Anaerorhabdus</i>	Ascusb_17325	1742
<i>Hydrogenoanaerobacterium</i>	Ascusb_4155	415	<i>Mucilagimibacter</i>	Ascusb_9388	1079	<i>Clostridium_III</i>	Ascusb_17360	1743
<i>Acetan aerobacterium</i>	Ascusb_4156	416	<i>Clostridium_XI</i>	Ascusb_9389	1080	<i>Streptomyces</i>	Ascusb_17372	1744
<i>Clostridium_XIVa</i>	Ascusb_4159	417	<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_9401	1081	<i>Pedobacter</i>	Ascusb_17388	1745
<i>Asaccharobacter</i>	Ascusb_4161	418	<i>Prevotella</i>	Ascusb_9402	1082	<i>Cellulomonas</i>	Ascusb_17414	1746
<i>Clostridium_XIVa</i>	Ascusb_4167	419	<i>Clostridium_III</i>	Ascusb_9411	1083	<i>Clostridium_XIVa</i>	Ascusb_17416	1747
<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_4171	420	<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_9415	1084	<i>Olivibacter</i>	Ascusb_17425	1748
<i>Saccharofermentans</i>	Ascusb_4172	421	<i>Coprococcus</i>	Ascusb_9427	1085	<i>Treponema</i>	Ascusb_17433	1749
<i>Prevotella</i>	Ascusb_4176	422	<i>Acholeplasma</i>	Ascusb_9432	1086	<i>Gelidibacter</i>	Ascusb_17437	1750
<i>Anaeroplasma</i>	Ascusb_4179	423	<i>Clostridium_III</i>	Ascusb_9453	1087	<i>Ruminococcus</i>	Ascusb_17439	1751

<i>Spirochaeta</i>	Ascusb_4188	424	<i>Lactobacillus</i>	Ascusb_9454	1088	<i>Clostridium_IV</i>	Ascusb_17446	1752
<i>Alkaliphilus</i>	Ascusb_4213	425	<i>Clostridium_IV</i>	Ascusb_9455	1089	<i>Gemmatimonas</i>	Ascusb_17450	1753
<i>Paraprevotella</i>	Ascusb_4215	426	<i>Prevotella</i>	Ascusb_9465	1090	<i>Prevotella</i>	Ascusb_17459	1754
<i>Hippea</i>	Ascusb_4217	427	<i>Bifidobacterium</i>	Ascusb_9497	1091	<i>Ethanoligenens</i>	Ascusb_17477	1755
<i>Prevotella</i>	Ascusb_4223	428	<i>Adhaeribacter</i>	Ascusb_9507	1092	<i>Leucobacter</i>	Ascusb_17494	1756
<i>Prevotella</i>	Ascusb_4237	429	<i>Hydrogeno anaerobacterium</i>	Ascusb_9518	1093	<i>Clostridium_XIVa</i>	Ascusb_17502	1757
<i>Hydrogeno anaerobacterium</i>	Ascusb_4241	430	<i>Acetivibrio</i>	Ascusb_9521	1094	<i>Clostridium_XIVa</i>	Ascusb_17507	1758
<i>Clostridium _sensu_stricto</i>	Ascusb_4265	431	<i>Cyanobacteria</i>	Ascusb_9532	1095	<i>Eggerthella</i>	Ascusb_17540	1759
<i>Paraeggerthella</i>	Ascusb_4266	432	<i>Flammeovirga</i>	Ascusb_9535	1096	<i>Prevotella</i>	Ascusb_17553	1760
<i>Clostridium_XIVa</i>	Ascusb_4277	433	<i>Deftiosulfovibrio</i>	Ascusb_9543	1097	<i>Prevotella</i>	Ascusb_17569	1761
<i>Clostridium_XIVa</i>	Ascusb_4279	434	<i>Hippea</i>	Ascusb_9545	1098	<i>Solobacterium</i>	Ascusb_17571	1762
<i>Clostridium_IV</i>	Ascusb_4281	435	<i>Faecalibacterium</i>	Ascusb_9558	1099	<i>Xanthobacter</i>	Ascusb_17581	1763
<i>Clostridium_XIVa</i>	Ascusb_4292	436	<i>Spirochaeta</i>	Ascusb_9559	1100	<i>Verrucomicrobia</i>	Ascusb_17649	1764
<i>Adhaeribacter</i>	Ascusb_4313	437	<i>Brevundimonas</i>	Ascusb_9563	1101	<i>Desulfovibrio</i>	Ascusb_17670	1765
<i>Syntrophococcus</i>	Ascusb_4316	438	<i>Mucilaginibacter</i>	Ascusb_9564	1102	<i>Microbacterium</i>	Ascusb_17717	1766
<i>Clostridium _sensu_stricto</i>	Ascusb_4317	439	<i>Hydrogeno anaerobacterium</i>	Ascusb_9580	1103	<i>Oscillibacter</i>	Ascusb_17718	1767
<i>Saccharofermentans</i>	Ascusb_4326	440	<i>Asaccharobacter</i>	Ascusb_9587	1104	<i>Blautia</i>	Ascusb_17735	1768

<i>Clostridium_IV</i>	Ascusb_4332	441	<i>Clostridium_IV</i>	Ascusb_9591	1105	<i>Papillibacter</i>	Ascusb_17736	1769
<i>Clostridium_IV</i>	Ascusb_4345	442	<i>Mogibacterium</i>	Ascusb_9605	1106	<i>Prevotella</i>	Ascusb_17759	1770
<i>Clostridium_sensu_stricto</i>	Ascusb_4347	443	<i>Clostridium_IV</i>	Ascusb_9617	1107	<i>Lentisphaera</i>	Ascusb_17766	1771
<i>Coraliomargarita</i>	Ascusb_4375	444	<i>Oscillibacter</i>	Ascusb_9619	1108	<i>Ruminococcus</i>	Ascusb_17767	1772
<i>Sharpea</i>	Ascusb_4380	445	<i>Clostridium_XIVa</i>	Ascusb_9628	1109	<i>Bacteroides</i>	Ascusb_17769	1773
<i>Clostridium_IV</i>	Ascusb_4394	446	<i>Faecalibacterium</i>	Ascusb_9640	1110	<i>Catonella</i>	Ascusb_17771	1774
<i>Anaerovorax</i>	Ascusb_4416	447	<i>Altererythrobacter</i>	Ascusb_9644	1111	<i>Clostridium_XIVa</i>	Ascusb_17773	1775
<i>Blautia</i>	Ascusb_4421	448	<i>Gelidibacter</i>	Ascusb_9636	1112	<i>Clostridium_IV</i>	Ascusb_17782	1776
<i>Clostridium_XIVa</i>	Ascusb_4422	449	<i>Prevotella</i>	Ascusb_9662	1113	<i>Verrucomicrobia</i>	Ascusb_17802	1777
<i>Clostridium_IV</i>	Ascusb_4432	450	<i>Anaerovorax</i>	Ascusb_9663	1114	<i>Clostridium_XI</i>	Ascusb_17804	1778
<i>Anaerovorax</i>	Ascusb_4433	451	<i>Riemerella</i>	Ascusb_9664	1115	<i>Prevotella</i>	Ascusb_17810	1779
<i>Coraliomargarita</i>	Ascusb_4434	452	<i>Sphingobacterium</i>	Ascusb_9666	1116	<i>Candidate phylum TM7</i>	Ascusb_17824	1780
<i>Lachnospiracea incertae_sedis</i>	Ascusb_4442	453	<i>Syntrophococcus</i>	Ascusb_9668	1117	<i>Mogibacterium</i>	Ascusb_17838	1781
<i>Aquiflexum</i>	Ascusb_4449	454	<i>Bacteroides</i>	Ascusb_9669	1118	<i>Clostridium_XIVa</i>	Ascusb_17846	1782
<i>Pedobacter</i>	Ascusb_4450	455	<i>Papillibacter</i>	Ascusb_9678	1119	<i>Ruminococcus</i>	Ascusb_17857	1783
<i>Robinsoniella</i>	Ascusb_4457	456	<i>Butyrivibrio</i>	Ascusb_9679	1120	<i>Eubacterium</i>	Ascusb_17866	1784
<i>Pelomonas</i>	Ascusb_4468	457	<i>Clostridium_IV</i>	Ascusb_9680	1121	<i>Clostridium_IV</i>	Ascusb_17892	1785
<i>Saccharofermentans</i>	Ascusb_4469	458	<i>Hydrogeno</i>	Ascusb_9684	1122	<i>Rhodomicrobium</i>	Ascusb_17896	1786

			<i>anaerobacterium</i>					
<i>Paracoccus</i>	Ascusb_4479	459	<i>Marvinbryantia</i>	Ascusb_9688	1123	<i>Butyricoccus</i>	Ascusb_17957	1787
<i>Enterorhabdus</i>	Ascusb_4486	460	<i>Brevibacillus</i>	Ascusb_9701	1124	<i>Saccharofermentans</i>	Ascusb_17975	1788
<i>Beijerinckia</i>	Ascusb_4496	461	<i>Clostridium_IV</i>	Ascusb_9715	1125	<i>Prevotella</i>	Ascusb_17978	1789
<i>Sporobacter</i>	Ascusb_4505	462	<i>Prevotella</i>	Ascusb_9719	1126	<i>Mannheimia</i>	Ascusb_17981	1790
<i>Clostridium_IV</i>	Ascusb_4517	463	<i>Clostridium_IV</i>	Ascusb_9734	1127	<i>Lactobacillus</i>	Ascusb_18078	1791
<i>Bacillus</i>	Ascusb_4522	464	<i>Aminobacter</i>	Ascusb_9759	1128	<i>Clostridium_IV</i>	Ascusb_18081	1792
<i>Saccharofermentans</i>	Ascusb_4537	465	<i>Sporotomaculum</i>	Ascusb_9764	1129	<i>Clostridium_IV</i>	Ascusb_18091	1793
<i>Spirochaeta</i>	Ascusb_4545	466	<i>Clostridium_IV</i>	Ascusb_9779	1130	<i>Adlercreutzia</i>	Ascusb_18107	1794
<i>Prevotella</i>	Ascusb_4548	467	<i>Pedobacter</i>	Ascusb_9780	1131	<i>Selenomonas</i>	Ascusb_18110	1795
<i>Eubacterium</i>	Ascusb_4556	468	<i>Victivallis</i>	Ascusb_9782	1132	<i>Paenibacillus</i>	Ascusb_18123	1796
<i>Herbiconux</i>	Ascusb_4559	469	<i>Geltdibacter</i>	Ascusb_9792	1133	<i>Clostridium_IV</i>	Ascusb_18140	1797
<i>Brevundimonas</i>	Ascusb_4560	470	<i>Prevotella</i>	Ascusb_9824	1134	<i>Paenibacillus</i>	Ascusb_18148	1798
<i>Mogibacterium</i>	Ascusb_4563	471	<i>Wautersiella</i>	Ascusb_9839	1135	<i>Butyricimonas</i>	Ascusb_18161	1799
<i>Anaerorhabdus</i>	Ascusb_4566	472	<i>Slackia</i>	Ascusb_9846	1136	<i>Wandonia</i>	Ascusb_18170	1800
<i>Victivallis</i>	Ascusb_4569	473	<i>Pyramidobacter</i>	Ascusb_9851	1137	<i>Puniceicoccus</i>	Ascusb_18179	1801
<i>Prevotella</i>	Ascusb_4573	474	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_9862	1138	<i>Lactonfactor</i>	Ascusb_18183	1802
<i>Anaerovorax</i>	Ascusb_4579	475	<i>Clostridium_XIVa</i>	Ascusb_9869	1139	<i>Selenomonas</i>	Ascusb_18248	1803
<i>Aquiflexum</i>	Ascusb_4606	476	<i>Prevotella</i>	Ascusb_9876	1140	<i>Brevundimonas</i>	Ascusb_18262	1804
<i>Oscillibacter</i>	Ascusb_4618	477	<i>Lentisphaera</i>	Ascusb_9886	1141	<i>Prevotella</i>	Ascusb_18273	1805

<i>Altererythrobacter</i>	Ascusb_4626	478	<i>Desulfoloma</i>	Ascusb_9895	1142	<i>Gelidibacter</i>	Ascusb_18283	1806
<i>Hydrogeno anaerobacterium</i>	Ascusb_4627	479	<i>Clostridium_III</i>	Ascusb_9897	1143	<i>Mogibacterium</i>	Ascusb_18287	1807
<i>Clostridium_III</i>	Ascusb_4634	480	<i>Clostridium_sensu_stricto</i>	Ascusb_9925	1144	<i>Clostridium_XIVa</i>	Ascusb_18303	1808
<i>Clostridium_XIVb</i>	Ascusb_4639	481	<i>Prevotella</i>	Ascusb_9929	1145	<i>Coprococcus</i>	Ascusb_18329	1809
<i>Saccharofermentaris</i>	Ascusb_4644	482	<i>Clostridium_III</i>	Ascusb_9934	1146	<i>Verrucomicrobia</i>	Ascusb_18335	1810
<i>Roseburia</i>	Ascusb_4652	483	<i>Clostridium_IV</i>	Ascusb_9949	1147	<i>Barnesiella</i>	Ascusb_18339	1811
<i>Anaeroplasmia</i>	Ascusb_4657	484	<i>Prevotella</i>	Ascusb_9951	1148	<i>Verrucomicrobia</i>	Ascusb_18351	1812
<i>Planctomyces</i>	Ascusb_4676	485	<i>Cyanobacteria</i>	Ascusb_9954	1149	<i>Clostridium_XIVa</i>	Ascusb_18354	1813
<i>Ruminococcus</i>	Ascusb_4679	486	<i>Helicobacter</i>	Ascusb_9958	1150	<i>Anaerovorax</i>	Ascusb_18371	1814
<i>Selenomonas</i>	Ascusb_4695	487	<i>Clostridium_XIVa</i>	Ascusb_9977	1151	<i>Bacteroides</i>	Ascusb_18389	1815
<i>Anaeroplasmia</i>	Ascusb_4696	488	<i>Coprococcus</i>	Ascusb_9982	1152	<i>Parasporobacterium</i>	Ascusb_18444	1816
<i>Anaerovorax</i>	Ascusb_4700	489	<i>Bradyrhizobium</i>	Ascusb_9993	1153	<i>Prevotella</i>	Ascusb_18449	1817
<i>Rummelthibacillus</i>	Ascusb_4701	490	<i>Clostridium_IV</i>	Ascusb_9996	1154	<i>Parapedobacter</i>	Ascusb_18475	1818
<i>Clostridium_XIVa</i>	Ascusb_4716	491	<i>Sphingobacterium</i>	Ascusb_10002	1155	<i>Streptomyces</i>	Ascusb_18495	1819
<i>Anaeroplasmia</i>	Ascusb_4731	492	<i>Gelidibacter</i>	Ascusb_10023	1156	<i>Candidate phylum TM7</i>	Ascusb_18503	1820
<i>Butyrivibrio</i>	Ascusb_4757	493	<i>Vasilyevaea</i>	Ascusb_10029	1157	<i>Thermotalea</i>	Ascusb_18516	1821
<i>Lachnospiracea incertae sedis</i>	Ascusb_4738	494	<i>Eubacterium</i>	Ascusb_10030	1158	<i>Alkaliflexus</i>	Ascusb_18519	1822

<i>Anaerotruncus</i>	Ascusb_4758	495	<i>Clostridium_XIVa</i>	Ascusb_10034	1159	<i>Oscilibacter</i>	Ascusb_18557	1823
<i>Syntrophococcus</i>	Ascusb_4763	496	<i>Eubacterium</i>	Ascusb_10044	1160	<i>Anaerotruncus</i>	Ascusb_18564	1824
<i>Paraeggerthella</i>	Ascusb_4795	497	<i>Syntrophococcus</i>	Ascusb_10045	1161	<i>Spirochaeta</i>	Ascusb_18566	1825
<i>Papillibacter</i>	Ascusb_4800	498	<i>Prevotella</i>	Ascusb_10050	1162	<i>Clostridium_XI</i>	Ascusb_18567	1826
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_4805	499	<i>Treponema</i>	Ascusb_10057	1163	<i>Sporotomaculum</i>	Ascusb_18585	1827
<i>Prevotella</i>	Ascusb_4820	500	<i>Anaerovorax</i>	Ascusb_10058	1164	<i>Sporaceligenium</i>	Ascusb_18592	1828
<i>Papillibacter</i>	Ascusb_4828	501	<i>Erysipelotrichaceae _incertae_sedis</i>	Ascusb_10059	1165	<i>Bulleidia</i>	Ascusb_18608	1829
<i>Streptococcus</i>	Ascusb_4852	502	<i>Sulfurovum</i>	Ascusb_10084	1166	<i>Clostridium_IV</i>	Ascusb_18636	1830
<i>Methanobrevibacter</i>	Ascusb_4859	503	<i>Clostridium_IV</i>	Ascusb_10085	1167	<i>Syntrophomonas</i>	Ascusb_18648	1831
<i>Prevotella</i>	Ascusb_4861	504	<i>Papillibacter</i>	Ascusb_10087	1168	<i>Desulfatiferula</i>	Ascusb_18678	1832
<i>Prevotella</i>	Ascusb_4867	505	<i>Paracoccus</i>	Ascusb_10094	1169	<i>Hydrogeno anaerobacterium</i>	Ascusb_18680	1833
<i>Prevotella</i>	Ascusb_4873	506	<i>Hydrogeno anaerobacterium</i>	Ascusb_10102	1170	<i>Clostridium_XIVa</i>	Ascusb_18695	1834
<i>Coraliomargarita</i>	Ascusb_4882	507	<i>Adhaeribacter</i>	Ascusb_10121	1171	<i>Mogibacterium</i>	Ascusb_18731	1835
<i>Prevotella</i>	Ascusb_4886	508	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_10126	1172	<i>Spirochaeta</i>	Ascusb_18733	1836
<i>Thermotalea</i>	Ascusb_4893	509	<i>Bacteroides</i>	Ascusb_10127	1173	<i>Prevotella</i>	Ascusb_18735	1837
<i>Clostridium_XIVa</i>	Ascusb_4897	510	<i>Hydrogeno anaerobacterium</i>	Ascusb_10129	1174	<i>Treponema</i>	Ascusb_18738	1838

<i>Atopobium</i>	Ascusb_4945	511	<i>Teimatospirillum</i>	Ascusb_10138	1175	<i>Spiroplasma</i>	Ascusb_18764	1839
<i>Prevotella</i>	Ascusb_4969	512	<i>Clostridium_XIVa</i>	Ascusb_10144	1176	<i>Clostridium_XIVa</i>	Ascusb_18766	1840
<i>Mogibacterium</i>	Ascusb_4972	513	<i>Hydrogeno anaerobacterium</i>	Ascusb_10147	1177	<i>Bacteroides</i>	Ascusb_18795	1841
<i>Clostridium_XIVa</i>	Ascusb_4976	514	<i>Clostridium_IV</i>	Ascusb_10156	1178	<i>Treponema</i>	Ascusb_18814	1842
<i>Clostridium_XIVa</i>	Ascusb_4997	515	<i>Vasilyevaea</i>	Ascusb_10164	1179	<i>Selenomonas</i>	Ascusb_18829	1843
<i>Eggerthella</i>	Ascusb_4999	516	<i>Anaeroplasma</i>	Ascusb_10177	1180	<i>Butyrivicoccus</i>	Ascusb_18846	1844
<i>Blautia</i>	Ascusb_5000	517	<i>Sporotomaculum</i>	Ascusb_10193	1181	<i>Gelidibacter</i>	Ascusb_18866	1845
<i>Vampirovibrio</i>	Ascusb_5006	518	<i>Clostridium_IV</i>	Ascusb_10194	1182	<i>Aceitomaculum</i>	Ascusb_18876	1846
<i>Papillibacter</i>	Ascusb_5040	519	<i>Enterorhabdus</i>	Ascusb_10204	1183	<i>Proteiniclasticum</i>	Ascusb_18907	1847
<i>Beijerinckia</i>	Ascusb_5058	520	<i>Bacteroides</i>	Ascusb_10208	1184	<i>Papillibacter</i>	Ascusb_18930	1848
<i>Bacteroides</i>	Ascusb_5060	521	<i>Anaerotruncus</i>	Ascusb_10210	1185	<i>Prevotella</i>	Ascusb_18949	1849
<i>Desulfotomaculum</i>	Ascusb_5065	522	<i>Rhodopirellula</i>	Ascusb_10215	1186	<i>Elusimicrobium</i>	Ascusb_18970	1850
<i>Acidobacteria</i>	Ascusb_5069	523	<i>Clostridium_XIVa</i>	Ascusb_10221	1187	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_18998	1851
<i>Clostridium_XIVa</i>	Ascusb_5081	524	<i>Gelidibacter</i>	Ascusb_10243	1188	<i>Devosia</i>	Ascusb_19006	1852
<i>Clostridium_XIVa</i>	Ascusb_5089	525	<i>Anaerofustus</i>	Ascusb_10268	1189	<i>Roseburia</i>	Ascusb_19052	1853
<i>Clostridium_XIVa</i>	Ascusb_5095	526	<i>Butyrivicoccus</i>	Ascusb_10269	1190	<i>Mucilaginibacter</i>	Ascusb_19054	1854
<i>Cryptanaerobacter</i>	Ascusb_5103	527	<i>Butyrivicoccus</i>	Ascusb_10278	1191	<i>Mogibacterium</i>	Ascusb_19056	1855
<i>Prevotella</i>	Ascusb_5113	528	<i>Clostridium_XIVa</i>	Ascusb_10281	1192	<i>Saccharofermentans</i>	Ascusb_19063	1856
<i>Syntrophomonas</i>	Ascusb_5137	529	<i>Cryptanaerobacter</i>	Ascusb_10284	1193	<i>Paenibacillus</i>	Ascusb_19092	1857

<i>Erysielothrix</i>	Ascusb_5144	530	<i>Clostridium_XIVa</i>	Ascusb_10299	1194	<i>Anaerotruncus</i>	Ascusb_19101	1858
<i>Selenomonas</i>	Ascusb_5165	531	<i>Mogibacterium</i>	Ascusb_10309	1195	<i>Leucobacter</i>	Ascusb_19114	1859
<i>Clostridium_III</i>	Ascusb_5171	532	<i>Syntrophococcus</i>	Ascusb_10313	1196	<i>Clostridium_XIVa</i>	Ascusb_19148	1860
<i>Flavobacterium</i>	Ascusb_5181	533	<i>Bacteroides</i>	Ascusb_10325	1197	<i>Eubacterium</i>	Ascusb_19160	1861
<i>Thermotalea</i>	Ascusb_5191	534	<i>Treponema</i>	Ascusb_10327	1198	<i>Beijerinckia</i>	Ascusb_19170	1862
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5194	535	<i>Coraliomargarita</i>	Ascusb_10344	1199	<i>Prevotella</i>	Ascusb_19200	1863
<i>Mucilaginibacter</i>	Ascusb_5197	536	<i>Ruminococcus</i>	Ascusb_10368	1200	<i>Clostridium_III</i>	Ascusb_19206	1864
<i>Bacteroides</i>	Ascusb_5198	537	<i>Prevotella</i>	Ascusb_10374	1201	<i>Cyanobacteria</i>	Ascusb_19219	1865
<i>Ruminococcus</i>	Ascusb_5206	538	<i>Pseudaminobacter</i>	Ascusb_10380	1202	<i>Pseudoflavonifractor</i>	Ascusb_19237	1866
<i>Clostridium_XIVa</i>	Ascusb_5223	539	<i>Prevotella</i>	Ascusb_10392	1203	<i>Butyrivibrio</i>	Ascusb_19245	1867
<i>Asaccharobacter</i>	Ascusb_5225	540	<i>Treponema</i>	Ascusb_10450	1204	<i>Acholeplasma</i>	Ascusb_19267	1868
<i>Blautia</i>	Ascusb_5235	541	<i>Syntrophococcus</i>	Ascusb_10456	1205	<i>Filomicrobium</i>	Ascusb_19288	1869
<i>Mucilaginibacter</i>	Ascusb_5247	542	<i>Clostridium_IV</i>	Ascusb_10457	1206	<i>Clostridium_III</i>	Ascusb_19335	1870
<i>Coprococcus</i>	Ascusb_5252	543	<i>Tenacibaculum</i>	Ascusb_10462	1207	<i>Pseudoflavonifractor</i>	Ascusb_19340	1871
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5253	544	<i>Parabacteroides</i>	Ascusb_10466	1208	<i>Anaerophaga</i>	Ascusb_19341	1872
<i>Butyricimonas</i>	Ascusb_5255	545	<i>Luteimonas</i>	Ascusb_10469	1209	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_19347	1873
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5267	546	<i>Eubacterium</i>	Ascusb_10488	1210	<i>Asaccharobacter</i>	Ascusb_19353	1874

<i>Treponema</i>	Ascusb_5280	547	<i>Roseburia</i>	Ascusb_10495	1211	<i>Kordia</i>	Ascusb_19371	1875
<i>Clostridium_sensu_stricto</i>	Ascusb_5281	548	<i>Oscillibacter</i>	Ascusb_10504	1212	<i>Ruminococcus</i>	Ascusb_19376	1876
<i>Clostridium_XIVa</i>	Ascusb_5289	549	<i>Cyanobacteria</i>	Ascusb_10529	1213	<i>Clostridium_III</i>	Ascusb_19379	1877
<i>Anaerovorax</i>	Ascusb_5292	550	<i>Prevotella</i>	Ascusb_10547	1214	<i>Ethanoligenens</i>	Ascusb_19392	1878
<i>Saccharofermentaris</i>	Ascusb_5294	551	<i>Clostridium_IV</i>	Ascusb_10548	1215	<i>Clostridium_XIVa</i>	Ascusb_19412	1879
<i>Clostridium_XIVa</i>	Ascusb_5295	552	<i>Treponema</i>	Ascusb_10557	1216	<i>Barnesiella</i>	Ascusb_19414	1880
<i>Clostridium_III</i>	Ascusb_5301	553	<i>Clostridium_IV</i>	Ascusb_10561	1217	<i>Eubacterium</i>	Ascusb_19444	1881
<i>Clostridium_IV</i>	Ascusb_5313	554	<i>Victivallis</i>	Ascusb_10562	1218	<i>Prevotella</i>	Ascusb_19457	1882
<i>Ruminococcus</i>	Ascusb_5324	555	<i>Clostridium_XIVa</i>	Ascusb_10576	1219	<i>Anaerophaga</i>	Ascusb_19496	1883
<i>Clostridium_XIVa</i>	Ascusb_5326	556	<i>Oscillibacter</i>	Ascusb_10586	1220	<i>Acetivomaculum</i>	Ascusb_19498	1884
<i>Clostridium_XI</i>	Ascusb_5333	557	<i>Papillibacter</i>	Ascusb_10598	1221	<i>Prevotella</i>	Ascusb_19503	1885
<i>Clostridium_XIVa</i>	Ascusb_5336	558	<i>Cellulostypticum</i>	Ascusb_10604	1222	<i>Clostridium_III</i>	Ascusb_19507	1886
<i>Eubacterium</i>	Ascusb_5338	559	<i>Treponema</i>	Ascusb_10607	1223	<i>Marinoscillum</i>	Ascusb_19558	1887
<i>Lachnospiracea_incertae_sedis</i>	Ascusb_5342	560	<i>Ruminococcus</i>	Ascusb_10609	1224	<i>Pedobacter</i>	Ascusb_19568	1888
<i>Clostridium_IV</i>	Ascusb_5352	561	<i>Coralimargarita</i>	Ascusb_10612	1225	<i>Prevotella</i>	Ascusb_19579	1889
<i>Ruminococcus</i>	Ascusb_5353	562	<i>Butyrivococcus</i>	Ascusb_10613	1226	<i>Prevotella</i>	Ascusb_19613	1890
<i>Clostridium_IV</i>	Ascusb_5354	563	<i>Blautia</i>	Ascusb_10615	1227	<i>Anaerovorax</i>	Ascusb_19633	1891
<i>Faecalibacterium</i>	Ascusb_5360	564	<i>Lachnospiracea_incertae_sedis</i>	Ascusb_10617	1228	<i>Clostridium_XIVa</i>	Ascusb_19658	1892

<i>Anaerovibrio</i>	Ascusb_5368	565	<i>Prevotella</i>	Ascusb_10622	1229	<i>Clostridium_IV</i>	Ascusb_19662	1893
<i>Asaccharobacter</i>	Ascusb_5397	566	<i>Clostridium_IV</i>	Ascusb_10623	1230	<i>Lachnospiracea _incertae_sedis</i>	Ascusb_19681	1894
<i>Pelotomaculum</i>	Ascusb_5411	567	<i>Clostridium_IV</i>	Ascusb_10635	1231	<i>Clostridium _sensu_stricto</i>	Ascusb_19694	1895
<i>Spirochaeta</i>	Ascusb_5422	568	<i>Clostridium_III</i>	Ascusb_10655	1232	<i>Lishizhenia</i>	Ascusb_19698	1896
<i>Prevotella</i>	Ascusb_5429	569	<i>Neptunomonas</i>	Ascusb_10677	1233	<i>Pedobacter</i>	Ascusb_19700	1897
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5440	570	<i>Clostridium_IV</i>	Ascusb_10682	1234	<i>Howardella</i>	Ascusb_19731	1898
<i>Anaerovorax</i>	Ascusb_5441	571	<i>Howardella</i>	Ascusb_10685	1235	<i>Roseburia</i>	Ascusb_19745	1899
<i>Clostridium_IV</i>	Ascusb_5443	572	<i>Clostridium_IV</i>	Ascusb_10687	1236	<i>Clostridium_XIVa</i>	Ascusb_19754	1900
<i>Victivallis</i>	Ascusb_5451	573	<i>Roseburia</i>	Ascusb_10711	1237	<i>Anaerovorax</i>	Ascusb_19765	1901
<i>Syntrophococcus</i>	Ascusb_5456	574	<i>Oscillibacter</i>	Ascusb_10739	1238	<i>Lentisphaera</i>	Ascusb_19772	1902
<i>Syntrophococcus</i>	Ascusb_5463	575	<i>Clostridium_XIVa</i>	Ascusb_10740	1239	<i>Prevotella</i>	Ascusb_19778	1903
<i>Desulfovibrio</i>	Ascusb_5481	576	<i>Clostridium_IV</i>	Ascusb_10741	1240	<i>Saccharofermentans</i>	Ascusb_19779	1904
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5485	577	<i>Sporobacter</i>	Ascusb_10749	1241	<i>Cyanobacteria</i>	Ascusb_19818	1905
<i>Lachnospiracea _incertae_sedis</i>	Ascusb_5495	578	<i>Clostridium_XIVa</i>	Ascusb_10769	1242	<i>Proteimiphilum</i>	Ascusb_19824	1906
<i>Clostridium_IV</i>	Ascusb_5509	579	<i>Butyricoccus</i>	Ascusb_10774	1243	<i>Schwarzia</i>	Ascusb_19855	1907
<i>Prevotella</i>	Ascusb_5510	580	<i>Clostridium_XIVa</i>	Ascusb_10787	1244	<i>Anaerorhabdus</i>	Ascusb_19884	1908
<i>Victivallis</i>	Ascusb_5512	581	<i>Filomicrobium</i>	Ascusb_10788	1245	<i>Robinsoniella</i>	Ascusb_19885	1909

<i>Clostridium_XIVa</i>	Ascusb_5515	582	<i>Bacteroides</i>	Ascusb_10790	1246	<i>Clostridium_IV</i>	Ascusb_19904	1910
<i>Selenomonas</i>	Ascusb_5517	583	<i>Clostridium_XIVa</i>	Ascusb_10809	1247	<i>Erysipelotrichaceae</i> <i>_incertae_sedis</i>	Ascusb_19936	1911
<i>Bacteroides</i>	Ascusb_5530	584	<i>Brevundimonas</i>	Ascusb_10812	1248	<i>Flavobacterium</i>	Ascusb_19950	1912
<i>Clostridium_XIVa</i>	Ascusb_5536	585	<i>Clostridium_IV</i>	Ascusb_10817	1249	<i>Pedobacter</i>	Ascusb_19955	1913
<i>Eggerthella</i>	Ascusb_5554	586	<i>Paracoccus</i>	Ascusb_10818	1250	<i>Clostridium_III</i>	Ascusb_19982	1914
<i>Selenomonas</i>	Ascusb_5584	587	<i>Schlegelella</i>	Ascusb_10837	1251	<i>Selenomonas</i>	Ascusb_20001	1915
<i>Mogibacterium</i>	Ascusb_5592	588	<i>Clostridium_XI</i>	Ascusb_10844	1252	<i>Rhizobium</i>	Ascusb_20027	1916
<i>Armatimonadetes</i>	Ascusb_5609	589	<i>Diaphorobacter</i>	Ascusb_10847	1253	<i>Victivallis</i>	Ascusb_20044	1917
<i>Clostridium_XIVa</i>	Ascusb_5612	590	<i>Clostridium</i> <i>_sensu_stricto</i>	Ascusb_10858	1254	<i>Butyricimonas</i>	Ascusb_20062	1918
<i>Victivallis</i>	Ascusb_5623	591	<i>Saccharopolyspora</i>	Ascusb_10863	1255	<i>Parabacteroides</i>	Ascusb_20064	1919
<i>Paraprevotella</i>	Ascusb_5628	592	<i>Prevotella</i>	Ascusb_10871	1256	<i>Adhaeribacter</i>	Ascusb_20067	1920
<i>Brevundimonas</i>	Ascusb_5647	593	<i>Eggerthella</i>	Ascusb_10878	1257	<i>Eubacterium</i>	Ascusb_20086	1921
<i>Prevotella</i>	Ascusb_5650	594	<i>Gelidibacter</i>	Ascusb_10888	1258	<i>Acidobacteria</i>	Ascusb_20100	1922
<i>Prevotella</i>	Ascusb_5652	595	<i>Prevotella</i>	Ascusb_10899	1259	<i>Treponema</i>	Ascusb_20104	1923
<i>Robinsoniella</i>	Ascusb_5660	596	<i>Pseudomonas</i>	Ascusb_10922	1260	<i>Clostridium_XIVa</i>	Ascusb_20108	1924
<i>Clostridium_III</i>	Ascusb_5686	597	<i>Prevotella</i>	Ascusb_10927	1261	<i>Clostridium_XIVa</i>	Ascusb_20135	1925
<i>Butyricimonas</i>	Ascusb_5689	598	<i>Prevotella</i>	Ascusb_10937	1262	<i>Schwartzia</i>	Ascusb_20143	1926
<i>Spirochaeta</i>	Ascusb_5691	599	<i>Prevotella</i>	Ascusb_10940	1263	<i>Prevotella</i>	Ascusb_20162	1927
<i>Hydrogeno</i>	Ascusb_5694	600	<i>Brevundimonas</i>	Ascusb_10945	1264	<i>Selenomonas</i>	Ascusb_20172	1928

<i>anaerobacterium</i>								
<i>Protomicrobium</i>	Ascusb_5716	601	<i>Bacteroides</i>	Ascusb_10982	1265	<i>Beijerinckia</i>	Ascusb_20219	1929
<i>Roseburia</i>	Ascusb_5725	602	<i>Clostridium_XIVa</i>	Ascusb_11015	1266	<i>Eubacterium</i>	Ascusb_20221	1930
<i>Clostridium_XIVa</i>	Ascusb_5738	603	<i>Photobacterium</i>	Ascusb_11027	1267	<i>Adhaeribacter</i>	Ascusb_20251	1931
<i>Anaerofustis</i>	Ascusb_5746	604	<i>Clostridium_XIVa</i>	Ascusb_11031	1268	<i>Verrucomicrobia</i>	Ascusb_20264	1932
<i>Succinoclasticum</i>	Ascusb_5765	605	<i>Clostridium_XIVb</i>	Ascusb_11032	1269	<i>Desulfobulbus</i>	Ascusb_20275	1933
<i>Anaeroplasmia</i>	Ascusb_5770	606	<i>Prevotella</i>	Ascusb_11037	1270	<i>Bacteroides</i>	Ascusb_20278	1934
<i>Oscillibacter</i>	Ascusb_5777	607	<i>Clostridium_IV</i>	Ascusb_11046	1271	<i>Rummelibacillus</i>	Ascusb_20291	1935
<i>Escherichia/Shigella</i>	Ascusb_5789	608	<i>Anaeroplasmia</i>	Ascusb_11051	1272	<i>Agarivorans</i>	Ascusb_20293	1936
<i>Bacteroides</i>	Ascusb_5812	609	<i>Caldilinea</i>	Ascusb_11053	1273	<i>Clostridium_XIVa</i>	Ascusb_20306	1937
<i>Clostridium_XIVa</i>	Ascusb_5830	610	<i>Clostridium_XIVa</i>	Ascusb_11059	1274	<i>Selenomonas</i>	Ascusb_20312	1938
<i>Clostridium_XIVa</i>	Ascusb_5838	611	<i>Victivallis</i>	Ascusb_11061	1275	<i>Verrucomicrobia</i>	Ascusb_20365	1939
<i>Clostridium_IV</i>	Ascusb_5841	612	<i>Brevundimonas</i>	Ascusb_11063	1276	<i>Prevotella</i>	Ascusb_20368	1940
<i>Clostridium_III</i>	Ascusb_5845	613	<i>Cyanobacteria</i>	Ascusb_11074	1277	<i>Spirachaeta</i>	Ascusb_20392	1941
<i>Prevotella</i>	Ascusb_5847	614	<i>Prevotella</i>	Ascusb_11120	1278	<i>Selenomonas</i>	Ascusb_20405	1942
<i>Coproccoccus</i>	Ascusb_5849	615	<i>Slackia</i>	Ascusb_11124	1279	<i>Spiroplasma</i>	Ascusb_20424	1943
<i>Oscillibacter</i>	Ascusb_5858	616	<i>Pedobacter</i>	Ascusb_11125	1280	<i>Pedobacter</i>	Ascusb_20440	1944
<i>Parabacteroides</i>	Ascusb_5862	617	<i>Prevotella</i>	Ascusb_11129	1281	<i>Clostridium_XIVa</i>	Ascusb_20449	1945
<i>Bacteroides</i>	Ascusb_5868	618	<i>Trueperella</i>	Ascusb_11141	1282	<i>Cyanobacteria</i>	Ascusb_20456	1946
<i>Mogibacterium</i>	Ascusb_5869	619	<i>Oscillibacter</i>	Ascusb_11170	1283	<i>Lactobacillus</i>	Ascusb_20463	1947
<i>Solobacterium</i>	Ascusb_5870	620	<i>Cyanobacteria</i>	Ascusb_11185	1284	<i>Clostridium_XIVa</i>	Ascusb_20529	1948

<i>Bacteroides</i>	Ascusb_5874	621	<i>Vitivallis</i>	Ascusb_11199	1285	<i>Prevotella</i>	Ascusb_20534	1949
<i>Clostridium_III</i>	Ascusb_5877	622	<i>Bacteroides</i>	Ascusb_11200	1286	<i>Prevotella</i>	Ascusb_20540	1950
<i>Vitivallis</i>	Ascusb_5879	623	<i>Micrococcus</i>	Ascusb_11207	1287	<i>Marinobacter</i>	Ascusb_20569	1951
<i>Saccharofermentans</i>	Ascusb_5884	624	<i>Olivibacter</i>	Ascusb_11209	1288	<i>Butyricimonas</i>	Ascusb_20576	1952
<i>Saccharofermentans</i>	Ascusb_5889	625	<i>Anaerophaga</i>	Ascusb_11211	1289	<i>Prevotella</i>	Ascusb_20594	1953
<i>Olivibacter</i>	Ascusb_5894	626	<i>Selenomonas</i>	Ascusb_11214	1290	<i>Dongia</i>	Ascusb_20595	1954
<i>Thermotalea</i>	Ascusb_5895	627	<i>Megasphaera</i>	Ascusb_11219	1291	<i>Anaerovorax</i>	Ascusb_20639	1955
<i>Proteinclasticum</i>	Ascusb_5913	628	<i>Clostridium_XIVa</i>	Ascusb_11221	1292	<i>Butyricimonas</i>	Ascusb_20757	1956
<i>Clostridium_III</i>	Ascusb_5926	629	<i>Clostridium_XIVa</i>	Ascusb_11241	1293	<i>Cryptanaerobacter</i>	Ascusb_20826	1957
<i>Anaeroplasmia</i>	Ascusb_5934	630	<i>Eubacterium</i>	Ascusb_11245	1294	<i>Papillibacter</i>	Ascusb_20904	1958
<i>Treponema</i>	Ascusb_5939	631	<i>Cyanobacteria</i>	Ascusb_11253	1295	<i>Clostridium_sensu_stricto</i>	Ascusb_20938	1959
<i>Clostridium_XIVa</i>	Ascusb_5940	632	<i>Clostridium_XIVa</i>	Ascusb_11287	1296	<i>Escherichia/Shigella</i>	Ascusb_20943	1960
<i>Clostridium_III</i>	Ascusb_5950	633	<i>Treponema</i>	Ascusb_11288	1297	<i>Butyricoccus</i>	Ascusb_20986	1961
<i>Desulfotomaculum</i>	Ascusb_5953	634	<i>Cryptanaerobacter</i>	Ascusb_11289	1298	<i>Prevotella</i>	Ascusb_21013	1962
<i>Bacillus</i>	Ascusb_5969	635	<i>Xanthomonas</i>	Ascusb_11301	1299	<i>Lachnospiracea_incertae_sedis</i>	Ascusb_21027	1963
<i>Anaerovorax</i>	Ascusb_5972	636	<i>Asteroleplasma</i>	Ascusb_11302	1300	<i>Thermotalea</i>	Ascusb_21035	1964
<i>Ruminococcus</i>	Ascusb_5973	637	<i>Cyanobacteria</i>	Ascusb_11315	1301	<i>Cohaesibacter</i>	Ascusb_21042	1965
<i>Agarivorans</i>	Ascusb_5975	638	<i>Sporotomaculum</i>	Ascusb_11321	1302	<i>Clostridium_XVIII</i>	Ascusb_21043	1966
<i>Anaerotruncus</i>	Ascusb_5979	639	<i>Bacteroides</i>	Ascusb_11324	1303	<i>Lachnospiracea</i>	Ascusb_21085	1967

						<i>_incertae sedis</i>		
<i>Papillibacter</i>	Ascusb_5984	640	<i>Asaccharobacter</i>	Ascusb_11330	1304	<i>Spirochaeta</i>	Ascusb_21095	1968
<i>Clostridium_XIVa</i>	Ascusb_5991	641	<i>Clostridium_IV</i>	Ascusb_11343	1305	<i>Clostridium_XIVa</i>	Ascusb_21112	1969
<i>Clostridium_III</i>	Ascusb_5996	642	<i>Cyanobacteria</i>	Ascusb_11348	1306	<i>Hydrogeno anaerobacterium</i>	Ascusb_21147	1970
<i>Bacteroides</i>	Ascusb_5997	643	<i>Clostridium_XIVa</i>	Ascusb_11362	1307	<i>Clostridium_IV</i>	Ascusb_21151	1971
<i>Clostridium_XIVa</i>	Ascusb_5998	644	<i>Treponema</i>	Ascusb_11365	1308	<i>Papillibacter</i>	Ascusb_21160	1972
<i>Ruminococcus</i>	Ascusb_6003	645	<i>Prevotella</i>	Ascusb_11384	1309	<i>Sporosarcina</i>	Ascusb_21190	1973
<i>Clostridium_XIVa</i>	Ascusb_6005	646	<i>Turicibacter</i>	Ascusb_11388	1310	<i>Selenomonas</i>	Ascusb_21219	1974
<i>Oscillibacter</i>	Ascusb_6006	647	<i>Clostridium_IV</i>	Ascusb_11389	1311	<i>Papillibacter</i>	Ascusb_21229	1975
<i>Nitrobacter</i>	Ascusb_6022	648	<i>Clostridium_IV</i>	Ascusb_11397	1312	<i>Lachnospiracea _incertae sedis</i>	Ascusb_21244	1976
<i>Clostridium_XIVa</i>	Ascusb_6026	649	<i>Clostridium_IV</i>	Ascusb_11403	1313	<i>Clostridium_XIVa</i>	Ascusb_21271	1977
<i>Lachnospiracea _incertae sedis</i>	Ascusb_6035	650	<i>Oscillibacter</i>	Ascusb_11410	1314	<i>Saccharofermentans</i>	Ascusb_21297	1978
<i>Limibacter</i>	Ascusb_6037	651	<i>Deinococcus</i>	Ascusb_11423	1315	<i>Clostridium_IV</i>	Ascusb_21309	1979
<i>Desulfovibrio</i>	Ascusb_6053	652	<i>Pedobacter</i>	Ascusb_11427	1316	<i>Lachnospiracea _incertae sedis</i>	Ascusb_21348	1980
<i>Coprococcus</i>	Ascusb_6067	653	<i>Anaerovorax</i>	Ascusb_11435	1317	<i>Clostridium_IV</i>	Ascusb_21425	1981
<i>Anaerovorax</i>	Ascusb_6070	654	<i>Clostridium_IV</i>	Ascusb_11442	1318	<i>Lachnospiracea _incertae sedis</i>	Ascusb_21436	1982
<i>Spirochaeta</i>	Ascusb_6074	655	<i>Bacteroides</i>	Ascusb_11445	1319	<i>Desulfotomaculum</i>	Ascusb_21466	1983

<i>Cyanobacteria</i>	Ascusb_6079	656	<i>Clostridium_IV</i>	Ascusb_11461	1320	<i>Pedobacter</i>	Ascusb_21484	1984
<i>Saccharofermentans</i>	Ascusb_6081	657	<i>Rhodococcus</i>	Ascusb_11463	1321	<i>Anaeroplasm</i>	Ascusb_21546	1985
<i>Anaeroplasm</i>	Ascusb_6106	658	<i>Treponema</i>	Ascusb_11464	1322	<i>Clostridium_IV</i>	Ascusb_21585	1986
<i>Clostridium_III</i>	Ascusb_6115	659	<i>Muciloginibacter</i>	Ascusb_11475	1323	<i>Treponema</i>	Ascusb_21595	1987
<i>Victivallis</i>	Ascusb_6151	660	<i>Clostridium_XIVa</i>	Ascusb_11503	1324	<i>Mogibacterium</i>	Ascusb_21601	1988
<i>Enterorhabdus</i>	Ascusb_6168	661	<i>Olivibacter</i>	Ascusb_11510	1325			
<i>Clostridium_IV</i>	Ascusb_6169	662	<i>Clostridium_XIVa</i>	Ascusb_11519	1326			
<i>Erysipelothrix</i>	Ascusb_6172	663	<i>Barnesiella</i>	Ascusb_11581	1327			
<i>Clostridium_III</i>	Ascusb_6200	664	<i>Clostridium_XIVb</i>	Ascusb_11584	1328			
<i>Clostridium_sensu_stricto</i>	Ascusb_6207	665	<i>Gelidibacter</i>	Ascusb_11600	1329			
<i>Gelidibacter</i>	Ascusb_6212	666	<i>Methanobrevibacter</i>	Ascusb_11602	1330			
<i>Roseburia</i>	Ascusb_6219	667	<i>Anaerotruncus</i>	Ascusb_11612	1331			
<i>Neisseria</i>	Ascusb_6270	668	<i>Lachnospiraceae_incertae_sedis</i>	Ascusb_11653	1332			
<i>Prevotella</i>	Ascusb_6273	669	<i>Erysipelotrichaceae_incertae_sedis</i>	Ascusb_11656	1333			
<i>Cyanobacteria</i>	Ascusb_6275	670	<i>Mesorhizobium</i>	Ascusb_11681	1334			
<i>Oscillibacter</i>	Ascusb_6282	671	<i>Clostridium_XI</i>	Ascusb_11695	1335			
<i>Candidate phylum TM7</i>	Ascusb_6313	672	<i>Planctomyces</i>	Ascusb_11698	1336			

<i>Prevotella</i>	Ascusb_6326	673	<i>Aerococcus</i>	Ascusb_11713	1337			
<i>Saccharofermentans</i>	Ascusb_6330	674	<i>Victivallis</i>	Ascusb_11721	1338			
<i>Erysipelotrichaceae</i> <i>_incertae_sedis</i>	Ascusb_6337	675	<i>Cyanobacteria</i>	Ascusb_11736	1339			
<i>Spirochaeta</i>	Ascusb_6342	676	<i>Bacteroides</i>	Ascusb_11752	1340			
<i>Clostridium_XIVa</i>	Ascusb_6372	677	<i>Clostridium_XI</i>	Ascusb_11753	1341			
<i>Clostridium_XIVb</i>	Ascusb_6376	678	<i>Clostridium_XIVa</i>	Ascusb_11757	1342			
<i>Clostridium_XIVa</i>	Ascusb_6387	679	<i>Ruminococcus</i>	Ascusb_11761	1343			
<i>Adlercreutzia</i>	Ascusb_6389	680	<i>Saccharofermentans</i>	Ascusb_11780	1344			
<i>Clostridium_XIVa</i>	Ascusb_6394	681	<i>Oscillibacter</i>	Ascusb_11781	1345			
<i>Lachnospiraceae</i> <i>_incertae_sedis</i>	Ascusb_6400	682	<i>Lachnospiraceae</i> <i>_incertae_sedis</i>	Ascusb_11783	1346			
<i>Clostridium_IV</i>	Ascusb_6403	683	<i>Fibrobacter</i>	Ascusb_11793	1347			
<i>Adlercreutzia</i>	Ascusb_6406	684	<i>Kiloniella</i>	Ascusb_11809	1348			
<i>Prevotella</i>	Ascusb_6409	685	<i>Olivibacter</i>	Ascusb_11819	1349			
<i>Syntrophococcus</i>	Ascusb_6420	686	<i>Clostridium_IV</i>	Ascusb_11821	1350			
<i>Treponema</i>	Ascusb_6433	687	<i>Spirochaeta</i>	Ascusb_11865	1351			
<i>Prevotella</i>	Ascusb_6448	688	<i>Prevotella</i>	Ascusb_11870	1352			
<i>Clostridium_III</i>	Ascusb_6450	689	<i>Olivibacter</i>	Ascusb_11881	1353			
<i>Pseudothlavonifractor</i>	Ascusb_6463	690	<i>Prevotella</i>	Ascusb_11884	1354			
<i>Clostridium_IV</i>	Ascusb_6468	691	<i>Parabacteroides</i>	Ascusb_11885	1355			

BRIEF DESCRIPTION OF THE FIGURES

[0041] **FIG. 1** shows a general workflow of one embodiment of the method for determining the absolute abundance of one or more active microorganism strains.

[0042] **FIG. 2** shows a general workflow of one embodiment of a method for determining the co-occurrence of one or more, or two or more, active microorganism strains in a sample with one or more metadata (environmental) parameters, followed by leveraging cluster analysis and community detection methods on the network of determined relationships.

[0043] **FIG. 3** shows the results of a field trial in which dairy cows were administered a composition comprising Ascusb_3138 and Ascusf_15; **FIG. 3A** reveals the average number of pounds of milk fat produced over time; **FIG. 3B** reveals the average number of pounds of milk protein produced over time; and **FIG. 3C** reveals the average number of pounds of energy corrected milk (ECM) produced over time. The vertical line intersecting the data points in each of **FIG. 3A**, **FIG. 3B**, and **FIG. 3C** marks the day at which administration of the microbial bioconsortia ceased.

[0044] **FIG. 4** depicts the milk yield (kg) daily means (no fill) and covariate adjusted weekly least square means (solid fill) \pm SEM of cows assigned either to Control (circle) or Inoculated (trapezoid) by intervention period study days.

[0045] **FIG. 5** depicts the milk crude protein yield (CP, kg) daily means (no fill) and weekly least square means (solid fill) \pm SEM of cows assigned either to Control (circle) or Inoculated (trapezoid) by Intervention period study days.

[0046] **FIG. 6** depicts the milk fat yield (kg) daily means (no fill) and weekly least square means (solid fill) \pm SEM of cows assigned either to Control (circle) or Inoculated (trapezoid) by Intervention period study days.

[0047] **FIG. 7** depicts the energy corrected milk yield (ECM, kg) daily means (no fill) and weekly least square means (solid fill) \pm SEM of cows assigned either to Control (circle) or Inoculated (trapezoid) by Intervention period study days.

[0048] **FIG. 8** depicts the shared percent similarity (percent identity) among the bacteria (**FIG. 8A**) and fungi (**FIG. 8B**) of **Table 1**. The data points represent the greatest percent similarity pairing for each strain.

[0049] FIG. 9 depicts the MIC score distribution for rumen bacteria and milk fat efficiency.

[0050] FIG. 10 depicts the MIC score distribution for rumen fungi and milk fat efficiency.

[0051] FIG. 11 depicts the MIC score distribution for rumen bacteria and dairy efficiency.

[0052] FIG. 12 depicts the MIC score distribution for rumen fungi and dairy efficiency.

[0053] FIG. 13 depicts the MIC score distribution for rumen bacteria and milk fat efficiency with four species of bacteria and their MIC scores, in which the species have been evaluated in 3rd party studies. The lower the MIC score, the less likely the species/strains are capable of positively modulating milk fat efficiency in dairy cows.

[0054] FIG. 14 depicts an undegraded carbon source (Day 0) and a degraded carbon source (Day 7), as utilized in the insoluble carbon source assays.

[0055] FIG. 15 depicts a decrease in the number of cows exhibiting greater than 200,000 somatic cell counts (SSC)/mL milk in dairy cows that were administered a microbial composition of the present disclosure versus dairy cows that were not administered a microbial composition of the present disclosure.

[0056] FIG. 16 depicts a diagram that exemplifies how the diet influences the production of volatile fatty acids which in turn modulate milk production, body condition, growth, etc. Reproduced from Moran, 2005. Tropical dairy farming: feeding management for small holder dairy farmers in the humid tropics (Chapter 5), Landlinks Press, 312 pp.

[0057] FIG. 17 depicts a schematic diagram that illustrates an example process flow for use with an exemplary microbe interaction analysis and selection system, including the determination of MIC scores discussed throughout the present disclosure.

[0058] FIG. 18 depicts the non-linearity of pounds of milk fat produced over the course of an experiment to determine rumen microbial community constituents that impact the production of milk fat in dairy cows.

[0059] FIG. 19 depicts the correlation of the absolute cell count with activity filter of target strain Ascus_713 to pounds (lbs) of milk fat produced.

[0060] FIG. 20 depicts the absolute cell count with activity filter of target strain Ascus_7 and the pounds (lbs) of milk fat produced over the course of an experiment.

[0061] FIG. 21 depicts the correlation of the relative abundance with no activity filter of target strain Ascus_3038 to pounds (lbs) of milk fat produced.

DETAILED DESCRIPTION

Definitions

[0062] While the following terms are believed to be well understood by one of ordinary skill in the art, the following definitions are set forth to facilitate explanation of the presently disclosed subject matter.

[0063] The term “a” or “an” may refer to one or more of that entity, *i.e.* can refer to plural referents. As such, the terms “a” or “an”, “one or more” and “at least one” are used interchangeably herein. In addition, reference to “an element” by the indefinite article “a” or “an” does not exclude the possibility that more than one of the elements is present, unless the context clearly requires that there is one and only one of the elements.

[0064] Reference throughout this specification to “one embodiment”, “an embodiment”, “one aspect”, or “an aspect” means that a particular feature, structure or characteristic described in connection with the embodiment is included in at least one embodiment of the present disclosure. Thus, the appearances of the phrases “in one embodiment” or “in an embodiment” in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics can be combined in any suitable manner in one or more embodiments.

[0065] As used herein, in particular embodiments, the terms “about” or “approximately” when preceding a numerical value indicates the value plus or minus a range of 10%.

[0066] As used herein the terms “microorganism” or “microbe” should be taken broadly. These terms are used interchangeably and include, but are not limited to, the two prokaryotic domains, Bacteria and Archaea, eukaryotic fungi and protists, as well as viruses. In some embodiments, the disclosure refers to the “microbes” of **Table 1** or **Table 3**, or the “microbes” incorporated by reference. This characterization can refer to not only the predicted taxonomic microbial identifiers of the table, but also the identified strains of the microbes listed in the table.

[0067] The term “microbial consortia” or “microbial consortium” refers to a subset of a microbial community of individual microbial species, or strains of a species, which can be described as carrying out a common function, or can be described as participating in, or leading to, or correlating with, a recognizable parameter, such as a phenotypic trait of interest (e.g. increased milk production in a ruminant). The community may comprise two or more species, or strains of a species, of microbes. In some instances, the microbes coexist within the community symbiotically.

[0068] The term “microbial community” means a group of microbes comprising two or more species or strains. Unlike microbial consortia, a microbial community does not have to be carrying out a common function, or does not have to be participating in, or leading to, or correlating with, a recognizable parameter, such as a phenotypic trait of interest (e.g. increased milk production in a ruminant).

[0069] As used herein, “isolate,” “isolated,” “isolated microbe,” and like terms, are intended to mean that the one or more microorganisms has been separated from at least one of the materials with which it is associated in a particular environment (for example soil, water, animal tissue).

[0070] Microbes of the present disclosure may include spores and/or vegetative cells. In some embodiments, microbes of the present disclosure include microbes in a viable but non-culturable (VBNC) state. See Liao and Zhao (US Publication US2015267163A1). In some embodiments, microbes of the present disclosure include microbes in a biofilm. See Merritt *et al.* (U.S. Patent 7,427,408).

[0071] Thus, an “isolated microbe” does not exist in its naturally occurring environment; rather, it is through the various techniques described herein that the microbe has been removed from its natural setting and placed into a non-naturally occurring state of existence. Thus, the isolated strain or isolated microbe may exist as, for example, a biologically pure culture, or as spores (or other forms of the strain) in association with an acceptable carrier.

[0072] As used herein, “spore” or “spores” refer to structures produced by bacteria and fungi that are adapted for survival and dispersal. Spores are generally characterized as dormant structures, however spores are capable of differentiation through the process of germination. Germination is the differentiation of spores into vegetative cells that are capable of metabolic activity, growth, and reproduction. The germination of a single spore results in a single fungal or

bacterial vegetative cell. Fungal spores are units of asexual reproduction, and in some cases are necessary structures in fungal life cycles. Bacterial spores are structures for surviving conditions that may ordinarily be nonconductive to the survival or growth of vegetative cells.

[0073] As used herein, “microbial composition” refers to a composition comprising one or more microbes of the present disclosure, wherein a microbial composition, in some embodiments, is administered to animals of the present disclosure.

[0074] As used herein, “carrier”, “acceptable carrier”, or “pharmaceutical carrier” refers to a diluent, adjuvant, excipient, or vehicle with which the compound is administered. Such carriers can be sterile liquids, such as water and oils, including those of petroleum, animal, vegetable, or synthetic origin; such as peanut oil, soybean oil, mineral oil, sesame oil, and the like. Water or aqueous solution saline solutions and aqueous dextrose and glycerol solutions are preferably employed as carriers, in some embodiments as injectable solutions. Alternatively, the carrier can be a solid dosage form carrier, including but not limited to one or more of a binder (for compressed pills), a glidant, an encapsulating agent, a flavorant, and a colorant. The choice of carrier can be selected with regard to the intended route of administration and standard pharmaceutical practice. See Hardee and Baggo (1998. Development and Formulation of Veterinary Dosage Forms. 2nd Ed. CRC Press. 504 pg.); E.W. Martin (1970. Remington’s Pharmaceutical Sciences. 17th Ed. Mack Pub. Co.); and Blaser *et al.* (US Publication US20110280840A1).

[0075] In certain aspects of the disclosure, the isolated microbes exist as isolated and biologically pure cultures. It will be appreciated by one of skill in the art, that an isolated and biologically pure culture of a particular microbe, denotes that said culture is substantially free (within scientific reason) of other living organisms and contains only the individual microbe in question. The culture can contain varying concentrations of said microbe. The present disclosure notes that isolated and biologically pure microbes often “necessarily differ from less pure or impure materials.” See, e.g. *In re Bergstrom*, 427 F.2d 1394, (CCPA 1970)(discussing purified prostaglandins), see also, *In re Bergy*, 596 F.2d 952 (CCPA 1979)(discussing purified microbes), see also, *Parke-Davis & Co. v. H.K. Mulford & Co.*, 189 F. 95 (S.D.N.Y. 1911) (Learned Hand discussing purified adrenaline), *aff’d in part, rev’d in part*, 196 F. 496 (2d Cir. 1912), each of which are incorporated herein by reference. Furthermore, in some aspects, the disclosure

provides for certain quantitative measures of the concentration, or purity limitations, that must be found within an isolated and biologically pure microbial culture. The presence of these purity values, in certain embodiments, is a further attribute that distinguishes the presently disclosed microbes from those microbes existing in a natural state. *See, e.g., Merck & Co. v. Olin Mathieson Chemical Corp.*, 253 F.2d 156 (4th Cir. 1958) (discussing purity limitations for vitamin B12 produced by microbes), incorporated herein by reference.

[0076] As used herein, “individual isolates” should be taken to mean a composition, or culture, comprising a predominance of a single genera, species, or strain, of microorganism, following separation from one or more other microorganisms. The phrase should not be taken to indicate the extent to which the microorganism has been isolated or purified. However, “individual isolates” can comprise substantially only one genus, species, or strain, of microorganism.

[0077] As used herein, “microbiome” refers to the collection of microorganisms that inhabit the digestive tract or gastrointestinal tract of an animal (including the rumen if said animal is a ruminant) *and* the microorganisms’ physical environment (*i.e.* the microbiome has a biotic and physical component). The microbiome is fluid and may be modulated by numerous naturally occurring and artificial conditions (*e.g.*, change in diet, disease, antimicrobial agents, influx of additional microorganisms, etc.). The modulation of the microbiome of a rumen that can be achieved *via* administration of the compositions of the disclosure, can take the form of: (a) increasing or decreasing a particular Family, Genus, Species, or functional grouping of microbe (*i.e.* alteration of the biotic component of the rumen microbiome) and/or (b) increasing or decreasing volatile fatty acids in the rumen, increasing or decreasing rumen pH, increasing or decreasing any other physical parameter important for rumen health (*i.e.* alteration of the abiotic component of the rumen microbiome).

[0078] As used herein, “probiotic” refers to a substantially pure microbe (*i.e.*, a single isolate) or a mixture of desired microbes, and may also include any additional components that can be administered to a mammal for restoring microbiota. Probiotics or microbial inoculant compositions of the invention may be administered with an agent to allow the microbes to survive the environment of the gastrointestinal tract, *i.e.*, to resist low pH and to grow in the gastrointestinal environment. In some embodiments, the present compositions (*e.g.*, microbial compositions) are probiotics in some aspects.

[0079] As used herein, “prebiotic” refers to an agent that increases the number and/or activity of one or more desired microbes. Non-limiting examples of prebiotics that may be useful in the methods of the present disclosure include fructooligosaccharides (e.g., oligofructose, inulin, inulin-type fructans), galactooligosaccharides, amino acids, alcohols, and mixtures thereof. See Ramirez-Farias *et al.* (2008. *Br. J. Nutr.* 4:1-10) and Pool-Zobel and Sauer (2007. *J. Nutr.* 137:2580-2584 and supplemental).

[0080] The term “growth medium” as used herein, is any medium which is suitable to support growth of a microbe. By way of example, the media may be natural or artificial including gastrin supplemental agar, LB media, blood serum, and tissue culture gels. It should be appreciated that the media may be used alone or in combination with one or more other media. It may also be used with or without the addition of exogenous nutrients.

[0081] The medium may be amended or enriched with additional compounds or components, for example, a component which may assist in the interaction and/or selection of specific groups of microorganisms. For example, antibiotics (such as penicillin) or sterilants (for example, quaternary ammonium salts and oxidizing agents) could be present and/or the physical conditions (such as salinity, nutrients (for example organic and inorganic minerals (such as phosphorus, nitrogenous salts, ammonia, potassium and micronutrients such as cobalt and magnesium), pH, and/or temperature) could be amended.

[0082] As used herein, the term “ruminant” includes mammals that are capable of acquiring nutrients from plant-based food by fermenting it in a specialized stomach (rumen) prior to digestion, principally through microbial actions. Ruminants included cattle, goats, sheep, giraffes, yaks, deer, antelope, and others.

[0083] As used herein, the term “bovid” includes any member of family Bovidae, which include hoofed mammals such as antelope, sheep, goats, and cattle, among others.

[0084] As used herein, “energy-corrected milk” or “ECM” represents the amount of energy in milk based upon milk volume, milk fat, and milk protein. ECM adjusts the milk components to 3.5% fat and 3.2% protein, thus equalizing animal performance and allowing for comparison of production at the individual animal and herd levels over time. An equation used to calculate ECM, as related to the present disclosure, is:

$$\text{ECM} = (0.327 \times \text{milk pounds}) + (12.95 \times \text{fat pounds}) + (7.2 \times \text{protein pounds})$$

[0085] As used herein, “improved” should be taken broadly to encompass improvement of a characteristic of interest, as compared to a control group, or as compared to a known average quantity associated with the characteristic in question. For example, “improved” milk production associated with application of a beneficial microbe, or consortia, of the disclosure can be demonstrated by comparing the milk produced by an ungulate treated by the microbes taught herein to the milk of an ungulate not treated. In the present disclosure, “improved” does not necessarily demand that the data be statistically significant (*i.e.* $p < 0.05$); rather, any quantifiable difference demonstrating that one value (*e.g.* the average treatment value) is different from another (*e.g.* the average control value) can rise to the level of “improved.”

[0086] As used herein, “inhibiting and suppressing” and like terms should not be construed to require complete inhibition or suppression, although this may be desired in some embodiments.

[0087] The term “marker” or “unique marker” as used herein is an indicator of unique microorganism type, microorganism strain or activity of a microorganism strain. A marker can be measured in biological samples and includes without limitation, a nucleic acid-based marker such as a ribosomal RNA gene, a peptide- or protein-based marker, and/or a metabolite or other small molecule marker.

[0088] The term “metabolite” as used herein is an intermediate or product of metabolism. A metabolite in one embodiment is a small molecule. Metabolites have various functions, including in fuel, structural, signaling, stimulatory and inhibitory effects on enzymes, as a cofactor to an enzyme, in defense, and in interactions with other organisms (such as pigments, odorants and pheromones). A primary metabolite is directly involved in normal growth, development and reproduction. A secondary metabolite is not directly involved in these processes but usually has an important ecological function. Examples of metabolites include but are not limited to antibiotics and pigments such as resins and terpenes, etc. Some antibiotics use primary metabolites as precursors, such as actinomycin which is created from the primary metabolite, tryptophan. Metabolites, as used herein, include small, hydrophilic carbohydrates; large, hydrophobic lipids and complex natural compounds.

[0089] As used herein, the term “genotype” refers to the genetic makeup of an individual cell, cell culture, tissue, organism, or group of organisms.

[0090] As used herein, the term “allele(s)” means any of one or more alternative forms of a gene, all of which alleles relate to at least one trait or characteristic. In a diploid cell, the two alleles of a given gene occupy corresponding loci on a pair of homologous chromosomes. Since the present disclosure, in embodiments, relates to QTLs, *i.e.* genomic regions that may comprise one or more genes or regulatory sequences, it is in some instances more accurate to refer to “haplotype” (*i.e.* an allele of a chromosomal segment) instead of “allele”, however, in those instances, the term “allele” should be understood to comprise the term “haplotype”. Alleles are considered identical when they express a similar phenotype. Differences in sequence are possible but not important as long as they do not influence phenotype.

[0091] As used herein, the term “locus” (loci plural) means a specific place or places or a site on a chromosome where for example a gene or genetic marker is found.

[0092] As used herein, the term “genetically linked” refers to two or more traits that are co-inherited at a high rate during breeding such that they are difficult to separate through crossing.

[0093] A “recombination” or “recombination event” as used herein refers to a chromosomal crossing over or independent assortment. The term “recombinant” refers to an organism having a new genetic makeup arising as a result of a recombination event.

[0094] As used herein, the term “molecular marker” or “genetic marker” refers to an indicator that is used in methods for visualizing differences in characteristics of nucleic acid sequences. Examples of such indicators are restriction fragment length polymorphism (RFLP) markers, amplified fragment length polymorphism (AFLP) markers, single nucleotide polymorphisms (SNPs), insertion mutations, microsatellite markers (SSRs), sequence-characterized amplified regions (SCARs), cleaved amplified polymorphic sequence (CAPS) markers or isozyme markers or combinations of the markers described herein which defines a specific genetic and chromosomal location. Markers further include polynucleotide sequences encoding 16S or 18S rRNA, and internal transcribed spacer (ITS) sequences, which are sequences found between small-subunit and large-subunit rRNA genes that have proven to be especially useful in elucidating relationships or distinctions among when compared against one another. Mapping of molecular markers in the vicinity of an allele is a procedure which can be performed by the average person skilled in molecular-biological techniques.

[0095] The primary structure of major rRNA subunit 16S comprise a particular combination of conserved, variable, and hypervariable regions that evolve at different rates and enable the resolution of both very ancient lineages such as domains, and more modern lineages such as genera. The secondary structure of the 16S subunit include approximately 50 helices which result in base pairing of about 67% of the residues. These highly conserved secondary structural features are of great functional importance and can be used to ensure positional homology in multiple sequence alignments and phylogenetic analysis. Over the previous few decades, the 16S rRNA gene has become the most sequenced taxonomic marker and is the cornerstone for the current systematic classification of bacteria and archaea (Yarza *et al.* 2014. *Nature Rev. Micro.* 12:635-45).

[0096] A sequence identity of 94.5% or lower for two 16S rRNA genes is strong evidence for distinct genera, 86.5% or lower is strong evidence for distinct families, 82% or lower is strong evidence for distinct orders, 78.5% is strong evidence for distinct classes, and 75% or lower is strong evidence for distinct phyla. The comparative analysis of 16S rRNA gene sequences enables the establishment of taxonomic thresholds that are useful not only for the classification of cultured microorganisms but also for the classification of the many environmental sequences. Yarza *et al.* 2014. *Nature Rev. Micro.* 12:635-45).

[0097] As used herein, the term “trait” refers to a characteristic or phenotype. For example, in the context of some embodiments of the present disclosure, quantity of milk fat produced relates to the amount of triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and fatty acids present in milk. Desirable traits may also include other milk characteristics, including but not limited to: predominance of short chain fatty acids, medium chain fatty acids, and long chain fatty acids; quantity of carbohydrates such as lactose, glucose, galactose, and other oligosaccharides; quantity of proteins such as caseins and whey; quantity of vitamins, minerals, milk yield/volume; reductions in methane emissions or manure; improved efficiency of nitrogen utilization; improved dry matter intake; improved feed efficiency and digestibility; increased degradation of cellulose, lignin, and hemicellulose; increased rumen concentrations of fatty acids such as acetic acid, propionic acid, and butyric acid; etc.

[0098] A trait may be inherited in a dominant or recessive manner, or in a partial or incomplete-dominant manner. A trait may be monogenic (*i.e.* determined by a single locus) or polygenic (*i.e.* determined by more than one locus) or may also result from the interaction of one or more genes with the environment.

[0099] In the context of this disclosure, traits may also result from the interaction of one or more mammalian genes and one or more microorganism genes.

[0100] As used herein, the term “homozygous” means a genetic condition existing when two identical alleles reside at a specific locus, but are positioned individually on corresponding pairs of homologous chromosomes in the cell of a diploid organism. Conversely, as used herein, the term “heterozygous” means a genetic condition existing when two different alleles reside at a specific locus, but are positioned individually on corresponding pairs of homologous chromosomes in the cell of a diploid organism.

[0101] As used herein, the term “phenotype” refers to the observable characteristics of an individual cell, cell culture, organism (*e.g.*, a ruminant), or group of organisms which results from the interaction between that individual’s genetic makeup (*i.e.*, genotype) and the environment.

[0102] As used herein, the term “chimeric” or “recombinant” when describing a nucleic acid sequence or a protein sequence refers to a nucleic acid, or a protein sequence, that links at least two heterologous polynucleotides, or two heterologous polypeptides, into a single macromolecule, or that re-arranges one or more elements of at least one natural nucleic acid or protein sequence. For example, the term “recombinant” can refer to an artificial combination of two otherwise separated segments of sequence, *e.g.*, by chemical synthesis or by the manipulation of isolated segments of nucleic acids by genetic engineering techniques.

[0103] As used herein, a “synthetic nucleotide sequence” or “synthetic polynucleotide sequence” is a nucleotide sequence that is not known to occur in nature or that is not naturally occurring. Generally, such a synthetic nucleotide sequence will comprise at least one nucleotide difference when compared to any other naturally occurring nucleotide sequence.

[0104] As used herein, the term “nucleic acid” refers to a polymeric form of nucleotides of any length, either ribonucleotides or deoxyribonucleotides, or analogs thereof. This term refers to the primary structure of the molecule, and thus includes double- and single-stranded DNA, as well as double- and single-stranded RNA. It also includes modified nucleic acids such as methylated

and/or capped nucleic acids, nucleic acids containing modified bases, backbone modifications, and the like. The terms “nucleic acid” and “nucleotide sequence” are used interchangeably.

[0105] As used herein, the term “gene” refers to any segment of DNA associated with a biological function. Thus, genes include, but are not limited to, coding sequences and/or the regulatory sequences required for their expression. Genes can also include non-expressed DNA segments that, for example, form recognition sequences for other proteins. Genes can be obtained from a variety of sources, including cloning from a source of interest or synthesizing from known or predicted sequence information, and may include sequences designed to have desired parameters.

[0106] As used herein, the term “homologous” or “homologue” or “ortholog” is known in the art and refers to related sequences that share a common ancestor or family member and are determined based on the degree of sequence identity. The terms “homology,” “homologous,” “substantially similar” and “corresponding substantially” are used interchangeably herein. They refer to nucleic acid fragments wherein changes in one or more nucleotide bases do not affect the ability of the nucleic acid fragment to mediate gene expression or produce a certain phenotype. These terms also refer to modifications of the nucleic acid fragments of the instant disclosure such as deletion or insertion of one or more nucleotides that do not substantially alter the functional properties of the resulting nucleic acid fragment relative to the initial, unmodified fragment. It is therefore understood, as those skilled in the art will appreciate, that the disclosure encompasses more than the specific exemplary sequences. These terms describe the relationship between a gene found in one species, subspecies, variety, cultivar or strain and the corresponding or equivalent gene in another species, subspecies, variety, cultivar or strain. For purposes of this disclosure homologous sequences are compared. “Homologous sequences” or “homologues” or “orthologs” are thought, believed, or known to be functionally related. A functional relationship may be indicated in any one of a number of ways, including, but not limited to: (a) degree of sequence identity and/or (b) the same or similar biological function. Preferably, both (a) and (b) are indicated. Homology can be determined using software programs readily available in the art, such as those discussed in *Current Protocols in Molecular Biology* (F.M. Ausubel *et al.*, eds., 1987) Supplement 30, section 7.718, Table 7.71. Some alignment programs are MacVector (Oxford Molecular Ltd, Oxford, U.K.), ALIGN Plus (Scientific and Educational Software,

Pennsylvania) and AlignX (Vector NTI, Invitrogen, Carlsbad, CA). Another alignment program is Sequencher (Gene Codes, Ann Arbor, Michigan), using default parameters.

[0107] As used herein, the term “nucleotide change” refers to, *e.g.*, nucleotide substitution, deletion, and/or insertion, as is well understood in the art. For example, mutations contain alterations that produce silent substitutions, additions, or deletions, but do not alter the properties or activities of the encoded protein or how the proteins are made.

[0108] As used herein, the term “protein modification” refers to, *e.g.*, amino acid substitution, amino acid modification, deletion, and/or insertion, as is well understood in the art.

[0109] As used herein, the term “at least a portion” or “fragment” of a nucleic acid or polypeptide means a portion having the minimal size characteristics of such sequences, or any larger fragment of the full length molecule, up to and including the full length molecule. A fragment of a polynucleotide of the disclosure may encode a biologically active portion of a genetic regulatory element. A biologically active portion of a genetic regulatory element can be prepared by isolating a portion of one of the polynucleotides of the disclosure that comprises the genetic regulatory element and assessing activity as described herein. Similarly, a portion of a polypeptide may be 4 amino acids, 5 amino acids, 6 amino acids, 7 amino acids, and so on, going up to the full length polypeptide. The length of the portion to be used will depend on the particular application. A portion of a nucleic acid useful as a hybridization probe may be as short as 12 nucleotides; in some embodiments, it is 20 nucleotides. A portion of a polypeptide useful as an epitope may be as short as 4 amino acids. A portion of a polypeptide that performs the function of the full-length polypeptide would generally be longer than 4 amino acids.

[0110] Variant polynucleotides also encompass sequences derived from a mutagenic and recombinogenic procedure such as DNA shuffling. Strategies for such DNA shuffling are known in the art. *See, for example*, Stemmer (1994) PNAS 91:10747-10751; Stemmer (1994) Nature 370:389-391; Cramer *et al.*(1997) Nature Biotech. 15:436-438; Moore *et al.*(1997) J. Mol. Biol. 272:336-347; Zhang *et al.*(1997) PNAS 94:4504-4509; Cramer *et al.*(1998) Nature 391:288-291; and U.S. Patent Nos. 5,605,793 and 5,837,458. For PCR amplifications of the polynucleotides disclosed herein, oligonucleotide primers can be designed for use in PCR reactions to amplify corresponding DNA sequences from cDNA or genomic DNA extracted from any organism of interest. Methods for designing PCR primers and PCR cloning are generally known in the art and are disclosed in Sambrook *et al.*(1989) Molecular Cloning: A

Laboratory Manual (2nd ed., Cold Spring Harbor Laboratory Press, Plainview, New York). See also Innis *et al.*, eds. (1990) PCR Protocols: A Guide to Methods and Applications (Academic Press, New York); Innis and Gelfand, eds. (1995) PCR Strategies (Academic Press, New York); and Innis and Gelfand, eds. (1999) PCR Methods Manual (Academic Press, New York). Known methods of PCR include, but are not limited to, methods using paired primers, nested primers, single specific primers, degenerate primers, gene-specific primers, vector-specific primers, partially-mismatched primers, and the like.

[0111] The term “primer” as used herein refers to an oligonucleotide which is capable of annealing to the amplification target allowing a DNA polymerase to attach, thereby serving as a point of initiation of DNA synthesis when placed under conditions in which synthesis of primer extension product is induced, *i.e.*, in the presence of nucleotides and an agent for polymerization such as DNA polymerase and at a suitable temperature and pH. The (amplification) primer is preferably single stranded for maximum efficiency in amplification. Preferably, the primer is an oligodeoxyribonucleotide. The primer must be sufficiently long to prime the synthesis of extension products in the presence of the agent for polymerization. The exact lengths of the primers will depend on many factors, including temperature and composition (A/T vs. G/C content) of primer. A pair of bi-directional primers consists of one forward and one reverse primer as commonly used in the art of DNA amplification such as in PCR amplification.

[0112] The terms “stringency” or “stringent hybridization conditions” refer to hybridization conditions that affect the stability of hybrids, *e.g.*, temperature, salt concentration, pH, formamide concentration and the like. These conditions are empirically optimized to maximize specific binding and minimize non-specific binding of primer or probe to its target nucleic acid sequence. The terms as used include reference to conditions under which a probe or primer will hybridize to its target sequence, to a detectably greater degree than other sequences (*e.g.* at least 2-fold over background). Stringent conditions are sequence dependent and will be different in different circumstances. Longer sequences hybridize specifically at higher temperatures. Generally, stringent conditions are selected to be about 5° C lower than the thermal melting point (T_m) for the specific sequence at a defined ionic strength and pH. The T_m is the temperature (under defined ionic strength and pH) at which 50% of a complementary target sequence hybridizes to a perfectly matched probe or primer. Typically, stringent conditions will be those in which the salt concentration is less than about 1.0 M Na⁺ ion, typically about 0.01 to 1.0 M Na⁺

ion concentration (or other salts) at pH 7.0 to 8.3 and the temperature is at least about 30° C for short probes or primers (e.g. 10 to 50 nucleotides) and at least about 60° C for long probes or primers (e.g. greater than 50 nucleotides). Stringent conditions may also be achieved with the addition of destabilizing agents such as formamide. Exemplary low stringent conditions or “conditions of reduced stringency” include hybridization with a buffer solution of 30% formamide, 1 M NaCl, 1% SDS at 37° C and a wash in 2×SSC at 40° C. Exemplary high stringency conditions include hybridization in 50% formamide, 1M NaCl, 1% SDS at 37° C, and a wash in 0.1×SSC at 60° C. Hybridization procedures are well known in the art and are described by e.g. Ausubel *et al.*, 1998 and Sambrook *et al.*, 2001. In some embodiments, stringent conditions are hybridization in 0.25 M Na₂HPO₄ buffer (pH 7.2) containing 1 mM Na₂EDTA, 0.5-20% sodium dodecyl sulfate at 45°C, such as 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 11%, 12%, 13%, 14%, 15%, 16%, 17%, 18%, 19% or 20%, followed by a wash in 5×SSC, containing 0.1% (w/v) sodium dodecyl sulfate, at 55°C to 65°C.

[0113] As used herein, “promoter” refers to a DNA sequence capable of controlling the expression of a coding sequence or functional RNA. The promoter sequence consists of proximal and more distal upstream elements, the latter elements often referred to as enhancers. Accordingly, an “enhancer” is a DNA sequence that can stimulate promoter activity, and may be an innate element of the promoter or a heterologous element inserted to enhance the level or tissue specificity of a promoter. Promoters may be derived in their entirety from a native gene, or be composed of different elements derived from different promoters found in nature, or even comprise synthetic DNA segments. It is understood by those skilled in the art that different promoters may direct the expression of a gene in different tissues or cell types, or at different stages of development, or in response to different environmental conditions. It is further recognized that since in most cases the exact boundaries of regulatory sequences have not been completely defined, DNA fragments of some variation may have identical promoter activity.

[0114] As used herein, a “constitutive promoter” is a promoter which is active under most conditions and/or during most development stages. There are several advantages to using constitutive promoters in expression vectors used in biotechnology, such as: high level of production of proteins used to select transgenic cells or organisms; high level of expression of reporter proteins or scorable markers, allowing easy detection and quantification; high level of production of a transcription factor that is part of a regulatory transcription system; production of

compounds that requires ubiquitous activity in the organism; and production of compounds that are required during all stages of development. Non-limiting exemplary constitutive promoters include, CaMV 35S promoter, opine promoters, ubiquitin promoter, alcohol dehydrogenase promoter, etc.

[0115] As used herein, a “non-constitutive promoter” is a promoter which is active under certain conditions, in certain types of cells, and/or during certain development stages. For example, tissue specific, tissue preferred, cell type specific, cell type preferred, inducible promoters, and promoters under development control are non-constitutive promoters. Examples of promoters under developmental control include promoters that preferentially initiate transcription in certain tissues.

[0116] As used herein, “inducible” or “repressible” promoter is a promoter which is under chemical or environmental factors control. Examples of environmental conditions that may affect transcription by inducible promoters include anaerobic conditions, certain chemicals, the presence of light, acidic or basic conditions, etc.

[0117] As used herein, a “tissue specific” promoter is a promoter that initiates transcription only in certain tissues. Unlike constitutive expression of genes, tissue-specific expression is the result of several interacting levels of gene regulation. As such, in the art sometimes it is preferable to use promoters from homologous or closely related species to achieve efficient and reliable expression of transgenes in particular tissues. This is one of the main reasons for the large amount of tissue-specific promoters isolated from particular tissues found in both scientific and patent literature.

[0118] As used herein, the term “operably linked” refers to the association of nucleic acid sequences on a single nucleic acid fragment so that the function of one is regulated by the other. For example, a promoter is operably linked with a coding sequence when it is capable of regulating the expression of that coding sequence (i.e., that the coding sequence is under the transcriptional control of the promoter). Coding sequences can be operably linked to regulatory sequences in a sense or antisense orientation. In another example, the complementary RNA regions of the disclosure can be operably linked, either directly or indirectly, 5' to the target mRNA, or 3' to the target mRNA, or within the target mRNA, or a first complementary region is 5' and its complement is 3' to the target mRNA.

[0119] As used herein, the phrases “recombinant construct”, “expression construct”, “chimeric construct”, “construct”, and “recombinant DNA construct” are used interchangeably herein. A recombinant construct comprises an artificial combination of nucleic acid fragments, *e.g.*, regulatory and coding sequences that are not found together in nature. For example, a chimeric construct may comprise regulatory sequences and coding sequences that are derived from different sources, or regulatory sequences and coding sequences derived from the same source, but arranged in a manner different than that found in nature. Such construct may be used by itself or may be used in conjunction with a vector. If a vector is used then the choice of vector is dependent upon the method that will be used to transform host cells as is well known to those skilled in the art. For example, a plasmid vector can be used. The skilled artisan is well aware of the genetic elements that must be present on the vector in order to successfully transform, select and propagate host cells comprising any of the isolated nucleic acid fragments of the disclosure. The skilled artisan will also recognize that different independent transformation events will result in different levels and patterns of expression (Jones *et al.*, (1985) EMBO J. 4:2411-2418; De Almeida *et al.*, (1989) Mol. Gen. Genetics 218:78-86), and thus that multiple events must be screened in order to obtain lines displaying the desired expression level and pattern. Such screening may be accomplished by Southern analysis of DNA, Northern analysis of mRNA expression, immunoblotting analysis of protein expression, or phenotypic analysis, among others. Vectors can be plasmids, viruses, bacteriophages, pro-viruses, phagemids, transposons, artificial chromosomes, and the like, that replicate autonomously or can integrate into a chromosome of a host cell. A vector can also be a naked RNA polynucleotide, a naked DNA polynucleotide, a polynucleotide composed of both DNA and RNA within the same strand, a poly-lysine-conjugated DNA or RNA, a peptide-conjugated DNA or RNA, a liposome-conjugated DNA, or the like, that is not autonomously replicating. As used herein, the term “expression” refers to the production of a functional end-product *e.g.*, an mRNA or a protein (precursor or mature).

[0120] In some embodiments, the cell or organism has at least one heterologous trait. As used herein, the term “heterologous trait” refers to a phenotype imparted to a transformed host cell or transgenic organism by an exogenous DNA segment, heterologous polynucleotide or heterologous nucleic acid. Various changes in phenotype are of interest to the present disclosure, including but not limited to modifying the fatty acid composition in milk, altering the

carbohydrate content of milk, increasing an ungulate's yield of an economically important trait (e.g., milk, milk fat, milk proteins, etc.) and the like. These results can be achieved by providing expression of heterologous products or increased expression of endogenous products in organisms using the methods and compositions of the present disclosure.

[0121] As used herein, the term "MIC" means maximal information coefficient. MIC is a type of nonparametric network analysis that identifies a score (MIC score) between active microbial strains of the present disclosure and at least one measured metadata (e.g., milk fat). Further, U.S. Application No. 15/217,575, filed on July 22, 2016 (issued as U.S. Patent No. 9,540,676 on January 10, 2017) is hereby incorporated by reference in its entirety.

[0122] The maximal information coefficient (MIC) is then calculated between strains and metadata 3021a, and between strains 3021b; as seen in **FIG. 17**. Results are pooled to create a list of all relationships and their corresponding MIC scores 3022. If the relationship scores below a given threshold 3023, the relationship is deemed/identified as irrelevant 3023b. If the relationship is above a given threshold 3023, the relationship deemed/identified as relevant 2023a, and is further subject to network analysis 3024. The following code fragment shows an exemplary methodology for such analysis, according to one embodiment:

```
Read total list of relationships file as links
```

```
threshold = 0.8
```

```
for i in range(len(links)):
```

```
    if links >= threshold
```

```
        multiplier[i] = 1
```

```
    else
```

```
        multiplier[i] = 0
```

```
end if
```

```
links_temp = multiplier*links
```

```
final_links = links_temp[links_temp != 0]
```

```
savetxt(output_file,final_links)
output_file.close()
```

[0123] Based on the output of the network analysis, active strains are selected 3025 for preparing products (e.g., ensembles, aggregates, and/or other synthetic groupings) containing the selected strains. The output of the network analysis can also be used to inform the selection of strains for further product composition testing.

[0124] The use of thresholds is discussed above for analyses and determinations. Thresholds can be, depending on the implementation and application: (1) empirically determined (e.g., based on distribution levels, setting a cutoff at a number that removes a specified or significant portion of low level reads); (2) any non-zero value; (3) percentage/percentile based; (4) only strains whose normalized second marker (i.e., activity) reads is greater than normalized first marker (cell count) reads; (5) log2 fold change between activity and quantity or cell count; (6) normalized second marker (activity) reads is greater than mean second marker (activity) reads for entire sample (and/or sample set); and/or any magnitude threshold described above in addition to a statistical threshold (i.e., significance testing). The following example provides thresholding detail for distributions of RNA-based second marker measurements with respect to DNA-based first marker measurements, according to one embodiment.

[0125] As used herein “shelf-stable” refers to a functional attribute and new utility acquired by the microbes formulated according to the disclosure, which enable said microbes to exist in a useful/active state outside of their natural environment in the rumen (*i.e.* a markedly different characteristic). Thus, shelf-stable is a functional attribute created by the formulations/compositions of the disclosure and denoting that the microbe formulated into a shelf-stable composition can exist outside the rumen and under ambient conditions for a period of time that can be determined depending upon the particular formulation utilized, but in general means that the microbes can be formulated to exist in a composition that is stable under ambient conditions for at least a few days and generally at least one week. Accordingly, a “shelf-stable ruminant supplement” is a composition comprising one or more microbes of the disclosure, said microbes formulated in a composition, such that the composition is stable under ambient conditions for at least one week, meaning that the microbes comprised in the composition (*e.g.* whole cell, spore, or lysed cell) are able to impart one or more beneficial phenotypic properties

to a ruminant when administered (e.g. increased milk yield, improved milk compositional characteristics, improved rumen health, and/or modulation of the rumen microbiome).

Isolated Microbes

[0126] In some aspects, the present disclosure provides isolated microbes, including novel strains of microbes, presented in **Table 1** and **Table 3**.

[0127] In other aspects, the present disclosure provides isolated whole microbial cultures of the microbes identified in **Table 1** and **Table 3**. These cultures may comprise microbes at various concentrations.

[0128] In some aspects, the disclosure provides for utilizing one or more microbes selected from **Table 1** and **Table 3** to increase a phenotypic trait of interest in a ruminant.

[0129] In some embodiments, the disclosure provides isolated microbial species belonging to taxonomic families of Clostridiaceae, Ruminococcaceae, Lachnospiraceae, Acidaminococcaceae, Peptococcaceae, Porphyromonadaceae, Prevotellaceae, Neocallimastigaceae, Saccharomycetaceae, Phaeosphaeriaceae, Erysipelotrichia, Anaerolineaceae, Atopobiaceae, Botryosphaeriaceae, Eubacteriaceae, Acholeplasmataceae, Succinivibrionaceae, Lactobacillaceae, Selenomonadaceae, Burkholderiaceae, and Streptococcaceae.

[0130] In further embodiments, isolated microbial species may be selected from genera of family Clostridiaceae, including *Acetanaerobacterium*, *Acetivibrio*, *Acidaminobacter*, *Alkaliphilus*, *Anaerobacter*, *Anaerostipes*, *Anaerotruncus*, *Anoxynatronum*, *Bryantella*, *Butyricoccus*, *Caldanaerocella*, *Caloramator*, *Caloranaerobacter*, *Caminicella*, *Candidatus Arthromitus*, *Clostridium*, *Coprobacillus*, *Dorea*, *Ethanoligenbacterium*, *Faecalibacterium*, *Garciella*, *Guggenheimella*, *Hespellia*, *Linmingia*, *Natronincola*, *Oxobacter*, *Parasporobacterium*, *Sarcina*, *Soehngenia*, *Sporobacter*, *Subdoligranulum*, *Tepidibacter*, *Tepidimicrobium*, *Thermobrachium*, *Thermohalobacter*, and *Tindallia*.

[0131] In further embodiments, isolated microbial species may be selected from genera of family Ruminococcaceae, including *Ruminococcus*, *Acetivibrio*, *Sporobacter*, *Anaerofilium*, *Papillibacter*, *Oscillospira*, *Gemmiger*, *Faecalibacterium*, *Fastidiosipila*, *Anaerotruncus*, *Ethanolingenens*, *Acetanaerobacterium*, *Subdoligranulum*, *Hydrogenoanaerobacterium*, and *Candidatus Soleiferrea*.

[0132] In further embodiments, isolated microbial species may be selected from genera of family Lachnospiraceae, including *Butyrivibrio*, *Roseburia*, *Lachnospira*, *Acetitomaculum*,

Coprococcus, Johnsonella, Catonella, Pseudobutyrvibrio, Syntrophococcus, Sporobacterium, Parasporobacterium, Lachnobacterium, Shuttleworthia, Dorea, Anaerostipes, Hespellia, Marvinbryantia, Oribacterium, Moryella, Blautia, Robinsoniella, Cellulosilyticum, Lachnoanaerobaculum, Stomatobaculum, Fusicatenibacter, Acetatifactor, and Eisenbergiella.

[0133] In further embodiments, isolated microbial species may be selected from genera of family Acidaminococcaceae, including *Acidaminococcus, Phascolarctobacterium, Succiniclasticum,* and *Succinispira.*

[0134] In further embodiments, isolated microbial species may be selected from genera of family Peptococcaceae, including *Desulfotomaculum, Peptococcus, Desulfitobacterium, Syntrophobotulus, Dehalobacter, Sporotomaculum, Desulfosporosinus, Desulfonispora, Pelotomaculum, Thermincola, Cryptanaerobacter, Desulfitibacter, Candidatus Desulforudis, Desulfurispora,* and *Desulfitospora.*

[0135] In further embodiments, isolated microbial species may be selected from genera of family Porphyromonadaceae, including *Porphyromonas, Dysgonomonas, Tannerella, Odoribacter, Proteiniphilum, Petrimonas, Paludibacter, Parabacteroides, Barnesiella, Candidatus Vestibaculum, Butyricimonas, Macellibacteroides,* and *Coprobacter.*

[0136] In further embodiments, isolated microbial species may be selected from genera of family Anaerolineaceae including *Anaerolinea, Bellilinea, Leptolinea, Levilinea, Longilinea, Ornatilinea,* and *Pelolinea.*

[0137] In further embodiments, isolated microbial species may be selected from genera of family Atopobiaceae including *Atopbium* and *Olsenella.*

[0138] In further embodiments, isolated microbial species may be selected from genera of family Eubacteriaceae including *Acetobacterium, Alkalibacter, Alkalibaculum, Aminicella, Anaerofustis, Eubacterium, Garciella,* and *Pseudoramibacter.*

[0139] In further embodiments, isolated microbial species may be selected from genera of family Acholeplasmataceae including *Acholeplasma.*

[0140] In further embodiments, isolated microbial species may be selected from genera of family Succinivibrionaceae including *Anaerobiospirillum, Ruminobacter, Succinatimonas, Succinimonas,* and *Succinivibrio.*

[0141] In further embodiments, isolated microbial species may be selected from genera of family Lactobacillaceae including *Lactobacillus, Paralactobacillus, Pediococcus,* and *Sharpea.*

[0142] In further embodiments, isolated microbial species may be selected from genera of family Selenomonadaceae including *Anaerovibrio*, *Centipeda*, *Megamonas*, *Mitsuokella*, *Pectinatus*, *Propionispira*, *Schwartzia*, *Selenomonas*, and *Zymophilus*.

[0143] In further embodiments, isolated microbial species may be selected from genera of family Burkholderiaceae including *Burkholderia*, *Chitinimonas*, *Cupriavidus*, *Lautropia*, *Limnobacter*, *Pandoraea*, *Paraburkholderia*, *Paucimonas*, *Polynucleobacter*, *Ralstonia*, *Thermothrix*, and *Wautersia*.

[0144] In further embodiments, isolated microbial species may be selected from genera of family Streptococcaceae including *Lactococcus*, *Lactovum*, and *Streptococcus*.

[0145] In further embodiments, isolated microbial species may be selected from genera of family Anaerolineaceae including *Aestuariimicrobium*, *Arachnia*, *Auraticoccus*, *Brooklawnia*, *Friedmanniella*, *Gramulicoccus*, *Luteococcus*, *Mariniluteicoccus*, *Microhunatus*, *Micropruina*, *Naumannella*, *Propionibacterium*, *Propionicecella*, *Propioniceclava*, *Propioniferax*, *Propionimicrobium*, and *Tessaracoccus*.

[0146] In further embodiments, isolated microbial species may be selected from genera of family Prevotellaceae, including *Paraprevotella*, *Prevotella*, *hallela*, *Xylanibacter*, and *Alloprevotella*.

[0147] In further embodiments, isolated microbial species may be selected from genera of family Neocallimastigaceae, including *Anaeromyces*, *Caecomyces*, *Cyllamyces*, *Neocallimastix*, *Orpinomyces*, and *Piromyces*.

[0148] In further embodiments, isolated microbial species may be selected from genera of family Saccharomycetaceae, including *Brettanomyces*, *Candida*, *Citeromyces*, *Cyniclomyces*, *Debaryomyces*, *Issatchenkia*, *Kazachstania* (syn. *Arxiozyma*), *Kluyveromyces*, *Komagataella*, *Kuraishia*, *Lachancea*, *Lodderomyces*, *Nakaseomyces*, *Pachysolen*, *Pichia*, *Saccharomyces*, *Spathaspora*, *Tetrapisispora*, *Vanderwaltozyma*, *Torulaspora*, *Williopsis*, *Zygosaccharomyces*, and *Zygorulaspora*.

[0149] In further embodiments, isolated microbial species may be selected from genera of family Erysipelotrichaceae, including *Erysipelothrix*, *Solobacterium*, *Turicibacter*, *Faecalibaculum*, *Faecalicoccus*, *Faecalitalea*, *Holdemanella*, *Holdemania*, *Dielma*, *Eggerthia*, *Erysipelatoclostridium*, *Allobacterium*, *Breznakia*, *Bulleidia*, *Catenibacterium*, *Catenisphaera*, and *Coprobacillus*.

[0150] In further embodiments, isolated microbial species may be selected from genera of family Phaeosphaeriaceae, including *Barria*, *Bricookea*, *Carinispora*, *Chaetoplea*, *Eudarlucia*, *Hadrospora*, *Isthmosporella*, *Katumotoa*, *Lautitia*, *Metameris*, *Mixtura*, *Neophaeosphaeria*, *Nodulosphaeria*, *Ophiosphaerella*, *Phaeosphaeris*, *Phaeosphaeriopsis*, *Setomelanomma*, *Stagonospora*, *Teratosphaeria*, and *Wilmia*.

[0151] In further embodiments, isolated microbial species may be selected from genera of family Botryosphaeriaceae, including *Amarenomyces*, *Aplosporella*, *Auerswaldiella*, *Botryosphaeria*, *Dichomera*, *Diplodia*, *Discochora*, *Dothidothia*, *Dothiorella*, *Fusicoccum*, *Granulodiplodia*, *Guignardia*, *Lasiodiplodia*, *Leptodothiorella*, *Leptodothiorella*, *Leptoguignardia*, *Macrophoma*, *Macrophomina*, *Natrassia*, *Neodeightonia*, *Neofusicocum*, *Neoscytalidium*, *Othia*, *Phaeobotryosphaeria*, *Phomatosphaeropsis*, *Phyllosticta*, *Pseudofusicoccum*, *Saccharata*, *Sivanesania*, and *Thyrostroma*.

[0152] In some embodiments, the disclosure provides isolated microbial species belonging to genera of: *Clostridium*, *Ruminococcus*, *Roseburia*, *Hydrogenoanaerobacterium*, *Saccharofermentans*, *Papillibacter*, *Pelotomaculum*, *Butyricicoccus*, *Tannerella*, *Prevotella*, *Butyricimonas*, *Piromyces*, *Candida*, *Vrystaatia*, *Orpinomyces*, *Neocallimastix*, and *Phyllosticta*. In further embodiments, the disclosure provides isolated microbial species belonging to the family of Lachnospiraceae, and the order of Saccharomycetales. In further embodiments, the disclosure provides isolated microbial species of *Candida xylopsoci*, *Vrystaatia aloEICOLA*, and *Phyllosticta capitalensis*.

[0153] In some embodiments, a microbe from the taxa disclosed herein are utilized to impart one or more beneficial properties or improved traits to milk in ruminants.

[0154] In some embodiments, the disclosure provides isolated microbial species, selected from the group consisting of: *Clostridium*, *Ruminococcus*, *Roseburia*, *Hydrogenoanaerobacterium*, *Saccharofermentans*, *Papillibacter*, *Pelotomaculum*, *Butyricicoccus*, *Tannerella*, *Prevotella*, *Butyricimonas*, *Piromyces*, *Pichia*, *Candida*, *Vrystaatia*, *Orpinomyces*, *Neocallimastix*, and *Phyllosticta*.

[0155] In some embodiments, the disclosure provides novel isolated microbial strains of species, selected from the group consisting of: *Clostridium*, *Ruminococcus*, *Roseburia*, *Hydrogenoanaerobacterium*, *Saccharofermentans*, *Papillibacter*, *Pelotomaculum*, *Butyricicoccus*, *Tannerella*, *Prevotella*, *Butyricimonas*, *Piromyces*, *Pichia*, *Candida*, *Vrystaatia*,

Orpinomyces, *Neocallimastix*, and *Phyllosticta*. Particular novel strains of these aforementioned taxonomic groups can be found in **Table 1** and/or **Table 3**.

[0156] Furthermore, the disclosure relates to microbes having characteristics substantially similar to that of a microbe identified in **Table 1** or **Table 3**.

[0157] The isolated microbial species, and novel strains of said species, identified in the present disclosure, are able to impart beneficial properties or traits to ruminant milk production.

[0158] For instance, the isolated microbes described in **Table 1** and **Table 3**, or consortia of said microbes, are able to increase total milk fat in ruminant milk. The increase can be quantitatively measured, for example, by measuring the effect that said microbial application has upon the modulation of total milk fat.

[0159] In some embodiments, the isolated microbial strains are microbes of the present disclosure that have been genetically modified. In some embodiments, the genetically modified or recombinant microbes comprise polynucleotide sequences which do not naturally occur in said microbes. In some embodiments, the microbes may comprise heterologous polynucleotides. In further embodiments, the heterologous polynucleotides may be operably linked to one or more polynucleotides native to the microbes.

[0160] In some embodiments, the heterologous polynucleotides may be reporter genes or selectable markers. In some embodiments, reporter genes may be selected from any of the family of fluorescence proteins (*e.g.*, GFP, RFP, YFP, and the like), β -galactosidase, luciferase. In some embodiments, selectable markers may be selected from neomycin phosphotransferase, hygromycin phosphotransferase, aminoglycoside adenylyltransferase, dihydrofolate reductase, acetolactase synthase, bromoxynil nitrilase, β -glucuronidase, dihydrofolate reductase, and chloramphenicol acetyltransferase. In some embodiments, the heterologous polynucleotide may be operably linked to one or more promoter.

Table 4: Taxa (largely Genera) of the present disclosure not known to have been utilized in animal agriculture.

<i>Intestinimonas</i>	<i>Anaerolinea</i>
<i>Pseudobutyrvibrio</i>	<i>Olsenella</i>
<i>Eubacterium</i>	<i>Catenisphaera</i>

<i>Faecalibacterium</i>	<i>Solobacterium</i>
<i>Blautia</i>	<i>Ralsonia</i>
<i>Coprococcus</i>	<i>Casaltella</i>
<i>Anaeroplasma</i>	<i>Acholeplasma</i>
<i>Aminiphilus</i>	<i>Mitsuokella</i>
<i>Alistipes</i>	<i>Sharpea</i>
<i>Oscillibacter</i>	<i>Neocallimastix</i>
<i>Odoribacter</i>	<i>Pichia</i>
<i>Tannerella</i>	<i>Candida</i>
<i>Hydrogenoanaerobacterium</i>	<i>Orpinomyces</i>
<i>Succinivibrio</i>	<i>Sugiyamaella</i>
<i>Ruminobacter</i>	<i>Cyllamyces</i>
<i>Lachnospira</i>	<i>Caecomycetes</i>
<i>Sinimarimbacterium</i>	<i>Tremella</i>
<i>Hydrogenoanaerobacterium</i>	<i>Turicibacter</i>
<i>Clostridium XIVa</i>	<i>Anaerolinea</i>
<i>Saccharofermentans</i>	<i>Piromyces</i>
<i>Butyricoccus</i>	<i>Olsenella</i>
<i>Papillibacter</i>	<i>Clostridium XICa</i>
<i>Pelotomaculum</i>	<i>Erysipelotrichaceae</i>
<i>Lachnospiracea</i>	<i>Solobacterium</i>
<i>Anaeroplasma</i>	<i>Ralstonia</i>
<i>Clostridium</i>	<i>Eubacterium</i>
<i>Rikenella</i>	<i>Lachnobacterium</i>
<i>Tannerella</i>	<i>Acholeplasma</i>
<i>Howardella</i>	<i>Selenomonas</i>
<i>Butyricimonas</i>	<i>Sharpea</i>
<i>Succinivibrio</i>	<i>Phyllosticta</i>
<i>Ruminobacter</i>	<i>Candida xylopsoc</i>
<i>Syntrophococcus</i>	<i>Candida apicol</i>

<i>Pseudobutyrvibrio</i>	<i>Saccharomycetales</i>
<i>Ascomycota</i>	<i>Candida rugos</i>

Microbial Consortia

[0161] In some aspects, the disclosure provides microbial consortia comprising a combination of at least any two microbes selected from amongst the microbes identified in **Table 1** and/or **Table 3**.

[0162] In certain embodiments, the consortia of the present disclosure comprise two microbes, or three microbes, or four microbes, or five microbes, or six microbes, or seven microbes, or eight microbes, or nine microbes, or ten or more microbes. Said microbes of the consortia are different microbial species, or different strains of a microbial species.

[0163] In some embodiments, the disclosure provides consortia, comprising: at least two isolated microbial species belonging to genera of: *Clostridium*, *Ruminococcus*, *Roseburia*, *Hydrogenoanaerobacterium*, *Saccharofermentans*, *Papillibacter*, *Pelotomaculum*, *Butyricicoccus*, *Tannerella*, *Prevotella*, *Butyricimonas*, *Piromyces*, *Pichia*, *Candida*, *Vrystaatia*, *Orpinomyces*, *Neocallimastix*, and *Phyllosticta*. Particular novel strains of species of these aforementioned genera can be found in **Table 1** and/or **Table 3**.

[0164] In some embodiments, the disclosure provides consortia, comprising: at least two isolated microbial species, selected from the group consisting of species of the family of Lachnospiraceae, and the order of Saccharomycetales.

[0165] In particular aspects, the disclosure provides microbial consortia, comprising species as grouped in **Tables 5-11**. With respect to **Tables 5-11**, the letters **A** through **I** represent a non-limiting selection of microbes of the present disclosure, defined as:

[0166] **A** = Strain designation Ascusb_7 identified in **Table 1**;

[0167] **B** = Strain designation Ascusb_3138 identified in **Table 1**;

[0168] **C** = Strain designation Ascusb_82 identified in **Table 1**;

[0169] **D** = Strain designation Ascusb_119 identified in **Table 1**;

[0170] **E** = Strain designation Ascusb_1801 identified in **Table 1**;

[0171] **F** = Strain designation Ascusf_23 identified in **Table 1**;

[0172] **G** = Strain designation Ascusf_24 identified in **Table 1**;

[0173] **H** = Strain designation Ascusf_45 identified in **Table 1**; and

[0174] **I** = Strain designation Ascusf_15 identified in **Table 1**.

Table 5: Eight and Nine Strain Consortia

A,B,C,D,E,F,G,H	A,B,C,D,E,F,G,I	A,B,C,D,E,F,H,I	A,B,C,D,E,G,H,I	A,B,C,D,F,G,H,I	A,B,C,E,F,G,H,I
A,B,D,E,F,G,H,I	A,C,D,E,F,G,H,I	B,C,D,E,F,G,H,I	A,B,C,D,E,F,G,H,I		

Table 6: Seven Strain Consortia

A,B,C,D,E,F,G	A,B,C,D,E,F,H	A,B,C,D,E,F,I	A,B,C,D,E,G,H	A,B,C,D,E,G,I	A,B,C,D,E,H,I
A,B,C,D,F,G,H	A,B,C,D,F,G,I	A,B,C,D,F,H,I	A,B,C,D,G,H,I	A,B,C,E,F,G,H	A,B,C,E,F,G,I
A,B,C,E,F,H,I	A,B,C,E,G,H,I	A,B,C,F,G,H,I	A,B,D,E,F,G,H	A,B,D,E,F,G,I	A,B,D,E,F,H,I
A,B,D,E,G,H,I	A,B,D,F,G,H,I	A,B,E,F,G,H,I	A,C,D,E,F,G,H	A,C,D,E,F,G,I	A,C,D,E,F,H,I
A,C,D,E,G,H,I	A,C,D,F,G,H,I	A,C,E,F,G,H,I	A,D,E,F,G,H,I	B,C,D,E,F,G,H	B,C,D,E,F,G,I
B,C,D,E,F,H,I	B,C,D,E,G,H,I	B,C,D,F,G,H,I	B,C,E,F,G,H,I	B,D,E,F,G,H,I	C,D,E,F,G,H,I

Table 7: Six Strain Consortia

A,B,C,D,E,F	A,B,C,D,E,G	A,B,C,D,E,H	A,B,C,D,E,I	A,B,C,D,F,G	A,B,C,D,F,H	A,B,C,D,F,I
A,B,C,D,G,H	A,B,C,D,G,I	A,B,C,D,H,I	A,B,C,E,F,G	A,B,C,E,F,H	A,B,C,E,F,I	A,B,C,E,G,H
A,B,C,E,G,I	A,B,C,E,H,I	A,B,C,F,G,H	A,B,C,F,G,I	A,B,C,F,H,I	A,B,C,G,H,I	A,B,D,E,F,G
A,B,D,E,F,H	A,B,D,E,F,I	A,B,D,E,G,H	A,B,D,E,G,I	A,B,D,E,H,I	A,B,D,F,G,H	A,B,D,F,G,I
D,E,F,G,H,I	C,E,F,G,H,I	A,B,D,F,H,I	A,B,D,G,H,I	A,B,E,F,G,H	A,B,E,F,G,I	A,B,E,F,H,I
A,B,E,G,H,I	A,B,F,G,H,I	A,C,D,E,F,G	A,C,D,E,F,H	A,C,D,E,F,I	A,C,D,E,G,H	A,C,D,E,G,I
A,C,D,E,H,I	A,C,D,F,G,H	A,C,D,F,G,I	A,C,D,F,H,I	A,C,D,G,H,I	A,C,E,F,G,H	A,C,E,F,G,I
A,C,E,F,H,I	A,C,E,G,H,I	A,C,F,G,H,I	A,D,E,F,G,H	A,D,E,F,G,I	A,D,E,F,H,I	A,D,E,G,H,I
A,D,F,G,H,I	A,E,F,G,H,I	B,C,D,E,F,G	B,C,D,E,F,H	B,C,D,E,F,I	B,C,D,E,G,H	B,C,D,E,G,I
B,C,D,E,H,I	B,C,D,F,G,H	B,C,D,F,G,I	B,C,D,F,H,I	B,C,D,G,H,I	B,C,E,F,G,H	B,C,E,F,G,I

B,C,E,F,H,I	B,C,E,G,H,I	B,C,F,G,H,I	B,D,E,F,G,H	B,D,E,F,G,I	B,D,E,F,H,I	B,D,E,G,H,I
B,D,F,G,H,I	B,E,F,G,H,I	C,D,E,F,G,H	C,D,E,F,G,I	C,D,E,F,H,I	C,D,E,G,H,I	C,D,F,G,H,I

Table 8: Five Strain Consortia

A,B,C,D,E	A,B,C,D,F	A,B,C,D,G	A,B,C,D,H	A,B,C,D,I	A,B,C,E,F	A,B,C,E,G	A,B,C,E,H
A,B,C,F,H	A,B,C,F,G	A,B,C,F,I	A,B,C,G,H	A,B,C,G,I	A,B,C,H,I	A,B,D,E,F	A,B,D,E,G
A,B,D,E,I	A,B,D,F,G	A,B,D,F,H	A,B,D,F,I	A,B,D,G,H	A,B,D,G,I	A,B,D,H,I	A,B,E,F,G
A,B,E,F,I	A,B,E,G,H	A,B,E,G,I	A,B,E,H,I	A,B,F,G,H	A,B,F,G,I	A,B,F,H,I	A,B,G,H,I
A,C,D,E,G	A,C,D,E,H	A,C,D,E,I	A,C,D,F,G	A,C,D,F,H	A,C,D,F,I	A,C,D,G,H	A,C,D,G,I
A,C,E,F,G	A,C,E,F,H	A,C,E,F,I	A,C,E,G,H	A,C,E,G,I	A,C,E,H,I	A,C,F,G,H	A,C,F,G,I
A,C,G,H,I	A,D,E,F,G	A,D,E,F,H	A,D,E,F,I	A,D,E,G,H	A,D,E,G,I	A,D,E,H,I	A,D,F,G,H
A,D,F,H,I	A,D,G,H,I	A,E,F,G,H	A,E,F,G,I	A,E,F,H,I	A,E,G,H,I	A,F,G,H,I	B,C,D,E,F
B,C,D,E,H	B,C,D,E,I	B,C,D,F,G	B,C,D,F,H	B,C,D,F,I	B,C,D,G,H	B,C,D,G,I	B,C,D,H,I
B,C,E,F,H	B,C,E,F,I	B,C,E,G,H	B,C,E,G,I	B,C,E,H,I	B,C,F,G,H	B,C,F,G,I	B,C,F,H,I
B,D,E,F,G	B,D,E,F,H	B,D,E,F,I	B,D,E,G,H	B,D,E,G,I	B,D,E,H,I	B,D,F,G,H	B,D,F,G,I
B,D,G,H,I	B,E,F,G,H	B,E,F,G,I	B,E,F,H,I	B,E,G,H,I	B,F,G,H,I	C,D,E,F,G	C,D,E,F,H
C,D,E,G,H	C,D,E,G,I	C,D,E,H,I	C,D,F,G,H	C,D,F,G,I	C,D,F,H,I	C,D,G,H,I	C,E,F,G,H
C,E,F,H,I	C,E,G,H,I	C,F,G,H,I	D,E,F,G,H	D,E,F,G,I	D,E,F,H,I	D,E,G,H,I	D,F,G,H,I
A,B,C,E,I	A,B,D,E,H	A,B,E,F,H	A,C,D,E,F	A,C,D,H,I	A,C,F,H,I	A,D,F,G,I	B,C,D,E,G
B,C,E,F,G	B,C,G,H,I	B,D,F,H,I	C,D,E,F,I	C,E,F,G,I	E,F,G,H,I		

Table 9: Four Strain Consortia

A,B,C,D	A,B,C,E	A,B,C,F	A,B,C,G	A,B,C,H	A,B,C,I	A,B,D,E	A,B,D,F	D,G,H,I
A,B,D,G	A,B,D,H	A,B,D,I	A,B,E,F	A,B,E,G	A,B,E,H	A,B,E,I	A,B,F,G	E,F,G,H
A,B,F,H	A,D,F,H	A,D,F,I	A,D,G,H	A,D,G,I	A,D,H,I	A,E,F,G	A,E,F,H	E,F,G,I
A,B,F,I	A,B,G,H	A,B,G,I	A,B,H,I	A,C,D,E	A,C,D,F	A,C,D,G	A,C,D,H	E,F,H,I
A,C,D,I	A,C,E,F	A,C,E,G	A,C,E,H	A,C,E,I	A,C,F,G	A,C,F,H	A,C,F,I	E,G,H,I
A,C,G,H	A,C,G,I	A,C,H,I	A,D,E,F	A,D,E,G	A,D,E,H	A,D,E,I	A,D,F,G	F,G,H,I

A,E,F,I	A,E,G,H	A,E,G,I	A,E,H,I	A,F,G,H	A,F,G,I	A,F,H,I	A,G,H,I	D,E,F,H
B,C,D,E	B,C,D,F	B,C,D,G	B,C,D,H	B,C,D,I	B,C,E,F	B,C,E,G	B,C,E,H	D,E,F,I
B,C,E,I	B,C,F,G	B,C,F,H	B,C,F,I	B,C,G,H	B,C,G,I	B,C,H,I	B,D,E,F	D,E,G,H
B,D,E,G	B,D,E,H	B,D,E,I	B,D,F,G	B,D,F,H	B,D,F,I	B,D,G,H	B,D,G,I	D,E,G,I
B,D,H,I	B,E,F,G	B,E,F,H	B,E,F,I	B,E,G,H	B,E,G,I	B,E,H,I	B,F,G,H	D,E,H,I
B,F,G,I	B,F,H,I	B,G,H,I	C,D,E,F	C,D,E,G	C,D,E,H	C,D,E,I	C,D,F,G	D,F,G,H
C,D,F,H	C,D,F,I	C,D,G,H	C,D,G,I	C,D,H,I	C,E,F,G	C,E,F,H	C,E,F,I	D,F,G,I
C,E,G,H	C,E,G,I	C,E,H,I	C,F,G,H	C,F,G,I	C,F,H,I	C,G,H,I	D,E,F,G	D,F,H,I

Table 10: Three Strain Consortia

A,B,C	A,B,D	A,B,E	A,B,F	A,B,G	A,B,H	A,B,I	A,C,D	A,C,E	G,H,I	E,F,H
A,C,F	A,C,G	A,C,H	A,C,I	A,D,E	A,D,F	A,D,G	A,D,H	A,D,I	F,H,I	E,F,G
A,E,F	A,E,G	A,E,H	A,E,I	A,F,G	A,F,H	A,F,I	A,G,H	A,G,I	F,G,I	D,H,I
A,H,I	B,C,D	B,C,E	B,C,F	B,C,G	B,C,H	B,C,I	B,D,E	B,D,F	F,G,H	D,G,I
B,D,G	B,D,H	B,D,I	B,E,F	B,E,G	B,E,H	B,E,I	B,F,G	B,F,H	E,H,I	E,F,I
B,F,I	B,G,H	B,G,I	B,H,I	C,D,E	C,D,F	C,D,G	C,D,H	C,D,I	E,G,I	D,G,H
C,E,F	C,E,G	C,E,H	C,E,I	C,F,G	C,F,H	C,F,I	C,G,H	C,G,I	E,G,H	D,F,I
C,H,I	D,E,F	D,E,G	D,E,H	D,E,I	D,F,G	D,F,H				

Table 11: Two Strain Consortia

A,B	A,C	A,D	A,E	A,F	A,G	A,H	A,I	B,C	B,D	B,E	B,F	B,G	B,H	B,I	C,D
C,E	C,F	C,G	C,H	C,I	D,E	D,F	D,G	D,H	D,I	E,F	E,G	E,H	E,I	F,G	F,H
F,I	G,H	G,I	H,I												

[0175] In some embodiments, the microbial consortia may be selected from any member group from **Tables 5-11**.

Isolated Microbes -- Source Material

[0176] The microbes of the present disclosure were obtained, among other places, at various locales in the United States from the gastrointestinal tract of cows.

Isolated Microbes -- Microbial Culture Techniques

[0177] The microbes of **Table 1** and **Table 3** were matched to their nearest taxonomic groups by utilizing classification tools of the Ribosomal Database Project (RDP) for 16s rRNA sequences and the User-friendly Nordic ITS Ectomycorrhiza (UNITE) database for ITS rRNA sequences. Examples of matching microbes to their nearest taxa may be found in Lan *et al.* (2012. *PLOS one*. 7(3):e32491), Schloss and Westcott (2011. *Appl. Environ. Microbiol.* 77(10):3219-3226), and Koljalg *et al.* (2005. *New Phytologist*. 166(3):1063-1068).

[0178] The isolation, identification, and culturing of the microbes of the present disclosure can be effected using standard microbiological techniques. Examples of such techniques may be found in Gerhardt, P. (ed.) *Methods for General and Molecular Microbiology*. American Society for Microbiology, Washington, D.C. (1994) and Lennette, E. H. (ed.) *Manual of Clinical Microbiology*, Third Edition. American Society for Microbiology, Washington, D.C. (1980), each of which is incorporated by reference.

[0179] Isolation can be effected by streaking the specimen on a solid medium (*e.g.*, nutrient agar plates) to obtain a single colony, which is characterized by the phenotypic traits described hereinabove (*e.g.*, Gram positive/negative, capable of forming spores aerobically/anaerobically, cellular morphology, carbon source metabolism, acid/base production, enzyme secretion, metabolic secretions, etc.) and to reduce the likelihood of working with a culture which has become contaminated.

[0180] For example, for microbes of the disclosure, biologically pure isolates can be obtained through repeated subculture of biological samples, each subculture followed by streaking onto solid media to obtain individual colonies or colony forming units. Methods of preparing, thawing, and growing lyophilized bacteria are commonly known, for example, Gherna, R. L. and C. A. Reddy. 2007. Culture Preservation, p 1019-1033. In C. A. Reddy, T. J. Beveridge, J. A. Breznak, G. A. Marzluf, T. M. Schmidt, and L. R. Snyder, eds. *American Society for Microbiology*, Washington, D.C., 1033 pages; herein incorporated by reference. Thus freeze

dried liquid formulations and cultures stored long term at -70°C in solutions containing glycerol are contemplated for use in providing formulations of the present disclosure.

[0181] The microbes of the disclosure can be propagated in a liquid medium under aerobic conditions, or alternatively anaerobic conditions. Medium for growing the bacterial strains of the present disclosure includes a carbon source, a nitrogen source, and inorganic salts, as well as specially required substances such as vitamins, amino acids, nucleic acids and the like. Examples of suitable carbon sources which can be used for growing the microbes include, but are not limited to, starch, peptone, yeast extract, amino acids, sugars such as glucose, arabinose, mannose, glucosamine, maltose, and the like; salts of organic acids such as acetic acid, fumaric acid, adipic acid, propionic acid, citric acid, gluconic acid, malic acid, pyruvic acid, malonic acid and the like; alcohols such as ethanol and glycerol and the like; oil or fat such as soybean oil, rice bran oil, olive oil, corn oil, sesame oil. The amount of the carbon source added varies according to the kind of carbon source and is typically between 1 to 100 gram(s) per liter of medium. Preferably, glucose, starch, and/or peptone is contained in the medium as a major carbon source, at a concentration of 0.1-5% (W/V). Examples of suitable nitrogen sources which can be used for growing the bacterial strains of the present disclosure include, but are not limited to, amino acids, yeast extract, tryptone, beef extract, peptone, potassium nitrate, ammonium nitrate, ammonium chloride, ammonium sulfate, ammonium phosphate, ammonia or combinations thereof. The amount of nitrogen source varies according to the type of nitrogen source, typically between 0.1 to 30 gram per liter of medium. The inorganic salts, potassium dihydrogen phosphate, dipotassium hydrogen phosphate, disodium hydrogen phosphate, magnesium sulfate, magnesium chloride, ferric sulfate, ferrous sulfate, ferric chloride, ferrous chloride, manganous sulfate, manganous chloride, zinc sulfate, zinc chloride, cupric sulfate, calcium chloride, sodium chloride, calcium carbonate, sodium carbonate can be used alone or in combination. The amount of inorganic acid varies according to the kind of the inorganic salt, typically between 0.001 to 10 gram per liter of medium. Examples of specially required substances include, but are not limited to, vitamins, nucleic acids, yeast extract, peptone, meat extract, malt extract, dried yeast and combinations thereof. Cultivation can be effected at a temperature, which allows the growth of the microbial strains, essentially, between 20°C and 46°C . In some aspects, a temperature range is 30°C - 39°C . For optimal growth, in some embodiments, the medium can be adjusted to pH 6.0-7.4. It will be appreciated that

commercially available media may also be used to culture the microbial strains, such as Nutrient Broth or Nutrient Agar available from Difco, Detroit, MI. It will be appreciated that cultivation time may differ depending on the type of culture medium used and the concentration of sugar as a major carbon source.

[0182] In some aspects, cultivation lasts between 24-96 hours. Microbial cells thus obtained are isolated using methods, which are well known in the art. Examples include, but are not limited to, membrane filtration and centrifugal separation. The pH may be adjusted using sodium hydroxide and the like and the culture may be dried using a freeze dryer, until the water content becomes equal to 4% or less. Microbial co-cultures may be obtained by propagating each strain as described hereinabove. In some aspects, microbial multi-strain cultures may be obtained by propagating two or more of the strains described hereinabove. It will be appreciated that the microbial strains may be cultured together when compatible culture conditions can be employed.

Isolated Microbes – Microbial Strains

[0183] Microbes can be distinguished into a genus based on polyphasic taxonomy, which incorporates all available phenotypic and genotypic data into a consensus classification (Vandamme *et al.* 1996. Polyphasic taxonomy, a consensus approach to bacterial systematics. *Microbiol Rev* 1996, 60:407-438). One accepted genotypic method for defining species is based on overall genomic relatedness, such that strains which share approximately 70% or more relatedness using DNA-DNA hybridization, with 5°C or less ΔT_m (the difference in the melting temperature between homologous and heterologous hybrids), under standard conditions, are considered to be members of the same species. Thus, populations that share greater than the aforementioned 70% threshold can be considered to be variants of the same species. Another accepted genotypic method for defining species is to isolate marker genes of the present disclosure, sequence these genes, and align these sequenced genes from multiple isolates or variants. The microbes are interpreted as belonging to the same species if one or more of the sequenced genes share at least 97% sequence identity.

[0184] The 16S or 18S rRNA sequences or ITS sequences are often used for making distinctions between species and strains, in that if one of the aforementioned sequences share less than a specified percent sequence identity from a reference sequence, then the two organisms from which the sequences were obtained are said to be of different species or strains.

[0185] Thus, one could consider microbes to be of the same species, if they share at least 80%, 85%, 90%, 95%, 97%, 98%, or 99% sequence identity across the 16S or 18S rRNA sequence, or the ITS1 or ITS2 sequence.

[0186] Further, one could define microbial *strains* of a species, as those that share at least 80%, 85%, 90%, 95%, 97%, 98%, or 99% sequence identity across the 16S or 18S rRNA sequence, or the ITS1 or ITS2 sequence.

[0187] In one embodiment, microbial strains of the present disclosure include those that comprise polynucleotide sequences that share at least 70%, 75%, 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity with any one of SEQ ID NOs:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 39, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, and 2107. In a further embodiment, microbial strains of the present disclosure include those that comprise polynucleotide sequences that share at least 70%, 75%, 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity with any one of SEQ ID NOs:1-2107.

[0188] Comparisons may also be made with 23S rRNA sequences against reference sequences.

[0189] Unculturable microbes often cannot be assigned to a definite species in the absence of a phenotype determination, the microbes can be given a *candidatus* designation within a genus provided their 16S or 18S rRNA sequences or ITS sequences subscribes to the principles of identity with known species.

[0190] One approach is to observe the distribution of a large number of strains of closely related species in sequence space and to identify clusters of strains that are well resolved from other clusters. This approach has been developed by using the concatenated sequences of multiple core (house-keeping) genes to assess clustering patterns, and has been called multilocus sequence analysis (MLSA) or multilocus sequence phylogenetic analysis. MLSA has been used

successfully to explore clustering patterns among large numbers of strains assigned to very closely related species by current taxonomic methods, to look at the relationships between small numbers of strains within a genus, or within a broader taxonomic grouping, and to address specific taxonomic questions. More generally, the method can be used to ask whether bacterial species exist – that is, to observe whether large populations of similar strains invariably fall into well-resolved clusters, or whether in some cases there is a genetic continuum in which clear separation into clusters is not observed.

[0191] In order to more accurately make a determination of genera, a determination of phenotypic traits, such as morphological, biochemical, and physiological characteristics are made for comparison with a reference genus archetype. The colony morphology can include color, shape, pigmentation, production of slime, etc. Features of the cell are described as to shape, size, Gram reaction, extracellular material, presence of endospores, flagella presence and location, motility, and inclusion bodies. Biochemical and physiological features describe growth of the organism at different ranges of temperature, pH, salinity and atmospheric conditions, growth in presence of different sole carbon and nitrogen sources. One of ordinary skill in the art would be reasonably apprised as to the phenotypic traits that define the genera of the present disclosure.

[0192] In one embodiment, the microbes taught herein were identified utilizing 16S rRNA gene sequences and ITS sequences. It is known in the art that 16S rRNA contains hypervariable regions that can provide species/strain-specific signature sequences useful for bacterial identification, and that ITS sequences can also provide species/strain-specific signature sequences useful for fungal identification.

[0193] Phylogenetic analysis using the rRNA genes and/or ITS sequences are used to define “substantially similar” species belonging to common genera and also to define “substantially similar” strains of a given taxonomic species. Furthermore, physiological and/or biochemical properties of the isolates can be utilized to highlight both minor and significant differences between strains that could lead to advantageous behavior in ruminants.

[0194] Compositions of the present disclosure may include combinations of fungal spores and bacterial spores, fungal spores and bacterial vegetative cells, fungal vegetative cells and bacterial spores, fungal vegetative cells and bacterial vegetative cells. In some embodiments,

compositions of the present disclosure comprise bacteria only in the form of spores. In some embodiments, compositions of the present disclosure comprise bacteria only in the form of vegetative cells. In some embodiments, compositions of the present disclosure comprise bacteria in the absence of fungi. In some embodiments, compositions of the present disclosure comprise fungi in the absence of bacteria.

[0195] Bacterial spores may include endospores and akinetes. Fungal spores may include statismospores, ballistospores, autospores, aplanospores, zoospores, mitospores, megaspores, microspores, meiospores, chlamydospores, urediniospores, teliospores, oospores, carpospores, tetraspores, sporangiospores, zygosporangia, ascospores, basidiospores, and asciospores.

[0196] In some embodiments, spores of the composition germinate upon administration to animals of the present disclosure. In some embodiments, spores of the composition germinate only upon administration to animals of the present disclosure.

Microbial Compositions

[0197] In some embodiments, the microbes of the disclosure are combined into microbial compositions.

[0198] In some embodiments, the microbial compositions include ruminant feed, such as cereals (barley, maize, oats, and the like); starches (tapioca and the like); oilseed cakes; and vegetable wastes. In some embodiments, the microbial compositions include vitamins, minerals, trace elements, emulsifiers, aromatizing products, binders, colorants, odorants, thickening agents, and the like.

[0199] In some embodiments, the microbial compositions of the present disclosure are solid. Where solid compositions are used, it may be desired to include one or more carrier materials including, but not limited to: mineral earths such as silicas, talc, kaolin, limestone, chalk, clay, dolomite, diatomaceous earth; calcium sulfate; magnesium sulfate; magnesium oxide; products of vegetable origin such as cereal meals, tree bark meal, wood meal, and nutshell meal.

[0200] In some embodiments, the microbial compositions of the present disclosure are liquid. In further embodiments, the liquid comprises a solvent that may include water or an alcohol, and other animal-safe solvents. In some embodiments, the microbial compositions of the present disclosure include binders such as animal-safe polymers, carboxymethylcellulose, starch, polyvinyl alcohol, and the like.

[0201] In some embodiments, the microbial compositions of the present disclosure comprise thickening agents such as silica, clay, natural extracts of seeds or seaweed, synthetic derivatives of cellulose, guar gum, locust bean gum, alginates, and methylcelluloses. In some embodiments, the microbial compositions comprise anti-settling agents such as modified starches, polyvinyl alcohol, xanthan gum, and the like.

[0202] In some embodiments, the microbial compositions of the present disclosure comprise colorants including organic chromophores classified as nitroso; nitro; azo, including monoazo, bisazo and polyazo; acridine, anthraquinone, azine, diphenylmethane, indamine, indophenol, methine, oxazine, phthalocyanine, thiazine, thiazole, triarylmethane, xanthene. In some embodiments, the microbial compositions of the present disclosure comprise trace nutrients such as salts of iron, manganese, boron, copper, cobalt, molybdenum and zinc.

[0203] In some embodiments, the microbial compositions of the present disclosure comprise an animal-safe virucide or nematicide.

[0204] In some embodiments, microbial compositions of the present disclosure comprise saccharides (*e.g.*, monosaccharides, disaccharides, trisaccharides, polysaccharides, oligosaccharides, and the like), polymeric saccharides, lipids, polymeric lipids, lipopolysaccharides, proteins, polymeric proteins, lipoproteins, nucleic acids, nucleic acid polymers, silica, inorganic salts and combinations thereof. In a further embodiment, microbial compositions comprise polymers of agar, agarose, gelrite, gellan gum and the like. In some embodiments, microbial compositions comprise plastic capsules, emulsions (*e.g.*, water and oil), membranes, and artificial membranes. In some embodiments, emulsions or linked polymer solutions may comprise microbial compositions of the present disclosure. See Harel and Bennett (US Patent 8,460,726B2).

[0205] In some embodiments, microbial compositions of the present disclosure occur in a solid form (*e.g.*, dispersed lyophilized spores) or a liquid form (microbes interspersed in a storage medium).

[0206] In some embodiments, microbial compositions of the present disclosure comprise one or more preservatives. The preservatives may be in liquid or gas formulations. The preservatives may be selected from one or more of monosaccharide, disaccharide, trisaccharide, polysaccharide, acetic acid, ascorbic acid, calcium ascorbate, erythorbic acid, iso-ascorbic acid,

erythroic acid, potassium nitrate, sodium ascorbate, sodium erythorbate, sodium iso-ascorbate, sodium nitrate, sodium nitrite, nitrogen, benzoic acid, calcium sorbate, ethyl lauroyl arginate, methyl-*p*-hydroxy benzoate, methyl paraben, potassium acetate, potassium benzoate, potassium bisulphite, potassium diacetate, potassium lactate, potassium metabisulphite, potassium sorbate, propyl-*p*-hydroxy benzoate, propyl paraben, sodium acetate, sodium benzoate, sodium bisulphite, sodium nitrite, sodium diacetate, sodium lactate, sodium metabisulphite, sodium salt of methyl-*p*-hydroxy benzoic acid, sodium salt of propyl-*p*-hydroxy benzoic acid, sodium sulphate, sodium sulfite, sodium dithionite, sulphurous acid, calcium propionate, dimethyl dicarbonate, natamycin, potassium sorbate, potassium bisulfite, potassium metabisulfite, propionic acid, sodium diacetate, sodium propionate, sodium sorbate, sorbic acid, ascorbic acid, ascorbyl palmitate, ascorbyl stearate, butylated hydroxy-anisole, butylated hydroxytoluene (BHT), butylated hydroxyl anisole (BHA), citric acid, citric acid esters of mono- and/or diglycerides, L-cysteine, L-cysteine hydrochloride, gum guaiacum, gum guaiac, lecithin, lecithin citrate, monoglyceride citrate, monoisopropyl citrate, propyl gallate, sodium metabisulphite, tartaric acid, tertiary butyl hydroquinone, stannous chloride, thiodipropionic acid, dilauryl thiodipropionate, distearyl thiodipropionate, ethoxyquin, sulfur dioxide, formic acid, or tocopherol(s).

[0207] In some embodiments, microbial compositions of the present disclosure include bacterial and/or fungal cells in spore form, vegetative cell form, and/or lysed cell form. In one embodiment, the lysed cell form acts as a mycotoxin binder, e.g. mycotoxins binding to dead cells.

[0208] In some embodiments, the microbial compositions are shelf stable in a refrigerator (35-40°F) for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 days. In some embodiments, the microbial compositions are shelf stable in a refrigerator (35-40°F) for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 weeks.

[0209] In some embodiments, the microbial compositions are shelf stable at room temperature (68-72°F) or between 50-77°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,

15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 days. In some embodiments, the microbial compositions are shelf stable at room temperature (68-72°F) or between 50-77°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 weeks.

[0210] In some embodiments, the microbial compositions are shelf stable at -23-35°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 days. In some embodiments, the microbial compositions are shelf stable at -23-35°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 weeks.

[0211] In some embodiments, the microbial compositions are shelf stable at 77-100°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 days. In some embodiments, the microbial compositions are shelf stable at 77-100°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 weeks.

[0212] In some embodiments, the microbial compositions are shelf stable at 101-213°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 days. In some embodiments, the microbial compositions are shelf stable at 101-213°F for a period of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, or 60 weeks.

[0213] In some embodiments, the microbial compositions of the present disclosure are shelf stable at refrigeration temperatures (35-40°F), at room temperature (68-72°F), between 50-77°F, between -23-35°F, between 70-100°F, or between 101-213°F for a period of about 1 to 100, about 1 to 95, about 1 to 90, about 1 to 85, about 1 to 80, about 1 to 75, about 1 to 70, about 1 to

65, about 1 to 60, about 1 to 55, about 1 to 50, about 1 to 45, about 1 to 40, about 1 to 35, about 1 to 30, about 1 to 25, about 1 to 20, about 1 to 15, about 1 to 10, about 1 to 5, about 5 to 100, about 5 to 95, about 5 to 90, about 5 to 85, about 5 to 80, about 5 to 75, about 5 to 70, about 5 to 65, about 5 to 60, about 5 to 55, about 5 to 50, about 5 to 45, about 5 to 40, about 5 to 35, about 5 to 30, about 5 to 25, about 5 to 20, about 5 to 15, about 5 to 10, about 10 to 100, about 10 to 95, about 10 to 90, about 10 to 85, about 10 to 80, about 10 to 75, about 10 to 70, about 10 to 65, about 10 to 60, about 10 to 55, about 10 to 50, about 10 to 45, about 10 to 40, about 10 to 35, about 10 to 30, about 10 to 25, about 10 to 20, about 10 to 15, about 15 to 100, about 15 to 95, about 15 to 90, about 15 to 85, about 15 to 80, about 15 to 75, about 15 to 70, about 15 to 65, about 15 to 60, about 15 to 55, about 15 to 50, about 15 to 45, about 15 to 40, about 15 to 35, about 15 to 30, about 15 to 25, about 15 to 20, about 20 to 100, about 20 to 95, about 20 to 90, about 20 to 85, about 20 to 80, about 20 to 75, about 20 to 70, about 20 to 65, about 20 to 60, about 20 to 55, about 20 to 50, about 20 to 45, about 20 to 40, about 20 to 35, about 20 to 30, about 20 to 25, about 25 to 100, about 25 to 95, about 25 to 90, about 25 to 85, about 25 to 80, about 25 to 75, about 25 to 70, about 25 to 65, about 25 to 60, about 25 to 55, about 25 to 50, about 25 to 45, about 25 to 40, about 25 to 35, about 25 to 30, about 30 to 100, about 30 to 95, about 30 to 90, about 30 to 85, about 30 to 80, about 30 to 75, about 30 to 70, about 30 to 65, about 30 to 60, about 30 to 55, about 30 to 50, about 30 to 45, about 30 to 40, about 30 to 35, about 35 to 100, about 35 to 95, about 35 to 90, about 35 to 85, about 35 to 80, about 35 to 75, about 35 to 70, about 35 to 65, about 35 to 60, about 35 to 55, about 35 to 50, about 35 to 45, about 35 to 40, about 40 to 100, about 40 to 95, about 40 to 90, about 40 to 85, about 40 to 80, about 40 to 75, about 40 to 70, about 40 to 65, about 40 to 60, about 40 to 55, about 40 to 50, about 40 to 45, about 45 to 100, about 45 to 95, about 45 to 90, about 45 to 85, about 45 to 80, about 45 to 75, about 45 to 70, about 45 to 65, about 45 to 60, about 45 to 55, about 45 to 50, about 50 to 100, about 50 to 95, about 50 to 90, about 50 to 85, about 50 to 80, about 50 to 75, about 50 to 70, about 50 to 65, about 50 to 60, about 50 to 55, about 55 to 100, about 55 to 95, about 55 to 90, about 55 to 85, about 55 to 80, about 55 to 75, about 55 to 70, about 55 to 65, about 55 to 60, about 60 to 100, about 60 to 95, about 60 to 90, about 60 to 85, about 60 to 80, about 60 to 75, about 60 to 70, about 60 to 65, about 65 to 100, about 65 to 95, about 65 to 90, about 65 to 85, about 65 to 80, about 65 to 75, about 65 to 70, about 70 to 100, about 70 to 95, about 70 to 90, about 70 to 85, about 70 to 80, about 70 to 75, about 75 to 100, about 75 to 95,

about 75 to 90, about 75 to 85, about 75 to 80, about 80 to 100, about 80 to 95, about 80 to 90, about 80 to 85, about 85 to 100, about 85 to 95, about 85 to 90, about 90 to 100, about 90 to 95, or 95 to 100 weeks

[0214] In some embodiments, the microbial compositions of the present disclosure are shelf stable at refrigeration temperatures (35-40°F), at room temperature (68-72°F), between 50-77°F, between -23-35°F, between 70-100°F, or between 101-213°F for a period of 1 to 100, 1 to 95, 1 to 90, 1 to 85, 1 to 80, 1 to 75, 1 to 70, 1 to 65, 1 to 60, 1 to 55, 1 to 50, 1 to 45, 1 to 40, 1 to 35, 1 to 30, 1 to 25, 1 to 20, 1 to 15, 1 to 10, 1 to 5, 5 to 100, 5 to 95, 5 to 90, 5 to 85, 5 to 80, 5 to 75, 5 to 70, 5 to 65, 5 to 60, 5 to 55, 5 to 50, 5 to 45, 5 to 40, 5 to 35, 5 to 30, 5 to 25, 5 to 20, 5 to 15, 5 to 10, 10 to 100, 10 to 95, 10 to 90, 10 to 85, 10 to 80, 10 to 75, 10 to 70, 10 to 65, 10 to 60, 10 to 55, 10 to 50, 10 to 45, 10 to 40, 10 to 35, 10 to 30, 10 to 25, 10 to 20, 10 to 15, 15 to 100, 15 to 95, 15 to 90, 15 to 85, 15 to 80, 15 to 75, 15 to 70, 15 to 65, 15 to 60, 15 to 55, 15 to 50, 15 to 45, 15 to 40, 15 to 35, 15 to 30, 15 to 25, 15 to 20, 20 to 100, 20 to 95, 20 to 90, 20 to 85, 20 to 80, 20 to 75, 20 to 70, 20 to 65, 20 to 60, 20 to 55, 20 to 50, 20 to 45, 20 to 40, 20 to 35, 20 to 30, 20 to 25, 25 to 100, 25 to 95, 25 to 90, 25 to 85, 25 to 80, 25 to 75, 25 to 70, 25 to 65, 25 to 60, 25 to 55, 25 to 50, 25 to 45, 25 to 40, 25 to 35, 25 to 30, 30 to 100, 30 to 95, 30 to 90, 30 to 85, 30 to 80, 30 to 75, 30 to 70, 30 to 65, 30 to 60, 30 to 55, 30 to 50, 30 to 45, 30 to 40, 30 to 35, 35 to 100, 35 to 95, 35 to 90, 35 to 85, 35 to 80, 35 to 75, 35 to 70, 35 to 65, 35 to 60, 35 to 55, 35 to 50, 35 to 45, 35 to 40, 40 to 100, 40 to 95, 40 to 90, 40 to 85, 40 to 80, 40 to 75, 40 to 70, 40 to 65, 40 to 60, 40 to 55, 40 to 50, 40 to 45, 45 to 100, 45 to 95, 45 to 90, 45 to 85, 45 to 80, 45 to 75, 45 to 70, 45 to 65, 45 to 60, 45 to 55, 45 to 50, 50 to 100, 50 to 95, 50 to 90, 50 to 85, 50 to 80, 50 to 75, 50 to 70, 50 to 65, 50 to 60, 50 to 55, 55 to 100, 55 to 95, 55 to 90, 55 to 85, 55 to 80, 55 to 75, 55 to 70, 55 to 65, 55 to 60, 60 to 100, 60 to 95, 60 to 90, 60 to 85, 60 to 80, 60 to 75, 60 to 70, 60 to 65, 65 to 100, 65 to 95, 65 to 90, 65 to 85, 65 to 80, 65 to 75, 65 to 70, 70 to 100, 70 to 95, 70 to 90, 70 to 85, 70 to 80, 70 to 75, 75 to 100, 75 to 95, 75 to 90, 75 to 85, 75 to 80, 80 to 100, 80 to 95, 80 to 90, 80 to 85, 85 to 100, 85 to 95, 85 to 90, 90 to 100, 90 to 95, or 95 to 100 weeks.

[0215] In some embodiments, the microbial compositions of the present disclosure are shelf stable at refrigeration temperatures (35-40°F), at room temperature (68-72°F), between 50-77°F, between -23-35°F, between 70-100°F, or between 101-213°F for a period of about 1 to 36, about 1 to 34, about 1 to 32, about 1 to 30, about 1 to 28, about 1 to 26, about 1 to 24, about 1 to 22,

about 1 to 20, about 1 to 18, about 1 to 16, about 1 to 14, about 1 to 12, about 1 to 10, about 1 to 8, about 1 to 6, about 1 one 4, about 1 to 2, about 4 to 36, about 4 to 34, about 4 to 32, about 4 to 30, about 4 to 28, about 4 to 26, about 4 to 24, about 4 to 22, about 4 to 20, about 4 to 18, about 4 to 16, about 4 to 14, about 4 to 12, about 4 to 10, about 4 to 8, about 4 to 6, about 6 to 36, about 6 to 34, about 6 to 32, about 6 to 30, about 6 to 28, about 6 to 26, about 6 to 24, about 6 to 22, about 6 to 20, about 6 to 18, about 6 to 16, about 6 to 14, about 6 to 12, about 6 to 10, about 6 to 8, about 8 to 36, about 8 to 34, about 8 to 32, about 8 to 30, about 8 to 28, about 8 to 26, about 8 to 24, about 8 to 22, about 8 to 20, about 8 to 18, about 8 to 16, about 8 to 14, about 8 to 12, about 8 to 10, about 10 to 36, about 10 to 34, about 10 to 32, about 10 to 30, about 10 to 28, about 10 to 26, about 10 to 24, about 10 to 22, about 10 to 20, about 10 to 18, about 10 to 16, about 10 to 14, about 10 to 12, about 12 to 36, about 12 to 34, about 12 to 32, about 12 to 30, about 12 to 28, about 12 to 26, about 12 to 24, about 12 to 22, about 12 to 20, about 12 to 18, about 12 to 16, about 12 to 14, about 14 to 36, about 14 to 34, about 14 to 32, about 14 to 30, about 14 to 28, about 14 to 26, about 14 to 24, about 14 to 22, about 14 to 20, about 14 to 18, about 14 to 16, about 16 to 36, about 16 to 34, about 16 to 32, about 16 to 30, about 16 to 28, about 16 to 26, about 16 to 24, about 16 to 22, about 16 to 20, about 16 to 18, about 18 to 36, about 18 to 34, about 18 to 32, about 18 to 30, about 18 to 28, about 18 to 26, about 18 to 24, about 18 to 22, about 18 to 20, about 20 to 36, about 20 to 34, about 20 to 32, about 20 to 30, about 20 to 28, about 20 to 26, about 20 to 24, about 20 to 22, about 22 to 36, about 22 to 34, about 22 to 32, about 22 to 30, about 22 to 28, about 22 to 26, about 22 to 24, about 24 to 36, about 24 to 34, about 24 to 32, about 24 to 30, about 24 to 28, about 24 to 26, about 26 to 36, about 26 to 34, about 26 to 32, about 26 to 30, about 26 to 28, about 28 to 36, about 28 to 34, about 28 to 32, about 28 to 30, about 30 to 36, about 30 to 34, about 30 to 32, about 32 to 36, about 32 to 34, or about 34 to 36 months.

[0216] In some embodiments, the microbial compositions of the present disclosure are shelf stable at refrigeration temperatures (35-40°F), at room temperature (68-72°F), between 50-77°F, between -23-35°F, between 70-100°F, or between 101-213°F for a period of 1 to 36 1 to 34 1 to 32 1 to 30 1 to 28 1 to 26 1 to 24 1 to 22 1 to 20 1 to 18 1 to 16 1 to 14 1 to 12 1 to 10 1 to 8 1 to 6 1 one 4 1 to 2 4 to 36 4 to 34 4 to 32 4 to 30 4 to 28 4 to 26 4 to 24 4 to 22 4 to 20 4 to 18 4 to 16 4 to 14 4 to 12 4 to 10 4 to 8 4 to 6 6 to 36 6 to 34 6 to 32 6 to 30 6 to 28 6 to 26 6 to 24 6 to 22 6 to 20 6 to 18 6 to 16 6 to 14 6 to 12 6 to 10 6 to 8 8 to 36 8 to 34 8 to 32 8 to 30 8 to 28 8 to

26 8 to 24 8 to 22 8 to 20 8 to 18 8 to 16 8 to 14 8 to 12 8 to 10 10 to 36 10 to 34 10 to 32 10 to 30 10 to 28 10 to 26 10 to 24 10 to 22 10 to 20 10 to 18 10 to 16 10 to 14 10 to 12 12 to 36 12 to 34 12 to 32 12 to 30 12 to 28 12 to 26 12 to 24 12 to 22 12 to 20 12 to 18 12 to 16 12 to 14 14 to 36 14 to 34 14 to 32 14 to 30 14 to 28 14 to 26 14 to 24 14 to 22 14 to 20 14 to 18 14 to 16 16 to 36 16 to 34 16 to 32 16 to 30 16 to 28 16 to 26 16 to 24 16 to 22 16 to 20 16 to 18 18 to 36 18 to 34 18 to 32 18 to 30 18 to 28 18 to 26 18 to 24 18 to 22 18 to 20 20 to 36 20 to 34 20 to 32 20 to 30 20 to 28 20 to 26 20 to 24 20 to 22 22 to 36 22 to 34 22 to 32 22 to 30 22 to 28 22 to 26 22 to 24 24 to 36 24 to 34 24 to 32 24 to 30 24 to 28 24 to 26 26 to 36 26 to 34 26 to 32 26 to 30 26 to 28 28 to 36 28 to 34 28 to 32 28 to 30 30 to 36 30 to 34 30 to 32 32 to 36 32 to 34, or about 34 to 36.

[0217] In some embodiments, the microbial compositions of the present disclosure are shelf stable at any of the disclosed temperatures and/or temperature ranges and spans of time at a relative humidity of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, or 98%

Encapsulation Compositions

[0218] In some embodiments, the microbes or microbial compositions of the disclosure are encapsulated in an encapsulating composition. An encapsulating composition protects the microbes from external stressors prior to entering the gastrointestinal tract of ungulates. Encapsulating compositions further create an environment that may be beneficial to the microbes, such as minimizing the oxidative stresses of an aerobic environment on anaerobic microbes. See Kalsta *et al.* (US 5,104,662A), Ford (US 5,733,568A), and Mosbach and Nilsson (US 4,647,536A) for encapsulation compositions of microbes, and methods of encapsulating microbes.

[0219] In one embodiment, the encapsulating composition comprises microcapsules having a multiplicity of liquid cores encapsulated in a solid shell material. For purposes of the disclosure, a "multiplicity" of cores is defined as two or more.

[0220] A first category of useful fusible shell materials is that of normally solid fats, including fats which are already of suitable hardness and animal or vegetable fats and oils which are

hydrogenated until their melting points are sufficiently high to serve the purposes of the present disclosure. Depending on the desired process and storage temperatures and the specific material selected, a particular fat can be either a normally solid or normally liquid material. The terms "normally solid" and "normally liquid" as used herein refer to the state of a material at desired temperatures for storing the resulting microcapsules. Since fats and hydrogenated oils do not, strictly speaking, have melting points, the term "melting point" is used herein to describe the minimum temperature at which the fusible material becomes sufficiently softened or liquid to be successfully emulsified and spray cooled, thus roughly corresponding to the maximum temperature at which the shell material has sufficient integrity to prevent release of the choline cores. "Melting point" is similarly defined herein for other materials which do not have a sharp melting point.

[0221] Specific examples of fats and oils useful herein (some of which require hardening) are as follows: animal oils and fats, such as beef tallow, mutton tallow, lamb tallow, lard or pork fat, fish oil, and sperm oil; vegetable oils, such as canola oil, cottonseed oil, peanut oil, corn oil, olive oil, soybean oil, sunflower oil, safflower oil, coconut oil, palm oil, linseed oil, tung oil, and castor oil; fatty acid monoglycerides and diglycerides; free fatty acids, such as stearic acid, palmitic acid, and oleic acid; and mixtures thereof. The above listing of oils and fats is not meant to be exhaustive, but only exemplary.

[0222] Specific examples of fatty acids include linoleic acid, γ -linoleic acid, dihomo- γ -linolenic acid, arachidonic acid, docosatetraenoic acid, vaccenic acid, nervonic acid, mead acid, erucic acid, gondoic acid, elaidic acid, oleic acid, palmitoleic acid, stearidonic acid, eicosapentaenoic acid, valeric acid, caproic acid, enanthic acid, caprylic acid, pelargonic acid, capric acid, undecylic acid, lauric acid, tridecylic acid, myristic acid, pentadecylic acid, palmitic acid, margaric acid, stearic acid, nonadecylic acid, arachidic acid, heneicosylic acid, behenic acid, tricosylic acid, lignoceric acid, pentacosylic acid, cerotic acid, heptacosylic acid, montanic acid, nonacosylic acid, melissic acid, henatriacontylic acid, lacceroic acid, psyllic acid, geddic acid, ceroplastic acid, hexatriacontylic acid, heptatriacontanoic acid, and octatriacontanoic acid.

[0223] Another category of fusible materials useful as encapsulating shell materials is that of waxes. Representative waxes contemplated for use herein are as follows: animal waxes, such as beeswax, lanolin, shell wax, and Chinese insect wax; vegetable waxes, such as carnauba, candelilla, bayberry, and sugar cane; mineral waxes, such as paraffin, microcrystalline

petroleum, ozocerite, ceresin, and montan; synthetic waxes, such as low molecular weight polyolefin (e.g., CARBOWAX), and polyol ether-esters (e.g., sorbitol); Fischer-Tropsch process synthetic waxes; and mixtures thereof. Water-soluble waxes, such as CARBOWAX and sorbitol, are not contemplated herein if the core is aqueous.

[0224] Still other fusible compounds useful herein are fusible natural resins, such as rosin, balsam, shellac, and mixtures thereof.

[0225] Various adjunct materials are contemplated for incorporation in fusible materials according to the present disclosure. For example, antioxidants, light stabilizers, dyes and lakes, flavors, essential oils, anti-caking agents, fillers, pH stabilizers, sugars (monosaccharides, disaccharides, trisaccharides, and polysaccharides) and the like can be incorporated in the fusible material in amounts which do not diminish its utility for the present disclosure.

[0226] The core material contemplated herein constitutes from about 0.1% to about 50%, about 1% to about 35%, or about 5% to about 30% by weight of the microcapsules. In some embodiments, the core material contemplated herein constitutes no more than about 30% by weight of the microcapsules. In some embodiments, the core material contemplated herein constitutes about 5% by weight of the microcapsules. The core material is contemplated as either a liquid or solid at contemplated storage temperatures of the microcapsules.

[0227] The cores may include other additives well-known in the pharmaceutical art, including edible sugars, such as sucrose, glucose, maltose, fructose, lactose, cellobiose, monosaccharides, disaccharides, trisaccharides, polysaccharides, and mixtures thereof; artificial sweeteners, such as aspartame, saccharin, cyclamate salts, and mixtures thereof; edible acids, such as acetic acid (vinegar), citric acid, ascorbic acid, tartaric acid, and mixtures thereof; edible starches, such as corn starch; hydrolyzed vegetable protein; water-soluble vitamins, such as Vitamin C; water-soluble medicaments; water-soluble nutritional materials, such as ferrous sulfate; flavors; salts; monosodium glutamate; antimicrobial agents, such as sorbic acid; antimycotic agents, such as potassium sorbate, sorbic acid, sodium benzoate, and benzoic acid; food grade pigments and dyes; and mixtures thereof. Other potentially useful supplemental core materials will be apparent to those of ordinary skill in the art.

[0228] Emulsifying agents may be employed to assist in the formation of stable emulsions. Representative emulsifying agents include glyceryl monostearate, polysorbate esters, ethoxylated mono- and diglycerides, and mixtures thereof.

[0229] For ease of processing, and particularly to enable the successful formation of a reasonably stable emulsion, the viscosities of the core material and the shell material should be similar at the temperature at which the emulsion is formed. In particular, the ratio of the viscosity of the shell to the viscosity of the core, expressed in centipoise or comparable units, and both measured at the temperature of the emulsion, should be from about 22:1 to about 1:1, desirably from about 8:1 to about 1:1, and preferably from about 3:1 to about 1:1. A ratio of 1:1 would be ideal, but a viscosity ratio within the recited ranges is useful.

[0230] Encapsulating compositions are not limited to microcapsule compositions as disclosed above. In some embodiments encapsulating compositions encapsulate the microbial compositions in an adhesive polymer that can be natural or synthetic without toxic effect. In some embodiments, the encapsulating composition may be a matrix selected from sugar matrix, gelatin matrix, polymer matrix, silica matrix, starch matrix, foam matrix, etc. In some embodiments, the encapsulating composition may be selected from polyvinyl acetates; polyvinyl acetate copolymers; ethylene vinyl acetate (EVA) copolymers; polyvinyl alcohols; polyvinyl alcohol copolymers; celluloses, including ethylcelluloses, methylcelluloses, hydroxymethylcelluloses, hydroxypropylcelluloses and carboxymethylcellulose; polyvinylpyrrolidones; polysaccharides, including starch, modified starch, dextrans, maltodextrins, alginate and chitosans; monosaccharides; fats; fatty acids, including oils; proteins, including gelatin and zeins; gum arabics; shellacs; vinylidene chloride and vinylidene chloride copolymers; calcium lignosulfonates; acrylic copolymers; polyvinylacrylates; polyethylene oxide; acrylamide polymers and copolymers; polyhydroxyethyl acrylate, methylacrylamide monomers; and polychloroprene.

[0231] In some embodiments, the encapsulating shell of the present disclosure can be up to 10 μ m, 20 μ m, 30 μ m, 40 μ m, 50 μ m, 60 μ m, 70 μ m, 80 μ m, 90 μ m, 100 μ m, 110 μ m, 120 μ m, 130 μ m, 140 μ m, 150 μ m, 160 μ m, 170 μ m, 180 μ m, 190 μ m, 200 μ m, 210 μ m, 220 μ m, 230 μ m, 240 μ m, 250 μ m, 260 μ m, 270 μ m, 280 μ m, 290 μ m, 300 μ m, 310 μ m, 320 μ m, 330 μ m, 340 μ m, 350 μ m, 360 μ m, 370 μ m, 380 μ m, 390 μ m, 400 μ m, 410 μ m, 420 μ m, 430 μ m, 440 μ m, 450 μ m, 460 μ m, 470 μ m, 480 μ m, 490 μ m, 500 μ m, 510 μ m, 520 μ m, 530 μ m, 540 μ m, 550 μ m, 560 μ m, 570 μ m, 580 μ m, 590 μ m, 600 μ m, 610 μ m, 620 μ m, 630 μ m, 640 μ m, 650 μ m, 660 μ m, 670 μ m, 680 μ m, 690 μ m, 700 μ m, 710 μ m, 720 μ m, 730 μ m, 740 μ m, 750 μ m, 760 μ m, 770 μ m, 780 μ m, 790 μ m, 800 μ m, 810 μ m, 820 μ m, 830 μ m, 840 μ m, 850 μ m, 860 μ m, 870 μ m, 880 μ m, 890 μ m, 900 μ m,

910 μm , 920 μm , 930 μm , 940 μm , 950 μm , 960 μm , 970 μm , 980 μm , 990 μm , 1000 μm , 1010 μm , 1020 μm , 1030 μm , 1040 μm , 1050 μm , 1060 μm , 1070 μm , 1080 μm , 1090 μm , 1100 μm , 1110 μm , 1120 μm , 1130 μm , 1140 μm , 1150 μm , 1160 μm , 1170 μm , 1180 μm , 1190 μm , 1200 μm , 1210 μm , 1220 μm , 1230 μm , 1240 μm , 1250 μm , 1260 μm , 1270 μm , 1280 μm , 1290 μm , 1300 μm , 1310 μm , 1320 μm , 1330 μm , 1340 μm , 1350 μm , 1360 μm , 1370 μm , 1380 μm , 1390 μm , 1400 μm , 1410 μm , 1420 μm , 1430 μm , 1440 μm , 1450 μm , 1460 μm , 1470 μm , 1480 μm , 1490 μm , 1500 μm , 1510 μm , 1520 μm , 1530 μm , 1540 μm , 1550 μm , 1560 μm , 1570 μm , 1580 μm , 1590 μm , 1600 μm , 1610 μm , 1620 μm , 1630 μm , 1640 μm , 1650 μm , 1660 μm , 1670 μm , 1680 μm , 1690 μm , 1700 μm , 1710 μm , 1720 μm , 1730 μm , 1740 μm , 1750 μm , 1760 μm , 1770 μm , 1780 μm , 1790 μm , 1800 μm , 1810 μm , 1820 μm , 1830 μm , 1840 μm , 1850 μm , 1860 μm , 1870 μm , 1880 μm , 1890 μm , 1900 μm , 1910 μm , 1920 μm , 1930 μm , 1940 μm , 1950 μm , 1960 μm , 1970 μm , 1980 μm , 1990 μm , 2000 μm , 2010 μm , 2020 μm , 2030 μm , 2040 μm , 2050 μm , 2060 μm , 2070 μm , 2080 μm , 2090 μm , 2100 μm , 2110 μm , 2120 μm , 2130 μm , 2140 μm , 2150 μm , 2160 μm , 2170 μm , 2180 μm , 2190 μm , 2200 μm , 2210 μm , 2220 μm , 2230 μm , 2240 μm , 2250 μm , 2260 μm , 2270 μm , 2280 μm , 2290 μm , 2300 μm , 2310 μm , 2320 μm , 2330 μm , 2340 μm , 2350 μm , 2360 μm , 2370 μm , 2380 μm , 2390 μm , 2400 μm , 2410 μm , 2420 μm , 2430 μm , 2440 μm , 2450 μm , 2460 μm , 2470 μm , 2480 μm , 2490 μm , 2500 μm , 2510 μm , 2520 μm , 2530 μm , 2540 μm , 2550 μm , 2560 μm , 2570 μm , 2580 μm , 2590 μm , 2600 μm , 2610 μm , 2620 μm , 2630 μm , 2640 μm , 2650 μm , 2660 μm , 2670 μm , 2680 μm , 2690 μm , 2700 μm , 2710 μm , 2720 μm , 2730 μm , 2740 μm , 2750 μm , 2760 μm , 2770 μm , 2780 μm , 2790 μm , 2800 μm , 2810 μm , 2820 μm , 2830 μm , 2840 μm , 2850 μm , 2860 μm , 2870 μm , 2880 μm , 2890 μm , 2900 μm , 2910 μm , 2920 μm , 2930 μm , 2940 μm , 2950 μm , 2960 μm , 2970 μm , 2980 μm , 2990 μm , or 3000 μm thick.

Animal Feed

[0232] In some embodiments, compositions of the present disclosure are mixed with animal feed. In some embodiments, animal feed may be present in various forms such as pellets, capsules, granulated, powdered, liquid, or semi-liquid.

[0233] In some embodiments, compositions of the present disclosure are mixed into the premix at at the feed mill (*e.g.*, Cargill or Western Millin), alone as a standalone premix, and/or alongside other feed additives such as MONENSIN, vitamins, etc. In one embodiment, the compositions of the present disclosure are mixed into the feed at the feed mill. In another embodiment, compositions of the present disclosure are mixed into the feed itself.

[0234] In some embodiments, feed of the present disclosure may be supplemented with water, premix or premixes, forage, fodder, beans (*e.g.*, whole, cracked, or ground), grains (*e.g.*, whole, cracked, or ground), bean- or grain-based oils, bean- or grain-based meals, bean- or grain-based haylage or silage, bean- or grain-based syrups, fatty acids, sugar alcohols (*e.g.*, polyhydric alcohols), commercially available formula feeds, and mixtures thereof.

[0235] In some embodiments, forage encompasses hay, haylage, and silage. In some embodiments, hays include grass hays (*e.g.*, sudangrass, orchardgrass, or the like), alfalfa hay, and clover hay. In some embodiments, haylages include grass haylages, sorghum haylage, and alfalfa haylage. In some embodiments, silages include maize, oat, wheat, alfalfa, clover, and the like.

[0236] In some embodiments, premix or premixes may be utilized in the feed. Premixes may comprise micro-ingredients such as vitamins, minerals, amino acids; chemical preservatives; pharmaceutical compositions such as antibiotics and other medicaments; fermentation products, and other ingredients. In some embodiments, premixes are blended into the feed.

[0237] In some embodiments, the feed may include feed concentrates such as soybean hulls, sugar beet pulp, molasses, high protein soybean meal, ground corn, shelled corn, wheat midds, distiller grain, cottonseed hulls, rumen-bypass protein, rumen-bypass fat, and grease. See Luhman (U.S. Publication US20150216817A1), Anderson *et al.* (U.S. Patent 3,484,243) and Porter and Luhman (U.S. Patent 9,179,694B2) for animal feed and animal feed supplements capable of use in the present compositions and methods.

[0238] In some embodiments, feed occurs as a compound, which includes, in a mixed composition capable of meeting the basic dietary needs, the feed itself, vitamins, minerals, amino acids, and other necessary components. Compound feed may further comprise premixes.

[0239] In some embodiments, microbial compositions of the present disclosure may be mixed with animal feed, premix, and/or compound feed. Individual components of the animal feed may be mixed with the microbial compositions prior to feeding to ruminants. The microbial compositions of the present disclosure may be applied into or on a premix, into or on a feed, and/or into or on a compound feed.

Administration of Microbial Compositions

[0240] In some embodiments, the microbial compositions of the present disclosure are administered to ruminants via the oral route. In some embodiments the microbial compositions are administered via a direct injection route into the gastrointestinal tract. In further embodiments, the direct injection administration delivers the microbial compositions directly to the rumen. In some embodiments, the microbial compositions of the present disclosure are administered to animals anally. In further embodiments, anal administration is in the form of an inserted suppository.

[0241] In some embodiments, the microbial composition is administered in a dose comprise a total of, or at least, 1ml, 2ml, 3ml, 4ml, 5ml, 6ml, 7ml, 8ml, 9ml, 10ml, 11ml, 12ml, 13ml, 14ml, 15ml, 16ml, 17ml, 18ml, 19ml, 20ml, 21ml, 22ml, 23ml, 24ml, 25ml, 26ml, 27ml, 28ml, 29ml, 30ml, 31ml, 32ml, 33ml, 34ml, 35ml, 36ml, 37ml, 38ml, 39ml, 40ml, 41m, 42ml, 43ml, 44ml, 45ml, 46ml, 47ml, 48ml, 49ml, 50ml, 60ml, 70ml, 80ml, 90ml, 100ml, 200ml, 300ml, 400ml, 500ml, 600ml, 700ml, 800ml, 900ml, or 1,000ml.

[0242] In some embodiments, the microbial composition is administered in a dose comprising a total of, or at least, 10^{18} , 10^{17} , 10^{16} , 10^{15} , 10^{14} , 10^{13} , 10^{12} , 10^{11} , 10^{10} , 10^9 , 10^8 , 10^7 , 10^6 , 10^5 , 10^4 , 10^3 , or 10^2 microbial cells.

[0243] In some embodiments, the microbial compositions are mixed with feed, and the administration occurs through the ingestion of the microbial compositions along with the feed. In some embodiments, the dose of the microbial composition is administered such that there exists 10^2 to 10^{12} , 10^3 to 10^{12} , 10^4 to 10^{12} , 10^5 to 10^{12} , 10^6 to 10^{12} , 10^7 to 10^{12} , 10^8 to 10^{12} , 10^9 to 10^{12} , 10^{10} to 10^{12} , 10^{11} to 10^{12} , 10^2 to 10^{11} , 10^3 to 10^{11} , 10^4 to 10^{11} , 10^5 to 10^{11} , 10^6 to 10^{11} , 10^7 to 10^{11} , 10^8 to 10^{11} , 10^9 to 10^{11} , 10^{10} to 10^{11} , 10^2 to 10^{10} , 10^3 to 10^{10} , 10^4 to 10^{10} , 10^5 to 10^{10} , 10^6 to 10^{10} , 10^7 to 10^{10} , 10^8 to 10^{10} , 10^9 to 10^{10} , 10^2 to 10^9 , 10^3 to 10^9 , 10^4 to 10^9 , 10^5 to 10^9 , 10^6 to 10^9 , 10^7 to 10^9 , 10^8 to 10^9 , 10^2 to 10^8 , 10^3 to 10^8 , 10^4 to 10^8 , 10^5 to 10^8 , 10^6 to 10^8 , 10^7 to 10^8 , 10^2 to 10^7 , 10^3 to 10^7 , 10^4 to 10^7 , 10^5 to 10^7 , 10^6 to 10^7 , 10^2 to 10^6 , 10^3 to 10^6 , 10^4 to 10^6 , 10^5 to 10^6 , 10^2 to 10^5 , 10^3 to 10^5 , 10^4 to 10^5 , 10^2 to 10^4 , 10^3 to 10^4 , 10^2 to 10^3 , 10^{12} , 10^{11} , 10^{10} , 10^9 , 10^8 , 10^7 , 10^6 , 10^5 , 10^4 , 10^3 , or 10^2 total microbial cells per gram or milliliter of the composition.

[0244] In some embodiments, the administered dose of the microbial composition comprises 10^2 to 10^{18} , 10^3 to 10^{18} , 10^4 to 10^{18} , 10^5 to 10^{18} , 10^6 to 10^{18} , 10^7 to 10^{18} , 10^8 to 10^{18} , 10^9 to 10^{18} , 10^{10} to

10^{18} , 10^{11} to 10^{18} , 10^{12} to 10^{18} , 10^{13} to 10^{18} , 10^{14} to 10^{18} , 10^{15} to 10^{18} , 10^{16} to 10^{18} , 10^{17} to 10^{18} , 10^2 to 10^{12} , 10^3 to 10^{12} , 10^4 to 10^{12} , 10^5 to 10^{12} , 10^6 to 10^{12} , 10^7 to 10^{12} , 10^8 to 10^{12} , 10^9 to 10^{12} , 10^{10} to 10^{12} , 10^{11} to 10^{12} , 10^2 to 10^{11} , 10^3 to 10^{11} , 10^4 to 10^{11} , 10^5 to 10^{11} , 10^6 to 10^{11} , 10^7 to 10^{11} , 10^8 to 10^{11} , 10^9 to 10^{11} , 10^{10} to 10^{11} , 10^2 to 10^{10} , 10^3 to 10^{10} , 10^4 to 10^{10} , 10^5 to 10^{10} , 10^6 to 10^{10} , 10^7 to 10^{10} , 10^8 to 10^{10} , 10^9 to 10^{10} , 10^2 to 10^9 , 10^3 to 10^9 , 10^4 to 10^9 , 10^5 to 10^9 , 10^6 to 10^9 , 10^7 to 10^9 , 10^8 to 10^9 , 10^2 to 10^8 , 10^3 to 10^8 , 10^4 to 10^8 , 10^5 to 10^8 , 10^6 to 10^8 , 10^7 to 10^8 , 10^2 to 10^7 , 10^3 to 10^7 , 10^4 to 10^7 , 10^5 to 10^7 , 10^6 to 10^7 , 10^2 to 10^6 , 10^3 to 10^6 , 10^4 to 10^6 , 10^5 to 10^6 , 10^2 to 10^5 , 10^3 to 10^5 , 10^4 to 10^5 , 10^2 to 10^4 , 10^3 to 10^4 , 10^2 to 10^3 , 10^{18} , 10^{17} , 10^{16} , 10^{15} , 10^{14} , 10^{13} , 10^{12} , 10^{11} , 10^{10} , 10^9 , 10^8 , 10^7 , 10^6 , 10^5 , 10^4 , 10^3 , or 10^2 total microbial cells.

[0245] In some embodiments, the composition is administered 1 or more times per day. In some aspects, the composition is administered with food each time the animal is fed. In some embodiments, the composition is administered 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 times per day.

[0246] In some embodiments, the microbial composition is administered 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 times per week.

[0247] In some embodiments, the microbial composition is administered 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 times per month.

[0248] In some embodiments, the microbial composition is administered 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 times per year.

[0249] In some embodiments, the feed can be uniformly coated with one or more layers of the microbes and/or microbial compositions disclosed herein, using conventional methods of mixing, spraying, or a combination thereof through the use of treatment application equipment that is specifically designed and manufactured to accurately, safely, and efficiently apply coatings. Such equipment uses various types of coating technology such as rotary coaters, drum coaters, fluidized bed techniques, spouted beds, rotary mists, or a combination thereof. Liquid treatments such as those of the present disclosure can be applied via either a spinning “atomizer” disk or a spray nozzle, which evenly distributes the microbial composition onto the feed as it moves through the spray pattern. In some aspects, the feed is then mixed or tumbled for an additional period of time to achieve additional treatment distribution and drying.

[0250] In some embodiments, the feed coats of the present disclosure can be up to 10 μ m, 20 μ m, 30 μ m, 40 μ m, 50 μ m, 60 μ m, 70 μ m, 80 μ m, 90 μ m, 100 μ m, 110 μ m, 120 μ m, 130 μ m, 140 μ m, 150 μ m, 160 μ m, 170 μ m, 180 μ m, 190 μ m, 200 μ m, 210 μ m, 220 μ m, 230 μ m, 240 μ m, 250 μ m, 260 μ m, 270 μ m, 280 μ m, 290 μ m, 300 μ m, 310 μ m, 320 μ m, 330 μ m, 340 μ m, 350 μ m, 360 μ m, 370 μ m, 380 μ m, 390 μ m, 400 μ m, 410 μ m, 420 μ m, 430 μ m, 440 μ m, 450 μ m, 460 μ m, 470 μ m, 480 μ m, 490 μ m, 500 μ m, 510 μ m, 520 μ m, 530 μ m, 540 μ m, 550 μ m, 560 μ m, 570 μ m, 580 μ m, 590 μ m, 600 μ m, 610 μ m, 620 μ m, 630 μ m, 640 μ m, 650 μ m, 660 μ m, 670 μ m, 680 μ m, 690 μ m, 700 μ m, 710 μ m, 720 μ m, 730 μ m, 740 μ m, 750 μ m, 760 μ m, 770 μ m, 780 μ m, 790 μ m, 800 μ m, 810 μ m, 820 μ m, 830 μ m, 840 μ m, 850 μ m, 860 μ m, 870 μ m, 880 μ m, 890 μ m, 900 μ m, 910 μ m, 920 μ m, 930 μ m, 940 μ m, 950 μ m, 960 μ m, 970 μ m, 980 μ m, 990 μ m, 1000 μ m, 1010 μ m, 1020 μ m, 1030 μ m, 1040 μ m, 1050 μ m, 1060 μ m, 1070 μ m, 1080 μ m, 1090 μ m, 1100 μ m, 1110 μ m, 1120 μ m, 1130 μ m, 1140 μ m, 1150 μ m, 1160 μ m, 1170 μ m, 1180 μ m, 1190 μ m, 1200 μ m, 1210 μ m, 1220 μ m, 1230 μ m, 1240 μ m, 1250 μ m, 1260 μ m, 1270 μ m, 1280 μ m, 1290 μ m, 1300 μ m, 1310 μ m, 1320 μ m, 1330 μ m, 1340 μ m, 1350 μ m, 1360 μ m, 1370 μ m, 1380 μ m, 1390 μ m, 1400 μ m, 1410 μ m, 1420 μ m, 1430 μ m, 1440 μ m, 1450 μ m, 1460 μ m, 1470 μ m, 1480 μ m, 1490 μ m, 1500 μ m, 1510 μ m, 1520 μ m, 1530 μ m, 1540 μ m, 1550 μ m, 1560 μ m, 1570 μ m, 1580 μ m, 1590 μ m, 1600 μ m, 1610 μ m, 1620 μ m, 1630 μ m, 1640 μ m, 1650 μ m, 1660 μ m, 1670 μ m, 1680 μ m, 1690 μ m, 1700 μ m, 1710 μ m, 1720 μ m, 1730 μ m, 1740 μ m, 1750 μ m, 1760 μ m, 1770 μ m, 1780 μ m, 1790 μ m, 1800 μ m, 1810 μ m, 1820 μ m, 1830 μ m, 1840 μ m, 1850 μ m, 1860 μ m, 1870 μ m, 1880 μ m, 1890 μ m, 1900 μ m, 1910 μ m, 1920 μ m, 1930 μ m, 1940 μ m, 1950 μ m, 1960 μ m, 1970 μ m, 1980 μ m, 1990 μ m, 2000 μ m, 2010 μ m, 2020 μ m, 2030 μ m, 2040 μ m, 2050 μ m, 2060 μ m, 2070 μ m, 2080 μ m, 2090 μ m, 2100 μ m, 2110 μ m, 2120 μ m,

2130 μm , 2140 μm , 2150 μm , 2160 μm , 2170 μm , 2180 μm , 2190 μm , 2200 μm , 2210 μm , 2220 μm , 2230 μm , 2240 μm , 2250 μm , 2260 μm , 2270 μm , 2280 μm , 2290 μm , 2300 μm , 2310 μm , 2320 μm , 2330 μm , 2340 μm , 2350 μm , 2360 μm , 2370 μm , 2380 μm , 2390 μm , 2400 μm , 2410 μm , 2420 μm , 2430 μm , 2440 μm , 2450 μm , 2460 μm , 2470 μm , 2480 μm , 2490 μm , 2500 μm , 2510 μm , 2520 μm , 2530 μm , 2540 μm , 2550 μm , 2560 μm , 2570 μm , 2580 μm , 2590 μm , 2600 μm , 2610 μm , 2620 μm , 2630 μm , 2640 μm , 2650 μm , 2660 μm , 2670 μm , 2680 μm , 2690 μm , 2700 μm , 2710 μm , 2720 μm , 2730 μm , 2740 μm , 2750 μm , 2760 μm , 2770 μm , 2780 μm , 2790 μm , 2800 μm , 2810 μm , 2820 μm , 2830 μm , 2840 μm , 2850 μm , 2860 μm , 2870 μm , 2880 μm , 2890 μm , 2900 μm , 2910 μm , 2920 μm , 2930 μm , 2940 μm , 2950 μm , 2960 μm , 2970 μm , 2980 μm , 2990 μm , or 3000 μm thick.

[0251] In some embodiments, the microbial cells can be coated freely onto any number of compositions or they can be formulated in a liquid or solid composition before being coated onto a composition. For example, a solid composition comprising the microorganisms can be prepared by mixing a solid carrier with a suspension of the spores until the solid carriers are impregnated with the spore or cell suspension. This mixture can then be dried to obtain the desired particles.

[0252] In some other embodiments, it is contemplated that the solid or liquid microbial compositions of the present disclosure further contain functional agents *e.g.*, activated carbon, minerals, vitamins, and other agents capable of improving the quality of the products or a combination thereof.

[0253] Methods of coating and compositions in use of said methods that are known in the art can be particularly useful when they are modified by the addition of one of the embodiments of the present disclosure. Such coating methods and apparatus for their application are disclosed in, for example: U.S. Pat. Nos. 8,097,245, and 7,998,502; and PCT Pat. App. Publication Nos. WO 2008/076975, WO 2010/138522, WO 2011/094469, WO 2010/111347, and WO 2010/111565 each of which is incorporated by reference herein.

[0254] In some embodiments, the microbes or microbial consortia of the present disclosure exhibit a synergistic effect, on one or more of the traits described herein, in the presence of one or more of the microbes or consortia coming into contact with one another. The synergistic effect obtained by the taught methods can be quantified, for example, according to Colby's formula (*i.e.*, $(E) = X+Y - (X*Y/100)$). *See* Colby, R.S., "Calculating Synergistic and Antagonistic Responses of Herbicide Combinations," 1967. Weeds. Vol. 15, pp. 20-22, incorporated herein by

reference in its entirety. Thus, “synergistic” is intended to reflect an outcome/parameter/effect that has been increased by more than an additive amount.

[0255] In some embodiments, the microbes or microbial consortia of the present disclosure may be administered via bolus. In one embodiment, a bolus (*e.g.*, capsule containing the composition) is inserted into a bolus gun, and the bolus gun is inserted into the buccal cavity and/or esophagus of the animal, followed by the release/injection of the bolus into the animal’s digestive tract. In one embodiment, the bolus gun/applicator is a BOVIKALC bolus gun/applicator. In another embodiment, the bolus gun/applicator is a QUADRICAL gun/applicator.

[0256] In some embodiments, the microbes or microbial consortia of the present disclosure may be administered via drench. In one embodiment, the drench is an oral drench. A drench administration comprises utilizing a drench kit/applicator/syringe that injects/releases a liquid comprising the microbes or microbial consortia into the buccal cavity and/or esophagus of the animal.

[0257] In some embodiments, the microbes or microbial consortia of the present disclosure may be administered in a time-released fashion. The composition may be coated in a chemical composition, or may be contained in a mechanical device or capsule that releases the microbes or microbial consortia over a period of time instead all at once. In one embodiment, the microbes or microbial consortia are administered to an animal in a time-release capsule. In one embodiment, the composition may be coated in a chemical composition, or may be contained in a mechanical device or capsule that releases the microbes or microbial consortia all at once a period of time hours post ingestion.

[0258] In some embodiments, the microbes or microbial consortia are administered in a time-released fashion between 1 to 5, 1 to 10, 1 to 15, 1 to 20, 1 to 24, 1 to 25, 1 to 30, 1 to 35, 1 to 40, 1 to 45, 1 to 50, 1 to 55, 1 to 60, 1 to 65, 1 to 70, 1 to 75, 1 to 80, 1 to 85, 1 to 90, 1 to 95, or 1 to 100 hours.

[0259] In some embodiments, the microbes or microbial consortia are administered in a time-released fashion between 1 to 2, 1 to 3, 1 to 4, 1 to 5, 1 to 6, 1 to 7, 1 to 8, 1 to 9, 1 to 10, 1 to 11, 1 to 12, 1 to 13, 1 to 14, 1 to 15, 1 to 16, 1 to 17, 1 to 18, 1 to 19, 1 to 20, 1 to 21, 1 to 22, 1 to 23, 1 to 24, 1 to 25, 1 to 26, 1 to 27, 1 to 28, 1 to 29, or 1 to 30 days.

Microorganisms

[0260] As used herein the term “microorganism” should be taken broadly. It includes, but is not limited to, the two prokaryotic domains, Bacteria and Archaea, as well as eukaryotic fungi, protists, and viruses.

[0261] By way of example, the microorganisms may include species of the genera of: *Clostridium*, *Ruminococcus*, *Roseburia*, *Hydrogenoanaerobacterium*, *Saccharofermentans*, *Papillibacter*, *Pelotomaculum*, *Butyricoccus*, *Tannerella*, *Prevotella*, *Butyricimonas*, *Piromyces*, *Pichia*, *Candida*, *Vrystaattia*, *Orpinomyces*, *Neocallimastix*, and *Phyllosticta*. The microorganisms may further include species belonging to the family of Lachnospiraceae, and the order of Saccharomycetales. In some embodiments, the microorganisms may include species of any genera disclosed herein.

[0262] In certain embodiments, the microorganism is unculturable. This should be taken to mean that the microorganism is not known to be culturable or is difficult to culture using methods known to one skilled in the art.

[0263] In one embodiment, the microbes are obtained from animals (*e.g.*, mammals, reptiles, birds, and the like), soil (*e.g.*, rhizosphere), air, water (*e.g.*, marine, freshwater, wastewater sludge), sediment, oil, plants (*e.g.*, roots, leaves, stems), agricultural products, and extreme environments (*e.g.*, acid mine drainage or hydrothermal systems). In a further embodiment, microbes obtained from marine or freshwater environments such as an ocean, river, or lake. In a further embodiment, the microbes can be from the surface of the body of water, or any depth of the body of water (*e.g.*, a deep sea sample).

[0264] The microorganisms of the disclosure may be isolated in substantially pure or mixed cultures. They may be concentrated, diluted, or provided in the natural concentrations in which they are found in the source material. For example, microorganisms from saline sediments may be isolated for use in this disclosure by suspending the sediment in fresh water and allowing the sediment to fall to the bottom. The water containing the bulk of the microorganisms may be removed by decantation after a suitable period of settling and either administered to the GI tract of an ungulate, or concentrated by filtering or centrifugation, diluted to an appropriate concentration and administered to the GI tract of an ungulate with the bulk of the salt removed. By way of further example, microorganisms from mineralized or toxic sources may be similarly

treated to recover the microbes for application to the ungulate to minimize the potential for damage to the animal.

[0265] In another embodiment, the microorganisms are used in a crude form, in which they are not isolated from the source material in which they naturally reside. For example, the microorganisms are provided in combination with the source material in which they reside; for example, fecal matter, cud, or other composition found in the gastrointestinal tract. In this embodiment, the source material may include one or more species of microorganisms.

[0266] In some embodiments, a mixed population of microorganisms is used in the methods of the disclosure.

[0267] In embodiments of the disclosure where the microorganisms are isolated from a source material (for example, the material in which they naturally reside), any one or a combination of a number of standard techniques which will be readily known to skilled persons may be used. However, by way of example, these in general employ processes by which a solid or liquid culture of a single microorganism can be obtained in a substantially pure form, usually by physical separation on the surface of a solid microbial growth medium or by volumetric dilutive isolation into a liquid microbial growth medium. These processes may include isolation from dry material, liquid suspension, slurries or homogenates in which the material is spread in a thin layer over an appropriate solid gel growth medium, or serial dilutions of the material made into a sterile medium and inoculated into liquid or solid culture media.

[0268] Whilst not essential, in one embodiment, the material containing the microorganisms may be pre-treated prior to the isolation process in order to either multiply all microorganisms in the material. Microorganisms can then be isolated from the enriched materials as disclosed above.

[0269] In certain embodiments, as mentioned herein before, the microorganism(s) may be used in crude form and need not be isolated from an animal or a media. For example, cud, feces, or growth media which includes the microorganisms identified to be of benefit to increased milk production in ungulates may be obtained and used as a crude source of microorganisms for the next round of the method or as a crude source of microorganisms at the conclusion of the method. For example, fresh feces could be obtained and optionally processed.

Microbiome Shift and Abundance of Microbes

[0270] In some embodiments, the microbiome of a ruminant, including the rumen microbiome, comprises a diverse array of microbes with a wide variety of metabolic capabilities. The microbiome is influenced by a range of factors including diet, variations in animal metabolism, and breed, among others. Most bovine diets are plant-based and rich in complex polysaccharides that enrich the gastrointestinal microbial community for microbes capable of breaking down specific polymeric components in the diet. The end products of primary degradation sustains a chain of microbes that ultimately produce a range of organic acids together with hydrogen and carbon dioxide. Because of the complex and interlinked nature of the microbiome, changing the diet and thus substrates for primary degradation may have a cascading effect on rumen microbial metabolism, with changes in both the organic acid profiles and the methane levels produced, thus impacting the quality and quantity of animal production and or the products produced by the animal. See Menezes *et al.* (2011. *FEMS Microbiol. Ecol.* 78(2):256-265.)

[0271] In some aspects, the present disclosure is drawn to administering microbial compositions described herein to modulate or shift the microbiome of a ruminant.

[0272] In some embodiments, the microbiome is shifted through the administration of one or more microbes to the gastrointestinal tract. In further embodiments, the one or more microbes are those selected from **Table 1** or **Table 3**. In some embodiments, the microbiome shift or modulation includes a decrease or loss of specific microbes that were present prior to the administration of one or more microbes of the present disclosure. In some embodiments, the microbiome shift or modulation includes an increase in microbes that were present prior to the administration of one or more microbes of the present disclosure. In some embodiments, the microbiome shift or modulation includes a gain of one or more microbes that were not present prior to the administration of one or more microbes of the present disclosure. In a further embodiment, the gain of one or more microbes is a microbe that was not specifically included in the administered microbial consortium.

[0273] In some embodiments, the administration of microbes of the present disclosure results in a sustained modulation of the microbiome such that the administered microbes are present in the microbiome for a period of at least 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3

to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 days.

[0274] In some embodiments, the administration of microbes of the present disclosure results in a sustained modulation of the microbiome such that the administered microbes are present in the microbiome for a period of at least 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 weeks.

[0275] In some embodiments, the administration of microbes of the present disclosure results in a sustained modulation of the microbiome such that the administered microbes are present in the microbiome for a period of at least 1 to 10, 1 to 9, 1 to 8, 1 to 7, 1 to 6, 1 to 5, 1 to 4, 1 to 3, 1 to 2, 2 to 10, 2 to 9, 2 to 8, 2 to 7, 2 to 6, 2 to 5, 2 to 4, 2 to 3, 3 to 10, 3 to 9, 3 to 8, 3 to 7, 3 to 6, 3 to 5, 3 to 4, 4 to 10, 4 to 9, 4 to 8, 4 to 7, 4 to 6, 4 to 5, 5 to 10, 5 to 9, 5 to 8, 5 to 7, 5 to 6, 6 to 10, 6 to 9, 6 to 8, 6 to 7, 7 to 10, 7 to 9, 7 to 8, 8 to 10, 8 to 9, 9 to 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12 months.

[0276] In some embodiments, the presence of the administered microbes are detected by sampling the gastrointestinal tract and using primers to amplify the 16S or 18S rDNA sequences, or the ITS rDNA sequences of the administered microbes. In some embodiments, the administered microbes are one or more of those selected from **Table 1** or **Table 3**, and the corresponding rDNA sequences are those selected from SEQ ID NOs:1-60, SEQ ID NOs:2045-2107 and the SEQ ID NOs identified in **Table 3**.

[0277] In some embodiments, the microbiome of a ruminant is measured by amplifying polynucleotides collected from gastrointestinal samples, wherein the polynucleotides may be 16S or 18S rDNA fragments, or ITS rDNA fragments of microbial rDNA. In one embodiment, the microbiome is fingerprinted by a method of denaturing gradient gel electrophoresis (DGGE) wherein the amplified rDNA fragments are sorted by where they denature, and form a unique banding pattern in a gel that may be used for comparing the microbiome of the same ruminant over time or the microbiomes of multiple ruminants. In another embodiment, the microbiome is

fingerprinted by a method of terminal restriction fragment length polymorphism (T-RFLP), wherein labelled PCR fragments are digested using a restriction enzyme and then sorted by size. In a further embodiment, the data collected from the T-RFLP method is evaluated by nonmetric multidimensional scaling (nMDS) ordination and PERMANOVA statistics identify differences in microbiomes, thus allowing for the identification and measurement of shifts in the microbiome. See also Shanks *et al.* (2011. *Appl. Environ. Microbiol.* 77(9):2992-3001), Petri *et al.* (2013. *PLOS one.* 8(12):e83424), and Menezes *et al.* (2011. *FEMS Microbiol. Ecol.* 78(2):256-265.)

[0278] In some embodiments, the administration of microbes of the present disclosure results in a modulation or shift of the microbiome which further results in a desired phenotype or improved trait.

[0279] According to the methods provided herein, a sample is processed to detect the presence of one or more microorganism types in the sample (FIG. 1, 1001; FIG. 2, 2001). The absolute number of one or more microorganism organism type in the sample is determined (FIG. 1, 1002; FIG. 2, 2002). The determination of the presence of the one or more organism types and the absolute number of at least one organism type can be conducted in parallel or serially. For example, in the case of a sample comprising a microbial community comprising bacteria (*i.e.*, one microorganism type) and fungi (*i.e.*, a second microorganism type), the user in one embodiment detects the presence of one or both of the organism types in the sample (FIG. 1, 1001; FIG. 2, 2001). The user, in a further embodiment, determines the absolute number of at least one organism type in the sample – in the case of this example, the number of bacteria, fungi or combination thereof, in the sample (FIG. 1, 1002; FIG. 2, 2002).

[0280] In one embodiment, the sample, or a portion thereof is subjected to flow cytometry (FC) analysis to detect the presence and/or number of one or more microorganism types (FIG. 1, 1001, 1002; FIG. 2, 2001, 2002). In one flow cytometer embodiment, individual microbial cells pass through an illumination zone, at a rate of at least about 300 *s^{-1} , or at least about 500 *s^{-1} , or at least about 1000 *s^{-1} . However, one of ordinary skill in the art will recognize that this rate can vary depending on the type of instrument is employed. Detectors which are gated electronically measure the magnitude of a pulse representing the extent of light scattered. The magnitudes of these pulses are sorted electronically into “bins” or “channels,” permitting the display of histograms of the number of cells possessing a certain quantitative property (e.g., cell staining

property, diameter, cell membrane) versus the channel number. Such analysis allows for the determination of the number of cells in each “bin” which in embodiments described herein is an “microorganism type” bin, *e.g.*, a bacteria, fungi, nematode, protozoan, archaea, algae, dinoflagellate, virus, viroid, etc.

[0281] In one embodiment, a sample is stained with one or more fluorescent dyes wherein a fluorescent dye is specific to a particular microorganism type, to enable detection via a flow cytometer or some other detection and quantification method that harnesses fluorescence, such as fluorescence microscopy. The method can provide quantification of the number of cells and/or cell volume of a given organism type in a sample. In a further embodiment, as described herein, flow cytometry is harnessed to determine the presence and quantity of a unique first marker and/or unique second marker of the organism type, such as enzyme expression, cell surface protein expression, etc. Two- or three-variable histograms or contour plots of, for example, light scattering versus fluorescence from a cell membrane stain (versus fluorescence from a protein stain or DNA stain) may also be generated, and thus an impression may be gained of the distribution of a variety of properties of interest among the cells in the population as a whole. A number of displays of such multiparameter flow cytometric data are in common use and are amenable for use with the methods described herein.

[0282] In one embodiment of processing the sample to detect the presence and number of one or more microorganism types, a microscopy assay is employed (FIG. 1, 1001, 1002). In one embodiment, the microscopy is optical microscopy, where visible light and a system of lenses are used to magnify images of small samples. Digital images can be captured by a charge-couple device (CCD) camera. Other microscopic techniques include, but are not limited to, scanning electron microscopy and transmission electron microscopy. Microorganism types are visualized and quantified according to the aspects provided herein.

[0283] In another embodiment of in order to detect the presence and number of one or more microorganism types, the sample, or a portion thereof is subjected to fluorescence microscopy. Different fluorescent dyes can be used to directly stain cells in samples and to quantify total cell counts using an epifluorescence microscope as well as flow cytometry, described above. Useful dyes to quantify microorganisms include but are not limited to acridine orange (AO), 4,6-diamino-2 phenylindole (DAPI) and 5-cyano-2,3 Dytolyl Tetrazolium Chloride (CTC). Viable cells can be estimated by a viability staining method such as the LIVE/DEAD[®] Bacterial

Viability Kit (Bac-Light™) which contains two nucleic acid stains: the green-fluorescent SYTO 9™ dye penetrates all membranes and the red-fluorescent propidium iodide (PI) dye penetrates cells with damaged membranes. Therefore, cells with compromised membranes will stain red, whereas cells with undamaged membranes will stain green. Fluorescent *in situ* hybridization (FISH) extends epifluorescence microscopy, allowing for the fast detection and enumeration of specific organisms. FISH uses fluorescent labelled oligonucleotides probes (usually 15-25 basepairs) which bind specifically to organism DNA in the sample, allowing the visualization of the cells using an epifluorescence or confocal laser scanning microscope (CLSM). Catalyzed reporter deposition fluorescence *in situ* hybridization (CARD-FISH) improves upon the FISH method by using oligonucleotide probes labelled with a horse radish peroxidase (HRP) to amplify the intensity of the signal obtained from the microorganisms being studied. FISH can be combined with other techniques to characterize microorganism communities. One combined technique is high affinity peptide nucleic acid (PNA)-FISH, where the probe has an enhanced capability to penetrate through the Extracellular Polymeric Substance (EPS) matrix. Another example is LIVE/DEAD-FISH which combines the cell viability kit with FISH and has been used to assess the efficiency of disinfection in drinking water distribution systems.

[0284] In another embodiment, the sample, or a portion thereof is subjected to Raman micro-spectroscopy in order to determine the presence of a microorganism type and the absolute number of at least one microorganism type (FIG. 1, 1001-1002; FIG. 2, 2001-2002). Raman micro-spectroscopy is a non-destructive and label-free technology capable of detecting and measuring a single cell Raman spectrum (SCRS). A typical SCRS provides an intrinsic biochemical “fingerprint” of a single cell. A SCRS contains rich information of the biomolecules within it, including nucleic acids, proteins, carbohydrates and lipids, which enables characterization of different cell species, physiological changes and cell phenotypes. Raman microscopy examines the scattering of laser light by the chemical bonds of different cell biomarkers. A SCRS is a sum of the spectra of all the biomolecules in one single cell, indicating a cell’s phenotypic profile. Cellular phenotypes, as a consequence of gene expression, usually reflect genotypes. Thus, under identical growth conditions, different microorganism types give distinct SCRS corresponding to differences in their genotypes and can thus be identified by their Raman spectra.

[0285] In yet another embodiment, the sample, or a portion thereof is subjected to centrifugation in order to determine the presence of a microorganism type and the number of at least one microorganism type (FIG. 1, 1001-1002; FIG. 2, 2001-2002). This process sediments a heterogeneous mixture by using the centrifugal force created by a centrifuge. More dense components of the mixture migrate away from the axis of the centrifuge, while less dense components of the mixture migrate towards the axis. Centrifugation can allow fractionation of samples into cytoplasmic, membrane and extracellular portions. It can also be used to determine localization information for biological molecules of interest. Additionally, centrifugation can be used to fractionate total microbial community DNA. Different prokaryotic groups differ in their guanine-plus-cytosine (G+C) content of DNA, so density-gradient centrifugation based on G+C content is a method to differentiate organism types and the number of cells associated with each type. The technique generates a fractionated profile of the entire community DNA and indicates abundance of DNA as a function of G+C content. The total community DNA is physically separated into highly purified fractions, each representing a different G+C content that can be analyzed by additional molecular techniques such as denaturing gradient gel electrophoresis (DGGE)/amplified ribosomal DNA restriction analysis (ARDRA) (*see* discussion herein) to assess total microbial community diversity and the presence/quantity of one or more microorganism types.

[0286] In another embodiment, the sample, or a portion thereof is subjected to staining in order to determine the presence of a microorganism type and the number of at least one microorganism type (FIG. 1, 1001-1002; FIG. 2, 2001-2002). Stains and dyes can be used to visualize biological tissues, cells or organelles within cells. Staining can be used in conjunction with microscopy, flow cytometry or gel electrophoresis to visualize or mark cells or biological molecules that are unique to different microorganism types. *In vivo* staining is the process of dyeing living tissues, whereas *in vitro* staining involves dyeing cells or structures that have been removed from their biological context. Examples of specific staining techniques for use with the methods described herein include, but are not limited to: gram staining to determine gram status of bacteria, endospore staining to identify the presence of endospores, Ziehl-Neelsen staining, haematoxylin and eosin staining to examine thin sections of tissue, papanicolaou staining to examine cell samples from various bodily secretions, periodic acid-Schiff staining of carbohydrates, Masson's trichrome employing a three-color staining protocol to distinguish cells

from the surrounding connective tissue, Romanowsky stains (or common variants that include Wright's stain, Jenner's stain, May-Grunwald stain, Leishman stain and Giemsa stain) to examine blood or bone marrow samples, silver staining to reveal proteins and DNA, Sudan staining for lipids and Conklin's staining to detect true endospores. Common biological stains include acridine orange for cell cycle determination; bismarck brown for acid mucins; carmine for glycogen; carmine alum for nuclei; Coomassie blue for proteins; Cresyl violet for the acidic components of the neuronal cytoplasm; Crystal violet for cell walls; DAPI for nuclei; eosin for cytoplasmic material, cell membranes, some extracellular structures and red blood cells; ethidium bromide for DNA; acid fuchsin for collagen, smooth muscle or mitochondria; haematoxylin for nuclei; Hoechst stains for DNA; iodine for starch; malachite green for bacteria in the Gimenez staining technique and for spores; methyl green for chromatin; methylene blue for animal cells; neutral red for Nissl substance; Nile blue for nuclei; Nile red for lipophilic entities; osmium tetroxide for lipids; rhodamine is used in fluorescence microscopy; safranin for nuclei. Stains are also used in transmission electron microscopy to enhance contrast and include phosphotungstic acid, osmium tetroxide, ruthenium tetroxide, ammonium molybdate, cadmium iodide, carbonyl dihydrazide, ferric chloride, hexamine, indium trichloride, lanthanum nitrate, lead acetate, lead citrate, lead(II) nitrate, periodic acid, phosphomolybdic acid, potassium ferricyanide, potassium ferrocyanide, ruthenium red, silver nitrate, silver proteinate, sodium chloroaurate, thallium nitrate, thiosemicarbazide, uranyl acetate, uranyl nitrate, and vanadyl sulfate.

[0287] In another embodiment, the sample, or a portion thereof is subjected to mass spectrometry (MS) in order to determine the presence of a microorganism type and the number of at least one microorganism type (**FIG. 1**, 1001-1002; **FIG. 2**, 2001-2002). MS, as discussed below, can also be used to detect the presence and expression of one or more unique markers in a sample (**FIG. 1**, 1003-1004; **FIG. 2**, 2003-2004). MS is used for example, to detect the presence and quantity of protein and/or peptide markers unique to microorganism types and therefore to provide an assessment of the number of the respective microorganism type in the sample. Quantification can be either with stable isotope labelling or label-free. *De novo* sequencing of peptides can also occur directly from MS/MS spectra or sequence tagging (produce a short tag that can be matched against a database). MS can also reveal post-translational modifications of proteins and identify metabolites. MS can be used in conjunction with chromatographic and

other separation techniques (such as gas chromatography, liquid chromatography, capillary electrophoresis, ion mobility) to enhance mass resolution and determination.

[0288] In another embodiment, the sample, or a portion thereof is subjected to lipid analysis in order to determine the presence of a microorganism type and the number of at least one microorganism type (**FIG. 1**, 1001-1002; **FIG. 2**, 2001-2002). Fatty acids are present in a relatively constant proportion of the cell biomass, and signature fatty acids exist in microbial cells that can differentiate microorganism types within a community. In one embodiment, fatty acids are extracted by saponification followed by derivatization to give the respective fatty acid methyl esters (FAMES), which are then analyzed by gas chromatography. The FAME profile in one embodiment is then compared to a reference FAME database to identify the fatty acids and their corresponding microbial signatures by multivariate statistical analyses.

[0289] In the aspects of the methods provided herein, the number of unique first markers in the sample, or portion thereof (*e.g.*, sample aliquot) is measured, as well as the abundance of each of the unique first markers (**FIG. 1**, 1003; **FIG. 2**, 2003). A unique marker is a marker of a microorganism strain. It should be understood by one of ordinary skill in the art that depending on the unique marker being probed for and measured, the entire sample need not be analyzed. For example, if the unique marker is unique to bacterial strains, then the fungal portion of the sample need not be analyzed. As described above, in some embodiments, measuring the absolute abundance of one or more organism types in a sample comprises separating the sample by organism type, *e.g.*, via flow cytometry.

[0290] Any marker that is unique to an organism strain can be employed herein. For example, markers can include, but are not limited to, small subunit ribosomal RNA genes (16S/18S rDNA), large subunit ribosomal RNA genes (23S/25S/28S rDNA), intercalary 5.8S gene, cytochrome c oxidase, beta-tubulin, elongation factor, RNA polymerase and internal transcribed spacer (ITS).

[0291] Ribosomal RNA genes (rDNA), especially the small subunit ribosomal RNA genes, *i.e.*, 18S rRNA genes (18S rDNA) in the case of eukaryotes and 16S rRNA (16S rDNA) in the case of prokaryotes, have been the predominant target for the assessment of organism types and strains in a microbial community. However, the large subunit ribosomal RNA genes, 28S rDNAs, have been also targeted. rDNAs are suitable for taxonomic identification because: (i) they are ubiquitous in all known organisms; (ii) they possess both conserved and variable

regions; (iii) there is an exponentially expanding database of their sequences available for comparison. In community analysis of samples, the conserved regions serve as annealing sites for the corresponding universal PCR and/or sequencing primers, whereas the variable regions can be used for phylogenetic differentiation. In addition, the high copy number of rDNA in the cells facilitates detection from environmental samples.

[0292] The internal transcribed spacer (ITS), located between the 18S rDNA and 28S rDNA, has also been targeted. The ITS is transcribed but spliced away before assembly of the ribosomes. The ITS region is composed of two highly variable spacers, ITS1 and ITS2, and the intercalary 5.8S gene. This rDNA operon occurs in multiple copies in genomes. Because the ITS region does not code for ribosome components, it is highly variable.

[0293] In one embodiment, the unique RNA marker can be an mRNA marker, an siRNA marker or a ribosomal RNA marker.

[0294] Protein-coding functional genes can also be used herein as a unique first marker. Such markers include but are not limited to: the recombinase A gene family (bacterial RecA, archaea RadA and RadB, eukaryotic Rad51 and Rad57, phage UvsX); RNA polymerase β subunit (RpoB) gene, which is responsible for transcription initiation and elongation; chaperonins. Candidate marker genes have also been identified for bacteria plus archaea: ribosomal protein S2 (rpsB), ribosomal protein S10 (rpsJ), ribosomal protein L1 (rplA), translation elongation factor EF-2, translation initiation factor IF-2, metalloendopeptidase, ribosomal protein L22, ffh signal recognition particle protein, ribosomal protein L4/L1e (rplD), ribosomal protein L2 (rplB), ribosomal protein S9 (rpsI), ribosomal protein L3 (rplC), phenylalanyl-tRNA synthetase beta subunit, ribosomal protein L14b/L23e (rplN), ribosomal protein S5, ribosomal protein S19 (rpsS), ribosomal protein S7, ribosomal protein L16/L10E (rplP), ribosomal protein S13 (rpsM), phenylalanyl-tRNA synthetase α subunit, ribosomal protein L15, ribosomal protein L25/L23, ribosomal protein L6 (rplF), ribosomal protein L11 (rplK), ribosomal protein L5 (rplE), ribosomal protein S12/S23, ribosomal protein L29, ribosomal protein S3 (rpsC), ribosomal protein S11 (rpsK), ribosomal protein L10, ribosomal protein S8, tRNA pseudouridine synthase B, ribosomal protein L18P/L5E, ribosomal protein S15P/S13e, Porphobilinogen deaminase, ribosomal protein S17, ribosomal protein L13 (rplM), phosphoribosylformylglycinamide cyclo-ligase (rpsE), ribonuclease HII and ribosomal protein L24. Other candidate marker genes for bacteria include: transcription elongation protein NusA (nusA), rpoB DNA-directed RNA

polymerase subunit beta (rpoB), GTP-binding protein EngA, rpoC DNA-directed RNA polymerase subunit beta', priA primosome assembly protein, transcription-repair coupling factor, CTP synthase (pyrG), secY preprotein translocase subunit SecY, GTP-binding protein Obg/CgtA, DNA polymerase I, rpsF 30S ribosomal protein S6, poA DNA-directed RNA polymerase subunit alpha, peptide chain release factor 1, rplI 50S ribosomal protein L9, polyribonucleotide nucleotidyltransferase, tsf elongation factor Ts (tsf), rplQ 50S ribosomal protein L17, tRNA (guanine-N(1)-)-methyltransferase (rplS), rplY probable 50S ribosomal protein L25, DNA repair protein RadA, glucose-inhibited division protein A, ribosome-binding factor A, DNA mismatch repair protein MutL, smpB SsrA-binding protein (smpB), N-acetylglucosaminyl transferase, S-adenosyl-methyltransferase MraW, UDP-N-acetylmuramoylalanine--D-glutamate ligase, rplS 50S ribosomal protein L19, rplT 50S ribosomal protein L20 (rplT), ruvA Holliday junction DNA helicase, ruvB Holliday junction DNA helicase B, serS seryl-tRNA synthetase, rplU 50S ribosomal protein L21, rpsR 30S ribosomal protein S18, DNA mismatch repair protein MutS, rpsT 30S ribosomal protein S20, DNA repair protein RecN, fir ribosome recycling factor (frr), recombination protein RecR, protein of unknown function UPF0054, miaA tRNA isopentenyltransferase, GTP-binding protein YchF, chromosomal replication initiator protein DnaA, dephospho-CoA kinase, 16S rRNA processing protein RimM, ATP-cone domain protein, 1-deoxy-D-xylulose 5-phosphate reductoisomerase, 2C-methyl-D-erythritol 2,4-cyclodiphosphate synthase, fatty acid/phospholipid synthesis protein PlsX, tRNA(Ile)-lysidine synthetase, dnaG DNA primase (dnaG), ruvC Holliday junction resolvase, rpsP 30S ribosomal protein S16, Recombinase A recA, riboflavin biosynthesis protein RibF, glycyl-tRNA synthetase beta subunit, trmU tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase, rpmI 50S ribosomal protein L35, hemE uroporphyrinogen decarboxylase, Rod shape-determining protein, rpmA 50S ribosomal protein L27 (rpmA), peptidyl-tRNA hydrolase, translation initiation factor IF-3 (infC), UDP-N-acetylmuramyl-tripeptide synthetase, rpmF 50S ribosomal protein L32, rplL 50S ribosomal protein L7/L12 (rplL), leuS leucyl-tRNA synthetase, ligA NAD-dependent DNA ligase, cell division protein FtsA, GTP-binding protein TypA, ATP-dependent Clp protease, ATP-binding subunit ClpX, DNA replication and repair protein RecF and UDP-N-acetylenolpyruvoylglucosamine reductase.

[0295] Phospholipid fatty acids (PLFAs) may also be used as unique first markers according to the methods described herein. Because PLFAs are rapidly synthesized during microbial growth, are not found in storage molecules and degrade rapidly during cell death, it provides an accurate census of the current living community. All cells contain fatty acids (FAs) that can be extracted and esterified to form fatty acid methyl esters (FAMES). When the FAMES are analyzed using gas chromatography–mass spectrometry, the resulting profile constitutes a ‘fingerprint’ of the microorganisms in the sample. The chemical compositions of membranes for organisms in the domains Bacteria and Eukarya are comprised of fatty acids linked to the glycerol by an ester-type bond (phospholipid fatty acids (PLFAs)). In contrast, the membrane lipids of Archaea are composed of long and branched hydrocarbons that are joined to glycerol by an ether-type bond (phospholipid ether lipids (PLELs)). This is one of the most widely used non-genetic criteria to distinguish the three domains. In this context, the phospholipids derived from microbial cell membranes, characterized by different acyl chains, are excellent signature molecules, because such lipid structural diversity can be linked to specific microbial taxa.

[0296] As provided herein, in order to determine whether an organism strain is active, the level of expression of one or more unique second markers, which can be the same or different as the first marker, is measured (**FIG. 1**, 1004; **FIG. 2**, 2004). Unique first unique markers are described above. The unique second marker is a marker of microorganism activity. For example, in one embodiment, the mRNA or protein expression of any of the first markers described above is considered a unique second marker for the purposes of this invention.

[0297] In one embodiment, if the level of expression of the second marker is above a threshold level (*e.g.*, a control level) or at a threshold level, the microorganism is considered to be active (**FIG. 1**, 1005; **FIG. 2**, 2005). Activity is determined in one embodiment, if the level of expression of the second marker is altered by at least about 5%, at least about 10%, at least about 15%, at least about 20%, at least about 25%, or at least about 30%, as compared to a threshold level, which in some embodiments, is a control level.

[0298] Second unique markers are measured, in one embodiment, at the protein, RNA or metabolite level. A unique second marker is the same or different as the first unique marker.

[0299] As provided above, a number of unique first markers and unique second markers can be detected according to the methods described herein. Moreover, the detection and quantification

of a unique first marker is carried out according to methods known to those of ordinary skill in the art (**FIG. 1**, 1003-1004, **FIG. 2**, 2003-2004).

[0300] Nucleic acid sequencing (*e.g.*, gDNA, cDNA, rRNA, mRNA) in one embodiment is used to determine absolute abundance of a unique first marker and/or unique second marker. Sequencing platforms include, but are not limited to, Sanger sequencing and high-throughput sequencing methods available from Roche/454 Life Sciences, Illumina/Solexa, Pacific Biosciences, Ion Torrent and Nanopore. The sequencing can be amplicon sequencing of particular DNA or RNA sequences or whole metagenome/transcriptome shotgun sequencing.

[0301] Traditional Sanger sequencing (Sanger et al. (1977) DNA sequencing with chain-terminating inhibitors. *Proc Natl. Acad. Sci. USA*, 74, pp. 5463–5467, incorporated by reference herein in its entirety) relies on the selective incorporation of chain-terminating dideoxynucleotides by DNA polymerase during *in vitro* DNA replication and is amenable for use with the methods described herein.

[0302] In another embodiment, the sample, or a portion thereof is subjected to extraction of nucleic acids, amplification of DNA of interest (such as the rRNA gene) with suitable primers and the construction of clone libraries using sequencing vectors. Selected clones are then sequenced by Sanger sequencing and the nucleotide sequence of the DNA of interest is retrieved, allowing calculation of the number of unique microorganism strains in a sample.

[0303] 454 pyrosequencing from Roche/454 Life Sciences yields long reads and can be harnessed in the methods described herein (Margulies *et al.* (2005) *Nature*, 437, pp. 376-380; U.S. Patents Nos. 6,274,320; 6,258,568; 6,210,891, each of which is herein incorporated in its entirety for all purposes). Nucleic acid to be sequenced (*e.g.*, amplicons or nebulized genomic/metagenomic DNA) have specific adapters affixed on either end by PCR or by ligation. The DNA with adapters is fixed to tiny beads (ideally, one bead will have one DNA fragment) that are suspended in a water-in-oil emulsion. An emulsion PCR step is then performed to make multiple copies of each DNA fragment, resulting in a set of beads in which each bead contains many cloned copies of the same DNA fragment. Each bead is then placed into a well of a fiber-optic chip that also contains enzymes necessary for the sequencing-by-synthesis reactions. The addition of bases (such as A, C, G, or T) trigger pyrophosphate release, which produces flashes of light that are recorded to infer the sequence of the DNA fragments in each well. About 1 million reads per run with reads up to 1,000 bases in length can be achieved. Paired-end

sequencing can be done, which produces pairs of reads, each of which begins at one end of a given DNA fragment. A molecular barcode can be created and placed between the adapter sequence and the sequence of interest in multiplex reactions, allowing each sequence to be assigned to a sample bioinformatically.

[0304] Illumina/Solexa sequencing produces average read lengths of about 25 basepairs (bp) to about 300 bp (Bennett *et al.* (2005) *Pharmacogenomics*, 6:373-382; Lange *et al.* (2014). *BMC Genomics* 15, p. 63; Fadrosch *et al.* (2014) *Microbiome* 2, p. 6; Caporaso *et al.* (2012) *ISME J*, 6, p. 1621–1624; Bentley *et al.* (2008) Accurate whole human genome sequencing using reversible terminator chemistry. *Nature*, 456:53–59). This sequencing technology is also sequencing-by-synthesis but employs reversible dye terminators and a flow cell with a field of oligos attached. DNA fragments to be sequenced have specific adapters on either end and are washed over a flow cell filled with specific oligonucleotides that hybridize to the ends of the fragments. Each fragment is then replicated to make a cluster of identical fragments. Reversible dye-terminator nucleotides are then washed over the flow cell and given time to attach. The excess nucleotides are washed away, the flow cell is imaged, and the reversible terminators can be removed so that the process can repeat and nucleotides can continue to be added in subsequent cycles. Paired-end reads that are 300 bases in length each can be achieved. An Illumina platform can produce 4 billion fragments in a paired-end fashion with 125 bases for each read in a single run. Barcodes can also be used for sample multiplexing, but indexing primers are used.

[0305] The SOLiD (Sequencing by Oligonucleotide Ligation and Detection, Life Technologies) process is a “sequencing-by-ligation” approach, and can be used with the methods described herein for detecting the presence and abundance of a first marker and/or a second marker (FIG. 1, 1003-1004; FIG. 2, 2003-2004) (Peckham *et al.* SOLiD™ Sequencing and 2-Base Encoding. San Diego, CA: American Society of Human Genetics, 2007; Mitra *et al.* (2013) Analysis of the intestinal microbiota using SOLiD 16S rRNA gene sequencing and SOLiD shotgun sequencing. *BMC Genomics*, 14(Suppl 5): S16; Mardis (2008) Next-generation DNA sequencing methods. *Annu Rev Genomics Hum Genet*, 9:387–402; each incorporated by reference herein in its entirety). A library of DNA fragments is prepared from the sample to be sequenced, and are used to prepare clonal bead populations, where only one species of fragment will be present on the surface of each magnetic bead. The fragments attached to the magnetic beads will have a universal P1 adapter sequence so that the starting sequence of every fragment is both known and

identical. Primers hybridize to the P1 adapter sequence within the library template. A set of four fluorescently labelled di-base probes compete for ligation to the sequencing primer. Specificity of the di-base probe is achieved by interrogating every 1st and 2nd base in each ligation reaction. Multiple cycles of ligation, detection and cleavage are performed with the number of cycles determining the eventual read length. The SOLiD platform can produce up to 3 billion reads per run with reads that are 75 bases long. Paired-end sequencing is available and can be used herein, but with the second read in the pair being only 35 bases long. Multiplexing of samples is possible through a system akin to the one used by Illumina, with a separate indexing run.

[0306] The Ion Torrent system, like 454 sequencing, is amenable for use with the methods described herein for detecting the presence and abundance of a first marker and/or a second marker (**FIG. 1**, 1003-1004; **FIG. 2**, 2003-2004). It uses a plate of microwells containing beads to which DNA fragments are attached. It differs from all of the other systems, however, in the manner in which base incorporation is detected. When a base is added to a growing DNA strand, a proton is released, which slightly alters the surrounding pH. Microdetectors sensitive to pH are associated with the wells on the plate, and they record when these changes occur. The different bases (A, C, G, T) are washed sequentially through the wells, allowing the sequence from each well to be inferred. The Ion Proton platform can produce up to 50 million reads per run that have read lengths of 200 bases. The Personal Genome Machine platform has longer reads at 400 bases. Bidirectional sequencing is available. Multiplexing is possible through the standard in-line molecular barcode sequencing.

[0307] Pacific Biosciences (PacBio) SMRT sequencing uses a single-molecule, real-time sequencing approach and in one embodiment, is used with the methods described herein for detecting the presence and abundance of a first marker and/or a second marker (**FIG. 1**, 1003-1004; **FIG. 2**, 2003-2004). The PacBio sequencing system involves no amplification step, setting it apart from the other major next-generation sequencing systems. In one embodiment, the sequencing is performed on a chip containing many zero-mode waveguide (ZMW) detectors. DNA polymerases are attached to the ZMW detectors and phospholinked dye-labeled nucleotide incorporation is imaged in real time as DNA strands are synthesized. The PacBio system yields very long read lengths (averaging around 4,600 bases) and a very high number of reads per run (about 47,000). The typical "paired-end" approach is not used with PacBio, since reads are typically long enough that fragments, through CCS, can be covered multiple times without

having to sequence from each end independently. Multiplexing with PacBio does not involve an independent read, but rather follows the standard “in-line” barcoding model.

[0308] In one embodiment, where the first unique marker is the ITS genomic region, automated ribosomal intergenic spacer analysis (ARISA) is used in one embodiment to determine the number and identity of microorganism strains in a sample (**FIG. 1**, 1003, **FIG. 2**, 2003) (Ranjard *et al.* (2003). *Environmental Microbiology* 5, pp. 1111-1120, incorporated by reference in its entirety for all purposes). The ITS region has significant heterogeneity in both length and nucleotide sequence. The use of a fluorescence-labeled forward primer and an automatic DNA sequencer permits high resolution of separation and high throughput. The inclusion of an internal standard in each sample provides accuracy in sizing general fragments.

[0309] In another embodiment, fragment length polymorphism (RFLP) of PCR-amplified rDNA fragments, otherwise known as amplified ribosomal DNA restriction analysis (ARDRA), is used to characterize unique first markers and the abundance of the same in samples (**FIG. 1**, 1003, **FIG. 2**, 2003) (Massol-Deya *et al.* (1995). *Mol. Microb. Ecol. Manual* 3.3.2, pp. 1-18, incorporated by reference in its entirety for all purposes). rDNA fragments are generated by PCR using general primers, digested with restriction enzymes, electrophoresed in agarose or acrylamide gels, and stained with ethidium bromide or silver nitrate.

[0310] One fingerprinting technique used in detecting the presence and abundance of a unique first marker is single-stranded-conformation polymorphism (SSCP) (Lee *et al.* (1996). *Appl Environ Microbiol* 62, pp. 3112-3120; Scheinert *et al.* (1996). *J. Microbiol. Methods* 26, pp. 103-117; Schwieger and Tebbe (1998). *Appl. Environ. Microbiol.* 64, pp. 4870-4876, each of which is incorporated by reference herein in its entirety). In this technique, DNA fragments such as PCR products obtained with primers specific for the 16S rRNA gene, are denatured and directly electrophoresed on a non-denaturing gel. Separation is based on differences in size and in the folded conformation of single-stranded DNA, which influences the electrophoretic mobility. Reannealing of DNA strands during electrophoresis can be prevented by a number of strategies, including the use of one phosphorylated primer in the PCR followed by specific digestion of the phosphorylated strands with lambda exonuclease and the use of one biotinylated primer to perform magnetic separation of one single strand after denaturation. To assess the identity of the predominant populations in a given consortium, in one embodiment, bands are excised and

sequenced, or SSCP-patterns can be hybridized with specific probes. Electrophoretic conditions, such as gel matrix, temperature, and addition of glycerol to the gel, can influence the separation.

[0311] In addition to sequencing based methods, other methods for quantifying expression (*e.g.*, gene, protein expression) of a second marker are amenable for use with the methods provided herein for determining the level of expression of one or more second markers (**FIG. 1**, 1004; **FIG. 2**, 2004). For example, quantitative RT-PCR, microarray analysis, linear amplification techniques such as nucleic acid sequence based amplification (NASBA) are all amenable for use with the methods described herein, and can be carried out according to methods known to those of ordinary skill in the art.

[0312] In another embodiment, the sample, or a portion thereof is subjected to a quantitative polymerase chain reaction (PCR) for detecting the presence and abundance of a first marker and/or a second marker (**FIG. 1**, 1003-1004; **FIG. 2**, 2003-2004). Specific microorganism strains activity is measured by reverse transcription of transcribed ribosomal and/or messenger RNA (rRNA and mRNA) into complementary DNA (cDNA), followed by PCR (RT-PCR).

[0313] In another embodiment, the sample, or a portion thereof is subjected to PCR-based fingerprinting techniques to detect the presence and abundance of a first marker and/or a second marker (**FIG. 1**, 1003-1004; **FIG. 2**, 2003-2004). PCR products can be separated by electrophoresis based on the nucleotide composition. Sequence variation among the different DNA molecules influences the melting behaviour, and therefore molecules with different sequences will stop migrating at different positions in the gel. Thus electrophoretic profiles can be defined by the position and the relative intensity of different bands or peaks and can be translated to numerical data for calculation of diversity indices. Bands can also be excised from the gel and subsequently sequenced to reveal the phylogenetic affiliation of the community members. Electrophoresis methods include, but are not limited to: denaturing gradient gel electrophoresis (DGGE), temperature gradient gel electrophoresis (TGGE), single-stranded-conformation polymorphism (SSCP), restriction fragment length polymorphism analysis (RFLP) or amplified ribosomal DNA restriction analysis (ARDRA), terminal restriction fragment length polymorphism analysis (T-RFLP), automated ribosomal intergenic spacer analysis (ARISA), randomly amplified polymorphic DNA (RAPD), DNA amplification fingerprinting (DAF) and Bb-PEG electrophoresis.

[0314] In another embodiment, the sample, or a portion thereof is subjected to a chip-based platform such as microarray or microfluidics to determine the abundance of a unique first marker and/or presence/abundance of a unique second marker (**FIG. 1**, 1003-1004, **FIG. 2**, 2003-2004). The PCR products are amplified from total DNA in the sample and directly hybridized to known molecular probes affixed to microarrays. After the fluorescently labeled PCR amplicons are hybridized to the probes, positive signals are scored by the use of confocal laser scanning microscopy. The microarray technique allows samples to be rapidly evaluated with replication, which is a significant advantage in microbial community analyses. In general, the hybridization signal intensity on microarrays is directly proportional to the abundance of the target organism. The universal high-density 16S microarray (PhyloChip) contains about 30,000 probes of 16S rRNA gene targeted to several cultured microbial species and "candidate divisions". These probes target all 121 demarcated prokaryotic orders and allow simultaneous detection of 8,741 bacterial and archaeal taxa. Another microarray in use for profiling microbial communities is the Functional Gene Array (FGA). Unlike PhyloChips, FGAs are designed primarily to detect specific metabolic groups of bacteria. Thus, FGA not only reveal the community structure, but they also shed light on the *in situ* community metabolic potential. FGA contain probes from genes with known biological functions, so they are useful in linking microbial community composition to ecosystem functions. An FGA termed GeoChip contains >24,000 probes from all known metabolic genes involved in various biogeochemical, ecological, and environmental processes such as ammonia oxidation, methane oxidation, and nitrogen fixation.

[0315] A protein expression assay, in one embodiment, is used with the methods described herein for determining the level of expression of one or more second markers (**FIG. 1**, 1004; **FIG. 2**, 2004). For example, in one embodiment, mass spectrometry or an immunoassay such as an enzyme-linked immunosorbant assay (ELISA) is utilized to quantify the level of expression of one or more unique second markers, wherein the one or more unique second markers is a protein.

[0316] In one embodiment, the sample, or a portion thereof is subjected to Bromodeoxyuridine (BrdU) incorporation to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). BrdU, a synthetic nucleoside analog of thymidine, can be incorporated into newly synthesized DNA of replicating cells. Antibodies specific for BRdU can then be used for detection of the base analog. Thus BrdU incorporation identifies cells that are actively replicating their DNA, a measure of activity of a microorganism according to one embodiment of

the methods described herein. BrdU incorporation can be used in combination with FISH to provide the identity and activity of targeted cells.

[0317] In one embodiment, the sample, or a portion thereof is subjected to microautoradiography (MAR) combined with FISH to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). MAR-FISH is based on the incorporation of radioactive substrate into cells, detection of the active cells using autoradiography and identification of the cells using FISH. The detection and identification of active cells at single-cell resolution is performed with a microscope. MAR-FISH provides information on total cells, probe targeted cells and the percentage of cells that incorporate a given radiolabelled substance. The method provides an assessment of the *in situ* function of targeted microorganisms and is an effective approach to study the *in vivo* physiology of microorganisms. A technique developed for quantification of cell-specific substrate uptake in combination with MAR-FISH is known as quantitative MAR (QMAR).

[0318] In one embodiment, the sample, or a portion thereof is subjected to stable isotope Raman spectroscopy combined with FISH (Raman-FISH) to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). This technique combines stable isotope probing, Raman spectroscopy and FISH to link metabolic processes with particular organisms. The proportion of stable isotope incorporation by cells affects the light scatter, resulting in measurable peak shifts for labelled cellular components, including protein and mRNA components. Raman spectroscopy can be used to identify whether a cell synthesizes compounds including, but not limited to: oil (such as alkanes), lipids (such as triacylglycerols (TAG)), specific proteins (such as heme proteins, metalloproteins), cytochrome (such as P450, cytochrome *c*), chlorophyll, chromophores (such as pigments for light harvesting carotenoids and rhodopsins), organic polymers (such as polyhydroxyalkanoates (PHA), polyhydroxybutyrate (PHB)), hopanoids, steroids, starch, sulfide, sulfate and secondary metabolites (such as vitamin B12).

[0319] In one embodiment, the sample, or a portion thereof is subjected to DNA/RNA stable isotope probing (SIP) to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). SIP enables determination of the microbial diversity associated with specific metabolic pathways and has been generally applied to study microorganisms involved in the utilization of carbon and nitrogen compounds. The substrate of interest is labelled with stable isotopes (such as ¹³C or ¹⁵N) and added to the sample. Only microorganisms able to metabolize the substrate

will incorporate it into their cells. Subsequently, ^{13}C -DNA and ^{15}N -DNA can be isolated by density gradient centrifugation and used for metagenomic analysis. RNA-based SIP can be a responsive biomarker for use in SIP studies, since RNA itself is a reflection of cellular activity.

[0320] In one embodiment, the sample, or a portion thereof is subjected to isotope array to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). Isotope arrays allow for functional and phylogenetic screening of active microbial communities in a high-throughput fashion. The technique uses a combination of SIP for monitoring the substrate uptake profiles and microarray technology for determining the taxonomic identities of active microbial communities. Samples are incubated with a ^{14}C -labeled substrate, which during the course of growth becomes incorporated into microbial biomass. The ^{14}C -labeled rRNA is separated from unlabeled rRNA and then labeled with fluorochromes. Fluorescent labeled rRNA is hybridized to a phylogenetic microarray followed by scanning for radioactive and fluorescent signals. The technique thus allows simultaneous study of microbial community composition and specific substrate consumption by metabolically active microorganisms of complex microbial communities.

[0321] In one embodiment, the sample, or a portion thereof is subjected to a metabolomics assay to determine the level of a second unique marker (**FIG. 1**, 1004; **FIG. 2**, 2004). Metabolomics studies the metabolome which represents the collection of all metabolites, the end products of cellular processes, in a biological cell, tissue, organ or organism. This methodology can be used to monitor the presence of microorganisms and/or microbial mediated processes since it allows associating specific metabolite profiles with different microorganisms. Profiles of intracellular and extracellular metabolites associated with microbial activity can be obtained using techniques such as gas chromatography-mass spectrometry (GC-MS). The complex mixture of a metabolomic sample can be separated by such techniques as gas chromatography, high performance liquid chromatography and capillary electrophoresis. Detection of metabolites can be by mass spectrometry, nuclear magnetic resonance (NMR) spectroscopy, ion-mobility spectrometry, electrochemical detection (coupled to HPLC) and radiolabel (when combined with thin-layer chromatography).

[0322] According to the embodiments described herein, the presence and respective number of one or more active microorganism strains in a sample are determined (**FIG. 1**, 1006; **FIG. 2**, 2006). For example, strain identity information obtained from assaying the number and presence

of first markers is analyzed to determine how many occurrences of a unique first marker are present, thereby representing a unique microorganism strain (e.g., by counting the number of sequence reads in a sequencing assay). This value can be represented in one embodiment as a percentage of total sequence reads of the first maker to give a percentage of unique microorganism strains of a particular microorganism type. In a further embodiment, this percentage is multiplied by the number of microorganism types (obtained at step 1002 or 2002, see FIG. 1 and FIG. 2) to give the absolute abundance of the one or more microorganism strains in a sample and a given volume.

[0323] The one or more microorganism strains are considered active, as described above, if the level of second unique marker expression at a threshold level, higher than a threshold value, e.g., higher than at least about 5%, at least about 10%, at least about 20% or at least about 30% over a control level.

[0324] In another aspect of the invention, a method for determining the absolute abundance of one or more microorganism strains is determined in a plurality of samples (FIG. 2, see in particular, 2007). For a microorganism strain to be classified as active, it need only be active in one of the samples. The samples can be taken over multiple time points from the same source, or can be from different environmental sources (e.g., different animals).

[0325] The absolute abundance values over samples are used in one embodiment to relate the one or more active microorganism strains, with an environmental parameter (FIG. 2, 2008). In one embodiment, the environmental parameter is the presence of a second active microorganism strain. Relating the one or more active microorganism strains to the environmental parameter, in one embodiment, is carried out by determining the co-occurrence of the strain and parameter by correlation or by network analysis.

[0326] In one embodiment, determining the co-occurrence of one or more active microorganism strains with an environmental parameter comprises a network and/or cluster analysis method to measure connectivity of strains or a strain with an environmental parameter within a network, wherein the network is a collection of two or more samples that share a common or similar environmental parameter. In another embodiment, the network and/or cluster analysis method may be applied to determining the co-occurrence of two or more active microorganism strains in a sample (FIG. 2, 2008). In another embodiment, the network analysis comprises nonparametric approaches including mutual information to establish connectivity between variables. In another

embodiment, the network analysis comprises linkage analysis, modularity analysis, robustness measures, betweenness measures, connectivity measures, transitivity measures, centrality measures or a combination thereof (**FIG. 2**, 2009). In another embodiment, the cluster analysis method comprises building a connectivity model, subspace model, distribution model, density model, or a centroid model and/or using community detection algorithms such as the Louvain, Bron-Kerbosch, Girvan-Newman, Clauset-Newman-Moore, Pons-Latapy, and Wakita-Tsurumi algorithms (**FIG. 2**, 2010).

[0327] In one embodiment, the cluster analysis method is a heuristic method based on modularity optimization. In a further embodiment, the cluster analysis method is the Louvain method. See, e.g., the method described by Blondel et al. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, Volume 2008, October 2008, incorporated by reference herein in its entirety for all purposes.

[0328] In another embodiment, the network analysis comprises predictive modeling of network through link mining and prediction, collective classification, link-based clustering, relational similarity, or a combination thereof. In another embodiment, the network analysis comprises differential equation based modeling of populations. In another embodiment, the network analysis comprises Lotka-Volterra modeling.

[0329] In one embodiment, relating the one or more active microorganism strains to an environmental parameter (e.g., determining the co-occurrence) in the sample comprises creating matrices populated with linkages denoting environmental parameter and microorganism strain associations.

[0330] In one embodiment, the multiple sample data obtained at step 2007 (e.g., over two or more samples which can be collected at two or more time points where each time point corresponds to an individual sample), is compiled. In a further embodiment, the number of cells of each of the one or more microorganism strains in each sample is stored in an association matrix (which can be in some embodiments, an abundance matrix). In one embodiment, the association matrix is used to identify associations between active microorganism strains in a specific time point sample using rule mining approaches weighted with association (e.g., abundance) data. Filters are applied in one embodiment to remove insignificant rules.

[0331] In one embodiment, the absolute abundance of one or more, or two or more active microorganism strains is related to one or more environmental parameters (**FIG. 2**, 2008), e.g.,

via co-occurrence determination. Environmental parameters are chosen by the user depending on the sample(s) to be analyzed and are not restricted by the methods described herein. The environmental parameter can be a parameter of the sample itself, *e.g.*, pH, temperature, amount of protein in the sample. Alternatively, the environmental parameter is a parameter that affects a change in the identity of a microbial community (*i.e.*, where the “identity” of a microbial community is characterized by the type of microorganism strains and/or number of particular microorganism strains in a community), or is affected by a change in the identity of a microbial community. For example, an environmental parameter in one embodiment, is the food intake of an animal or the amount of milk (or the protein or fat content of the milk) produced by a lactating ruminant. In one embodiment, the environmental parameter is the presence, activity and/or abundance of a second microorganism strain in the microbial community, present in the same sample.

[0332] In some embodiments described herein, an environmental parameter is referred to as a metadata parameter.

[0333] Other examples of metadata parameters include but are not limited to genetic information from the host from which the sample was obtained (*e.g.*, DNA mutation information), sample pH, sample temperature, expression of a particular protein or mRNA, nutrient conditions (*e.g.*, level and/or identity of one or more nutrients) of the surrounding environment/ecosystem), susceptibility or resistance to disease, onset or progression of disease, susceptibility or resistance of the sample to toxins, efficacy of xenobiotic compounds (pharmaceutical drugs), biosynthesis of natural products, or a combination thereof.

[0334] For example, according to one embodiment, microorganism strain number changes are calculated over multiple samples according to the method of FIG. 2 (*i.e.*, at 2001-2007). Strain number changes of one or more active strains over time is compiled (*e.g.*, one or more strains that have initially been identified as active according to step 2006), and the directionality of change is noted (*i.e.*, negative values denoting decreases, positive values denoting increases). The number of cells over time is represented as a network, with microorganism strains representing nodes and the abundance weighted rules representing edges. Markov chains and random walks are leveraged to determine connectivity between nodes and to define clusters. Clusters in one embodiment are filtered using metadata in order to identify clusters associated with desirable metadata (FIG. 2, 2008).

[0335] In a further embodiment, microorganism strains are ranked according to importance by integrating cell number changes over time and strains present in target clusters, with the highest changes in cell number ranking the highest.

[0336] Network and/or cluster analysis method in one embodiment, is used to measure connectivity of the one or more strains within a network, wherein the network is a collection of two or more samples that share a common or similar environmental parameter. In one embodiment, network analysis comprises linkage analysis, modularity analysis, robustness measures, betweenness measures, connectivity measures, transitivity measures, centrality measures or a combination thereof. In another embodiment, network analysis comprises predictive modeling of network through link mining and prediction, social network theory, collective classification, link-based clustering, relational similarity, or a combination thereof. In another embodiment, network analysis comprises differential equation based modeling of populations. In yet another embodiment, network analysis comprises Lotka-Volterra modeling.

[0337] Cluster analysis method comprises building a connectivity model, subspace model, distribution model, density model, or a centroid model.

[0338] Network and cluster based analysis, for example, to carry out method step 2008 of FIG. 2, can be carried out via a module. As used herein, a module can be, for example, any assembly, instructions and/or set of operatively-coupled electrical components, and can include, for example, a memory, a processor, electrical traces, optical connectors, software (executing in hardware) and/or the like.

Bovine Pathogen Resistance and Clearance

[0339] In some aspects, the present disclosure is drawn to administering one or more microbial compositions described herein to cows to clear the gastrointestinal tract of pathogenic microbes. In some embodiments, the present disclosure is further drawn to administering microbial compositions described herein to prevent colonization of pathogenic microbes in the gastrointestinal tract. In some embodiments, the administration of microbial compositions described herein further clears pathogens from the integument and the respiratory tract of cows, and/or prevent colonization of pathogens on the integument and in the respiratory tract. In some embodiments, the administration of microbial compositions described herein reduce leaky gut/intestinal permeability, inflammation, and/or incidence of liver disease.

[0340] In some embodiments, the microbial compositions of the present disclosure comprise one or more microbes that are present in the gastrointestinal tract of cows at a relative abundance of less than 15%, 14%, 13%, 12%, 11%, 10%, 9%, 8%, 7%, 6%, 5%, 4%, 3%, 2%, 1%, 0.5%, 0.1%, or 0.01%.

[0341] In some embodiments, after administration of microbial compositions of the present disclosure the one or more microbes are present in the gastrointestinal tract of the cow at a relative abundance of at least 0.5%, 1%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, or 95%.

[0342] Pathogenic microbes of cows may include the following: *Clostridium perfringens*, *Clostridium botulinum*, *Salmonella typhi*, *Salmonella typhimurium*, *Salmonella enterica*, *Salmonella pullorum*, *Erysipelothrix insidiosus*, *Campylobacter jejuni*, *Campylobacter coli*, *Campylobacter lari*, *Listeria monocytogenes*, *Streptococcus agalactiae*, *Streptococcus dysgalactiae*, *Corynebacterium bovis*, *Mycoplasma* sp., *Citrobacter* sp., *Enterobacter* sp., *Pseudomonas aeruginosa*, *Pasteurella* sp., *Bacillus cereus*, *Bacillus licheniformis*, *Streptococcus uberis*, *Staphylococcus aureus*, and pathogenic strains of *Escherichia coli* and *Staphylococcus aureus*. In some embodiments, the pathogenic microbes include viral pathogens. In some embodiments, the pathogenic microbes are pathogenic to both cows and humans. In some embodiments, the pathogenic microbes are pathogenic to either cows or humans.

[0343] In some embodiments, the administration of compositions of the present disclosure to cows modulate the makeup of the gastrointestinal microbiome such that the administered microbes outcompete microbial pathogens present in the gastrointestinal tract. In some embodiments, the administration of compositions of the present disclosure to cows harboring microbial pathogens outcompetes the pathogens and clears cows of the pathogens. In some embodiments, the administration of compositions of the present disclosure results in the stimulation of host immunity, and aid in clearance of the microbial pathogens. In some embodiments, the administration of compositions of the present disclosure introduce microbes that produce bacteriostatic and/or bactericidal components that decrease or clear the cows of the microbial pathogens. (U.S. Patent 8,345,010).

[0344] In some embodiments, challenging cows with a microbial colonizer or microbial pathogen after administering one or more compositions of the present disclosure prevents the

microbial colonizer or microbial pathogen from growing to a relative abundance of greater than 15%, 14%, 13%, 12%, 11%, 10%, 9%, 8%, 7%, 6%, 5%, 4%, 3%, 2%, 1%, 0.5%, 0.1%, or 0.01%. In further embodiments, challenging cows with a microbial colonizer or microbial pathogen after administering one or more compositions of the present disclosure prevents the microbial colonizer or microbial pathogen from colonizing cows.

[0345] In some embodiments, clearance of the microbial colonizer or microbial pathogen occurs in less than 25 days, less than 24 days, less than 23 days, less than 22 days, less than 21 days, less than 20 days, less than 19 days, less than 18 days, less than 17 days, less than 16 days, less than 15 days, less than 14 days, less than 13 days, less than 12 days, less than 11 days, less than 10 days, less than 9 days, less than 8 days, less than 7 days, less than 6 days, less than 5 days, less than 4 days, less than 3 days, or less than 2 days post administration of the one or more compositions of the present disclosure.

[0346] In some embodiments, clearance of the microbial colonizer or microbial pathogen occurs within 1-30 days, 1-25 days, 1-20 day, 1-15 days, 1-10 days, 1-5 days, 5-30 days, 5-25 days, 5-20 days, 5-15 days, 5-10 days, 10-30 days, 10-25 days, 10-20 days, 10-15 days, 15-30 days, 15-25 days, 15-20 days, 20-30 days, 20-25 days, or 25-30 days post administration of the one or more compositions of the present disclosure.

Improved Traits

[0347] In some aspects, the present disclosure is drawn to administering microbial compositions described herein to ruminants to improve one or more traits through the modulation of aspects of milk production, milk quantity, milk quality, ruminant digestive chemistry, and efficiency of feed utilization and digestibility.

[0348] In some embodiments, improving the quantity of milk fat produced by a ruminant is desirable, wherein milk fat includes triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and free fatty acids. In further embodiments, free fatty acids include short chain fatty acids (*i.e.*, C4:0, C6:0, and C8:0), medium chain fatty acids (*i.e.*, C10:0, C10:1, C12:0, C14:0, C14:1, and C15:0), and long chain fatty acids (*i.e.*, C16:0, C16:1, C17:0, C17:1, C18:0, C18:1, C18:2, C18:3, and C20:0). In further embodiments, it is desirable to achieve an increase in milk fat efficiency, which is measured by the total weight of milk fat produced, divided by the weight of feed ingested. The weight of milk

fat produced is calculated from the measured fat percentage multiplied by the weight of milk produced.

[0349] In some embodiments, improving the quantity of carbohydrates in milk produced by a ruminant is desirable, wherein carbohydrates include lactose, glucose, galactose, and oligosaccharides. Tao *et al.* (2009. *J. Dairy Sci.* 92:2991-3001) disclose numerous oligosaccharides that may be found in bovine milk.

[0350] In some embodiments, improving the quantity of proteins in milk produced by a ruminant, wherein proteins include caseins and whey. In some embodiments, proteins of interest are only those proteins produced in milk. In other embodiments, proteins of interest are not required to be produced only in milk. Whey proteins include immunoglobulins, serum albumin, beta-lactoglobulin, and alpha-lactoglobulin.

[0351] In some embodiments, improving the quantity of vitamins in milk produced by a ruminant is desirable. Vitamins found in milk include the fat-soluble vitamins of A, D, E, and K; as well as the B vitamins found in the aqueous phase of the milk.

[0352] In some embodiments, improving the quantity of minerals in milk produced by a ruminant is desirable. Minerals found in milk include iron, zinc, copper, cobalt, magnesium, manganese, molybdenum, calcium, phosphorous, potassium, sodium, chlorine, and citric acid. Trace amounts of the following may be found in milk: aluminum, arsenic, boron, bromine, cadmium, chromium, fluorine, iodine, lead, nickel, selenium, silicon, silver, strontium, and vanadium.

[0353] In some embodiments, improving the milk yield and milk volume produced by a ruminant is desirable. In some embodiments, it is further desirable if the increase in milk yield and volume is not accompanied by simply an increase in solute volume.

[0354] In some embodiments improving energy-corrected milk (ECM) is desirable. In further embodiments, improving ECM amounts to increasing the calculated ECM output. In some embodiments, the ECM is calculated as follows: $ECM = (0.327 \times \text{milk pounds}) + (12.95 \times \text{fat pounds}) + (7.2 \times \text{protein pounds})$.

[0355] In some embodiments, improving the efficiency and digestibility of animal feed is desirable. In some embodiments, increasing the degradation of lignocellulosic components from

animal feed is desirable. Lignocellulosic components include lignin, cellulose, and hemicellulose.

[0356] In some embodiments, increasing the concentration of fatty acids in the rumen of ruminants is desirable. Fatty acids include acetic acid, propionic acid, and butyric acid. In some embodiments, maintaining the pH balance in the rumen to prevent lysis of beneficial microbial consortia is desirable. In some embodiments, maintaining the pH balance in the rumen to prevent a reduction of beneficial microbial consortia is desirable.

[0357] In some embodiments, decreasing the amount of methane and manure produced by ruminants is desirable.

[0358] In some embodiments, improving the dry matter intake is desirable. In some embodiments, improving the efficiency of nitrogen utilization of the feed and dry matter ingested by ruminants is desirable.

[0359] In some embodiments, the improved traits of the present disclosure are the result of the administration of the presently described microbial compositions. It is thought that the microbial compositions modulate the microbiome of the ruminants such that the biochemistry of the rumen is changed in such a way that the ruminal liquid and solid substratum are more efficiently and more completely degraded into subcomponents and metabolites than the rumens of ruminants not having been administered microbial compositions of the present disclosure.

[0360] In some embodiments, the increase in efficiency and the increase of degradation of the ruminal substratum result in an increase in improved traits of the present disclosure.

Mode of Action: Digestibility Improvement in Ruminants

[0361] The rumen is a specialized stomach dedicated to the digestion of feed components in ruminants. A diverse microbial population inhabits the rumen, where their primary function revolves around converting the fibrous and non-fibrous carbohydrate components into useable sources of energy and protein (**FIG. 16**). Cellulose, in particular, forms up to 40% of plant biomass and is considered indigestible by mammals. It also is tightly associated with other structural carbohydrates, including hemicellulose, pectin, and lignin. The cellulolytic microbes in the rumen leverage extensive enzymatic activity in order break these molecules down into simple sugars and volatile fatty acids. This enzymatic activity is critical to the extraction of energy from

feed, and more efficient degradation ultimately provides more energy to the animal. The soluble sugars found in the non-fibrous portion of the feed are also fermented into gases and volatile fatty acids such as butyrate, propionate, and acetate. Volatile fatty acids arising from the digestion of both the fibrous and non-fibrous components of feed are ultimately the main source of energy of the ruminant.

[0362] Individual fatty acids have been tested in ruminants in order to identify their impacts on varying aspects of production.

[0363] **Acetate:** Structural carbohydrates produce large amounts of acetate when degraded. An infusion of acetate directly into the rumen was shown to improve the yield of milk, as well as the amount of milk fat produced. Acetate represents at least 90% of acids in the peripheral blood – it is possible that acetate can be directly utilized by mammary tissue as a source of energy. *See* Rook and Balch. 1961. *Brit. J. Nutr.* 15:361-369.

[0364] **Propionate:** Propionate has been shown to increase milk protein production, but decrease milk yield. *See* Rook and Balch. 1961. *Brit. J. Nutr.* 15:361-369.

[0365] **Butyrate:** An infusion of butyrate directly into the rumen of dairy cows increases milk fat production without changing milk yield. *See* Huhtanen *et al.* 1993. *J. Dairy Sci.* 76:1114-1124.

Network Analysis

[0366] A network and/or cluster analysis method, in one embodiment, is used to measure connectivity of the one or more strains within a network, wherein the network is a collection of two or more samples that share a common or similar environmental parameter. In one embodiment, network analysis comprises linkage analysis, modularity analysis, robustness measures, betweenness measures, connectivity measures, transitivity measures, centrality measures or a combination thereof. In another embodiment, network analysis comprises predictive modeling of network through link mining and prediction, social network theory, collective classification, link-based clustering, relational similarity, or a combination thereof. In another embodiment, network analysis comprises mutual information, maximal information coefficient (MIC) calculations, or other nonparametric methods between variables to establish connectivity. In another embodiment, network analysis comprises differential equation based modeling of populations. In yet another embodiment, network analysis comprises Lotka-Volterra modeling.

[0367] The environmental parameter can be a parameter of the sample itself, *e.g.*, pH, temperature, amount of protein in the sample. Alternatively, the environmental parameter is a parameter that affects a change in the identity of a microbial community (*i.e.*, where the “identity” of a microbial community is characterized by the type of microorganism strains and/or number of particular microorganism strains in a community), or is affected by a change in the identity of a microbial community. For example, an environmental parameter in one embodiment, is the food intake of an animal or the amount of milk (or the protein or fat content of the milk) produced by a lactating ruminant. In one embodiment, the environmental parameter is the presence, activity and/or abundance of a second microorganism strain in the microbial community, present in the same sample. In some embodiments, an environmental parameter is referred to as a metadata parameter.

[0368] Other examples of metadata parameters include but are not limited to genetic information from the host from which the sample was obtained (*e.g.*, DNA mutation information), sample pH, sample temperature, expression of a particular protein or mRNA, nutrient conditions (*e.g.*, level and/or identity of one or more nutrients) of the surrounding environment/ecosystem), susceptibility or resistance to disease, onset or progression of disease, susceptibility or resistance of the sample to toxins, efficacy of xenobiotic compounds (pharmaceutical drugs), biosynthesis of natural products, or a combination thereof.

EXAMPLES

Example I. Increase total Milk Fat, Milk Protein, and Energy-Corrected Milk (ECM) in Cows

[0369] The methods of Example I aim to increase the total amount of milk fat and milk protein produced by a lactating ruminant, and the calculated ECM.

[0370] The methodologies presented herein—based upon utilizing the disclosed isolated microbes, consortia, and compositions comprising the same—demonstrate an increase in the total amount of milk fat and milk protein produced by a lactating ruminant. These increases were realized without the need for further addition of hormones.

[0371] In this example, a microbial consortium comprising two isolated microbes, Ascusb_3138 (SEQ ID NO:28; deposited as NRRL Y-67248) and Ascusf_15 (SEQ ID NO:32; deposited as NRRL Y67249), was administered to Holstein cows in mid-stage lactation over a period of five weeks.

[0372] The cows were randomly assigned into 2 groups of 8, wherein one of the groups was a control group that received a buffer lacking a microbial consortium. The second group, the experimental group, was administered a microbial consortium comprising Ascusb_3138 (SEQ ID NO:28) and Ascusf_15 (SEQ ID NO:32) once per day for five weeks. Each of the cows were housed in individual pens and were given free access to feed and water. The diet was a high milk yield diet. Cows were fed *ad libitum* and the feed was weighed at the end of the day, and prior day refusals were weighed and discarded. Weighing was performed with a PS-2000 scale from Salter Brecknell (Fairmont, MN).

[0373] Cows were cannulated such that a cannula extended into the rumen of the cows. Cows were further provided at least 10 days of recovery post cannulation prior to administering control dosages or experimental dosages.

[0374] Each administration consisted of 20 ml of a neutral buffered saline, and each administration consisted of approximately 10^9 cells suspended in the saline. The control group received 20 ml of the saline once per day, while the experimental group received 20 ml of the saline further comprising 10^9 microbial cells of the described microbial consortium.

[0375] The rumen of every cow was sampled on days 0, 7, 14, 21, and 35, wherein day 0 was the day prior to microbial administration. Note that the experimental and control administrations were performed after the rumen was sampled on that day. Daily sampling of the rumen, beginning on day 0, with a pH meter from Hanna Instruments (Woonsocket, RI) was inserted into the collected rumen fluid for recordings. Rumen sampling included both particulate and fluid sampling from the center, dorsal, ventral, anterior, and posterior regions of the rumen through the cannula, and all five samples were pooled into 15ml conical vials containing 1.5ml of stop solution (95% ethanol, 5% phenol). A fecal sample was also collected on each sampling day, wherein feces were collected from the rectum with the use of a palpation sleeve. Cows were weighed at the time of each sampling.

[0376] Fecal samples were placed in a 2 ounce vial, stored frozen, and analyzed to determine values for apparent neutral detergent fibers (NDF) digestibility, apparent starch digestibility, and apparent protein digestibility. Rumen sampling consisted of sampling both fluid and particulate portions of the rumen, each of which was stored in a 15ml conical tube. Cells were fixed with a 10% stop solution (5% phenol/95% ethanol mixture) and kept at 4°C and shipped to Ascus Biosciences (Vista, California) on ice.

[0377] The milk yield was measured twice per day, once in the morning and once at night. Milk composition (% fats and % proteins, etc.) was measured twice per day, once in the morning and once at night. Milk samples were further analyzed with near-infrared spectroscopy for protein fats, solids, analysis for milk urea nitrogen (MUN), and somatic cell counts (SCC) at the Tulare Dairy Herd Improvement Association (DHIA) (Tulare, California). Feed intake of individual cows and rumen pH were determined once per day.

[0378] A sample of the total mixed ration (TMR) was collected the final day of the adaptation period, and then successively collected once per week. Sampling was performed with the quartering method, wherein the samples were stored in vacuum sealed bags which were shipped to Cumberland Valley Analytical Services (Hagerstown, MD) and analyzed with the NIR1 package.

[0379] The final day of administration of buffer and/or microbial bioconsortia was on day 35, however all other measurements and samplings continued as described until day 46.

Table 12: Dry matter intake, milk production and composition, body weight (BW) gain, and rumen pH least square means (\pm SEM) of cows assigned to Control and Inoculated groups.

Outcome	Treatment	
	Control	Inoculated
Dry matter intake, kg	26.2 \pm 2.8	30.2 \pm 1.2
Milk yield, kg	25.7 \pm 1.9	30.6 \pm 1.9
FCM, kg	27.7 \pm 2.5	32.5 \pm 2.5
ECM, kg	27.2 \pm 2.4	32.1 \pm 2.4

Milk components, %		
Crude Protein	3.08 ± 0.06	3.27 ± 0.11
Fat	3.87 ± 0.08	4.06 ± 0.08
Lactose	4.64 ± 0.10	4.73 ± 0.03
Milk components yield, kg		
Crude Protein	0.80 ± 0.07	0.97 ± 0.07
Fat	1.01 ± 0.10	1.20 ± 0.10
MUN, mg/dL	6.17 ± 0.60	7.41 ± 0.45
FCM/DMI	1.22 ± 0.07	1.10 ± 0.07
Body weight gain, kg/day	0.78 ± 0.44	1.46 ± 0.43
Rumen pH	6.24 ± 0.09	6.05 ± 0.09

[0380] Table 12 reveals the effects of daily administration of an Ascus microbial consortium on the performance of multiparous Holstein cows (between 60 and 120 days in milk). Marked differences between the control and inoculated treatments were observed. The inoculated group experienced increases in all parameters except FCM/DMI and rumen pH. The weekly values at the beginning of the intervention period when cows were still adapting to the treatment are included in the calculations.

[0381] FIGs. 4-7 demonstrate the significant effects of the microbial consortia on dairy cows for daily milk yield, daily milk crude protein yield, daily milk fat yield, and daily energy corrected milk yield over time. After an initial adaptation period, during which the microbes were observed to colonize the rumen, the production characteristics of the inoculated treatment group increased and diverged from the control group.

[0382] FIG. 3A demonstrates that cows that were administered the microbial consortia exhibited a 20.9% increase in the average production of milk fat versus cows that were administered the buffered solution alone. FIG. 3B demonstrates that cows that were administered the microbial consortia exhibited a 20.7% increase in the average production of milk protein versus cows that were administered the buffered solution alone. FIG. 3C demonstrates that cows that were administered the microbial consortia exhibited a 19.4% increase in the average production of energy corrected milk. The increases seen in FIG. 3A-C became less pronounced after the

administration of the consortia ceased, as depicted by the vertical line intersecting the data points.

[0383] FIG. 14 clearly identifies the effect of microbial consortia on the somatic cell count in the milk. The experimental group of cows receiving the microbial consortia exhibited a decrease in the number of cows with greater than 200,000 somatic cells/ml of milk. In the field of dairy farming, the SCC is a strong indicator of milk quality. The majority of somatic cells found in milk are leukocytes, immune cells that accumulate in a particular tissue/fluid in increasing numbers usually due to an immune response to a pathogen. Generally, the lower the SCC the higher the quality of milk. Dosogne *et al.* 2011. *J. Dairy Sci.* 86(3):828-834.

Example II. Increase total Milk Fat and Milk Protein in Cows

[0384] In certain embodiments of the disclosure, the present methods aim to increase the total amount of milk fat and milk protein produced by a lactating ruminant.

[0385] The methodologies presented herein—based upon utilizing the disclosed isolated microbes, consortia, and compositions comprising the same—have the potential to increase the total amount of milk fat and milk protein produced by a lactating ruminant. These increases can be realized without the need for further addition of hormones.

[0386] In this example, seven microbial consortia comprising isolated microbes from **Table 1** are administered to Holstein cows in mid-stage lactation over a period of six weeks. The consortia are as follows:

[0387] Consortium 1 - Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24;

[0388] Consortium 2 - Ascusb_7, Ascusb_1801, Ascusf_45, and Ascusf_24;

[0389] Consortium 3 - Ascusb_7, Ascusb_268, Ascusf_45, and Ascusf_24;

[0390] Consortium 4 - Ascusb_7, Ascusb_232, Ascusf_45, and Ascusf_24;

[0391] Consortium 5 - Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_249;

[0392] Consortium 6 - Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_353; and

[0393] Consortium 7 - Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_23.

[0394] Consortium 8 - Ascusb_3138, Ascusb_1801, Ascusf_45, and Ascusf_15.

[0395] Consortium 9 - Ascusb_3138, Ascusb_268, Ascusf_45, and Ascusf_15.

[0396] Consortium 10 - Ascusb_3138, Ascusb_232, Ascusf_23, and Ascusf_15.

[0397] Consortium 11 - Ascusb_7, Ascusb_3138, Ascusf_15, and Ascusf_249.

[0398] Consortium 12 - Ascusb_7, Ascusb_3138, Ascusf_45, and Ascusf_15.

[0399] Consortium 13 - Ascusb_3138, Ascusb_32, Ascusf_15, and Ascusf_23.

[0400] Consortium 14 -- Ascusb_3138 and Ascusf_15.

[0401] The cows are randomly assigned into 15 groups of 8, wherein one of the groups is a control group that receives a buffer lacking a microbial consortium. The remaining seven groups are experimental groups and will each be administered one of the thirteen microbial bioconsortia once per day for six weeks. Each of the cows are held in individual pens to mitigate cross-contamination and are given free access to feed and water. The diet is a high milk yield diet. Cows are fed twice per day and the feed will be weighed at each feeding, and prior day refusals will be weighed and discarded. Weighing is performed with a PS-2000 scale from Salter Brecknell (Fairmont, MN).

[0402] Cows are cannulated such that a cannula extends into the rumen of the cows. Cows are further provided at least 10 days of recovery post cannulation prior to administering control dosages or experimental dosages.

[0403] Each administration consists of 5ml of a neutral buffered saline, and each administration consists of approximately 10^9 cells suspended in the saline. The control group receives 5ml of the saline once per day, while the experimental groups receive 5 ml of the saline further comprising 10^9 microbial cells of the described consortia.

[0404] The rumen of every cow is sampled on days 0, 7, 14, 21, and 35, wherein day 0 is the day prior to microbial administration. Note that the experimental and control administrations are performed after the rumen has been sampled on that day. Daily sampling of the rumen, beginning on day 0, with a pH meter from Hanna Instruments (Woonsocket, RI) is inserted into the collected rumen fluid for recordings. Rumen sampling included both particulate and fluid sampling from the center, dorsal, ventral, anterior, and posterior regions of the rumen through the

cannula, and all five samples were pooled into 15ml conical vials containing 1.5ml of stop solution (95% ethanol, 5% phenol). A fecal sample is also collected on each sampling day, wherein feces are collected from the rectum with the use of a palpation sleeve. Cows are weighed at the time of each sampling.

[0405] Fecal samples are placed in a 2 ounce vial, stored frozen, and analyzed to determine values for apparent NDF digestibility, apparent starch digestibility, and apparent protein digestibility. Rumen sampling consists of sampling both fluid and particulate portions of the rumen, each of which is stored in a 15ml conical tube. Cells are fixed with a 10% stop solution (5% phenol/95% ethanol mixture) and kept at 4°C and shipped to Ascus Biosciences (Vista, California) on ice.

[0406] The milk yield is measured twice per day, once in the morning and once at night. Milk composition (% fats and % proteins, etc.) is measured twice per day, once in the morning and once at night. Milk samples are further analyzed with near-infrared spectroscopy for protein fats, solids, analysis for milk urea nitrogen (MUN), and somatic cell counts (SCC) at the Tulare Dairy Herd Improvement Association (DHIA) (Tulare, California). Feed intake of individual cows and rumen pH are determined once per day.

[0407] A sample of the total mixed ration (TMR) is collected the final day of the adaptation period, and then successively collected once per week. Sampling is performed with the quartering method, wherein the samples are stored in vacuum sealed bags which are shipped to Cumberland Valley Analytical Services (Hagerstown, MD) and analyzed with the NIR1 package.

[0408] In some embodiments, the percent fats and percent protein of milk in each of the experimental cow groups is expected to demonstrate a statistically significant increase over the percent fats and percent protein of milk in the control cow group. In other embodiments, the increase is not expected to be statistically significant, but it is expected to be still quantifiable.

Example III. Shifting the Microbiome of Ruminants

[0409] In certain embodiments of the disclosure, the present methods aim to modulate the microbiome of ruminants through the administration of one or more microbes to the gastrointestinal tract of ruminants.

[0410] The methodologies presented herein—based upon utilizing the disclosed isolated microbes, consortia, and compositions comprising the same—have the potential to modulate the microbiome of ruminants. The modulation of a ruminant's gastrointestinal microbiome may lead to an increase of desirable traits of the present disclosure.

[0411] In this example, the microbial consortia of **Table 5** are administered to Holstein cows over a period of six weeks.

[0412] The cows are randomly assigned into 37 groups of 8, wherein one of the groups is a control group that receives a buffer lacking a microbial consortium. The remaining thirty-six groups are experimental groups and will each be administered one of the thirty-six microbial consortia once per day for six weeks. Each of the cows are held in individual pens to mitigate cross-contamination and are given free access to feed and water. The diet is a high milk yield diet. Cows are fed twice per day and the feed will be weighed at each feeding, and prior day refusals will be weighed and discarded. Weighing is performed with a PS-2000 scale from Salter Brecknell (Fairmont, MN).

[0413] Cows are cannulated such that a cannula extends into the rumen of the cows. Cows are further provided at least 10 days of recovery post cannulation prior to administering control dosages or experimental dosages.

[0414] Each administration consists of 5ml of a neutral buffered saline, and each administration consists of approximately 10^9 cells suspended in the saline. The control group receives 5ml of the saline once per day, while the experimental groups receive 5 ml of the saline further comprising 10^9 microbial cells of the described consortia.

[0415] The rumen of every cow is sampled on days 0, 7, 14, 21, and 35, wherein day 0 is the day prior to administration. Note that the experimental and control administrations are performed after the rumen has been sampled on that day. Daily sampling of the rumen, beginning on day 0, with a pH meter from Hanna Instruments (Woonsocket, RI) is inserted into the collected rumen

fluid for recordings. Rumen sampling included both particulate and fluid sampling from the center, dorsal, ventral, anterior, and posterior regions of the rumen through the cannula, and all five samples were pooled into 15ml conical vials containing 1.5ml of stop solution (95% ethanol, 5% phenol). A fecal sample is also collected on each sampling day, wherein feces are collected from the rectum with the use of a palpation sleeve. Cows are weighed at the time of each sampling.

[0416] Fecal samples are placed in a 2 ounce vial, stored frozen, and analyzed to determine values for apparent NDF digestibility, apparent starch digestibility, and apparent protein digestibility. Rumen sampling consists of sampling both fluid and particulate portions of the rumen, each of which is stored in a 15ml conical tube. Cells are fixed with a 10% stop solution (5% phenol/95% ethanol mixture) and kept at 4°C and shipped to Ascus Biosciences (Vista, California) on ice.

[0417] The samples of fluid and particulate portions of the rumen, as well as the fecal samples are each evaluated for microbiome fingerprinting utilizing the T-RFLP method combined with nMDS ordination and PERMANOVA statistics.

[0418] In some embodiments, the ruminal and fecal microbiome in each of the experimental cow groups is expected to demonstrate a statistically significant change in the microbiomes over the microbiomes in the control cow group as well as the 0 day microbiome samples, wherein the change is a significant increase in the proportion of microbes administered in the experimental administrations. In other embodiments, the increase is not expected to be statistically significant, but it is expected to be still quantifiable.

Example IV. Milk fat produced versus absolute abundance of microbes

[0419] Determine rumen microbial community constituents that impact the production of milk fat in dairy cows.

[0420] Eight lactating, ruminally cannulated, Holstein cows were housed in individual tie-stalls for use in the experiment. Cows were fed twice daily, milked twice a day, and had continuous access to fresh water. One cow (cow 4201) was removed from the study after the first dietary Milk Fat Depression due to complications arising from an abortion prior to the experiment.

[0421] Experimental Design and Treatment: The experiment used a crossover design with 2 groups and 1 experimental period. The experimental period lasted 38 days: 10 days for the covariate/wash-out period and 28 days for data collection and sampling. The data collection period consisted of 10 days of dietary Milk Fat Depression (MFD) and 18 days of recovery. After the first experimental period, all cows underwent a 10-day wash out period prior to the beginning of period 2.

[0422] Dietary MFD was induced with a total mixed ration (TMR) low in fiber (29% NDF) with high starch degradability (70% degradable) and high polyunsaturated fatty acid levels (PUFA, 3.7%). The Recovery phase included two diets variable in starch degradability. Four cows were randomly assigned to the recovery diet high in fiber (37% NDF), low in PUFA (2.6%), and high in starch degradability (70% degradable). The remaining four cows were fed a recovery diet high in fiber (37% NDF), low in PUFA (2.6%), but low in starch degradability (35%).

[0423] During the 10-day covariate and 10-day wash out periods, cows were fed the high fiber, low PUFA, and low starch degradability diet.

[0424] Samples and Measurements: Milk yield, dry matter intake, and feed efficiency were measured daily for each animal throughout the covariate, wash out, and sample collection periods. TMR samples were measured for nutrient composition. During the collection period, milk samples were collected and analyzed every 3 days. Samples were analyzed for milk component concentrations (milk fat, milk protein, lactose, milk urea nitrogen, somatic cell counts, and solids) and fatty acid compositions.

[0425] Rumen samples were collected and analyzed for microbial community composition and activity every 3 days during the collection period. The rumen was intensively sampled 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 hours after feeding during day 0, day 7, and day 10 of the dietary MFD. Similarly, the rumen was intensively sampled 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 hours after feeding on day 16 and day 28 of the sample collection period. Rumen contents were analyzed for pH, acetate concentration, butyrate concentration, propionate concentration, isoacid concentration, and long chain and CLA isomer concentrations. Rumen sampling included both particulate and fluid sampling from the center, dorsal, ventral, anterior, and posterior regions of the rumen through the cannula, and all five samples were pooled into 15ml conical vials.

[0426] Rumen Sample Preparation and Sequencing: After collection, rumen samples were centrifuged at 4,000 rpm in a swing bucket centrifuge for 20 minutes at 4°C. The supernatant

was decanted, and an aliquot of each rumen content sample (1-2mg) was added to a sterile 1.7mL tube prefilled with 0.1 mm glass beads. A second aliquot was collected and stored in an empty, sterile 1.7 mL tube for cell counting.

[0427] Rumen samples in empty tubes were stained and put through a flow cytometer to quantify the number of cells of each microorganism type in each sample. Rumen samples with glass beads were homogenized with bead beating to lyse microorganisms. DNA and RNA was extracted and purified from each sample and prepared for sequencing on an Illumina Miseq. Samples were sequenced using paired-end chemistry, with 300 base pairs sequenced on each end of the library.

[0428] **Sequencing Read Processing and Data Analysis:** Sequencing reads were quality trimmed and processed to identify bacterial species present in the rumen based on a marker gene, 16S rDNA, or ITS1 and/or ITS2. Count datasets and activity datasets were integrated with the sequencing reads to determine the absolute cell numbers of active microbial species within the rumen microbial community. Production characteristics of the cow over time, including pounds of milk produced, were linked to the distribution of active microorganisms within each sample over the course of the experiment using mutual information.

[0429] Tests cases to determine the impact of count data, activity data, and count and activity on the final output were run by omitting the appropriate datasets from the sequencing analysis. To assess the impact of using a linear correlation rather than the MIC on target selection, Pearson's coefficients were also calculated for pounds of milk fat produced as compared to the relative abundance of all microorganisms and the absolute abundance of active microorganisms.

Results

[0430] One component of the Ascus Biosciences technology utilized in this application leverages mutual information to rank the importance of native microbial strains residing in the gastrointestinal tract of the animal to specific animal traits. The maximal information coefficient (MIC) scores are calculated for all microorganisms and the desired animal trait. Relationships were scored on a scale of 0 to 1, with 1 representing a strong relationship between the microbial strain and the animal trait, and 0 representing no relationship. A cut-off based on this score is used to define useful and non-useful microorganisms with respect to the improvement of specific traits. **FIG. 9** and **FIG. 10** depict the MIC score distribution for rumen microbial strains that share a relationship with milk fat efficiency in dairy cows. The point where the curve shifts from exponential to linear (~0.45-0.5 for bacteria and ~0.3 for fungi) represents the cutoff between

useful and non-useful microorganism strains pertaining to milk fat efficiency. **FIG. 11** and **FIG. 12** depict the MIC score distributions for rumen microbial strains that share a relationship with dairy efficiency. The point where the curve shifts from exponential to linear (~0.45-0.5 for bacteria and ~0.25 for fungi) represents the cutoff between useful and non-useful microorganism strains.

[0431] The MICs were calculated between pounds of milk fat produced and the absolute abundance of each active microorganism. Microorganisms were ranked by MIC score, and microorganisms with the highest MIC scores were selected as the target species most relevant to pounds of milk produced. MIC scores of the microbes of the present disclosure are recited in **Table 1**. The greater the MIC score, the greater the ability of the microbe to confer an increase in the weight of milk fat produced by a cow

Example V. Comparative Analysis of MIC Scores From Published Work of Other Groups

[0432] Utilizing Ascus Biosciences' technology, the performance of currently available microbial feed additive products was predicted.

[0433] Direct-fed microbial products that claim to enhance dairy performance are openly available on the market. Some of these products contain microorganism strains that are native rumen microorganisms (*Megasphaera elsdenii*), or are within 97% sequence similarity of native rumen microorganisms. We have identified the species of microbes utilized in these products, and calculated their MIC score with respect to milk fat efficiency (**FIG. 13**). As evidenced by the curve in **FIG. 13**, all of the assayed strains that were available fell below the threshold used to define useful and non-useful strains, as describe above. The species/strain closest to the cutoff, *Prevotella bryantii*, has shown a positive effect in one study.

***Lactobacillus plantarum*: MIC 0.28402**

[0434] The calculated MIC predicts that *Lactobacillus plantarum* is poorly associated with milk fat efficiency, and the art discloses that an inoculation of *L. plantarum* yields no increase in milk fat product, and at least one study discloses that some strains of *L. plantarum* create molecules that cause milk fat depression. See Lee *et al.* 2007. J. Appl. Microbiol. 103(4):1140-1146 and Mohammed *et al.* 2012. J. Dairy Sci. 95(1):328-339.

***Lactobacillus acidophilus*: MIC 0.30048**

[0435] The calculated MIC predicts that *Lactobacillus acidophilus* is poorly associated with milk fat efficiency, and the art discloses that the administration of *L. acidophilus* to dairy cows/calves had no effect of various aspects of milk yield/milk component yield. See Higginbotham and Bath. 1993. J. Dairy Sci. 76(2):615-620; Abu-Tarboush *et al.* 1996. Animal Feed Sci. Tech. 57(1-2):39-49; McGilliard and Stallings. 1998. J. Dairy Sci. 81(5):1353-1357; and Raeth-Knight *et al.* 2007. J. Dairy Sci. 90(4):1802-1809; But see Boyd *et al.* 2011. 94(9):4616-4622 (discloses an increase in milk yield and milk protein yield). While Boyd *et al.* does disclose an increase in milk and milk protein yield, the controls of this single study do not appear to adequately isolate the the presence of *L. acidophilus* as the cause of the increase. The body of prior art contradicts the finding of Boyd *et al.*

***Megasphaera elsdenii*: MIC 0.32548**

[0436] The calculated MIC predicts that *Megasphaera elsdenii* is poorly associated with milk fat efficiency, and the art provides substantial evidence to suggest that *Megasphaera elsdenii* has no positive effect upon milk fat efficiency, but multiple references provide evidence to suggest that it has a negative effect on milk fat efficiency. See Kim *et al.* 2002. J. Appl. Micro. 92(5):976-982; Hagg. 2008. Dissertation, University of Pretoria. 1-72; Hagg *et al.* 2010. S. African. J. Animal Sci. 40(2):101-112; Zebeli *et al.* 2011. J. Dairy Res. 79(1):16-25; Aikman *et al.* 2011. J. Dairy Sci. 94(6):2840-2849; Mohammed *et al.* 2012. J. Dairy Sci. 95(1):328-339; and Cacite and Weimer. 2016. J. Animal Sci. Poster Abstract. 94(sup. 5):784.

***Prevotella bryantii*: MIC 0.40161**

[0437] The calculated MIC predicts that *Prevotella bryantii* is not highly associated with milk fat efficiency, and the art provides evidence that *P. bryantii* administered during subacute acidosis challenge in midlactation dairy cows has no apparent effect on milk yield, whereas administration of the microbe to dairy cows in early lactation yields improved milk fat concentrations. See Chiquette *et al.* 2012. J. Dairy Sci. 95(10):5985-5995, but see Chiquette *et al.* 2008. 91(9):3536-3543; respectively.

Example VI. Shift in Rumen Microbial Composition After Administration of a Microbial Composition

[0438] The methods of the instant example aim to increase the total amount of milk fat and milk protein produced by a lactating ruminant, and the calculated energy corrected milk (ECM).

[0439] The methodologies presented herein—based upon utilizing the disclosed isolated microbes, consortia, and compositions comprising the same—demonstrate an increase in the total amount of milk fat and milk protein produced by a lactating ruminant. These increases were realized without the need for further addition of hormones.

[0440] In this example, a microbial consortium comprising two isolated microbes, Ascusb_3138 (SEQ ID NO:28) and Ascusf_15 (SEQ ID NO:32), was administered to Holstein cows in mid-stage lactation over a period of five weeks.

[0441] The cows were randomly assigned into 2 groups of 8, in which one of the groups was a control group that received a buffer lacking a microbial consortium. The second group, the experimental group, was administered a microbial consortium comprising Ascusb_3138 (SEQ ID NO:28) and Ascusf_15 (SEQ ID NO:32) once per day for five weeks. Each cow was housed in an individual pen and was given free access to feed and water. The diet was a high milk yield diet. Cows were fed ad libitum and the feed was weighed at the end of each day, and prior day refusals were weighed and discarded. Weighing was performed with a PS-2000 scale from Salter Brecknell (Fairmont, MN).

[0442] Cows were cannulated such that a cannula extended into the rumen of the cows. Cows were further provided at least 10 days of recovery post cannulation prior to administering control dosages or experimental dosages.

[0443] Each administration consisted of 20 ml of a neutral buffered saline, and each administration consisted of approximately 10^9 cells suspended in the saline. The control group received 20 ml of the saline once per day, while the experimental group received 20 ml of the saline further comprising 10^9 microbial cells of the described microbial consortium.

[0444] The rumen of every cow was sampled on days 0, 7, 14, 21, and 35, wherein day 0 was the day prior to microbial administration. Note that the experimental and control administrations were performed after the rumen was sampled on that day. Daily sampling of the rumen, beginning on day 0, with a pH meter from Hanna Instruments (Woonsocket, RI) was inserted into the collected rumen fluid for recordings. Rumen sampling included both particulate and

fluid sampling from the center, dorsal, ventral, anterior, and posterior regions of the rumen through the cannula, and all five samples were pooled into 15ml conical vials containing 1.5ml of stop solution (95% ethanol, 5% phenol) and stored at 4°C and shipped to Ascus Biosciences (Vista, California) on ice.

[0445] A portion of each rumen sample was stained and put through a flow cytometer to quantify the number of cells of each microorganism type in each sample. A separate portion of the same rumen sample was homogenized with bead beating to lyse microorganisms. DNA and RNA was extracted and purified from each sample and prepared for sequencing on an Illumina Miseq. Samples were sequenced using paired-end chemistry, with 300 base pairs sequenced on each end of the library. The sequencing reads were used to quantify the number of cells of each active, microbial member present in each animal rumen in the control and experimental groups over the course of the experiment.

[0446] Ascusb_3138 and Ascuf_15 both colonized, and were active in the rumen after ~3-5 days of daily administration, depending on the animal. This colonization was observed in the experimental group, but not in the control group. The rumen is a dynamic environment, where the chemistry of the cumulative rumen microbial population is highly intertwined. The artificial addition of Ascusb_3138 and Ascuf_15 could have effects on the overall structure of the community. To assess this potential impact, the entire microbial community was analyzed over the course of the experiment to identify higher level taxonomic shifts in microbial community population.

[0447] Distinct trends were not observed in the fungal populations over time, aside from the higher cell numbers of Ascuf_15 in the experimental animals. The bacterial populations, however, did change more predictably. To assess high level trends across individual animals over time, percent compositions of the microbial populations were calculated and compared. See [0448] **Table 13**. Only genera composing greater than 1% of the community were analyzed. The percent composition of genera containing known fiber-degrading bacteria, including *Ruminococcus*, was found to increase in experimental animals as compared to control animals. Volatile fatty acid-producing genera, including Clostridial cluster XIVa, *Clostridium*, *Pseudobutyrvibrio*, *Butyricimonas*, and *Lachnospira* were also found at higher abundances in the experimental animals. The greatest shift was observed in the genera *Prevotella*. Members of this genus have been shown to be involved in the digestion of cellobiose, pectin, and various

other structural carbohydrates within the rumen. *Prevotella sp.* have further been implicated in the conversion of plant lignins into beneficial antioxidants (Schogor *et al.* PLOS One. 9(4):e87949 (10 p.)).

[0449] To more directly measure quantitative changes in the rumen over time, cell count data was integrated with sequencing data to identify bulk changes in the population at the cell level. Fold changes in cell numbers were determined by dividing the average number of cells of each genera in the experimental group by the average number of cells of each genera in the control group. See **Table 13**. The cell count analysis captured many genera that fell under the threshold in the previous analysis *Promicromonospora*, *Rhodopirellula*, *Olivibacter*, *Victivallis*, *Nocardia*, *Lentisphaera*, *Eubacteriu*, *Pedobacter*, *Butyricimonas*, *Mogibacterium*, and *Desulfovibrio* were all found to be at least 10 fold higher on average in the experimental animals. *Prevotella*, *Lachnospira*, *Butyricoccus*, *Clostridium XIVa*, *Roseburia*, *Clostridium_sensu_stricto*, and *Pseudobutyrvibrio* were found to be ~1.5 times higher in the experimental animals.

Table 13: Family and Genus Level Analysis of Shifts in Bacterial Populations

Family Level Analysis

Taxonomy	Control (%)	Variation	Experimental (%)	Variation
Prevotellaceae	15.27	6.43	18.62	5.63
Ruminococcaceae	16.40	5.14	17.84	6.44
Lachnospiraceae	23.85	7.63	24.58	6.96

Genus Level Analysis

Taxonomy	Control (%)	Variation	Experimental (%)	Variation
Prevotella	16.14	5.98	19.14	5.27
Clostridium_XIVa	12.41	5.35	12.83	4.81
Lachnospiracea _incertae_sedis	3.68	1.68	3.93	1.33
Ruminococcus	3.70	2.21	3.82	1.82

Clostridium_IV	3.02	1.87	3.51	1.74
Butyricimonas	1.68	1.35	1.83	2.38
Clostridium _sensu_stricto	1.52	0.65	1.81	0.53
Pseudobutyrvibrio	1.00	0.64	1.42	1.03
Citrobacter	0.71	1.86	1.95	3.00
Selenomonas	1.04	0.83	1.34	0.86
Hydrogeno anaerobacterium	1.03	1.08	1.11	0.78

Table 14: Analysis of Fold Changes in Bacterial cells

Genus	Fold change (experimental/control)
Promicromonospora	22619.50
Rhodopirellula	643.31
Olivibacter	394.01
Victivallis	83.97
Nocardia	73.81
Lentisphaera	57.70
Eubacterium	50.19
Pedobacter	26.15
Butyricimonas	15.47
Mogibacterium	15.23
Desulfovibrio	13.55
Anaeroplasm	8.84
Sharpea	8.78
Erysipelotrichaceae_incertae_sedis	5.71
Saccharofermentans	5.09
Parabacteroides	4.16
Papillibacter	3.63
Citrobacter	2.95

Lachnospiracea_incertae_sedis	2.27
Prevotella	1.60
Butyricicoccus	1.95
Clostridium_XIVa	1.47
Roseburia	1.44
Pseudobutyrvibrio	1.43
Clostridium_sensu_stricto	1.29
Selenomonas	1.25
Olsenella	1.04

Example VII. Analysis of Rumen Microbes for Volatile Fatty Acid Production and Carbon Source Use

A. Volatile Fatty Acid (VFA) Production

[0450] To assess the ability of the strains to produce volatile fatty acids, High Performance Liquid Chromatography (HPLC) was utilized to measure the concentration of acetate, butyrate, and propionate in spent media. M2GSC media was used in an assay mimicking rumen conditions as closely as possible.

[0451] For pure cultures, a single colony from each of the desired strains (from anaerobic agar plates) was inoculated into M2GSC media. A medium blank (control) was also prepared. Cultures and the medium blank were incubated at 37°C until significant growth was visible. An optical density (OD₆₀₀) was determined for each culture, and the strain ID was confirmed with Illumina sequencing. An aliquot of culture was subjected to sterile filtration into a washed glass 15ml sample vial and analyzed by HPLC; HPLC assays were performed at Michigan State University. Enrichments that exhibited growth were also stained and cell counted to confirm that the individual strains within each enrichment grew. Strains often appeared in multiple enrichments, so the enrichment with the highest amount of growth for the strain (i.e. the highest increase in cell number of that strain) is reported in **Table 15**.

[0452] Due to the vast complexity of metabolisms and microbial lifestyles present in the rumen, many rumen microorganisms are incapable of axenic growth. In order to assay these organisms for desirable characteristics, enrichment cultures were established under a variety of conditions

that mimicked particular features of the rumen environment. Diluted rumen fluid (1/100 dilution) was inoculated into M2GSC or M2 media supplemented with a variety of carbon sources including xylose (4g/L), mannitol (4g/L), glycerol (4g/L), xylan (2g/L), cellobiose (2g/L), arabinose (4g/L), mannose (4g/L), rhaminose (2g/L), maltose (2g/L), maltose (2g/L), and molasses. Rumen fluid was also sometimes omitted from the recipe. Additions including amino acids, volatile fatty acids, and antibiotics, were also varied across the enrichments. A medium blank (control) was also prepared. Cultures and the medium blank were incubated at 37°C until significant growth was visible. An optical density (OD600) was determined for each culture, and the strain IDs were confirmed with Illumina sequencing. An aliquot of culture was subjected to sterile filtration into a washed glass 15ml sample vial and analyzed by HPLC; HPLC assays were performed at Michigan State University. Enrichments that exhibited growth were also stained and cell counted to confirm that the individual strains within each enrichment grew. Strains often appeared in multiple enrichments, so the enrichment with the highest amount of growth for the strain (i.e, the highest increase in cell number of that strain) is reported in **Table 15**.

[0453] Concentrations of acetate, butyrate, and propionate were quantified for the medium blanks as well as the sterile filtered culture samples for both pure strain and enrichment experiments. HPLC parameters were as follows: Biorad Aminex HPX-87H column, 60°C, 0.5ml/minute mobile phase .00325 N H₂SO₄, 500 psi, 35C RI detector, 45 minute run time, and 5µL injection volume. Concentrations of acetate, butyrate, and propionate for both pure cultures and enrichments are reported in **Table 15**.

Table 15. Volatile Fatty Acid Production of Microbial Strains as Analyzed with HPLC, Normalized to 1 OD

Sample ID	Acetate (g/L)	Propionate (g/L)	Butyrate (g/L)
Ascusb_5	3.59	0.00	0.00
Ascusb_7	1.54	4.08	0.03
Ascusb_11	-6.88	-0.28	-0.04
Ascusb_26	6.10	7.57	1.38
Ascusb_27	0.59	1.48	4.98
Ascusb_32	6.10	7.57	1.38
Ascusb_36	4.30	0.68	0.00

Ascusb_79	2.00	0.00	0.00
Ascusb_82	6.10	7.57	1.38
Ascusb_89	1.69	4.20	0.27
Ascusb_101	1.45	-0.21	0.00
Ascusb_102	2.00	0.00	0.00
Ascusb_104	27.13	34.55	3.31
Ascusb_111	1.69	4.20	0.27
Ascusb_119	1.54	4.08	0.03
Ascusb_125	10.97	5.68	4.69
Ascusb_145	1.69	4.20	0.27
Ascusb_149	0.00	0.00	0.47
Ascusb_159	7.05	4.52	1.42
Ascusb_183	0.00	0.00	2.03
Ascusb_187	10.97	5.68	4.69
Ascusb_190	7.40	7.36	7.91
Ascusb_199	11.36	1.17	7.65
Ascusb_205	6.10	7.57	1.38
Ascusb_232	7.83	1.15	3.19
Ascusb_268	2.00	0.00	0.00
Ascusb_278	7.05	4.52	1.42
Ascusb_329	7.83	1.15	3.19
Ascusb_368	1.69	4.20	0.27
Ascusb_374	7.83	1.15	3.19
Ascusb_411	1.69	4.20	0.27
Ascusb_546	4.30	0.68	0.00
Ascusb_728	2.36	0.00	0.00
Ascusb_765	-11.63	0.00	0.00
Ascusb_810	1.54	4.08	0.03

Ascusb_812	2.00	0.00	0.00
Ascusb_817	1.16	0.00	0.09
Ascusb_826	0.42	0.00	0.51
Ascusb_880	-0.12	0.00	0.00
Ascusb_913	10.97	5.68	4.69
Ascusb_974	4.30	0.68	0.00
Ascusb_1069	0.00	0.00	2.32
Ascusb_1074	7.05	4.52	1.42
Ascusb_1295	1.54	4.08	0.03
Ascusb_1367	7.40	7.36	7.91
Ascusb_1632	1.54	4.08	0.03
Ascusb_1674	0.68	0.30	0.00
Ascusb_1763	1.69	4.20	0.27
Ascusb_1780	1.32	0.00	0.21
Ascusb_1786	1.69	4.20	0.27
Ascusb_1801	5.47	26.95	-0.60
Ascusb_1812	1.54	4.08	0.03
Ascusb_1833	7.83	1.15	3.19
Ascusb_1850	1.32	0.00	0.21
Ascusb_2090	1.54	4.08	0.03
Ascusb_2124	1.69	4.20	0.27
Ascusb_2511	0.00	0.00	0.11
Ascusb_2530	11.36	1.17	7.65
Ascusb_2597	4.30	0.68	0.00
Ascusb_2624	0.00	0.00	0.00
Ascusb_2667	3.16	1.46	1.02
Ascusb_2836	1.32	0.00	0.21
Ascusb_3003	0.00	0.00	0.11

Ascusb_3138	0.00	0.00	2.50
Ascusb_3504	1.69	4.20	0.27
Ascusb_3881	7.05	4.52	1.42
Ascusb_6589	5.47	26.95	-0.60
Ascusb_12103	0.94	0.00	0.00
Ascusb_14245	1.76	0.00	0.00
Ascusb_20083	27.13	34.55	3.31
Ascusb_20187	7.40	7.36	7.91

B. Soluble Carbon Source Assay

[0454] To assess the ability of the strains to degrade various carbon sources, an optical density (OD600) was used to measure growth of strains on multiple carbon sources over time.

[0455] For pure isolates, a single colony from each of the desired strains (from anaerobic agar plates) was inoculated into M2GSC media. A medium blank (control) was also prepared. Strains were inoculated into a carbon source assay anaerobically, wherein the assay was set up in a 2mL sterile 96-well plate, with each well containing RAMM salts, vitamins, minerals, cysteine, and a single carbon source. Carbon sources included glucose, xylan, lactate, xylose, mannose, glycerol, pectin, molasses, and cellobiose. Cells were inoculated such that each well started at an OD600 of 0.01. Optical densities were read at 600nm with the Synergy H4 hybrid plate reader. The strain IDs were confirmed with Illumina sequencing after all wells were in stationary phase.

[0456] As in the volatile fatty acid assay above, enrichments were also used to assay carbon source degradation. Diluted rumen fluid (1/100 dilution) was inoculated into M2GSC or M2 media supplemented with a variety of carbon sources including xylose (4g/L), mannitol (4g/L), glycerol (4g/L), xylan (2g/L), cellobiose (2g/L), arabinose (4g/L), mannose (4g/L), rhaminose (2g/L), maltose (2g/L), maltose (2g/L), and molasses. Rumen fluid was also sometimes omitted from the recipe. Additions including amino acids, volatile fatty acids, and antibiotics, were also varied across the enrichments. A medium blank (control) was also prepared. Cultures and the medium blank were incubated at 37°C until significant growth was visible. An optical density (OD600) was determined for each culture, and the strain IDs were confirmed with Illumina

sequencing. Enrichments that exhibited growth were also stained and cell counted to confirm that the individual strains within each enrichment grew.

C. Insoluble Carbon Source Assay

[0457] To assess the ability of the strains to degrade insoluble carbon sources, visual inspection was leveraged to qualitatively determine a strain's degradation capabilities.

[0458] For pure cultures, a single colony from each of the desired strains (from anaerobic agar plates) was inoculated into anaerobic Hungate tubes containing Lowe's semi defined media with cellulose paper, starch, or grass as the sole carbon source. (Lowe *et al.* 1985. J. Gen. Microbiol. 131:2225-2229). Enrichment cultures using a 1/100 dilution of rumen fluid were also set up using the same medium conditions. Cultures were checked visually for degradation of insoluble carbon sources (See **FIG. 14**). Strain ID was confirmed using Illumina sequencing. Enrichments that exhibited growth were also stained and cell counted to confirm that the individual strains within each enrichment grew.

Table 16: Analysis of Degradation of Various Soluable and Non-Soluable Carbon Sources by Strains of the Present Disclosure

Strain ID	D- Glucose	Xylan	Lactate	D- Xylose	D- Mannose	Glycerol	Pectin	Molasses	Cellobiose	Cellulose	Starch
Ascusb_5	+	+	-	+	+	+	+	-	+	Unknown	Unknown
Ascusb_7	+	-	+	-	-	+	-	-	+	Unknown	Unknown
Ascusb_11	-	-	-	+	-	+	+	+	+	Unknown	Unknown
Ascusb_26	+	-	+	-	-	+	-	-	+	Unknown	Unknown
Ascusb_27	+	-	-	-	-	-	-	-	-	Unknown	Unknown
Ascusb_32	+	-	+	-	+	+	-	-	+	Unknown	Unknown
Ascusb_36	-	+	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_79	+	-	-	-	-	+	-	-	+	Unknown	Unknown
Ascusb_82	+	+	+	+	-	+	-	-	+	Unknown	Unknown
Ascusb_89	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_101	-	-	+	-	-	+	-	-	-	Unknown	Unknown
Ascusb_102	+	+	+	-	-	+	-	-	-	Unknown	Unknown
Ascusb_104	-	-	+	-	-	-	-	-	-	Unknown	Unknown
Ascusb_111	-	+	+	-	-	+	-	-	+	Unknown	Unknown
Ascusb_119	-	-	-	+	-	+	-	-	-	Unknown	Unknown
Ascusb_125	-	-	+	+	-	+	-	+	-	Unknown	Unknown
Ascusb_145	+	-	-	-	-	+	-	-	-	Unknown	Unknown

Ascusb_149	+	-	-	+	+	+	-	+	-	Unknown	Unknown
Ascusb_159	+	-	+	+	-	+	-	+	-	Unknown	Unknown
Ascusb_183	+	-	-	+	-	+	-	+	+	Unknown	Unknown
Ascusb_187	+	+	-	+	-	+	-	+	-	Unknown	Unknown
Ascusb_190	+	-	+	-	-	+	-	+	-	Unknown	Unknown
Ascusb_199	-	-	-	+	-	+	-	-	-	Unknown	Unknown
Ascusb_205	-	-	+	-	-	+	-	-	-	Unknown	Unknown
Ascusb_232	-	-	-	+	-	+	-	-	-	Unknown	Unknown
Ascusb_268	-	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_278	-	-	-	-	-	+	-	+	+	Unknown	Unknown
Ascusb_329	-	-	-	+	-	-	-	-	-	Unknown	Unknown
Ascusb_368	-	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_374	+	-	-	+	+	+	-	-	+	Unknown	Unknown
Ascusb_411	-	+	-	-	-	-	-	-	-	Unknown	Unknown
Ascusb_546	-	+	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_728	+	-	-	+	+	+	-	-	+	Unknown	Unknown
Ascusb_765	-	-	-	-	-	+	-	-	+	Unknown	Unknown
Ascusb_810	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_812	-	-	+	-	-	-	-	-	-	Unknown	Unknown
Ascusb_817	-	-	+	-	+	+	-	-	+	Unknown	Unknown
Ascusb_826	+	-	-	+	-	+	-	-	+	Unknown	Unknown
Ascusb_880	+	-	-	+	-	+	-	+	+	Unknown	Unknown

Ascusb_913	+	+	-	+	-	+	-	+	-	Unknown	Unknown
Ascusb_974	-	+	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_1069	-	-	-	-	-	-	-	-	+	Unknown	Unknown
Ascusb_1074	-	+	+	-	-	+	-	-	-	Unknown	Unknown
Ascusb_1295	+	-	-	-	+	+	-	-	+	Unknown	Unknown
Ascusb_1367	+	+	-	-	-	+	-	+	+	Unknown	Unknown
Ascusb_1632	-	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_1674	+	-	-	+	+	-	+	-	+	Unknown	Unknown
Ascusb_1763	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_1780	-	-	-	-	+	+	-	-	+	Unknown	Unknown
Ascusb_1786	+	-	-	-	-	-	-	-	-	Unknown	Unknown
Ascusb_1801	-	-	+	-	-	+	-	-	-	Unknown	Unknown
Ascusb_1812	+	-	-	-	-	-	-	-	-	Unknown	Unknown
Ascusb_1833	-	+	+	+	+	+	-	-	+	Unknown	Unknown
Ascusb_1850	-	-	-	-	+	+	-	-	+	Unknown	Unknown
Ascusb_2090	+	-	-	-	-	-	-	-	+	Unknown	Unknown
Ascusb_2124	+	-	-	-	-	-	-	-	-	Unknown	Unknown
Ascusb_2511	-	+	-	+	-	+	-	-	+	Unknown	Unknown
Ascusb_2530	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_2597	-	+	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_2624	-	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_2667	+	-	-	-	-	+	-	-	+	Unknown	Unknown

Ascusb_2836	-	-	-	-	+	+	-	-	+	Unknown	Unknown
Ascusb_3003	+	-	-	+	-	-	-	-	+	Unknown	Unknown
Ascusb_3138	+	-	+	-	-	+	-	+	+	Unknown	Unknown
Ascusb_3504	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_3881	-	+	-	-	-	+	-	-	-	Unknown	Unknown
Ascusb_6589	-	-	+	-	-	-	-	-	-	Unknown	Unknown
Ascusb_12103	+	-	-	-	-	-	-	-	+	Unknown	Unknown
Ascusb_14245	+	-	-	-	-	+	-	-	+	Unknown	Unknown
Ascusb_20083	-	-	+	-	-	-	-	-	-	Unknown	Unknown
Ascusb_20187	+	-	-	-	-	+	-	-	-	Unknown	Unknown
Ascusf_15	+	+	Unknown	+	+	Unknown	+	+	+	+	+
Ascusf_22	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-
Ascusf_23	+	-	Unknown	-	-	Unknown	-	Unknown	+	+	-
Ascusf_24	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-
Ascusf_25	+	-	Unknown	-	-	Unknown	-	Unknown	+	-	-
Ascusf_38	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-
Ascusf_45	+	-	Unknown	-	-	Unknown	-	Unknown	+	+	+
Ascusf_77	+	-	Unknown	+	-	Unknown	-	Unknown	+	+	+
Ascusf_94	+	+	Unknown	+	-	Unknown	-	Unknown	+	+	+
Ascusf_108	+	-	Unknown	-	-	Unknown	-	Unknown	+	-	-
Ascusf_206	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-
Ascusf_208	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-

Ascusf_307	+	-	Unknown	-	-	Unknown	-	Unknown	+	+	+
Ascusf_334	+	+	Unknown	+	+	Unknown	-	Unknown	+	+	+
Ascusf_353	+	-	Unknown	+	-	Unknown	-	Unknown	+	-	-
Ascusf_1012	-	-	Unknown	-	-	Unknown	-	Unknown	-	+	-

Table 17: M2GSC and M2 Media Recipes

M2GSC		M2	
Component	Amount	Component	Amount
Beef Extract	5g	NaHCO ₃	4g
Yeast Extract	1.25g	HCl-L-cysteine	0.3g
NaHCO ₃	2g	(NH ₄) ₂ SO ₄	0.10g
Cellobiose	1g	MgSO ₄ 7H ₂ O	0.005g
Starch	1g	K ₂ HPO ₄	0.05g
Glucose	1g	KH ₂ PO ₄	0.05g
(NH ₄) ₂ SO ₄ (1M)	2.55mL	DI H ₂ O	Up to 1000mL
MgSO ₄ 7H ₂ O (0.25M)	0.288mL		
K ₂ HPO ₄ (1M)	1mL		
KH ₂ PO ₄ (1M)	1.275mL		
Clarified Rumen Fluid	50mL		
HCl-L- cysteine	0.3g		
DI H ₂ O	Up to 500mL		

Table 18: Modified Wolfe's Media Recipes

250X Modified Wolfe's Vitamin Mix		Modified Wolfe's Mineral Solution	
Component	g/200mL	Component	g/L
Pyridoxine-HCl	0.5	MgSO ₄ 7H ₂ O	140
p-Aminobenzoic	0.25	Nitrilotriacetic acid	10.96
Lipoic Acid	0.216	NaCl	50.06
Nicotinic Acid	0.252	MnSO ₄ H ₂ O	24.99
Riboflavin	0.013	CaCl ₂	5

Thiamine HCL	0.25	CoCl ₂ 6H ₂ O	4.997
Calcium – DL – Pantothenate	0.1	FeSO ₂ 7H ₂ O	4.997
Biotin	0.044	ZnSO ₂ 7H ₂ O	5.003
Folic Acid	0.004	AlK(SO ₄) ₂ 12 H ₂ O	0.5
Vitamin B12	0.007	CuSO ₄ 5H ₂ O	0.499
		H ₃ BO ₃	0.498
		NaMoO ₄ 2H ₂ O	0.503
		DI H ₂ O	1L

[0459] All media was prepared with anaerobic water (boiled DI H₂O for 15 minutes then cooled to room temperature in a water bath while sparging with N₂. All media was adjusted to a pH of 6.8 with 2M HCl. 10mL of media was then aliquoted into 15mL hungate tubs, and the tubes were then sparged with 80% N₂ 20% CO₂ for 3 minutes.

Table 19: RAMM Salts Media Recipe

Component	g/500mL
KH ₂ PO ₄	0.11
K ₂ HPO ₄	0.08
NH ₄ Cl	0.265
NaHCO ₃	0.6
DI H ₂ O	500mL

[0460] After sterilization (autoclave) added: 2mL of 250X modified Wolfe's vitamin mix, 10mL of 50X modified Wolfe's mineral mix, 5mL of 100mM cysteine.

Example VIII. Determination of Maximal Information Coefficient (MIC) Scores for Microbe Strains Relevant to Pounds of Milk Produced

Experimental Design and Materials and Methods

[00442] **Objective:** Determine rumen microbial community constituents that impact the production of milk fat in dairy cows.

[00443] **Animals:** Eight lactating, ruminally cannulated, Holstein cows were housed in individual tie-stalls for use in the experiment. Cows were fed twice daily, milked twice a day, and had continuous access to fresh water. One cow (cow 1) was removed from the study after the first dietary Milk Fat Depression due to complications arising from an abortion prior to the experiment.

[00444] **Experimental Design and Treatment:** The experiment used a crossover design with 2 groups and 1 experimental period. The experimental period lasted 38 days: 10 days for the covariate/wash-out period and 28 days for data collection and sampling. The data collection period consisted of 10 days of dietary Milk Fat Depression (MFD) and 18 days of recovery. After the first experimental period, all cows underwent a 10-day wash out period prior to the beginning of period 2.

[00445] Dietary MFD was induced with a total mixed ration (TMR) low in fiber (29% NDF) with high starch degradability (70% degradable) and high polyunsaturated fatty acid levels (PUFA, 3.7%). The Recovery phase included two diets variable in starch degradability. Four cows were randomly assigned to the recovery diet high in fiber (37% NDF), low in PUFA (2.6%), and high in starch degradability (70% degradable). The remaining four cows were fed a recovery diet high in fiber (37% NDF), low in PUFA (2.6%), but low in starch degradability (35%).

[00446] During the 10-day covariate and 10-day wash out periods, cows were fed the high fiber, low PUFA, and low starch degradability diet.

[00447] **Samples and Measurements:** Milk yield, dry matter intake, and feed efficiency were measured daily for each animal throughout the covariate, wash out, and sample collection periods. TMR samples were measured for nutrient composition. During the collection period, milk samples were collected and analyzed every 3 days. Samples were analyzed for milk

component concentrations (milk fat, milk protein, lactose, milk urea nitrogen, somatic cell counts, and solids) and fatty acid compositions.

[00448] Rumen samples were collected and analyzed for microbial community composition and activity every 3 days during the collection period. The rumen was intensively sampled 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 hours after feeding during day 0, day 7, and day 10 of the dietary MFD. Similarly, the rumen was intensively sampled 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 hours after feeding on day 16 and day 28 during the recovery period. Rumen contents were analyzed for pH, acetate concentration, butyrate concentration, propionate concentration, isoacid concentration, and long chain and CLA isomer concentrations.

[00449] **Rumen Sample Preparation and Sequencing:** After collection, rumen samples were centrifuged at 4,000 rpm in a swing bucket centrifuge for 20 minutes at 4°C. The supernatant was decanted, and an aliquot of each rumen content sample (1-2mg) was added to a sterile 1.7mL tube prefilled with 0.1 mm glass beads. A second aliquot was collected and stored in an empty, sterile 1.7 mL tube for cell counting.

[00450] Rumen samples with glass beads (1st aliquot) were homogenized with bead beating to lyse microorganisms. DNA and RNA was extracted and purified from each sample and prepared for sequencing on an Illumina Miseq. Samples were sequenced using paired-end chemistry, with 300 base pairs sequenced on each end of the library. Rumen samples in empty tubes (2nd aliquot) were stained and put through a flow cytometer to quantify the number of cells of each microorganism type in each sample.

[00451] **Sequencing Read Processing and Data Analysis:** Sequencing reads were quality trimmed and processed to identify bacterial species present in the rumen based on a marker gene. Count datasets and activity datasets were integrated with the sequencing reads to determine the absolute cell numbers of active microbial species within the rumen microbial community. Production characteristics of the cow over time, including pounds of milk produced, were linked to the distribution of active microorganisms within each sample over the course of the experiment using mutual information. Maximal information coefficient (MIC) scores were calculated between pounds of milk fat produced and the absolute cell count of each active microorganism. Microorganisms were ranked by MIC score, and microorganisms with the highest MIC scores were selected as the target species most relevant to pounds of milk produced.

[00452] Tests cases to determine the impact of count data, activity data, and count and activity on the final output were run by omitting the appropriate datasets from the sequencing analysis. To assess the impact of using a linear correlation rather than the MIC on target selection, Pearson’s coefficients were also calculated for pounds of milk fat produced as compared to the relative abundance of all microorganisms and the absolute cell count of active microorganisms.

Results and Discussion

Relative Abundances vs. Absolute Cell Counts

[00453] The top 15 target species were identified for the dataset that included cell count data (absolute cell count, **Table 21**) and for the dataset that did not include cell count data (relative abundance, **Table 20**) based on MIC scores. Activity data was not used in this analysis in order to isolate the effect of cell count data on final target selection. Ultimately, the top 8 targets were the same between the two datasets. Of the remaining 7, 5 strains were present on both lists in varying order. Despite the differences in rank for these 5 strains, the calculated MIC score for each strain was the identical between the two lists. The two strains present on the absolute cell count list but not the relative abundance list, ascus_111 and ascus_288, were rank 91 and rank 16, respectively, on the relative abundance list. The two strains present on the relative abundance list but not the absolute cell count list, ascus_102 and ascus_252, were rank 50 and rank 19, respectively, on the absolute cell count list. These 4 strains did have different MIC scores on each list, thus explaining their shift in rank and subsequent impact on the other strains in the list.

Table 20: Top 15 Target Strains using Relative Abundance with no Activity Filter

Target Strain	MIC	Nearest Taxonomy
ascus_7	0.97384	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3217),g:Ruminococcus(0.0605)
ascus_82	0.97173	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_209	0.95251	d:Bacteria(1.0000),p:TM7(0.9991),g:TM7_genera_incertae_sedis(0.8645)

ascus_126	0.91477	d: Bacteria(1.0000),p: Firmicutes(0.8349),c: Clostridia(0.5251),o: Clostridiales(0.2714),f: Ruminococcaceae(0.1242),g: Saccharofermentans(0.0073)
ascus_1366	0.89713	d: Bacteria(1.0000),p: TM7(0.9445),g: TM7_genera_incertae_sedis(0.0986)
ascus_1780	0.89466	d: Bacteria(0.9401),p: Bacteroidetes(0.4304),c: Bacteroidia(0.0551),o: Bacteroidales(0.0198),f: Prevotellaceae(0.0067),g: Prevotella(0.0052)
ascus_64	0.89453	d: Bacteria(1.0000),p: Firmicutes(0.9922),c: Clostridia(0.8823),o: Clostridiales(0.6267),f: Ruminococcaceae(0.2792),g: Ruminococcus(0.0605)
ascus_299	0.88979	d: Bacteria(1.0000),p: TM7(0.9963),g: TM7_genera_incertae_sedis(0.5795)
ascus_102	0.87095	d: Bacteria(1.0000),p: Firmicutes(0.9628),c: Clostridia(0.8317),o: Clostridiales(0.4636),f: Ruminococcaceae(0.2367),g: Saccharofermentans(0.0283)
ascus_1801	0.87038	d: Bacteria(0.8663),p: Bacteroidetes(0.2483),c: Bacteroidia(0.0365),o: Bacteroidales(0.0179),f: Porphyromonadaceae(0.0059),g: Butyricimonas(0.0047)
ascus_295	0.86724	d: Bacteria(1.0000),p: SR1(0.9990),g: SR1_genera_incertae_sedis(0.9793)
ascus_1139	0.8598	d: Bacteria(1.0000),p: TM7(0.9951),g: TM7_genera_incertae_sedis(0.4747)
ascus_127	0.84082	d: Bacteria(1.0000),p: TM7(0.9992),g: TM7_genera_incertae_sedis(0.8035)
ascus_341	0.8348	d: Bacteria(1.0000),p: TM7(0.9992),g: TM7_genera_incertae_sedis(0.8035)
ascus_252	0.82891	d: Bacteria(1.0000),p: Firmicutes(0.9986),c: Clostridia(0.9022),o: Clostridiales(0.7491),f: Lachnospiraceae(0.3642),g: Lachnospiraceae_incertae_sedis(0.0859)

Table 21: Top 15 Target Strains using Absolute cell count with no Activity Filter

Target Strain	MIC	Nearest Taxonomy
ascus_7	0.97384	d: Bacteria(1.0000),p: Firmicutes(0.9922),c: Clostridia(0.8756),o: Clostridiales(0.5860),f: Ruminococcaceae(0.3217),g: Ruminococcus(0.0605)
ascus_82	0.97173	d: Bacteria(1.0000),p: Firmicutes(0.8349),c: Clostridia(0.5251),o: Clostridiales(0.2714),f: Ruminococcaceae(0.1062),g: Saccharofermentans(0.0073)
ascus_209	0.95251	d: Bacteria(1.0000),p: TM7(0.9991),g: TM7_genera_incertae_sedis(0.8645)
ascus_126	0.91701	d: Bacteria(1.0000),p: Firmicutes(0.8349),c: Clostridia(0.5251),o: Clostridiales(0.2714),f: Ruminococcaceae(0.1242),g: Saccharofermentans(0.0073)
ascus_1366	0.89713	d: Bacteria(1.0000),p: TM7(0.9445),g: TM7_genera_incertae_sedis(0.0986)
ascus_1780	0.89466	d: Bacteria(0.9401),p: Bacteroidetes(0.4304),c: Bacteroidia(0.0551),o: Bacteroidales(0.0198),f: Prevotellaceae(0.0067),g: Prevotella(0.0052)
ascus_64	0.89453	d: Bacteria(1.0000),p: Firmicutes(0.9922),c: Clostridia(0.8823),o: Clostridiales(0.6267),f: Ruminococcaceae(0.2792),g: Ruminococcus(0.0605)
ascus_299	0.88979	d: Bacteria(1.0000),p: TM7(0.9963),g: TM7_genera_incertae_sedis(0.5795)
ascus_1801	0.87038	d: Bacteria(0.8663),p: Bacteroidetes(0.2483),c: Bacteroidia(0.0365),o: Bacteroidales(0.0179),f: Porphyromonadaceae(0.0059),g: Butyricimonas(0.0047)
ascus_295	0.86724	d: Bacteria(1.0000),p: SR1(0.9990),g: SR1_genera_incertae_sedis(0.9793)
ascus_1139	0.8598	d: Bacteria(1.0000),p: TM7(0.9951),g: TM7_genera_incertae_sedis(0.4747)

ascus_127	0.84082	d:Bacteria(1.0000),p:TM7(0.9992),g:TM7_genera_incertae_sedis(0.8035)
ascus_341	0.8348	d:Bacteria(1.0000),p:TM7(0.9992),g:TM7_genera_incertae_sedis(0.8035)
ascus_111	0.83358	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.1062),g:Papillibacter(0.0098)
ascus_288	0.82833	d:Bacteria(0.7925),p:Bacteroidetes(0.2030),c:Bacteroidia(0.0327),o:Bacteroidales(0.0160),f:Porphyromonadaceae(0.0050),g:Butyricimonas(0.0042)

[00454] Integration of cell count data did not always affect the final MIC score assigned to each strain. This may be attributed to the fact that although the microbial population did shift within the rumen daily and over the course of the 38-day experiment, it was always within 10^7 - 10^8 cells per milliliter. Much larger shifts in population numbers would undoubtedly have a broader impact on final MIC scores.

Inactive Species vs. Active Species

[00455] In order to assess the impact of filtering strains based on activity data, target species were identified from a dataset that leveraged relative abundance with (Table 22) and without (Table 20) activity data as well as a dataset that leveraged absolute cell counts with (Table 23) and without (Table 21) activity data.

[00456] For the relative abundance case, ascus_126, ascus_1366, ascus_1780, ascus_299, ascus_1139, ascus_127, ascus_341, and ascus_252 were deemed target strains prior to applying activity data. These eight strains (53% of the initial top 15 targets) fell below rank 15 after integrating activity data. A similar trend was observed for the absolute cell count case. Ascus_126, ascus_1366, ascus_1780, ascus_299, ascus_1139, ascus_127, and ascus_341 (46% of the initial top 15 targets) fell below rank 15 after activity dataset integration.

[00457] The activity datasets had a much more severe effect on target rank and selection than the cell count datasets. When integrating these datasets together, if a sample is found to be inactive it is essentially changed to a "0" and not considered to be part of the analysis. Because of this, the distribution of points within a sample can become heavily altered or skewed after

integration, which in turn greatly impacts the final MIC score and thus the rank order of target microorganisms.

Table 22: Top 15 Target Strains using Relative Abundance with Activity Filter

Target Strain	MIC	Nearest Taxonomy
ascus_7	0.97384	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3217),g:Ruminococcus(0.0605)
ascus_82	0.93391	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_102	0.87095	d:Bacteria(1.0000),p:Firmicutes(0.9628),c:Clostridia(0.8317),o:Clostridiales(0.4636),f:Ruminococcaceae(0.2367),g:Saccharofermentans(0.0283)
ascus_209	0.84421	d:Bacteria(1.0000),p:TM7(0.9991),g:TM7_genera_incertae_sedis(0.8645)
ascus_1801	0.82398	d:Bacteria(0.8663),p:Bacteroidetes(0.2483),c:Bacteroidia(0.0365),o:Bacteroidales(0.0179),f:Porphyromonadaceae(0.0059),g:Butyricimonas(0.0047)
ascus_372	0.81735	d:Bacteria(1.0000),p:Spirochaetes(0.9445),c:Spirochaetes(0.8623),o:Spirochaetales(0.5044),f:Spirochaetaceae(0.3217),g:Spirochaeta(0.0190)
ascus_26	0.81081	d:Bacteria(1.0000),p:Firmicutes(0.9080),c:Clostridia(0.7704),o:Clostridiales(0.4230),f:Ruminococcaceae(0.1942),g:Clostridium_IV(0.0144)
ascus_180	0.80702	d:Bacteria(1.0000),p:Spirochaetes(0.9445),c:Spirochaetes(0.8623),o:Spirochaetales(0.5044),f:Spirochaetaceae(0.3217),g:Spirochaeta(0.0237)
ascus_32	0.7846	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.4024),o:Clostridiales(0.1956),f:Ruminococcaceae(0.0883),g:Hydrogenoanaerobacterium(0.0144)
ascus_288	0.78229	d:Bacteria(0.7925),p:Bacteroidetes(0.2030),c:Bacteroidia(0.0327),o:Ba

		cteroidales(0.0160),f:Porphyromonadaceae(0.0050),g:Butyricimonas(0.0042)
ascus_64	0.77514	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8823),o:Clostridiales(0.6267),f:Ruminococcaceae(0.2792),g:Ruminococcus(0.0605)
ascus_295	0.76639	d:Bacteria(1.0000),p:SR1(0.9990),g:SR1_genera_incertae_sedis(0.9793)
ascus_546	0.76114	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Clostridiaceae_1(0.0208),g:Clostridium_sensu_stricto(0.0066)
ascus_233	0.75779	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3642),g:Ruminococcus(0.0478)
ascus_651	0.74837	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.0883),g:Clostridium_IV(0.0069)

Table 23: Top 15 Target Strains using Absolute cell count with Activity Filter

Target Strain	MIC	Nearest Taxonomy
ascus_7	0.97384	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3217),g:Ruminococcus(0.0605)
ascus_82	0.93391	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_209	0.84421	d:Bacteria(1.0000),p:TM7(0.9991),g:TM7_genera_incertae_sedis(0.8645)
ascus_1801	0.82398	d:Bacteria(0.8663),p:Bacteroidetes(0.2483),c:Bacteroidia(0.0365),o:Bacteroidales(0.0179),f:Porphyromonadaceae(0.0059),g:Butyricimonas(0.0047)
ascus_372	0.81735	d:Bacteria(1.0000),p:Spirochaetes(0.9445),c:Spirochaetes(0.8623),o:Sp

		irochaetales(0.5044),f:Spirochaetaceae(0.3217),g:Spirochaeta(0.0190)
ascus_26	0.81081	d:Bacteria(1.0000),p:Firmicutes(0.9080),c:Clostridia(0.7704),o:Clostridiales(0.4230),f:Ruminococcaceae(0.1942),g:Clostridium_IV(0.0144)
ascus_102	0.81048	d:Bacteria(1.0000),p:Firmicutes(0.9628),c:Clostridia(0.8317),o:Clostridiales(0.4636),f:Ruminococcaceae(0.2367),g:Saccharofermentans(0.0283)
ascus_111	0.79035	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.1062),g:Papillibacter(0.0098)
ascus_288	0.78229	d:Bacteria(0.7925),p:Bacteroidetes(0.2030),c:Bacteroidia(0.0327),o:Bacteroidales(0.0160),f:Porphyromonadaceae(0.0050),g:Butyricimonas(0.0042)
ascus_64	0.77514	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8823),o:Clostridiales(0.6267),f:Ruminococcaceae(0.2792),g:Ruminococcus(0.0605)
ascus_295	0.76639	d:Bacteria(1.0000),p:SR1(0.9990),g:SR1_genera_incertae_sedis(0.9793)
ascus_546	0.76114	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Clostridiaceae_1(0.0208),g:Clostridium_sensu_stricto(0.0066)
ascus_32	0.75068	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.4024),o:Clostridiales(0.1956),f:Ruminococcaceae(0.0883),g:Hydrogenoanaerobacterium(0.0144)
ascus_651	0.74837	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.0883),g:Clostridium_IV(0.0069)
ascus_233	0.74409	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3642),g:Ruminococcus(0.0478)

Relative Abundances and Inactive vs. Absolute cell counts and Active

[00458] Ultimately, the method defined here leverages both cell count data and activity data to identify microorganisms highly linked to relevant metadata characteristics. Within the top 15

targets selected using both methods (**Table 23**, **Table 20**), only 7 strains were found on both lists. Eight strains (53%) were unique to the absolute cell count and activity list. The top 3 targets on both lists matched in both strain as well as in rank. However, two of the three did not have the same MIC score on both lists, suggesting that they were influenced by activity dataset integration but not enough to upset their rank order.

Linear Correlations vs. Nonparametric Approaches

[00459] Pearson's coefficients and MIC scores were calculated between pounds of milk fat produced and the absolute cell count of active microorganisms within each sample (**Table 24**). Strains were ranked either by MIC (**Table 24a**) or Pearson coefficient (**Table 24b**) to select target strains most relevant to milk fat production. Both MIC score and Pearson coefficient are reported in each case. Six strains were found on both lists, meaning nine (60%) unique strains were identified using the MIC approach. The rank order of strains between lists did not match—the top 3 target strains identified by each method were also unique.

[00460] Like Pearson coefficients, the MIC score is reported over a range of 0 to 1, with 1 suggesting a very tight relationship between the two variables. Here, the top 15 targets exhibited MIC scores ranging from 0.97 to 0.74. The Pearson coefficients for the correlation test case, however, ranged from 0.53 to 0.45—substantially lower than the mutual information test case. This discrepancy may be due to the differences inherent to each analysis method. While correlations are a linear estimate that measures the dispersion of points around a line, mutual information leverages probability distributions and measures the similarity between two distributions. Over the course of the experiment, the pounds of milk fat produced changed nonlinearly (**FIG. 18**). This particular function may be better represented and approximated by mutual information than correlations. To investigate this, the top target strains identified using correlation and mutual information, Ascus_713 (**FIG. 19**) and Ascus_7 (**FIG. 20**) respectively, were plotted to determine how well each method predicted relationships between the strains and milk fat. If two variables exhibit strong correlation, they are represented by a line with little to no dispersion of points when plotted against each other. In **FIG. 19**, Ascus_713 correlates weakly with milk fat, as indicated by the broad spread of points. Mutual information, again, measures how similar two distributions of points are. When Ascus_7 is plotted with milk fat (**FIG. 20**), it is apparent that the two point distributions are very similar.

The Present Method in Entirety vs. Conventional Approaches

[00461] The conventional approach of analyzing microbial communities relies on the use of relative abundance data with no incorporation of activity information, and ultimately ends with a simple correlation of microbial species to metadata (see, e.g., U.S. Patent No. 9,206,680, which is herein incorporated by reference in its entirety for all purposes). Here, we have shown how the incorporation of each dataset incrementally influences the final list of targets. When applied in its entirety, the method described herein selected a completely different set of targets when compared to the conventional method (Table 24a and Table 24c). Ascus_3038, the top target strain selected using the conventional approach, was plotted against milk fat to visualize the strength of the correlation (FIG. 21). Like the previous example, Ascus_3038 also exhibited a weak correlation to milk fat.

Table 24: Top 15 Target Strains using Mutual Information or Correlations

Table 24a. MIC using Absolute cell count with Activity Filter

Target Strain	MIC	Pearson Coefficient	Nearest Taxonomy
ascus_7	0.97384	0.25282502	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3217),g:Ruminococcus(0.0605)
ascus_82	0.93391	0.42776647	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_209	0.84421	0.3036308	d:Bacteria(1.0000),p:TM7(0.9991),g:TM7_genera_incertae_sedis(0.8645)
ascus_1801	0.82398	0.5182261	d:Bacteria(0.8663),p:Bacteroidetes(0.2483),c:Bacteroidia(0.0365),o:Bacteroidales(0.0179),f:Porphyromonadaceae(0.0059),g:Butyricimonas(0.0047)
ascus_372	0.81735	0.34172258	d:Bacteria(1.0000),p:Spirochaetes(0.9445),c:Spirochaetes(0.8623),o:Spirochaetales(0.5044),f:Spirochaetaceae(

			0.3217),g:Spirochaeta(0.0190)
ascus_26	0.81081	0.5300298	d:Bacteria(1.0000),p:Firmicutes(0.9080),c:Clostridia(0.7704),o:Clostridiales(0.4230),f:Ruminococcaceae(0.1942),g:Clostridium_IV(0.0144)
ascus_102	0.81048	0.35456932	d:Bacteria(1.0000),p:Firmicutes(0.9628),c:Clostridia(0.8317),o:Clostridiales(0.4636),f:Ruminococcaceae(0.2367),g:Saccharofermentans(0.0283)
ascus_111	0.79035	0.45881805	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.1062),g:Papillibacter(0.0098)
ascus_288	0.78229	0.46522045	d:Bacteria(0.7925),p:Bacteroidetes(0.2030),c:Bacteroidia(0.0327),o:Bacteroidales(0.0160),f:Porphyromonadaceae(0.0050),g:Butyricimonas(0.0042)
ascus_64	0.77514	0.45417055	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8823),o:Clostridiales(0.6267),f:Ruminococcaceae(0.2792),g:Ruminococcus(0.0605)
ascus_295	0.76639	0.24972263	d:Bacteria(1.0000),p:SR1(0.9990),g:SR1_genera_incertae_sedis(0.9793)
ascus_546	0.76114	0.23819838	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Clostridiaceae_1(0.0208),g:Clostridium_sensu_stricto(0.0066)
ascus_32	0.75068	0.5179697	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.4024),o:Clostridiales(0.1956),f:Ruminococcaceae(0.0883),g:Hydrogenoanaerobacterium(0.0144)
ascus_651	0.74837	0.27656645	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.0883),g:Clostridium_IV(0.0069)
ascus_233	0.74409	0.36095098	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3642)

			,g:Ruminococcus(0.0478)
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Table 24b. Correlation using Absolute cell count with Activity Filter

Target Strain	MIC	Pearson Coefficient	Nearest Taxonomy
ascus_713	0.71066	0.5305876	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_26	0.81081	0.5300298	d:Bacteria(1.0000),p:Firmicutes(0.9080),c:Clostridia(0.7704),o:Clostridiales(0.4230),f:Ruminococcaceae(0.1942),g:Clostridium_IV(0.0144)
ascus_1801	0.82398	0.5182261	d:Bacteria(0.8663),p:Bacteroidetes(0.2483),c:Bacteroidia(0.0365),o:Bacteroidales(0.0179),f:Porphyromonadaceae(0.0059),g:Butyricimonas(0.0047)
ascus_32	0.75068	0.5179697	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.4024),o:Clostridiales(0.1956),f:Ruminococcaceae(0.0883),g:Hydrogenoanaerobacterium(0.0144)
ascus_119	0.6974	0.4968678	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Ruminococcaceae(0.3217),g:Ruminococcus(0.0478)
ascus_13899	0.64556	0.48739454	d:Bacteria(1.0000),p:Actinobacteria(0.1810),c:Actinobacteria(0.0365),o:Actinomycetales(0.0179),f:Propionibacteriaceae(0.0075),g:Micrococcus(0.0058)
ascus_906	0.49256	0.48418677	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1242),g:Papillibacter(0.0098)
ascus_221	0.44006	0.47305903	d:Bacteria(1.0000),p:Bacteroidetes(0.9991),c:Bacteroidia(0.9088),o:Bacteroidales(0.7898),f:Prevotellaceae(0.3217),g:Prevotella(0.0986)

ascus_1039	0.65629	0.46932846	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Ruminococcaceae(0.0329),g:Clostridium_IV(0.0069)
ascus_288	0.78229	0.46522045	d:Bacteria(0.7925),p:Bacteroidetes(0.2030),c:Bacteroidia(0.0327),o:Bacteroidales(0.0160),f:Porphyromonadaceae(0.0050),g:Butyricimonas(0.0042)
ascus_589	0.40868	0.4651165	d:Bacteria(1.0000),p:Firmicutes(0.9981),c:Clostridia(0.9088),o:Clostridiales(0.7898),f:Lachnospiraceae(0.5986),g:Clostridium_XIVa(0.3698)
ascus_41	0.67227	0.46499047	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.3426),o:Clostridiales(0.1618),f:Ruminococcaceae(0.0703),g:Hydrogenoanaerobacterium(0.0098)
ascus_111	0.79035	0.45881805	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.4637),o:Clostridiales(0.2335),f:Ruminococcaceae(0.1062),g:Papillibacter(0.0098)
ascus_205	0.72441	0.45684373	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.3426),o:Clostridiales(0.1618),f:Peptococcaceae_2(0.0449),g:Pelotomaculum(0.0069)
ascus_64	0.77514	0.45417055	d:Bacteria(1.0000),p:Firmicutes(0.9922),c:Clostridia(0.8823),o:Clostridiales(0.6267),f:Ruminococcaceae(0.2792),g:Ruminococcus(0.0605)

Table 24c. Correlation using Relative Abundance with no Activity Filter

Target Strain	MIC	Pearson Coefficient	Nearest Taxonomy
ascus_3038	0.56239	0.6007549	d:Bacteria(1.0000),p:Firmicutes(0.9945),c:Clostridia(0.8623),o:Clostridiales(0.5044),f:Lachnospiraceae(0.2367),g:Clostridium_XIVa(0.0350)
ascus_1555	0.66965	0.59716415	d:Bacteria(1.0000),p:Firmicutes(0.7947),c:Clostridia(0.3

			426),o:Clostridiales(0.1618),f:Ruminococcaceae(0.0449),g:Clostridium_IV(0.0073)
ascus_1039	0.68563	0.59292555	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Ruminococcaceae(0.0329),g:Clostridium_IV(0.0069)
ascus_1424	0.55509	0.57589555	d:Bacteria(1.0000),p:Firmicutes(0.8897),c:Clostridia(0.7091),o:Clostridiales(0.3851),f:Ruminococcaceae(0.1422),g:Papillibacter(0.0144)
ascus_378	0.77519	0.5671971	d:Bacteria(1.0000),p:Firmicutes(0.8349),c:Clostridia(0.5251),o:Clostridiales(0.2714),f:Ruminococcaceae(0.1062),g:Saccharofermentans(0.0073)
ascus_407	0.69783	0.56279755	d:Bacteria(1.0000),p:Firmicutes(0.7036),c:Clostridia(0.3426),o:Clostridiales(0.1618),f:Clostridiaceae_1(0.0329),g:Clostridium_sensu_stricto(0.0069)
ascus_1584	0.5193	0.5619939	d:Bacteria(1.0000),p:Firmicutes(0.9945),c:Clostridia(0.8756),o:Clostridiales(0.5860),f:Lachnospiraceae(0.3217),g:Coprococcus(0.0605)
ascus_760	0.61363	0.55807924	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Clostridiaceae_1(0.0208),g:Clostridium_sensu_stricto(0.0066)
ascus_1184	0.70593	0.5578006	d:Bacteria(1.0000),p:"Bacteroidetes"(0.9992),c:"Bacteroidia"(0.8690),o:"Bacteroidales"(0.5452),f:Bacteroidaceae(0.1062),g:Bacteroides(0.0237)
ascus_7394	0.6269	0.5557023	d:Bacteria(1.0000),p:Firmicutes(0.9939),c:Clostridia(0.7704),o:Clostridiales(0.4230),f:Lachnospiraceae(0.1422),g:Clostridium_XIVa(0.0350)
ascus_1360	0.57343	0.5535785	d:Bacteria(1.0000),p:Firmicutes(0.9992),c:Clostridia(0.9351),o:Clostridiales(0.8605),f:Lachnospiraceae(0.7052),g:Clostridium_XIVa(0.2649)

ascus_3175	0.53565	0.54864305	d:Bacteria(1.0000),p:"Bacteroidetes"(0.9991),c:"Bacteroidia"(0.8955),o:"Bacteroidales"(0.7083),f:"Prevotellaceae"(0.1942),g:Prevotella(0.0605)
ascus_2581	0.68361	0.5454486	d:Bacteria(1.0000),p:"Spirochaetes"(0.9445),c:Spirochaetes(0.8623),o:Spirochaetales(0.5044),f:Spirochaetaceae(0.3217),g:Spirochaeta(0.0237)
ascus_531	0.71315	0.5400517	d:Bacteria(1.0000),p:Firmicutes(0.6126),c:Clostridia(0.2851),o:Clostridiales(0.1324),f:Clostridiaceae_1(0.0208),g:Clostridium_sensu_stricto(0.0066)
ascus_1858	0.65165	0.5393882	d:Bacteria(1.0000),p:"Spirochaetes"(0.9263),c:Spirochaetes(0.8317),o:Spirochaetales(0.4636),f:Spirochaetaceae(0.2792),g:Spirochaeta(0.0237)

Numbered Embodiments of the Disclosure

[0461] Subject matter contemplated by the present disclosure is set out in the following numbered embodiments:

1. A shelf-stable ruminant supplement capable of increasing milk production or improving milk compositional characteristics in a ruminant, comprising:
 - a) a purified population of *Pichia* fungi comprising a fungi with an ITS nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 32; and
 - b) a shelf-stable carrier suitable for ruminant administration,

wherein the purified population of *Pichia* fungi of a) is present in the supplement in an amount effective to increase milk production or improve milk compositional characteristics in a ruminant administered the supplement, as compared to a ruminant not administered the supplement.
2. The shelf-stable ruminant supplement according to claim 1, wherein the purified population of *Pichia* fungi comprises a fungi with an ITS nucleic acid sequence that is at least about 99% identical to SEQ ID NO: 32.

3. The shelf-stable ruminant supplement according to claim 1, wherein the purified population of *Pichia* fungi comprises a fungi with an ITS nucleic acid sequence comprising SEQ ID NO: 32.
4. The shelf-stable ruminant supplement according to claim 1, wherein the purified population of *Pichia* fungi comprises a fungi as deposited at NRRL Y-67249.
5. The shelf-stable ruminant supplement according to claim 1, further comprising:
 - i. a purified population of bacteria that comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103, and/or
 - ii. a purified population of fungi that comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31, 33-60 and 2104-2107.
6. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria with a 16S nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
7. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of fungi comprises a fungi with an ITS nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31, 33-60 and 2104-2107.
8. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria with a 16S nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
9. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of fungi comprises a fungi with an ITS nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31, 33-60 and 2104-2107.

10. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 28.
11. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria with a 16S nucleic acid sequence that is at least about 99% identical to SEQ ID NO: 28.
12. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria with a 16S nucleic acid sequence comprising SEQ ID NO: 28.
13. The shelf-stable ruminant supplement according to claim 5, wherein the purified population of bacteria comprises a bacteria as deposited at NRRL B-67248.
14. The shelf-stable ruminant supplement according to claim 5, wherein both a purified population of bacteria i) and a purified population of fungi ii) are present in the supplement.
15. The shelf-stable ruminant supplement according to claim 1, formulated for administration to a cow.
16. The shelf-stable ruminant supplement according to claim 1, wherein the supplement is stable under ambient conditions for at least one week.
17. The shelf-stable ruminant supplement according to claim 1, formulated as an: encapsulation, tablet, capsule, pill, feed additive, food ingredient, food additive, food preparation, food supplement, consumable solution, consumable spray additive, consumable solid, consumable gel, injection, suppository, bolus, drench, or combinations thereof.
18. The shelf-stable ruminant supplement according to claim 1, wherein the purified population of *Pichia* fungi is present in the ruminant supplement at a concentration of at least 10^2 cells.
19. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits an increase in milk production that leads to a measured increase in milk yield.

20. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits an increase in milk production and improved milk compositional characteristics that leads to a measured increase in energy-corrected milk.
21. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits an improved milk compositional characteristic selected from the group consisting of: an increase in milk fat(s), an increase in milk protein(s), an increase of carbohydrates in milk, an increase of vitamins in milk, an increase of minerals in milk, or combinations thereof.
22. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits at least a 1% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
23. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits at least a 10% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
24. The shelf-stable ruminant supplement according to claim 1, wherein the ruminant administered the supplement exhibits at least a 20% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
25. A composition suitable for administration to a ruminant and capable of increasing milk production or improving milk compositional characteristics in a ruminant, comprising:
 - a) a purified population of fungi as deposited at NRRL Y-67249; and
 - b) a carrier suitable for ruminant administration,wherein the purified population of fungi of a) is present in the composition in an amount effective to increase milk production or improve milk compositional characteristics in a ruminant administered the composition, as compared to a ruminant not administered the composition.
26. A composition suitable for administration to a ruminant and capable of increasing milk production or improving milk compositional characteristics in a ruminant, comprising:
 - a) a purified population of fungi as deposited at NRRL Y-67249;
 - b) a purified population of bacteria as deposited at NRRL B-67248; and

c) a carrier suitable for ruminant administration,
wherein the purified population of fungi of a) and purified population of bacteria of b) are present in the composition in an amount effective to increase milk production or improve milk compositional characteristics in a ruminant administered the composition, as compared to a ruminant not administered the composition.

[0462] The aforementioned compositions have markedly different characteristics and/or properties not possessed by any individual bacteria or fungi as they naturally exist in the rumen. The markedly different characteristics and/or properties possessed by the aforementioned compositions can be structural, functional, or both. For example, the compositions possess the markedly different functional property of being able to increase milk production or improve milk compositional characteristics, when administered to a ruminant, as taught herein. Furthermore, the compositions possess the markedly different functional property of being shelf-stable.

Numbered Embodiments of the Disclosure

[0463] Subject matter contemplated by the present disclosure is set out in the following numbered embodiments:

1. A composition capable of modulating the rumen microbiome of a ruminant, comprising:
 - a) a purified population of *Pichia* fungi comprising a fungi with an ITS nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 32; and
 - b) a carrier suitable for ruminant administration,wherein the purified population of *Pichia* fungi of a) is present in the composition in an amount effective to cause a shift in the microbiome of the rumen of a ruminant administered the composition.
2. The composition according to claim 1, wherein a population of microbes present in the ruminant's rumen before administration of the composition increase in abundance after administration of the composition.
3. The composition according to claim 1, wherein a population of microbes present in the ruminant's rumen before administration of the composition decrease in abundance after administration of the composition.

4. The composition according to claim 1, wherein a first population of microbes present in the ruminant's rumen before administration of the composition increase in abundance after administration of the composition and wherein a second population of microbes present in the ruminant's rumen before administration of the composition decrease in abundance after administration of the composition.
5. The composition according to claim 1, wherein the rumen microbiome of the ruminant administered the composition is shifted to include an increased presence of fiber-degrading genera, volatile fatty acid-producing genera, structural carbohydrate-digesting genera, or combinations thereof.
6. The composition according to claim 1, wherein the rumen microbiome of the ruminant administered the composition is shifted according to the disclosure and data presented in **Example 6** and **Table 13** or **Table 14**.
7. A method for modulating the rumen microbiome of a ruminant, comprising administering to a ruminant an effective amount of a composition comprising:
 - a) a purified microbial population, said purified microbial population comprising:
 - i. a purified population of bacteria that comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103, and/or
 - ii. a purified population of fungi that comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107; and
 - b) a carrier suitable for ruminant administration,
wherein the ruminant administered the effective amount of the composition exhibits a shift in the microbiome of the rumen.
8. The method according to claim 7, wherein a population of microbes present in the ruminant's rumen before administration of the composition increase in abundance after administration of the composition.

9. The method according to claim 7, wherein a population of microbes present in the ruminant's rumen before administration of the composition decrease in abundance after administration of the composition.
10. The method according to claim 7, wherein a first population of microbes present in the ruminant's rumen before administration of the composition increase in abundance after administration of the composition and wherein a second population of microbes present in the ruminant's rumen before administration of the composition decrease in abundance after administration of the composition.
11. The method according to claim 7, wherein the rumen microbiome of the ruminant administered the composition is shifted to include an increased presence of fiber-degrading genera, volatile fatty acid-producing genera, structural carbohydrate-digesting genera, or combinations thereof.
12. The method according to claim 7, wherein the rumen microbiome of the ruminant administered the composition is shifted according to the disclosure and data presented in **Example 6** and **Table 13** or **Table 14**.

[0464] The aforementioned compositions have markedly different characteristics and/or properties not possessed by any individual bacteria or fungi as they naturally exist in the rumen. The markedly different characteristics and/or properties possessed by the aforementioned compositions can be structural, functional, or both. For example, the compositions possess the markedly different functional property of being able to modulate the rumen microbiome, when administered to a ruminant, as taught herein.

Numbered Embodiments of the Disclosure

[0465] Subject matter contemplated by the present disclosure is set out in the following numbered embodiments:

1. A method for increasing milk production or improving milk compositional characteristics in a ruminant, comprising:
 - a) administering to a ruminant an effective amount of a shelf-stable ruminant supplement comprising:

- i. a purified microbial population that comprises a bacteria with a 16S nucleic acid sequence, and/or a fungi with an ITS nucleic acid sequence, which is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-60 and 2045-2107, said bacteria having a MIC score of at least about 0.4 and said fungi having a MIC score of at least about 0.2; and
 - ii. a shelf-stable carrier suitable for ruminant administration,
 - wherein at least one of the bacteria or fungi are capable of converting a carbon source into a volatile fatty acid selected from the group consisting of: acetate, butyrate, propionate, or combinations thereof; and
 - wherein at least one of the bacteria or fungi are capable of degrading a soluble or insoluble carbon source; and
 - wherein the ruminant administered the effective amount of the shelf-stable ruminant supplement exhibits an increase in milk production or improved milk compositional characteristics, as compared to a ruminant not administered the ruminant supplement.
2. The method according to claim 1, wherein the ruminant is a cow.
3. The method according to claim 1, wherein the ruminant supplement is stable under ambient conditions for at least one week.
4. The method according to claim 1, wherein the ruminant supplement is formulated as an: encapsulation, tablet, capsule, pill, feed additive, food ingredient, food additive, food preparation, food supplement, consumable solution, consumable spray additive, consumable solid, consumable gel, injection, suppository, bolus, drench, or combinations thereof.
5. The method according to claim 1, wherein the ruminant supplement is encapsulated in a polymer or carbohydrate.
6. The method according to claim 1, wherein administering comprises: feeding the ruminant supplement to a ruminant.
7. The method according to claim 1, wherein administering comprises: injecting the ruminant supplement into a ruminant.

8. The method according to claim 1, wherein the purified microbial population is present in the ruminant supplement at a concentration of at least 10^2 cells.
9. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
10. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
11. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
12. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
13. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
14. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
15. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence and a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-60 and 2045-2107.
16. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 28.

17. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 32.
18. The method according to claim 1, wherein the purified microbial population comprises a *Pichia* fungi as deposited at NRRL Y-67249.
19. The method according to claim 1, wherein the purified microbial population only contains organisms that are members of a group selected from:
Intestinimonas, Anaerolinea, Pseudobutyrvibrio, Olsenella, Eubacterium, Catenisphaera, Faecalibacterium, Solobacterium, Blautia, Ralsonia, Coprococcus, Casaltella, Anaeroplasma, Acholeplasma, Aminiphilus, Mitsuokella, Alistipes, Sharpea, Oscillibacter, Neocallimastix, Odoribacter, Pichia, Tannerella, Candida, Hydrogenoanaerobacterium, Orpinomyces, Succinivibrio, Sugiyamaella, Ruminobacter, Lachnospira, Caecomyces, Sinimarinibacterium, Tremella, Hydrogenoanaerobacterium, Turicibacter, Clostridium_XIVa, Anaerolinea, Saccharofermentans, Butyricicoccus, Olsenella, Papillibacter, Clostridium_XIa, Pelotomaculum, Erysipelotrichaceae_incertae_sedis, Lachnospiracea_incertae_sedis, Solobacterium, Anaeroplasma, Ralstonia, Clostridium_sensu_stricto, Eubacterium, Rikenella, Lachnobacterium, Tannerella, Acholeplasma, Howardella, Selenomonas, Butyricimonas, Sharpea, Succinivibrio, Ruminobacter, Candida, Syntrophococcus, Pseudobutyrvibrio, Orpinomyces, Cyllamyces, Saccharomycetales, Phyllosticta, Ascomycota, and Piromyces.
20. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits an increase in milk production that leads to a measured increase in milk yield.
21. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits an increase in milk production and improved

milk compositional characteristics that leads to a measured increase in energy-corrected milk.

22. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits an improved milk compositional characteristic selected from the group consisting of: an increase in milk fat(s), an increase in milk protein(s), an increase of carbohydrates in milk, an increase of vitamins in milk, an increase of minerals in milk, or combinations thereof.
23. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits at least a 1% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
24. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits at least a 10% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
25. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement exhibits at least a 20% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
26. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement, further exhibits:

at least one improved phenotypic trait, selected from the group consisting of: an improved efficiency in feed utilization, improved digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an improved efficiency of nitrogen utilization, or combinations thereof.

27. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement, further exhibits: a shift in the microbiome of the rumen.
28. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement, further exhibits: a shift in the microbiome of the rumen,
wherein a population of microbes present in the rumen before administration of the ruminant supplement increase in abundance after administration of the ruminant supplement.
29. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement, further exhibits: a shift in the microbiome of the rumen,
wherein a population of microbes present in the rumen before administration of the ruminant supplement decrease in abundance after administration of the ruminant supplement.
30. The method according to claim 1, wherein the ruminant administered the effective amount of the ruminant supplement, further exhibits: a shift in the microbiome of the rumen,
wherein a first population of microbes present in the rumen before administration of the ruminant supplement increase in abundance after administration of the ruminant supplement, and
wherein a second population of microbes present in the rumen before administration of the ruminant supplement decrease in abundance after administration of the ruminant supplement.

[0466] The aforementioned compositions, utilized in the described methods, have markedly different characteristics and/or properties not possessed by any individual bacteria or fungi as they naturally exist in the rumen. The markedly different characteristics and/or properties possessed by the aforementioned compositions, utilized in the described methods, can be structural, functional, or both. For example, the compositions, utilized in the described methods, possess the markedly different functional property of being able to increase milk production or

improve milk compositional characteristics, when administered to a ruminant, as taught herein. Furthermore, the compositions, utilized in the described methods, possess the markedly different functional property of being shelf-stable.

[0467] In aspects, the aforementioned microbial species—that is, a purified microbial population that comprises a bacteria with a 16S nucleic acid sequence, and/or a fungi with an ITS nucleic acid sequence, which is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-60 and 2045-2107—are members of a Markush group, as the present disclosure illustrates that the members belong to a class of microbes characterized by various physical and functional attributes, which can include any of the following: a) the ability to convert a carbon source into a volatile fatty acid such as acetate, butyrate, propionate, or combinations thereof; b) the ability to degrade a soluble or insoluble carbon source; c) the ability to impart an increase in milk production or improved milk compositional characteristics to a ruminant administered the microbe; d) the ability to modulate the microbiome of the rumen of a ruminant administered the microbe; e) the ability to be formulated into a shelf-stable composition; and/or f) possessing a MIC score of at least about 0.4 if a bacteria and possessing a MIC score of at least about 0.2 if a fungi. Thus, the members of the Markush group possess at least one property in common, which can be responsible for their function in the claimed relationship.

Table 25. Budapest Treaty Deposits of the Disclosure

Depository	Accession Number	Date of Deposit
NRRL	NRRL Y-67249	April 27, 2016
NRRL	NRRL B-67248	April 27, 2016
NRRL	NRRL B-67347	December 15, 2016
NRRL	NRRL B-67348	December 15, 2016
NRRL	NRRL B-67349	December 15, 2016
Bigelow	PATENT201612001	December 12, 2016
Bigelow	PATENT201612002	December 12, 2016
Bigelow	PATENT201612003	December 12, 2016
Bigelow	PATENT201612004	December 12, 2016

Bigelow	PATENT201612005	December 12, 2016
Bigelow	PATENT201612006	December 12, 2016
Bigelow	PATENT201612007	December 15, 2016
Bigelow	PATENT201612008	December 15, 2016
Bigelow	PATENT201612009	December 15, 2016
Bigelow	PATENT201612010	December 15, 2016
Bigelow	PATENT201612011	December 15, 2016
Bigelow	PATENT201612012	December 15, 2016
Bigelow	PATENT201612013	December 19, 2016
Bigelow	PATENT201612014	December 28, 2016

INCORPORATION BY REFERENCE

[0468] All references, articles, publications, patents, patent publications, and patent applications cited herein are incorporated by reference in their entireties for all purposes.

[0469] However, mention of any reference, article, publication, patent, patent publication, and patent application cited herein is not, and should not be taken as, an acknowledgment or any form of suggestion that they constitute valid prior art or form part of the common general knowledge in any country in the world.

CLAIMS

What is claimed is:

1. A method for increasing milk production or improving milk compositional characteristics in a ruminant, comprising administering to a ruminant an effective amount of a composition comprising:
 - a) a purified microbial population, said purified microbial population comprising:
 - i. a purified population of bacteria that comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103, and/or
 - ii. a purified population of fungi that comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107; and
 - b) a carrier suitable for ruminant administration,
wherein the ruminant administered the effective amount of the composition exhibits an increase in milk production or improved milk compositional characteristics, as compared to a ruminant not administered the composition.
2. The method according to claim 1, wherein the ruminant is a cow.
3. The method according to claim 1, wherein the composition is stable under ambient conditions for at least one day.
4. The method according to claim 1, wherein the composition is formulated as an: encapsulation, tablet, capsule, pill, feed additive, food ingredient, food additive, food preparation, food supplement, consumable solution, consumable spray additive, consumable solid, consumable gel, injection, suppository, bolus, drench, or combinations thereof.
5. The method according to claim 1, wherein the composition is encapsulated in a polymer or carbohydrate.

6. The method according to claim 1, wherein administering comprises: feeding the composition to a ruminant.
7. The method according to claim 1, wherein administering comprises: injecting the composition into a ruminant.
8. The method according to claim 1, wherein the purified microbial population is present in the composition at a concentration of at least 10^2 cells.
9. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
10. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
11. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
12. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
13. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30 and 2045-2103.
14. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31-60 and 2104-2107.
15. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence and a fungi with an ITS nucleic acid sequence that is at least about 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-60 and 2045-2107.

16. The method according to claim 1, wherein the purified microbial population comprises a bacteria with a 16S nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 28.
17. The method according to claim 1, wherein the purified microbial population comprises a fungi with an ITS nucleic acid sequence that is at least about 97% identical to SEQ ID NO: 32.
18. The method according to claim 1, wherein the purified microbial population comprises a *Pichia* fungi as deposited at NRRL Y-67249.
19. The method according to claim 1, wherein the purified microbial population only contains organisms that are members of a group selected from:
Intestinimonas, Anaerolinea, Pseudobutyrvibrio, Olsenella, Eubacterium, Catenisphaera, Faecalibacterium, Solobacterium, Blautia, Ralsonia, Coprococcus, Casaltella, Anaeroplasma, Acholeplasma, Aminiphilus, Mitsuokella, Alistipes, Sharpea, Oscillibacter, Neocallimastix, Odoribacter, Pichia, Tannerella, Candida, Hydrogenoanaerobacterium, Orpinomyces, Succinivibrio, Sugiyamaella, Ruminobacter, Lachnospira, Caecomyces, Sinimarimbacterium, Tremella, Hydrogenoanaerobacterium, Turicibacter, Clostridium_XIVa, Anaerolinea, Saccharofermentans, Butyricicoccus, Olsenella, Papillibacter, Clostridium_XIa, Pelotomaculum, Erysipelotrichaceae_incertae_sedis, Lachnospiracea_incertae_sedis, Solobacterium, Anaeroplasma, Ralstonia, Clostridium_sensu_stricto, Eubacterium, Rikenella, Lachnobacterium, Tannerella, Acholeplasma, Howardella, Selenomonas, Butyricimonas, Sharpea, Succinivibrio, Ruminobacter, Candida, Syntrophococcus, Pseudobutyrvibrio, Orpinomyces, Cyllamyces, Saccharomycetales, Phyllosticta, Ascomycota, and Piromyces.
20. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits an increase in milk production that leads to a measured increase in milk yield.

21. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits an increase in milk production and improved milk compositional characteristics that leads to a measured increase in energy-corrected milk.
22. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits an improved milk compositional characteristic selected from the group consisting of: an increase in milk fat(s), an increase in milk protein(s), an increase of carbohydrates in milk, an increase of vitamins in milk, an increase of minerals in milk, or combinations thereof.
23. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits at least a 1% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
24. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits at least a 10% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
25. The method according to claim 1, wherein the ruminant administered the effective amount of the composition exhibits at least a 20% increase in the average production of: milk fat(s), milk protein(s), energy-corrected milk, or combinations thereof.
26. The method according to claim 1, wherein the ruminant administered the effective amount of the composition , further exhibits:
 - at least one improved phenotypic trait, selected from the group consisting of: an improved efficiency in feed utilization, improved digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an improved efficiency of nitrogen utilization, or combinations thereof.
27. The method according to claim 1, wherein the ruminant administered the effective amount of the composition, further exhibits: a shift in the microbiome of the rumen.
28. The method according to claim 1, wherein the ruminant administered the effective amount of the composition , further exhibits: a shift in the microbiome of the rumen,

- wherein a population of microbes present in the rumen before administration of the composition increase in abundance after administration of the composition .
29. The method according to claim 1, wherein the ruminant administered the effective amount of the composition , further exhibits: a shift in the microbiome of the rumen, wherein a population of microbes present in the rumen before administration of the composition decrease in abundance after administration of the composition .
30. The method according to claim 1, wherein the ruminant administered the effective amount of the composition , further exhibits: a shift in the microbiome of the rumen, wherein a first population of microbes present in the rumen before administration of the composition increase in abundance after administration of the composition , and wherein a second population of microbes present in the rumen before administration of the composition decrease in abundance after administration of the composition .
31. A microbial consortium comprising at least one microbial strain selected from Table 1 and/or Table 3.
32. A microbial consortium comprising at least one microbial strain, wherein the at least one microbial strain comprises a 16S rRNA sequence encoded by a sequence selected from SEQ ID NOs:1-30 and 2045-2103, or an ITS sequence selected from SEQ ID NOs:31-60 and 2104-2107.
33. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_24.
34. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb_7, Ascusb_1801, Ascusf_45, and Ascusf_24.
35. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb_7, Ascusb_268, Ascusf_45, and Ascusf_24.
36. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb_7, Ascusb_232, Ascusf_45, and Ascusf_24.
37. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb_7, Ascusb_32, Ascusf_45, and Ascusf_249.

38. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb__7, Ascusb__32, Ascusf__45, and Ascusf__353.
39. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb__7, Ascusb__32, Ascusf__45, and Ascusf__23.
40. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb__3138.
41. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusf__15.
42. The microbial consortium of claim 32, wherein the at least one microbial strain comprises Ascusb__3138 and Ascusf__15.
43. The microbial consortium of any one of claims 31-42, wherein said consortium is encapsulated.
44. A composition comprising:
 - (a) a microbial consortium of any one of claims 31-43, and
 - (b) an acceptable carrier.
45. The composition of claim 44, wherein the microbial consortium is encapsulated.
46. The composition of claim 44, wherein the encapsulated microbial consortium comprises a polymer selected from a saccharide polymer, agar polymer, agarose polymer, protein polymer, and lipid polymer.
47. The composition of claim 44, wherein the acceptable carrier is selected from the group consisting of: edible feed grade material, mineral mixture, water, glycol, molasses, and corn oil.
48. The composition of claim 44, wherein the at least one microbial strain forming the microbial consortium is present in the composition at 10^2 to 10^{15} cells per gram of said composition.
49. The composition of claim 44, wherein said composition is mixed with livestock feed.
50. A method of imparting at least one improved trait upon an animal, said method comprising administering the composition of claim 44 to said animal.
51. The method of claim 50, wherein said animal is a ruminant.
52. The method of claim 51, wherein said ruminant is a cow.

53. The method of claim 51, wherein the administration comprises injecting the composition into the rumen of the animal.
54. The method of claim 50, wherein said composition is administered at least once per month.
55. The method of claim 54, wherein said composition is administered at least once per week.
56. The method of claim 55, wherein said composition is administered at least once per day.
57. The method of claim 50, wherein the administration occurs each time the animal is fed.
58. The method of claim 50, wherein the administration is an anal administration.
59. The method of claim 58, wherein the anal administration comprises inserting a suppository, comprising the composition, into the rectum of the animal.
60. The method of claim 50, wherein the administration is an oral administration.
61. The method of claim 60, wherein the oral administration comprises administering the composition in combination with the animal's feed, water, medicine, or vaccination.
62. The method of claim 60, wherein the oral administration comprises applying the composition in a gel or viscous solution to a body part of the animal, wherein the animal ingests the composition by licking.
63. The method of claim 50, wherein the administration comprises spraying the composition onto the animal, and wherein the animal ingests the composition.
64. The method of claim 50, wherein said at least one improved trait is selected from the group consisting of: an increase of fat in milk, an increase of carbohydrates in milk, an increase of protein in milk, an increase of vitamins in milk, an increase of minerals in milk, an increase in milk volume, an improved efficiency in feed utilization and digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an increase in energy corrected milk (ECM) by weight and/or volume, and an improved efficiency of nitrogen utilization; wherein said increase or reduction is determined by comparing against an animal not having been administered said composition.
65. The method of claim 64, wherein said increase of fat in milk is an increase in triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and/or fatty acids.

66. The method of claim 64, wherein said increase of carbohydrates is an increase in oligosaccharides, lactose, glucose, and/or galactose.
67. The method of claim 64, wherein said increase in polysaccharide degradation is an increase in the degradation of lignin, cellulose and/or hemicellulose.
68. The method of claim 64, wherein said increase in fatty acid concentration is an increase in acetic acid, propionic acid, and/or butyric acid.
69. The composition of claim 44, wherein the at least one microbial strain exhibit an increased utility that is not exhibited when said strains occur alone, or when said strains are present at naturally occurring concentrations.
70. The composition of claim 44, wherein the at least one microbial strain exhibits a synergistic effect on imparting at least one improved trait in an animal.
71. A ruminant feed supplement capable of increasing a desirable phenotypic trait in a ruminant, the feed supplement comprising:
- (a) a microbial consortium of any one of claims 31-42 present at a concentration that does not occur naturally, and
 - (b) an acceptable carrier.
72. The ruminant feed supplement of claim 71, wherein the microbial consortium is encapsulated.
73. An isolated microbial strain selected from any one of the microbial strains in Table 1 and/or Table 3.
74. An isolated microbial strain selected from the group consisting of:
- (a) Ascusb_7 deposited as Bigelow Accession Deposit No. Patent201612011;
 - (b) Ascusb_32 deposited as Bigelow Accession Deposit No. Patent201612007;
 - (c) Ascusb_82 deposited as Bigelow Accession Deposit No. Patent201612012;
 - (d) Ascusb_119 deposited as Bigelow Accession Deposit No. Patent201612009;
 - (e) Ascusb_1801 deposited as Bigelow Accession Deposit No. Patent201612009;
 - (f) Ascusf_206 deposited as Bigelow Accession Deposit No. Patent201612003;
 - (g) Ascusf_23 deposited as Bigelow Accession Deposit No. Patent201612014;
 - (h) Ascusf_24 deposited as Bigelow Accession Deposit No. Patent201612004;
 - (i) Ascusf_45 deposited as Bigelow Accession Deposit No. Patent201612002;
 - (j) Ascusf_208 deposited as Bigelow Accession Deposit No. Patent201612003;

- (k) Ascusb__3138 deposited as NRRL Accession Deposit No. B-67248; and
 - (l) Ascusf__15 deposited as NRRL Accession Deposit No. Y-67249.
75. An isolated microbial strain comprising a polynucleotide sequence sharing at least 90% sequence identity with any one of SEQ ID NOs: 1-60 and 2045-2107.
76. A substantially pure culture of an isolated microbial strain according to any one of claims 73 to 75.
77. A method of modulating the microbiome of a ruminant, the method comprising administering the composition of claim 45.
78. The method of claim 77, wherein the administration of the composition imparts at least one improved trait upon the ruminant.
79. The method of claim 78, wherein the at least one improved trait is selected from the group consisting of: an increase of fat in milk, an increase of carbohydrates in milk, an increase of protein in milk, an increase of vitamins in milk, an increase of minerals in milk, an increase in milk volume, an improved efficiency in feed utilization and digestibility, an increase in polysaccharide and lignin degradation, an increase in fatty acid concentration in the rumen, pH balance in the rumen, a reduction in methane emissions, a reduction in manure production, improved dry matter intake, an increase in energy corrected milk (ECM) by weight and/or volume, and an improved efficiency of nitrogen utilization, wherein said increase or reduction is determined by comparing against an animal not having been administered said composition.
80. The method of claim 79, wherein said increase of fat in milk is an increase in triglycerides, triacylglycerides, diacylglycerides, monoacylglycerides, phospholipids, cholesterol, glycolipids, and/or fatty acids.
81. The method of claim 79, wherein said increase of carbohydrates is an increase in oligosaccharides, lactose, glucose, and/or galactose.
82. The method of claim 79, wherein said increase in polysaccharide degradation is an increase in the degradation of lignin, cellulose and/or hemicellulose.
83. The method of claim 79, wherein said increase in fatty acid concentration is an increase in acetic acid, propionic acid, and/or butyric acid.
84. The method of claim 78, wherein the modulation of the microbiome is an increase in the proportion of the at least one microbial strain of the microbiome, wherein the increase is

measured relative to a ruminant that did not have the at least one microbial strain administered.

85. The method of claim 78, wherein the modulation of the microbiome is a decrease in the proportion of the microbial strains present in the microbiome prior to the administration of the composition, wherein the decrease is measured relative to the microbiome of the ruminant prior to the administration of the composition.
86. A method of increasing resistance of cows to the colonization of pathogenic microbes, the method comprising the administration of the composition of claim 44, wherein the pathogen is unable to colonize the gastrointestinal tract of a cow.
87. The method of treating cows for the presence of at least one pathogenic microbe, the method comprising the administration of the composition of claim 44.
88. The method of claim 87, wherein after administration of the composition the relative abundance of the at least one pathogenic microbe decreases to less than 5% relative abundance in the gastrointestinal tract.
89. The method of claim 88, wherein the relative abundance of the at least one pathogenic microbe decreases to less than 1% relative abundance in the gastrointestinal tract.
90. The method of claim 88, wherein the at least one pathogenic microbe is undetectable in the gastrointestinal tract.
91. The composition of claim 44, wherein the microbial consortium comprises bacteria and/or fungi in spore form, vegetative cell form, and/or lysed form.

FIG. 1

1000

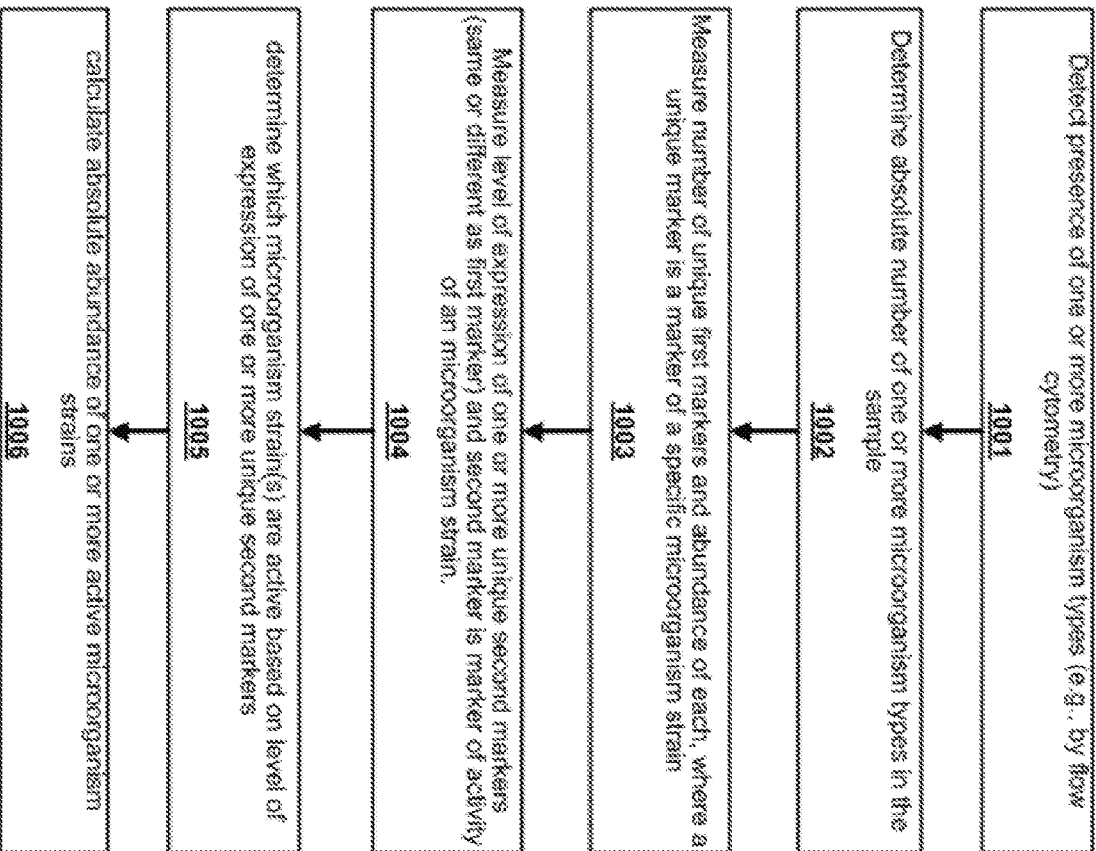


FIG. 2

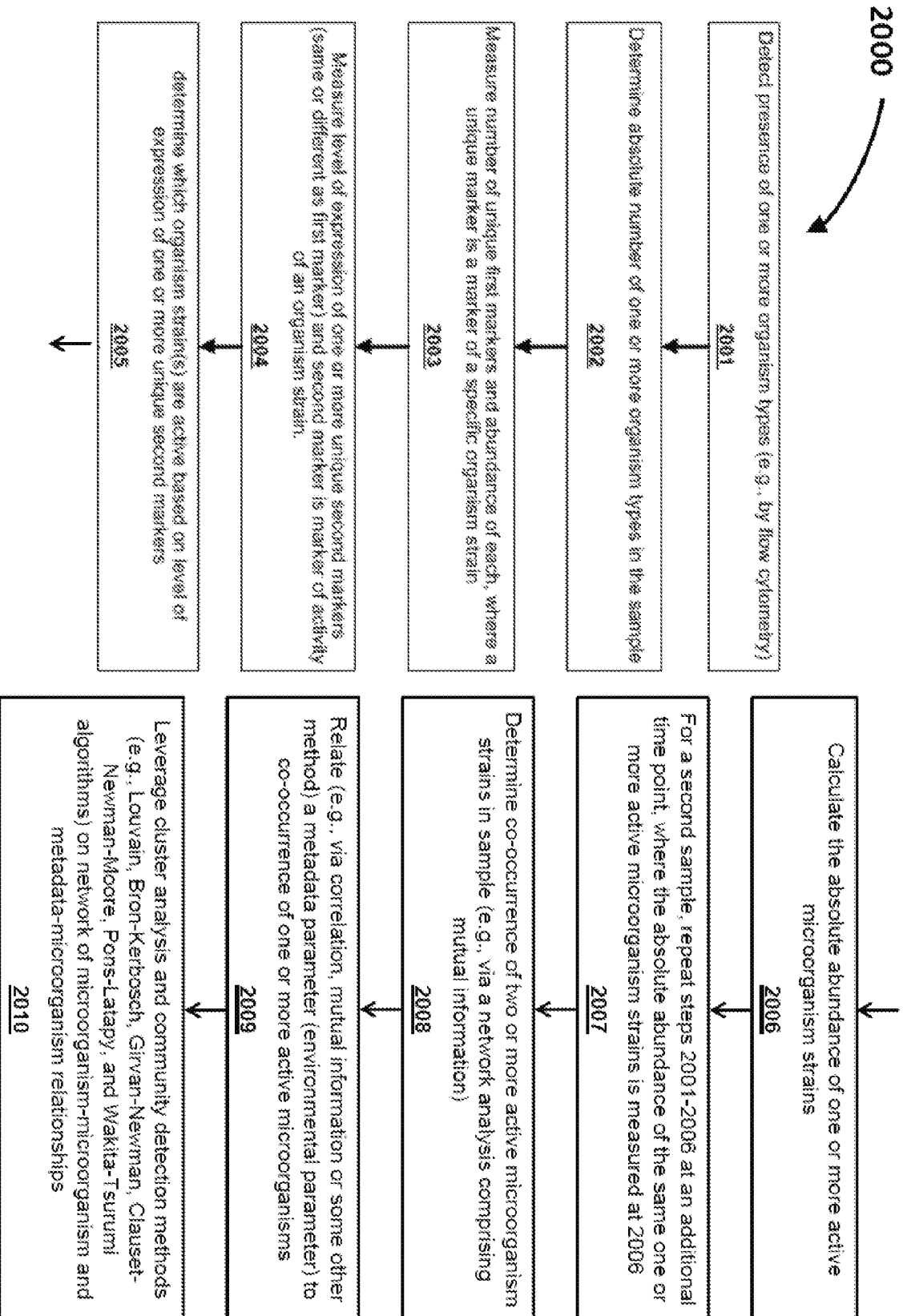
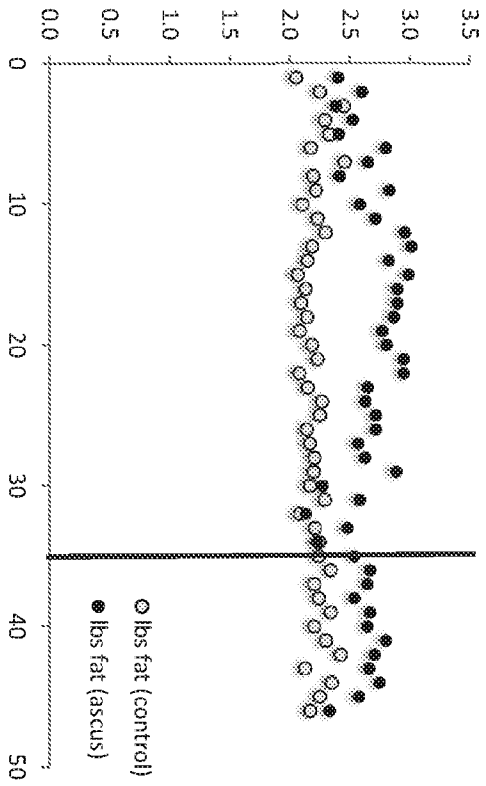


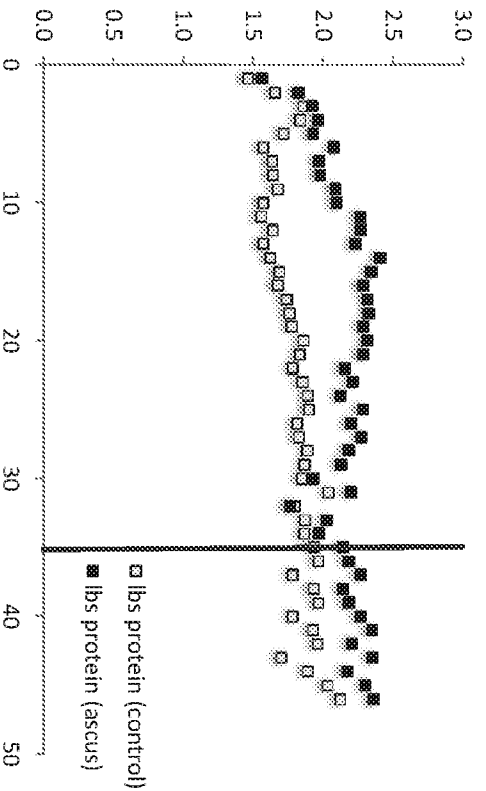
FIG. 3

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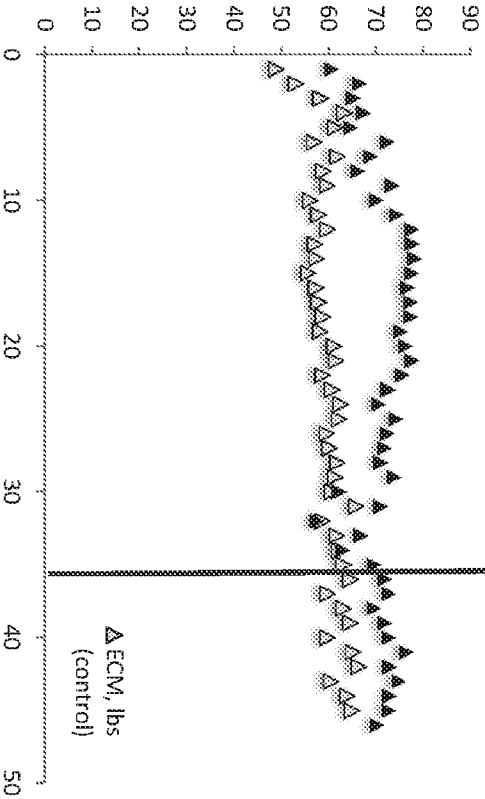
3A Average Milk Fat Produced over Time



3B Average Milk Protein Produced over Time



3C Average ECM over Time



Milk Fat: 20.9% increase
Milk Protein: 20.7% increase
ECM: 19.4% increase

FIG. 4

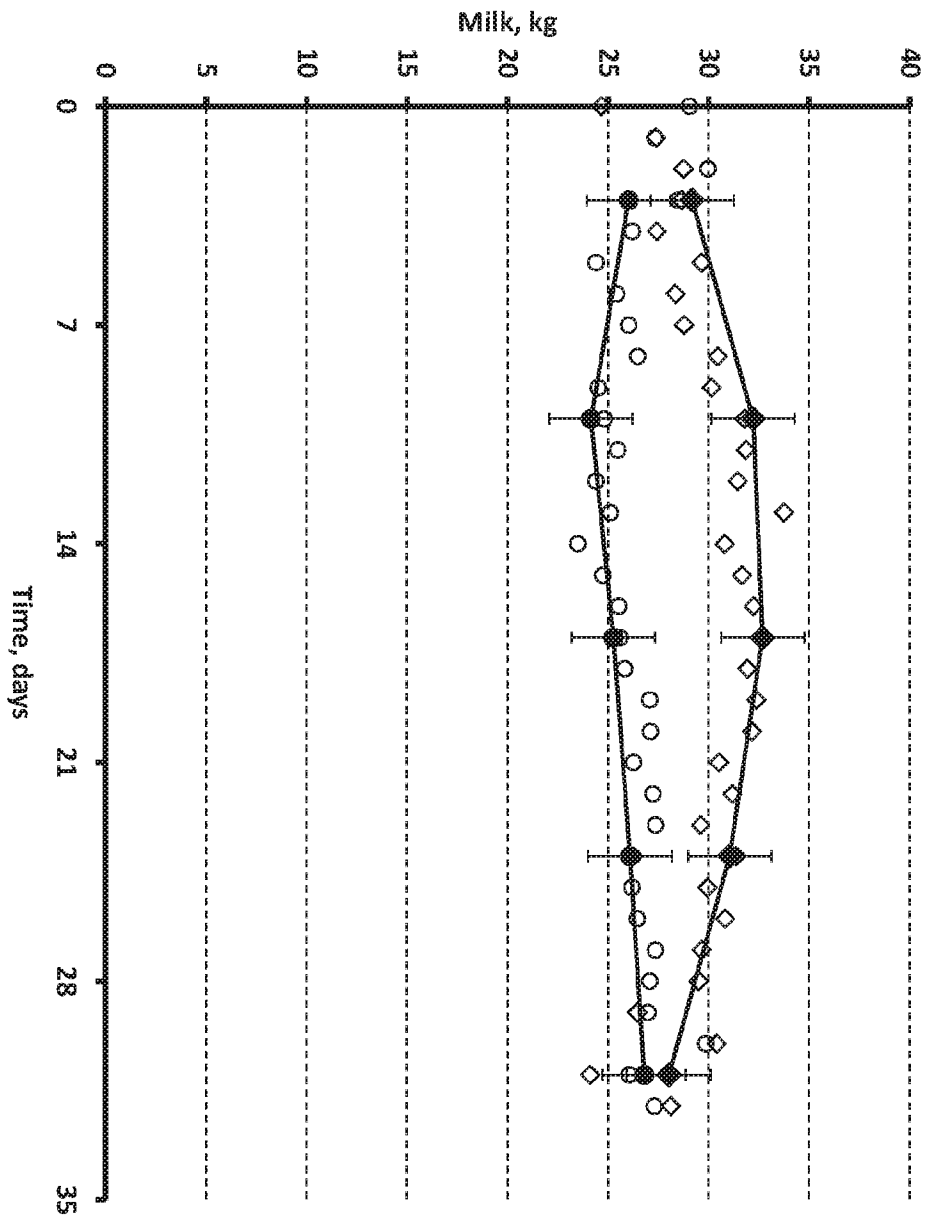
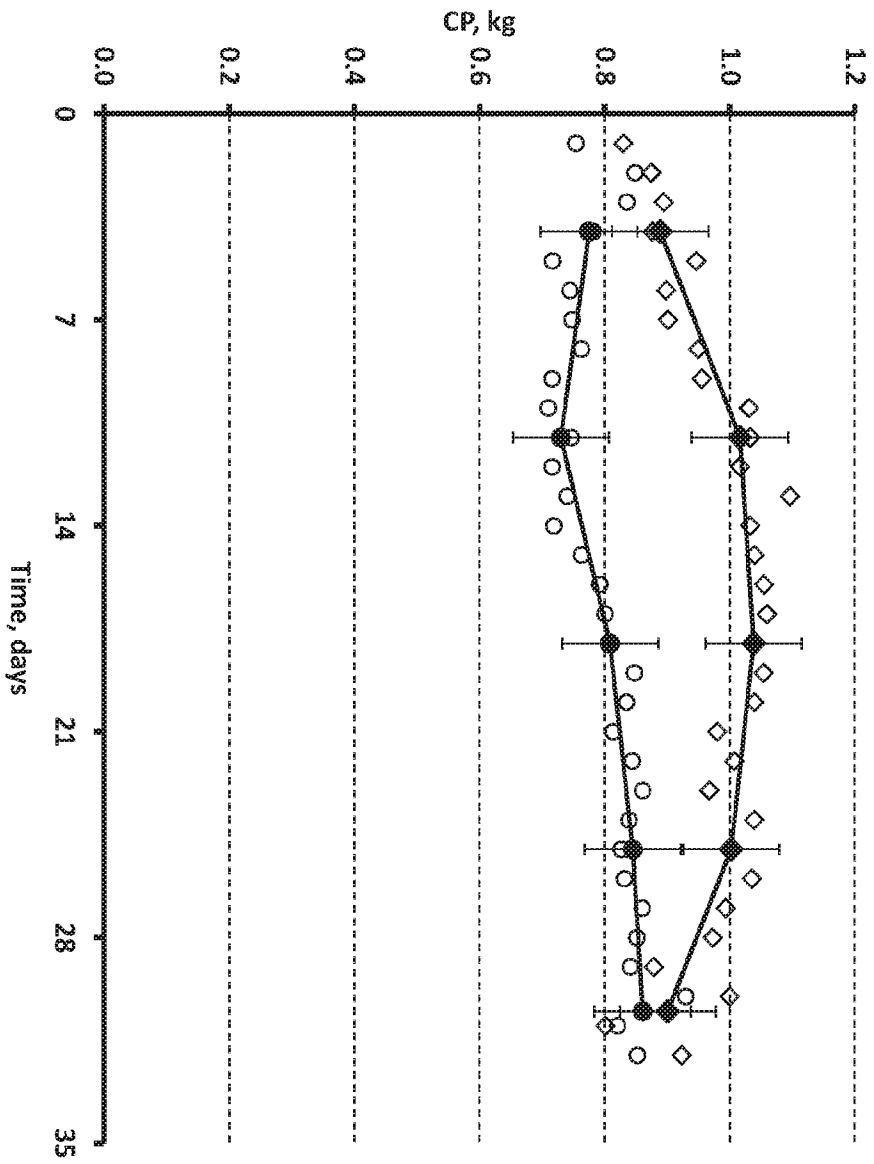
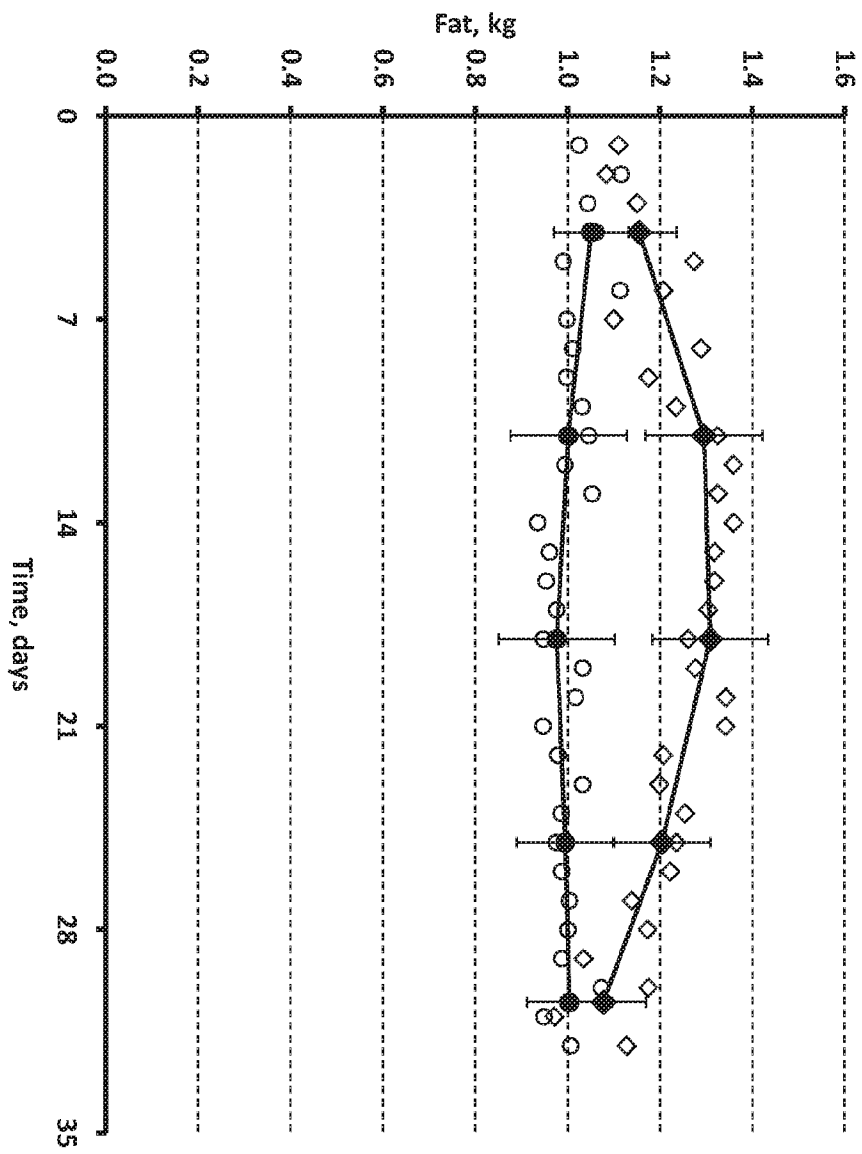


FIG. 5



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FIG. 6



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FIG. 7

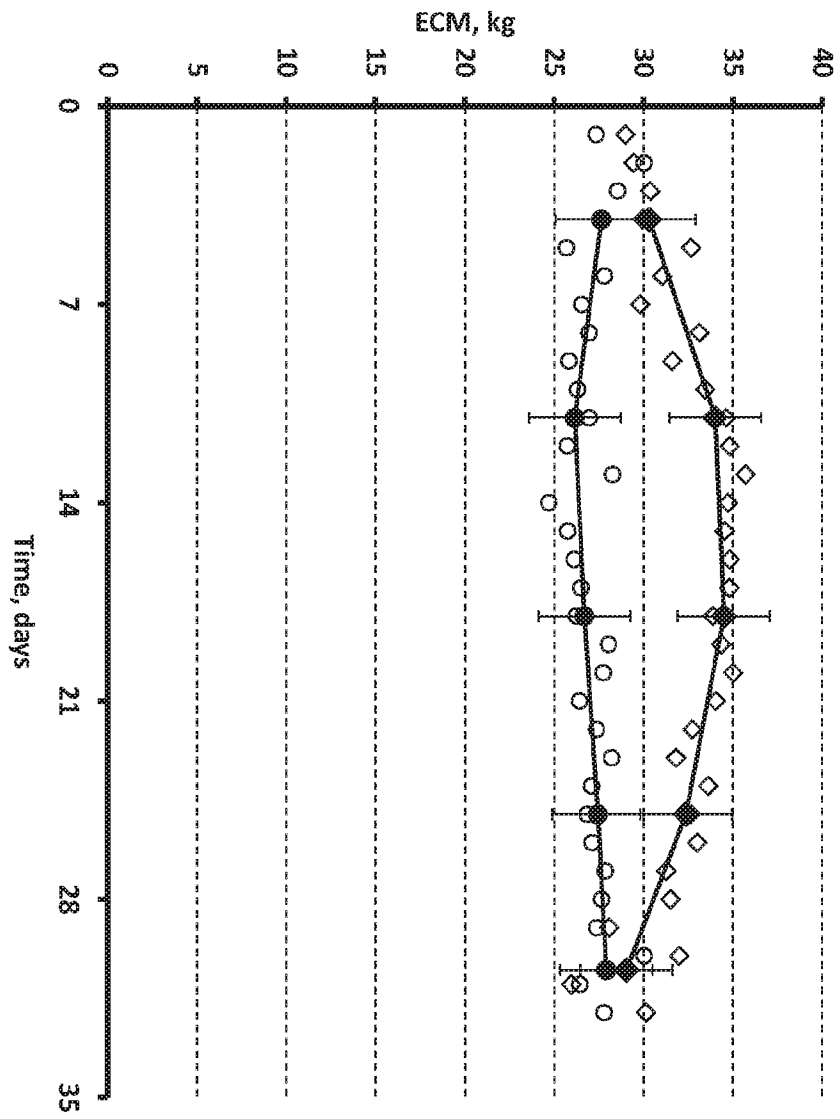
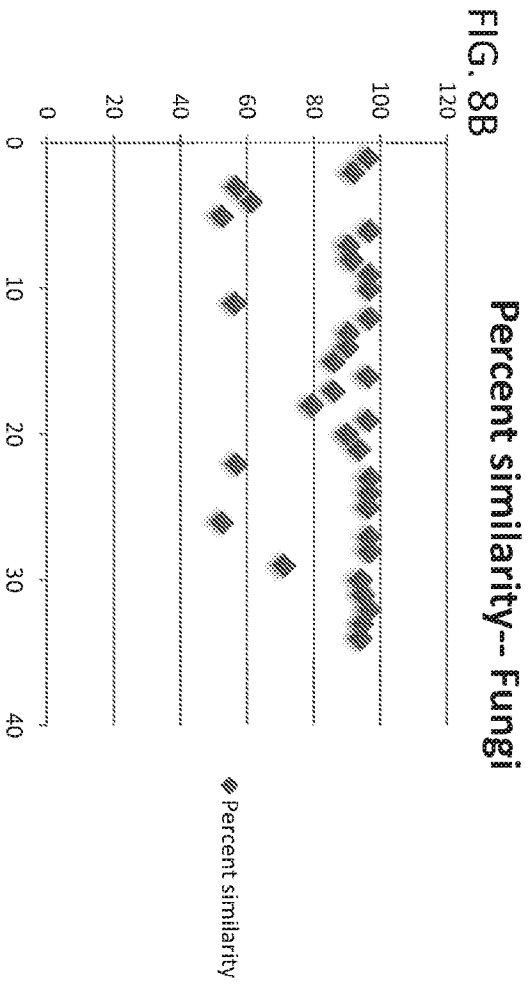
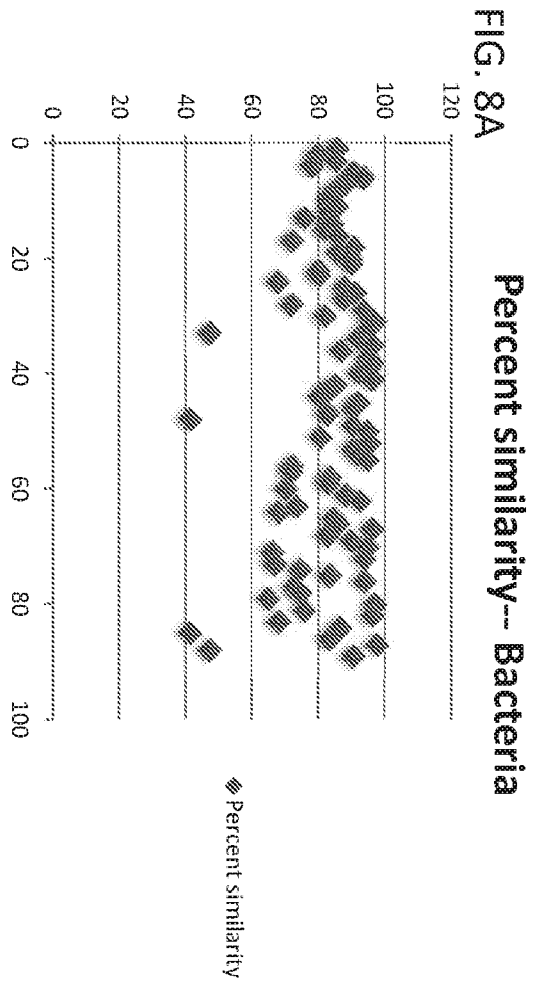
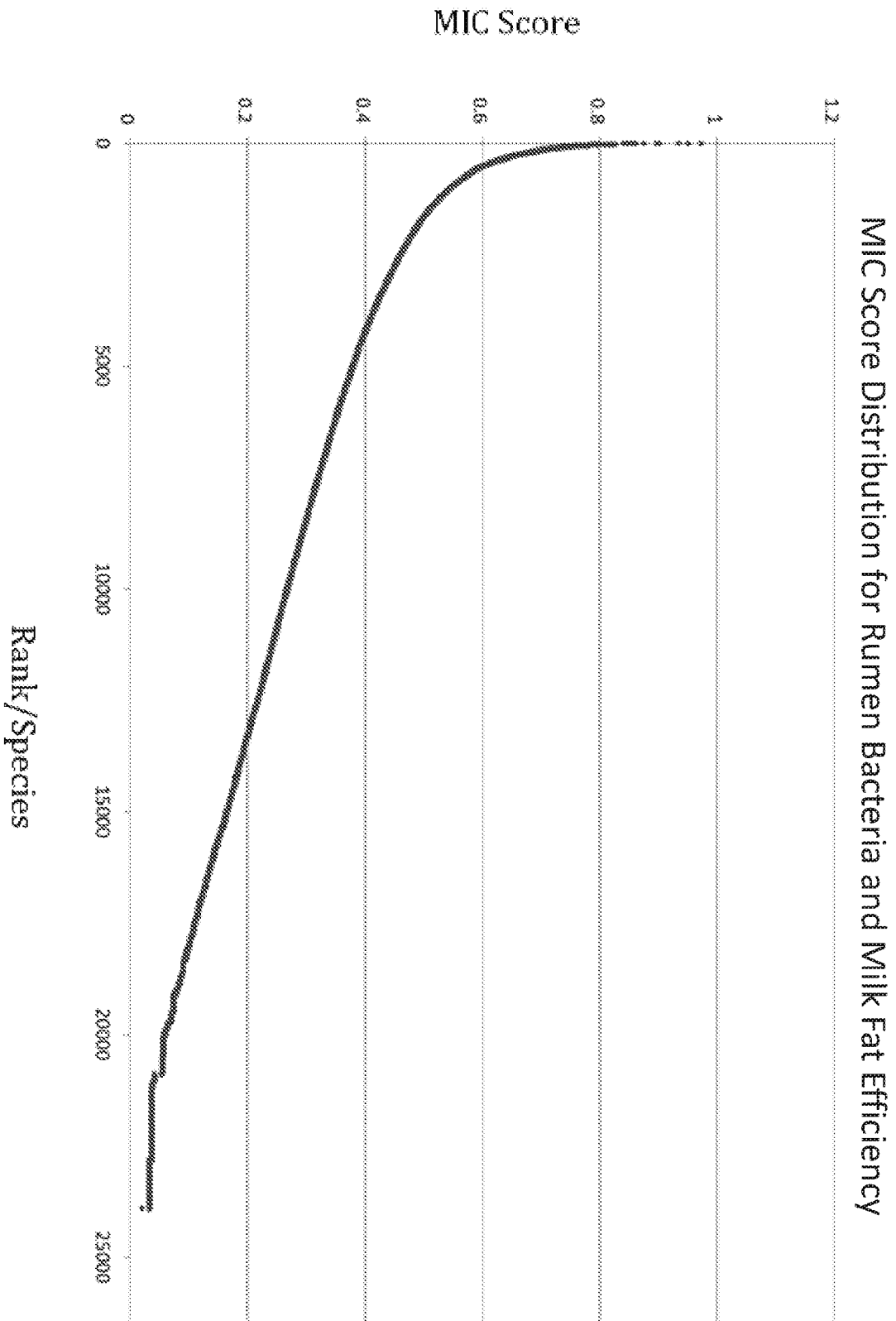


FIG. 8



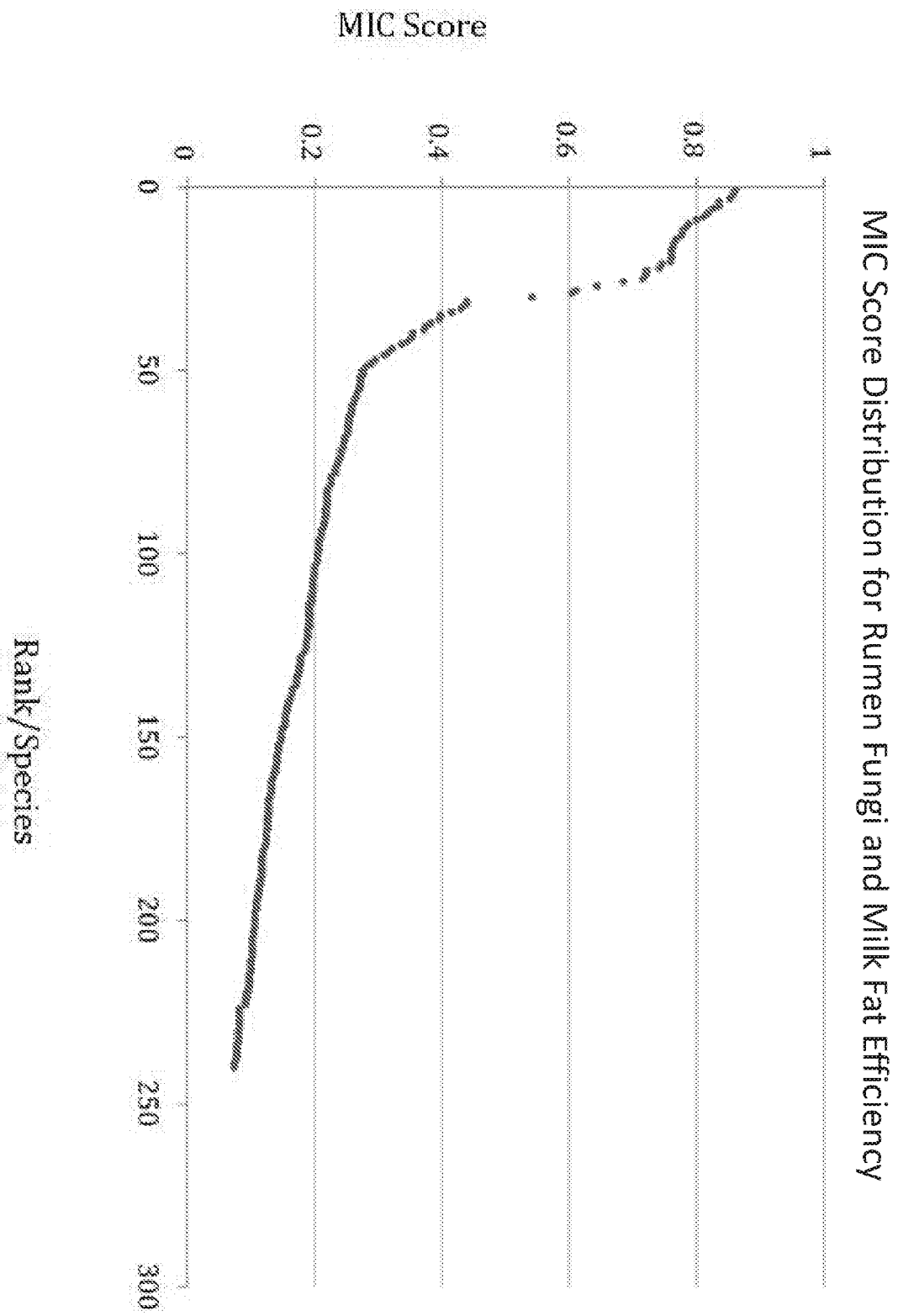
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FIG. 9



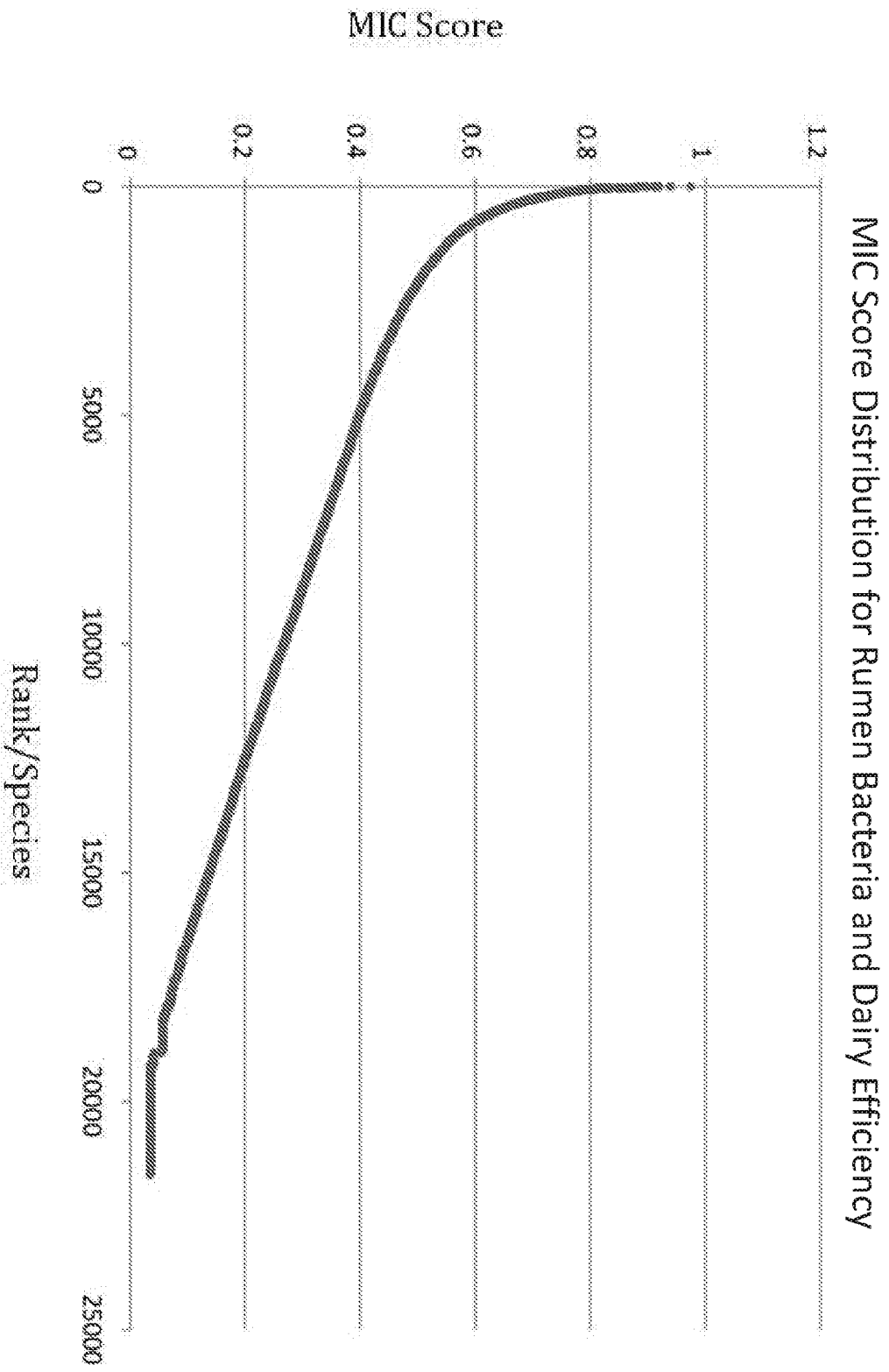
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FIG. 10



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FIG. 11



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FIG. 12

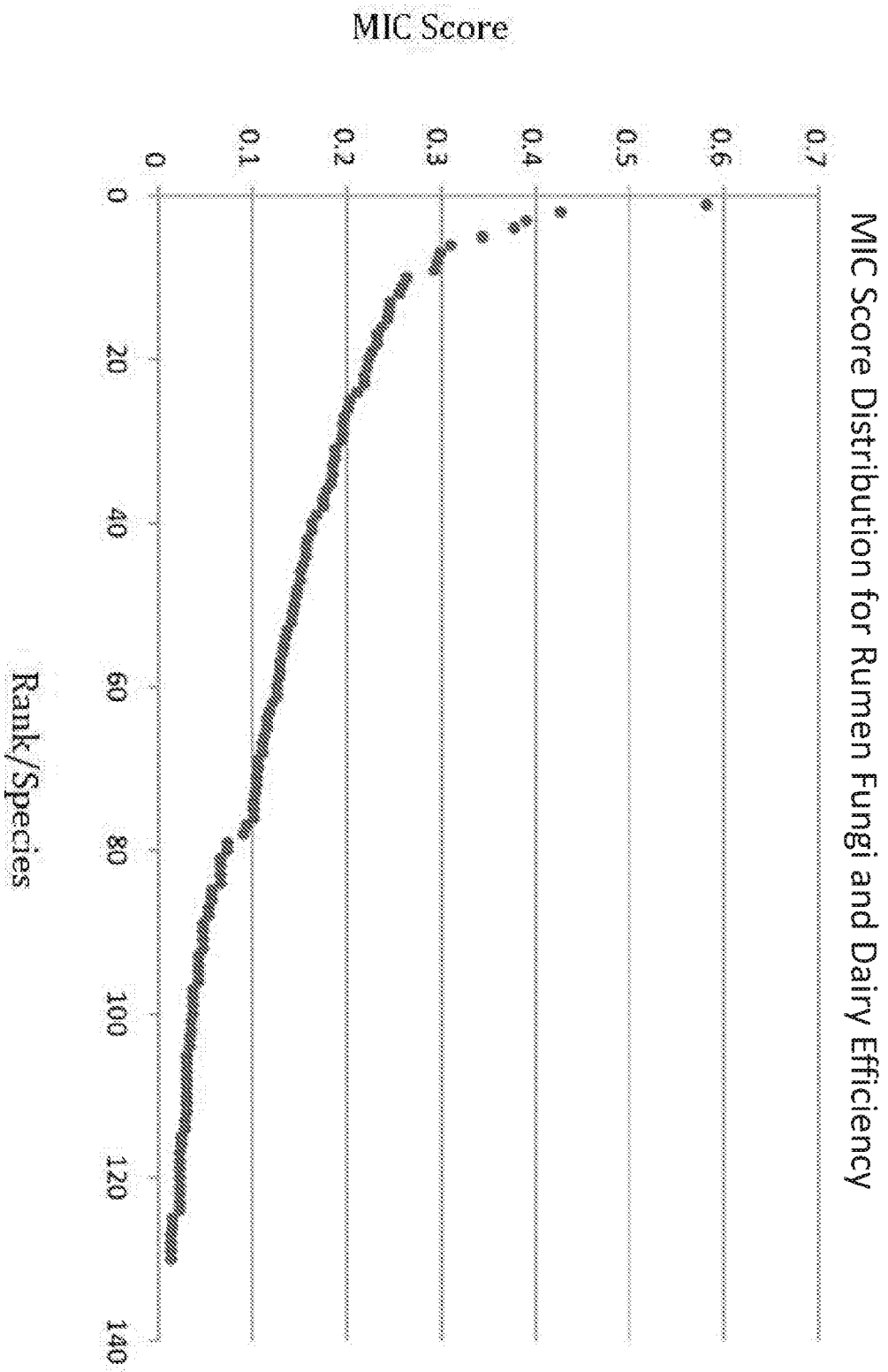


FIG. 13

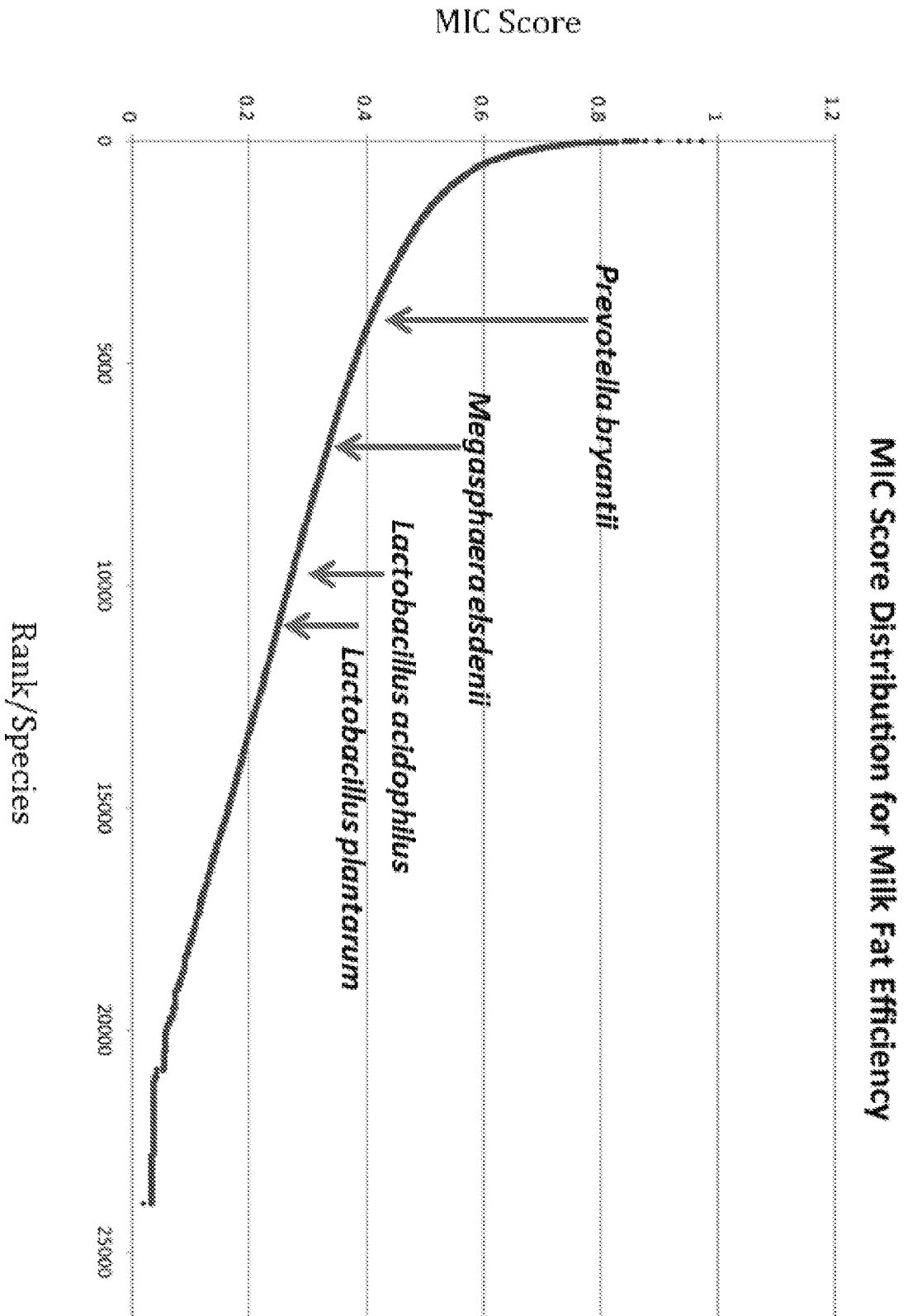
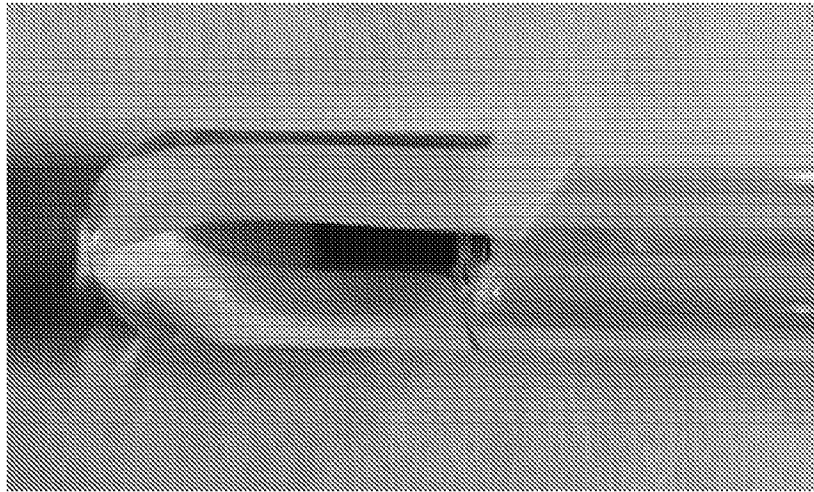
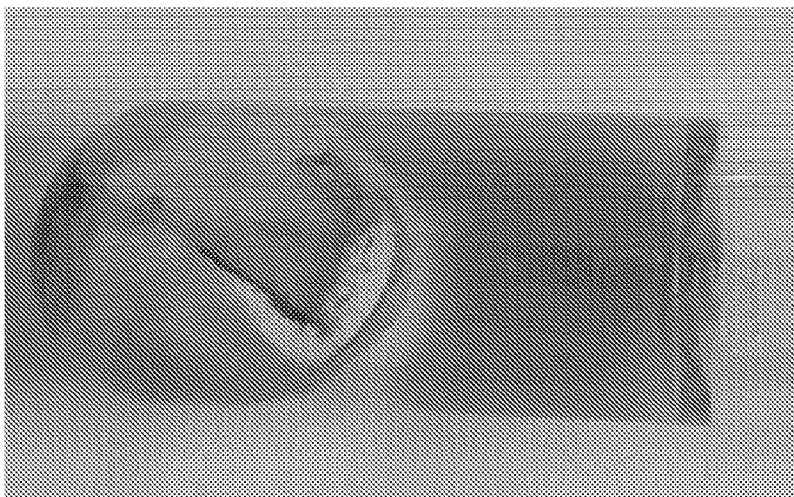
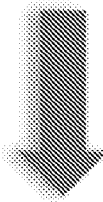


FIG. 14



Day 0



Day 7

FIG. 15

Efficacy Trial: Frequency of >200k cell/mL SCC

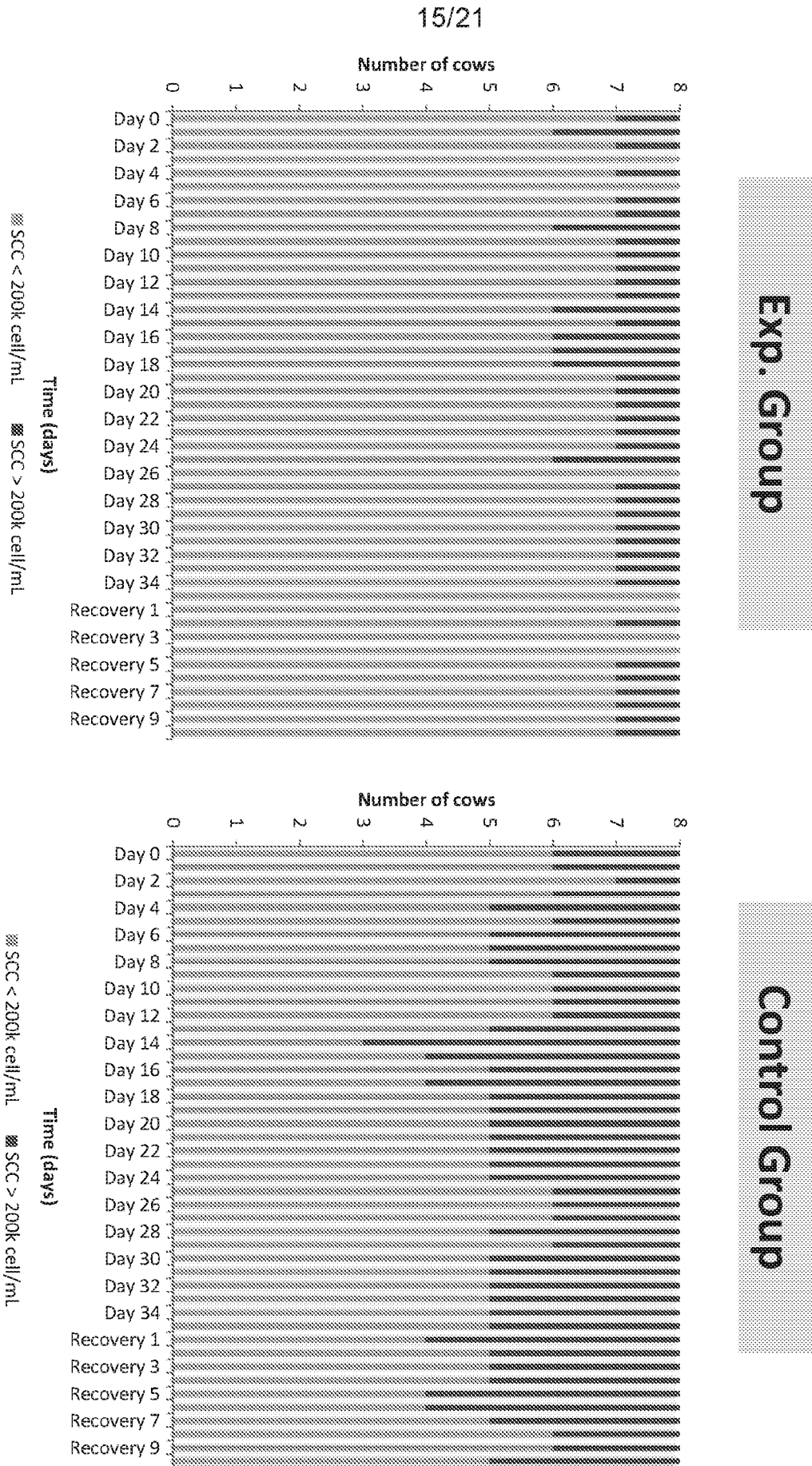


FIG. 16

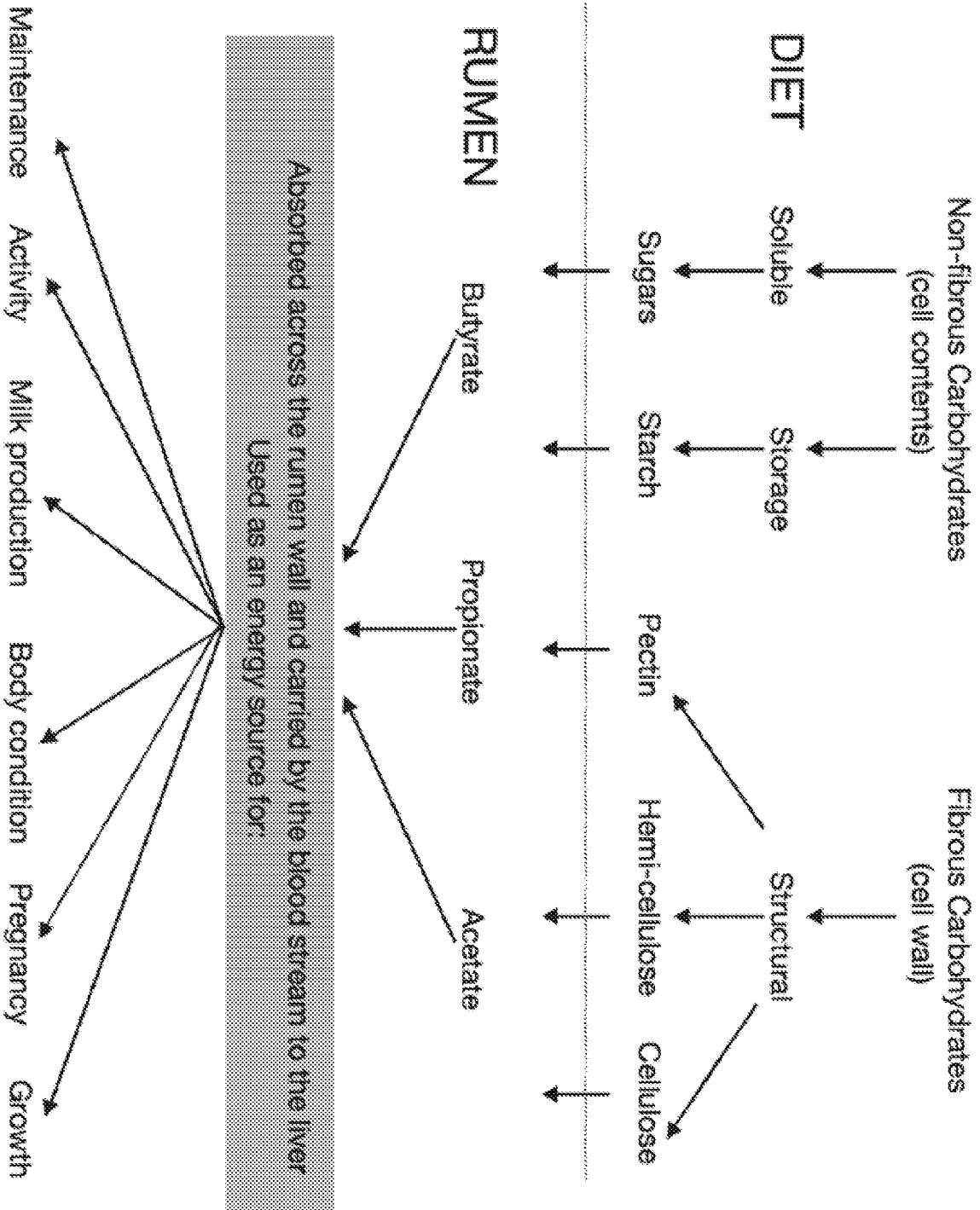


FIG. 17

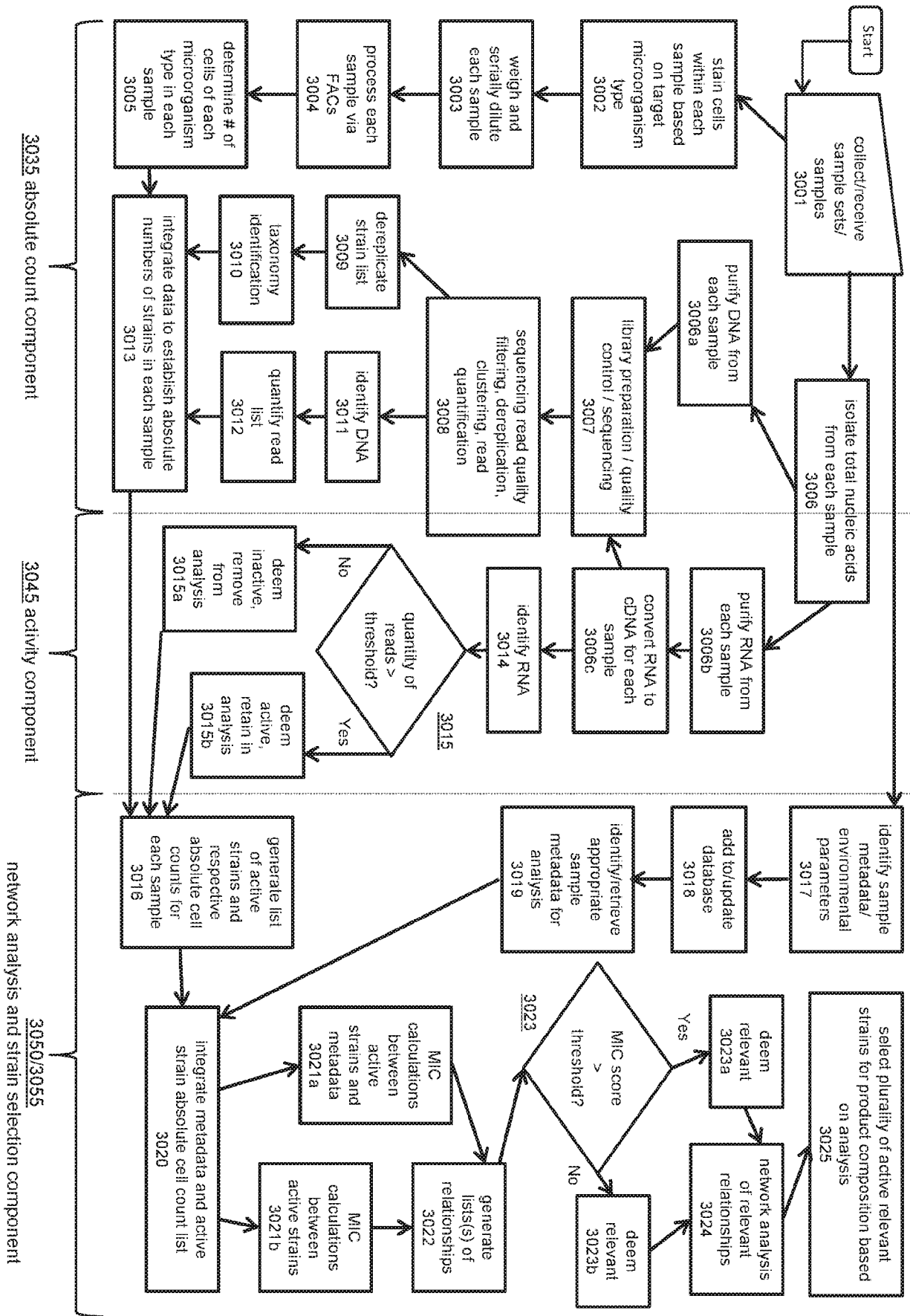


FIG. 18

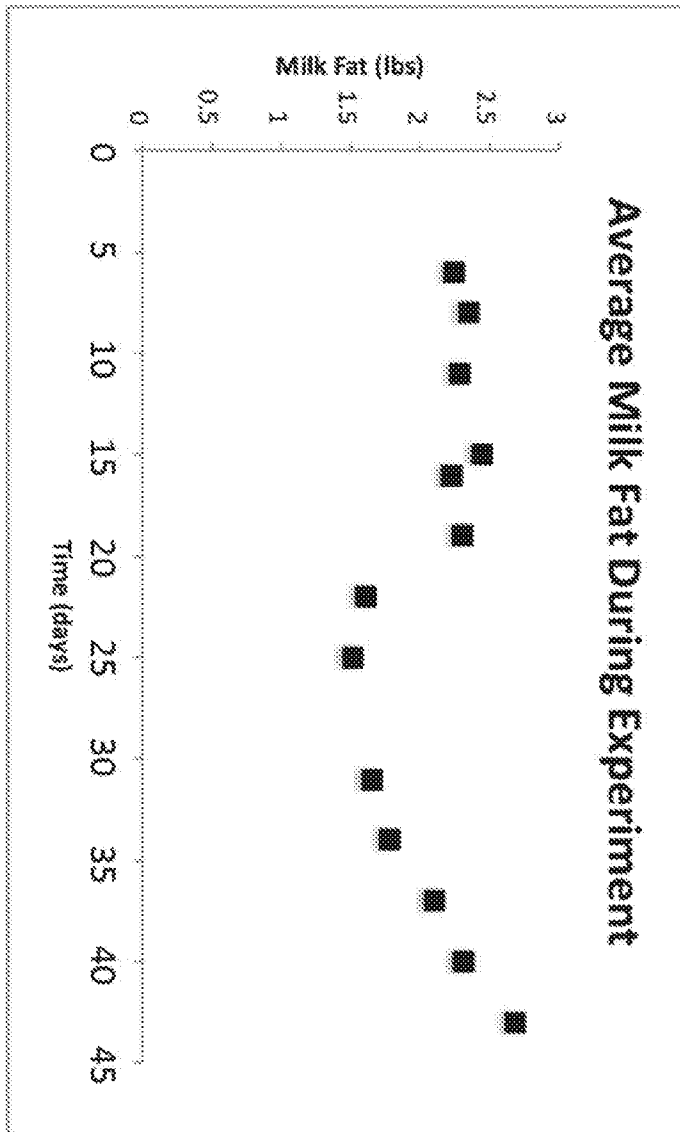


FIG. 19

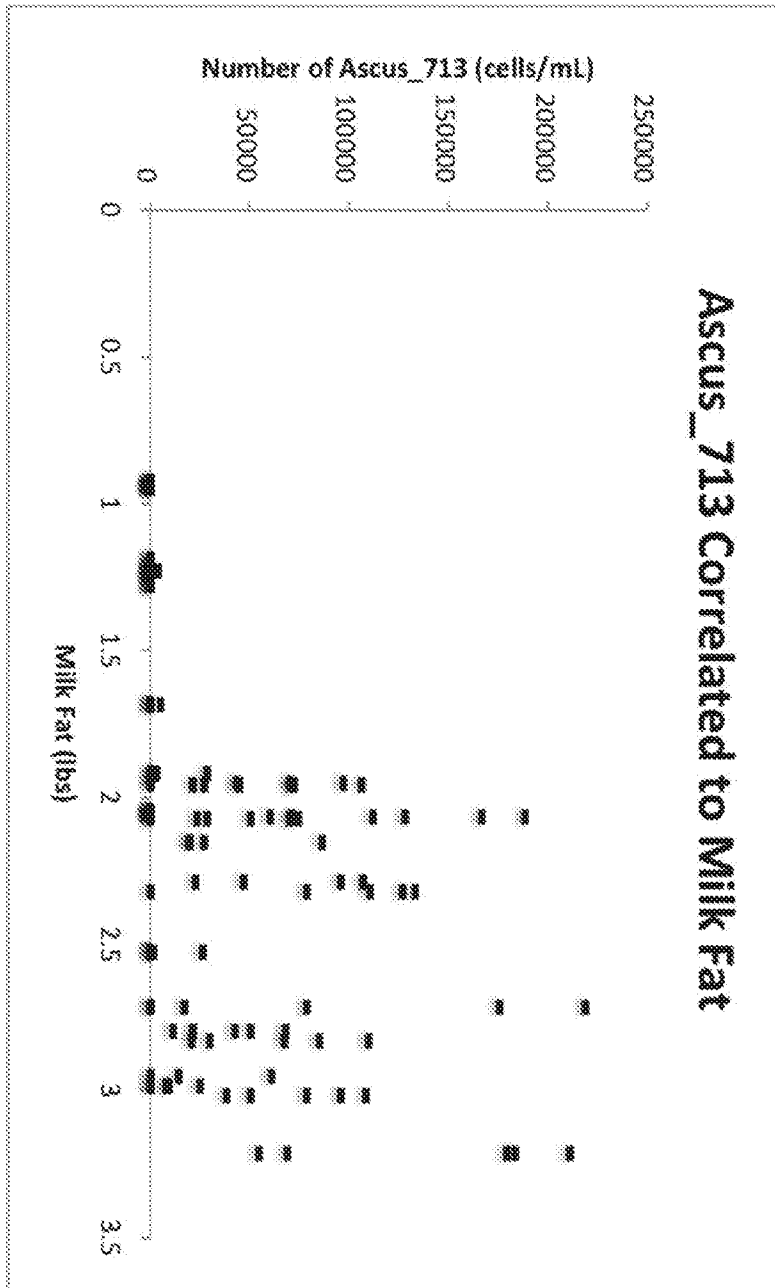


FIG. 20

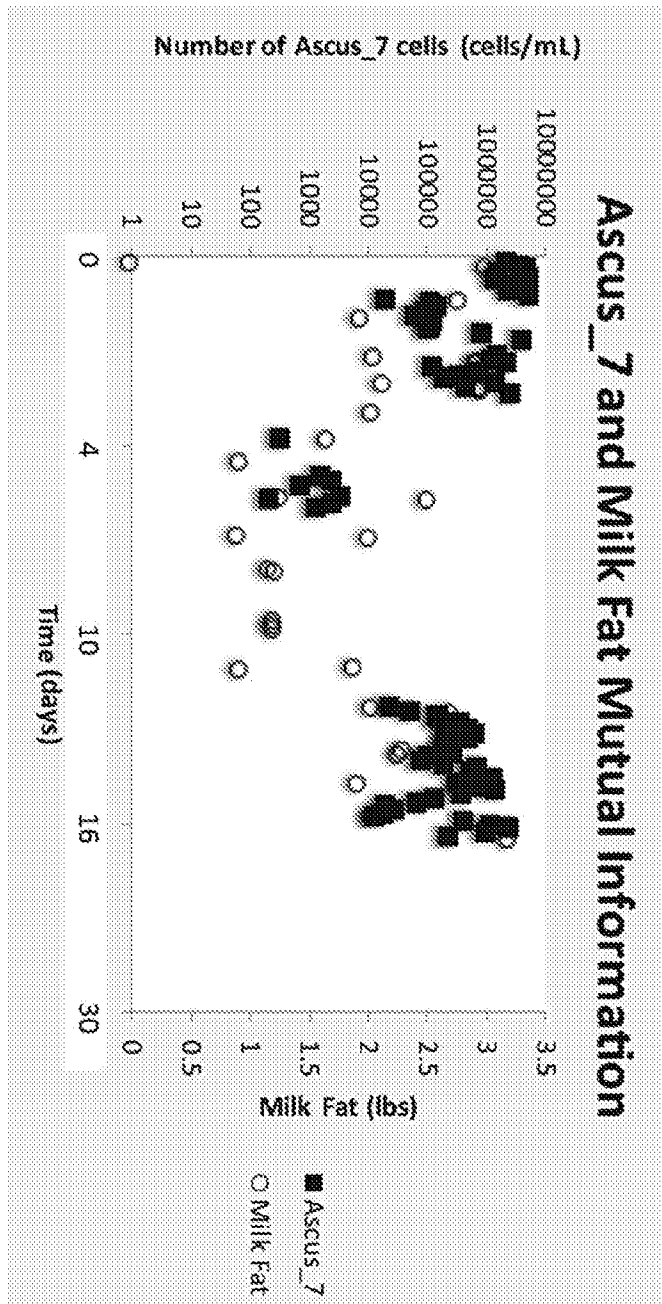
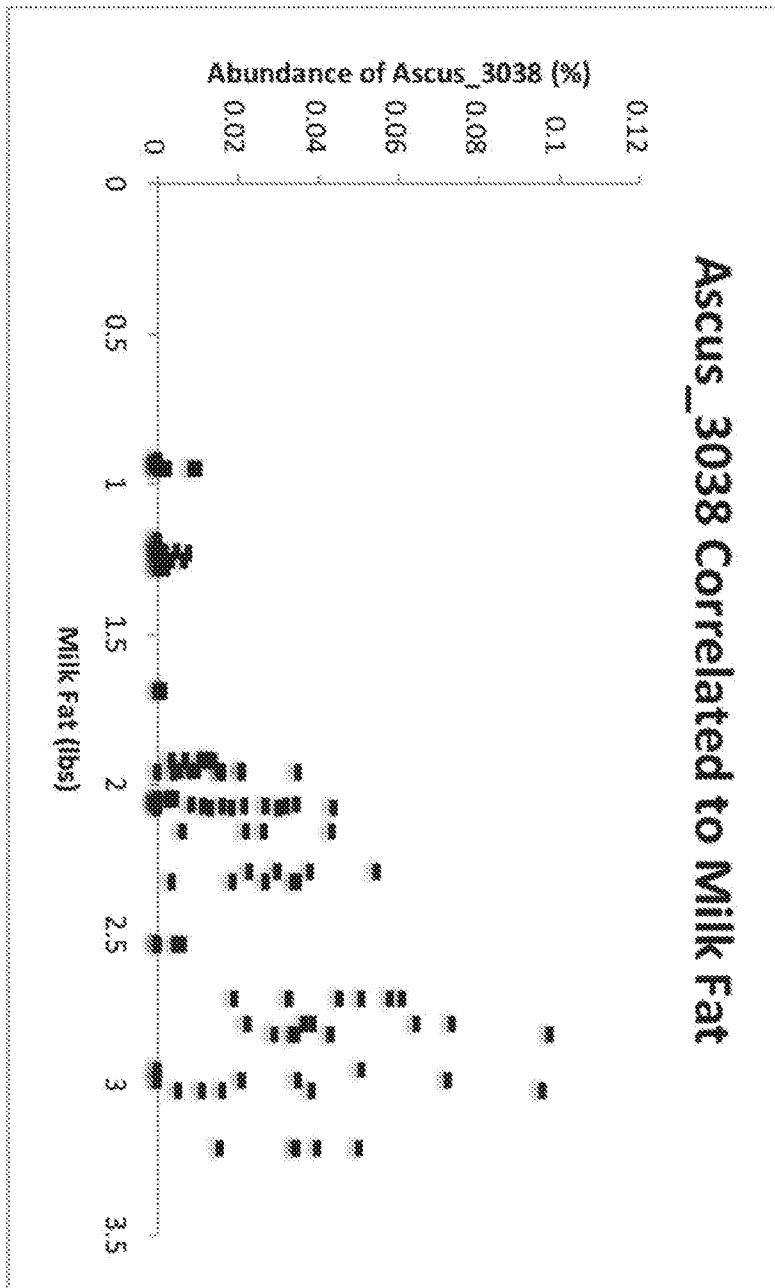


FIG. 21



ASBI_002_03W0_SeqList_ST25
SEQUENCE LISTING

<110> Ascus Biosciences, Inc.
Embree, Mallory
Picking, Luke
Gogul, Grant
Tarasova, Janna

<120> METHODS FOR IMPROVING MILK PRODUCTION BY ADMINISTRATION OF
MICROBIAL CONSORTIA

<130> ASBI-002/03W0 325233-2021

<160> 2107

<170> PatentIn version 3.5

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agtaacgcgt gagtaacctg cctttgagag ggaataact tcccgaagg gatgctaata 180
ccgcataaag catagaagtc gcatggcttt tatgccaag attta 225

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<211> 225
<212> DNA
<213> Unknown

<220>
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<212> DNA
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<220>
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agtaatgcgt gagcaacctg ccttgagtg gggacaaca gttgaaacg actgctaata 180

ASBI_002_03W0_SeqList_ST25

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 <212> DNA
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<220>
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 gtaacgcgtg gggaacctgc ctcatgccgg gggataccag agggaaactt ctgttaatac 180
 cgcataagcg cacggtgtgg catcacacag tgtgaaaaac tccgg 225

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 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

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 gagtaacacg tgagcaacct gcctttcaga gtggaataac agttggaac ggctgctaatac 180
 accgcataac gtcatagtac cgcatgatac cttgaccaa gattt 225

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 <212> DNA
 <213> Unknown

<220>
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 <212> DNA
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<220>
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 <212> DNA
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<220>
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 <212> DNA
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<220>
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 aacctgcctt tcagtgggga ataatacttc gaaagaggta ctaataccgc ataacgtatt 180
 gagatcgcat ggttttgata ccaaagattt atcgtgaga gatgg 225

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 <212> DNA
 <213> Unknown

<220>
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 aatgtgtgag caacctgcct ttcagagggg gacaacagtt ggaaacggct gctaataccg 180
 cataatgtat attgagggca tcctcgatat accaaaggag caatc 225

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 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

ASBI_002_03W0_SeqList_ST25

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tgcctctgag aggggaataa cgttctgaaa agaacgctaa taccgcatga cacatatttg 180
ccgcatgaca gatatgtcaa agattttatc gctcagagat ggact 225

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<212> DNA
<213> Unknown

<220>
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<400> 12
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taccgcatga taggaatacc aaagatttat cacttgaaga tgggc 225

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<212> DNA
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<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Saccharofermentans

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ggagttatga gaggtgcttg caccactttt aacttagcgg cggacgggtg agtaacacgt 120
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<210> 15
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ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

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ggagttatca atgaaaccta gtgatttgat aacttagtgg cggacgggtg agtaacgcgt      120
gggtaacctg cttatccgg ggggataaca gttagaaatg actgctaata ccgcataagc      180
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<211> 225

<212> DNA

<213> Unknown

<220>

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<400> 16

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cctgcctctc agtggggaat aatgtactga aaaggacact aataccgcat gacgtaccgg      180
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<210> 17

<211> 225

<212> DNA

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<220>

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ggagtttaga tgaagcttg cttttgacta aacttagtgg cggacgggtg agtaacgcgt      120
gggtaacctg cttataccg ggggacaaca gttgaaacg gctgctaata ccgcataagc      180
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<210> 18

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaeroplasma

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ggtagcaata ccatggcgaa cgggtgagta acacgtaggt aacctgtctt taagacgagg      120
ataaccggtg gaaacgacgg ataatactcg ataggtgatt ttagggcatc ctagaatcat      180
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ASBI_002_03W0_SeqList_ST25

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<220>
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 tgtactaata ccgcatgaga ccacaggatg acatcatcca ggggt 225

<210> 20
 <211> 225
 <212> DNA
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<220>
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 gcaatctgcc tgtagaggg ggataacagt gagaaatcac tgctaatacc gcatatgctg 180
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<210> 21
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<400> 21
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 <212> DNA
 <213> Unknown

<220>
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ASBI_002_03W0_SeqList_ST25

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<220>
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 aacctgcccg taacaggggg ataactcggg gaaacccgaa ctaatacccc gtattgacaa 180
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<220>
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<220>
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 aacatgcccg tagttggggg atagtcgatg gaaacgtcgc gtaatacccc gtaacaacag 180
 aggccgcatg acctttgttt aagagattta ttgtctacgg attgg 225

<210> 26
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 <212> DNA
 <213> Unknown

<220>
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<400> 26

ASBI_002_03W0_SeqList_ST25

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cgtgcccgta tgtgggggat agtcgatgga aacgtcgcgt aataccccgt aacacatttt 180
cccgcatggg aatatgttga aagatttatt gcatacggat cggct 225

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tactaatacc gcataagacc acagtgagac atctcacagg ggtca 225

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<212> DNA
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<220>
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<211> 225
<212> DNA
<213> Unknown

<220>
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cctgcctttc agagggggac aacagttgga aacgactgct aataccgcat aatgtgcgaa 180
ggggcatcc cttttgtacc aaaggagcaa tccgctgaaa gatgg 225

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ASBI_002_03W0_SeqList_ST25

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 gaagcatttt tcgattcttc ggaaaagagg aatgactgag tggcggacgg gtgagtaacg 120
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 agcgcacggg tacgcatgta tctgtgtgaa aaactctggt ggtat 225

<210> 31

<211> 225

<212> DNA

<213> Unknown

<220>

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 attccttttt acgggaaaat tttatccaat tttatattaa aattagaaaa aatttcaata 180
 atcaaaaaat ttaaagtga acaacttgta tcgttgtaaa aact 225

<210> 32

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS2 sequence of Candida xyllopsoci

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 tttttgttgt ctgcaacac tcgctctcgg ccgccaagcg tccctgaaaa aaagtctagt 120
 tcgctcggcc agcttcgctc cttttcaggc gagtcgcagc tccgacgctc tttacacgctc 180
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<210> 33

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS2 Sequence of Orpionomyces

<400> 33

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 aaagtttatt cttttttacg ggaaaatttt atccaatttt aaaaataaaa ccaattggc 180
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<210> 34

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 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Orpionomyces*

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 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttataaa taaatttcct ttaactgtac ggtatggaaa ctattaaaat ttctaaaaaa 120
 ctgaaatagc tttattcctt tttacgggaa aattttatcc aattttttaa aaaaattaaa 180
 atcgttccaa ccgacgattt caattaaaat ccatttaaag tgaaa 225

<210> 35
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Orpionomyces*

<400> 35
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tagtttataa attaaatttc cttttttcaa ggtcaattta ggattttatt tttaaaactg 120
 aaaagtttat tcctttttac gggaaaattt tatccaattt taataataaa accaaattgg 180
 ctttttaaaa aatcaattta aagtgaaca acttggtatc gttgt 225

<210> 36
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Candida apicola*

<400> 36
 tcctccgctt attgatatgc ttaagttcag cgggtagcct tgcttgattg gaggccaaaa 60
 gattgtaagt aactgcacag agttatctaa cgtgtgact tccattcttt tgactcctaa 120
 aaggagcaga acctcgact acaatgaagt agtatgagag aaagatcggc gctccaacaa 180
 gcatgccatt aggagaacct aatggcgcaa tgtgcgttca aagat 225

<210> 37
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Candida rugosa*

<400> 37
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gagaataaga 60
 tcaagagtct gtaacaagct taactgtttt agacaatttc gtttctggca gacgcctgcc 120
 ggcgtggtgc ccaacacctt gcgagagaga aatattgctc aaacaggcat gctgtgtgga 180

atgccacaca gcgcaatgtg cgttcaaaga ttcgatgatt cacga 225

<210> 38
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Neocallimastix

<400> 38
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaata aatttccttt taaaatcgga ccgtttgttg gtaataatta aaaaactgaa 120
 aagtttattc ctttttacgg gaaaatttta tccaattttt tattaaaacc ataaatggtc 180
 ttaaattaa atgaatttaa agtgaacaa cttgtttatc gttgt 225

<210> 39
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Orpionomyces

<400> 39
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttagtta aatttccttt taattaggca caattaagtt ttaactatta aaactgaaaa 120
 gtattcctt ttacgggaa aattttatcc aattttatta gataaaacca aaaattggct 180
 tttaaaaatc aatttaaagt gaaacaactt gtttatcggt gtaaa 225

<210> 40
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Orpionomyces

<400> 40
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttataaa taaatttcct ttaactgtac ggtatggaaa ctattaaaat ttctaaaaaa 120
 actgaaatag cttattcctt ttttacggga aaattttatc caatttttta aaaaaaatta 180
 aatcgttcc caaccgacga tttcaattaa aatccattta aagtg 225

<210> 41
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Neocallimastix

<400> 41
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

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tatttaaata aatttccttt taaaatcgga ccgagatttc tctaactaaa actgaaaagt 120
 ttattccttt ttacgggaaa attttatcca attttaatta ttaaaccat aaaggtctta 180
 attaaaatga atttaaagt aaacaacttg tttatcgttg taaaa 225

<210> 42
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Neocallimastix

<400> 42
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaaatt ataaatttc ttttaaaatc ggaccgtttg ttggtaataa ttaaaaaaac 120
 tgaaaagttt attccttttt acgggaaaat tttatccaat tttttttat taaaacccaa 180
 aatggtctta aattaaaatg aatttaaagt gaaacaactt gttta 225

<210> 43
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Ascomycota

<400> 43
 tcctccgctt attgatatgc ttaagttcag cgggtagtct tgcttgattt gaggccaaat 60
 ataaaaatag agtgtaatg gctgcataac tagaaccaag aatgcttagc actcgggcta 120
 gtcacactga ccaccttctg gctacattta gattcggctc tgagacttga atcaaatcgc 180
 attgctgcat aaaggtatgc ggcaactcaa caaacatgcc tcaa 225

<210> 44
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Piromyces

<400> 44
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 taattttac tttttcctt tttttatcaa gaaaaatcaa accaatttta atttttaaa 120
 attgtttagg ttattccttt ttacgggaaa attttatcca attttaaaaa atctttaaaa 180
 ttagctttta atgatttttt ttgatgacaa agaatttaaa gtgaa 225

<210> 45
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Orpionomyces

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<400> 45
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tagttttata attaaatttc cttttttcaa ggtcaattag gattttattt ttaaaactga 120
 aaagtttatt ctttttttac gggaaaattt tatccaattt taataataaa aaccaaatg 180
 gctttttaaa aatcaattt aaagtgaac aacttgttat cgttg 225

<210> 46
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Cylindrocladonia*

<400> 46
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 taatttgact tttccttttt atgtcaaaag aaatcgctaa ttttaattt ttttaaaatt 120
 gtttaggta ttccttttta caggaaaatt ttatccaatt ttaaaaaaaaa tcttttaaatt 180
 tagtttaattg attttttttg ataacaaga atttaaagtg aaaca 225

<210> 47
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Picrocladonia*

<400> 47
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 taatttgact tttccttttt ttaattcaaa aagaaatcaa accaatttca tttttcttaa 120
 aattgtttag gttattcctt ttttacggga aaattttatc caatttttaa aaaaatcttt 180
 aaaattagtt ttttaattgat tttttttgat aacaagaat ttaa 225

<210> 48
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Cylindrocladonia*

<400> 48
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 taatttttac ttttttttcc ttgtagatc ttttaaaaa atcaactaa ttcatttatt 120
 aaaattggtt aggttattcc tttttacggg aaaattttat ccaattttaa aaaaaaatca 180
 gtttttaaatt gattttttta taagacaaag aatttaaagt gaac 225

<210> 49
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> ITS2 sequence of *Piromyces*

<400> 49

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaatta aattttcctt tacttgggat tttttctaaa aaaaatacaa aattgtttag 120
 gttattcctt ttacgggaa aattttatcc aattttatat taaaattaga aaaaatttca 180
 ataacaaaaa atttaaagtg aaacaacttg tatcgttgta aaaca 225

<210> 50

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS2 sequence of *Piromyces*

<400> 50

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 taatTTTTac tttttcctt ttttatcaag aaaaatcaaa ccaatTTTaa ttttttaaaa 120
 ttgtttaagg ttattcctt ttacgggaaa attttatcca attttaaaaa atcttttaaaa 180
 ttagctttta atgatttttt tgatgacaaa gaatttaaag tgaaa 225

<210> 51

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS2 sequence of *Neocalimastix*

<400> 51

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaaaat aattttcctt ttaaaatcgg accgagattt ctctaactaa aactgaaaag 120
 ttattcctt ttacgggaa aattttatcc aattttaatt attaaaacca taaggtctta 180
 aattaaaatg aatttaaagt gaacaactt gtttatcggt ataaa 225

<210> 52

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS2 sequence of *Piromyces*

<400> 52

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 ttttttaaa taaattttcc ttttattttg aaaaattcta attaaaaatt aaaattgttt 120
 aggttattcc tttttacagg aaaattttat ccaattttat tttaaaatta gaaaaaaatt 180
 tcaaatttta aaaaaattta aagtgaaca acttgatcgt ttgta 225

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<210> 53
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Neocalimastix

<400> 53
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaaatt ataaatttcc ttttaaaatc ggaccgagat ttctctaact aaaactgaaa 120
 agtttattcc ttttttacgg gaaaatttta tccaatttta attattaataa ccatattggt 180
 ctaataataa atgaatttaa agtgaacaa cttatttatc gttgt 225

<210> 54
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Saccharomyces

<400> 54
 tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgatct gaggtcgagc 60
 tcatagtgtc cggagacccc aagcgtcctg ttctagttcg ctcgtggcct cgtttctttt 120
 cggcggggcc gtggccgggc cagctctgcg caactctcgt cttgcaagaa ggaaacgacg 180
 ctgagacagg catgcccgcc ggaatgccga cgggcgcaat gtgcg 225

<210> 55
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Piromyces

<400> 55
 tcctccgctt attgatatgc ttaagttcag cgggtactct cttatctgat ttgagatcaa 60
 gttatttaatt taaattttcc ttttgattt tttctaaaa aatacaaat tgtttaggtt 120
 attccttttt acgggaaat tttatccaat tttatattaa aattagaaaa aatttcaata 180
 acaaaaaatt taaagtgaat caacttgat cgttgtaaaa cactc 225

<210> 56
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of Orpionomyces

<400> 56
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tattataaa taaatttct ttaactgtac cggtatggaa attattaataa ttagaaaaaa 120

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tttcaataat caaaaaattt aaagtgaac aacttgatc gttgtaaac actcatcacc 180
 ataaaaaca aaaagtttt atgagaat atttactgata ctcaa 225

<210> 57
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Piromyces*

<400> 57
 tcctccgctt attgattgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaatta aattttcctt tacttgggat tttttctaaa aaaaatacaa aattgtttag 120
 gttattcctt tttacgggaa aattttatcc aattttatat taaaattaga aaaaatttca 180
 ataatcaaaa aatttaaagt aaaacaactt gtttatcggt gtaaa 225

<210> 58
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Phyllosticta capitalensis*

<400> 58
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gaggtcagag 60
 attaagaaat attggtgttg taagcagaca ctgaccactc gggtagcga acttattacg 120
 tcaagctaatt gggcatcca ctaacgcatt taaggcgagc cagatggcaa cgcccaagtc 180
 caagccgatt aggaaaccct aatggttgat atttcatgac actca 225

<210> 59
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Orpionomyces*

<400> 59
 tcctccgctt attgatatgc ttcagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttataaa taaatttctt ttaaactgta cgggatggaa actattaaaa tttctaaaaa 120
 actgaaatag tttattcctt tttacgggaa aattttatcc aattttttaa aaaaattaaa 180
 tcgtccaac cgacgatttc aattaaaatc catttaaagt gaaac 225

<210> 60
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS2 sequence of *Orpionomyces*

<400> 60

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tcctcgctta ttgatatgct tagttcagcg ggtactctta tctgatttga gatcaagtta 60
 ttataaata aatttccttt aactgtacgg tatggaaact aattaaaatt tctaaaaaac 120
 tgaaatagct tattcctttt ttacgggaaa attttatcca attttttaa aaaattaa 180
 tcgttcccaa cgcacgattt caattaaat ccatttaag tgaaa 225

<210> 61
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Corynebacterium

<400> 61
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaaaggccc agcttgctgg gtgctcaggt ggcgaacggg tgagtaacac gtgggtgatc 120
 tgcccctaac ttcgggataa gcttgggaaa ctgggtctaa taccgatag gacaatcggt 180
 tagtgcggt tgtggaaagt ttttctggtt agggatgagc ccgcg 225

<210> 62
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 62
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacatga agaaagcttg ctttcttga tgacgaccgg cgcacgggtg agtatcgcgt 120
 atccaacctg cccataagta gggaatagcc ttgcgaaagt aagattaatg ccctatggtt 180
 tcattaaag acatctgaga tgaataaag atttatcgct tatgg 225

<210> 63
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Comamonas

<400> 63
 agagtttgat cctggctcag attgaacgct ggcggcatgc cttacacatg caagtcgaac 60
 ggtaacgggt cttcgggat gccgacgagt ggcgaacggg tgagtaatac atcggaacgt 120
 gcctggtagt gggggataac tactcgaaag agtggctaat accgcatgag atctcaggat 180
 gaaagcaggg gaccctcggg cttgctgcta tcagagcggc cgatg 225

<210> 64
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 64
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcgagaga tgaacctag tgattctcaa gcgagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc ttacagaggg ggataacagt ctgaaaagac tgctaatacc gcataagcac 180
 acagtaccgc atggtacagg gtgaaaagat ttatcactgt aagat 225

<210> 65
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hippea
 <400> 65
 agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaattcttac agagtatcgt aagagtttagc ggcaaacggg tgagtaacac atgggaaacc 120
 tcccttagaa tggggaacat ctccgtgaaa acggagctaa taccgataa gaccacagtt 180
 tggcatcaaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 66
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax
 <400> 66
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctg taattgacgc ttcggtagat ttacaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ccatgcacag ggatagcctc gggaaaccgg gattaaacc 180
 tgatgatacc gcattgtcac atgacggagc ggtcaaagat ttatc 225

<210> 67
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 67
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatgitt agatgaagtt ttcggatgga ttcttttcat tttagtggcg gacgggtgag 120
 taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180
 gcataagcgc aactgacgc atgtcagagt gtgaaaaact ccggt 225

<210> 68

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Rummeliibacillus*

<400> 68
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gaatgacgag gagcttgctc ctctgattta gcggcggacg ggtgagtaac acgtgggtaa 120
 cctgccctgt agactgggat aacttcggga aaccggagct aataccgat aatcctttta 180
 acctcatggt ttttaagttga aaggcgcttc ggcgtcacta cagga 225

<210> 69
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 69
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatgitt tgatgaagat ttcggttga ttcatttcat tttagtggcg gacgggtgag 120
 taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180
 gcataagcgc aactgacgc atgtcagagt gtgaaaaact cgggt 225

<210> 70
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 70
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagcactct ggaagattcc ttcgggatga ttccttagtg acttagcggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac 180
 cgcataagca cacagcatgg catcatgcag tgtgaaaaac tccgg 225

<210> 71
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 71
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcagga cggtagcttg ctatcgttgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180

tccgaagagg gcatctgatt tggaataaag attgatcggg catgg 225

<210> 72
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 72
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctg caaatgaagt ttcgacagat ttacaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ccttgacag ggatagcctc gggaaaccgg gattaaacc 180
 tgataacacc gcactttcac atgtaagagc ggtcaaagat ttatc 225

<210> 73
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifactor

<400> 73
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacgatttc ccttcgggga gaaagttagt ggcggacggg tgagtaacgc gtgagtaacc 120
 tgccttgaa tgggggataa cacaggaaa cctgtgctaa taccgataa catcgcgttg 180
 gggcatccca atgcgatcaa agatttattg ttccaagatg ggctc 225

<210> 74
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 74
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt atctggcttg ccagatatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 gttcgacctc ccctttactc gggaacagcc catcgaaaga tggattaatg cccgatgttc 180
 tcctatatc gcatggtatt tgagcaaag atttatcggg agagg 225

<210> 75
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 75
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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ggagatactt gataagcttg cttaatgagt atcttagcgg cggatgggtg aggaacgcgt 120
 ggagaacctg cccttcacag ggggataaca gctggaaacg gctgttaata ccgcatatgc 180
 tcacagcgcc gcatggcgca gggaggaaag cgcacagtgg tgaag 225

<210> 76
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 76
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagatactt gataagcttg cttaatgagt atcttagcgg cggatgggtg aggaacgcgt 120
 ggagaacctg cccttcacag ggggataaca gctggaaacg gctgttaata ccgcatatgc 180
 tcacagcgcc gcatggcgca gggaggaaag cgcacagtgg tgaag 225

<210> 77
 <211> 184
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 77
 agagtttgat catggctcag gataaacgct ggcggcgtgc tttggacaat gggggaaacc 60
 ctgatccagc gacgccgct gaacgatgaa gtatttcggt atgtaaagtt ctatcagcag 120
 ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgagg 180
 taat 184

<210> 78
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pyramidobacter

<400> 78
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagttgcgc 60
 ggggatctga cgatgagact tcggtgatt tgtagatcc aagcggcggc cgggtgagta 120
 aagcacaagg acgtgtccga gcgaggggga caactgcggg aaaccgtagc taataccccg 180
 taagccgaga ggtgaaagca gcaatgcgag agcggagcga cttgt 225

<210> 79
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

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<400> 79
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagtgtgac gagtgcttgc acatgtcata cttagcggcg gatgggtgag gaacgcgtgg 120
 agaacctgcc tctcacaggg ggataacagt tggaaacgac tgtaataacc gcatatgctc 180
 acggtgccgc atggcacagg gaggaaagat ttcacggtg agaga 225

<210> 80
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 80
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcatgt tgtgtgcttg cacacaatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180
 tccgaagagg gcatctgatt tggataaag attgatcggg catgg 225

<210> 81
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 81
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcacttt ggaagcttgc ttttaaagt actgagtggc ggacgggtga gtaacgcgtg 120
 gataacctgc ctcacacagg gggataacag ttagaaatga ctgctaatac cgcatatgcc 180
 tacagtaccg catggtacag gagggaaaga tttatcgggtg tgaga 225

<210> 82
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 82
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcatcatga cgatagcttg ctattgttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccaagta gggcacagcc cggcgaaagt cggattaatt ccctatgtgg 180
 tcatgttatg gcatcagtat atgactaaag gctttggttg cttgg 225

<210> 83
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Roseburia

<400> 83

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
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 agtaacgcgt gggaaacctg ccatgtactg ggggataaca gttggaaacg actgctaata 180
 ccgcataaaa ctgtcggatc gcatgatctg atagccaaaa ctccg 225

<210> 84

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 84

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagaggttg cggagattca atcgatgatc tgcttcttct tagcggcgga tgggtgagta 120
 acacgtgggt aacctgccct gactgggga ataacagttg gaaacgactg ttaataccgc 180
 atatgcgcac ggggtcgcac gaccccgggc ggaaagattt atcgg 225

<210> 85

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 85

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagcactct ggaagattcc ttcgggatga ttccttagtg acttagcggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac 180
 cgcataagcg cacagcatgg catcatgcag tgcgaaaaac tccgg 225

<210> 86

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 86

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggagtactta gaagaagttt tcggaccaat tctttgtact tagtggcgga cgggtgagta 120
 acgcgtgggt aacctgccgt atgcaggggg acaacagccg gaaacagctg ctaataccgc 180
 ataagccggc agcaccgcat ggtgcagtcg gaaaagattt atcgg 225

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<210> 87
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Aci dothermus*

<400> 87
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaacgttc ccttcgggga actagtaaag tggcgaacgg gtgagtaaca cgtgggcaac 120
 ctaccctta cattgggata acgcagagaa atttgcgcta ataccggata cttcgttttg 180
 agggcatcct cgttacgaga aagcttttgc ggtaagggat gggcc 225

<210> 88
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Adl ercreutzia*

<400> 88
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaaccg gcttcggccg gaaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggatag cccccgaaa gggggattaa taccggatgc gccgggaggg 180
 ccgcatggcc ctcccgggaa agcctttgcg gcgcgggatg gggtc 225

<210> 89
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 89
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggagcatgg gagttgcttg caattcccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccttaactc cggaatagcc cgctgaaagg cggattaatg ccggatgcgg 180
 tccagcgagg gcatctgacc cggaccaaa gttttctccg gttaa 225

<210> 90
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiracea incertae sedis*

<400> 90
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtaagga caccggatga agattcgtca gattccaccg tccttactta gtggcggacg 120

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ggtgagtaac gcgtgggcaa cctgccctgt acaggggaat agcagctgga aacggctggt 180
 aaaaccgcat atgcgcgcag taccgcatgg tacagcgcgg aaaac 225

<210> 91
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Proteini clasticum*

<400> 91
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggattatg ctggaaggtt ttcggactgg aaggtatgat cttagcggcg gacgggtgag 120
 taacgcgtga gcaacctgcc ttcaacaggg ggataacgca tcgaaagatg tgctaatacc 180
 gcgtaagacc atagtaccgc atggtacagg ggtcaaagga gcaat 225

<210> 92
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiracea incertae sedis*

<400> 92
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggttattt cgagtagctt gctacatgaa ataacctagt ggcggacggg tgagtaacgc 120
 gtgggaaacc tgctcgtac tgggggataa cagttgaaa cgactgttaa taccgcataa 180
 gcgcacgatg tcgcatgaca tagtgtgaaa aactccggtg gtacg 225

<210> 93
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerovorax*

<400> 93
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gtgattcact gaaatgatac ttcggtagaa atttcagtga tgaaagcggc ggacgggtga 120
 gtaacgcgta ggcaacctgc ctttgcagg gggatagccg ttggaacga cgattaaaac 180
 cccataatgc agcctgatct cctgttcggg ctgccaaaga tttat 225

<210> 94
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 94

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgagg caatagcttg ctattgttgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaaccta ccccgcggtc agggacagcc cggcgaaagt cggattaata cctgatgcag 180
 tcagaagagg gcatctgatt ttgacgaaag attgatcgcc tcggg 225

<210> 95
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 95
 agagtttgat cctggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggacgattg aggtagcaat acctcagatg gcgaccggcg cacgggtgcg taacgcgtat 120
 ccaacctggc cttactcgg gtatagcct gcgaaagtag gattaatccc cgatgttgtc 180
 aagatggagc ctttttctt gaccaaaggc attagtcggt aaggg 225

<210> 96
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 96
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagttacaa gagcttgctt ttgtaactta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctacccttc agtggggaat aatgttttga aaagaacact aataccgcat gacatatgac 180
 caccgatga tggacatc aaaggattta tttgctgaag gatgg 225

<210> 97
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 97
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgaggga ggaaagcttg ctttccttgc cggcgaccgg cgcacgggtg cgtaacgcgt 120
 atcgaacctg gccatacac ggggatagtc tcctgaaagg gaggttaata cccggcggtc 180
 ccacttggc gcatgactgt gtgggtgaag attcatcggg atggg 225

<210> 98
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Acinetobacter*
 <400> 98
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 ggagataggt agcttgctac tgattcttag cggcggacgg gtgagtaatg cttaggaatc 120
 tgcctattag tgggggacaa cgtttcgaaa gggacgctaa taccgatac gccctacggg 180
 ggaaagcagg ggatcttcgg accttgcgct aatagatgag cctaa 225

<210> 99
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Erysi pelothrix*
 <400> 99
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggacatagct tgctatgtca gtggcgaacg ggtgagtaat acataagcaa cctgcctaca 120
 gggaccggga taacacttgg aaacgagcgc taataccgga taggcaggat cggggcatcc 180
 tgatcctggt aaagttgaga gacacaagta gatgggctta tggcg 225

<210> 100
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*
 <400> 100
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgcag 180
 ttatgattcc gcatgggaat ataacgaaag attcatcggg agggg 225

<210> 101
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 101
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatatta cggatgaagg attcgtctgg aatctgtttt atcttagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg cctctttccg ggggatagca gttggaaacg actggttaata 180
 ccgcatgagc gcacagtacc gcatggtacg gggtgaaaag attta 225

<210> 102

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrivibrio*

<400> 102
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtttaga tgaacctag tgattctaaa cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc ctatagagtg ggatagcagt tagaaatgac tgataatacc acataagacc 180
 acagtacggc atcgtacagg ggtcaaagat ttatcgctat aggat 225

<210> 103
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eubacterium*

<400> 103
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagatatcca tgacgaattc ttcggatgcc tgaatggatg gaaagcggcg gacgggtgag 120
 taacgcgtag gtaacctgcc ctgtacaagg ggatagccac tggaaacggt gattaatacc 180
 ttatgacacc gcagcatcac atgggtgaagc ggtcaaagat tttat 225

<210> 104
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 104
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga aggaagcttg cttccttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccttaactt gggatagcc cggtgaaaac cggattaatg cccgatgtgg 180
 tccagcgagg gcatctgacc cggaccaaaag agtttttcgg ttaag 225

<210> 105
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eubacterium*

<400> 105
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaaactta cagatgacgc ttcggttgat tcagtaagcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cctggcagag ggatagcatc gggaaactga tattaagacc 180

tcataacgca tccatatac atgatgagga tgccaagat ttatc 225

<210> 106
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 106
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga cgagtgcttg cacttggtga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atcgaacctt ccccttactc gggaatagcc cggtgaaaac cgaattaatg cccgatatat 180
 atttagatgg catcagaaga gtatgaaaga tttatcggtg aggga 225

<210> 107
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 107
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaccttita cagactgcga ttcgtcaaag gaagttcaag gttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc tcgtagaggg ggataacagt tggaacgat tgctaatacc 180
 gcataagccc acaggaccgc atggtccagg gggaaaagat tcatc 225

<210> 108
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coprococcus*

<400> 108
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtgttac ttcttcggag ggaacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 taccgatgg tacagtgtga aaaactccgg tggatgaga tggac 225

<210> 109
 <211> 204
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 109
 agagtttgat catggctcag gatgaacgct agctacaggc tttggtcaat gggcgagagc 60

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ctgaaccagc caagtagcgt gcaggatgac ggcctatgg gttgtaaact gcttttgtat 120
 ggggataaag tgctccacgt gtggagtttt gtaggtacca tacgaataag gaccggctaa 180
 ttccgtgcca gcagccgcg taat 204

<210> 110
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 110
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatttt ggttcaaagc cttcgggcag cgaaacttaa tgacttagtg gcggacgggt 120
 gagtaacgag tgggtaacct gccttgact gggggataac agttagaaat gactgctaata 180
 accgcataag cccacggttt cgcattggaac tgtgagaaaa gattt 225

<210> 111
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 111
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacagcatgt aggttgcttg caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt ccccgagta ggggtgcagcc cgttgaaaga cggattaatc ccctatgttg 180
 tccattgacg gcatccgatt tggacgaaag atttcatcgc tgcgg 225

<210> 112
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Catonella

<400> 112
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaggacttc ggaagaagtc ttcggatgga ttccgatggt cttagtggcg gacgggtgag 120
 taacgcgtgg gtaatctgcc ctgtatcggg gaatagcagc tggaaacggc tggtataacc 180
 gcgtacgccg gttggatcgc atgatccgat cgggaaactt tttaa 225

<210> 113
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Methanobrevibacter

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<400> 113
agagtttgat catggcagaa gctactgcta ttgggattcg attaagccat gcaagtcgaa 60
cgaatttaga ttcgtggcgt acggctcagt aacacgtgga taacctacc ttaggactgg 120
gataactctg ggaaactggg gctaataccg gatagatgat ttttcttgga atgggatttt 180
gtttaaagt ttttcgcct aaggatgggt ctgcggcaga ttagg 225

<210> 114
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ruminococcus*

<400> 114
agagtttgat cctggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaa 60
ggtgaatact tagcttgctt tgtattcata gtggcggacg ggtgagtaac acgtgagcaa 120
cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180
tctcgcatga gaatgctatc aaacgaattt cgctcagaga tgggc 225

<210> 115
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 115
agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaa 60
gaggcgagga gtgcttgac accgaacctg gtggcggacg ggtgcgtaac gcgtgggtaa 120
cctgccctaa acagggggat aacgtataga aatgtacgct aatacgcgat aagctcacgg 180
aaccgcatgg ttttgagga aaaggatttc cggtttagga tgggc 225

<210> 116
<211> 184
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Coprococcus*

<400> 116
agagtttgat catggctcag gataaacgct ggcggcgtgc tttgcacaat gggggaaacc 60
ctgatgcagc gacgccgct gagtgatgaa gtatctcggg atgtaaagct ctatcagcag 120
ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgagg 180
taat 184

<210> 117
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 117

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagcactta attacgatcc cttcgggggtg acgattttgt gacttagtgg cggacgggtg      120
agtaacgcgt gggtaacctg ccctgtactg ggggacaaca gttggaaacg gctgctaata      180
ccgcataagc gcacgatatc gcatggattt gtgtgaaaaa ctccg                          225
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<210> 118

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 118

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agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggggttatit cgagaagctt gcttcatgaa ataacctagt ggcggacggg tgagtaacgc      120
gtgggaaacc tgcctcgta cgggggataa cagttggaaa cgactgttaa taccgcataa      180
gcgcaaatg ttgcatgaca tagtgtgaaa aactccggtg gtacg                          225
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<210> 119

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 119

```
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg      60
ggcagcatgt tgtgtgcttg cacacaatga tggcgaccgg cgcacgggtg cgtaacgcgt      120
atccaacctg ccccttactc tggaatagcc cggcgaaagt cggattaatg ccggatgttg      180
tcagatgagg acatctgagt ttgaccaaag gcttctgccg gtaag                          225
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<210> 120

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Anaerovorax*

<400> 120

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
gagaaactta tgattgacgc ttcggttgat ttcataagcg gaaagcggcg gacgggtgag      120
taacgcgtag gcaacctgcc ccttgacagag ggatagcctc gggaaaccgg gattaaaac      180
tcataatgct gatcctacac atgtttgatc agccaaagat ttatc                          225
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<210> 121
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Asteroleplasma*

 <400> 121
 agagtttgat cctggctcag gataaacgcc ggcggcgtgc ctaatacatg caagtcgaac 60
 gagaggtagc aatacctcga gtggcgtacg ggtgagtaac acgttgggaa cctgccccag 120
 ggaccggaat accagacgga aacgtctgct aatgccggat gacgatccgg aagcgtcggc 180
 ttccggatcc aaaggcggcc ttcaagccgc gccacgggat ggccc 225

 <210> 122
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

 <400> 122
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac 60
 ggagtttaga tgaaacctag tgattttaa cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctacc tggatttggg ggacaacagt tagaaatgac tgctaatacc gcatacgaca 180
 tcggagaggc atctctctga tgtgaaagga gcaatccgat agcag 225

 <210> 123
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Caulobacter*

 <400> 123
 agagtttgat catggctcag aacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 gagaccttcg ggtctagtgg cgcacgggtg cgtaacgcgt gggaatctgc cttgggttc 120
 ggaataactc gccgaaaggc gtgctaatac cggatgatgt cgtaagacca aagatttatc 180
 gcccagggat gagcccgcgt aagattaggt agttggtgag gtaaa 225

 <210> 124
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

 <400> 124
 agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggttattt cgagtagctt gctacatgaa ataacctagt ggcggacggg tgagtaacgc 120

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gtgggaaacc tgcctcgta cagttggaaa cgactgttaa taccgcataa 180
 gcgcacagtg tcgcatgaca cagtgtgaaa aactccggtg gtacg 225

<210> 125
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 125
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacctgatt gaggatgatt cttgctatga actcatgact ggtagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttggaaacga ctggtaatac 180
 cgcataagcg cacagtaccg catggtacgg tgtgaaaaac tccgg 225

<210> 126
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 126
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtatcaa tgaagcctag cgatttgata cttagtgccg gacgggtgag taacgcgtgg 120
 ataacctgcc tcacacattg ggataacagt tagaaatggc tgctaatacc gaataagccc 180
 acagtgccgc atgacacagg gggaaaagat tttatcgggtg tgaga 225

<210> 127
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acinetobacter

<400> 127
 agagtttgat cctggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 ggagataggt agcttgctac tgattcttag cggcggacgg gtgagtaatg cttaggaatc 120
 tgcctattag tgggggacaa cgtttcgaaa gggacgctaa taccgcatc gccctacggg 180
 ggaaagcagg ggatcttcgg accttgcgct aatagatgag cctaa 225

<210> 128
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 128

ASBI_002_03W0_SeqList_ST25

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgatta aggaagcttg ctttcttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttatgattcc gcatgggaat ataacgaaag attcatcggg agggg 225

<210> 129
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Erysipelothrix

<400> 129
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gcaagcgatc acttcggtgg tcaattgagt ggcgaacggg tgagtaatac ataaggaacc 120
 tgcccgtctg actgggataa cagttggaaa cgactgctaa taccggatag gtaaccttaa 180
 ggcatcttga ggttattaaa gttgagatac acagacggat ggcct 225

<210> 130
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 130
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtgtctg atcttcggac tggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgat aagcgcacag 180
 taccgatgg tacagtgtga aaaactccgg tggatgaga tggac 225

<210> 131
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 131
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaccaagg aagagagtag cttgctatga acttccggaa ggttagtggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc cctgtactgg gggatagcag ctggaaacgg ctggttaatac 180
 cgcataagcg cacagtaccg catggtacag tgtgaaaagc tccga 225

<210> 132
 <211> 198
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Bacteroides
 <400> 132
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga acttagcttg ctaagtttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccgacctt ccctttgctc ggggatagcc cagtgaaaac tggattaaga cccgatgtag 180
 tccagcagcc gcgtaat 198

<210> 133
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus
 <400> 133
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtgtcat ttcttcggag acgacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 taccgcatgg tacagtgtga aaaactccgg tggatgaga tggac 225

<210> 134
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax
 <400> 134
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaactta cagatgacgc ttcggtcgat tcagtaagcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cttcacacag ggatagcctc tggaaacggg gattaaacc 180
 tgataacgca taactgttgc atatcagata tgccaaagat ttatc 225

<210> 135
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifractor
 <400> 135
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggtgaagtcc cttcgggggc ggatcagtgg cggacgggtg agtaacgcgt gagtaacctg 120
 cccttacgag cggaataacg tccggaaca gacgctaata ccgcatgaca cgtgcttccg 180
 gcatcggagg cacgtcaaag atttatcgcg taaggatgga ctcgc 225

<210> 136

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavoni fractor

<400> 136
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggtagatcc cttcgggggc ggatcagtgg cggacgggtg agtaacgcgt gagtaacctg 120
 cccttacgag cggataaac tccggaaaca gacgctaata ccgcatgaca cgtgcttccg 180
 gcatcggagg cacgtcaaag atttatcgcg taaggatgga ctgcg 225

<210> 137
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 137
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtagatcc cttcgggggc ggatcagtgg cggacgggtg agtaacgcgt gagtaacctg 120
 atccaacctt cccctgcca ggaacagcc cgttgaaaga cggattaatg ccctatgttg 180
 tgcaagatg gcatcagatt tgcacgaaag atttatcgcg catgg 225

<210> 138
 <211> 185
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 138
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctatgcacaa tggaggaaac 60
 tctgatgcag caacgccgcg tgagtgatga agtagttcgc tacgtaaagc tctatcagta 120
 ggaagataa tgacggtagc tacacaagaa gctccggcta aatcgtgcc agcagccgcg 180
 gtaat 185

<210> 139
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 139
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagatgcag aacggaagcc ttcgggtgga agatctgtta tcttagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgg ctatacagg gggataacag agagaaattt ctgctaatac 180

cgcataagcg cacagcatcg catggtgcag tgtgaaaaac tccgg 225

<210> 140
 <211> 204
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 140
 agagtttgat catggctcag gatgaacgct agctacaggc tttggtcaat ggatgagaat 60
 ctgaaccagc caagtagcgt gcaggacgac ggccctatgg gttgtaaact gctttttgtac 120
 ggggataaag gagcttacgt gtaagttttt gcaggtaccg tacgaataag gaccggctaa 180
 ttccgtgccca gcagccgagg taat 204

<210> 141
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 141
 agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
 ggtagatact tagcttgctt tgtatctata gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgcctctg agagaggat agcttctgga aacggatggt aatacctcat gatatagcgt 180
 tctcgatgg gaatgctatc aaaagaaatt cgctcagaga tgggc 225

<210> 142
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Atopobium

<400> 142
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gattaagaca ccttcgggtg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
 taccctctc tctgggatag cctcgagaaa tcgtgggtaa taccggatac tccggatcca 180
 tcgatggtg gatccggaa agctccgacg gtgagggatg ggccc 225

<210> 143
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 143
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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ggaacttatt gaatgaagtt ttcggatgga ttttgataag tttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgттаатacc 180
 gcataagacc acagcaccgc atggtgcagg ggтаааagct ccgac 225

<210> 144
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Robinsoniella

<400> 144
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtgtcag ctcttcggaa cggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgat aagcgcacag 180
 taccgatgg tacagtgtga aaaactccgg tggtatgaga tggac 225

<210> 145
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Neisseria

<400> 145
 agagtttgat cctggctcag attgaacgct ggcggcatgc tttacacatg caagtcggac 60
 ggacagatca agaagcttgc ttcttgatg gcgagtggcg aacgggtgag таатgcatcg 120
 gaatgtaccg agтаатgggg gataactaat cgaaagatta gctaataccg catacgacct 180
 gagggtgaaa gcaggggatc ttcggacctt gcgttattcg agcag 225

<210> 146
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 146
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagataata gcttcggtta ttaacttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttacag agcggataa tgactggaaa cggtcactaa taccacataa catatggaga 180
 tcgcatggta tccatatcaa agatttatcg ctgтааgatg ggctc 225

<210> 147
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

ASBI_002_03W0_SeqList_ST25

<400> 147
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgc aggaagcttg ctttctgtga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atccaatcta ccctgcacac gggaatagcc ctgcgaaagt aggattaatg cccgatgttc 180
ttttttgtt gcatgacaga gaaagcaaag atttatcggg acagg 225

<210> 148
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Slackia*

<400> 148
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggttaaagcc cacttcgggtg ggtgcataaa gtggcgaacg ggtgagtaac acgtgaccaa 120
cccgccccc gcaccgggat aaccggcgga aacgcccgct aataccggat actccgcgac 180
ggccgcatgg ccgacgcggg aaagcccagg cggcggggga tgggg 225

<210> 149
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 149
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
ggcatcatga agggagcttg ctctcttga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccctagta ggaacagcc cgtagaatg cggattaatg ccctatgttc 180
tccgaagacg gcatcagatt cggagcaaag gccttttggg tgcta 225

<210> 150
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 150
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagttataa gagcttgctt ttataactta gcggcggatg ggtgaggaac gcgtggataa 120
cctgcctcac actgggggat aacagctgga aacggctgtt aataccgcat atgctcacag 180
taccgcatgg tacagggagg aaagatttat cgggtgtgaga tggat 225

<210> 151
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 151

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg cccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgcag      180
ttatgattcc gcatgggaat ataacgaaag attcatcggg agggg                        225
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<210> 152

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaerorhabdus

<400> 152

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac      60
ggggtacctt cgggtacctt gtggcgaacg ggtgagtaac acataaaca tctgccctgg      120
agactgggat accgtcggga aaccgacgct aataccggat aggcagtaag ggggcatccc      180
catactgtta aagctggggt gcagcgtgc aggatgagtt tatgt                        225
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<210> 153

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 153

```
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatgg aagtagcttg ctacttccga tggcgaccgg cgaatgggtg agtaacgcgt      120
atccaacctg ccgtgtgctc atggatagcc cttagaaatg aggattaata catgatggtc      180
tcctttgatc gcctgagatt gggagtaaag attcatcggc acacg                        225
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<210> 154

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 154

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatga cggtagcttg ctactgttga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctt cccacaaata aggaatagcc cggtgaaaat cgaattaata ccttatgtgg      180
tcataagagg acatctgatt atgattaaag atttatcggt tgtgg                        225
```

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<210> 155
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Corynebacterium

<400> 155
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtaaggctc cagcttgctg gggtagacga gtggcgaacg ggtgagtaac acgtgggtga 120
 cctgccctgc acttcgggat aagcctggga aactgggtct aataccgat aggactgcac 180
 cgtgagggtg tggtgaaag ttttttcggt gtgggatggg cccgc 225

<210> 156
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Atopobium

<400> 156
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggttaaagcc ccttcggggg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
 taccctcctc tttgggatag cctcgggaaa ccgggaataa taccgaatac tccggacaca 180
 ccgcatgatg tgaccgggaa agctccggcg gagagggatg ggccc 225

<210> 157
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 157
 agagtttgat cctggctcag gatgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 gggaagtggg gttccagtg gcaacgggt gagtaacgcg taagaacctg cccttgggag 120
 gggaacaaca actggaaacg gttgctaata ccccgtaggc tgaggagcaa aaggagaaat 180
 ccgccaagg aggggctcgc gtctgattag ctagttggtg aggca 225

<210> 158
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 158
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgg aggttgcttg caacctctga tggcgaccgg cgcacgggtg agtaacgcgt 120

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atccaacctg ccctgcggta gggaacagcc cggcgaaagt cggattaatg ccctatgtgc 180
 tcatttgaag gcatctgatt ttgagcaaag gatttattcg ccaca 225

<210> 159
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 159
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagagaggaa ggtgcttgca ccgaccaatc gaggggcgga cgggtgagta acgcgtgggt 120
 aacctgcctc atacaggggg ataacaactg gaaacggttg ataataccgc ataagcgcac 180
 agcatcgcac gatgcagtgt gaaaactcc ggtggtatga gatgg 225

<210> 160
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 160
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgg aggttgcttg caacctctga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctg cccttactc tggatagcc cggcgaaagt cggattaatg ccggatgttg 180
 tcagacgagg acatctgaat ctgaccaaag gcccgaaagg gttgg 225

<210> 161
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 161
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtagcgtga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg cccttatctc aaggatagcc cttagaaatg aggattaaaa cttgatagtt 180
 tcattgacc gcatgggtga tggataaag atttattgga taagg 225

<210> 162
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 162

ASBI_002_03W0_SeqList_ST25

agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaaatagt gaagagatac ttcggttgaa cagatctatg gacagcggcg gacgggtgag 120
taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact 180
ccataaagca gagatgtcgc atggcaattc tgccaaagat ttatc 225

<210> 163
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rhodocista

<400> 163
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagttgaac 60
ggtatgttga gtgcttgac ttagcagaga gtagcgcact ggtgagtaac acgtgggaac 120
atgccctaaa gtacgggata gcgtctgaa acggacgata atacggtata cgccctgagg 180
gggaaagatt tatcgcttta ggattggccc gcggcagatt aggta 225

<210> 164
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 164
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggtaacatga ttggagcttg ctccgattga tgacgaccgg cgcacgggtg cgtaacgcgt 120
atccaacctt cccctacca gggaatagcc cgttgaaaga cggattaatg ccctatgttg 180
tgtgataatg gcatcagagt tacacgaaag actttgtcgg tatgg 225

<210> 165
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 165
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagctgcca cgctgaggag tggagtactt gtacaaagcg aatcttgtcg tagcttagtg 120
gcgacgggt gagtaacgtg tggataacct ggtccatcca ggggatagc agctggaaac 180
ggctggtaat accgataag cgacagtag gcatcctac ggtgt 225

<210> 166
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 166
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
 tcgaacgagg acatctgatt tcgaccaaag cttcggcggt catgg 225

<210> 167
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 167
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccatgacc cgggatagcc cgctgaaaag cggattaaca ccggatgggg 180
 tcgaacgagg acatctgatt tcgaccaaag cttcggcggt catgg 225

<210> 168
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 168
 agagtttgat catggctcag gatgaacgct ggcggcatgc cttacacatg caagtcggac 60
 gggaagtggg gttccagtg gcggacggg gagtaacgcg taagaacctt cccttgggag 120
 gggaacaaca gctggaaacg gctgctaata ccccgtaggc tgaggagcaa aaggaggaat 180
 ccgcccagg aggggctcgc gtctgattag ctagtgggtg aggca 225

<210> 169
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ochrobactrum
 <400> 169
 agagtttgat catggctcag aacgaacgct gtcgacatgc tttacacatg caagtcttac 60
 gggataact tgttatacca gtggcaaacg ggtgagtaat acgtagaat gtaccaata 120
 gtcttgaata acaattggaa acgattgata atacaagata ttatggtaac ataaaaggtt 180
 tagtaataaa ctgctattgg agcagtctac ggtggattag attgt 225

<210> 170

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Mogibacterium*

<400> 170
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatctcc ttggaagcgt tttcggacaa ttctgtggag aggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
 cctcataatg ctgaagagtc acatgtctct tcagccaaag attta 225

<210> 171
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Adlercreutzia*

<400> 171
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtaaaccg ccttcgggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cccccgaaa gggggattaa taccggatac tccggcggcc 180
 ccgcatgggg cggccgggaa ggctccggcg gcgcgggatg gggtc 225

<210> 172
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 172
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacgtga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgcacgcc ggaacagcc cttgaaacg aggattaat cccgatacct 180
 tgtgagctcg catgagcata caagaaaaca ggcatgcatg gggga 225

<210> 173
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Riemerella*

<400> 173
 agagtttgat cctggctcag gatgaacgct agcgggaggc ctaacacatg caagccgagc 60
 ggtagaaagt agcttgctac ttttgagagc ggcgtacggg tgcgtaacac gtgtgcaacc 120
 tgccittatc tggggaatag ctttcgaaa ggaagattaa tgctcataa catattgaat 180

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ggcatcattt aatattgaaa gctccggcgg atagagatgg gcacg 225

<210> 174
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 174
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacagga gggaagcttg cttcctcgc tgacgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgacgccc gggaacagcc ctggaaacg aggattaaat cccgatacct 180
 tgcccttccg catgaagggg caagaaaaca ggcatgcatg gggga 225

<210> 175
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*

<400> 175
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtttgag cggaagccct tcgggacgga agcttttacc gagtggcgga cgggtgagta 120
 acgcgtgggt aacctgccct gtactggggg acaacagttg gaaacgactg ctaataccgc 180
 ataagcgcac ggatcgcat ggtcttgtgt gaaaaactcc ggtgg 225

<210> 176
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Slackia*

<400> 176
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggtgatactt tcttcggaaa gaggatcagt ggcgaacggg tgagtaacgc gtgggtaacc 120
 tgcccttgac acagggatag caaagggaaa cttttggtaa tacctgatga cctcaaaaag 180
 tgacatctt tttgagcaa agaatttcgg tcgaggatgg acccg 225

<210> 177
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium* IV

<400> 177
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggagttatta gaggtaagtt ttcggatgga atgataataa cttagtggcg gacgggtgag 120
 taacgcgtga gtaacctgcc catgagaggg ggataacggt ctgaaaagaa cgctaatacc 180
 gcataacata tttagttcgc atggactgaa tatcaaagga gcgat 225

<210> 178
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 178
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaaccataa agaagcttgc tttttaatgg tttagcggcg gatgggtgag gaacgcgtgg 120
 gcaacctgcc cttcacaggg ggataacagc tggaaacggc tgtaataacc gcatatgctc 180
 acgatgccgc atggcattgg gaggaaaact ccggtggtga aggat 225

<210> 179
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 179
 agagtttgat cctggctcag gatgaacgct agctacaggg ttaacacatg caagtcgagg 60
 ggtaacgtga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct 180
 tatcgttccg catggagtga taagaaaaca ggcattcgat gggga 225

<210> 180
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 180
 agagtttgat catggctcag aatgaacgct ggcggcgggt cttagcatg caagtcggac 60
 ggcaaggag tgcttgact ccctagagt ggcggactgg tgaggaacac gttggtgacg 120
 tacccttgg atgggatag ccggtagaaa taccgggtaa taccgaataa ggtcgggtgt 180
 ctcggaagcc accgaggaaa gcagcttcgg ctgcgccgaa ggaac 225

<210> 181
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 181
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgt tgtgtgcttg cacacaatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctg ccccttactc tggaatagcc cggcgaaagt cggattaatg ccggatgttg 180
 tcagatgagg acatctgagt ttgaccaaag gcttctgccg gtaag 225

<210> 182
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 182
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctt tgattgacgc ttcggttgat ttcaaaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ccttgcagag ggatagcctc gggaaaccgg gattaaacc 180
 tcataatgct gatcctacac atgtttgatc agccaaagat ttatc 225

<210> 183
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 183
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga atcaagcttg cttgatttga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 gtccaaccta cccaccgctc agggatagcc catcgaaaga tgaattaata cctgatgttg 180
 tatgggaatc acatggcttc catactaaag atttatcggc gatgg 225

<210> 184
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Methanobrevibacter

<400> 184
 agagtttgat catggcagaa gctactgcta ttgggattcg attaagccat gcaagtcgaa 60
 cgaatttaga ttcgtggcgt acggctcagt aacacgtgga taacctacc ttaggaccgg 120
 gataaccctg ggaaactggg gctaatactg gatagatgat ttttctgga atggtttttt 180
 gtttaaagt ttttctgcct aaggatgggt ctgcggcaga ttagg 225

<210> 185
 <211> 225
 <212> DNA

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<213> Unknown

<220>
<223> Encodes 16S rRNA from *Corynebacterium*

<400> 185
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggaaaggccc tgcttcagg gtactcgagt ggcgaacggg tgagtaacac gtgggtgatc 120
tgcctgcac ttcgggataa gcctgggaaa ctgggtctaa taccggatag gaccatcggt 180
tagtgtcggg ggtggaaagt ttttcgggtgc aggatgagct cgcg 225

<210> 186
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 186
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
ggagcatcat taatgagact ttcgggtgga tttgatgatg acttagtggc ggacgggtga 120
gtaacgcgtg gggaacctgc cctgtacagg gggacaacag ccggaacag ctgctaatac 180
cgcataagcg cacagtgccg catggtacag tgtgaaaagc cgaga 225

<210> 187
<211> 166
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Alkaliphilus*

<400> 187
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaatcagg gaaatgaagc ttcggtagat tggaactgag gacagcggcg gacgggtgag 120
taacgcgtgg gcaacctgcc cttactggt ggatagccgc ggtaat 166

<210> 188
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ruminococcus*

<400> 188
agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
ggacgagaag gagcttgctt cttcaagtta gtggcggacg ggtgagtaac acgtgagcaa 120
cctgccttta agagagggat agcttctgga aacggatggt aatacctcat aacacatcgg 180
gaccgcatga ttctgatgtc aaagatttat cgcttaaaga tgggc 225

<210> 189

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 189
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaacttatt gaatgaagtt ttcggatgga ttttgataag tttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgттаатаacc 180
 gcataagacc acagtgccgc atggcacagg ggтаааagct gcgac 225

<210> 190
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 190
 agagtttgat catggctcag gatgaacgct ggcggcgtgc cтаacacatg caagtcgagc 60
 gagaagagaa tgacctattc ttcggatgaa gccattctcg gacagcggcg gacgggtgag 120
 таacacgtag gaaacctgcc ctttactggg ggatagccga gggaaacttc gagтаатаacc 180
 ccataacgcg ttatgatcgc atgatcgaaa cgccaaagat ttatc 225

<210> 191
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 191
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga acttagcttg cтаagtttga tggcgaccgg cgcacgggtg agтаacacgt 120
 atccaacctg ccatgactc agggatagcc ctctgaaagg aggattaata cctgatgcgg 180
 ttgactgggg acatcccctt tcaaccaaag аттcatcggt catgg 225

<210> 192
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 192
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc cтаacacatg caagtcgaac 60
 ggacctatgg aaaagattag cttgctatga ttttccggaa ggttagtggc ggacgggtga 120
 gтаacgcgtg ggтаacctgc ctatacagg gggatagcag ttggaaacga ctggтаатаc 180

cgcataagcg cacagtaccg catggtacag tgtgaaaaac tccgg 225

<210> 193
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lenti sphaera

<400> 193
 agagtttgat cctggctcag aatgaacgct ggcggcatgg attagcatg caagtcgaac 60
 gagaaagccc gcaagggcga gtaaagtggc gaaaggtga gtaacacgtg agcaacctgc 120
 ccccagacc ggaacaagcc tgggaaaccg ggtctgaaac cggatgagga ccggaaggc 180
 atcttccgc ctccaacat tcatggctcg gggatgggct cgcg 225

<210> 194
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacteri um

<400> 194
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaattaa tgaatgattc ttcggatgaa ttcgtttaag gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataagca tttttccgc atgacagaga tgccaaagat ttatc 225

<210> 195
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburi a

<400> 195
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaccttaga gagtgaacag cttgctggga tctttcgaaa ggtagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttggaaacga ctggaatac 180
 cgcataagcg cacagtaccg catggtacgg tgtgaaaaac tccgg 225

<210> 196
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostri di um IV

<400> 196
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaacacatg caagtcgaac 60

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ggagttatta gacggaagcc ttcgggtgga agattaataa cttagtggcg gacgggtgag 120
 taacgcgtga gtaacctgcc tctcagaggg ggataacgtt ctgaaaagaa cgctaatacc 180
 gcatataatc aagaaaccgc atgatttttt gatgaaagga gcaat 225

<210> 197
 <211> 215
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hahella*

<400> 197
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaaccctg atgcagccat gccgcgtgtg tgaagaaggc cttcgggttg taaagcactt 120
 ttgcattcga ggaagacagc gtataaataa atgcgctatt tgacgttaga gtgtgaataa 180
 gcaccggcaa actccgtgcc agcagccgcg gtaat 215

<210> 198
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrivibrio*

<400> 198
 agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacgatacg agaaacttcg gttttttgta aagttagtgg cggacgggtg agtaacgcgt 120
 gagcaatctg cttttgatag agggataaca catggaaacg tgtgctaata ccgcataacg 180
 ttaaagaacc gcatgattct ttaaccaaag ctccggcgat caaag 225

<210> 199
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium* IV

<400> 199
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacttgat ttgaaagtg cttgcaccgg agaatacaa gttagcggcg gacgggtgag 120
 taacgcgtga gcaacctgtc ctctacaggg ggataagatc tcgaaagga ttctaatacc 180
 gcatgagacc acagcagggc atcctgcggg ggtcaaagga ggaat 225

<210> 200
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

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<400> 200
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgg gagttgcttg caatttccga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaaccta cccgcaagtc agggccagcc cggcgaaagt cggattaatc cctgatgtgg 180
 tgcgaagagg acatctgatt cacattaaag gagcgatttg cttgc 225

<210> 201
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 201
 agagtttgat catggcttag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggtaagggg cttcgggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 ccctgcagtg cgggataaca gagggaaact tctgctaata ccgcatatag catcgggaacc 180
 gcatgattcc ggtatgaaag atttattgct gcaggatggg ctcgc 225

<210> 202
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfovibrio

<400> 202
 agagtttgat cctggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gcgaaagggg cttcggcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct 120
 gccctgcaa ctggaatagc gactggaac ggtcgataat accggatagc cccttgtctt 180
 acaatgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg 225

<210> 203
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingobacterium

<400> 203
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggatctatg agtaagcttg cttactttta gtgagagtgg cgcacgggtg cgtaacgcgt 120
 gagcaaccta cccatatcag ggggatagcc cggagaaatc cggattaaca ccgcatgaca 180
 cagcaattcg gcatcgaatc actgttaaat atttatagga tatgg 225

<210> 204
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Roseburia

<400> 204

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
ggacctgatt aagtgaatag cttgctatga acttatgact ggtagcggc ggacgggtga      120
gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttggaaacga ctggaatac      180
cgcataagcg cacagtaccg catggtacag tgtgaaaaac tccgg                        225
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<210> 205

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 205

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agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg      60
ggcagcatga gagtagcaat acttttgatg gcgaccggcg cacgggtgcg taacaggtgt      120
gcaatctgtc cataatcggg gaatagcccg ccgaaagggtg aattaacgct ccatgtgtaa      180
tgaagaggca tctctttatt atgaaacgta aggattatgg gtgag                        225
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<210> 206

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Ruminococcus

<400> 206

```
agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac      60
ggtgtttatc agcttgctgg taaacatagt ggcggacggg tgagtaacac gtgagcaacc      120
tgccttcaag agagggatag cttctggaaa cggatggtaa taccttataa tatatactgg      180
ccgcatgacc ggtatatcaa acgaattttg cttgaagatg ggctc                        225
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<210> 207

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 207

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcatcgggt ccagcaatgg atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa      120
cgtgcccgtc tgagggggat agtcattgga aacgatgcgt aataccccgt aacaacagtc      180
accgcatggt ggggtgttga aagatttatt gcagacggat cggct                        225
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ASBI_002_03W0_SeqList_ST25

<210> 208
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Asteroleplasma*

<400> 208
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 acttgaccaa aggcggcaac tgccgcgctg aaggatggac ctgcg 225

<210> 209
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Syntrophococcus*

<400> 209
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
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 gcgtggagaa cctgcccttc acagggggat aacagttgga aacgactggt aataccgcat 180
 atgctcacgc gaccgcatgg tcgagtgagg aaagctccgg cggtg 225

<210> 210
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 210
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 cccgggcccg ggacaagcgc tggaaacggc gtctaatacc ggatggaggg gccgccggca 180
 tcggcggctg ccgaaagtct tctcgcccgg ggagggcccc gcgtc 225

<210> 211
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnobacterium*

<400> 211
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacctg gtcacgatcc cttcggggtg acgaccttgt gactgagtgg cggacgggtg 120

ASBI_002_03W0_SeqList_ST25

agtaacgcgt gggaaacctg ccatgtactg ggggataaca gttggaaacg gctgctaata 180
 ccgcataaca ctgttgatc gcatgatccg atagccaaaa ctccg 225

<210> 212
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 212
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
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 gagtaacgcg tgggtaacct gcctcataga gggggacaac agttggaaac gactgctaata 180
 accgcatagt aagaaagaac cgcatgattt tttcttgaaa gcttt 225

<210> 213
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 213
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 ggacgccttc gggcgccagt ggcggacggg tgagtaacgc gtgaggaacc tgccgcgat 120
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 tttgtgcaa agatttatcg atccgcatg gactcgcgct caatt 225

<210> 214
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerorhabdus*

<400> 214
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcggac 60
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 gggcatcctc atattgttaa aggtgagaaa cacaagtaga tgggc 225

<210> 215
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Aitererythrobacter*

<400> 215

ASBI_002_03W0_SeqList_ST25

agagtttgat catggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggtgttttct agtacttgta ttaggaaaca tagtggcaaa cgggtgagta acgcgtggga 120
 atgtaccctt tggattgaa taacgtctgg aaacggacgc taatacaata taagctcgag 180
 agaggaaaga gaaatcgctg aaggagtagc ccgcgttaga ttagg 225

<210> 216
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 216
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 ggagaaagat gcttcggtat ctttcttagt ggcggacggg tgagtaacgc gtgggtaacc 120
 tgcccatac aggggaacaa cagctggaaa cggctgctaa taccgataa gcgcacggta 180
 ccgcatggta cagtgtgaaa agattgtatc ggtatgggat ggacc 225

<210> 217
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 217
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaactttta ttaatggaga ttcgtcaaag ttgatttaag tttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc tcatagaggg ggataacggc tggaaacgac cgctaatacc 180
 gcataagccc acagtaccgc atggtacagg gggaaaagat ttatc 225

<210> 218
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Proteini clasticum

<400> 218
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 tgccttaaag tgggggacaa catttgaaa cgaatgctaa taccgcgtaa tatacagttt 180
 tcgcatggat tttgtattat agatttatcg cttaagatg agctc 225

<210> 219
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from *Bifidobacterium*
 <400> 219
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 gggatcctgc aagcttgctt gcgggtgaga gtggcgaacg ggtgagtaat gcgtgaccaa 120
 cctgccccat tctccggaat agctcctgga aacgggtggt aatgccggat gctccgcccc 180
 ctgcatggg ggtcgggaa ggcttttgcg gaatgggatg gggtc 225

<210> 220
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 220
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 ggagtgaatc gaggcttgc acatgattca ctagcggcg gatgggtgag gaacgcgtgg 120
 agaacctgcc tcacacaggg ggataacagt tggaaacgac tgtaataacc gcatatgctc 180
 acgtaccgc atggtacagg gaggaagat ttatcgggtg gagat 225

<210> 221
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 221
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagttgttt ccacccgaca gattatctt ggatatgaag tcaccgaaa cgcttagtg 120
 cggacgggtg agtaacgcgt gggcaacctg ccctacacag ggggatagcg gttggaaacg 180
 accgtaata ccgcatacct ttattttgcc gcatgacaga ataaa 225

<210> 222
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Desulfovibrio*
 <400> 222
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 gagcccttcg gggctagtgg cagacgggtg agtaacgcgt aggtaatgta cctcttcgct 120
 ggggataccg ttccgaaagg aacgttaata ccgaatgaat tcatcgggcg gcatcgcttg 180
 atgaataaac cgcaagggcg aggagatcag cttgcgtact atcag 225

<210> 223

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 223
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 ggcggatgca tttcgggtgta tctgcagtgg cggacgggtg agtaacgcgt gggtaatctg 120
 ccctgtacag gggaatagca gttggaaacg actgataaaa ccgcataagc acacaggacc 180
 gcatggtccc gggtgaaaaa ctccggtggt acaggatgag cccgc 225

<210> 224
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Nitrobacter

<400> 224
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 gaatgagttt atattgagta gcaatacgat ttataaatga gttagtggcg aacgggtgag 120
 taatagatag gaacttgccg agtagtgggg gacaacagat agaaatgtct gctaataccg 180
 catacggccg agaggggaaa gatttatcgc tatttgagag gccta 225

<210> 225
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 225
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggttaaaccg gcttcggccg gacatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg tccgggacag cccccgaaa gggggattaa taccgggtac tccgggaggg 180
 gcgcatgccc cgcccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 226
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 226
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 ggggataatg agacggaagg cttcggcccg aagacttatt attctagcgg cggacgggtg 120
 agtaacgcgt gaatgatctg tctcttacag ggggataaca cttggaaaca ggtgctaata 180

ASBI_002_03W0_SeqList_ST25

ccgcataaga ccacggggct gcatggcctt gaggtaaaag gagcg 225

<210> 227
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 227
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggacttatt ggaatgagac ttcggtcaaa ggaaaataag tttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataacgta cagaggaggc atcttcctg taccaaagat ttatc 225

<210> 228
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Nautilia*

<400> 228
 agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaattcttac agagtatcgt aagagttagc ggcaaacggg tgagtaacac atgggaaacc 120
 tccctagaa tggggaatat ctccgtgaaa acggagctaa taccgcataa gaccacagtt 180
 tggcatcaaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 229
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Corynebacterium*

<400> 229
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaaaggccc tgcttgagg gtactcgagt ggcgaacggg tgagtaacac gtgggtgatc 120
 tgccctgcac ttcgggataa gcctgggaaa ctgggtctaa taccgatag gaccatcgtt 180
 tagtgcggt ggtggaaagt tttcgggtgc aggatgagct cgcgg 225

<210> 230
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Ruminococcus*

<400> 230
 agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgagc 60

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ggtgaatttt ggatttattc gagattcata gcggcggacg ggtgagtaac acgtgagcaa 120
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 tatcacatga tagatatac aaagatttat tgcttagaga tgggc 225

<210> 231
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 231
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagtgtcat ttcttcggag gtaacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgat aagcgcacag 180
 catcgcatgg tgcaagtga aaaactccgg tggatgaga tggac 225

<210> 232
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 232
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 gagaaatagt gaagagattc ttcggatgaa cagatctatg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca gagatgtcgc atggcaattc tgccaaagat ttatc 225

<210> 233
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rikenellia

<400> 233
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgagt ttagcaata caatgtcggc gaccggcggga aggtgctgta acgcgtgagc 120
 aacatgcccg tatctggggg ataggagatg gaaacgtctt ataatacccc ataacaacag 180
 aggctgcatg gcctttgttt gaaagattca ttggatcgg attgg 225

<210> 234
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

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<400> 234
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ggacttaaga aaagaatctt cggatgaaat ttttaagtta gcggcggatg ggtgaggaac 120
gcgtaggagaa cctgcccttc acagggggat aacagctgga aacggctggt aataccgcat 180
atgctcacgg agccgcatgg ccccgggagg aaagctccgg cggtg 225

<210> 235
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Paenibacillus

<400> 235
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ggatgagttt tctagcttgc tagaagatga ttcagtggcg aacgggtgag taatacgtag 120
gcaacctgcc ccaaagcggg ggatagcagt tggaaacgac tattaatacc gcataggtaa 180
tcttaaggca tcttgagatt attaaagggtg cgtttgcacc gctgt 225

<210> 236
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 236
agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
gtagatact tagcttgctt tgtatctata gtggcggacg ggtgagtaac acgtgagcaa 120
cctgcctctg agagaggat agcttctgga aacggatggt aatacctcat gacatagtgt 180
cttcgcatgg agatgctatc aaacgaatct cgctcagaga tgggc 225

<210> 237
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 237
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgg ggatggcttg ccattcccga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccgcaaccg cggatagcc cgccgaaagg cggattaatg ccgcatgagc 180
tcgctgagg acatctgccc gcgagcaaag gttcgttccg gttgc 225

<210> 238
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Haematobacter

<400> 238

agagtttgat catggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
gagatcttcg gatctagcgg cggacgggtg agtaacgcgt gggaacgtac cctttgcttc 120
ggaatagcct cgggaaactg ggagtaatac cgaatgtgcc ctacggggga aagatttattc 180
ggcaaaggat cggcccgcgt tggattaggt agttggtgag gtaat 225

<210> 239

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 239

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcatcatgg gggttgttta caatccctga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg ccttcgagtc agggataacc ttccgaaagg gagcctaata cctgatgcag 180
tgcatgatg gcatcagaat tgcactaaag ctttagcgct cggag 225

<210> 240

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 240

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagatatca cggatgaagg attcgtctga attctgtttt atcttagtg cggacgggtg 120
agtaacgcgt ggagaacctg cctctttccg ggggatagca gttggaaacg actggtaata 180
ccgatgagc gcacagtacc gcatggtacg gggtgaaaag attta 225

<210> 241

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 241

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
gaagcgcttt ggaagattcc ttcgggatga atcctttgtg acttagcggc ggacgggtga 120
gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagcg cacagcatgg catcatgcag tgcgaaaaac tccgg 225

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<210> 242
 <211> 164
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 242
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcacttt tgcattcgag gaagacagca cgtaaataaa cgtgttattt gacgtagag 120
 tgtgaataag caccggcaaa ctccgtgcca gcagccgcg taat 164

<210> 243
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia

<400> 243
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagattcat tggaaataag cttcggcaga aataagatgg atcttagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg ccctgtacag ggggataaca tccagaaatg gatgctaaaa 180
 ccgcataagc gcacatgacc gcatggtcaa gtgtgaaaaa ctccg 225

<210> 244
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporobacter

<400> 244
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagaaggga cttcgggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 cctttgcccg ggggataaca gccggaaca gctgctaata ccgcataacg tacggacgcc 180
 gcatgacgac cgtaccaaag atttattggg caaagatggg ctgcg 225

<210> 245
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 245
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggacttaat ggaatgagac ttcgggtcaaa ggaagttaag tttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc 180

gcataacgta cggaggaggc atctttttcg taccaagat ttatc 225

<210> 246
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 246
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggatagag agaagttttc ggacagacct ttatcttagt ggcggacggg tgagtaacgc 120
 gtggataacc tgcctttttc tgggggatag cagttggaaa cgactgataa taccgcataa 180
 gctccgattc ccgcatggga gccggaggaa agatttatcg ggaga 225

<210> 247
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Atopobium

<400> 247
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggttaaagcc cttcggggg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
 tacctcttgc tctgggatag cctcgagaaa tcgtgggtaa taccggatac tccgtaaccg 180
 tcgcatggcg gatacgggaa agcgcatacg gcaagagatg ggccc 225

<210> 248
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporobacter

<400> 248
 agagtttgat catggcttag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gatgaacgga cttcgggtcc ggattagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 ccccggagtg aggataaca gacggaaaca tctgctaata cctcatatag catcgggttc 180
 gcatgtacct ggtatgaaag gtttactgct ccgggatggg ctcgc 225

<210> 249
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 249
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggggtgtccg atcttcggac tggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 catcgcatga tgcagtgtga aaaactccgg tggatgaga tggac 225

<210> 250
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 250
 agagtttgat catggctcag gatgaacgct ggcggcgtgt ttaagcatg caagtcgaat 60
 gggtttagac ccatggcaaa cgggagagta atactttggt aatttaccct ttagtcgtga 120
 ataactattc gaaagattag ataatacag atggctctcaa agaactcgag ttttttgagt 180
 aaagatttat cgctaagga gaagcctaag gactatcagc tagtt 225

<210> 251
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 251
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttaat ggaaggagac ttcggctaac ggaagataag cttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc tcagagtggg ggacaacagc tggaaacggc tgctaatacc 180
 gcataaaatt gttagaaggc atcttctgat aatcaaagct taatg 225

<210> 252
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 252
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtttaag acttcggttt taaaccgagt ggcggacggg tgagtaacgc gtgggtaacc 120
 tgccgtatgc agggggacaa cagttagaaa tgactgctaa taccgataa gcttacagta 180
 tcgcatgata cagttagaaa agatttatcg gcatacgtg gaccc 225

<210> 253
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

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<400> 253
agagtttgat cctggctcag gacgaacgct ggcggatgc ttaatacatg caagtcgaac 60
ggagcttagc ggaagcttgc ttctgcgaaa gcttagtggc ggacgggtga gtaacgcgtg 120
agtaacctgc cttaaagagg gggataacac agagaaattt gtgctaatac cgcataatgt 180
agcgaagccg catgactttg ctaccaaagg tcagccgctt taaga 225

<210> 254
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Mogibacterium*

<400> 254
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
gagaatctct tcagaagcgt tttcggacaa ttccgaggag aggaaagcgg cggacgggtg 120
agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa 180
cctcataatg ccatctttac acatgttttag atggccaaag attta 225

<210> 255
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Roseburia*

<400> 255
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaatTTTTTT ctgaaggaag cttcggcaga cggaaggaag aagtgagtgg cggacgggtg 120
agtaacgcgt ggtaacctg cctcacattg ggggatacca gtcggaaacg actgctaata 180
ccgcataaga ccacggcacc gcatggtgct gtggccaaaa ctccg 225

<210> 256
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 256
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
gaagcgtctt ggaagattcc tttgggatga ttcttagtg acttagcggc ggacgggtga 120
gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagcg cacagcatgg catcatgcag tgtgaaaaac tccgg 225

<210> 257
<211> 225
<212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pelotomaculum

<400> 257

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagattaag atttcggttt taatctgagt ggcgaacggg tgagtaacgc gtgagcaacc 120
 tgcccttcag agggggataa ccgctggaaa cagcagctaa taccgataa gaccacagcc 180
 cggcatcggg gaggggtcaa aggagcaatc cgctgaagga ggggc 225

<210> 258

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pelotomaculum

<400> 258

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcagggg acttcggttc tctgctgagt ggcgaacggg tgagtaacgc gtgagcaacc 120
 tgacctgag agggggataa cgacgggaaa ctgtcgctaa taccgatga gaccacagcc 180
 cggcatcggg gaggggtcaa aggagaaatc cgctgaagga ggggc 225

<210> 259

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 259

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagctgcga cgctgaggag tggagtactt gtacaaagcg aatcttgtcg tagcttagtg 120
 gcggacgggt gagtaacgtg tggataacct ggtccatcca gggggatagc agctggaaac 180
 ggctggtaat accgataag cgacagaga ggcattcttc ggtgt 225

<210> 260

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Robinsonella

<400> 260

agagtttgat cctggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gagggaaaag gagcttgctc ctttgacctt gtggcggacg ggtgcgtaac gcgtgggtaa 120
 tctgccctgc acagggggat aacgtataga aatgtacgct aataccgat aagcccacag 180
 agtggcatca ctcaggggga aaagcgaata cggtgcagga tgagc 225

ASBI_002_03W0_SeqList_ST25

<210> 261
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 261
 agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggactgatta ggtagcttgc tacttatgaa agttagtggc ggacgggtga gtaacgcgtg 120
 ggtaacctgc ctcacacagg gggataacag ttggaaacga ctgttaatac cgcataagcg 180
 cacaggatcg catggtctag tgtgaaaaac tccggtggtg tgaga 225

<210> 262
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Wautersiella

<400> 262
 agagtttgat cctggctcag gatgaacgct agcgggaggc ttaacacatg caagccgagg 60
 ggtatttgat gcttgctaca aagagaccgg cgcacgggtg cgtaacgcgt atgcaacttg 120
 ccctactgaa agggatagcc ttttgaaaag aagattaata cttataata gtgagactgg 180
 catcagtaac acttgaaaga tttatcgag taggataggc atgcg 225

<210> 263
 <211> 184
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 263
 agagtttgat catggctcag gatgaacgct ggcggcgtgc tttgcacaat gggggaaacc 60
 ctgatgcagc gacgccgct gagtgatgaa gtatttcggt acgtaaaact ctatcagcag 120
 ggaagaaaat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgagg 180
 taat 184

<210> 264
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Planctomyces

<400> 264
 agagtttgat cctggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgtac 60
 ggtgaagggg agcttgctcc tccgatcagt ggcgaaaggg atagtaacgc gtagacacct 120

ASBI_002_03W0_SeqList_ST25

accttctgga cggggatagc tgcgggaaac tgcaggtaat acccgataat gacgagagtc 180
 caaaggtgta attccttcag aagacggatc tgcgtcctac cagat 225

<210> 265
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 265
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggataagg gagcttgctt cttatgaga gcggcggact ggtgagtaac acgtgggtaa 120
 cgcaccctcc tgacggggac agcctgtgga aacacagggt aataccggat gagatggact 180
 tctggaagg agttcatgaa aggagctacg gctccgcagg gggaa 225

<210> 266
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 266
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagagagatt ggtgcttgca cggatcaatc gactggcgga cgggtgagta acgcgtgggt 120
 aacctgcctc atacaggggg ataacaactg gaaacggttg ataataccgc ataagcgcac 180
 ggtatcgcac gatacagtg gaaaaactcc ggtggtatga gatgg 225

<210> 267
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paracoccus

<400> 267
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
 gaacccttcg gggtagcgg cggacgggtg agtaacgcgt gggaacgtgc ctttgctac 120
 ggaatagccc cgggaaactg ggagtaatac cgtatacgc cttaggggga aagatttacc 180
 ggcaagggat cggcccgcgt tggattaggt agttggtggg gtaat 225

<210> 268
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 268

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agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
 ggtgaatgat cagtttactg aacattcata gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180
 tctcgcatgg gaatgctatc aaaagaaatt cgctcagaga tgggc 225

<210> 269
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Atopobium*

<400> 269
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggttaaagcc cttcggggg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
 tacctcttgc tctgggatag cctcgggaaa ccgtgggtaa taccggatac tctgtaactg 180
 tcgcatggcg gatacaggaa agcgcatacg gcaagagatg ggccc 225

<210> 270
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 270
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg aggtagcttg ctatctccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctgaggta ggggacagcc cggtgaaaac cggattaata ccctatgttg 180
 tcacgataag gcatctgagc gtgacgaaag attcatcgcc tcagg 225

<210> 271
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 271
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggtgaagggg cttcgggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaaccta 120
 ccttcttgtg ggggataaca cagggaaact tgtgctaata ccgcataacg tatctgacct 180
 gcatggggcg gatacceaag atttattgca gggagatggg ctcgc 225

<210> 272
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 272
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagttacat tagcttgctt ttgtaactta gcggcggatg ggtgaggaac gcgtggataa 120
 cctgcctcac actgggggat aacagctgga aacggctggt aataccgcat atgctcacag 180
 taccgcatgg tacaggagg aagatttat cgggtgaga tggat 225

<210> 273
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 273
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaggatcac attggaagcc ttcgggtgga agaagtgaaa cttagcggcg gacgggtgag 120
 taacgcgtgg gtaacctggc tcatacaggg ggataacaga gagaaatttc tgctaatacc 180
 gcataagcgc acagcaccgc atggtgcagt gtgaaaaact cgggt 225

<210> 274
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 274
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatttc ggaatgcggc ttcggccaaa tgaagaactg acttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc cttgtactgg gggataacag ttagaaatga ctgctaatac 180
 cgcataagcc cacggtttcg catggaactg tgagaaaaga tttat 225

<210> 275
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 275
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcgaga agaaagcttg ctttcttgt cggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaaccta ccctttacac tgggatagcc cgttgaaaag cggattaata ccagatgcag 180
 tcctttgcgg acatctaagt aggacgaaag gttttccgg tagag 225

<210> 276

ASBI_002_03W0_SeqLi st_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Dethi osul fovi bri o

<400> 276
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcgccgg gacggaacc ttcgggggga agaccgatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctgcgataga gggataacac cgggaaaccg gtgctaatac 180
 cacatgacgc agcgggggtca catggccctg ttgttaaaga tttat 225

<210> 277
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um XI

<400> 277
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagatcgg agcgggaacc ttcgggggga agatctgtag actgagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctacaagagg gggacaacag ctggaaacgg ctgctaatac 180
 cgcataagac cacgctatcg catggtagag gggtaaaga tttat 225

<210> 278
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um IV

<400> 278
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagttccgt tgaatgat ttcgggcaaa ggagacggac acttagtggc ggacgggtga 120
 gtaacgcgtg agtaacctgc ctttcagagg ggaataacat ttggaaacga atggtaatac 180
 cgcataacat caaggagccg catggcactt tgatcaaagg agcaa 225

<210> 279
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 279
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagatatac ggaagcttgc tttgtatat ttagtggcg gacgggtgag taatgcatga 120
 gcaacctgcc ttaaagagg ggataacaca gagaaatttg tgctaatacc gcataagctg 180

ASBI_002_03W0_SeqList_ST25

cgaaggaggc atctcccatg cagaaaagga gcaatccgct ttaag 225

<210> 280
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*

<400> 280
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggaacttttg agtgacttcg gtctctcttg agtttagtgg cggacgggtg agtaaagcat 120
 gagtaacttt cccttgagtg ggaataact tttggaaca gaagataata ccgcatactt 180
 caaaggatcg catgatcttt tggcaaagat tttcgctttt ggata 225

<210> 281
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*

<400> 281
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcataga gattagattt cttcggattg aagatthtta tgacttagtg gcgaacgggt 120
 gagtaacgcg tggtaacct gcctcatgca ggggataac aattagaaat gattgctaata 180
 accgcataag accgcagaac cgcatggttg agcggccaaa gattt 225

<210> 282
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 282
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcactta cacttgattt cttcggattg aaagagtttg tgactgagtg gcggacgggt 120
 gagtaacgcg tggataacct gcccttcaca ggggataac agttagaaat gactgctaata 180
 accgcataag cgcacactaa ggcatcttag ggtgtgaaaa gctcc 225

<210> 283
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 283
 agagtttgat catggctcag gatgaacgct agcagaatgc ttaacacatg caagtcgaac 60

ASBI_002_03W0_SeqList_ST25

gaatcttcgg attagtggca gacgagcgag taacacgtac ttaacttgcc cttgagttgg 120
 gaacaactat agagatatag ctaattccca atatgctcac gatggtgaaa tcccgatgtg 180
 aggaaagatt tatcgctcaa ggagaggggt gcgtcctatc aggta 225

<210> 284
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 284
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggattgttt acaatccagt ggcggacggg tgagtaatgc atgagtaatc tgcctgaaag 120
 aggggatag cttctggaaa cagaagataa taccgcatat ttcaaaattt ccgcatggtt 180
 tttttgcaa aggagcaatc cactttcaga tgagctcatg tccga 225

<210> 285
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 285
 agagtttgat catggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgaaggggtg aggaacgcgt gagcaacctg ccctcaagtt 120
 ggaataaca gttggaaacg actgctaata ccgaatgtgg cttttgaacc gcatggttta 180
 ttggctaaag atttattgct tgaggatggg ctcgcgtccc attag 225

<210> 286
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 286
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtctta cagatgaagc ttcggccgat gaagtttgaa cttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc ttacagaggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataacgta tttggagggc atcctctgga taccaagat ttatc 225

<210> 287
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pelotomaculum

ASBI_002_03W0_SeqList_ST25

<400> 287
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtaaaga gcttcggttt ttacttagt ggcgaacggg tgagtaacgc gtgagcaacc 120
 tgactctttg agggggataa cagtcggaaa caactgctaa taccgataa gaccacgaac 180
 cggcatcggg atgaggtcaa aggagcaatc cgagagaga ggggc 225

<210> 288
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 288
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcattc tcccgtaaa gtagattagc ttgctatgaa gcggagacat ttgaagtgc 120
 ttagtggcgg acgggtgagt aacgcgtggg taacctgcc tgtactgggg gacaacagtt 180
 ggaaacggct gctaataccg cataagcgca cagcatcgca tgggtg 225

<210> 289
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 289
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 gagcgagggg aagcaattcc ctttgctagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tacctttacg agtgggataa caattgaaa cgattgctaa taccgataa cgtatagata 180
 tcgcatgaca ttataccea agaaaatcgc gtaaagatgg gctcg 225

<210> 290
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 290
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggaaccttg tgacggagac ttcggtcaaa gatgcaagaa ttctagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ccttaagagg cgaataacag tgagaaatca ctgctaatac 180
 gccatagct tacggaatcg catgattttg tgaggaaaag aattt 225

<210> 291
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Coprococcus

<400> 291

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gaagcactta cgattgactg gagagcttgc tcgaagggat tttgtttgtg acttagtggc      120
ggacgggtga gtaacgcgtg ggtaacctgc ctacacagg gggataacag ttggaaacga      180
ctgttaatac cgcataagcg cacggtatcg catgatacag tgtga                        225
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<210> 292

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 292

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac      60
gaggaattgc gattgaagtt ttcggatgga tttcgctttt ccgagtggcg gacgggtgag      120
taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc tggaaacggc tgctaatacc      180
gcataacccg ctagagtcgc atgactcaga cggaaaagat ttatc                        225
```

<210> 293

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Vb

<400> 293

```
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc      60
gaaggacaaa gagcttgctc tttgttactt agcggcggac gggtagtaac cgtgtgggca      120
atctgcccta tgcagaggaa taacatagag aaatttatgc taatgcctca taaactctta      180
gtactgcatg gtacatagag aaaagattta tcggcatagg aggag                        225
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<210> 294

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Papillibacter

<400> 294

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac      60
ggacgagagg gggcttgctc cctcaagtta gtggcggacg ggtgagtaac gcgtgagcaa      120
cctgcctttt ttcgggggat aacacgggga aaccggtgct aataccgcat aacgtaccga      180
gaccgcatga tcatgttacc aaaggagcaa tccgaggaaa gatgg                        225
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ASBI_002_03W0_SeqList_ST25

<210> 295
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bartonella

<400> 295
 agagtttgat cctggctcag aacgaacgct gtcgacatgc ttaacacatg caagtcgtac 60
 gggataact tgttatacca gtggcaaacg ggtgagtaat gcgtaggaat gtaccaata 120
 gtctcgaata acaattggaa acgattgata atacgagata caatggaaca tgggaccatg 180
 tgacatgaaa ggttcagcaa tggactgcta taggagcagc ctacg 225

<210> 296
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 296
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 gagcgagagg aagcaattcc ttttgctagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tacctttgtg agtgggataa caattggaaa cgattgctaa taccgataa cgtatagata 180
 ttgcatgata actataccea agaaattcgc acaaagatgg gctcg 225

<210> 297
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 297
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaattaa gaaatgattc ttcggatgaa tttctttaag gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca tttttgccgc atgacagaga tgccaaagat ttatc 225

<210> 298
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 298
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggaaagcgc cctcgggcgc gactacagtg gcgaacgggt gagtaacacg tgaccaacct 120

ASBI_002_03W0_SeqList_ST25

gcccccgca ccgggatagc cgggcgaaag cccgggtaat accggatgac cccgcaccgc 180
 ggcatcgcgg cgcgggcaaa gccagacgg cgggggatgg ggtcg 225

<210> 299
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 299
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggactgattt gatagcttgc tattgatgaa agttagtggc ggacgggtga gtaacgcgtg 120
 agcaacctgc ccctatgtgc gggataacgt ttggaaacgg acgctaatac cgcataatcc 180
 aatggaatcg catggtttta ttggcaaaga tttattgcat aggga 225

<210> 300
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia

<400> 300
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttatt ttttgagac ttcggtcaaa gaagcttaag cttagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc ctgtaccggg ggataacagc cggaaacggc tgctaatacc 180
 gcataagcgc acgaggccgc atggccctgt gtgaaaaact cgggt 225

<210> 301
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 301
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcactg gggtggttg ccatccctgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccgaaccg cggtatagcc cgccgaaagg cggattaatc ccgcatgtgg 180
 tcgtgagatg acatctgacc acgactaaag gtatitttccg gttcg 225

<210> 302
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 302

ASBI_002_03W0_SeqList_ST25

agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
gaattagttt caccgtagct tgctacaccg agactaatta gtggcggacg ggtgagtaac 120
acgtgagcaa tctgcctttc agagggggat accagttgga aacgactgtt aataccgcat 180
aacatatgtt taccgcatga tagacatatc aaagatttat cgctg 225

<210> 303
<211> 150
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Selenomonas

<400> 303
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggacgaatgt tgaggcctag aacatagggt tcaaatgacg gtacctgacg aggaagccac 120
ggctaactac gtgccagcag ccgcgtaat 150

<210> 304
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 304
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac 60
gggatccacg cgcttgccg tggtgagagt ggcggactgg tgagtaacgc gtaggtgacg 120
taccctccgg acggggatag cccttagaaa taaggggtaa taccggatac ggttccgtgt 180
gtcagaggca cggaaggaaa ggagcttcgg ctccgccggg ggatc 225

<210> 305
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Adlercreutzia

<400> 305
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gattaaagcc ccttcggggg tgtatagagt ggcgaacggg tgagtaacac gtgagcaacc 120
tacctctcac accgggataa catatggaaa cgtatgctaa taccggatac tccggaactt 180
acgcatgttc gttccgggaa agctccgacg gtgagagatg ggctc 225

<210> 306
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyrivibrio

ASBI_002_03W0_SeqList_ST25

<400> 306
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggaactattt tgactgattc cttcgggatg aagaatTTTT agtttagtgg cgatcggtag 120
ccggactgag aggttgaacg gccacattgg gactgagaca cggcccagac tcctacggga 180
ggcagcagtg ggggatattg cgcaatgggg gcaaccctga cgag 225

<210> 307
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Pseudoflavoni fractor

<400> 307
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggaatggt gaaagcttg ctttttaaca tttcgagtgg cggacgggtg agtaacgcgt 120
gaggaacctg tcttctacag ggggataacg tcccgaaagg gacgctaata ccgcataaga 180
ccacggtatc gcatgataca ggggtcaaag gagcaatccg gtaga 225

<210> 308
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Corynebacterium

<400> 308
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggtaaggccc cagcttgctg gggtagacga gtggcgaacg ggtgagtaac acgtgggtga 120
cctgccccgc acttcgggat aagcctggga aactgggtct aataccggat aggaccgcac 180
cgtgaggggtg tgggtgaaag tttttcgggtg tgggatgggc ccgag 225

<210> 309
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Adlercreutzia

<400> 309
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggttaaagcc ctttcggggg tgtataaagt ggcgaacggg tgagtaacac gtgagcaacc 120
tacctctcac accgggataa caactgaaa cggttgataa taccggatac tccgattgga 180
tcgcatgttc ctttcgggaa agctccgacg gtgagagatg ggctc 225

<210> 310
<211> 225
<212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Selenomonas*

<400> 310

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gagacgattg aaagcttgct tttagagatc gaggggcaaa cgggtgagta acgcgtagac      120
aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtgca      180
atctccgcat ggaggatgca ttaaagatgg cctctacttg taagc                          225
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<210> 311

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Coralimargarita*

<400> 311

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agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc      60
gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg      120
ccctaagac gggaatagct tgatgaaaat tgagataatg cccgatatcg aattcttccg      180
catgggagaa gtttgaaagg tttgtgatga cgcttaagga ggggc                          225
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<210> 312

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Paraprevotella*

<400> 312

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcagcgagt cggtagcaat actgatgtcg gcgaccggcg cacgggtgag taacgcgtat      120
gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggcca      180
gaggagggca tcctcgtctg gttaaagttc cggcggctctg gggtg                          225
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<210> 313

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Oscillibacter*

<400> 313

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gggacttatt ggaatgagac ttcgggtcaaa ggaaaataag tttagtggcg gacgggtgag      120
taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc      180
gcataacgtg tattggaggc atcttcggta caccaaagat ttatc                          225
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ASBI_002_03W0_SeqList_ST25

<210> 314
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Anaerovorax

 <400> 314
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctt tgattgacac ttcggttgat ttcaaaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ccttcagag ggatagcctc gggaaaccgg gattaaaacc 180
 tcataacacc gaacctacac atgttcgatc ggtcaaagat ttatc 225

 <210> 315
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium XI Va

 <400> 315
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatg caagtcgaac 60
 ggagttacat tgaacctag tgatatgtaa cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctacc tggatttggg ggacaacagt tagaatgac tgctaatacc gcatacgtca 180
 tcgagagggc atcctcttga tgagaaagga gcaatccgac atcag 225

 <210> 316
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Saccharofermentans

 <400> 316
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagtaagtg gagagcttgc ttgaaactta cttagcggcg gacgggtgag taacgcgtga 120
 gcaacctgtc ctctgcaggg ggataagaca gcgaaagttg ttctaatacc gcatgagacc 180
 acaacgtcac atggcgaagg ggtcaaagga ggaatccggc agagg 225

 <210> 317
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Erysipelothrix

 <400> 317
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggggtacctt cgggtacctt gtggcgaacg ggtgagtaac acataaaca tctgccctgg 120

ASBI_002_03W0_SeqList_ST25

agactgggat accgtcggga aaccgacgct aataccggat aggcagtaag ggggcatctc 180
 catactgta aagctgggtt gcagcgctgc aggatgagtt tatgt 225

<210> 318
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Agaricicola*

<400> 318
 agagtttgat catggctcag aacgaacgct ggcggcaggc ttaatccatg caagtcaagg 60
 ggggtgtagca atacacaacc ggcgtacggg tgagtaacgc gtgggaatgt gtccatttgt 120
 ggggaatagc ttctggaaac ggaaggtaat accgcatacg cccttcgggg gaaagattta 180
 tcgcagatgg agcggcccgc gttagattag ctagttgggtg gggta 225

<210> 319
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Denitrobacterium*

<400> 319
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaataaccg ccttcgggcg gtcataagat ggcgaacggg tgagtaacac gtgaccaacc 120
 ttcccccg atggggataa ccgggcgaaa gcccgctaa taccataac tccgggcct 180
 ccgcatggag gggccgggaa agcccaggcg gcgggggatg gggtc 225

<210> 320
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 320
 agagtttgat catggctcag gacgaacgct agcgacgtgc ctaagaaatg caagtcgagc 60
 gatgacggtg gcttcggctg cctgattagc ggcgaacggt cgcgtaacac gtaagcaatc 120
 tgcccaaag tttgggatag ccatccgaaa ggatgattaa taccgatgt ggaatatata 180
 tcgcatgta tatattctaa agtagcgata cgctttggga tgagc 225

<210> 321
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Asaccharobacter*

<400> 321

ASBI_002_03W0_SeqList_ST25

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccccgc ttcgggataa ctgctggaaa cggcagctaa taccggatac tccttcagca 180
 ccgcatggtg ctccagggaa agatttatcg gcgagggatg gggtc 225

<210> 322
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 322
 agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60
 gaattagatt catggcgaac gggtagtaaa cacgtaggta atctaccata aagacaagga 120
 taaccattgg aaacgatgga taagactcga taggacacga agtcgcatga ctttgtgttt 180
 aaaggttacg ctttatgagg agcctgcggt gcattagcta gttgg 225

<210> 323
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotell a

<400> 323
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga cggtagcttg ctatcgttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180
 tccgaagagg gcctctgatt tgaataaag attcatcgggt catgg 225

<210> 324
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiracea incertae sedi s

<400> 324
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaactgt gaatgaaatt ttcggatgga tttcgctttt ccgagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc cttcacaggg ggacaacagt cggaaacgac tgctaatacc 180
 gcataagccg acggagtcgc atgactcagc cggaaaagat ttatc 225

<210> 325
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 325
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacttatag atagaaagtg cttgactgga acatttaca gttagcggcg gacgggtgag 120
 taacgcgtga gcaacctgtc ctctacaggg ggataagatc tcgaaagga ttctaatacc 180
 gcatgagacc acagcagggc atcctgcggg ggtcaaagga ggaat 225

<210> 326
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Streptococcus
 <400> 326
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtagaac 60
 gctgaagact ttagcttgct aaagttgaa gagttgcgaa cgggtgagta acgcgtaggt 120
 aacctgccta ctagcggggg ataactattg gaaacgatag ctaataccgc ataacagcat 180
 ttaacccatg ttagatgctt gaaaggagca attgcttcac tagta 225

<210> 327
 <211> 166
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cellulolyticum
 <400> 327
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagttaag aaggttttcg gattgtaaac tcctgtttcg agggacgata atgacggtac 120
 ctcgggagga agctccggct aactacgtgc cagcagccgc ggtaat 166

<210> 328
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter
 <400> 328
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaagcg cttcggggcg tgtatagagt ggcgaacggg tgagtaacac gtgatcaacc 120
 tacctcgtac ttcgggatag cctcgtgaaa acgggattaa taccgatac tccgattaaa 180
 tcgcatgatt ctttcgggaa agcctttacg gtacgagatg ggatc 225

<210> 329
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Enterorhabdus*

<400> 329

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggtaaaccg gcttcggccg gaaataaagt ggcgaacggg tgagtaacac gtgaccaacc	120
tgccccgcg accgggacag cccccgaaa gggggattga taccggatac tccgccgggc	180
ccgcatgggc ccggcgggaa agctccggcg gcgcgggatg gggtc	225

<210> 330

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Treponema*

<400> 330

agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc	60
gggattcatg tgcttgaca tgatgagagc ggcggactgg tgagtaacac gtaggtgacg	120
taccttgagg acggggacag ccggcagaaa tgccgggtaa taccggataa gctcgcgcga	180
gccggaatcg cgcgaggaaa ggagctaagg ctccgcctct agagc	225

<210> 331

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Roseburia*

<400> 331

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggagcacatt aagcgagacc ttcgggtgga actttttatg cttagtggcg gacgggtgag	120
taacgcgtgg gtaacctgcc ttatacagg ggataacaga gagaaatttc tgctaatacc	180
ccataagcgc acagtatcgc atgatacagg gtgaaaagga tttcc	225

<210> 332

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Victivallis*

<400> 332

agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac	60
gaagcagcaa tgcttagtgg cggaaggtg aggaacgcgt gagtaatctg ccctcaagtt	120
gggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgcaagacc gcatgatttt	180
gcagttaaag attattgct tgaggatgag ctgcgctccc attag	225

ASBI_002_03W0_SeqList_ST25

<210> 333
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 333
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcatcatga agggagcttg ctctctttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctagta gggaacagcc cgtagaaatg cggattaatg ccctatgttc 180
 tccgaagacg gcatcagatt cggagcaaag gcctttggcc gctag 225

<210> 334
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*

<400> 334
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagatatcg gcttcggctg atatctcagt ggcggacggg tgagtaacgc gtgggtaacc 120
 tgccttacac cgggggacaa cagttggaaa cgactgctaa taccgataa gaccacggag 180
 ccgcatggcc ctggggtaaa agatttatcg atgtaagatg gaccc 225

<210> 335
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Ruminococcus*

<400> 335
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
 ggtgaatgat tagcttgcta gacattcata gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcat 180
 tctcgcatgg gaatgctatc aatgaattt cgctcagaga tgggc 225

<210> 336
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Mogibacterium*

<400> 336
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaaatctt tcagacgatt cttcggatga gtcaggaaga tggaaagcgg cggacgggtg 120

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agtaacgcgt aggcaacctg ccctcagcag agggatagcc attggaaacg atgattaataa 180
 cctcataatg ctgaaccaac acatgttggga tcagccaaag attta 225

<210> 337
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 337
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatagt gaatgaagtt ttcggatgga tttcactttg acttagtggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc ccttaaccgg gggacaacag ttggaaacga ctgctaatac 180
 cgcataagcg cacgtgaccg catggctcgag tgtgaaaaat tccgg 225

<210> 338
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 338
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccatgacc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
 tcgaaagagg acatctgatt tcgaccaaag cttttgcggt catgg 225

<210> 339
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*

<400> 339
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaaccatg caagtcgaac 60
 ggacgagacg acttcggttg tcaagtcagt ggcggacggg tgagtaacac gtgaacaacc 120
 aacctatac tgggggacaa catttgaaa cgaatgctaa taccgataa gaccacagag 180
 ccgcatggct cagaggtcaa aggagaaatc cggtatgaga cgggt 225

<210> 340
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 340

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agagtttgat cctggctcag aacgaacgct ggcggcatgg attagggatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgcaaggggtg aggaacacgt gagtgacctt cccgcaagtt 120
 tggaaacagct cctggaaacg ggaattaata ccggatgtga tcatgaagct gcatggtttc 180
 atgattaaag cagcaatgcg cttgcggatg ggctcgcgct ccatt 225

<210> 341
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 341
 agagtttgat cctggctcag gacgaacgct ggcgggtgtgc ctacatcatg caagtcgaac 60
 gataaggtct cttcggagat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccttaaggcg ggggacaaca gagggaaact tctgctaata ccccatatga gctaagctga 180
 aatgcttatc ttgaaagctc cggcgccttg agatgagcct gtgcc 225

<210> 342
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 342
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 ggaataagg gagcttgctt cttatgaga gcggcggact ggtgagtaac acgtgggtaa 120
 cgcatcctcc tgacggggac agcctgtgga aacacagggt aataccggat gagatggact 180
 tctggaagg agttcatgaa aggagctacg gctccgcagg gggaa 225

<210> 343
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Stenotrophomonas

<400> 343
 agagtttgat cctggctcag agtgaacgct ggcggtaggc ctaacacatg caagtcgaac 60
 ggcagcacag gggagcttgc tccccgggtg gcgagtggcg gacgggtgag gaatgcatcg 120
 gaatctactc tttcgtgggg gataacgtag ggaaacttac gctaataccg catacgacct 180
 acgggtgaaa gcaggggacc ttttaggcct tgccgcgattg aatga 225

<210> 344
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 344
 agagtttgat catggctcag gatgaacgct agcagaacgc ctaacacatg caagtcgaac 60
 gccccgattt atcggggagt ggcagacgag cgagtaacac gtacttaact tgcccttgag 120
 atgggaacaa ctgcagagat gtagctaatt cccaatatgc tcacgatggt gaaatcccaa 180
 tgtgaggaaa gatttatcgc tcaaggagag ggggtgcgtcc tatca 225

<210> 345
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 345
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggaacctca cagtggagac ttcggtcaaa gcagtgagaa ttctagtggc ggatgggtga 120
 gtaacgcgtg ggtaacctgc ctataagaat tggataacag tgagaaatca ctgctaatac 180
 aatataagct tacagtatcg catgataaag tgagaaaaga tttat 225

<210> 346
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingobium
 <400> 346
 agagtttgat cctggctcag agtgaacgct agcggaatgc tttatacatg caagtcgaac 60
 ggaaaattag aaggagtagc aatacaaat tgaagttttt agtggcgaac tggcgagtaa 120
 tagttaggaa cttaccgagt agtggggggac aacagttaga aatgactgct aataccgcat 180
 acgcccgaga ggggaaagat ttatcgctat ttgagaggcc taacc 225

<210> 347
 <211> 184
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis
 <400> 347
 agagtttgat catggctcag gataaacgct ggcggcgtgc tttggacaat gggggcaacc 60
 ctgatccagc gacgccgct gagcgaagaa gtatctcggc atgtaaagct ctatcagcag 120
 ggaagataat gacgtacct gactaagaag caccggctaa atacgtgcca gcagccgagg 180
 taat 184

<210> 348

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 348
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacgaggcg gagcttgctc tgccgagtta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgcctttc agagggggac aacgttggga aaccggcgct aataccgcat aatatgcttt 180
 tgccgcatga cagaagtatc aaaggagcaa tccgctgaaa gatgg 225

<210> 349
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Methylobacterium*

<400> 349
 agagtttgat catggctcag agcgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 ggacctttcg gggtcagcgg cggacgggtg agtaacgcgt gggaacgtgc cttccggttc 120
 ggaataacc tgggaaacta gggctaatac cggatacgcc cttatgggga aaggtttact 180
 gccggaagat cggcccgcgt ctgattagct agttgggtggg gtaac 225

<210> 350
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Zhangella*

<400> 350
 agagtttgat cctggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggtgttgcat agcacttggt ttatgtaaca tagtggcaaa cgggtgagta acgcgtggaa 120
 acataccct cagtattgga taacgtttgg aaacgaacgc taatacaata tacgctcgag 180
 agaggaaaga gagatcgctg agggagtggg cgcgctcaga ttaga 225

<210> 351
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 351
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagttggtt caccgaatga actggagagc ttgctcaaag gggaattcac cgagacaact 120
 tagtggcgga cgggtgagta acgcgtgggt aacctaccct taccaggggg ataacagtcg 180

gaaacgactg ctaataccgc ataagcgcac agtatcgcat gatac 225

<210> 352
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 352
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctcttt tcaatgcgat tcgtcaagtt gaaaggatga cttagtggcg aacgggtgag 120
 taacgcgtga gcaacctgcc cgggagtggg ggacaacagt tggaacgac tgctaatacc 180
 gcatgacatg ttcggatggc atcatctgaa catcaaagat ttatt 225

<210> 353
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium*

<400> 353
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaacttacta gcaatagtaa gttagtggcg gacgggtgag taatacatga gtaacctgcc 120
 ttatacaggg ggataacacc tagaaatggg tgctaatacc gcataataac tcagtatggc 180
 atcatattga gaggaagga gcaatccggt aaaagatgga ctcac 225

<210> 354
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coralimargarita*

<400> 354
 agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgagc 60
 gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120
 cccttaagac gggaacagct tgatgaaaat tgagataatg cccgatatcc gcttctttcg 180
 catgggagaa gtcggaagg tttgtgatga cgcttaagga ggggc 225

<210> 355
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eubacterium*

<400> 355
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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gagaagtggg gaaatgaaac ttcggtagat tggatccatg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca agagtaccgc atgatacact tgccaaagat ttatc 225

<210> 356
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 356
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaaccg ccctcgggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacag cccccgaaa gggggattaa taccggatac tccggggccc 180
 ccgcatgggg gccccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 357
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 357
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttcta ttcgcggagg cttcgccga aggggatatg aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttacaccg ggggataaca gagggaaact tctgctaata 180
 ccgcataaga ccacagtgcc gcatgttaca gaggtaaaag ttccg 225

<210> 358
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 358
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaagactt ttaggaagat ttcggttga ataaaagtat tctagtggcg gacgggtgag 120
 taacgcgtaa acaatctgcc ttagagaggg ggataacaga tagaaatatt tgctaatacc 180
 gcataagacc acgttaggc atctagatgg ggtaaaagga gcaat 225

<210> 359
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

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<400> 359
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
ggacaagagg gggcttgctc ccttgcgta gtggcggacg ggtgagtaac gcgtgagcaa 120
cctgcctttc tccgggggat aacattggga aaccgggtgct aataccgcat aacgtacaga 180
gatcacatgg tcattgtacc aaagatttat cggggaaaga tgggc 225

<210> 360
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 360
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggggactgca cgacggattt gaagatttcg gttggatatg aagatgtaca gttctagcgg 120
cggacgggtg agtaacgcgt gagcaacctg tcccttacag ggggataaca cagcgaaggt 180
tgtactaata ccgcatgaga ccacgatatc acatgggtata ggggt 225

<210> 361
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Victivallis

<400> 361
agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
gaagcagcaa tgcttagtgg cggaaggggtg aggaacgcgt gagtaatctg cccccaagtt 120
gggaataaca gttgaaacg actgctaata ccgaatgtgg ctgcgaagtc gcatgatttt 180
gcagttaaag atttattgct tggggatgag ctgcgctccc attag 225

<210> 362
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coprococcus

<400> 362
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggagtactta cgctgatgaa gcttcggcag agtcttgtaa gtacttagtg gcggacgggt 120
gagtaacgcg tgggtaacct gccttatacc gggggataac gtctggaac ggacgctaata 180
accgcataag cgcacgatga ggcatttgt tgtgtgaaaa actcc 225

<210> 363
<211> 225
<212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pseudomonas

<400> 363

agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggataatg acttcggttg ttattcgagt ggcggacggg tgagtaacgc gtgagcaatc 120
tgtcctaag aggggataa caactggaaa cagttgctaa taccgataa gaccacggcc 180
tcacatgggg ctgaggtaaa agaagcaatt cgcttaaggg tgagc 225

<210> 364

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaerobaculum

<400> 364

agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctaagagac 120
gaggataacc attgaaacg atggataata ctggatagga tataataagg catcttgta 180
tattaaaga tttatcactt ttagaggggc ctgcggcgca ttagc 225

<210> 365

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaerobaculum

<400> 365

agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggtgtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttact 120
gacgaggata accgttgaa acgacggata atactggata ggacatcata aagggcattc 180
ttagatgttt aaaggagcaa tccacggtaa gaggggcctg cggcg 225

<210> 366

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 366

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccctaccg ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
ttatgattcc gcatgggaat ataacgaaag attcatcggg agggg 225

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<210> 367
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Acinetobacter*

 <400> 367
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 ggggataggg tgcttgacc tgattcctag cggcggacgg gtgagtaatg cttaggaatc 120
 tgcctattag tgggggacaa cgttccgaaa gggacgctaa taccgatac gtcctacggg 180
 agaaagcagg ggatcttcgg accttgcgct aatagatgag cctaa 225

 <210> 368
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Victivallis*

 <400> 368
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attagggatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cggaaggggtg aggaacgcgt gagtaatctg ccctcaagtt 120
 gggataaca gctggaaacg gctgctaata ccgaatgtgg ctgttgggtc gcatgatctg 180
 acagttaaag attattgct tgaggatgag ctgcggtccc attag 225

 <210> 369
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Victivallis*

 <400> 369
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attagggatg caagtcgaac 60
 gggcagca atgcaccagt ggcgcaaggg tgaggaacac gtgagtaatc taccctcaag 120
 attgggatag ctctggaaa cggaattaa taccggatga aacagtatgt ccgcatggat 180
 gtacttttaa agcagcaatg cgcttgagga ggagctcgcg tccca 225

 <210> 370
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Mogibacterium*

 <400> 370
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagattctgt cagatgagac ttcggtggat tcagacggat gaaagcggcg gacgggtgag 120

ASBI_002_03W0_SeqList_ST25

taacgcgtag gcaacctgcc ccatgcacag ggatagccac tggaaacggt gattaatacc 180
 tgataatgcg gaccgtatgc atatacggac tgccaaagat ttatc 225

<210> 371
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 371
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtgccct tgaagaggt ttcggccaat ggaaggggtt acttagtggc ggactggtga 120
 gtaacgcgtg aggaacctgc ctttcagagg gggacaacag ctggaaacgg ctgctaatac 180
 cgcattgacac attcgggagg catcgcctgg atgtcaaaga tttat 225

<210> 372
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrimonas

<400> 372
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcacgg cggtagaac actgctggtg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc ccgacaggg ggataatccg cggaaacgcg gtctaatacc ccgtagaacc 180
 tttggtcgca tgattagagg tggaaagctc cggtaggtgcg ggatg 225

<210> 373
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Dethiosulfovibrio

<400> 373
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcggcgg gacggaacct ttcgggggga agaccgatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctgcataga gggataacac cgggaaaccg gtgctaatac 180
 cacatgaggc agagaggtca catggtcttt ctgttaaaga tttat 225

<210> 374
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifractor

<400> 374

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agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
ggcgaagtcc cttcgggggc ggaacagtgg cggacgggtg agtaacgcgt gagtaacctg 120
cccttacgag cggaatagcg tcgggaaact gacggtaata ccgcatgaag cttgaccccc 180
gcatcgggga gaagccaaag atttatcgcg taaggatgga ctcgc 225

<210> 375
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 375
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagcttttt atgaacaaga cttcgggtcaa gtaaattcta agcttagtgg cggacgggtg 120
agtaacgcgt gagtaacctg ctttcagag ggggataacg ttcggaaacg aacgctaata 180
ccgcataaca tagcgaacc gcatgattct gctatcaaag atttt 225

<210> 376
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaeropl asma

<400> 376
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tcttacagac 120
gaggataacc gttggaacg acggataata ctggatagta catcacaatg ggcatccata 180
gatgtttaa ggagcaatcc actgtaagag ggcctgcgg cgcac 225

<210> 377
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Oscillibacter

<400> 377
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagcttatt ggaaggagac ttcgggtcaac ggaagataag cttagtggcg gacgggtgag 120
taacgcgtga gcaacctgcc tcagagtggg ggacaacagc tggaaacggc tgctaatacc 180
gcataacatt gcctgaaggc atcttcgggt aatcaaagct taatg 225

<210> 378
<211> 225
<212> DNA
<213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Herbiconiux

<400> 378
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggacggaagt agcaatactg aagttagtgg cgaacgggtg agtaacacgt gagcaacctg 120
 ccctatacac tgggatagca gttggaacg actgataata ccggataaga ccacgctgtc 180
 gcatgacaga ggggtcaaag cgcttttagcg gtatgggatg ggctc 225

<210> 379
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 379
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaagcagt gaagggagtc ttcggacaaa cggaactgtg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca gagatgtcgc atggcaattc tgccaaagat ttatc 225

<210> 380
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 380
 agagtttgat catggctcag gacgaacgct tgcgacgtgc ctaagaaatg caagtcgagc 60
 gatgacgggg gcttcggctc cttgattagc ggcgaacggt cgcgtaacac gtaagcaatc 120
 tgcccaaaag tttgggatag ccatccgaaa ggatgattaa taccggatgt ggaatatata 180
 tcgcatgta tatattctaa agcagcgatg cgctttggga tgagc 225

<210> 381
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 381
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacgattt taagcttgct tagatgagtc gaggggcaaa cgggtgagta acgcgtagac 120
 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtcaa 180
 gtttccgcat gggagcttga ttaaagatgg cctctacttg taagc 225

<210> 382

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 382
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcttgat ttaagatttc ttcggaatga ttaatgatat gacttagtgg cggacgggtg 120
 agtaacgcgt gaggaacctg cctttcagag ggggacaaca tttggaaacg aatgctaata 180
 ccgcataacg catttaaggg acatcccata gatgccaaag attta 225

<210> 383
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 383
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatctct tcagaagcgt tttcggacaa ttccgaggag aggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
 cctcataatg ctgtttgtgac acatgtcaga gcagccaaag attta 225

<210> 384
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 384
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagaagggg gcttcggtcc cctgatcagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgcctttgtg tggggaataa cacagggaaa cttgtgctaa taccgataa cgcacgcagc 180
 tagcattacg atgatgcaa agatttattg cacgaagatg ggctc 225

<210> 385
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 385
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcgatcc tttgtgaagc gaagaagctt gcttcctagt ggaactgtgg attgacttag 120
 tggcggacgg gtgagtaacg cgtgggtaac ctgcctcaca cagggggata acagttagaa 180

atgactgcta ataccgcata aatggcagt gtcgcatgac acaac 225

<210> 386
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerobrio

<400> 386
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggggcgaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120
aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca 180
ttggtcgcac gaccgatgta ccaaaggccg ggcaaccggt cactg 225

<210> 387
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 387
agagtttgat cctggctcag gacgaacgct ggcggtatgc ttaatacatg caagtcgaac 60
ggagctcagc ggaagcttgc ttctgcgaaa gcttagtggc ggacgggtga gtaacgcgtg 120
agtaacctgc cttaaagagg gggataacac agagaaatct gtgctaatac cgcataatgc 180
agcgaagccg catggctatg ctgccaaagg tcagccgctt taaga 225

<210> 388
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Saccharofermentans

<400> 388
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagatgagg agaagcttgc ttcgagacat cttagcggcg gacgggtgag taacgcgtga 120
gcaacctgtc ctctgcaggg ggataagaca gcgaaagtgt ttctaatacc gcatgagacc 180
acaacgtcac atggcgaagg ggtcaaagga gaaatccggc agagg 225

<210> 389
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Saccharofermentans

<400> 389
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggacgatgaa gctcagcttg ctgagattca aagttagtgg cggactgggtg agtaatgtat 120
gagcaacctg cctttcagag ggaataaca caatgaaagt tgtgctaata ccgcataata 180
ttgtaatatt gcatgataat acaatcaaag gaggatccg ctgag 225

<210> 390
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 390
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgg gaggttgctg caattcccga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctt cccttaactc cggaaatagc cgctgaaagg cggattaatg ccggatgcgg 180
tccagcgagg gcatctgacc cggaccaaag gattcgtccg gttaa 225

<210> 391
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 391
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggaaatgttc tgatgaagtc ttcggataga ttcattacat tttagtggcg gacgggtgag 120
taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180
gcataagcgc aactgaggc atctcagagt gtgaaaaact ccggt 225

<210> 392
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Robinsonella

<400> 392
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagc 60
gatgaataaa ccgacaaggt ttcggccaag gaagtttatt cagagcggcg gatgggtgag 120
gaacgcgtgg ggaacctgcc tttcaccggg ggataccagc tggaaacggc tgtaataacc 180
gcatatgctc acagtgccgc atggcacagg gaggaaaact ccggt 225

<210> 393
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Brevundimonas

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<400> 393
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatcatg caagtcgaac 60
gataaggctt cttcggaagt acataagtgg cggacgggtg agtacaacat aggaaatctg 120
ccttaggggtg ggggacaaca gagggaaact cctgctaata ccccatatga gctaacttga 180
aatagttatc ttgaaaactc cggtgcccta agatgagcct gtgcc 225

<210> 394
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerotruncus

<400> 394
agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
ggagtgtgct ttgaaggct cttcggaac ggatgttgta cacttagtg cggacgggtg 120
agtaacgcgt gagcaacctg ctttcagag ggggataaca caacgaaagc tgtgctaata 180
ccgcatgaca ttgcgacacc gcatggtgat gcaatcaaag gagca 225

<210> 395
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Victivallis

<400> 395
agagtttgat catggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
gaagcagcaa tgcttagtg cgcaagggtg aggaacacgt gagtgacctt cccgcaagtt 120
tggacagct cctggaacg ggaattaata ccggatgtga tcgatgaact gcatggttta 180
ttgattaaag cagcaatgcg cttgcggatg ggctcgcgct ccatt 225

<210> 396
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Bacteroides

<400> 396
agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
ggcagcatgg ttgaagcttg cttcaactga tggcgaccgg cgcacgggtg cgtaacgggt 120
gtgcaattg tcctatacca aggatagcc cgctgaaagg cggattaata ctttatgtga 180
gtaggggggg catcctcttt atttgaacg tgagggtata ggttg 225

<210> 397
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Vb

<400> 397

agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
gaggtatagc aatataccga gtggcgaacg ggtgagtaac acgtgagcaa cctgccctat 120
acagggggac aacagctgga aacggctgct aataccgcat aagaccacag caccgcatgg 180
tgcaggggta aaaggctacg gtcggtatag gatgggctcg cgtac 225

<210> 398

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 398

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcatcatga agtttgcttg caagctttga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atccaatcta ccagttactc gggatatagc ttgcaaagt aagattaatc cccgatgagt 180
atagttactg catggtgatt atataaaaga tttatcggtg gctga 225

<210> 399

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Ruminococcus

<400> 399

agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
gagcgaagag agcttgctct ccaagctagt ggcggacggg tgagtaacac gtgagcaatc 120
tgcctttggg tgggggatac cagttgaaa cgactgttaa taccgataa aatagtaaga 180
ccgatgatc atactatcaa agattcattg cctgaagatg agctc 225

<210> 400

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pelobacter

<400> 400

agagtttgat cctggctcag aattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gaattcttac agagcatcgt aagagttagc ggcaaacggg tgagtaacac atgggaaacc 120
tccctcgaat tggggaatat cttcgtgaaa acggagttaa taccgataa gaccacagtt 180
tggcatcaga caggggtcaa agcagcaatg cgtttcgaga tggtc 225

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<210> 401
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 401
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttctta cggatcgcga cttcgggtcaa gagaagtttg aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttacaccg ggggataaca gagggaaact tctgctaata 180
 ccgcataaga ccacagtgcc gcatggtaca gaggtaaaag ttccg 225

<210> 402
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 402
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagataagt tgaagcctag cgattcttat cttagcggcg gatgggtgag taacacgtgg 120
 gtaacctgcc ctgcactggg gaataacagc tggaaacggc tgttaatgcc gcatatgcgc 180
 acggagccgc atggctttgg gcggaagat ttatcgggtgc aggat 225

<210> 403
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 403
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagcatagg tgcttgact tatgacttag cggcggacgg gtgagtaac cgtgggtaac 120
 ctgccctata cagaggaata acagttagaa atgactgcta atgcctcata agccgacgaa 180
 atggcatctt tttgtcggaa aagatttatc ggtataggag ggacc 225

<210> 404
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 404
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagtgtcaa ttcttcggag ctgacactta gtggcggacg ggtgagtaac gcgtgggtaa 120

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cctgcctcat acaggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 catcgcatga tgcagtgtga aaaactccgg tggatgaga tggac 225

<210> 405
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 405
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttattc gaaagcttgc ttttgataa cttagtggcg gacgggtgag taacgcgtga 120
 gtaacctgcc tttcagaggg ggataacggt ctgaaaagaa cgctaatacc gcataatgta 180
 taattgtcgc atggcagcga taccaaagga gcaatccgct gaaag 225

<210> 406
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 406
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaacttta aggaacaaga cttcgggtcaa gtgatattta agtttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg cctctcagag ggggataacg tccggaaacg gacgctaata 180
 ccgcataaca tggagagatc gcatgatcat tccatcaaag atttt 225

<210> 407
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 407
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcactta cgattgactg gagagcttgc tcaaagggat tttgtttgtg acttagtggc 120
 ggacgggtga gtaacgcgtg ggtaacctgc ctatacagg gggataacag ttggaaacga 180
 ctgtaatac cgcataagcg cacagtaccg catggtacag tgtga 225

<210> 408
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 408

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agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cggaaggggtg aggaacgcgt gagcaacctg cccccaagtt 120
 ggaataaca gttgaaacg actgctaata ccgaatgtgg cttttggacc gcatggtttg 180
 atggctaaag atttattgct tggggatggg ctgcgtccc attag 225

<210> 409
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 409
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagcttaag aagtcagaag ttttcggacg gaagacattt taagcttagc ggcggacggg 120
 tgagtaacgc gtgggcaatc tgccttcac agggggataa cacagggaaa cttgtgctaa 180
 taccgataa gatcgtataa cggcatcgtt aagcgaccaa aggag 225

<210> 410
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerobrio

<400> 410
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca 180
 ttggtcgcgcat gaccgatgta ccaaaggccg ggcaaccggt cactg 225

<210> 411
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 411
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaatcat cagaatgaaa cttcggtaga tttcagatga tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg ccctttgcag agggatagcc atgggaaact gtgattaata 180
 cctcataaca ccattctatc acatgttaga acgggtcaaag attta 225

<210> 412
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Proteini clasticum*
 <400> 412
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagggatgaa taaagcttgc tttgttcatt tcgagtggcg gacgggtgag taacgcgtga 120
 ggaacctggc ttttgcaggg ggatagcgtc ccgaaagaga cggtaatacc gcataagacc 180
 acgctaccgc atggtaaagg ggtcaaagga gagatccggc agaag 225

<210> 413
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerovorax*
 <400> 413
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacttt tgactgacgc ttcggttgat ttcaaaagcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ctttgcagag ggatagcctc gggaaaccgg gattaaacc 180
 tcataacacc ggagtacctc atggtgcacc ggtcaaagat ttatc 225

<210> 414
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Selenomonas*
 <400> 414
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtgattg aaagcttgc tttgagaacc gagtggcaaa cgggtgagta acgcgtagac 120
 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtgca 180
 acttccgcat gggagatgca ttaaagatgg cctctacttg taagc 225

<210> 415
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hydrogenoanaerobacterium*
 <400> 415
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggaacttggg agcttgcttt caagtttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgcctttcgg cggggaataa tgattggaaa cgatcactaa taccataa aataggttta 180
 tcgcatgata gattatcaa agattcatca ccgaaagatg ggctc 225

<210> 416

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetanaerobacterium

<400> 416
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggacgaggat ccttcgggat ccgagttagt ggcgaacggg tgagtaacac gtgaggaacc 120
 tacctttcag agggggataa cacttagaaa taggtgctaa taccgataa gaccacgacc 180
 gggcatccgg atgaggtcaa aggagcaatc cgctgagaga cggcc 225

<210> 417
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 417
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatgag ctgaaatctt cggatggatg cccatgactt agtggcggac gggtgagtaa 120
 cgcgtgggta acctgcctca tgcaggggga caacagctgg aaacggctgc taataccgca 180
 taagaccccg tgagcgcgat ctcaagaggt aaaagattta tcggc 225

<210> 418
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 418
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgcccatac ttcgggataa ctcagggaaa cttgtgctaa taccgatac tccgatttga 180
 tcgcatggtc ttttcgggaa agcctttacg gtatgggatg gggtc 225

<210> 419
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 419
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggagatgtcc acctgatgaa gcagagtgtc tgcacaaagc agaatcaacc ggatatctta 120
 gtggcggacg ggtgagtaac gcgtgggtaa cctgcctcat actggggaat aacagccaga 180

aatgactgct aataccgcat aagcgcacag taccgcatga tacag 225

<210> 420
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 420
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagtaagac accggatgaa gattcgtctg aatccaccgt cttacttagc ggcggatggg 120
 tgagtaacgc gtggacaacc tgccttcac tgggggataa caaccgaaa cgggtgctaa 180
 taccgcatgg gcgcgaacga ccgcatgac gatcgcgtaa agatt 225

<210> 421
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 421
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagatatac ggaagcttgc tttgtatat tttagtggcg gacgggtgag taatgcatga 120
 gcaacctgcc ttgaagaggg ggataacaca gagaaatttg tgctaatacc gcgtaatctg 180
 ccgaagcggc atcgcgttgg caggaaagga gcgatccgct ttaag 225

<210> 422
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 422
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg cgggtggcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
 tcgcgagg acatctgac gcgagcaaag gttttccgg ttgcg 225

<210> 423
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaeroplasma*

<400> 423
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

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ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctataagac 120
 gaggataacc attgaaacg atggataata ctggatagga tattgagggg catcccttaa 180
 tatttaaaga tttatcacta atagaggggc ctgcggcgca ttagc 225

<210> 424
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 424
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaacatg caagtcggac 60
 ggcaaggcgg gagcttgctc ctgccctaga gtggcggact ggtgagtaac acgtgggtga 120
 cgaaccctgc tgactgggat agccgctaga aatagcggat aataccggat acggccgtat 180
 gtatcagaag catacgggga aaggagctt aggctccgca ggagg 225

<210> 425
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Alkaliphilus

<400> 425
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatctt tgaatgaaac ttcggtcgaa tgatgagatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ccatgcacag ggatagccta gggaaacttg gattaatacc 180
 tgatgacgct gcgaagtcac atgtctttgc agcceaagat ctatc 225

<210> 426
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paraprevotella

<400> 426
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgggg 180
 tcgaacgagg acatctgatt tcgaccaaag ctttttgcgg tcatg 225

<210> 427
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hippaea

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<400> 427
agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gaatttctac agagcatcgt agagattagc ggcaaacggg tgagtaacac atgggaaacc 120
ttccttagaa tggggaatat ctccgtgaaa acggagctaa taccgcataa gaccacagat 180
tgcatcaaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 428
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 428
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga acttagcttg ctaagtttga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccgacctt ccctttgctc ggggatagcc cagtgaaaac tggattaaga cccgatgtag 180
tccagctggc gcatgttatc tggactaaag atttatcggc agagg 225

<210> 429
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 429
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcatcatgc aggttgcttg caacctgtga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atccaacctt ccccgagta gggttcagcc cgttgaaaga cggattaatc ccctatgttg 180
tccattgagg gcctctgatt tggacgaaag atttatcgct gcggg 225

<210> 430
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 430
agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
gggactagtg accggagggt agaaggatct atcttgcgat cactagttca gtggcggacg 120
ggtgagtaaa gcatgagcaa cctggctaata agagggggat agcttttga aacagaagat 180
aataccgcat gaatcagaga tttcgcata agtttttga aaagg 225

<210> 431
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium sensu stricto*

<400> 431

agagtttgat catggctcag gacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggactgattc cttcgggatg aaagttagtg gcgaacgggt gagtaatgta tgagcaacct 120
 gcctctatca acgggataac agttgaaac gactgctaatac acgggataag accacggcac 180
 cgcatgatgc tgcggtaaaa gatttttcgg atagagatgg gctca 225

<210> 432

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Paraeggerthella*

<400> 432

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagaacccg ccctcgggcg gttatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc tcagggacag cctcgggaaa ccgggattaa tacctgatgc gccccgccc 180
 ccgcatgggg gaggggggaa agcccaggcg gcgcgggatg gggtc 225

<210> 433

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 433

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggttgtaaat gaatgaagca gcttgctgtg aatttctagc caccgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg ccctacagtg ggggacaaca gttggaaacg actgctaata 180
 ccgcataagc gcacagtatc gcatgataca gtgtgaaaaa ctccg 225

<210> 434

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 434

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caggtcgaac 60
 gggacctatg tagatcaaga cttcgggtcaa gtgaaattta ggttttagtg cggacgggtg 120
 agtaacgcgt gagcaatctg ccgtatgcag ggggacaaca gagggaaact tctgctaata 180
 ccgcataagc gcacggatc gcatgtgaca gtgtgaaaag ctccg 225

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<210> 435
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 435
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatTTTT cggcagagat tcgtcgaagc ttaagaattt tagtggcgga cgggtgagta 120
 acgcgtgagt aacctgccga tgagagtgga ataacgttct gaaaagaacg ctaataccgc 180
 ataatatatt ggagccgcat gactctgata tcaagattt tatcg 225

<210> 436
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 436
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctctgc gaaatgaaga ttcgtctgaa tttcaaggat gtccgagtgg cggatgggtg 120
 agtaacgcgt ggagaacctg ccctatgctg ggggataaca gctggaaacg gttgacaata 180
 ccgcataagc ttctttggtc gcatgacctt ggaaggaaag attta 225

<210> 437
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adhaeribacter

<400> 437
 agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggctt gaagtagcaa tactaaagat acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgtaatcta cccttaaccg gaacaaaaca gttggaaacg actgctaata ttccatagtc 180
 attagttaag gcatcttaaa gaatgtaaag atttattggt taagg 225

<210> 438
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 438
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctcttt tctcagatgt ttcgactgaa gagagaagat caccgagtgg cggatgggtg 120

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agtaacgcgt ggagaacctg cccttatcag ggggataaca actggaaacg gttgacaata 180
 ccgcatatag tgcttgatcg catgttcttg cacggaaaga tttat 225

<210> 439
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 439
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaagtt ccttcgggga cttaccgagt ggcggacggg tgagtaacgc gtgagcaatc 120
 tgtcccagac agggggataa caactggaaa cagttgctaa taccgataa gaccacggag 180
 ccgcatggct ttgaggtaaa aggagcgatc cggtttgggg tgagt 225

<210> 440
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 440
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggactgattt gatagcttgc tattgatgaa agttagtggc ggacgggtga gtaacgcgtg 120
 agcaacctgc ccctatgtgc gggataacgt ttggaaacgg acgctaatac cgcataatcc 180
 aattggatcg catggtctgg ttggcaaaga tttattgcat aggga 225

<210> 441
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 441
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttattc gagatgaagt tttcggatgg aattttggat aacttagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg ccataagag ggggataacg ttctgaaaag aacgctaata 180
 ccgcatgaca tatttggttc gcatgaatcg aatatcaaag gagca 225

<210> 442
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 442

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggttagcg gcttcggctg ttaaccgagt ggcggacggg tgagtaacgc gtgaacaatc 120
tgtcctgcaa agggggatac caactggaaa cagttgctaa taccgataa gaccacggcc 180
tcgcatgggg ctgaggtaaa agcagcgatg cgatgcaggg tgagt 225

<210> 443
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 443
agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
gagatagcaa tatctagtgg cgaacgggtg agtaacacgt gagcaatctg ccccatatac 120
agggataaca gtagaaatg actgctaata ccgataaga ccacagcctg gcatcgggca 180
ggggtcaaag cgatttagcg atatgggatg agctcgcgtc caatt 225

<210> 444
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coraliomargarita

<400> 444
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgagc 60
gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120
cccttaagac gggaatagtt cgatgaaaat tgagataatg cccgatatca acttctttcg 180
catggaagag gtttgaaagg tttgtgatga cgcttaagga ggggc 225

<210> 445
<211> 185
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Sharpea

<400> 445
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagttgaac 60
gaggaaggcc ttcgggtcgt aaagttctgt tgcaaggaa gaacgccgga gggaggaaat 120
ggcctccggg tgacggtact tcgcgagaaa gccacggcta actacgtgcc agcagccgcg 180
gtaat 185

<210> 446
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 446
 agagtttgat catggctcag gattaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagtattgc tttcgggtga tactcagtgg cggacgggtg agtaacgcgt gagcaatctg 120
 ccccttattg cgggataaca gagagaaatt tctgctaata cggcataacg catcgggtatc 180
 gcatggtacg ggtgccaag atttatcgat gagggatgag ctgcg 225

<210> 447
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax
 <400> 447
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctg taattgacgc ttcggttgat tttacaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cttgcacag ggatagcctc gggaaaccgg gattaaacc 180
 tgatgatacc gagacaccac atggtgttcc ggccaagat ttatc 225

<210> 448
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia
 <400> 448
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggctaaag ttttgaggc ttcggccaaa gaggctctag attagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc ctgtactggg ggataacagt gagaaatcac tgctaatacc 180
 gcataagcgc acgaggccgc atggccctgt gtgaaaaact ccggt 225

<210> 449
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 449
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcgagaga tgaacctag tgaatttca gcgagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc ttacagaggg ggataacagt ttgaaaagac tgctaatacc gcataagcac 180
 acagtaccgc atggtacagg gtgaaaagat ttatcactgt aagat 225

<210> 450

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 450
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcaccgg cgaggaagtc ttcggatgga attgcttttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctgtttgtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc atgggaatcg catggtttcg atgccaaaga tttat 225

<210> 451
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 451
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggagtatcg caaacagaga ttcgtcaaag tgagcgatat gagagcggcg gacgggtgag 120
 taacgcgtag gtaacctacc ttaagctgag ggataacca gggaaacttg ggataatacc 180
 acataacgcg gtgaagtcac atggctttac cgccaaagat ttatc 225

<210> 452
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coralimargarita

<400> 452
 agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc 60
 gagaatatac cttcgggtat agggaagcgg caaacgggtg agtaacacgt aagtaaccta 120
 cccttgagac tgggatagct cagcgaaagt tgaggtaata ccgatgcca accattaatg 180
 catgttaatg gattgaaagg gatgagacga tgctcaagga ggggc 225

<210> 453
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 453
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaacatttc gcccgatgat tgagaaagct tgcttctcc tgattcaact gaaatgttta 120
 gtggcggacg ggtgagtaac gcgtgggtaa cctaccttac acaggggat aacagttaga 180

aatgactgct aataccgcat aagcgcacag taccgcatgg tacag 225

<210> 454
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Aquiflexum

<400> 454
 agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggcct gaagtggcaa cacggagggt acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg ccccaaccg ggacaaaaca gctggaaacg gctgctaata tcccatagtc 180
 atgaggaggg gcatccctct ttatgtaaag attcattggt tgggg 225

<210> 455
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 455
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggaaggggc cttcggggc ctctgagagt ggcgcacggg tgcgtaacgc gtatgcaacc 120
 aacccgcac tgggggacag ccggtgaaa cgccgggtaa taccccatgc cgacgggagg 180
 ggacatccc atccgttgaa aggcttcggt cggtgcggga cgggc 225

<210> 456
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Robinsonella

<400> 456
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtaacaa ttcttcggaa atgttactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acaggggat agcagctgga aacggctgat aataccgcat aagcgcacag 180
 agacgcatgt ttcagtgtga aaaactccg tggtatgaga tggac 225

<210> 457
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pelomonas

<400> 457
 agagtttgat catggctcag attgaacgct ggcggcatgc cttacacatg caagtcgaac 60

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ggtaacaggt taagctgacg agtggcgaac gggtgagtaa tatacggaa cgtgccaggt 120
 cgtgggggat aactgctcga aagagcagct aataccgcat acgacctgag ggtgaaagcg 180
 ggggatcgca agacctcgcg cgattggagc ggccgatatc agatt 225

<210> 458
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 458
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtttagt ggaatgacgac ttcgggtcaaa tgaaattaa cttagtggcg gacgggtgag 120
 taacgtgtga gcaacctgcc tttcagaggg ggataacgca gagaaatttg cgctaatacc 180
 gcatgacatg tcggaatcgc atggatctga catcaaagga gcaat 225

<210> 459
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paracoccus

<400> 459
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
 gaggacttcg gtcctagcgg cggacgggtg agtaacgcgt gggaacgtgc cccttgctgc 120
 ggaatagccc cgggaaactg ggattaatac cgcatgatcc ccctgatcat ggagatctgg 180
 gggcaaagat ttatcggcaa gggatcggcc cgcgttgat taggt 225

<210> 460
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 460
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaaccg gcttcggccg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgctc accgggatag cccccgaaa gggggattaa taccggatgc gccggccggg 180
 ccgcatggcc cggccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 461
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Beijerinckia

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<400> 461
agagtttgat catggctcag agcgaacgct agcggaatgc ttatacatg caagtcgaac 60
ggaaaattaa atgaagtagc aatatggatt tgaagttttt agtggcgaac gggtagta 120
tatataggaa tttgccagc agtggggaac aacagataga aatgtctgct aataccgcat 180
acgtccgaga ggagaaagtc acaagacgct attggagaag cctat 225

<210> 462
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Sporobacter

<400> 462
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gggatcctca tgaaggagtt ttcggacaac ggaatggggc atctagtggc ggacgggtga 120
gtaacgcgtg agcaacctgc cttcggagg gggacaacag ttggaaacga ctgctaatac 180
cgcataacat ataccggtgg catcatgggt atatcaaaga tttat 225

<210> 463
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 463
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
ggacttagag gggcttgctc ctcgaaagtt agtggcggac gggtagta cgcgtgagca 120
acctgccttt ctccggggga taacattggg aaaccggtgc taataccgca taacgtacag 180
agatcgcatg tttttgtac caaagattca ttggggaaag atggg 225

<210> 464
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Bacillus

<400> 464
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
ggagtatctt cggatactta gtggcgaacg ggtgagtaat acttgaacaa cctgccctt 120
tgactgggat aaccgtctga aaagacagct aataccggat aggtaatatt gaggcatctc 180
gatattatta aagatgggtt acatcacatt gggatgggtt caagt 225

<210> 465
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Saccharofermentans

<400> 465

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
gaggggatac ggcttcggct gtagactcga gcggcggacg ggtgagtaac gcgtgaacga 120
tctgtcccat acaggggat accacttga aacaggtgct aataccgcat aagaccacga 180
agctgcatgg ctttgaggta aaaggagcga tccggtatgg ggtga 225

<210> 466

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Spirochaeta

<400> 466

agagtttgat catggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
gggattgggt agcttgctac tcatgagagc ggcggactgg tgagtaacgc gtgggtgacg 120
tacccttag acgggatag ctctagaaa taggaggtaa taccggatac gatagtgagt 180
gtcagaggct cattatgaaa gtttctttg aaccgctgaa ggagc 225

<210> 467

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 467

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggaaacgatg agagagcttg ctctctcagg cgtcgaccgg cgcacgggtg agtaacacgt 120
atccaacctg ctttttcca ggaataacc ttgcgaaagt aagactaatg ccctatgtgt 180
ccttgacgg catcagacga ggacgaaaga ttatcggaa aggga 225

<210> 468

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Eubacterium

<400> 468

agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaaatggt gaaatgaaac ttcggtatg tagatccatg gacagcggcg gacgggtgag 120
taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
ccataaagca agagtaccgc atgatacact tgccaaagat ttatc 225

ASBI_002_03W0_SeqList_ST25

<210> 469
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Herbiconiux*

 <400> 469
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 ccctttacac tgggatagca gttggaaacg actgataata ccggataaga ccacgctccc 180
 gcatgggaga ggggtcaaag tgaattagcg gtaaaggatg ggctc 225

 <210> 470
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Brevundimonas*

 <400> 470
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 ggaatagctc ctggaaacgg gtggtaatgc cgaatgtgcc cttcggggga aagatttatac 180
 gccttagag cggcccgcgt ctgattagct agttggtgag gtaat 225

 <210> 471
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Mogibacterium*

 <400> 471
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatctct gacatgacgc ttcggttgat tggaagagag gacagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cccgacagag ggatagccat tggaaacgat gattaacaacc 180
 tcataacgct cgtatgacac atgtcatatg agcacaagat ttatc 225

 <210> 472
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Anaerorhabdus*

 <400> 472
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgtac 60
 gggtgattct agcttgctag atgatccagt ggcgaacggg tgagtaatac ataacaacc 120

ASBI_002_03W0_SeqList_ST25

tacctataag gactgggata acgcttggaa acgagtgcta ataccggata ggtaacggga 180
 gggcatcctc ctgttattaa aggattacta cacaaataga tgggt 225

<210> 473
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 473
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cggaagggtg aggaacgcgt gagtaatctg cccccaagtt 120
 ggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgtcgggtc gcatgatctg 180
 acagttaaag atttattgct tggggatgag ctgcggtccc attag 225

<210> 474
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 474
 agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggcagcatgg gagaagcttg cttttcccga tggcgaccgg cgaatgggtg agtcacgcgt 120
 gtccaacctg cctccggccc ggggatagcc cttggaaatg aggattaaga cccgataggt 180
 ggagcttccg catggcggct ccatgaaacg agaccggaga tgggg 225

<210> 475
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerovorax*

<400> 475
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatacg gaaatgaagg ttcgctggaa tttctgtatg gagagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ctttgagag ggatagccac tgaaacggt gattaaacc 180
 tcataatgcc attgttcac atgttcagat ggccaaagat ttatc 225

<210> 476
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Aquiflexum*

<400> 476

ASBI_002_03W0_SeqList_ST25

agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggcct gaagtggcaa cacggagggt acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg cccctaaccg ggacaaaaca gctggaaacg gctgctaata tcccatggcc 180
 acacgagggg gcatcccat gtgtgtaaag attcattggt taggg 225

<210> 477
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 477
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtgattt ggattcgtct ggatcactta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgcccttc agagggggac aacagttgga aacgactgct aataccgcat aatatatact 180
 taaggcatct taggtatatac aaagatttta tcgctgaagg atggg 225

<210> 478
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Altererythrobacter

<400> 478
 agagtttgat cctggctcag aacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gagattgagg gttcgctcgt aatttagtgg cgcacgggtg aggaacgcgt gactacctgc 120
 ctgttgatgg tggataactc cgggaaactg gagctaatac agcataagct cgagagagga 180
 aagacaaaag tcgtcgacag agggggttgc gtctgattag gtagt 225

<210> 479
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 479
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gaagcttggg agcttgcttt caagcttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttcagg tgtggaataa tggttggaaa cggccactaa taccgataa tgcagcggga 180
 tcgcatgata ctgctgcaa aggtttactg cctgaagatg ggctc 225

<210> 480
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Clostridium III
 <400> 480
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaagtctt gaaatgatcc cttcgggggtg aatggataga tggacagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata 180
 cctcatattg taattaattc gcatggattg attatgaaag attta 225

<210> 481
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb
 <400> 481
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagcatagg tgcttgact tatgacttag cggcggacgg gtgagtaacg cgtgggtaac 120
 ctgccctgta caggggaata acagttagaa atgactgcta atgccccata agccgacgta 180
 atggcatctt tatgtcggaa aagatttatc ggtacaggag ggacc 225

<210> 482
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans
 <400> 482
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggacagcg gattagcttg ctaagctgct gttccagcgg cggacgggtg agtaacgcgt 120
 gaacaatctg tcccagacag ggggataaca cttggaaaca ggtgctaata ccgcataaga 180
 ccacagtgcc gcatggcaga ggggtaaaag gagcaatccg gtctg 225

<210> 483
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia
 <400> 483
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttctt cggaacgcgg cttcggccaa ggaagagag aagtgagtgg cggacgggtg 120
 agtaacgcgt ggtaacctg cctcacatcg ggggatacca gtcggaaacg actgctaaaa 180
 ccgcataaga ccacggtatc gcatgatact gaggccaaaa ctccg 225

<210> 484

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 484
 agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60
 gagaagcttg cttctcatgg cgaacgggtg agtaacacgt aggtaacctg cttacactc 120
 gaggataacc gttggaaacg acggataata ctggatagga caaagattcg catgaatcgt 180
 tgtttaaaag caatggtgta tgaggggcct gcggtgcatt agcta 225

<210> 485
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pl anctomyces

<400> 485
 agagtttgat cctggctcag aatgaacggt ggcggcatgg attaggcatg caagtcgtac 60
 ggtagagggg agcttgctcc tctgatcagt ggcgaaaggg atagtaacgc gtagatacca 120
 ccctcctgga cgggatagc tgcgggaaac tgcaggtaat acccgataat gacgagagtc 180
 caaaggtgta attccttcag gagacggatc tgcgtcctac cagat 225

<210> 486
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rumi nococcus

<400> 486
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagataatg gatttattcg ttatcttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgcctttaag aggggatag cttctgaaa cggatggtaa taccctataa aatatattta 180
 aggcatttta ggtatatcaa agatttatca cttaaagatg ggctc 225

<210> 487
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sel enomonas

<400> 487
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaaaatat tggaagcttg cttttgatag attcgagtgg caaacgggtg agtaacgcgt 120
 agacaacctg ccgcaaagat ggggacaaca gatcgaaagg tctgctaata ccgaatgttg 180

ASBI_002_03W0_SeqList_ST25

cggagctccc gcatgggagc tccgccaag atggcctcta cttgt 225

<210> 488
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaeropl asma

<400> 488
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
gtagtagca atacaacca tggcgaacgg gtgagtaaca cgtaggtaac ctgtctttaa 120
gacgaggata accgttgaa acgacggata atactggata ggacattaca aggggcatcc 180
caaatgttt aaagattatt atgtcactta gagaggggcc tgcgg 225

<210> 489
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerovorax

<400> 489
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gggaaatctc ggaaataagc ttcggcagaa ataagagatg gatagcggcg gacgggtgag 120
taacgcgtag gtaacctgcc ctttgacagag ggatagccta gggaaacctg gattaatacc 180
acataatgca gtctggtcac atggcgaggc tgccaaagat ttatc 225

<210> 490
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rummel i i bacillus

<400> 490
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
gaatgacgag aagcttgctt ctctgattta gcggcggacg ggtgagtaac acgtgggcaa 120
cctgccctgt agactgggat aacttcggga aaccggagct aataccgat aattctttta 180
gcctcatggc ttaagctaa aaggcgcttc ggcgtcacta cagga 225

<210> 491
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Cl ostri di um XI Va

<400> 491
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ASBI_002_03W0_SeqList_ST25

gaggtgcagt aaacggagat tcgtcgaagg gaactgtatc cgagtggcgg atgggtgagt 120
aacgcgtgga gaacctgcc ttatcagggg gataacaact ggaacggtt gacaataccg 180
cataagcttc ggttatcgca tgatagcaga aggaaagatt tatcg 225

<210> 492
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaeropl asma

<400> 492
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggtaacctg tcttttagcc 120
gaggataacc attgaaacg atggataata ctggatagga catttgaagg catctttgga 180
tgtttaaga tttatcacta gaagaggggc ctgcggcgca ttagc 225

<210> 493
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyri vi bri o

<400> 493
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagtttgta gaacggaagt cttcggatgg aagatttata aacttagtgg cggacgggtg 120
agtaacgcgt gggtaacctg cctcgtacag ggggatagca gctggaaacg gctggtaaaa 180
ccgcataagc gcacaacttc gcatgaagga gtgtgaaaat attta 225

<210> 494
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospi racea i ncertae sedi s

<400> 494
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gggaaccttg tgacggagac ttcggttgaa gaagcaagaa ttctagtggc ggacgggtga 120
gtaacgcgtg ggtaacctgc ccttaagagg cgaataacag tgagaaatca ctgctaatac 180
gccatatgct tacggaatcg catgattttg tgaggaaaag aattt 225

<210> 495
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerotruncus

ASBI_002_03W0_SeqList_ST25

<400> 495
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagttatta cgctgaaatg atattagctt gctaaaggaa tttcttgtaa tgcttagtgg 120
cggacgggtg agtaacgcgt gagcaacctg ctttcagag ggggacaaca gttggaaacg 180
actgctaata ccgcataaca ttgtttaaag acatctttag ataat 225

<210> 496
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Syntrophococcus

<400> 496
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaggctctt tctctgacgt ttcgactgat tagagaagat caccgagtgg cggatgggtg 120
agtaacgcgt ggagaacctg ccccatcag ggggataaca actggaaacg gttgataata 180
ccgcatatat gacaagaccg catgatcttg tcaggaaaga tttat 225

<210> 497
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Paraeggerthella

<400> 497
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggttaaaccg gcttcggccg gacataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccgcg accgggacag cccccgaaa gggggattga taccggatgc tccgccccct 180
ccgcatggcg ggggcgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 498
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Papillibacter

<400> 498
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
ggacgacagg gggcttgctc cctgaagtta gtggcggacg ggtgagtaac gcgtgagcaa 120
cctgcctttt ttcgggggat aacacgggga aaccggtgct aataccgcat aacgtaccga 180
gatcgcatgg tcatgttacc aaaggagcaa tccgaggaaa gatgg 225

<210> 499
<211> 225
<212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 499

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
ggacttatga caagattctt cggatgattt ttataagtta gcggcggatg ggtgaggaac      120
gcgtggagaa cctgcccttc acaggggat aacagttgga aacgactgtt aataccgcat      180
atgctcacgt gaccgcatgg tcgagtgagg aaagctccgg cggtg                          225
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<210> 500

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 500

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcaggt actgtgcttg cacagtatgc tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctt ccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt      180
tccgaagagg gcctctgatt tgaataaag atttatcggg catgg                          225
```

<210> 501

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Papillibacter*

<400> 501

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggagcgagag gagcttgctc ttctcgctta gtggcggacg ggtgagtaac gcgtgagcaa      120
cctggctttc agaggggaat aacacagtga aaactgtact aataccgcat aacgtctctt      180
gggcgcatgc ccgagggacc aaaggagcaa tccgctgaaa gatgg                          225
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<210> 502

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Streptococcus*

<400> 502

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac      60
ggatgattct tccagcttgc tgaagatga ttcagtggcg aacgggtgag taatacgtag      120
gcaacctgcc ccaaagcggg ggatagcagt tggaaacgac tattaatacc gcataggtaa      180
tcttaaggca tcttgagatt attaaagtg cgtttgacc gctgt                          225
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ASBI_002_03W0_SeqList_ST25

<210> 503
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Methanobrevibacter

 <400> 503
 agagtttgat catggcagat gttactgcta ttgggattcg attaagccat gcaagtcgaa 60
 cgaatttaga ttcgtggcgt acggctcagt aacacgtgga taacctacc ttaggaccgg 120
 gataaccttg ggaaactgag gataatactg gataggcaat tattcctgta atggtttttt 180
 gtttaaagt ttttcgcct aaggatgggt ctgcggccga ttagg 225

 <210> 504
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Prevotella

 <400> 504
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcatgg cggtagcttg ccaccgctga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccaaccg cggcacagcc cgccgaaagg cggattaatt ccgcatgtgg 180
 tcgtgatgtg acatctttc acgactaaag gttcactccg gttgg 225

 <210> 505
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Prevotella

 <400> 505
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcgagg gggcagcaat gccctgtcg gcgaccggcg cacgggtgag taacgcgtat 120
 ccaacctgcc ccatggtagg gaatagcccg gagaaatccg gattaatgcc ctatgttctc 180
 cgacgatggc atctgacttg gagcaaagat ttatcgccat gggat 225

 <210> 506
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Prevotella

 <400> 506
 agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggacgcgatg gagaagcttg cttttcccga tggcgaccgg cgaatgggtg agtcacgcgt 120

ASBI_002_03W0_SeqList_ST25

gtccaacctg cctccggccc ggggatagcc ctggaaatg aggattaaga cccgataggt 180
 ggagcttccg catggcggct ccatgaaacg agaccggaga tgggg 225

<210> 507
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coralimargarita*

<400> 507
 agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc 60
 gagaatatgc ctttgggcat agggaagcgg caaacgggtg agtaacacgt aagtaaccta 120
 cccttaagac tgggatagcc ctgtgaaagt gggggtaata ccgatgagg actatgactg 180
 catggttata gatcgaaagg tttgtaaagg cgcttaagga ggggc 225

<210> 508
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 508
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgt tgtgtgcttg cacacaatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctg ccccttactc tggaatagcc cggcgaaagt cggattaatg ccgatgttg 180
 tcagatgagg acatctgagt ttgaccaaag gccctttggg tcggt 225

<210> 509
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Thermotalea*

<400> 509
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaatagt gaagagatac ttcggttgaa cggatctatg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctacc ctttcccga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca gatgtaccgc atgatacgac tgccaaagat ttatc 225

<210> 510
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 510

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcagggt tgaaggagac ttcggtcaat ggatgatctg acttagtggc ggacgggtga 120
gtaacgcgtg ggcaacctgc ctcatggagg gggacaacag ttggaaacga ctgctaatac 180
cgcataagac caagcatcgc atgatgcaat ggtaaaagat ttatc 225

<210> 511
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Atopobium*

<400> 511
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
ggttaaagcc cttcggggg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
tacctctcac tccgggatag cctcgagaaa tcgtggataa taccggatac tccaggataa 180
tcgcatgggtt ttctgggaa agccccgacg gtgagagatg ggccc 225

<210> 512
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 512
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggtaacatga cgaaagcttg cttttgttga tgacgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg ccctgtacta cgggatagcc cggcgaaagt cggattaata ccgtatgtgg 180
tgtgataaag acatctgcat tacactaaag atttatcgggt acagg 225

<210> 513
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Mogibacterium*

<400> 513
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
gagaagctac tttgaagcgt tttcgaacaa ttctgtgtag tggaaagcgg cggacgggtg 120
agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
cctcataatg ccaactaac acatgttgag ctggcctaag attta 225

<210> 514
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 514
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 gaggaattgc gaaagaagtt ttcggatgga ttttgctttt ccgagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ttactctggg ggacaacaga gagaaatttc tgctaatacc 180
 gcataaccgc ctatgagcgc atgctcaaga cggaaaagat ttatc 225

<210> 515
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 515
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aggcagagat ttcggtcgaa gccaaaggag gactgagtgg cggacgggtg 120
 agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
 ccgcataagc gcacggggag acatctcttt gtgtgaaaag attta 225

<210> 516
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella
 <400> 516
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaaccg ccctcgggcg gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cccccgaaa gggggattaa taccggatac tccggccggg 180
 ccgcatggcc cggccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 517
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia
 <400> 517
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatcatt tggaaataag cttcggcaga aagaaggatg atcttagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg ccctgtacag ggggataaca tccagaaatg gatgctaaaa 180
 ccgcataagc gcacatgacc gcatggtcaa gtgtgaaaaa ctccg 225

<210> 518

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Vampirovibrio*

<400> 518
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 gataaggctt cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatcga gcttagttga 180
 aataactatc ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 519
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Papillibacter*

<400> 519
 agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 ggacgacagg gggcttgctc cctgaagtta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgcctttt tccgggggat aacacgggga aaccggtgct aataccgat aacgtgccga 180
 gatcgcattg tcatggtacc aaaggagcaa tccggggaaa gatgg 225

<210> 520
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Beijerinckia*

<400> 520
 agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaacataccc tttcctgcgg 120
 aatagctccg gaaactgga attaataccg catacgcctt acgggggaaa gatttatcgg 180
 ggaaggattg gcccgcttg gattagctag ttggtgggtt aaagg 225

<210> 521
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 521
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta gattagcttg ctaatctaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttatgattcc gcatggggat ataacgaaag attcatcggg agggg 225

<210> 522
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 522
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagcttaag gaagagcttg ctctgagata agcttagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg gtttacacag ggggataacg gcccgaaagg gttgctaata ccgcataaga 180
 ccacaacacc gcatgatgaa ggggtcaaag gagaaatccg gtgta 225

<210> 523
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 523
 agagtttgat catggctcag gataaacgct ggcggcgtgc attatgcatg caagtcgaac 60
 gagatacgca agtatcgagt ggcaaacggg tgagtaacac atagataacc taccctcgag 120
 tggggaataa ttctccgaaa ggaggactaa taccgcatac gatggctttt cacaagaaga 180
 gttattaaag cagcaatgcg cttgaggagg ggtctgtgtc cgatt 225

<210> 524
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 524
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttctgt tagaatgcgg cttcggccaa gtgaagacag aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaaccta ctttacacag ggggataacg attggaaacg atcgctaata 180
 ccgcataaga ccacagtgcc gcatgtaca ggggtaaaag attta 225

<210> 525
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 525
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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gggcactggc ggaagaagcc ttcgggtgga agctgccaga gctagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc ctgttccggg ggataacagc tgaaacggc tgctaatacc 180
 gcataagcgc acgaggcggc atgcctagt gtgaaaaact ccggt 225

<210> 526
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 526
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatgatt tgatgaaggt ttcggttggg ttcttatcat tttagtggcg gacgggtgag 120
 taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180
 gcataagcgc aactgacgc atgtcagagt gtgaaaaact ccggt 225

<210> 527
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cryptanaerobacter

<400> 527
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggaataagtt tggttgtagc gatactttcg aacttattta gtggcgaacg ggtgagtaac 120
 acgtgagcaa cctgcctttt acacagggat aacagccgga aacggctgct aataccggat 180
 aagaccacac cgaggcatct cggagggggtc aaagcgctta gcggt 225

<210> 528
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 528
 agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggcagcatgt cggtagcttg ctaccgatga tggcgaccgg cggatgggtg agcaacgcgt 120
 atccaacctg ccccatgcgc ggggatagcc ctggaaatg aggattaagc cccgatatgc 180
 gcattcgccg catggcgtgt gcgtgaagtt gtgcatggga tgggg 225

<210> 529
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophomonas

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<400> 529
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaaactatt cgagaatttc ggttcatgaa tagttttagt ggcggacggg tgagtaacgc 120
gtgagaatct gcctttgagt ggggaataac agttggaaac gactgctaata accgcataac 180
atggaacat caaagagggt gcaagccctc gctcagagat gagct 225

<210> 530
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Erysipelothrix*

<400> 530
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
gcacgagatt acttcggtga tcgagtgagt ggcgaacggg tgagtaatac ataaggaacc 120
tgccatcag actgggataa cagttggaaa cgactgctaa taccggatag gtagttgagt 180
ggcatcacat agctattaata gttgagatac actgatggat ggcct 225

<210> 531
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Selenomonas*

<400> 531
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagacgattg aaagcttgc tttgaaagtc gaggggcaaa cgggtgagta acgcgtaggc 120
aacctgcctc taggatgggg acaacagtcc gaaaggactg ctaataccga atgttgtagg 180
tattccgcat ggaataccta ttaaagatgg cctctacttg taagc 225

<210> 532
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium III*

<400> 532
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaatcttt catttgatcc cttcgggggtg acgacggaag aggaaagcgg cggacgggtg 120
agtaacgcgt gagtaatctg cccatggtg ggaataaca cagtgaaaac tgtgctaata 180
cccataatg tatacttggt gcatagcagg gatacciaag attta 225

<210> 533
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Flavobacterium*

<400> 533

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agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg      60
gtagagata gcttgctatc ttgagaccgg cgcacgggtg cgtaacgcgt atgcaatcta      120
cctatacta agggatagcc cggagaaatc cggattaata cttatggtt tttatgaata      180
gcattattta tagaataaag atttatcggg ataagatgag catgc                        225
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<210> 534

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Thermotalea*

<400> 534

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc      60
gagaaatgac agacggattc ttcggatgac agaagtcatg gacagcggcg gacgggtgag      120
taacgcgtgg gcaacctgcc cctgactgag ggatagccga gggaaacttc gagtaatacc      180
tcataacgca taactgtcgc atggcagata tgccaaagat ttatc                        225
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<210> 535

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 535

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agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac      60
ggaatttgta acttcgggtg tggattcagt ggcggacggg tgagtaacac gtggataact      120
tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgataa tgtaatttgt      180
tcgcatgaat agattaataa agatgaaaat cgctaagaga taggt                        225
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<210> 536

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Mucilaginibacter*

<400> 536

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agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac      60
gggaactccc cttcggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa      120
ccctcatccg ggggacagcc ggtggaaacg ccgggtaata ccccatgtcc actttgggag      180
gcatcttctg aggtggaaag actttggtcg gaggaggacg ggcac                        225
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<210> 537
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Bacteroides

 <400> 537
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta gattagcttg ctaatctaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttgcgattcc gcatggggat gcaacgaaag attcatcggg agggg 225

 <210> 538
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Ruminococcus

 <400> 538
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagttaa at aagcttgctt atttaactta gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgccttac agagaggaat aatgattgga aacggctact aatacctcat aaaatatcta 180
 tactgcatgg tattggatat caagattta tcgctgtaag atggg 225

 <210> 539
 <211> 191
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium XI Va

 <400> 539
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaaccctg atgcagcgac gccgcgtgag tgaagaagta tttcggtatg taaagctcta 120
 tcagcagggg agaaaatgac ggtacctgac taagaagccc cggctaacta cgtgccagca 180
 gccgcggtaa t 191

 <210> 540
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Asaccharobacter

 <400> 540
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaagacc cttcgggggtg aataaagtgg cgaacgggtg agtaacacgt gaccaacctg 120

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cctcgactc cggaatacct tgtggaaacg caaactaata ccggatactc cgagctgagc 180
gcatgctcta ctcgggaaag cctttacggt gcgagatggg gtcgc 225

<210> 541
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Blautia*

<400> 541
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggggatatgt cggaatgaga cttcggttga aggaagacat atcttagtgg cggacgggtg 120
agtaacgcgt ggagaacctg cctcactg ggggatacca gtgagaaatc actgctaaaa 180
ccgcataagc gcacgggtacc gcatggtaca gtgtgaaaaa ctccg 225

<210> 542
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Mucilaginibacter*

<400> 542
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
gggatctccc cttcggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
ccctcatccg ggggacagcc ggtggaaacg ccgggtaata ccccatatcc acttcgggag 180
gcatcttctg aggtggaaag gctttggtcg gaggaggacg ggcat 225

<210> 543
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Coprococcus*

<400> 543
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggacttaagg cgctgacgag acttcggtca aatcttgtct taagttagtg gcggacgggt 120
gagtaacgcg tgggtaacct gccgatgcc ggggacaac agttggaac gactgctaata 180
accgcataag cgcacgggga ggcattttc cgtgtgaaaa actcc 225

<210> 544
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 544

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaacattcc acccgaagaa tgaagaagct tgcttcggaa tgattcaacc ggaatgttta 120
 gtggcggacg ggtgagtaac gcgtgggtaa cctaccttac acagggggat aacagttaga 180
 aatgactgct aataccgcat aagcgcacag taccgcatgg tacgg 225

<210> 545
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 545
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgggt ctagcaatag atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120
 catacccttg acagggggat aggcactgga aacggtgtgt aatacccctg aatacattcc 180
 atcgcattgg ggggtgttga aagattcatt ggtcaaggat tggct 225

<210> 546
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 546
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagtcctg cgcagatccc ttcgggggtga agcaagggaa gacttagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg ccatatacag ggggataaca gttagaaatg actgctaata 180
 ccccataagc gcacagtaag gcatcttaca gtgtgaaaag ccttt 225

<210> 547
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Treponema*

<400> 547
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcggac 60
 gggatatggt agcttgctac cattgagagt ggcggactgg tgagtaacgc gtgggtgacg 120
 taccctggtg accgggacag ctctagaaa taggaggtaa taccggatac gctggatgct 180
 gtcagagggc attcaggaaa gcagcttttg ctgcgcacga ggagc 225

<210> 548
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto
 <400> 548
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 gggactagtg actagagtca agaagttttc ttggttctat tcactagttc agtggcggac 120
 gggtgagtaa agcatgagta acttgcccat tagtggggaa tagcttttgg aaacagaaga 180
 taataccgca tacatcggtt tggacacatg ttcggaccgg aaaag 225

<210> 549
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 549
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagatagaa caccggatga agattcgtcg gaatccaccg ttttatctta gcggcggatg 120
 ggtgagtaac gcgtggataa cctgcccttc acagggggat aacaaccgga aacgggtgct 180
 aataccgcat ggcgcaggg ggccgcatgg ttcccggcgt aaaga 225

<210> 550
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax
 <400> 550
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 gagaaaggac gaagcagctt gctgcagagt cccggacagc ggcggacggg tgagtaacgc 120
 gtaggtaagc tgccccttgc aggaggatag cctcgggaaa cggggattaa tacttcataa 180
 cgcgttttta tcgcatggtg aaaacgcaa agatttatcg gcaag 225

<210> 551
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans
 <400> 551
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggacactg gaggagcttg cttcactggt gttctagcgg cggacgggtg agtaacgcgt 120
 gaacaatctg tcccggacag ggggataaca cttggaaca ggtgctaata ccgcataagc 180
 ccacggtacc gcatggtaca gggggaaaag gagcgatccg gttcg 225

<210> 552

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 552
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagttgttt ccacccgaca gattatcttc ggatatgaag tcaccgaaa cgcttagtgg 120
 cggacgggtg agtaacgcgt gggcaacctg ccctacacag ggggatagcg gttggaaacg 180
 accgtaata ccgcatacct ttattgaacc gcatgattta ataaa 225

<210> 553
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 553
 agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggacgattat taattcttca cgatttaata aaagttagt gcgactggt gagtaacgcg 120
 tgagcaacct acctattaga ggggaataac gaagagaaat tttcgctaat accgcataag 180
 ctgaaggaat cgcatgattc agtcagaaaa ggagcaatcc gctaa 225

<210> 554
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 554
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggcgagagg gcttcggtcc tcaagtcagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgcccctatg tgcgggataa ccttcggaaa cggatgctaa taccgcatga accaacggga 180
 tcgcatggtc cagttggcaa agatttattg catagggatg ggctc 225

<210> 555
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 555
 agagtttgat catggctcag gacgaacgct ggcggtatgc ttaatacatg caagtcgaac 60
 ggagctcagc ggaagcttgc ttctgcgaaa gcttagtggc ggacgggtga gtaacgcgtg 120
 agtaacctgc cttaaagagg gggataacac agagaaatct gtgctaatac cgcataatgc 180

agcacagccg catgactatg ctgccaaagg tcagccgctt taaga 225

<210> 556
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 556
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaaggatt cttcgaatt ctttcagtgg cggacgggtg agtaacgcgt gggtaacctg 120
 cccatacag ggaacaaca gctggaaacg gctgctaata ccgcataagc gcacagtact 180
 gcatgttaca gtgtgaaaag attttatcgg tatgggatgg acccg 225

<210> 557
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 557
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtttact gaagagcttg ctctgaggta gaccgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tcttacacag ggggataacg caccgaaagg tgtgctaata ccgcataaga 180
 ccacactttc gcatggaaga ggggtcaaag gagcgatccg gtgta 225

<210> 558
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 558
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagttacat aagcttgctt ttgtaactta gcggcggatg ggtgaggaac gcgtggataa 120
 cctgcctcgc actgggggat aacagctgga aacggctggt aataccgcat atgctcacgg 180
 taccgatgg tacaggagg aaagatttat cggtgcgaga tggat 225

<210> 559
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 559
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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gagaaatggt gaagagaaac ttcggttgaa cagatccatg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca agagtaccgc atgatacact tgccaaagat ttatc 225

<210> 560
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 560
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggaatttata gcttcggttg tgaattcagt ggcggacggg tgagtaacac gtggataact 120
 tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgataa agtaatttat 180
 tcgcatgaat agattaataa agatgaaat cgctaaaaga taggt 225

<210> 561
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 561
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcattaa gacggaagcc ttcgggtgga agatttaatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctgcctgtga gggataacac agggaaactt gtgctaatac 180
 cgcataaagc atttgagtcg catggtttag gtgccaaga tttat 225

<210> 562
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Ruminococcus*

<400> 562
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggtgacggca acaagcttgc ttgttgcaag atcagtggcg gacgggtgag taacacgtga 120
 gcaatctgcc ttcgggtggg ggataccagt tggaaacgac tgtaataacc gcataacatg 180
 atagaaccgc atgattttat catcaaagat ttattgcctg aagat 225

<210> 563
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

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<400> 563
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttattc gagatgaagt tttcggatgg aattttggat aacttagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cccataagag ggggataacg ttctgaaaag aacgctaata 180
 ccgcataata tatttggttc gcatgaaccg aatatcaaag gagca 225

<210> 564
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Faecalibacterium

<400> 564
 agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggacccaaat cattcattac gattgatgga aggttagtgg cggactggtg agtaacgcgt 120
 gagcaaccta cctataagag ggaataaca gagagaaatt tctgctaata ccgcataagc 180
 tgaaagaatc gcatgattta gtcagaaaag gagcaatccg cttat 225

<210> 565
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerobrio

<400> 565
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtgaagg ggagcttgc cttggaact tagtgcaaa cgggtgagta acgcgtaggc 120
 aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca 180
 ttggtcgcgcat gaccgatgta ccaaaggccg ggcaaccggt cactg 225

<210> 566
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 566
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaagccg gcttcggccg ggtatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc cccgggatag cctcgtgaaa acgggattaa caccgatgc gcccggggcc 180
 ccgatgggg ccccggggaa agcttgccg cgcgggatgg ggtcg 225

<210> 567
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Pelotomaculum*

<400> 567

agagtttgat cctggctcag gacaaacgct ggcggcgtgc ttaacacatg caagtcgtac 60
 ggagctgcag gacggaatcc ttcgggagga agaacggcag cttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc cataagaggg ggataacagt tggaaacgac tgctaatacc 180
 gcataagacc acaacaccgc atggtggagg ggtcaaagag caatc 225

<210> 568

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Spirochaeta*

<400> 568

agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggaaggtgt agcttgctac gccggagagc ggcggactgg tgagtaacac gtgggtaacg 120
 cacccttctg acggggacag cctgtggaaa cacagggtaa taccggatga gatgtgcttc 180
 tgaaggggg cacatgaaag gagctacggc tccgcagggg gaacg 225

<210> 569

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 569

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgtgg 180
 tcgaaagagg acatctgatt tcgaccaaag cttcggcgggt catgg 225

<210> 570

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 570

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacctc tcccgaagat tgaagtagct tgctacggat tgattcattt gaggtgactt 120
 agtggcggac gggtagtaaa cgcgtgggta acctgcctca tagaggggga caacagttgg 180
 aaacgactgc taataccgca taacatgtga ctgtcacatg acaga 225

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<210> 571
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 571
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaaaccta cagatgacgc ttcggttgat tcagtaggcg gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cctggcagag ggatagcatc gggaaactga tattaagacc 180
 tcataacgca tcgatatcac atgataatga tgccaaagat ttatc 225

<210> 572
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 572
 agagtttgat catggctcag gattaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacgaagcc cttcggggcc tagttagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 cccttatgtg ggggataacg accggaaacg gtcgctaata ccgcatgacc cgatagtatc 180
 gcatgataca gtcggcaaag atttattgca taaggatggg ctcgc 225

<210> 573
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 573
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaggtagcaa taccgagtgg cggaagggtg aggaacgcgt gagtaatctg cccctagtt 120
 gggataaca gttgaaacg actgctaata ccgaatgtgg ctttcaggtc gcatgacttg 180
 aaggctaaag atttatcgct aggggatgag ctcgcgtccc attag 225

<210> 574
 <211> 184
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 574
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttgcacaat gggggaaacc 60
 ctgatgcagc gacgccgcgt gtagtgatgaa gtatttcggt atgtaaagct ctatcagcag 120

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ggaagaagat gacggtacct gagtaagaag ccccggctaa ctacgtgcca gcagccgcgg 180
 taat 184

<210> 575
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 575
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagc 60
 gaagcgcaga aacggatttc ttcggattga aggttctgtg actgagcggc ggacgggtga 120
 gtaacgcgtg gggaacctgc cctgtaccgg gggataacag acagaaatgt ctgctaatac 180
 cgcataagcg cacgagaagg catcttcttg tgtgaaaaac tccgg 225

<210> 576
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfoviбрио

<400> 576
 agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gcgaaagggg cttcggctcc gagtagagtg gcgcacgggt gagtaacgcg tggatgatct 120
 gccctgcag ctggaatagc gactggaac ggtcgataat accggatagc cccttgttga 180
 acgatgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg 225

<210> 577
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 577
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctctta cgacggatct cttcggagtg aagatgtttg agacttagtg gcggacgggt 120
 gagtaacgcg tgggtaacct gcccataga ggggacaac agttggaac gactgctaatac 180
 accgcatagt aagagaaatt cgcattgttt tctcttgaaa gcttt 225

<210> 578
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 578

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtgcat ttcttcggat aggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcac acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 tatcgcatgg tacagtgtga aaaactccgg tgggtgtgaga tggac 225

<210> 579
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 579
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagagtgg ttttgattcc ttcgggatga ttattccatt tcttagtggc ggacgggtga 120
 gtaacacgtg agcaacctgc cttgcagtgg gggataacgg ttgaaacga tcgctaatac 180
 ctcataatat atgattgtcg catggctttc atatcaaagt ttttt 225

<210> 580
 <211> 204
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 580
 agagtttgat cctggctcag gatgaacgct agctacaggc tttggtcaat gggcgagagc 60
 ctgaaccagc caagtagcgt gcaggatgac ggccctatgg gttgtaaact gcttttatac 120
 ggggataaag tgagggacgt gtcccttttt gtaggtaccg tatgaataag gaccggctaa 180
 ttccgtgcca gcagccgagg taat 204

<210> 581
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 581
 agagtttgat cctggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gagaaagcgg cttcgccgc gagtaaagtg gcgaaagggt gagtaacacg tgaggaacct 120
 gccccctggc ccggaacaag cctgtgaaaa cgggtctgaa accggatgag gccccctccc 180
 gcatgggggg gaagccaaat attcatagcc aagggatggc ctcgc 225

<210> 582
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 582
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatagc ttgtgaattt cttcggattg aagcagttat gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttacacag ggggacaaca gagggaaacc tctgctaata 180
 ccgcataacc cgctagggcc gcatggccc gacggaaaag attta 225

<210> 583
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas
 <400> 583
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgattg aaagcttgc tttgagagcc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgcctt tgggatgggg acaacaggac gaaagccctg ctaataccga atgaagtatt 180
 cttctgcat ggaagata tgaagatgg cctctgaaaa tgcta 225

<210> 584
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides
 <400> 584
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcgagt tgtagcaat accgatgtcg gcgaccggcg cacgggtgcg taacaggtgt 120
 gcaatctgtc catagtcgga ggatagccc gtgaaaaccg aattaatact ccatgtgtca 180
 ttaaactgca tgtttgatg atgaaacgta aggactatgg ttgag 225

<210> 585
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 585
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggacttta ccgacggaga ttcgtcaaag ttggtttaag tctagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc ctttaccggg ggataacaga gggaagcttc tgctaatacc 180
 gcataagcgc acagtaccgc atggtacagt gtgaaaaact ccggt 225

<210> 586

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

<400> 586
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaacca tcttcggatg gttataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tacctttcac attgggataa ctaagggaaa ctgtagctaa taccaaatac tccgggtatc 180
 cggcatcggg aaccgggaa agctccggcg gtgaaagatg gggtc 225

<210> 587
 <211> 150
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 587
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgaatgt acgggatgaa aatattgttc tgtaatgacg gtacctgacg aggaagccac 120
 ggctaactac gtgccagcag ccgcggtaat 150

<210> 588
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 588
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaagcttc tttgaagatt cttcggatga ttctgtgaag tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccctgacag agggatagcc attggaaacg atgattaata 180
 cctcataatg ccgaaagagc acatgcactt acggccaaag attta 225

<210> 589
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 589
 agagtttgat cctggctcag gacgaacgct tgcgacgtgc ctaagaaatg caagtcgagc 60
 gatgacgggg gcttcggctc cttgattagc ggcgaacggt cgcgtaacac gtaagcaatc 120
 tgcccaaaag tttgggatag ccatccgaaa ggatgattaa taccggatgt ggaacataaa 180
 tcgcatgttt tatgttctaa agcagcgatg cgctttggga tgagc 225

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<210> 590
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 590
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacctttta cagactgcga ttcgtcaaag gacgtttaag gttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc tcatagaggg ggataacagt ttgaaaagac tgctaatacc 180
 gcataagccc acaggaccgc atggtccagg gggaaaagat tcatc 225

<210> 591
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 591
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagtagcaa tacttagtgg cgcaaggtg aggaacgcgt gactgacctt cccgcaagtt 120
 tggaacagct cctggaaacg ggaattaata ccggatgtga tcaatgagct gcatggttta 180
 ttgattaaag cagtaatgcg cttgcggatg ggctcgcgct ccatt 225

<210> 592
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paraprevotella

<400> 592
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcacgt ggagcaatg tcatggtggc gaccggcgca cgggtgagta acgcgtatcc 120
 gacctggcct tcaactccggg acagccctcc gaaaggggga ttaatccggg atgtgtggag 180
 aagtcgcatg gaatctccat gaaagattca tcggtgaagg atggg 225

<210> 593
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 593
 agagtttgat catggctcag gacgaacgct ggcgggtgtgc ctacacatg caagtcgaac 60
 gataaggctt cttcgaagt acataagtgg cggacgggtg agtacaacat aggaaatctg 120

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ccttaagctg ggggacaaca gagggaaact cctgctaata ccccatatga gctaacttga 180
aatagttatc ttgaaagctc cggcggctta agatgagcct gtgcc 225

<210> 594
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 594
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcgtg gggttgcttg caacccttg cggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccccaaccg ccgcacagcc cgccgaaagg cggattaatt cggcatgagg 180
tccggcgacg gcatcatatc cggacgaaag gtattttacc ggttg 225

<210> 595
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 595
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggaacgtgaga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120
atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaat cccgatacct 180
tattattccg catggagaaa taagaaaaca ggcatgcatg gggga 225

<210> 596
<211> 210
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Robinsoniella

<400> 596
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gggatattg cacaatgggc ggaagcctga tgcagcgacg ccgctggaag gaagaagtat 120
ttcggatagt aaacttctat cagcggggaa gaagatgacg gtacccgact aagaagcccc 180
ggctaactac gtgccagcag ccgcggtaat 210

<210> 597
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 597

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggattccat cgaatgaggc ttcggcggat tttggtggac atctagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctttaagagg gggataacat accgaaaggt atgctaatac 180
 cgcataagat attagtaccg catgatacag atatcaaaga tttca 225

<210> 598
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 598
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgggt ctagcaatag atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120
 catacccttg acagggggat aggcactgga aacggtgtgt aataccccgt aacacattcc 180
 gccgcatgac gggatgttga aagattgatt ggtcaaggat tggct 225

<210> 599
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 599
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 ggtaaggagg tagcttgcta cttccctaga gcggcggact ggtgagtaac gcgtgggtga 120
 cgtacccttt ggttggggat agccggtaga aataccgggt aataccgaat aagacctcta 180
 gtagaaagat tagagaggaa agcggctccg gccgcgccga aggaa 225

<210> 600
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hydrogenoanaerobacterium*

<400> 600
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaacttttt acgagcaagg cttcggccaa gcaagtttca agtttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg ctttcagag ggggataacg tttggaaacg aacgctaata 180
 ccgcataacg tatggaaatc gcatggtaac catacceaag atttt 225

<210> 601
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Proteini clasticum*
 <400> 601
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggacaaaa ctggaagggt ttcggcctgg aaggaaatgt tccagcggcg gacgggtgag 120
 taacgcgtga acaatctgtc ccagacaggg ggataacaga tggaacatc tgctaatacc 180
 gcataagacc acgaggcgac atcgcttga ggtaaaagga ggaat 225

<210> 602
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*
 <400> 602
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttttta cagaaggaag cttcggccga cggacgtaag aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cctcacatcg ggggatacca gtcggaaacg actgctaaaa 180
 ccgcataaga ccacggatc gcatgatact gaggcAAAA ctccg 225

<210> 603
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 603
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aagcggagat ttcggttgaa gctaaggag gactgagtgg cggacgggtg 120
 agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
 ccgcataagc gcacggagag acatctcttt gtgtgaaaag attta 225

<210> 604
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerofustis*
 <400> 604
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaagcttt gacaagtttt actttgatga gtggacagtg gccaacgggt gagtaacgcg 120
 tagtaacca acctatgct ggggatagc ctttgaaac gaagagtaat accgcataag 180
 accacactgc cgcattggcag aggggtaaaa gatttattgg catga 225

<210> 605

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Succiniclasticum*

<400> 605
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggattttg tttcggcaga atcctagtgg cgatcggtag ccggtctgag aggatgaacg 120
 gccacattgg gactgagaca cggcccagac tcctacggga ggcagcagtg gggaatcttc 180
 cgcaatgggc gcaagcctga cggagcaacg ccgctgagtg gagga 225

<210> 606
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaeroplasma*

<400> 606
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtgtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttact 120
 gacgaggata accgttgaa acgacggata atactggata ggacatcaca aagggcatcc 180
 ttagatgttt aaaggagcaa tccacggtaa gaggggcctg cggcg 225

<210> 607
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 607
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacgatca gtagccggac 60
 tgagaggttg aacggccaca ttgggactga gatacggccc agactcctac gggaggcagc 120
 agtggggaat attgggcaat gggggcaacc ctgaccagc aacgccgcgt gaaggaagaa 180
 ggctttcggg ttgtaaactt cttttaccga ggacgaagaa cgtga 225

<210> 608
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Escherichia/Shigella*

<400> 608
 agagtttgat catggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
 ggtaacagga agaagcttgc ttctttgctg acgagtggcg gacgggtgag taatgtctgg 120
 gaaactgcct gatggagggg gataactact ggaaacggta gctaataccg cataacgtcg 180

caagaccaa gagggggacc ttcgggcctc ttgccatcgg atgtg 225

<210> 609
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 609
 agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcgagt ttgtagcaat acagatgtcg gcgaccggcg cacgggtgcg taacaggtgt 120
 gcaacctggc ctataccaag ggatagcccg ctgaaaggcg gattaatact ttataagttg 180
 tgatgaggca tctcattata atgaaacgtt agggatatagg atggg 225

<210> 610
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 610
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggacgcgc caaagaggat gattcgtctg attccttagcg cgtccttagcg gcggatgggt 120
 gagtaacgcg tggacaacct gcccgaaca gggggataac agctggaaac ggctgataat 180
 accgcatatg cacacggttc cgcatgggac tgggtggaaa gattt 225

<210> 611
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 611
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaagaa gacggaagcc ttcgggcgga agttttttgg atcagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc tcatacaggg ggataacagg gagaaatcac tgctaatacc 180
 gcataagcgc acaggaccgc atggtctggt gtgaaaaact ccggt 225

<210> 612
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 612
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60

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gaagcactgg cgaggaagtc ttcggatgga attgcttttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaaccttc ctggcagtga gggataacac agggaaactt gtgctaatac 180
cgcatgacgc acgattgtcg catggcagac gtgccaaaga ttaat 225

<210> 613
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 613
agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
ggtgaaggtg cttcggcacc ggatcagtgg cggacgggtg agtaacacgt gagcaacctg 120
cccttcagag ggggataaca ttgagaaatc agtgctaata ccgcataaga ccacagtaag 180
gcatcttaca ggggtcaaag gagcaatccg ctgaaggatg ggctc 225

<210> 614
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 614
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccatgacct cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
tcgaaagagg acatctgatt tcgaccaaag cttcggcgggt catgg 225

<210> 615
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coprococcus

<400> 615
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcactta ggacagattt cttcggattg acgacctaat tgacttagtg gcgaacgggt 120
gagtaacgcg tgggtaacct gcctcatgca gggggataac aattagaaat gattgctaata 180
accgcataag accgcggtac cgcatggtac agcggcctaaa gattt 225

<210> 616
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Oscillibacter

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<400> 616
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaactcttt ggaacaaggc ttcggccaag ggaatttgag tttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc cttcggaggg ggacaacagt tggaaacgac tgctaatacc 180
 gcatgacata cagagatcgc atggtcattg tatcaaagat ttatc 225

<210> 617
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

<400> 617
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgtgg cggcagcaat gccgccgacg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc cccacaggg ggacaatcca gagaaatttg gtctaatacc gcataagagc 180
 gtccccggca tcggggttgc ttgaaagcaa tttgcggtgg gggat 225

<210> 618
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 618
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gggaggtttc ggccaccccc gatggcgacc ggcggatggg tgagtaacgc 120
 gtatccaacc tgcccctgtc ccggggacag cccttagaaa tgaggattaa cccccgatgg 180
 cgcggagggg ccgcatggct tttccgcaa atgcgaagga caggg 225

<210> 619
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 619
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaaatctt tcagacgatt cttcggatga gtcaggaaga tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg ccctcagcag agggatagcc attggaaacg atgattaata 180
 cctcataatg ctgcagtaac acatgttaca gcagccaaag attta 225

<210> 620
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Solobacterium

<400> 620

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgatc 60
gcgatcatgta gcttcggta tatgatgaga ggcgaacggg tgagtaatac ataagcaacc 120
tgcccacgga gaccgggata acccctggaa acggggacta agaccggata ggcaaaatga 180
aggcatcttc attatgtaa aggagaaaga cactggtgga tgggc 225

<210> 621

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 621

agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgcgg 60
ggcagcattg aggtagcaat acttcagatg gcgaccggcg cacgggtgcg taacgcgtat 120
ccaacctggc cttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc 180
aagatggagc ctttttctt gaccaaagg tttatgtcggg aaggg 225

<210> 622

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium III

<400> 622

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaatccatg caagtcgaac 60
ggggcgattc cggaaagtct tcggaccgga agggagagct tagtggcgaa cgggtgagta 120
acgcgtgacc aaccaacctt aagcaggggg acaacagctg gaaacggctg ctaataccgc 180
ataagaccac agtggggcat cctacagggg tcaaaggagc aatcc 225

<210> 623

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Victivallis

<400> 623

agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
ggtgcagcaa tgcacagtgg cgcaaggtg aggaacgcgt gagtaatctg ccctcaagtt 120
gggaacagct tctggaaacg gaaattaata ccgaatgtga tctttgggag gcatctttca 180
aagattaaag gccgcaaggt cgcttgagga ggggctcgcg tccca 225

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<210> 624
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Saccharofermentans

 <400> 624
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaggatgtg aagaagcttg cttcattgca ttctcagcgg cggacgggtg agtaacgcgt 120
 gagcaacctg gccttcacag ggggataaga cggcgaaagc ggttctaata ccccatatga 180
 ccacactgtc acatggcaga ggggtgaaag gagcaatccg gtgaa 225

 <210> 625
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Saccharofermentans

 <400> 625
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacggaggg gcttcggccc cgaagtcagc ggcggacggg tgagtaacgc gtgagcaatc 120
 tgtcccggac agggggataa cacttggaac caggtgctaa taccgataa gaccacgagg 180
 gggcatcctt ttgaggtaaa aggaggaatc cgggccgggg tgagt 225

 <210> 626
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Olivibacter

 <400> 626
 agagtttgat catggctcag gatgaacgct agcggcaggg ctaatacatg caagtcgtac 60
 ggtaaacggg ccttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctcg ccgggatagc cgggtgaaac gccggataat accggatgcg ccgcgtggga 180
 ggcatctccc gagcggcaag gcggagacgc ggagggggac gggca 225

 <210> 627
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Thermotalea

 <400> 627
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaatctcc tgattgaaac ttcggtagat tgacggggag gatagcggcg gacgggtgag 120

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taacgcgtag gtaagctgcc ctatgcacag ggatagccta gggaaacctg gattaatacc 180
 tgatgacgct gcgaggtcac atggccatgc agccaaagtt ttttc 225

<210> 628
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Protei ni cl asti cum

<400> 628
 agagtttgat catggctcag gacgaacgct ggcggatgc ctaacacatg caagtcgaac 60
 gaaaaagag agcttgcttt cttttttagt ggcgcacggg tgagtaacgc gtgagtaatc 120
 tgccttaaag tgggggacaa catttgaaa cgaatgctaa taccgcgtaa tatgcagttt 180
 tcgcatgaat tttgtattat agatttatcg cttaagatg agctc 225

<210> 629
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um III

<400> 629
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaaatgat gattagattc cttcgggatg aaaagattca tggacagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata 180
 cctcatattg taattaattc gcatggattg attatgaaag attta 225

<210> 630
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 630
 agagtttgat cctggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60
 gagaagcttg cttctcatgg cgaacgggtg agtaacacgt aggtaacctg cttacactc 120
 gaggataacc gttggaacg acgataata ctggatagga cagagattcg catgagactc 180
 tgtttaaaag cgatggtgta tgaggggcct gcggtgcatt agcta 225

<210> 631
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 631

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agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 ggcaaggaag gagcttgctt cttccctaga gcggcgact ggtgagtaac gcgtgggtga 120
 cgtaccctcc ggacggggac agcctgtgga aacacaggat aataccggat acggtgcatg 180
 ttgtcagagg acatgcagga aaggttcttt tgaaccgccg gagga 225

<210> 632
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 632
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggggatgtcc acccgatgag gccggagtgc ttgcacaaag gccgattcaa ccggatatcc 120
 tagtggcgga cgggtgagta acgcgtgggt aacctgcctt atacagggga ataacagtca 180
 gaaatggctg ctaataccgc ataagcgcac gaggccgcat ggcca 225

<210> 633
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 633
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagtg accggagtgc agagaggatc tgtattgcga tctactagttc agtggcggac 120
 gggtagtaag agcatgagca acctggctac tagaggggga tagcttttgg aaacagaaga 180
 taataccgca tacatcaaag atttcgcatg agatttttgg aaaag 225

<210> 634
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 634
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggagattatg atttcggttg taatcttagt ggcgaacggg tgagtaacgc gtgaacaacc 120
 tgactcagag tgggggataa caacgggaaa ctgttgctaa taccgataa gaccacattt 180
 ccgcatggga gaggggtcaa agatttatcg ctttgagagg ggttc 225

<210> 635
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Bacillus
 <400> 635
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgatc 60
 gggagtagca atacttcaga ggcgtacggg tgagtaacac ataggaacc tgcccttaag 120
 actgggatac ccagacgaaa gtttgctaa taccggataa caacagaggt cgcgatgacct 180
 ttgcttgaaa ggcgctctca agcgccactt ttggatggcc ctgtg 225

<210> 636
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax
 <400> 636
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatcgc tgattgagat ttcggttgat tgaagcgatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaatctgcc ttcagcacag ggatagccta gggaaacctg gattaatacc 180
 tgataatgca gtttggtcac atggccagat tgccaaagat ttatc 225

<210> 637
 <211> 191
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus
 <400> 637
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaaccctg atgcagcgat gccgctgga ggaagaaggt tttcggattg taaactcctg 120
 tcttaaagga cgataatgac ggtactttag gaggaagctc cggctaacta cgtgccagca 180
 gccgcgtaa t 191

<210> 638
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Agarivorans
 <400> 638
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
 ggtaacagag ggggaatatt gcacaatggg gaaaccctg atgcagccat gccgctgtg 120
 tgaagaaggc cttcgggttg taaagcactt ttgcattcga ggaagacagc acgtaaataa 180
 acgtgttatt tgacgttaga gtgtgaataa gcaccggcaa actcc 225

<210> 639

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerotruncus

<400> 639
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggagcttgct ttgaaggct cttcgggaac ggatgttgca agcttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg ctttcagag ggggataaca caacgaaagc tgtgctaata 180
 ccgcatgaca ttgcgacacc gcatggtgat gcaatcaaag gagca 225

<210> 640
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papiiibacter

<400> 640
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacgacagg gggcttgctc cctgaagtca gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgccttgg tctgcgggat aacattggga aaccggtgct aataccgcat aacgcatcga 180
 gatcacatgg tcatgatgcc aaagaagcaa tttggaacaa gatgg 225

<210> 641
 <211> 185
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 641
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttatgcacaa tgggggaaac 60
 cctgatgcag cgacgccgcg tgagcgatga agtatttcgg tatgtaaagc tctatcagca 120
 gggaaagaaa tgacggtacc tgactaagaa gcaccggcta aatcgtgcc agcagccgcg 180
 gtaat 185

<210> 642
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 642
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gatgatcaga agatgaggcc ctcgggcgga ttcttctgag attagcggcg gatgggtgag 120
 taacgcgtgg gcaatctgcc ctccacaggg ggataacaca gggaaacttg tgctaatacc 180

gcataacatc tttttaaggc atcttaggaa gatcaaagga gcgat 225

<210> 643
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 643
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcggag aagtagcaat acttctgccg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaaccttc ccagacaggg gtagatccca gggaaacttg gattaatacc ccgtaagcca 180
 gaagagggca tcctcgtctg gttaaagttc cggcggctctg gggtg 225

<210> 644
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 644
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcacttcg gtgcgagtg cggacgggtg agtaacgcgt gggtaacctg ccttacacag 120
 ggggacaaca gttgaaacg actgctaata ccgcataagc ccacggtacc gcatggtact 180
 gtgagaaaag atttatcggg gtaagatgga cccgcgtctg attag 225

<210> 645
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 645
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagttgatg acttcgggta ttaacttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttacag agaggaataa tgactggaaa cggtcactaa tacctcataa aatatttaga 180
 tcgcatgggtt tggatatcaa agatttatcg ctgtaagatg ggctc 225

<210> 646
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 646
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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gaagccctac aagtggagat ttcggttgaa gcgaggaggt gactgagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg gccatacag ggggatagcg gctggaaacg gccggtaaaa 180
 ccgcataagc gcacaagcag ggcatcctgt ggtgtgaaaa tcgaa 225

<210> 647
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 647
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctccaa cacttgagtt ttcggacaag agtggcggaa gacttagtgg cggactgggtg 120
 agtaacgcgt gagcaacctg ccttccggtg ggggacaaca gttggaaacg actgctaata 180
 ccgcataaca tatgtctaag gcatcttaga tatatcaag ctta 225

<210> 648
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Nitrobacter*

<400> 648
 agagtttgat catggctcag agcgaacgct agcggaatgc tttatacatg caagtcgaac 60
 gaacgagttt atattgagta gcaatacgat ttatgaatga gttagtggca aacgggtgag 120
 taatagttag gaacttgccg aatagtgggg gacaacagat agaaatgtct gctaataccg 180
 catattcccg agaggggaaa gatttattgc tatttgagag gccta 225

<210> 649
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 649
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgtgaga gaaagcagct tgctgtggac ttaaacttgt ttgtacttag 120
 tggcggacgg gtgagtaacg cgtggaaaac ctgcctcata cagggggata acaggaagaa 180
 attcctgcta ataccgcata agcgcacggt atcgcattgg acagt 225

<210> 650
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

ASBI_002_03W0_SeqList_ST25

<400> 650
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggacttttg gagcttgctc cggaagttca gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgccgcat gcagggggac aacagttgga aacgactgct aataccgcat aagcgcacgg 180
 gaccgcatgg tccggtgtga aaagatttat cggcatgcga tggac 225

<210> 651
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Limibacter

<400> 651
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
 ggtaagcgcc cttcggggg tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctcg ccgggatagc cggtggaac gccggataat accggatgcg ccgcgtggga 180
 ggcatctccc gagcggcaag gcggagacgc ggagggggac gggca 225

<210> 652
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfoviobrio

<400> 652
 agagtttgat cctggctcag attgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gcgaaagggg cttcggcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct 120
 gccctgchg ctggaatagc gactggaac ggtcgataat gccggatagc cccttgttta 180
 acgatgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg 225

<210> 653
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 653
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacttt tctttgattc ttcggatgaa aaagagattt gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg ccctgtacag ggggataaca gttagaaatg actgctaata 180
 ccgcataaga ccacagcatc gcatggtgca gtggtaaaaa ctccg 225

<210> 654
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaerovorax

<400> 654

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agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
gggaaatttg agagtgaggc ttcggcggat ctcttaaata gagagcggcg gacgggtgag      120
taacgcgtag gtaacctgcc ctgcacagag ggatagccac tggaaacggt gattaatacc      180
tcataaaact gttttgccgc atgacagaac agccaaagat ttatc                        225
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<210> 655

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Spirochaeta

<400> 655

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agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgaac      60
ggcaagctac cttcgggtag cctagagtgg cggactggtg agtaacacgt ggggtgacatg      120
ccttcaggac tggaatagcc tgcagaaatg cagggtaatg ccggatacgg tgcaggacgt      180
taggggtcct gcaagaaagg agcatttgct ccgccgggag attgg                        225
```

<210> 656

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from unknown taxa

<400> 656

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac      60
gagaagcaag agcttgctct tgtggaaagt ggcggacggg tgagtaacac gtaggggaatc      120
tgccttcagg cgggggacaa cagttggaaa cgactgctaa taccatata gagctaagtt      180
gaaatactta tcttgaaaac tccggtgcct gtagatgagc ctgcg                        225
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<210> 657

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Saccharofermentans

<400> 657

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
ggagatgagg agaagcttgc ttcgagacat ctacgaggcg gacgggtgag taacgcgtga      120
gcaacctgtc ctctgcaggg ggataagaca gcgaaagttg ttctaatacc gcataagacc      180
acaacgtcac atggcgaagg ggtcaaagga ggaatccggc agagg                        225
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<210> 658
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Anaeropl asma

 <400> 658
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat 60
 ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctaaaagac 120
 gaggataacc attggaacg atggataata ctggatagga ttatttaggg catcctagat 180
 aatttaaaga tttatcactt ttagaggggc ctgcggcgca ttagc 225

 <210> 659
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostri di um III

 <400> 659
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatccatg caagtcgaac 60
 ggggcgattc cggaaagtct tcggactgga aggaagagct tagtggcgaa cgggtgagta 120
 acgctgacc aaccaacctt aagcaggggg acaacagctg gaaacggctg ctaataccgc 180
 ataagaccac ggtggggcat ctcacagggg tcaaaggagc aatcc 225

 <210> 660
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Victi vall is

 <400> 660
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgcaaggtg aggaacacgt gagtgacctt cccgcaagtt 120
 tggaacagct cctggaaacg ggaattaata ccggatgtga tcaacgggct gcatggctctg 180
 ttgattaag cagcaatgcg cttgcggatg ggctcgcgctc ccatt 225

 <210> 661
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Enterorhabdus

 <400> 661
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaggcg gcttcggccg cgaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

ASBI_002_03W0_SeqList_ST25

tgccccgcg accgggacag cctcgtgaaa acgggattaa taccggatac tccggcgggc 180
 cgggatgggg tcgcgccca ttaggtagta ggcgggggtga cggcc 225

<210> 662
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 662
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 ggattccagg ggagcttgct ccccgaagaa ttagtgccgg acgggtgagt aacgcgtgag 120
 caacctgcct ttttcgggg gataacacgg gaaaccggt gctaataccg cataacgtgc 180
 cgaagtcgca tggctttggt accaaaggag taatccgagg aaaga 225

<210> 663
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Erysipelothrix

<400> 663
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaagtacttc ggtacttagt ggcgaacggg tgagtaacac ataaacaatc taccctgaag 120
 actgggataa cggttgaaa cgaccgctaa taccggatag gtgatcttaa ggcattctga 180
 gatcattaaa gttgggctac aacctgcag gatgagttta tgtcg 225

<210> 664
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 664
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtgtatc tgtgaatgag agaagcttgc ttcaggaatt ctttgatatac acttagtggc 120
 gcacgggtga gtaacgcgtg ggcaatctgc ctttcacagg gggacaacag agggaaactt 180
 ctgctaatac cgcataacat caatttaagg catcttagaa tgatc 225

<210> 665
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 665

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agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggaatagggtt tggttgtagc gatactttcg gacctattta gtggcgaacg ggtgagtaac 120
 acgtgagcaa cctgccttct acacagggat aacagccgga aacggctgct aataccggat 180
 aagaccacac cgaggcatct cggagggggtc aaagcgattt agcgg 225

<210> 666
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gelidibacter

<400> 666
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcgggg ttagcaata cattgccggc gagcggcggga cgggtgagta acgcgtatgc 120
 aacctgccca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcacctc 180
 atcaaggcat cttcttgagg ttaaatttc atagtggtg gatgg 225

<210> 667
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 667
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctcttt tgcggatttc ttcggattga agtagaagat gacttagtg cggacgggtg 120
 agtaacgcgt gggtaacctg cctctgacag ggggacaaca gttagaaatg actgctaaca 180
 ccgataagc gcacagtaag gcatcttaca gtgtgaaaat attca 225

<210> 668
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Neisseria

<400> 668
 agagtttgat cctggctcag attgaacgct ggcggcatgc ttacacatg caagtcgaac 60
 ggcagcgtgg tagtgcttgc actactgacg gcgagtggcg aacgggtgag taatgcatcg 120
 gaatgtaccg agtaatgggg gataactaat cgaaagatta gctaataaccg catacgacct 180
 gaggtgaaa gcaggggatc ttaggacctt gcgttattcg agcag 225

<210> 669
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 669
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcagga ttctagcttg ctaggattgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccgcatagtc gggcacagcc ctctgaaagg aggattaatg ccggatgtgg 180
 tcattgtggg acatcccatt atgactgaag atttattgct atgcg 225

<210> 670
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 670
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatctgg tgcttgacc agaggaaagt ggcggacggg tgagtaaaat gtagagaatc 120
 tgccctagag aggggatag cagttggaaa cgactattaa taccatata gcgcgtagtt 180
 gagatactat tcgtgaaaac tccggtgctc tgggatgagt ctgca 225

<210> 671
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter
 <400> 671
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 gggactcta acgaccgagg cttcggcca gtgaatttg agtttagtg cggacgggtg 120
 agtaacgcgt gagcaacctg ctttcagag ggggacaaca gttggaaacg actgctaata 180
 ccgcatgaca tacggagggg gcatccctt tgtatcaaag attta 225

<210> 672
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 672
 agagtttgat catggctcag ggtaacgct agcggtgcc ctaacacatg caagtcgagc 60
 gggaatgtga gaaagcttg tttcaacaa gatagcggcg aacgggtgag taatatgttg 120
 gtatctgtcc ttaagtcagg aatagctcag ggaaacttga attaatgcc gatgtgctct 180
 ttggagtaaa gattatcgc ttaaggggga gccttcattc tatca 225

<210> 673

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 673
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcagcatgg gagttgcttg caacttccga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaaccta cccgcaagtc agggccagcc cggcgaaagt cggattaatc cctgatgtgg 180
 tgcaagagg acatctgatt cacattaaag gagcgatttg cttgc 225

<210> 674
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 674
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggataatt gacggaaggt ttcggccgga aggcgattat tctagcggcg gacgggtgag 120
 taacgcgtga gcaacctttc cttcacaggg ggataaaaca ccgaaaggtg tcctaatacc 180
 gcatgagacc acgggagcac atgcttttga ggtcaaagga gcaat 225

<210> 675
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Erysipelotrichaceae incertae sedis*

<400> 675
 agagtttgat cctggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 gagagtagca atactctagt ggcgaacggg tgagtaacac gtaggcaatc taccattag 120
 acgaggataa ctattgaaa cgatagctaa aactggatag gatatagcga ggcattctgt 180
 aatattttaa ggtcctgaaa gggaacacta atggatgagc ctgcg 225

<210> 676
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 676
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggattgggt agcttgctac tcatgagagc ggcggactgg tgagtaacgc gtgggtgacg 120
 tacccttag acgggatag ctctagaaa taggaggtaa taccgatac gatagtgagt 180

gtcagaggct cattatgaaa ggttcttttg aaccgctgaa ggagc 225

<210> 677
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 677
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcgagaga tgaacctgg tgattctcaa gcgagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc ttacagaggg ggataacagt ctgaaaagac tgctaatacc gcataagcac 180
 acagtaccgc atggtacagg gtgaaaagat ttatcactgt aagat 225

<210> 678
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 678
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgtac 60
 ggggtatagc aatataccta gtggcgaacg ggtgagtaac acgtgagtaa cctgcccctat 120
 acaggggggac aacagctgga aacggctgct aataccgcat aagaccacgg aaccgcatgg 180
 ttcaggggta aaaggctacg gccggtatag gatgggctcg cgcac 225

<210> 679
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 679
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagataagt tgaagcctag cgattcttat cttagcggcg gatgggtgag taacacgtgg 120
 gtaacctgcc ctgtactggg gaataacagc tggaaacggc tgtaaatgcc gcatatgcgc 180
 acggagccgc atgactccgg gcggaagat ttatcgttac aggat 225

<210> 680
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adlercreutzia

<400> 680
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggtaaaccg gcttcggccg gaaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggatag cccccgaaa gggggattaa taccggatgc gccgggccgg 180
 ccgatggcc ggcccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 681
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 681
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatggtt gatgaagttt tcggatggat ttttccattt tagtggcggg cgggtgagta 120
 acgctgggtt aacctgccct gtaccggggg ataacattca gaaatgagtg ataataccgc 180
 ataagcgcac agcttcgcat gaagcagtgt gaaaaactcc ggtgg 225

<210> 682
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 682
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctcctt tgcggaactc ttcggaggga aggaaaggat gactgagtg cggacgggtg 120
 agtaacgcgt gggtaacctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180
 ccgcataagc gtacagcatc gcatgatgca gtacgaaaaa ctgag 225

<210> 683
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 683
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggttagag tcttcggatt ttaaccgagt ggcggacggg tgagtaacgc gtgaacaatc 120
 tgtcctgcaa agggggataa caactggaaa cagttgctaa taccgataa gaccacagta 180
 tcgcatggta cagaggtaaa agcagcaatg cgatgcaggg tgagt 225

<210> 684
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Adlercreutzia*

ASBI_002_03W0_SeqList_ST25

<400> 684
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggcacaaccg ccctcgggcg gacataaagt ggcgaacggg tgagtaacac gtagcaacc 120
tgccccgctc accgggacag cccccgaaa gggggattaa taccggatac tccggggagg 180
gcgcatgccc tccccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 685
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 685
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
ggcagcatgg agtagcaata ctctgatggc gaccggcgca cgggtgcgta acaggtgtgc 120
aatctgtcct ataccgggga atagcccagc gaaagttgaa ttaaagctcc atgtgagtga 180
gagccgcatg actcccactt gaaacgtaag ggtataggat gagca 225

<210> 686
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Syntrophococcus

<400> 686
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gggaacctca cgacggagac ttcggttgaa gatgtgagaa ttctagtggc ggacgggtga 120
gtaacgcgtg ggtaacctgc ccatgagagg aggataacag ggagaaattc ttgctaatac 180
tccatattgct tacggtatcg catgatacag tgaggaaaga atttc 225

<210> 687
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 687
agagtttgat catggctcag aataaacgct ggcggcgtgt cttaagcatg caagtcgaac 60
ggcaaggtag cttcgggtac cctagagtgg cggactggtg agtaaacacgt aggtgacgta 120
ccttttgtag ggggatagcc cgtagaaata cgggataata ccgataagg ttgcacgggt 180
tgagaccgtg caaggaaagg cgctacggcg tcgccgaaag aacgg 225

<210> 688
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 688

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgtgg      60
ggcagcacgg gaagcagcaa tgcttttggg tggcgaccgg cgaatgggtg agtaacgagt      120
atccaacctg ccccgctgctc cgggacagcc ccgcgaaagc gggattaata ccggatgggtg      180
cgtgtttccc gcatgggata tacgtcaaag attcatcggc acggg                          225
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<210> 689

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium III

<400> 689

```
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gagaaatatg acaatgatcc tttcgggggtg atttggatta tggacagtgg cggacggggcg      120
agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata      180
cctcatattg taattaattc gcatggattg attatgaaag attta                          225
```

<210> 690

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pseudoflavonifractor

<400> 690

```
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggagcactact tgatggtaac tgatgttatt gcttagtggc ggacgggtga gtaacgcgtg      120
aggaacctgc cttggagtgg ggaataacag tcagaaatga ttgctaatac cgcataatgt      180
atacgggtcg catggtctgt ataccaaaga tttatcgctc tgaga                          225
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<210> 691

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 691

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac      60
gaagcacttt gacggaagcc ttcggggcga agttgatttg acttagtggc ggacgggtga      120
gtaacgcgtg agcaacctgc ctgtatgtga gggataacac agggaaactt gtgctaatac      180
cgcatgaagc atgggaatcg catggttttg atgcaaaga cttgt                          225
```

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<210> 692
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Sharpea

 <400> 692
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggcc 60
 ggggagggga aagcttgctt tcacctcca ggggcgaacg ggtgagtaat acgtaagcaa 120
 cctgcccgcg ggtccgggat aagccctgga aacggggctt aagaccgat aggcggcggg 180
 ggcgcatgcc ccctccgta aaggcgagaa acgcctgcgg atggg 225

 <210> 693
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Dongia

 <400> 693
 agagtttgat catggctcag aacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggtgcaatgg ggcttgctt attgcatagt ggcggacggg tgagtaacac gtaggaacct 120
 acctggtaat ggtggatagc ttcgggaaac tggaggtaat acagcatgag ctcgagagag 180
 gaaaggccat aaggtcgta ccagaggggc ctgcggatga ttagg 225

 <210> 694
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Eubacterium

 <400> 694
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcttgaa ttcagaattc ttcggaagga cgaatgaaat gactgagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg ccctttggat ggggatagcg tttggaaacg aacggtaata 180
 cccaataaag tatatttgat gcatcgaga tatacceaag ctccg 225

 <210> 695
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Prevotella

 <400> 695
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cgtgtgctt cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120

ASBI_002_03W0_SeqList_ST25

atccaacctg cccatgacct cgggatagcc cgctgaaaag cggattaaca ccggatgtgg 180
 tcgaacgagg acatctgatt tcgaccaaag cttttttgcg gtcatt 225

<210> 696
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 696
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaacctgt ggaaggagtt ttcggacaac gaaacaggg gaaagtggcg gacgggtgag 120
 taacgcgtga ggaacctgcc ttggagaggg ggacaacagc tggaacggc tgctaatacc 180
 gcatgatgca cgatggggac atccccgacg tgccaaagat ttatc 225

<210> 697
 <211> 204
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

<400> 697
 agagtttgat catggctcag gatgaacgct agcgacaggg tttggtcaat ggacgctagt 60
 ctgaaccagc caagtcgctg gcgggatgaa ggccctccgg gtcgtaaacc gctttagccg 120
 gggagtaacg tgggggacgc gtcctcagt gagagtacc ggagaataag catcggctaa 180
 ctccgtgcca gcagccgagg taat 204

<210> 698
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 698
 agagtttgat catggctcag gacgaacgct ggcggtgtgc ctacacatg caagtcgaac 60
 gataaggttc cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatacga gcttagttga 180
 aataactaact ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 699
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 699

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggactttact gaaaagagg cttgcccgat ggaaggtaaa gttagtggcg gacgggtgag 120
taacgcgtgg gtaacctgcc ttacacaggg ggacaacagt tggaacgac tgctaatacc 180
gcataagccg gtagtgccgc atggcacatc cggaaaagat ttatc 225

<210> 700
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 700
agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
ggaacttggg agcttgcttt caagtttagt ggcggacggg tgagtaacac gtgagcaacc 120
tgcctttcgg cggggaataa tgattgaaa cgatcactaa taccataa aataaattta 180
ccgcatgata aattatcaa agattcatca ccgaaagatg ggctc 225

<210> 701
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Thermotalea

<400> 701
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaattgac agaatgaaac ttcgggtggaa ttcagtcaag gacagcggcg gacgggtgag 120
taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
ccataaagca tcattaccgc atgatagaga tgccaaagat ttatc 225

<210> 702
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Victivallis

<400> 702
agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
ggtgcagcaa tgcatagtgg cgcaaggggtg aggaacgcgt gagtaatctg ccctcaagtt 120
gggaacagct tctggaaacg gaaattaata ccgaatgtga tctcaggag gcatctttct 180
gggattaaag gccgcaaggt cgcttgagga ggggctcgcg tccca 225

<210> 703
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Anaeropl asma
 <400> 703
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctatcagcc 120
 gaggataacc attggaacg atggataata ctggatagga tatagatagg catctaatta 180
 tatttaaaga tttatcactg atagaggggc ctgcggcgca ttagc 225

<210> 704
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscilli bacter
 <400> 704
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctccga gaaacaagac ttcgggtcaag cggaacggat gactgagtgg cgaacgggtg 120
 agtaacgcgt gaggaacctg cctttcagtg ggggataaca gttggaaacg actgctaata 180
 ccgcatgaag tattctgggg gcatccccgg ggtaccaaag attta 225

<210> 705
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rumi nococcus
 <400> 705
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgagc 60
 ggtgaat ttt ggatttattc gagattcata gcggcggacg ggtgagtaac acgtgagcaa 120
 cctacctta agtgagggat agcttctgga aacggatggt aataccttat aatatatatt 180
 taccacatga tagatatatc aaagatttat tgcttagaga tgggc 225

<210> 706
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um XI Va
 <400> 706
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctctgc gaaatgaaga ttcgtctgaa tttcaaggat gtccgagtgg cggatgggtg 120
 agtaacgcgt ggagaacctg ccctatgctg ggggataaca actggaaacg gttgacaata 180
 ccgcataagc ttccttagtc gcatgacctt ggaaggaaag attta 225

<210> 707

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 707
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttcctt cgaacagagg cttcggccaa cgggagattg aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttacaccg ggggataaca gagggaaact tctgctaata 180
 ccgcataaga ccacggtacc gcatgttaca gaggtaaaag ttccg 225

<210> 708
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 708
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 gaagcatatt ggaacgagac ttcggtcaag ggaaggtatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctcggggtgc gggataacga ttggaaacga ccgctaatac 180
 cgcattgacgc atatttttcg catgtgagat atgccaaga ttcat 225

<210> 709
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 709
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagatgttt cgctggggcg gcttcggcca aaccttgagg catcttagtg gcgacgggtg 120
 gagtaacgcg tgggtaacct gcctatcaca gggggacaac agttggaac gactgctaata 180
 accgcataag cgcacggcac cgcattggtgc agtgtgaaaa gattc 225

<210> 710
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

<400> 710
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagaaaccg ccctcggggcg gagatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cccccgaaa gggggattaa taccgatgc gccggccggg 180

ccgcatggcc cggccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 711
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 711
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacatacta gcaatagtat gttagtggcg gacgggtgag taatacatga gtaacctgcc 120
 ttatacaggg ggataacact tagaaatagg tgctaatacc gcataataac ccttgggtggc 180
 atcaccaggg gaggaagga gaaatccagt aaaagatggg ctcac 225

<210> 712
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 712
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgtgaga agaagtgctt gcacggaatc gaacttgttt gtacttagtg 120
 gcggacgggt gagtaacgcg tggaaaacct gcctataca gggggataac aggaagaaat 180
 tcctgctaata accgcataag cgcacagtat cgcacatgat agtgt 225

<210> 713
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 713
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gcatcccggt gaattgaagt gcttgactg atttttaaca tcggatgagt ggcgaactgg 120
 tgagtaacac gtgggtaacc tgcccagaag cgggggataa cacttgaaa caggtgctaa 180
 taccgataa caacagaaac cgcacatggtt ctgtttgaaa gatgg 225

<210> 714
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 714
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

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ggcagcatga cgatagcttg ctattgttga tggcgaccgg cgcacgggtg cgtaacacgt 120
atccaatcta cccggtactc ggggatagcc tttcgaaaga aagattaata cccgatactg 180
ttggatctcc gcatggcggt ccaaccaaag atttcatcgg tgccg 225

<210> 715
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Cellulosilyticum

<400> 715
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagataatg caccggatga agattcgtcg gattccaccg cgttatctta gcggcggatg 120
ggtgagtaac acgtggacaa cctgcccata actgggggat agcagttgga aacgactgat 180
aataccgcat atgctcacag caccgcatgg tgcagggagg aaaga 225

<210> 716
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Brevundimonas

<400> 716
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctatacatg caagtcgaac 60
gataaggctc cttcggagat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
ccttaggggtg ggggacaaca gagggaaact cctgctaata ccccatatga gctaacttga 180
aatagttatc ttgaaaactc cggtgcccta agatgagcct gtgcc 225

<210> 717
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 717
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcactga cgatgaagtc ttcggacgga attgtctttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaaccttc ctgtttgtga gggataacac agggaaactt gtgctaatac 180
cgcatgacgc atgggaatcg catggtttcg atgccaaga tttat 225

<210> 718
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

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<400> 718
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga cgagtgttg cacttggtga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atcgaacctt ccccttactc gggaatagcc cggtgaaaac cgaattaatg cccgatatat 180
atttagatgg catcagaaga gtatgaaaga tttatcggtg aggga 225

<210> 719
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Helicobacter

<400> 719
agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagtgttgt aaagactagc ggcaaacggg tgagtaacac atgggaaacc ttccttagaa 120
tgggggatat ctccgtgaaa acggagctaa taccgataa gaccacagtt tggcatcgaa 180
caggggtaaa agcagcaatg tgttctaaga tggtcctgtg tccta 225

<210> 720
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 720
agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
ggagttgtat tagcttgcta atataactta gtggcggacg ggtgagtaac acgtgagcaa 120
cctgccttcg agagtggaat aatgtttgga aacggacact aataccgcat gacatacggg 180
attcgcattg ttttcgtatc aaagatttat cgctcgaaga tgggc 225

<210> 721
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Proteini clasticum

<400> 721
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60
gaaaacgggg cttgctctcg tttttagtgg cgcacgggtg agtaacgcgt gagtaatctg 120
ccttaaagtg ggaacaaca tttgaaacg aatgctaata ccgcgtaata tacagttttc 180
gcatgaattt tgtattatag atttatcgct ttaagatgag ctgcg 225

<210> 722
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Brevundimonas*

<400> 722

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agagtttgat catggctcag agcgaacgct ggcggcaggc ctaacacatg caagtcgaac      60
gaactcttcg gagttagtgg cggacgggtg agtaacacgt gggaacgtgc ctttaggttc      120
ggaataactc agggaaactt gtgctaatac cgaatgtgcc cttcggggga aagatttatac      180
gcctttagag cggcccgcgt ctgattagct agttggtgag gtaaa                        225
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<210> 723

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 723

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agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac      60
ggagtcacat tgaaacctag tgatttgtga cttagtggcg gacgggtgag taacgcgtgg      120
gtaacctgcc tggatttggg ggacaacagt tagaatgac tgctaatacc gcatacgaca      180
tccggagggc atcctctgga tgggaaagga tttatccgat atcag                        225
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<210> 724

<211> 204

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 724

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agagtttgat cctggctcag gatgaacgct agctacaggc tttggtcaat gggcgggaagc      60
ctgaaccagc caagtagcgt gcaggatgac ggccctatgg gttgtaaact gcttttatgc      120
gggaataaag aggctcacgt gtgggctggt gcatgtaccg catgaataag gaccggctaa      180
ttccgtgcca gcagccgagg taat                                              204
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<210> 725

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Desulfovibrio*

<400> 725

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agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gcgaaagggg cttcggcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct      120
gcccctgcaa ctggaatagc gactggaaac ggtcgataat accggatacg cccttgttga      180
actatgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg                        225
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<210> 726
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coralimargarita*

<400> 726
 agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgggc 60
 ggttgtagc cttcgggtgt acaatagcgg caaacgggtg agtaacacgt aagtaacctg 120
 cccttaagac tgggatagcc cagcgaaagt tggggtaata ccggatgagg accttagcgc 180
 catgttaagg gatcgaaagg tatgagaaga cgcttaagga ggggc 225

<210> 727
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eubacterium*

<400> 727
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaaatgac tgacggattc ttcggatgac ggaggatcatg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cttactgag ggatagccga gggaaacttc gtgtaatacc 180
 tcataacgca ttttgaccgc atgatcgaat tgccaaagat ttatc 225

<210> 728
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Sphingomonas*

<400> 728
 agagtttgat catggctcag agcgaacgct agcggcatgc ttaacacatg caagtcgaaac 60
 gaggaagtt gattgagtag caatagatt tcaatggaac gagtggaac cgggtgagta 120
 atatattgga acttgcccag tagtggggga caacagttgg aaacgactgc taataccgca 180
 taacgcagag atgcgaaagc cgaaaggcgc tattggagag gccaa 225

<210> 729
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 729
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacatga agaaagcttg ctttcttga tgacgaccgg cgcacgggtg agtatcgcgt 120

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atccaacctg cccataagta gggaaatagcc ttgcgaaagt aagattaatg ccctatggtt 180
 tccgtcgtag acatcttaga tggataaag atttatcgct tatgg 225

<210> 730
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 730
 agagtttgat cctggctcag gacgaacgct ggcggatgc ctaacacatg caagtcgaac 60
 ggggtttgaa gagcttgctc ttcttctact agtggcggac gggtgagtaa cgcgtgagta 120
 atctgcctca aagtggggga taacacttag aatgagtgct taataccgcg taatgtgcta 180
 acttcgcatg aagtctgcac catggttttt cgctttgaga tgagc 225

<210> 731
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paraprevotella

<400> 731
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgagt cggtagcaat actgatgtcg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaaccttc ccagacaggg ggatagcca gggaaacttg gattaatacc ccgtaggccg 180
 agggatggca tcgtccttcg gttaaagttc cggcggctctg gggtg 225

<210> 732
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 732
 agagtttgat cctggctcag gacgaacgct ggcggcagc ttaacacatg caagtcgaac 60
 ggagttaaag gagcttgctc cttaactta gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgccttac agagaggaat aatgattgga aacggtcact aatacctcat aaaatatcta 180
 tactgcatgg tataggatat caaagattta tcgctgtaag atggg 225

<210> 733
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 733

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agagtttgat catggctcag gatgaacgct ggcggcgcgcat ttaagacatg caagtcgaac 60
 gaagaatttg caccgaatga aagatgaaga ttcatcagat tctggatttc accgtaaatt 120
 cttagtggcg gacgggtgag taatacgtag ataatctgcc ttctagaggg aaataacaga 180
 gagaaatttc tgctaattgc ccataagacc aactatggc atctt 225

<210> 734
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 734
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagccatcc gaaagatccc ttcgggggtga ttttggtgaa gcttagcggc ggacgggtga 120
 gtaacgcgtg agtaacctgc ccattagtgg ggaataacac agagaaattt gtgctaatac 180
 cgcataccga tgcgggaggg catcctcctg tattgaaaga tttat 225

<210> 735
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 735
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaacgaggta gcaatactga gttagtggcg gacgggtgag taatgcatga gcaacctacc 120
 tcatacaggg ggatagcact tagaaatgag tggtaatacc gcataataac catacatggc 180
 atcatgtaag gaggaagga ggaatccggt aagagatggg ctcat 225

<210> 736
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Turicibacter

<400> 736
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gagagtactt gtactcgagt ggcgaacggg tgagtaacac gtaggtaacc tgcctttcag 120
 tttgggatac ccagaggaaa ctttggctaa taccggataa ctggtctgga ggcattctccg 180
 gatcctaaaa ggggctcaa agcctcgctg attgatggac ctgcg 225

<210> 737
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 737
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt atctggcttg ccagatatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctg ccgtttaccg ggggacagcc tcgcgaaagc gagattaata cccgatgttg 180
 tgcgtattcc gcatggtgtg cgcaccaaag gtttttccgg taagc 225

<210> 738
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 738
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggatgctc caaagatgat gactcgtctg attcttagcg catcttagcg gcggatgggt 120
 gagtaacgcg tggacaacct gcccgaaca gggggataac agctggaaac ggctgataat 180
 accgcatatg cacacgtggc cgcattggca tgggtggaaa gattt 225

<210> 739
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Fusibacter
 <400> 739
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaatcgc tcaatgatct ttcgggtgat ttgagcgatg gaaagcggcg gacgggtgag 120
 taacgcgtag gtaacctgcc ccatacagag ggatagccac tggaaacggt gattaatacc 180
 tcataacacc ggaatatcgc atggtatacc ggtcaaagtt tttcg 225

<210> 740
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 740
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctctct tttggaacc ttcgggggtga agaaggagat gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180
 ccgcataagc gcacagcacc gcatggtgcc gtgtgaaaag ccttt 225

<210> 741

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 741
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagttaatg aagcttgctt tattaactta gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgccttac agagaggaat aatgattgga aacgatcact aatacctcat aacatatttg 180
 aatcgcatgg tttggatatac aaagatttat cgctgtaaga tgggc 225

<210> 742
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rummeliibacillus

<400> 742
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gaatgacgag gagcttgctc ctctgattta gcggcggacg ggtgagtaac acgtgggtaa 120
 cctgccctgt agactgggat aacttcggga aaccggagct aatacggat aattctttta 180
 acctcatggt ttttagctga aaggcgcttc ggcgtcacta cagga 225

<210> 743
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 743
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatcaat agatcagcga tttatcaaag agacattgag gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cctggcagag ggatagccat tggaaacgat gattaaaacc 180
 tcataacgcc ggaagcacac atgtgctatc ggccaaagat ttatc 225

<210> 744
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 744
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 gagaagtgg aggtagcttg ctactgaaga tggaaaccgg cgcacgggtg cgtaacaggt 120
 atgcaatctg tcctataccg gaggatagcc cactgaaagg tggattaata ctccatgtgc 180

cactgcgggg catcctatgg tggtgaaact tgagggtata ggggtg 225

<210> 745
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pelospora

<400> 745
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggaatgattg acttcggtca tgaattcagt ggcggacggg tgagtaacac gtggataact 120
 tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgataa cgtgatttat 180
 tcgcatggat agattaataa aggtgaaaat cgctaaaaga taggt 225

<210> 746
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

<400> 746
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaacca cttcgggtgga tatagagtgg cgaacgggtg agtaacacgt gggcaacctg 120
 cccctcacac cgggacaact attgaaacg atagctaata ccggatactc cgatcgcgtg 180
 gcatcacgct ttcgggaaag cccagacggt gagggatggg cccgc 225

<210> 747
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 747
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaacttatc ttctgaagtt ttcggatgga cgaaggtaag tttagtggcg gacgggtgat 120
 taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgттаatacc 180
 gcataagacc acagcaccgc atggtgcagg ggtaaaagct gcgac 225

<210> 748
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia

<400> 748
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggagcttact ttttaatac ttcggtaagc gagaagtaag cttagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc ctgtactggg ggataacagt gagaaatcac tgctaatacc 180
 gcataagcgc acggagccgc atggcccagt gtgaaaaact ccggt 225

<210> 749
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 749
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagttttag gaaagcttgc tttccgaaga acttagcggc ggacgggtga gtaacgtgtg 120
 ggtaacttgc cctatgcaga gggataacag tgagaaatca ctgctaatac ctcataagct 180
 cacacttca catgggagag tgagaaaaga tttatcggca tagga 225

<210> 750
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ehrlichia

<400> 750
 agagtttgat catggctcag aacgaacgct ggcggtatgc ttaacacatg caagtcgaac 60
 gagaaagggg agcaatacct gagtaaagt gcaaacgggt gagtaacaca caggaatcta 120
 cccagtagag gggaataagc actggaaacg gtgtctaata ctccatacgc cggtatagca 180
 atatatcggg aaagggctag tagcaatatt agttcactat tggat 225

<210> 751
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 751
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaatcgag gaaacgatac ttcggtaaag cggaatcgag gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cttactggt ggatagccgc gggaaactgc gagtaataca 180
 ccataatgca tcgatgagac atctcaatga tgccaaagat ttatc 225

<210> 752
 <211> 154
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 752
agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
ggtaacagag ggaataaag tgaggtacgt gtaccttttt gtatgtaccc tatgaataag 120
gaccggctaa ttccgtgcca gcagccgagg taat 154

<210> 753
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 753
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagtttagg ggaaggcggg ttcgtccaac ggaacctaaa cttagcggcg gatgggtgag 120
gaacgcgtgg ataacctacc gtgcacaggg ggataacagt tgaaacgac tgtaataacc 180
gcatatgctc acagtaccgc atggtacagg gaggaaagat ttatc 225

<210> 754
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 754
agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgaac 60
ggcaagatgg tagcttgcta ctatcctaga gtggcggact ggtgagtaac acgtgggtga 120
cgtacccttc agacggggat agctggtaga aatatcagat aataccggat acgattctgt 180
aagttagagg tacagaagga aaggagctat ggcttcgctg aagga 225

<210> 755
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 755
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
gggaacttta ttgaagttat ctgatataaa gttctagtgg cggactgggtg agtaatgtat 120
aagcaacctg cctataagag ggaataaca gtgagaaatc attgctaata ccgcataagc 180
tgtgagaatg gcatcattca aacagaaaag gaagcaattc cgctt 225

<210> 756
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Selenomonas*
 <400> 756
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgattg aaagcttgct tttatgagcc tagtggcaaa cgggtgagta acgcgtgggc 120
 aacctgccgg aaagatgggg acaacatccc gaaaggggtg ctaataccga atgtttgtata 180
 taaggcgcag gccttgtata ttaaaggatc taatccgctt tccga 225

<210> 757
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*
 <400> 757
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggactcaggg gcttcggccc cgaaagtcag tggcggacgg gtgagtaacg cgtgagcaac 120
 ctgcctccgg aagagggata acagttggaa acgactgcta ataccgcata aactgcgag 180
 tacgcatgta catgcagtca aaggagcaat ccgaccggag atggg 225

<210> 758
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*
 <400> 758
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacggaaga gcttcggttc ttacgtcagt ggcggacggg tgagtaacgc gtgagcaatc 120
 tgccctttac agcgggataa cacagagaaa tttgtgctaa tacggcataa catatcggag 180
 tcgcatggca ttggtatcaa agatttatcg gtaaaggatg agctc 225

<210> 759
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*
 <400> 759
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggactgcg cgacggacct gaagatttcg gttggatggg aagatgcaca gttctagcgg 120
 cggacgggtg agtaacgcgt gagcaacctg tcccttacag ggggataaca cagcgaagat 180
 tgtactaata ccgcataaga ccacggcatc acatggtggt ggggt 225

<210> 760

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 760
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggagtatac caaacagaga ttcgtcgaag taaggtatat gagagcggcg gacgggtgag 120
 taacgcgtag gtaacctacc ttaagctgag ggataacca gggaaacttg ggataatacc 180
 acataacgcg gtgaagtcac atggctttac cgccaaagat ttatc 225

<210> 761
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 761
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ttaagcatg caagtcgagc 60
 ggtaagccgg agcaatccgg cctagagcgg cggacgggtg agtaacacgt ggataatctg 120
 gcctacagtt tgggatagcc tggtgaaagc caggataata ccggatacga cagttttaac 180
 agaagttaag attgggaaag gggctaaggc ctcgctgaag gatga 225

<210> 762
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 762
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatctct agcttgctag agaggaaagt ggcggacggg tgagtaatat gtagagaatc 120
 tgcctagag agggggacaa cagagggaaa ctctgctaa taccatata gagcgtacct 180
 gtgatggtat tcttgaaaac tccggtgctc taggatgagt ctgca 225

<210> 763
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 763
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacttt tgtgatgaag cttcggtaga ttctttaag tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag ggggatagcc attggaaacg atgattaata 180

ccccataatg cagagagttc acatgtattt tctgccaag attta 225

<210> 764
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 764
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttgttt ctatccgaca gatcatcttc ggatgtgaag tcaccagaaa cgcttagtgg 120
 cggacgggtg agtaacgcgt gggcaacctg ccctgcacag ggggatagcg gttggaaacg 180
 accgtaata ccgcatacct tgtatttaac gcatgttaga tataa 225

<210> 765
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 765
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaatctta gaagtgaagt ttcgatggat cttttaagag gagagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc tcacactgag ggatacttcc gggaaactgg aactaatacc 180
 tcataacgcg agagtttcac atgttactct cgccaaagat ttatc 225

<210> 766
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 766
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagtatttt ggagcttgct ctgagatgct tagtggcggg cgggtgagta acacgtgagc 120
 aacctgcctt caagtgcgga atagcttctg gaaacggatg gtaataccgc ataatgttat 180
 ctggccgcat gaccggataa ccaagaaat tcgcttgaag atggg 225

<210> 767
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papillibacter

<400> 767
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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ggagttatct cgcacacgga gccacttgag agagtgggtg cgtggtgggg ataacttagt 120
 ggcaacggg tgagtaacgc gtaagcaatc tgccttacag agggggataa cgtttgaaa 180
 cgaacgctaa taccgataa cgtcatgaag aggcattctt ttatg 225

<210> 768
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 768
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagttatct tattagatcc cttcgggggtg acgatttttt aacttagtgg cgaacgggtg 120
 agtaacgcgt gagtaacctg cttcaagag ggggacaaca gttggaaacg actgctaata 180
 ccgcataaca taacgaagcc gcatgacttt gttatcaaag gagca 225

<210> 769
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 769
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaacttttt acggacaaga cttcgggtcaa gtctgtttca agtttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg ctttcagag ggggataacg ttcggaaacg atcgctaata 180
 ccgcataaca tagggatc gcatggtaac cctatcaaag atttt 225

<210> 770
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 770
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaaagcac cttcgggtgt gagtagagtg gcgaacgggt gagtaacacg tgagcaacct 120
 gcctttcaca tcgggataac ctatggaaac gtaagctaata accgaatact ccatttcctt 180
 cgcattgttg atctgggaaa gctttagcgg tgaaagatgg gctcg 225

<210> 771
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

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<400> 771
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcagctt tgaaggagat ttcgggtcaat ggataagctg acttagtggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc ctcatggagg gggacaacag ttggaaacga ctgctaatac 180
 cgcataagac caagcatcgc atgatgcaat ggtaaaagat ttatc 225

<210> 772
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rhodocista

<400> 772
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagttgaac 60
 ggtattgtga agtgcttgca ctgcacaaga gagtagcgca ctggtgagta acacgtggga 120
 acatgcccta aagtacggga tagcgtctgg aaacggacga taatcggta tacgccctga 180
 gggggaaaga tttatcgctt taggattggc ccgcggaaga ttagg 225

<210> 773
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 773
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcgccttc ggggtgagct ggcggacggg tgagtaacgc gtgggtaacc tgccttacac 120
 agggggacaa cagttgaaa cgactgctaa taccgcataa gccacggaa ccgcatggtt 180
 ctgtgagaaa agatttatcg gtgtaagatg gaccgcgctc tgatt 225

<210> 774
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Beijerinckia

<400> 774
 agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 ggaacatagg gtgcttgac tttatgtcag tggcgcacgg gtgagtaacg cgtaggaacc 120
 tgtcttttag cctgggatag cctctgaaa cggagggtaa aaccgatga gccctgaggg 180
 ggaaatgagc aatcagctga aagaggggcc tgcgttagat taggc 225

<210> 775
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lactobacillus*

<400> 775

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac      60
gaagctttct ttaccgaat gcttgattc accgaaagaa gcttagtggc gaacgggtga      120
gtaacacgta ggcaacctgc caaaagagg gggataacac ttggaacag gtgctaatac      180
cgcataacca tgaacaccgc atgatgttca tgtaaaagac ggctt                      225

```

<210> 776

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Cryptanaerobacter*

<400> 776

```

agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac      60
ggaataggat tggttgtagc gatactttcg atcctattha gtggcgaacg ggtgagtaac      120
acgtgagcaa cctgcctttt acacagggat aacagccgga aacggctgct aataccggat      180
aagaccacac cgaggcatct cggaggggtc aaagcgattt agcgg                      225

```

<210> 777

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 777

```

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcactg ggttggcttg ccatccctgg tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg ccccgaaccg cggtatagcc cgccgaaagg cggattaatc ccgcatgtgg      180
tcgtgagatg acatctgacc acgactaaag gtatthtccg gttcg                      225

```

<210> 778

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Anaerobrio*

<400> 778

```

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggagcgaaga agagcttgct ctttgagct tagtggaaca cgggtgagta acgcgtaggc      120
aacctgccct tcagatgggg acaacacctc gaaaggggtg ctaataccga atgacgtgca      180
ttggtcgcag gaccgatgca ccaaggccg ggcaaccggt cactg                      225

```

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<210> 779
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Anaerovorax

 <400> 779
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaatctct aaagcagctt gctgcggaag agaggatagc ggcggacggg tgagtaacgc 120
 gtaggtaagc tgccccttgc agaaggatag cctcgggaaa ctgggattaa tacttcataa 180
 cacggctggt ccgcatgaac cggccgtcaa agatttatcg gcaag 225

 <210> 780
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

 <400> 780
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagttgaac 60
 gaagaagtca gaggcttgc actcaggctt actgagtggc ggacgggtga gtaacgcgtg 120
 ggtaacctgc ctacacagg gggataacag tcggaaacga ctgctaatac cgcataagcg 180
 cacagtgccg catgacacag tgtgaaaaac tccggtggtg tgaga 225

 <210> 781
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Enterorhabdus

 <400> 781
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaaccg ccctcgggcg gacataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgctc accgggacag cccccgaaa gggggattga taccggatac tccgccgggc 180
 ccgcatgggc ccggcgggaa agctccggcg gcgcgggatg gggtc 225

 <210> 782
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

 <400> 782
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gggacgttcc gaggtagcaat atgagggatg ttagtgggcg gacgggtgag taacgcgtga 120

ASBI_002_03W0_SeqList_ST25

gtaacctgcc tgtgtgaggg ggacaacaga tcgaaaggcc tgctaatacc gcatgacgta 180
 tggagatcgc atggttttca taccaaagat ttatcgcaca cagat 225

<210> 783
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 783
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtgattg aaagcttgct tttgagaacc gaggtgcaaa cgggtgagta acgcgtagac 120
 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgctcag 180
 attcccgc atggagactga ttaaagatgg cctctacttg taagc 225

<210> 784
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 784
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcttgat ttcagatttc ttcggaatga cgaatgatat gactgagtg cggacgggtg 120
 agtaacgcgt gagcaaccta ccctttggat tgggatagcg tttggaaacg aacggtaata 180
 ccgaataaag tatacggatg gcatcatctg tataccaaag ctccg 225

<210> 785
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Thermotalea

<400> 785
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaagtctg caacggaagc ttcggccgaa gatgaggatg gacagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ctatgcacag ggatagcctc gggaaactgg gattaatacc 180
 tgatgaagcg gtaggtacac atgtactaat cgccaaagat ttatc 225

<210> 786
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 786

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaagccg gcttcggccg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccccgc accgggacag ccccgcgaaa gcgcggttaa taccggatag gccccgcgcg 180
 ccgcatggga gcggggggaa agcccaggcg gcgggggatg gggtc 225

<210> 787
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 787
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gatgatcggg ggatgagacc ttcgggtgga ttcttccgag attagcggcg gatgggtgag 120
 taacgcgtgg gcaatctgcc ctccacaggg ggataacaca gggaaacttg tgctaatacc 180
 gcataacatc ttcgggagcg atcttctgaa gatcaaagga gcgat 225

<210> 788
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetanaerobacterium

<400> 788
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagatgaaa aaagcttgct ttaatcatct tagtggcggg cgggtgagta acacgtgagc 120
 aacctgcctt tcagaggggg ataacgtttg gaaacgaacg ctaataccgc ataatgtata 180
 cggatggcat cgtctgtata ccaaaggagc aatccgctga aagat 225

<210> 789
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 789
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
 gggattcatg tgcttgaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120
 cccccccg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180
 gttggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 790
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 790
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaagg gacggaaccc tccgggggga agtaacctgg aacagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc tcatacaggg ggataacaga gagaaatcac tgctaatacc 180
 gcataagcgc acgagggccg catggcccgg tgtgaaaaac tccgg 225
 <210> 791
 <211> 164
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Enterorhabdus
 <400> 791
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcacttt tgcattcgag gaagacagcg tataaataaa tgcgctattt gacgttagag 120
 tgtgaataag caccggcaaa ctccgtgcca gcagccgcgg taat 164
 <210> 792
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 792
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga acttagcttg ctaagtttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccgaggtc aggacagcc cggcgaaagt cggattaata cctgatggtc 180
 tctttagatg gcatctgacg aggagtaaag attcatcgcc ttggg 225
 <210> 793
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Desulfovibrio
 <400> 793
 agagtttgat cctggctcag gacaaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagcccttcg gggctagtgg cagacgggtg agtaacgcgt aggtaatgta cctcttcgct 120
 ggggataccg ttccgaaagg aacgttaata ccgaatgaat tcatcgggcg gcatcgcttg 180
 atgaataaac cgcaagggcg aggagatcag cttgcgtact atcag 225
 <210> 794
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Ami nobacter*

<400> 794

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agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc      60
gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctacc atctctacgg      120
aataactcag gaaacttgt gctaataccg tatacgcctt tcgggggaaa gatttatcgg      180
agatggatga gcccgcttg gattagctag ttggtggggt aatgg                          225
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<210> 795

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium IV*

<400> 795

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggagatattc gaatgagatt cgttgatttt gaatatctta gtggcggacg ggtgagtaac      120
gcgtgagtaa cctgccgatg agtgtggaat aacgttctga aaagaacgct aataccgcat      180
aacatatttt tgccgcatga cagaagtatc aaagatttat cgctc                          225
```

<210> 796

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Rikenellia*

<400> 796

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcagcgcga ggtagcaata ctttggcggc gaccggcgca agggtgcgta acgcgtgagc      120
aacttgcccg taacaggagg ataaccggag gaaactccga ctaatactgc gtagaaataa      180
ttggtggcat caccgagtgt ttaaaggcga aagccggtta cggat                          225
```

<210> 797

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Gordonibacter*

<400> 797

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gattaaaccg ccttcgggcg gatataaagt ggcgaacggg tgagtaacac gtaaccaacc      120
taccgccac actgggacag cctcgcgaaa gcgggattaa taccagatac tccttatggt      180
acgcatgttt tataagggaa agcttttgcg gtgcgggatg gggtt                          225
```

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<210> 798
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Papillibacter*

 <400> 798
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcatatg gttggaagtt ttcggacgga agagcatatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaaccttc ctgcatgtga gggataacac agggaaactt gtgctaatac 180
 cgcataacgc atgactgtcg catggcagac atgccaaaga ataat 225

 <210> 799
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Syntrophococcus*

 <400> 799
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctcttc cctttgaagt ttcgacagat tagggaagat caccgagtgg cggatgggtg 120
 agtaacgcgt ggagaacctg ccccatcag ggggataaca actggaaacg gttgataata 180
 ccgcatatat gataggaccg catgattcta tcaggaaaga tttat 225

 <210> 800
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*

 <400> 800
 agagtttgat catggctcag gatgaacgct ggcggcgtgt ttaatacatg caagtcgaac 60
 gaggatagc aatataccga gtggcgaac ggtgagtaac acgtgagcaa cctgccctat 120
 acagggggac aacagctgga aacggctgct aataccgcat aagaccacag catcgcatga 180
 tgcaggggta aaaggctacg gtcagtatag gatgggctcg cgcac 225

 <210> 801
 <211> 154
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Hahella*

 <400> 801
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
 ggtaacagag gaagacagca cgtaaataaa cgtgttattt gacgttagag tgtgaataag 120

caccggcaaa ctccgtgcc gcagccgcg taat 154

<210> 802
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Vampirovibrio*

<400> 802
 agagtttgat catggctcag gacgaacgct ggcgggtgtgc ctatacatg caagtcgaac 60
 gataagggtt cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaactg ggggacaaca gagggaaact tctgctaata ccccatacga gctagcttga 180
 aatagctatc ttgaaagctc cggcgggtta ggatgagcct gtgcc 225

<210> 803
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coprococcus*

<400> 803
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtgtcaa tcttcggaaa gacacttagt ggcggacggg tgagtaacgc gtgggtaacc 120
 tgcctcatic aggggatag cagttgaaa cgactgataa taccgataa gcgcacagta 180
 ccgcatggta cagtgtgaaa aactccggtg gtatgagatg gacct 225

<210> 804
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coralimargarita*

<400> 804
 agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc 60
 gagaagggtc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120
 cccttaagac gggaatagct tgatgaaaat tgagataatg cccgatatta aattcttccg 180
 catggaagag gttgaaagg tttgtgatgg cgcttaagga ggggc 225

<210> 805
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium*

<400> 805
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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ggagccatct tgaagatccc ttcgggggtga tttaggggaa gcttagcggc ggacgggtga 120
gtaacacgtg agtaacctgc ccttatgagg aggataacac accgaaaggt gtgctaatac 180
tgcataatat atatTTTTcG catggagaat atatcaaaga tttat 225

<210> 806
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 806
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagctttgc ttatgatttt ttcggaatga ttaagtgaat gactgagtgg cggacgggtg 120
agtaacgcgt ggataacctg ccctttgcag ggggataaca gccggaaacg actgctaata 180
ccgcataagc gcacagcacc gcatggtgca gtgtgaaaaa ctccg 225

<210> 807
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Desulfotomaculum

<400> 807
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggagcggagc ccttcggggc cgagcttagt ggcggacggg tgagtaacac gtgagcaacc 120
tgcccattac agggggatag cagctggaaa cggctggtaa taccgcataa gaccgcgga 180
ccgcatggtt cagaggtaaa aggagagatc cggtaatgga tgggc 225

<210> 808
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Helicobacter

<400> 808
agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagtgcttgt aaagactagc ggcaaacggg tgagtaacac atgggaaacc ttccttagaa 120
tgggggacat ctccgtgaaa acggagctaa taccgcataa gaccacagtt tggcatcaga 180
caggggtaaa agcagtgatg tgttctaaga tggtcctgtg tccta 225

<210> 809
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Syntrophococcus

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<400> 809
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggaacctca tagtgagac ttcgggtcaaa gcagtgagaa ttctagtggc ggatgggtga 120
 gtaacgcgtg ggtaacctgc ctacaagaat tggataacag cgagaaattg ttgctaatac 180
 aatataagct tacagtatcg catgatacag tgagaaaaga tttat 225

<210> 810
 <211> 208
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 810
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg cagcagtggg 60
 gaatattgca caatggagga aactctgatg cagcgacgcc gcgtgagcga tgaagtattt 120
 cggtatgtaa agctctatca gcaggaaga taatgacggt acctgactaa gaagctccgg 180
 ctaaatacgt gccagcagcc gcggtaat 208

<210> 811
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 811
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagctatat tggaaggacc ttcggggacg gaagatatag cttagtggcg gacgggtgag 120
 taacgcgtga gtaacctggc ctcaagaggg ggacaacagc tgaaacggc tgctaatacc 180
 gcataacata atggagtcgc atggctctgt tatcaaagga gcaat 225

<210> 812
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Paludibacter*

<400> 812
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcacga gtgaagcttg ctttacttgg tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg tcataaccg aggatagcc tcccgaagagg gagattaaaa cttcatgtgc 180
 cacatgaggg catccgagag tggtaaaacg tttgggttat ggttg 225

<210> 813
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 813

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gggactcata gtgacggaga tttcgggtcaa agaagctttg agtccagtgg cggacgggtg      120
agtaacgcgt ggggaacctg ccctgtaccg ggggataaca gtgagaaatc actgctaata      180
ccgcataagc gcatgggtc gcatgaccgg gtgtgaaaag ctccg                          225
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<210> 814

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 814

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agagtttgat cctggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac      60
gagatgagtg gcttcgggtca tgaatctagt ggcggacggg tgagtaacgc gtggacaact      120
tgccttatag tgggggatag ccgaaagaaa tttcgattaa taccgcataa tacaatttgg      180
ttgcatgadc agattgggaa aggcttcggt cgctaaaaga aaggt                          225
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<210> 815

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Adhaeribacter*

<400> 815

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agagtttgat cctggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac      60
ggtaaggtcc gaggtagcaa taccgaggat acacgagtgg cgcacgggtg cgtaacgcgt      120
atgcaacctc ctttgactg gaacataacg ttgagaaatc ggcgctaata ttccatgtgg      180
ttatgacctg gcatcgggat gtaactaaag atttattggt caagg                          225
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<210> 816

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium IV*

<400> 816

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac      60
ggacatattg acttcggttg gtatgttagt ggcggacggg tgagtaacgc gtgagcaacc      120
tgcccctatg tgcgggataa cggctggaaa cggacgctaa taccgcataa cccaacggaa      180
ccgcatgatt ttgttgcaa agatttattg catagggatg ggctc                          225
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<210> 817
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Cryptanaerobacter*

 <400> 817
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggatatgtag caatacatat tagtggcggga cgggtgagta acgcgtaacc aacctgcctt 120
 ttacagggga ataacacttg gaaacaggtg ctaataccgc atatgaccac aacgcggcat 180
 cgcaagggg taaaagtttt atcggtataa gagggggttg cgtat 225

 <210> 818
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Idiomarina*

 <400> 818
 agagtttgat cggccacatt gggactgaga cacggcccag actcctacgg gaggcagcag 60
 tggggaatat tgcacaatgg gggaaaccct gatgcagcca tgccgcgtgt gtgaagaagg 120
 ccttcgggtt gtaaagcact tttgattcag aggaagacag cgtataaata aatgcgctat 180
 ttgacgttag agtgtgaata agcaccggca aactccgtgc cagca 225

 <210> 819
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium IV*

 <400> 819
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatggt tgaagcttg cttttgaaca tttcgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tctttcacag ggggataacg ttccgaaagg gacgctaata ccgcatgaga 180
 ccacggtgcc gcatggcaca ggggtcaaag gagagatccg gtgaa 225

 <210> 820
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Selenomonas*

 <400> 820
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtgattg aaagcttgct tttgagaacc gagtggcaaa cgggtgagta acgcgtagac 120

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aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtcag 180
 tttctcgcat gagagactga ttaaagatgg cctctacttg taagc 225

<210> 821
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetanaerobacterium

<400> 821
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcattc ggaacgagac ttcggtaag ggaagatttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaatctgc ctcgggggtgc gggataacgt ttggaaacga acgctaatac 180
 cgcgatgacgc atacctttcg catgtgaggt atgccaaagg tttac 225

<210> 822
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bifidobacterium

<400> 822
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggatcggct ggagcttgct ccggccgtga gaggggcga cgggtgagta atgcgtgacc 120
 gacctgccc gtacaccgga atagctcctg gaaacgggtg gtaatgccgg atgctccaat 180
 gcgatgcatg tcgcgttggg aaagatttca tcggtatggg atggg 225

<210> 823
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 823
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagaatgag aagcttgctt ttcattactt agcggcggac gggtagta cgcgtgggta 120
 acctgccctg tacaggggaa taacagttag aatgactgc taatgcccc taagccgacg 180
 taatggcatc tttatgtcgg aaaagattta tcggtacagg aggga 225

<210> 824
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 824

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 taccatac tccgggataa ctccaggaaa cttgtgctaa taccggatac tccgagagga 180
 tcgcatgttc ttttcgggaa agcctttacg gtatgggatg gggtc 225

<210> 825
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 825
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaactcact ttctgaagtt ttcggatgga tgaaggtaag tttagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgттаатacc 180
 gcataagacc acagcaccgc atggtgcagg ggtaaaagct cgcac 225

<210> 826
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 826
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctgtctttaa 120
 gacgaggata accattggaa acgatggata atactggata ggacatcata aagggcatcc 180
 ttagatgttt aaagattatt atgtcactta gagaggggcc tgcgg 225

<210> 827
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 827
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagtaagtg gagagcttgc ttgaaactta cttagcggcg gacgggtgag taacgcgtga 120
 gcaacctgtc ctctgcaggg ggataagaca gcgaaagttg ttctaatacc gcataagacc 180
 acaacgtcac atggcgaagg ggtcaaagga ggaatccggc agagg 225

<210> 828
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Ruminococcus*
 <400> 828
 agagtttgat catggctcag gacgaacgct ggcggcagc ctaacacatg caagtcgaac 60
 ggtgtcggag gtgcttgac caatgacata gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgccttca agaaagggat agcttctgga aacggatggt aataccttat aatatatact 180
 ggccgcatga ccggtgtatc aaacgaattt tgcttgaaga tgggc 225

<210> 829
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium III*
 <400> 829
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaggaaacc gaaagaagcc ttcgggtgga ttttggtgga cttagcggcg gacgggtgag 120
 taacgcgtga gtaacctgcc cataagaggg ggataatcct tggaaacggg gactaatacc 180
 gcatatagag tatttgttgc atgattgata cttgaaagat ttatc 225

<210> 830
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Acholeplasma*
 <400> 830
 agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 ggtctagctt gctagacagt ggcgaacggg tgagtaacac gtaggtaatc cacccttagg 120
 acgaggatag cttctggaaa cggaaggtaa aactggatag tatatagga ggcattcttct 180
 tatatttaa agagcaatct acctaaggaa gagcctgcgg cgcatt 225

<210> 831
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pedobacter*
 <400> 831
 agagtttgat cctggctcag gatgaacgct agcggcagc ttaacacatg caagtcgagg 60
 ggcagcgggc ctagcaata cggtgccggc gaccggcggc cgggtgcgta acgcgtatgc 120
 aacctccct gcacaggggt atagccggc gaaagccgga ataatcccc atagtttcaa 180
 tttccgcat ggagagttgg ataaacggc gaccgggtgc aggat 225

<210> 832

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingomonas

<400> 832
 agagtttgat catggctcag agcgaacgct agcggcatgc ttatacatg caagtcgaac 60
 gaacgagttt atattgagta gcaatacgat ttatgaatga gttagtggcg aacgggtgag 120
 taatatatag gaattgccc agtagtgggg gacaacagtt agaatgact gctaataccg 180
 catacgccc agaggggaaa gatttatcgc tattggagaa gccta 225

<210> 833
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 833
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatccggg aggtagcaat acttcctggt gagagtggcg gattggggag gaacacgtga 120
 gcaacctgcc ttggagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg 180
 cccggtgaca tcatcggagc gctaaagggg gccgcaaggc tctcg 225

<210> 834
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 834
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatcct caaaggaagc ttcggcagac tgagaggatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ccatgcacag ggatagcctc gggaaactgg gattaatacc 180
 tgatgacacc gcgcattcac atggatatgc ggtcaaagat ttatc 225

<210> 835
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 835
 agagtttgat catggctcag aacgaacgct ggcggtgcgt cttaagcatg caagtcggac 60
 ggcaagatag tagcttgcta ctatcctaga gtggcggact ggtgagtaac acgtgggtga 120
 catacccttt ggctggggat agccggtaga aataccgggt aataccgaat aagattctgc 180

aggttagagt ggcagaaaga aaggagcttc ggcttcaccg aagga 225

<210> 836
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Paraeggerthella*

<400> 836
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaggcg ccttcgggcg cgaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg tccgggacag cctcgggaaa ccgggattaa taccggatgc gccggggggc 180
 gcgcatgcg cccccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 837
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 837
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gaaatgagta gcttcgggta caagtttagt ggcggacggg tgagtaacgc gtggataatt 120
 tgcctttcag tgggggatag ctgagagaaa tctcaattaa taccgataa cataatttat 180
 tcgcatgagt gagttattaa agatgcaagt cgctggaaga gaagt 225

<210> 838
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 838
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcattg aggttgcttg caacttcaga tggcgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgtgtgctc tgggatagcc cttagaaatg aggattaata cgagatagtc 180
 tcctttgatc gcctgagatt aggagtaaag attcatcggc acacg 225

<210> 839
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Paenibacillus*

<400> 839
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

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ggactgtagc aatacagtta gtggcgaacg ggtgagtaac acgtaggtaa cctgccctca 120
agactgggat acccagacga aagtttggct aataccggat aacaactctg gaggcatctc 180
tggagtttga aaggcgcctt taaagcgcca cttaaggatg gacct 225

<210> 840
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 840
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga agattgcttg caatctttga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atcgaacctg ccctgtacac ggggatagcc ttgcgaaagc aagattaata cccgatgttt 180
tggcgatgcc gcatgacatt accaacaagc atttatcggc acagg 225

<210> 841
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Bacteroides*

<400> 841
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga acttagcttg ctaagtttga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctt ccgtttactc ggggatagcc tttcgaaaga aagattaata cccgatggta 180
tgtaatatatt gcatgataat accattaaagc attaatggc aaacg 225

<210> 842
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 842
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcatccc ttgaaatctt cggatggatg gggatgactt agtggcggac gggtgagtaa 120
cgcgtgggta acctgcctca tgcaggggga caacagctgg aaacggctgc taataccgca 180
taagaccccc tgagcgcgatg ctcaagaggt aaaagattta tcggc 225

<210> 843
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium XI Va*

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<400> 843
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
gggatagatt gggagcttgc tcttgattta tctagtggcg gacgggtgag taacgcgtgg 120
gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcataacatt 180
atggtaccgc atgatatcat gatcaaatat ttataggtat gagat 225

<210> 844
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Roseburia

<400> 844
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggtttaag cggaagccct tcgggacgga agcttttacc gagtggcgga cgggtgagta 120
acgcgtgggt aacctgccct gtactggggg acaacagttg gaaacgactg ctaataccgc 180
ataagcgcac gagatcgcat ggttttgtgt gaaaaactcc ggtgg 225

<210> 845
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 845
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggggtacaga cgctgtgaga agaagtgctt gcacggaatc aaacttgttt gtacttagtg 120
gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat 180
tcctgctaataccgcataag cgcacaaggt cgcatgatca ggtgt 225

<210> 846
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 846
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggggaagaga agcttgcttt tctttctagt ggcggacggg tgagtaacgc gtgagcaacc 120
tacctatcag tgggggataa cgtctgaaa cagacgctaa taccgcatat cgtacataat 180
tcgcatgaat aagtgtatga aaggagtaat ttgctggtag atggg 225

<210> 847
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Pedobacter

<400> 847

agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaaccgc cttcggggg tgtgagagtg gcgcacgggt gcgtaaccg tatgcaacc 120
 acccgctgcc ggggatagc ccggagaaat ccgaattaat accccatgag gaggaggtga 180
 ggcatctcat cttttcaaa acttcggtgg cggcggacgg gcatg 225

<210> 848

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Robinsonella

<400> 848

agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgagc 60
 ggagaacaga cttcggtttg ttcttagcgg cggacgggtg aggaacgcgt gggtaatctg 120
 ccctatacag ggaataaca ctgagaaatt agtgataaag ccgcataagc ccacgggatc 180
 gcatgatcct gcgggaaaaa ctccggtggt ataggatgag cccgc 225

<210> 849

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaeroplasma

<400> 849

agagtttgat cctggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 ggaactagct tgctagtcca gtggcgaacg ggtgagtaac acgtaggtaa tctacctta 120
 ggacgaggat agcttctgga aacggaaggt aaaactggat agtatattag agggcatcct 180
 ttaatattta aaagagcaat ctacctagag aggagcctgc ggccc 225

<210> 850

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 850

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtgcatt aagcagattc ttcggatgaa gctttttaca cttagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc tcacacaggg ggacagcagc tggaaacggc tgataatacc 180
 gcatatgccc acgataccgc atggtattgc ggggaaacat ttatg 225

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<210> 851
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 851
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgtac 60
 gaaatcagca atggtttagt ggcggacggg tgagtataac atgaataact tgcctcagag 120
 tgggggatag cttctggaaa cagaagataa taccgcatat ttcgaatttt tctcatgaat 180
 ttttcggtaa agaagctttt tcgctctgag atgggttcat gcccc 225

<210> 852
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Turicibacter

<400> 852
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaggttgta gcaatatcaa ccgagtggcg aacgggtgag taacacgtag ggaacctgcc 120
 ctttagtttg ggataccag aggaaacttt ggctaatacc ggataattgt tctggaggca 180
 tctccggaat ctgaaagggg cctttaagc ctcgcttaag gatgg 225

<210> 853
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papiilibacter

<400> 853
 agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 ggacggaggg gagcttgctc ccccagatta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgcctttt ttcgggggat aacacgggga aaccggtgct aataccgcat aaagtaccga 180
 catcgcatgg tgatgttacc aaaggagcaa tccgaggaaa gatgg 225

<210> 854
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 854
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacttatga taagattctt cggatgattt ttataagtta gcggcggatg ggtgaggaac 120

ASBI_002_03W0_SeqList_ST25

gcgtggagaa cctgcccttc acaggggat aacagctgga aacggctggt aataccgcat 180
 atgctcacgg tggcgcatgt cacagggagg aaagctccgg cggtg 225

<210> 855
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 855
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaggacaagg gcttcggttc ttgttcgagc ggcggacggg tgagtaacgc gtgaacaatc 120
 tgtccctgac aggggaataa cacttgaaa caggtgctaa taccgataa gaccacgggt 180
 tcgcatgaac caggggtaaa aggagagatc cggtgagggg tgagt 225

<210> 856
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XIVb

<400> 856
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagtttag ggaagcttgc tttccgaaga acttagcggc ggacgggtga gtaacgtgtg 120
 ggtaacttgc cctatgcaga gggataacag tgagaaatca ctgctaatac ctcataagct 180
 cacaccttca catggaggag tgagaaaaga tttatcggca tagga 225

<210> 857
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporobacter

<400> 857
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagaagggg gcttcggctc ccgatcagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgccttcgtg tggggaataa cacagggaaa cttgtgctaa taccgataa tgcaaagaca 180
 tagcattgtg actttgcaa agatttattg catgaagatg ggctc 225

<210> 858
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 858

ASBI_002_03W0_SeqList_ST25

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaaagcac cttcgggtgt aagtagagt gcaacgggt gagtaacacg tgagcaacct 120
 gcctctcact ttggaataac tcagagaaat ttgagctaata accgaatact tcgtatcttt 180
 cgcatgatcg atacgagaaa gccttgtgcg gtgagagatg ggctc 225

<210> 859
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 859
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta ggtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttgcgatccc gcatggggat gcaacgaaag attcatcggg agggg 225

<210> 860
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 860
 agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60
 gggaagcttg ctttccatgg cgaacgggtg agtaacacgt aggtaagcca tacatcagac 120
 gaggataacc tttgaaacg aaggataata ctggatagga ttttgatcg catgattaaa 180
 tatttaaaga tttatcactg atggaagcac ctgcggcgca ttagc 225

<210> 861
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporobacter

<400> 861
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaattccc ggaaggagac ttcgggtcaac ggaagggag gacagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc cttcggaggg ggacaacagc tggaaacggc tgctaatacc 180
 gcataacgta tcacacaggc atctgagaga taccaaagat ttatc 225

<210> 862
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Streptomyces
 <400> 862
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagccg cttcggtggt ggattagtgg cgaacgggtg agtaacacgt gggcaatctg 120
 ccctgcactc tgggataagc cctggaaacg gggcttaata ccggatggga ctgctggggg 180
 catcctctgg tggtgaaag cttcggtggt gcaggatgag cccgc 225

<210> 863
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Arcobacter
 <400> 863
 agagtttgat cctggctcag agtgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaacggat tatagcttgc tataattgtc agctaagtgg cgcacgggtg agtaatgtat 120
 aggtaatatg cctcttacta agggataaca attggaaacg attgctaata ctttatattc 180
 cttttatca aaagataaaa agggaaagat ttattggtaa gagat 225

<210> 864
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 864
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacccatgg aatgattag cttgctatga aattccggaa ggtagtggtg ggacgggtga 120
 gtaacgcgtg ggcaacctgc cctgtactgg gggatagcag ctggaaacgg ctggtaatac 180
 cgcataagcg cacagtaccg catggtacag tgtgaaaagc tccga 225

<210> 865
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Barnesella
 <400> 865
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcggga gaaagcttg ctttgcttgc cggcgaccgg cgcacgggtg agtaacgcgt 120
 atgcaacctg cctgtaacag ggggataacc cggagaaatc cggcctaaca ccgcataaca 180
 catgtaagcc gcatggtttt catgtcaaat attcgtaggt tacag 225

<210> 866

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lactobacillus*

<400> 866
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagcggaaacc aacagattta cttcggtaat gacgttggga aagcgagcgg cggatgggtg 120
 agtaacacgt ggggaacctg cccctaagtc tgggatacca tttggaaaca ggtgctaata 180
 ccggataaga aagcagatcg catgatcagc ttttaaagg cggcg 225

<210> 867
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Flavobacterium*

<400> 867
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggtaacaggc ggtagcaata ctgtgctgac gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgcccg cgacaggggg ataacggagg gaaacttcca ctaatatccc atggtgccga 180
 ggtctcgc at ggggtttcgg ctaaaggggc gaccgggttg cggat 225

<210> 868
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 868
 agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gccccgggct tgccccggga gtggcgaag ggtgcaaac acgtgaggaa cccgcccccg 120
 ggtccgggac aagcgtgga aacggcgtct aataccggat gccgaccgga atcgcgatgat 180
 tccgcgtcga aagtcttctc gcccggggaa ggcctcgcgt cccat 225

<210> 869
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 869
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gatgaaatac ggagacgagt tttcggacga gaggaagtat ggaatagtgg cggacgggtg 120
 agtaacgcgt ggataatctg cccatacag ggggatagca gttggaaacg actgataaca 180

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ccgcataagc gcacggagag gcatctcttt gtgtgaaaat ctacg 225

<210> 870
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ureaplasma

<400> 870
 agagtttgat cctggctcag gattaacgct ggcacatgc ctaatacatg catgtcgagc 60
 ggagtttaga gagcttgctt tctaaactta gcggcaaatg ggtgagtaac acgtaaggaa 120
 cctgcctaag cgacgaggac aacggttga aacgactgct aatactggat agtataagaa 180
 accgcatgat ttcttattta aagggtccgtt tggaccacgc ttaga 225

<210> 871
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetanaerobacterium

<400> 871
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggacgaagct cttcggagcc aagttagtgg cgaacgggtg agtaacacgt gaggaacctg 120
 ccttcagag ggggataaca cttagaaata ggtgctaata ccgcataaga ccacagagcg 180
 gcatcgctca ggggtcaaag gagcaatccg ctgaaagatg gcctc 225

<210> 872
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Slackia

<400> 872
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gattaaagcc cctccggggg tgcataagat ggcgaacggg tgagtaacac gtgaccaacc 120
 cgccccggac accgggacaa cgggcggaaa cgcctgctaa taccggatac tccgacgacg 180
 acgcatgtcc gacgcgggaa agcccaggcg gtccgggatg gggtc 225

<210> 873
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 873
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ASBI_002_03W0_SeqList_ST25

ggagataagc accggatgaa gatttatcgg attccaccgc ttatcttagc ggcggatggg 120
 tgagtaacgc gtggataacc tgccccttgc agggggataa caaccgaaa cgggtgctaa 180
 taccgcatag gcgcgtagga ccgcatggtc ctaagcgtaa agatt 225

<210> 874
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 874
 agagtttgat cctggctcag gacaaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttatac accttcggga ggtaagctta gtggcggact ggtgagtaac gcgtgagcaa 120
 cctgcccttc agtgggggac aacagctgga aacggctgct aataccgcat gacgttagat 180
 gaaggcatct tcgtttaact aaagatttat tgctgaagga tgggc 225

<210> 875
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 875
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggacgcatgg tcttagcttg ctaagactga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atgcaacctt tccgcgtccc cgggacagtc ggccgaaagg ccgcgtaaca ccgggcgttc 180
 cgtttgaggg gcatcccttg ggcggaatac gcgagggtcg cgggt 225

<210> 876
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Proteiniphilum*

<400> 876
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggacgcggga ggtagcaata ccttgccggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctacctt caacagggggg ataaccaga gaaatccgga ctaatacccc gtatagtagc 180
 gagaccgcat gatcttgcta cgaaagcttc ggtggttggga gatgg 225

<210> 877
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

ASBI_002_03W0_SeqList_ST25

<400> 877
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
gggaaacagt agcttgctac tgttgagagc ggcggactgg tgagtaacgc gtgggtgacg 120
taccctctgg atggggatag ctctagaaa taggaggtaa taccgaatac gatgcacggg 180
aacagaggcc gtgcatgaaa gtatcttttg atacgccgga ggagc 225

<210> 878
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 878
agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
ggtgaatgaa tagcttgcta gacattcata gtggcggacg ggtgagtaac acgtgagcaa 120
cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180
tctcgcatgg gaatgctatc aaacgaaatt cgctcagaga tgggc 225

<210> 879
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 879
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcatcggga ggaagcttg ctttccttgc cggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg ccgcacagta ggggatagcc cggagaaatc cggattaata ccctatgttc 180
tccgagtcag tcatctgaat tggagcaaag gttcgccgct gtgcg 225

<210> 880
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyrivibrio

<400> 880
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
gggaacttta ttgaagtta ctgatataaa gttctagtgg cggactgggtg agtaatgtat 120
aagcaacctg cctataagag ggaataaca gtgagaaatc attgctaata ccgcataagc 180
tgtgagaatg gcatcattca aacagaaaag gaagcaattc cgctt 225

<210> 881
<211> 225
<212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Devosia*

<400> 881

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agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcaagg      60
gggtgtagca atacacaacc ggcgcacggg tgagtaacgc gtgggaatat gtccatttgt      120
ggggaatagc ttctggaac ggaaggtaat accgcatacg ccctacgggg gaaagattta      180
tcgcagatgg agtggcccg c gttggattag ctagttggtt gggtg                        225
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<210> 882

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Anaeropl asma*

<400> 882

```
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat      60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggtaacctg tcttaaagac      120
gaggataacc attggaacg atggataata ctggatagga tatataaggg catcctgata      180
tatttaaaga tttatcactt tatgaggggc ctgcggcgca ttagt                        225
```

<210> 883

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Oscilli bacter*

<400> 883

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagctccga aagcaacggt ttcggccgga gtggacggat gacttagtgg cggacgggtg      120
agtaacgcgt gagcaacctg ccctcagag ggggacaaca gttggaacg actgctaata      180
ccgcataacg taaggaaatg gcatcatatt cttaccaaag attta                        225
```

<210> 884

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Barnesi ella*

<400> 884

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agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg      60
gtgaagtttg aagtagcttg ctacggataa tggaaaccgg cgcacgggtg cgtaacaggt      120
atgcaatcta tcctaagccg ggggatagcc cactgaaaag tggattaata ctccatgtgc      180
cacgaggggg catccttttg tggtgaaacg tgagggcata ggttg                        225
```

ASBI_002_03W0_SeqList_ST25

<210> 885
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Atopobium*

<400> 885
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggtaaagcc cttcggggtg aataaagtgg cgaacggctg agtaacacgt gggcaaccta 120
 cccctcacat tgggatagcc tcgggaaacc gggagtaata ccgaatactc cggacatctc 180
 gcatgggatg accgggaaag ctccggcggg gagggatggg cccgc 225

<210> 886
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 886
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac 60
 ggagtcacat tgaaacctag tgatttgtga cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc tggatttggg ggacaacagt tagaatgac tgctaatacc gcatacgacg 180
 tcggggaggc atctccctga cgggaaagga attatccgat atcag 225

<210> 887
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Methanobrevibacter*

<400> 887
 agagtttgat cctggcagat gctactgcta ttgggattcg attaagccat gcaagtcgaa 60
 cgagtttagg ctcgtggcgt acggctcagt aacacgtgga taacctacc ttaggactgg 120
 gataaccctg ggaaactggg gataataccg gataggcaat ttttctgta atggtttttt 180
 gtttaaatgt ttttgcct aaggatgggt ctgcgccga ttagg 225

<210> 888
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 888
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgt cgtagcaata cgatggcggc gaccggcggg agggatgcgta acgcgtgagc 120

ASBI_002_03W0_SeqList_ST25

aacttgcccg tcaactgtggg ataggcactg gaaacgggtg gtaataccac gtaacactac 180
gagctgcatg gttttagtt gaaagattca ttggtgacgg atagg 225

<210> 889
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 889
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcgcgt ttagcaata cgatggcggc gaccggcgca aggtgacgta acgcgtgagc 120
aacatgcccg caacaggggg ataaccggag gaaactccga ctaatacccc ataaggacgt 180
aggacggcat cgtccagcat ctaacttac gagggttgcg gattg 225

<210> 890
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Asaccharobacter*

<400> 890
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggttaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccccgc tccgggataa cccagggaaa cctgacgtaa taccggatac tccggccggg 180
ccgcatggcc cgggcgggaa agcccagacg gcgggggatg gggtc 225

<210> 891
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Enhydrobacter*

<400> 891
agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
gatgaaactc tagcttgcta gagatgatta gtggcggacg ggtgagtaac atttaggaat 120
ctgcctagta gtgggggata gctcggggaa actcgaatta ataccgcata cgacctacgg 180
gtgaaagggg gcgcaagctc ttgctattag atgagcctaa atcag 225

<210> 892
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Treponema*

<400> 892

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agagtttgat catggctcag aatgaacgct ggcggcgggt ctttagcatg caagtcggac 60
 ggcaagaaag tgcttgact ttcctagagt ggcggactgg tgaggaacac gttggtgacg 120
 tacccttgg atgggatag ccggtagaaa taccgggtaa taccgaataa ggtcggtggt 180
 cttggaagcc accgaggaaa gcggtttgg ccgcgccgaa ggaac 225

<210> 893
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 893
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 gaagcatgag tgatgagtaa tctgatctca tgacttagtg gcggacgggt gagtaacgcg 120
 tgggtaacct acctacaca gggggataac agttgaaac gactgctaaa accgcataac 180
 atggcgatac cgcatgacat tgccatcaaa ttttatagg tgtga 225

<210> 894
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adlercreutzia

<400> 894
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 gattaacca tcttcggatg gttataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgcctttcac attgggataa ctaagggaaa ctgtagctaa taccaaatac tccggcacct 180
 ccgcatggta gtgccgggaa agctccggcg gtgaaagatg gggtc 225

<210> 895
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 895
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 ggcagcggga gagaagcttg cttttcttgc cggcgaccgg cgcacgggtg cgtaacgcgt 120
 atcgaacctg cccagtcag ggggacagcc ctctgaaagg aggattaata ccccatggtt 180
 ccctgtgtcc gcatggacgt tgggataaag gagagattcg gactg 225

<210> 896
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Pseudoflavonifractor
 <400> 896
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 ggtgaagtcc cttcgggggc tgatcagtgg cggacgggtg agtaacgcgt gaggaacctg 120
 cccttatgag cgggaataacg tcgggaaact gacgctaata ccgcataatg catcaccggg 180
 gcatcgcggt gatgccaag cttcggcgca taaggatgga ctgcg 225

<210> 897
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus
 <400> 897
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 gagaacctta cgacggagac ttcggttgaa gatgtaagaa ttctagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ccatgagagg aggataacag ggagaaattc ttgctaatac 180
 tctatatgct tacggtatcg catgatactg tgaggaaatg aattt 225

<210> 898
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 898
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctcctg atttgatccc ctcggggtaa tttgacggat gacttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg ctttcagag ggggataacg gttggaaacg accgctaata 180
 ccgcataaca cagaggaacc gcatgattct tttgtcaaag ctgag 225

<210> 899
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Demequina
 <400> 899
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaacctg gagcttgctc cgggggatca gtggcgaacg ggtgagtaac acgtgagtaa 120
 cctgccccag aactgggat aacctcggga aaccggggct aataccggat acgagacgct 180
 cgggcatccg aagcgtctgg aaagatttat cggctctggga tggac 225

<210> 900

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 900
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 gtggcggacg ggtgagtaac gcgtgggtaa cctaccttac acagggggat aacagttaga 180
 aatgactgct aataccgcat aagcgcacag taccgcatgg tacgg 225

<210> 901
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 901
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 ggtagcagca atgctatagt ggcggacggg tgagtaacgc gtgaacaatc tgcctgtatc 120
 aggggaataa cagttcgaaa ggactgctaa taccgcatat gatcatagag gggcatcct 180
 cagtgatgaa agatttatcg gatacagatg agttcgcgtc ctatt 225

<210> 902
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Sphaerisporangium*

<400> 902
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 ggaaaggccc ttcgggttac tcgagcggcg aacgggtgag taacacgtga gcaacctgtc 120
 cttgactctg ggataagcct gggaaaccgg gtctaatacc ggataggacc tgtctccgca 180
 tgggggtggg tggaaagttt tttcggtcag ggggtgggctc gcggc 225

<210> 903
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaeroplasma*

<400> 903
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctaagagac 120
 gaggataacc attggaacg atggataata ctggataaga tattgggagg catcttctga 180

tatttaaaga tttatcgcta atagaggggc ctgcggcgca ttagc 225

<210> 904
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Geobacillus*

<400> 904
 agagtttgat cctggctcag aatgaacgct ggcggcatgg attagggcatg caagtcggac 60
 ggggtgcagc gatgcacca gtggcgaaag ggtgcgcaac gcgtggggaa cctgcccccg 120
 gatccgggac aagcgtgga aacggcgtct gatacgggat gcggaggggg gccgcatggc 180
 ccccgctcca aagattcatc gtccggggag ggccccgct cccat 225

<210> 905
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 905
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 ggcagcatgg gagaagcttg cttttcccga tggcgaccgg cgaatgggtg agtcacgcgt 120
 gtccaacctg cttcagccc ggggatagcc cttggaaatg aggattaaga cccgatagat 180
 ggaagttccg catggcgctt ccatgaaact ggactgaaga tgggg 225

<210> 906
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 906
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gatgaagcgg ggaggaagtt ttcggatgga attcctgtgg aagagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc ccgtacaggg ggatagcagc gggaaactgc tggtaatacc 180
 gtatatgctc acaactgcc catggcaggg tgtggaaagt tacgg 225

<210> 907
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 907
 agagtttgat catggctcag aacgaacgct ggcggcatgg attagggcatg caagtcgaac 60

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gaagcagcaa tgcttagtgg cgcaaggggtg aggaacacgt gagtgaccta cccgcaagtt 120
 tggaaacagct cctggaacg ggaattaata ccggatgtga tcgataggcc gcatggttta 180
 ttgattaaag cagcaatgc cttgcggatg ggctcgcgctc ccatt 225

<210> 908
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 908
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
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 tctaccgggg acatccccgg cagagtaaag attcatcggc ggcgg 225

<210> 909
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Demequina

<400> 909
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaactcg gagcttgctc cgggggatca gtggcgaacg ggtgagtaac acgtgagtaa 120
 cctgccccag actctgggat aacctcggga aaccggggct aataccggat acgagacggt 180
 cgggcatccg aagcgtctgg aaagatttat cggctctggga tggac 225

<210> 910
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paraeggerthella

<400> 910
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaagccg gcttcggccg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccccgc cccgggatag cccccgaaa gggggattaa taccgggtac tccgcaaggg 180
 ccgcatggcc cctgcgggaa agctccggcg gcgggggatg gggtc 225

<210> 911
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paraprevotella

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<400> 911
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 ggcagcgaga gagtagcaat acttttgtcg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg 180
 agggatggca tcgtccttcg gttaaagttc cggcggctctg gggtg 225

<210> 912
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifactor

<400> 912
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagggattata gtcagcttgc tgattgatac tcgagtggcg gacgggtgag taacgcgtga 120
 ggaacctgtc ttcatcaggg ggataacgtc ccgaaagga tgctaatacc gcatgagacc 180
 acgataccgc atggattga ggtcaaagga gcgatccgga tgaag 225

<210> 913
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 913
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacttctcc ggaaataagc ttcggcagaa agaaggagga gttagtggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ttacattggg ggataacagt tagaaatgac tgctaatacc 180
 gcataagacc acgaggccgc atggccacgg ggtaaaagtt ccggc 225

<210> 914
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gelidibacter

<400> 914
 agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
 cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcacctcat 180
 caaggcatct tcttgaggtt aatatattcat aggtggtgga tgggc 225

<210> 915
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 915

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaactttac cggatgaagt tttcggatgg aatcagataa agtttagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cccttcagag ggggacaacg tcttgaaaag gacgctaata 180
 ccgcataaca tatattcatc gcatggtgga tatatcaaag gagca 225

<210> 916

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Rhizobium

<400> 916

agagtttgat catggctcag aacgaacgct ggcggatgac ttaacacatg caagtcgcac 60
 gagaaagttc ttcggaatga gtaaagtggc gtacgggtga gtaatgtata ggaatctacc 120
 cagtaatgag gaataagcac tggaacgggt gtctaatacc acatactacc gatttatcgg 180
 gaaaggttta atcttcgggt taaactgtta ttggatgagc ctata 225

<210> 917

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Acholoplasma

<400> 917

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggatacctc gggatttagt ggcgaacggg tgagtaacac gtaggtaatc taccttaag 120
 acggggataa cagatggaaa cgactgttaa taccggatag tatatgaagt cgcatgattt 180
 tatatttaa gttccacgg gaacacttta agatgagcct gcggc 225

<210> 918

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 918

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatgcat cagcgagagg attcgtccga tcaagatgta tcttagtggc ggacgggtga 120
 gtaacgcgtg gataacctgc ctccatccgg gggatagcag ttggaaacga ctggtataac 180
 cgcatgagcg cacggtgaagg catcttacag tgtgaaaaga ttaat 225

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<210> 919
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 919
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 ggcagcgaga gagtagcaat acttttgctg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg 180
 agtggcggca tcgccgttc gttaaagttc cggcggctctg gggtg 225

<210> 920
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 920
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 ggcagcgtgg ggtagcaat acttccgacg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccca 180
 caggcgggca tccgccagt gttaaagttc cggcggctctg gggtg 225

<210> 921
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papillibacter

<400> 921
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacttt ggacggatcc cttcggggtg aagactgatt tgacttagtg gcggacgggt 120
 gagtaacgag tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaata 180
 accgcataac gtacgtggat cgcattgtcc gtgtaccaa gcctt 225

<210> 922
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Fusibacter

<400> 922
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatttg agagcgaagc ttcggcagag ctcttaaag gagagcggcg gacgggtgag 120

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taacgcgtag gtaacctgcc ctgcacagag ggatagccac tggaaacggt gattaatacc 180
tcataaaact gttttgccgc atgacagaac agccaaagat ttatc 225

<210> 923
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Coralimargarita*

<400> 923
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgagc 60
gagaagggtc cttcgggtac cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120
cccttaagac gggaacagct tgatgaaaat taagataatg cccgatatcc gcttcttttcg 180
catgagagaa gtcggaaagg tttgtgatga cgcttaagga ggggc 225

<210> 924
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Papillibacter*

<400> 924
agagtttgat catggctcag gattaacgct ggcggcgtgc ataacacatt caagtcgaac 60
ggagtgtaga aatacactta gtggcggacg ggtgagtaac gcgtgagcaa tctaccttcc 120
agtgcgggat aacaaccgga aacagttgct aataccgcat gaaccggcag catcgcatgg 180
tgcaaccggc aaaggcttgc tgctggaaga tgagcttgcg tccga 225

<210> 925
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 925
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagctgcca cgctgatgat tggagtactt gtacgaagag aatcttgtcg tagcttagtg 120
gcggacgggt gagtaacgtg tgataacct ggtccaatct gggggatagc agcttgaaac 180
ggctggtaat accgcataag cgcacggtgt ggcacacac agtgt 225

<210> 926
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Acholiplasma*

<400> 926

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
gagctgcttc ggcagcgagt ggcgaacggg tgagtaacat atgaataatc tacctcttta 120
actgggatac cagtctgaaa agactgctaa taccggatag gtaatactga ggcattctcg 180
tattattaa gatgcgtttg catcgaattg agatgagttc atatac 225

<210> 927
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Catenibacterium

<400> 927
agagtttgat cggccacatt ggaactgaga cacggtccaa actcctacgg gaggcagcag 60
taaggagttt tcggcaatgg gggaaaccct gaccgagcaa cgccgcgtga gcgatgacgg 120
tcctttggat tgtaaagctc tgttgtaagc catgaaagat agcttttaga aatgaaagtt 180
attgacgac agcttaccag aaagccacgg ctaactacgt gccag 225

<210> 928
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 928
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggttagcg gcttcggccg ataaccgagt ggcggacggg tgagtaacgc gtgaacaatc 120
tgtcctgcaa agggggataa caactggaaa cagttgctaa taccgataa gaccacgaag 180
tcgcatggct ttgaggtaaa agcagcgatg cgatgcaggg tgagt 225

<210> 929
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 929
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
ggacgagggg agcttgctcc ccaagttagt ggcggacggg tgagtaacgc gtgagcaacc 120
tgcctttcta agcgggataa cagagggaaa ccgctgctaa taccgataa cgtatgatga 180
acgcatgttc gacatacaa aggagcgatc cgaagaaaga tgggc 225

<210> 930
<211> 225
<212> DNA
<213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 930
 agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60
 ggggtgtgtag agagcttgct ctttatttca ctagtggcgg acgggtgagt aacgcgtgag 120
 taatctgcct tgaagtgggg gataacattt gaaacaagt gctaataccg cgtaataatac 180
 gttcttcgca tgaagtttgt atcatagttt ttcgcttcaa gatga 225

<210> 931
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Nitrobacter
 <400> 931
 agagtttgat catggctcag agcgaacgct agcggaatgc ttatacatg caagtcgaac 60
 gaaaaacat acggagtagc aatacaaagt ggaagttttt agtggcgaac gggtgagtaa 120
 tagataggaa cttgccgagt agtggggggac aacagataga aatgtctgct aataccgcat 180
 acgcccgaga ggggaaagat ttatcgctat ttgagaggcc tattc 225

<210> 932
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis
 <400> 932
 agagtttgat catggctcag aacgaacgct ggcggcatgg attagcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgcaaggtg aggaacacgt gagtgacctg cccgcaagtt 120
 tggaacagct cctggaaacg ggaattaata ccggatgtga tcatagagct gcatggtttt 180
 atgattaaag cagcaatgcg cttgccgatg ggctcgcgct ccatt 225

<210> 933
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas
 <400> 933
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacgattg aaagcttgct ttgaaagtc gagtggcaaa cgggtgagta acgcgtagac 120
 aacctgcctt tgagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtgga 180
 tttccgcat gggagatcca ccaaagatga cctcttctg aaagt 225

<210> 934

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 934
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggttaaagcg ccttcgggcg tgcataagat ggcgaacggg tgagtagcac gtgaccaacc 120
 tgccccgctc accgggacag cctcgcgaaa gcgggattaa taccggatac tccggccgca 180
 ccgcatggtg cggccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 935
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 935
 agagtttgat catggctcag gacgaacgct ggcggtatgc ttaacacatg caagtcgaac 60
 gagaagcggg tattggaggt ttcggccgaa gagacctgca gaaagtggcg aacgggtgag 120
 taacgcgtgg gcaacctgcc tcatggaaag ggatagcctc gggaaactgg gagtaaaacc 180
 ttataacata tgcttatcgc atggtaggca tatcaaaact ccggt 225

<210> 936
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 936
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatttt gatctgatca tttcgggtgtg aagaacttaa tgacttagtg gcggacgggt 120
 gagtaacgcg tgggtaacct acctcataca ggggatagc agttggaac gactgataat 180
 accgcataag cgcacaggac cgcattgtcc agtgtgaaaa gcctt 225

<210> 937
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 937
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg ggactgcttg cagttcccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180

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tcgcgagagg gcatctggcc gcgagcaaag gtatttccgg ttgcg 225

<210> 938
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 938
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaaagcac cctcgggtgc gagtagagtg gcgaacgggt gagtaacacg tgagcaacct 120
 gcccccgca ccgggataac cgggcgaaag cccggctaata accggatgcg ccccggcgcg 180
 cgcatgcgcg gcgggggaaa gccctggcgg cgggggatgg gctcg 225

<210> 939
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 939
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg tgtgtgcttg cacacactga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgtactc gggaacagcc ctctgaaagg aggattaatg cccgatgttc 180
 cgtgcatccc gcctgggatg cccggcaaag attcatcggg accgg 225

<210> 940
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 940
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggtattgc aatcgagatg gaggagcttg ctccgaagtc tactcgtga taccgagtgg 120
 cggacgggtg agtaacgcgt ggagaacctg ccccgtagc ggggatacca attagaaatg 180
 attgtaata ccgcataagc gcacatgacc gcatggtcga gtgtg 225

<210> 941
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gelidibacter

<400> 941
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60

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ggcagcggga gtagcaatac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
 cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcacctcat 180
 caaggcatct ttttgaggtt aatatattat aggtggtgga tgggc 225

<210> 942
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Brevundimonas*

<400> 942
 agagtttgat catggctcag gacgaacgct ggcggtgtgc ctacatcatg caagtcgaac 60
 gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatatga gcttagttga 180
 aatactaatac ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 943
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 943
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcgcccg gaacagagga ttcgtccgaa gggaaggat gactgagtgg cggacgggtg 120
 agtaacgcgt ggaaaacctg ccccatgcag ggggacaaca gggagaaatc cctgctaata 180
 ccgcataagc gcacggcacg gcatcgtgca gtgtgaaaag attta 225

<210> 944
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 944
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgggg 60
 ggcagcacgg gaagcagcaa tgcttttggg tggcgaccgg cgaatgggtg agtaacgagt 120
 atccaacctg ccccgctc cgggacagcc ccgcgaaagc gggattaata ccggatgcgg 180
 catggttccc gcatgggctc catgtcaaag attcatcggc gcggg 225

<210> 945
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

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<400> 945
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatcgat ggaaagaggc ttcggccaat ggaagtcgag gacagtggcg gacgggtgag 120
 taacacgtga gcaacctgcc cttcagaggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataacgta tcgaggaggc atctccatga taccaaagat ttatc 225

<210> 946
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asterol plasma

<400> 946
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaggtgtagc aatacaccta gtggcgtacg ggtgagtaac acgttgggaa cctgcccttt 120
 agaccggaat accaagcgga aacgtttgct aatgccggat aacagcacgt aagcgcaggc 180
 ttatgtgctc aaaggcgact attgtcgcgc ttaaggatgg ccctg 225

<210> 947
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 947
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagttgaac 60
 ggagagcttc ggctcttagt agcgaacggg tgagtaacac gtaggcaacc tgccctgttg 120
 actgggataa caagacgaaa gacttgctaa taccggatga taacgtatat cgcataatat 180
 atggatgaaa gttgggacac aacacaacag gatgggcctg cggcg 225

<210> 948
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 948
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctctca cgcttgagtt ttcggacaag agggtgagaa gacttagtgg cggactggtg 120
 agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaaacg actgctaata 180
 ccgcatgacg tatacggacc gcatgatctg tatacceaag cttaa 225

<210> 949
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Bilophila*

<400> 949

agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gtgaaagtcc ttcgggacga gtaaagtggc gcacgggtga gtaacgcgtg gataatctac 120
 cttcaagatg gggataacgg ctggaaacgg tcgctaatac cgaatacgct tttttattta 180
 tctttaaag gaaagatggc ctctgcttgc aagctatcgc ttgaa 225

<210> 950

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Oscillibacter*

<400> 950

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctccga gaaacaagac ttcgggtcaag cggaacggat gactgagtgg cgaacgggtg 120
 agtaacgcgt gaggaacctg ctttcagtg ggggacaaca gttgaaacg actgctaata 180
 ccgcatgatg taccatgggg gcatccccgg ggtaccaaag attta 225

<210> 951

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium IV*

<400> 951

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagttccgc ggaatgagat ttcgggtcaaa agaagcggac acttagtggc ggacgggtga 120
 gtaacgcgtg agtaacctgc ctttcagagg ggaataacat ttgaaacga atggtataac 180
 cgcataacat caagttatcg catgatagat tgatcaaagg agcaa 225

<210> 952

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 952

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcggag ggcagcaat gccctgtcg gcgaccggcg cacgggtgag taacgcgtat 120
 ccaacctgcc ccatggtagg gaatagcccc gagaaatccg gattaatgcc ctatgttctc 180
 cgacgatggc atctgacttg gagcaaagat ttatcgccat gggat 225

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<210> 953
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Geosporobacter

 <400> 953
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatctc caattgaagg ttcgctggaa agcggagatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ctatgcacag ggatagccta gggaaacctg gattaatacc 180
 tgatgacgct gcgaggtcac atggccatgc agccaaagtt ttttc 225

 <210> 954
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Butyrimonas

 <400> 954
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgt ctagcaata cgatggcggc gaccggcgca agggcgcgta acgcgtgagc 120
 aacatgcccg caacagggggg ataaccggag gaaactccga ctaatacccc ataaggatgt 180
 agagtggcat cattcagcat ctaaacttac gagggttgcg gattg 225

 <210> 955
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Pseudoflavonifactor

 <400> 955
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagggtgaat gggagcttgc ttctgttcac ccgagtggcg gacgggtgag taacgcgtga 120
 ggaacctgtc ttcatcaggg ggataacttc ccgaaagga tgctaatacc gcataagacc 180
 acggtaccgc atggtattga ggtcaaagga gcgatccgga tgaag 225

 <210> 956
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Barnesella

 <400> 956
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcgagt ttgtagcaat acagatgtcg gcgaccggcg cacgggtgcg taacaggtgt 120

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gcaacctggc ctataccaag ggatagcccg ctgaaaggcg gattaagact ttatatgtta 180
 tggtagaca tctcattata atgaaacgtg agggatagg atggg 225

<210> 957
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 957
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacgattg aaagcttgct tttgaaagtc gaggggcaaa cgggtgagta acgcgtaggc 120
 aacctacctt cgagatgggg acaacagtcc gaaaggactg ctaataccga atgttgatc 180
 aattccgcat ggagttgta ttaaagatgg cctctattta taagc 225

<210> 958
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 958
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgaga ggtagcaata cttgtcggc gaccggcgaa agggtagta acgcgtgagc 120
 gacgtgcccg tcacaggggg acaagggtg gaaacggctt ctgatacccc ataggaatgt 180
 atgcttcatg gtgtatgttt gaaagattta tcggtgacgg atcgg 225

<210> 959
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 959
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggttaagccg gcttcggccg ggtatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg tccgggatag ccccgcgaaa gcgagattaa taccgatga cgcgggaggg 180
 gcgcatgcc ctcccgcaa agcctcaacg gcgcgggatg gggtc 225

<210> 960
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 960

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatcata tgacggaggc ttcggccaac tgagtatgag gaaagtggcg aacgggtgag 120
 taacgcgtga ggaacctgcc tcggagtggg ggacaacagt tgaaacgac tgctaatacc 180
 gcataatgtg cctggaaggc atcttccggg taccaaagct ttatg 225

<210> 961
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pelotomaculum

<400> 961
 agagtttgat catggctcag gacaaacgct ggcggcgtgc ttaacacatg caagtcgtac 60
 ggagctgtca ggcggaatcc ttcgggagga agcctgagag cttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc cataagaggg ggataacagt tgaaacgac tgctaatacc 180
 gcatgagacc acaacaccgc atggtggagg ggtcaaagag caatc 225

<210> 962
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cellulosilyticum

<400> 962
 agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 gagtttaata cctagcttgc taggtaagcg actagtggcg gactggtgag taacacgtaa 120
 ggaacctgcc tattagagag gaatacctt gagaaatcag agctaatacc tcatatgcct 180
 taactactgc atggtagaag agggaaagga gcaatccgct aatag 225

<210> 963
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 963
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaatccgt gaaagagtt ttcggacaat ggaagcggag ggaagtggcg gacgggtgag 120
 taacgcgtga ggaacctgcc ttagagaggg ggacaacagc tgaaacggc tgctaatacc 180
 gcatgacaca cagtgaggc atctttactg tgtcaaagat ttatc 225

<210> 964
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Parabacteroides
 <400> 964
 agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgggg gcgatggcaa cattgcctgc cggcgaccgg cgactggtg agtaacacgt 120
 atgcaacctg ccccgcacag ggggataacc cagagaaatt tggcctaata ccccgtaaca 180
 ccgttggggg catccccggt ggttgaaaga ggcgactcgg tgcgg 225

<210> 965
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papillibacter
 <400> 965
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 gaacttaatt acttgcttgc aagtaaagcg gttagtggcg gactggtgag taacacgtaa 120
 gaaatctgcc tattagtggg gaataacagt gagaaatcat tgctaatacc gcatatgcca 180
 taagaatcgc atgattctag tgggaaagga gcaattcgt aatag 225

<210> 966
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides
 <400> 966
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggcatcgcgg taagtagcaa tactttctgg cggcgaccgg cggatgggtg agtaacgcgt 120
 atccaacctg gccctatctc ggggacagcc cctcgaaaga gggattaata cccgatgttc 180
 cctggaattc gcatgttttc cagtgcaaag gcatatgtcg gatag 225

<210> 967
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 967
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcatgc aggttgcttg caacctgtga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt ccccgagta ggggccagcc cgttgaaaga cggattaatc ccctatgttg 180
 tccattgacg gcatccgatt tggacgaaag atttgatcgc tgcgg 225

<210> 968

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 968
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatttagt cgaatgttta catgagacga aaatttagtg gcgacgggt gagtaacacg 120
 tgagcaacct gccttagga gggggataac attgagaaat cagtgctaata accgcataac 180
 gcataatggt cgcatgaacg atatgcaaaa ggagaaatcc accta 225

<210> 969
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 969
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtggtcc gtacgggtgc ttcggcatcc agggcacctt agtggcggac gggtagtaaa 120
 cgcgtggaga acctggccca tgcaggggga taacagcggg aaaccgctgc taataaccgca 180
 taaacgcgaa agggggcatc ccttttggtc gaaagtgtaa gcggc 225

<210> 970
 <211> 204
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 970
 agagtttgat catggctcag gatgaacgct agctacaggc tttggtcaat gggcgaaagc 60
 ctgaaccagc caagtagcgt gcaggatgac ggcctatgg gttgtaaact gttttatac 120
 ggggataaaa cgaggacgt gtcctcctt gcaggtaccg tatgaataag gaccggctaa 180
 ttccgtgcca gcagccgcg taat 204

<210> 971
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 971
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagagtggg ttttgattct ttcgggatga aaagctcatt tcttagtggc ggacgggtga 120
 gtaacacgtg agcaacctgc cttgcagagc gggataacgg ttggaaacga tcgctaatac 180

cgcataatat atgattgtcg catggctttc atatcaaaga tttat 225

<210> 972
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Howardella

<400> 972
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaagtcgta attaaaaagg acaaagatt tatcggagtg agattttaat tacaatggct 120
 ttagtggcgg actggtgagt aatgtataag taacctgcct attagagggg aacaacagtt 180
 gaaacagct gctaataccg catatgcat aagaatcgca tggtt 225

<210> 973
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Slackia

<400> 973
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaggca tcttcggatg cgaataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgcccccg accgggacaa cgggcggaaa cgcctgctaa taccggatac tccgcgacgg 180
 acgcctgtcc ggcgcgggaa agcccaggcg gcgggggatg gggtc 225

<210> 974
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Methylobacter

<400> 974
 agagtttgat catggctcag aatgaacgct ggcggtatgc ttaatacatg caagtcgaac 60
 gagaaagtcc agcaatggat gagtaaagtg gcgtacgggt gagtaatata taggaatcta 120
 cccagtaatg aggaataagc actggaacg gtgtctaata ccacatacta ccatttattt 180
 gggaaagggt tagtagcaat actaacttgt tattggatga gccta 225

<210> 975
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 975
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgggc 60

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gggatcgtgg tgcttgacc acgtgagagc ggcggactgg cgaggagcgc gtgggtgacg 120
 cccccccg acggggacag ccggcagaaa tgccgggtga taccgatga ggtccccctt 180
 gttggaggag ggggagaaa ggggcttcgg ccccgccggg ggagc 225

<210> 976
 <211> 187
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 976
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaattggac aatgggggca 60
 accctgatcc agcgacgccg cgtgagcgat gaagtatctc ggtatgtaa gctctatcag 120
 caggaagat aatgacggta cctgactaag aagcaccggc taaatacgtg ccagcagccg 180
 cgtaat 187

<210> 977
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Devosia

<400> 977
 agagtttgat catggctcag aacgaacgct gtcgacatgc ttaacacatg caagtcgtac 60
 gggataact tgttatacca gtggcaaacg ggtgagtaat acgtagatat gtaccagta 120
 gtctcgaata acagttggaa acgattgata atacgagata ctatggtaac atcaaaggtt 180
 tagcaataaa ctgctattgg agcagtctac ggtggattag atagt 225

<210> 978
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 978
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagatattc ccttcggggg ataacttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttacag agaggaataa tgactggaaa cggtcactaa tacctcataa aatatttgaa 180
 tcgcatgggt cggatatcaa agatttatcg ctgtaagatg ggctc 225

<210> 979
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

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<400> 979
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagcaccct tcccgaagat tgacgtagct tgctacagat tgattcaatt ggggtgactt 120
agtggcggac gggtgagtaa cgcgtgggta acctgcccta tagaggggga caacagttgg 180
aaacgactgc taataccgca taacacattt gcaccgcatg atgcg 225

<210> 980
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 980
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagttggtt tggatgatgc cttcgggtgg attccgattc aacttagtgg cggacgggag 120
agtaacgcgt gaataacctg ccataagag ggaataatc catggaaacg tggactaata 180
ccgcatattg taacgaagtc gcatggcttt gttatgaaag attta 225

<210> 981
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Methanobrevibacter

<400> 981
agagtttgat catggcagat gctactgcta ttgggattcg attaagccat gcaagtcgaa 60
cgagtttagg ctctggcgt acggctcagt aacacgtgga taacctacc ttaggactgg 120
gataaccctg ggaaactggg gataatacta gataggcaat ttttctgga atggtttttt 180
gtttaaagt ttttgcct aaggatgggt ctgcggccga ttagg 225

<210> 982
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Paraprevotella

<400> 982
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcgagt cggtagcaat actgatgtcg gcgaccggcg cacgggtgag taacgcgtat 120
gcaaccttc ccagacaggg ggatagcca ggaacttg gattaatacc ccgtaggcca 180
tggatgggca tccatctatg gttaaagttc cggcggctct ggggtg 225

<210> 983
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Desulfohalobium

<400> 983

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agagtttgat cctggctcag aacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gcgaaagcgg cttcggtcgt gagtagagtg gcgcacgggt gagtaacgcg tagataacct      120
gtcttcatat tcgggataac acgccgaaag ggttactaat accggatata ctgcatttc      180
aataggtgag gcgaggaaag gtggcctctg attcaagcta ctgta                          225
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<210> 984

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Butyrivibrio

<400> 984

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggaactatit tgaaggatct cttcggagtg acggatitit agtttagtgg cgatcggtag      120
ccggactgag aggttgatcg gccacattgg gactgagaca cggcccagac tcctacggga      180
ggcagcagtg ggggatattg cgcaatgggg gcaaccctga cgcag                          225
```

<210> 985

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 985

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
ggagatgcac attggatgaa gattcgtccg aatcctgggt catcttagcg gcggatgggt      120
gagtaacgcg tggacaacct gcccgcaaca gggggataac agctggaaac ggctgataat      180
accgcatatg cacacggaac cgcatggttt tgggtggaaa gatta                          225
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<210> 986

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Dialister

<400> 986

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gggaggaaaa gagaagcttg cttctttttg aatctagtgg caaacgggtg agtaacacgt      120
aaacaacctg cttcaggat ggggacaaca gacggaaacg actgctaata ccgaatgtgt      180
tccggagacc gcatgatttc cggaagaaag gatggcctct attta                          225
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<210> 987
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Selenomonas*

 <400> 987
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 gagacgattt taagcttgct tagatgagtc gagtggcaaa cgggtgagta acgcgtagac 120
 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtatc 180
 gtttccgcat ggagatgata ttaaagatgg cctctacttg taagc 225

 <210> 988
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Spirochaeta*

 <400> 988
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 ggtaaggagg tagcttgcta cttccctaga gcggcggact ggtgagtaac gcgtgggtga 120
 cgtacccttt ggttggggat agccggtaga aataccgggt aataccgaat aagacctctg 180
 gtagaaagat tagagaggaa agcggctccg gccgcgccga aggaa 225

 <210> 989
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium IV*

 <400> 989
 agagtttgat catggctcag gacaaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagttcagt tttagatccc ttcgggggtga cgaagcgaag acttagtggc ggacgggtga 120
 gtaacgcgtg aggaacctgc ctttcagagg gggataacgt ttggaaacga acgctaatac 180
 cgcataacac aaccgagtgg catcgcttgg ttgtcaaagg agcaa 225

 <210> 990
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Cellulosilyticum*

 <400> 990
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagttattt ccttcggggg ataacttagt ggcggacggg tgagtaacgc gtgagtaacc 120

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tgccatacac agggggataa cgaccggaaa cagtcgctaa taccgcataa cgcatgaagg 180
 tcacatggtc tttatgcaa agatttatcg gtgtatgatg gactc 225

<210> 991
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 991
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggacacatg aggttgcttg caacctctga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctg ccccttactc tggaatagcc cggcgaaagt cggattaatg ccggatgttg 180
 tcagacgagg acatctgaat ctgaccaaag gccctagggg cggtc 225

<210> 992
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifractor

<400> 992
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaatcata tgacggagtt ttcggacaac tgattatgag gaaagtggcg gacgggtgag 120
 taacgcgtga ggaacctgcc tcggagtggg ggataacaca tcgaaaggtg tgctaatacc 180
 gcataatgta tatcattcgc atgggagata taccaaagat ttatt 225

<210> 993
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 993
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagatagta gagcttgctt tacgatctta gtggcggacg ggtgagtaac gcgtgagcaa 120
 cctgcccttc agtggggaat aatgttgaga aatcgacact aataccgcat aaagtatcat 180
 gatcgcgatg tcgagatacc aaaggagcaa ttcgctgaag gatgg 225

<210> 994
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 994

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctctca cgcttgagtt ttcggacaag agggtagaaa gacttagtgg cggactgggtg 120
 agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaaacg actgctaata 180
 ccgcataatg tacagagacc gcatgatctt tgtaccaaag ctta 225

<210> 995
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Faecalibacterium

<400> 995
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagttgcga tagaaagagg cttcggccaa tggaaattgt aacttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg cctatgacgc ggggacaaca gttggaaacg actgctaata 180
 ccgcataaat catgataaag gcatctttaa catggcaaag attaa 225

<210> 996
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 996
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaaggacaaa gagcttgctt tttgttactt agcggcggac gggtagtaaa cgtgtgggca 120
 atctgcccta tgcaaggaa taacatagag aaatttatgc taatgcctca taaactctta 180
 gaatcgcgatg gtttatagag aaaagattta tcggcatagg aggag 225

<210> 997
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 997
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaatcag gtgttgaac ttcggtagat acatctgggtg gacagcggcg gacgggtgag 120
 taacgcgtgg gaaacctgcc cttatctgag ggatagccga gagaaatttc gagtaatacc 180
 tcataatgca tcgagaccgc atggccatga tgccaaagat ttatc 225

<210> 998
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium III
 <400> 998
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcctttt gccggaaggg agcttgctcc aggaaagtaa aagacttagt ggcggacggg 120
 tgagtaacgc gtggataacc tgccttagac agggggataa cacagggaaa cttgtgctaa 180
 taccgataa gaccacacta tggcatcata gaggggtcaa aggag 225

<210> 999
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 999
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcacgg ttgttgcttg caacaactgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
 tcgcgcgagg gcatcattc gcgagcaaag gttcgttccg gttgc 225

<210> 1000
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paenibacillus
 <400> 1000
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggatgaggta gcaataccga ttcagtggcg aacgggtgag taacacgtag gtaacctgcc 120
 cttaagactg ggataccag gcgaaagctt ggctaatacc ggatatgagt agaagaggca 180
 tctcctttac ttgaaagttg cgtttgcaac acttttggat ggacc 225

<210> 1001
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter
 <400> 1001
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaaccgc ccttcggggg tgtgagagtg gcgcacgggt gcgtaacgcg tatgcaacct 120
 acccgctgcc ggggatagc ccggagaaat ccgaattaat accccatgag gaggagatga 180
 ggcatctcat cttttcaaa acttcggtgg cggcggacgg gcatg 225

<210> 1002

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1002
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 gggaacttta ttgaagtat ctgatataaa gttctagtgg cggactgggtg agtaatgtat 120
 aagcaacctg cctacaagag ggaataaca gtgagaaatc attgctaata ccgcataagc 180
 tgtgagtatc gcatggtaca aacagaaaag gaagcaattc tgctt 225

<210> 1003
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1003
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtgtttt aagccgattc ttcggatgaa gctttttaca cttagtggcg gacgggtgag 120
 taacgcgtgg agaacctgcc tcacacaggg ggacagcagc tggaaacggc tgataatacc 180
 gcatatgccc acgataccgc atggtattgc ggggaaacat ttatg 225

<210> 1004
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*

<400> 1004
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacctatgg agatgattag cttgctatga atttccggaa ggtagtggtg ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctcatcaggg gggatagcag ttgaaacga ctggtaatac 180
 cgcataagcg cacagtaccg catggtacag tgtgaaaagc tccga 225

<210> 1005
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hydrogenoanaerobacterium*

<400> 1005
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggactgatag gagcttgctc cttgaaagtt agtggcggac gggtagtaaa cgcgtgagga 120
 acctgccttt cagaggggga taacgtcttg aaaaggacgc taataccgca tgacaccgga 180

ttgtcgcgatg gcagaccggg caaaggagca atccgctgaa agatg 225

<210> 1006
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adhaeribacter

<400> 1006
 agagtttgat cctggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggccg agcgtagcaa tacgcgaggt acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg ccccttccg ggacaaaacg tcgagaaatt ggcgctaata tcccatggcg 180
 acctcgggag gcatctctgg ggtccaaag attcattgga agggg 225

<210> 1007
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1007
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaattagg aaaatgatgc ttcggttgat ttttctaag gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca agagtaccgc atgatacact tgccaaagat ttatc 225

<210> 1008
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1008
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta ggtcagcttg ctgacctaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctaccg ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttatgtttcc gcatgggaat ataacgaaag attcatcggg agggg 225

<210> 1009
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 1009
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60

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gaagcagcaa tgcttagtgg cggaaggggtg aggaacgcgt gagtaatctg cccccaagtt 120
 ggaataaca gctggaacg gttgctaata ccgaatgtgg ctgcctggtc gcatgatcgg 180
 gcagttaaag atttattgct tggggatgag ctgcgcgtccc attag 225

<210> 1010
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1010
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagttagat tggaatgcgg cttcggccaa aggaagattt aattgagtgg cggacgggtg 120
 agtaacgcgt gggtaaccta cttacacag ggggataacg attggaaacg atcgctaata 180
 ccgcataaga ccacagtacc gcatgtaca ggggtaaag aatta 225

<210> 1011
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1011
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 ggaataacct agcttgctag gtatgagagc ggcggactgg tgagtaacac gtagataacg 120
 caccctctag acggggatag ctgccagaaa tggcagataa taccggatgt gaacgtatgc 180
 cgtgaagggtg tacgtggaaa ggagcttcgg ctccgctaga ggaac 225

<210> 1012
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1012
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcacgg ggttgcttg ccatccctgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgaaccg cggatatgcc cgccgaaagg cggattaatc ccgcatgtgg 180
 tcgtgagatg acatctgacc acgactaaag gtattttccg gttcg 225

<210> 1013
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 1013
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgactg ggtgcgcttg cgcaccctgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
 tcgcgcgatg gcatcttata gcgagcaaag gtgttttccg gttgt 225

<210> 1014
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1014
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagt accggagatt agagcttgtt gttctagttt gcgatcacta gttcagtggc 120
 ggacgggtga gtaaagcatg agcaacctgc ctagtagagg gggatagctt ttggaacag 180
 aagataatac cgcatgaatc agagatttcg catgagattt ttgga 225

<210> 1015
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1015
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagggctcta aacctgagat tcgtcgaagg ggaaggaatt ccgagtggcg gatgggtgag 120
 taacgcgtgg agaacctgcc ctttgctggg ggataacaac tggaaacggt tgacaatacc 180
 gcataagctc gatggaccgc atgatctatc gaggaaagat ttatc 225

<210> 1016
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1016
 agatttgatc ctggctcagg atgaacgcta gctacaggct taacacatgc aagtcgaggg 60
 gcagcatggt ctagcttgc taaggccgat ggcgaccggc gcacgggtga gtaacgcgta 120
 tccaacctgc cgtccagtag gggacagccc gtagaaatgc ggattaatac cctatgttct 180
 ccgaggatga catcagattc ggagtaaaga ttcacgctg gacga 225

<210> 1017
 <211> 155
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 1017

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggtaacgcga ggaagacagc acgtaaataa acgtgttatt tgacgttaga gtgtgaataa 120

gcaccggcaa actccgtgcc agcagccgcg gtaat 155

<210> 1018

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Lactobacillus

<400> 1018

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gagattttat taattgatta cttcggatg atttttctaa aatcgagtgg cggacgggtg 120

agtaacacgt gggtaacctg cccttaagta ggggataaca tttggaaaca gatgctaata 180

ccgtataaat ctcagaaca catgtttctg agctgaaagg cggct 225

<210> 1019

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Adlercreutzia

<400> 1019

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggtaagccg gcttcggccg ggtatacagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc tccgggacaa ccgctggaaa cggcggctaa taccggatac tccgcctcc 180

ccgcatgggg cggcggggaa agccccgacg gcgcgggatg gggtc 225

<210> 1020

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Dethiosulfovibrio

<400> 1020

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60

ggagtgtttt taaagcttg cttttgagaa tacttagtgg cggacgggtg agtaatgcat 120

gagcaacctg ctttaagag ggggataaca cagagaaatc tgtgctaata ccgcatagaa 180

cactgagatg gcatcatcat agtgggaaag gagcaatccg cttaa 225

<210> 1021

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Luti spora

<400> 1021
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaaacaatg caagtcgaac 60
 ggagatttta gggagcttgc ttcttgaat cttagtggcg gacgggtgag taacacgtga 120
 gcaacctgcc taccacaggg ggataacact tagaaatagg tgctaatacc gcatatgacc 180
 acagaccggc atcggtcaga ggtgaaagga gttaaactctg gtgat 225

<210> 1022
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Turicibacter

<400> 1022
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggagcacttc ggtgcttagt ggcgaacggg tgagtaacac ataaacaatc tacccttaag 120
 tctgggataa cggttgaaa cgaccgctaa taccggatag gtaaaaccga ggcattcttg 180
 tttattaaa gctgggctac agcgctaaag gatgagttta tgtcg 225

<210> 1023
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1023
 agagtttgat cctggctcag gacgaacgct ggcgggtgtgc ctacatacatg caagtcgaac 60
 gataaggttc cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatacga gcttggttga 180
 aataccaatc ttgaaagctc cggcggtttg ggatgagcct gtgcc 225

<210> 1024
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1024
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggaggtggaa acaccttagt ggcgaacggg tgagtaacgc gtgagtaacc tgccttatac 120
 acagggatac cagttagaaa tgactgctaa taccggataa gaccacagtc cggcatcgga 180

caggggtcaa agtgaattag cggataaga tgggctcgcg tccaa 225

<210> 1025
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1025
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gtgaagctga cttcggctcag tggaaagtgg cggacgggtg agtaatacat aggaaatctg 120
 cccttaggaa ggggataaca gtcggaaacg attgctaata ccctatatga gcttggttgc 180
 aataccaatc ttgaaaactc cggatgcctaa ggatgagcct gtgcc 225

<210> 1026
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bulleidia*

<400> 1026
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gagagcgacc agcttgctgg tcaatcgagt ggcgaacggg tgagtaacac ataaacaatc 120
 tgccctggag actgggataa cgtagggaaa cccacgctaa taccgatag gcagtaaggg 180
 gacatcccca tactgttaaa gctgggctac agcactgcag gatga 225

<210> 1027
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Aquiflexum*

<400> 1027
 agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggccg agcgtagcaa tacgagagt acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg ccccttccg ggacaaaacg tcgagaaatt ggcgctaata tccatggcg 180
 accctgggg gcatccccgg ggtccaaag attcattgga agggg 225

<210> 1028
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1028
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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gaagcactta ttgagaacct tcgggtgatc ggcaagtgac tgagtggcgg acgggtgagt 120
aacgcgtggg taacctgcc tgtacagggg gataacagcc agaatggct gctaataccg 180
cataagcccg ggggggagca ttttctcccg gggaaaactc cggtg 225

<210> 1029
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1029
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caggtcgaac 60
gaagccccgg aagcggatct tcggaaaagc ggacgggaga cttagtggcg gacgggtgag 120
taacgcgtgg gcaacctgcc cttgggaggg ggacaacagc cggaaacggc tgctaatacc 180
gcatgatccg gcggctccgc atgggggtgc cgggaaagga gcat 225

<210> 1030
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1030
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
gaacgagtac agattcttta cgtttttgta tgagttagt gcgactggt gagtaacgcg 120
tgagcaacct gcctataaga ggggaataac ggagagaaat tttcgctaata accgcataag 180
ctgatagagt cgcgatgactt agtcagaaaa ggagcaatcc gctta 225

<210> 1031
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Roseburia

<400> 1031
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggacttacc tggatgaggc cctcgggaggc attcctaagt aagttagtgg cggacgggtg 120
agtaacgcgt gggtaacctg cctcacattg ggggataacg attggaaacg atcgctaata 180
ccgcataaga ccacggcacc gcatggtgct gaggtaaaaa ctccg 225

<210> 1032
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Glaciicola

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<400> 1032
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gggactatth ggggaatatt gcacaatggg gaaaccctg atgcagccat gccgcgtgtg 120
tgaagaaggc cttcgggttg taaagcactt ttgcattcga ggaagacagc gtataaacia 180
atgcgctatt tgacgttaga gtgtgaataa gcaccggcaa actcc 225

<210> 1033
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1033
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggaattaa cattgaaatt ttcggatgga ttgtttttt ccgagtggcg gacgggtgag 120
taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc cggaaacggc tgctaatacc 180
gcataacctg ctagagtcgc atgactcaga cagaaaagat ttatc 225

<210> 1034
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1034
agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
ggaaccaagt cgaatgttta catgagacgg aagtttagtg gcggacgggt gagtaacacg 120
tgagcaacct gcctttaaga gggggataac attgagaaat cagtgtctaat accgcataaa 180
gcatctttac cgatgatag agatagccaa aggagaaatc cgctt 225

<210> 1035
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1035
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcaccgg cgaggaagtc ttcggacgga attgcccttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaaccttc ctggcagtga gggataacac agggaaactt gtgctaatac 180
cgatgacgc acgattgtcg catggcagac gtgccaaaga ttaat 225

<210> 1036
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Sphaerobacter

<400> 1036

```
agagtttgat catggctcag gataaacgct ggcggcgtgc ctaatgcatg caagtcggac      60
gggagcccct tcgggggtcg accgtggcgg acgggtgagg aacacgtggc taacctgccc      120
atcagtgggg gataactccg gaaaccgga gctaagaccg catacgttca gtttcgggga      180
cgaattgag gaaagctttc gagcgctgat ggagggggct gcggc                        225
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<210> 1037

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from unknown taxa

<400> 1037

```
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac      60
gataaggtct cttcggagac acataagtgg cggacgggtg agtaatgtgt agagaatctg      120
cccttagtg ggggacaaca gttgaaacg actgctaata ccgcatatgc gcgtacctgt      180
aatggtattc gtgaaaactc cggtgctaaa ggatgagtct gcatc                        225
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<210> 1038

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1038

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatgt cgggtggcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg ccctcaaccg cgaatagcc cgccgaaagg cggattaatg ccgcatgagc      180
tcgcgcgggg gcatctgccc gcgagcaaag gtttgttccg gttgg                        225
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<210> 1039

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Turicibacter

<400> 1039

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac      60
gagatagcaa tatcgagtgg cgaacgggtg agtaacacgt aggtaacctg cttacagtt      120
tgggataccc tggcgaaagc taggctaata ccgaataatt ggattggagg catctccgat      180
ctctaaaagg ggcccttaa gcctcgctga atgatggacc tgcgg                        225
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<210> 1040
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Ruminococcus*

<400> 1040
 agagtttgat catggctcag gacgaacgct ggcggcagc ttaacacatg caagtcgaac 60
 ggagatcatt ctttcgggga tgatcttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttacgg agaggaataa tgattggaaa cgatcactaa taccacataa catataggtg 180
 atgcatatca gctatatcaa agatttatcg ccgtaagatg ggctc 225

<210> 1041
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1041
 agagtttgat catggctcag gattaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagaagggg cttcggcccc ggatcagtgg cggacgggtg agtaacgcgt gagtaacctg 120
 cctgtgtgag ggaataaca gatcgaaagg cctgctaata ccgcatgacg tacgactgtc 180
 gcatggcaga ggtaccaaag atttatcgca cacagatgga ctgcg 225

<210> 1042
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1042
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac 60
 ggagtgtaat tgaacctag tgattttaca cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc tggattggg ggacaacagt tagaaatgac tgctaatacc gcatacgacg 180
 tcggggaggc atctccctga cgggaaagga attatccgat atcag 225

<210> 1043
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 1043
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggaactgatt ctggaaagct tcggccgga gggatgagtt tagcggcgga cgggtgagta 120

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acgcgtgagc aacctgtcct tcacaggggg ataagacagc gaaagttggt ctaataccgc 180
 ataggaccac gggtagggcat ccatctgggg tgaaggagc aatcc 225

<210> 1044
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XIVb

<400> 1044
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagatattt aagatgaagg cttcggctctg atttttttat attcttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccctttact ggggaataat cattggaaac gatgactaat 180
 accgcatgtc accgaggact ggcatctttc ctcggaaaaa ggagc 225

<210> 1045
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 1045
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gaaaagttt caccgcagct tgctgcaccg aaacttttta gtggcggacg ggtgagtaac 120
 acgtgagcaa tctgcctttt agagggggat accagttgga aacgactggt aataccgcat 180
 aacatatcga aaccgcatga ttttgatatac aaagatttat cgctg 225

<210> 1046
 <211> 178
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Fibrobacter

<400> 1046
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggaagaagca tttcgggtgtg taaccactg tcgtgagggga ataaggcgtc ttctcggaga 120
 cgttgaatgt acctcgaag gaagcaccgg caaacttcgt gccagcagcc gcggtaat 178

<210> 1047
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Proteinctasticum

<400> 1047
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgtac 60

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ggggtatagc aatataccta gtggcgaacg ggtgagtaac acgtgagtaa cctgcctat 120
 acagggggac aacagctgga aacggctgct aataccgcat aagaccacag caccgcatgg 180
 tgcaaggta aaaggctacg gccggtatag gatgggcttg cgtac 225

<210> 1048
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 1048
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg tctataagac 120
 gaggataacc attggaacg atggataata ctggatagga tattggaagg catcttctaa 180
 tatttaaga tttatcacta atagaggggc ctgcggcgca ttagc 225

<210> 1049
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1049
 agagtttgat cctggctcag gacgaacgct ggcggtgtgc ctatacatg caagtcgaac 60
 gataaggttc cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaagcg ggggacaaca gagggaaact tctgctaata ccccatatga gcttggttga 180
 aataccaatc ttgaaagatt taccacttta ggatgagcct gtgcc 225

<210> 1050
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Al gori phagus

<400> 1050
 agagtttgat cctggctcag gatgaacgct ggcggcaggg ctaatacatg caagtcgcgc 60
 ggaattgcc cttcggggg tgatgagagc ggcggacggg tgcgtaacgc gtatgcaacc 120
 aacccccgac aggcggatag ccggtggaaa cgccggataa tacgcatga accctttttg 180
 gggcatccca gggaggggaa agcggagacg cggtcgggga cgggc 225

<210> 1051
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um XI Va

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<400> 1051
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcgtctc gcccaagaa gcgaagtgtc tgcacggagt ggattcaatt gagacgactt 120
agtggcggac gggtagtaac cgctgggta acctgccgta tgcaggggga caacagttgg 180
aaacgactgc taataccgca taagcgcacg gctcggcatc gagca 225

<210> 1052
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Howardella

<400> 1052
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
ggacttaact tctagcttgc tagaagagcg gttagtggcg gactggtgag taacacgtaa 120
gaaatctgcc tatcagaggg gaataacagt gagaaatcat tgctaatacc gcatatgcca 180
taatcatcgc atgatgatag tgggaaagaa gcaattcgtc gatag 225

<210> 1053
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1053
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gggggcgttc cgccggggag gcttcggccg aacctgggg cgcccgagtg gcggacgggt 120
gagtaacgcg tggacaacct gccccacc ggggaataac acctggaac aggtgctaata 180
accgcatgag cccagagcc cgcatgggca ctgggggaaa gctcc 225

<210> 1054
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Barnesella

<400> 1054
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
ggcagcgaga ggaaagcttg ctttcttctg cggcgaccgg cgcacgggtg cgtaacgggt 120
gtgcaatctg ccataatcg gggcatagcc taacgaaagt tggattaatt ccccatgtgc 180
tatggagagg catctcttcg tagtgaaacg taaggattat ggttg 225

<210> 1055
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1055

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 ggggacttta cgacagattt gaagacttcg gttgaatatg aagatgtaaa gttctagcgg 120
 cggacgggtg agtaacgcgt gagcaacctg tcccttacag ggggataaca cagcgaaggt 180
 tgtactaata ccgcatgaga ccacagtatc acatggtaca ggggt 225

<210> 1056

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1056

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cggtagcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccacaacct ccgaatagcc cgccgaaagg cggattaatg cgggatgtgg 180
 tctgaagaag acatctgaac tagaccaaag gtttttccg gttgt 225

<210> 1057

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1057

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggataatg acttcggtca ttattcgagt ggcggacggg tgagtaacgc gtagcaatc 120
 tgccttaag agggggataa caactggaaa cagttgctaa taccgataa gaccacggct 180
 tcacatggag ctgaggtaaa agaagcaatt cgcttaaggg tgagc 225

<210> 1058

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Butyrimonas

<400> 1058

agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg gtagcaata ctctggcggc gaccggcggg agggtagcgt acgcgtgagc 120
 aactgcccg tctactgtggg ataggcactg gaaacggtgt gtaataccac gtaatacatt 180
 tgctcgcgatg ggtgatggt gaaaggatta ccggtgacgg atggg 225

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<210> 1059
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Blautia*

 <400> 1059
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttatt tctgcggaaga tttcgggtcaa agcgggttta agtttagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg ccctgtaccg ggggataaca gccggaaacg gctgctaata 180
 ccgcataagc gcacgaaggc gcatgcctta gtgtgaaaaa ctccg 225

 <210> 1060
 <211> 204
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Prevotella*

 <400> 1060
 agagtttgat catggctcag gatgaacgct agctacaggc tttgggtcaat ggcgcgagc 60
 ctgaaccagc caagtagcgt gcaggatgac ggcctatgg gttgtaaact gcttttatgc 120
 ggggataaag ttactacgt gtagtgtttt gtaggtaccg catgaataag gaccggctaa 180
 ttccgtgcca gcagccgagg taat 204

 <210> 1061
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

 <400> 1061
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgtgaga agaagtgtt gcacggaatc aaacttgttt gtacctagtg 120
 gcggacgggt gagtaacgcg tggaaaacct gcctataca gggggataac aggaagaaat 180
 tcctgctaata accgcataag cgcaacagag ggcatacctca ggtgt 225

 <210> 1062
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Blautia*

 <400> 1062
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggacttatc aggaaaaaag cttcggcaga tggaaatgta agtctagtgg cggacgggtg 120

ASBI_002_03W0_SeqList_ST25

agtaacgcgt ggggaacctg ccctgtactg ggggataaca gtgagaaatc actgctaata 180
 ccgcataagc gcacagtacc gcatggtaca gtgtgaaaaa ctccg 225

<210> 1063
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1063
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggaaatatac tgaagcttg cttttggata tttttagtgg cggacgggtg agtaacacgt 120
 gagcaacctg ccttagagag ggggataacg tctggaaacg gacgctaata ccgcataaca 180
 tcacgatatg gcatcgtatt gtgatcaaag gagcaatccg cttta 225

<210> 1064
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Flavobacterium

<400> 1064
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcatga gagcgtagca atacattctt gatggcgacc ggcgcaaggg tgcgtaacgc 120
 gtgagcaact tgcccgcatac aggggcataa tcggtggaaa cgccgtctaa ctccccataa 180
 catacagggt ggcatacatt tgtattgaaa tccttgagg atgcg 225

<210> 1065
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1065
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccatgacct cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
 tcgaacgagg acatctgatt tcgaccaaag cttcggcgggt catgg 225

<210> 1066
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1066

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggttgtgc gctgaggaag cttcggcaga atcttgacaca acctagtggc ggacgggtga 120
 gtaacgcgtg gacaacctgc ccctgcctgg gggacaacag ccggaaacgg ctgctaatac 180
 cgcataagct ctgttattcg catgggaagc agaggaaagg agaga 225

<210> 1067
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1067
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcactgg ggatgaagtt ttcggacaga attccctttg acttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctacactgg gggacaacag ctggaaacgg ctgctaatac 180
 cgcataagcg cacgaagccg catggctatg tgtgaaaaac tccgg 225

<210> 1068
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1068
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaactta tgtgatgcga tttcgggtcaa atcttttaag tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag ggggatagcc attggaaacg atgattaata 180
 ccccataata cggatatac acatgttaaa tccgtcaaag attta 225

<210> 1069
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio

<400> 1069
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacgatacg agaaacttcg gttttttgta aagttagtgg cggacgggtg agtaacacgt 120
 gagcaatctg ctttgattg ggggataacg cagggaaact tgtgctaata ccgcataaag 180
 tgccgaggac gcatgaccac ggcaccaaag ctccggcgat caaag 225

<210> 1070
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Fluviicola*
 <400> 1070
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggtaacaggc ggtagcaata ctgtgctgac gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctacctt caacaggggg ataagcggga gaaattctgt ctaatacccc atagagtcta 180
 gagggcacat gttttttaga ctaaagcctt ggtggttga gatgg 225

<210> 1071
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerobrio*
 <400> 1071
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgaaga agagcttgct ctttgagacc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgccct tcagatgggg acaacacctc gaaaggggtg ctaataccga atgacgtatg 180
 ctggtcgc atgaccggcata ccaaggccg ggcaaccggt cactg 225

<210> 1072
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Blautia*
 <400> 1072
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggatttccta atgacagagg cttcggccaa cgaagtttg aagttagtgg cggacgggtg 120
 agtaacgcgt ggagaacctg ccctgtactg ggggataaca tcaggaaact ggtgctaaaa 180
 ccgcataagc gcacaagacc gcatggtcaa gtgtgaaaaa ctccg 225

<210> 1073
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 1073
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attagcatg caagtcgaac 60
 gggatccggg aggtagcaat acttcctggt gagagtggcg gattggggag gaacacgtga 120
 gcaacctgcc tttgagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg 180
 cccggagaca tcttcggagc gctaaagggg gccgcaaggc tctcg 225

<210> 1074

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1074
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggaataagaa tggttgtagc gatactttcg ttcttattta gtggcgaacg ggtgagtaac 120
 acgtgagcaa cctgccttct actcagggat aacagccgga aacggctgct aataccggat 180
 aagaccacgc cgaggcatct cggaggggtc aaagcgcctt agcgg 225

<210> 1075
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1075
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt ggatgacgca 120
 ccctcctgat cgggatagcc tgtggaaca cagggttaata ccggataagc ccgcccgcgt 180
 tggaggcgag cggggaaagg ggctattgcc ccgctggagg agcgg 225

<210> 1076
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1076
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagacatgt tttggaagtt ttcggatgga agagatatgt cttagtggcg gacgggtgag 120
 taacacgtaa acaatctgcc tttgagagcg ggacaacaga tagaaatatt tgctaatacc 180
 gcataagacc acaggttcgc atgaactagg ggtaaaaggg gagca 225

<210> 1077
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1077
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacctc tttgaagata cttcggttga ttctgtgagg cggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg ccccatgcag agggatagcc tcgggaaacc gggattaata 180

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cctcataata cggaagagag acatctcttt ttcgtcaaag attta 225

<210> 1078
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1078
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaatttcttt cagaacgcgg cttcggccaa gggacggaag aagtgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cctcacattg ggggatacca gtcggaacg actgctaata 180
 ccgcataaga ccccgacc gcatggtgct gaggcaaaa ctccg 225

<210> 1079
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mucilaginibacter

<400> 1079
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggatgggcc cttcggggg ccctgagagt ggcgcacggg tgcgcaacgc gtatgcaacc 120
 aacccccgac aggcggatag ccggtgaaa cgccggataa tacgcatgg ttccggtgga 180
 gggcatcctc tactggataa agccgagagg cggtcgggga cgggc 225

<210> 1080
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1080
 agagtttgat cctggctcag gatgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagatagaa atatcttagt ggcgaacggg tgagtaacac gtgagcaacc tgccttgtag 120
 acagggataa cagatggaaa catctgctaa taccggataa gaccacagac cggcatcggg 180
 caggggtaaa agtgatttag cgtacaaga tgggctcgcg tccaa 225

<210> 1081
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 1081
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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gaagctctgc tgcggaactc ttcggagggga aggagcggat gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180
 ccgcataagc gtacgggtcc gcatggcaca gtgcgaaaaa cggag 225

<210> 1082
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1082
 agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggcagcatgg aggttgcttg caacttccga tggcgaccgg cgaatgggtg agtcacgcgt 120
 gtccaacctg cctccggccc ggggatagcc cttggaaatg aggattaaga cccgataggt 180
 ggcgcttccg catggcggcg ccatgaaacg agaccggaga tgggg 225

<210> 1083
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium*

<400> 1083
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatttag taaatgattt cttcggaatg attttgctaa aggaaagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg ccataagag ggggataatc cttggaaacg aggactaata 180
 ccgcatattg tagctttacc gcatggttta gttatgaaag attta 225

<210> 1084
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1084
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatttt gccacgatcc cttcggggtg acggcattct gacttagtgg cggacgggtg 120
 agtaacgcgt ggacaacctg ccgcatgcag ggggataaca gccggaaacg gctgctaata 180
 ccgcataagc gcacagtgcc gcatggcacg gtgtgaaaaa ctttc 225

<210> 1085
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Coprococcus*

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<400> 1085
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtttagc gcttccgaag cttcggcaga ggattgttaa acttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc catgtacagg gggataacac ttagaaatag gtgctaatac 180
 cgcataagcg cacaggaccg catggtccgg tgtgaaaaac tgagg 225

<210> 1086
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Achol epl asma*

<400> 1086
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gctaactttc gggtagagt ggcgaacggg tgagtaacac gtaggtaacc tgcccataag 120
 acgaggataa ctactggaaa cggtagctaa tactggatag tatatagagt cgcattggctt 180
 tatatttaaa gatgccttca agcatcactt atggatggac ctgcg 225

<210> 1087
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Cl ostri di um III*

<400> 1087
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatttag caaatgattt cttcggaatg attttactaa aggaaagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg ccataagag ggggataatc cttggaaacg gggactaata 180
 ccgcatatag taattttacc gcatggttta attatgaaag attta 225

<210> 1088
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lactobacillus*

<400> 1088
 agagtttgat cctggctcag gatgaacgcc ggcggtgtgc ctaatacatg caagtcgaac 60
 gcgttggccc aactgattga acgtgcttgc acggacttga cgttggttta ccagcgagtg 120
 gcggacgggt gagtaacacg taggtaacct gcccmaaagc gggggataac atttgaaac 180
 agatgctaata accgcataac aatttgaatc gcatgattca aattt 225

<210> 1089
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1089

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gagaatcagt ggaaagagtt ttcggacgat ggaagctgag gaaagtggcg gacgggtgag      120
taacgcgtga ggaacctgcc ttggagaggg ggacaacagc cggaaacggc tgctaatacc      180
gcatgacata tctgaatcgc atggtttgga tatcaaagaa ttatc                        225
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<210> 1090

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1090

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcggga gggaagcttg ctttccttgc cggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg ccgcacagta ggggatagcc cggagaaatc cggattaata ccctatgttc      180
tccgagtcag tcatctgaat tggagcaaag gttcgccgct gtgcg                        225
```

<210> 1091

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bifidobacterium

<400> 1091

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gggatcctgc gggctttgct tgcgggtgag agtggcgaac gggtagagtaa tgcgtgacca      120
acctgccccca tgctccggaa tagctcctgg aaacgggtgg taatgccgga tgctcccgcg      180
ccccgcatgg ggtgtgggga aagctttcgt ggcattggat ggggt                        225
```

<210> 1092

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Adhaeribacter

<400> 1092

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agagtttgat cctggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac      60
ggaaggccc gagtagcaa taccgagggt acacgagtgg cgcacgggtg cgtaacgcgt      120
atgtaatctg cccctgaccg gaacaaaaca gctggaaacg gctgctaata ttccatggcc      180
atcttcccgg gcatccggga ggatgtaaag attcattggt cgggg                        225
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<210> 1093
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

 <400> 1093
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatttagc cgaatgttta catgaggcga agatttagtg gcggacgggt gagtaacacg 120
 tgagcaacct acctggaga gggggataac attgagaaat cagtgctaata accgcataaa 180
 actaatttat tgcatgatag attagtcaaa ggagaaatcc gctct 225

 <210> 1094
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Acetivibrio

 <400> 1094
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggacttcag ggaacgaggc ttcggccaag cgaactgaag tttagtggcg gacgggtgag 120
 taacgcgtga gtaacctgcc tatcacaggg ggacaacagt tggaaacgac tgctaataacc 180
 gcataacgta ttttcggggc atcccgggga taccaaagga gcaat 225

 <210> 1095
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from unknown taxa

 <400> 1095
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaaatggc agcttgctgc catggaaagt ggcggacggg tgagtaatac atagggaatc 120
 tgcccctagc cgggggacaa cagttggaaa cgactgctaa taccgatat gagatagatt 180
 gaaatattta tcttgaaaac tccggtggct agggatgagc ctgtg 225

 <210> 1096
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Flammeovirga

 <400> 1096
 agagtttgat catggctcag gatgaacgct agcggcaggc cttatacatg caagtcgagg 60
 ggtaacatgg tntagcaata cattgatgac gaccggcgta tgggtgagta atacgtacgt 120

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aatctacctc atatagaaga ataactccta gaaatgggaa ctaatgcttc atacagtttt 180
 aaaaggaatc ttttaaatg aaagatttat cgatatggga tgagc 225

<210> 1097
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Dethiosulfovibrio*

<400> 1097
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60
 ggagtattat cgggagcttg cttttgataa tacttagtgg cggacgggtg agtaatacat 120
 gagcaacctg cctttaagag ggggataaca cagagaaatt tgtgctaata ccgcatagaa 180
 cactgagatg gcatcatcat agtgggaaag gagcaatccg cttaa 225

<210> 1098
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hippelia*

<400> 1098
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaattcttac agagtatcgt aagagtttagc ggcaaacggg tgagtaacac atgggaaacc 120
 tcccttagaa tggggaacat ctccgtgaaa acggagctaa taccgataa gaccacagtt 180
 tggcatcaaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 1099
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Faecalibacterium*

<400> 1099
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggacgaagt agaatcttta cgtttttaac taagttagt gcgactggt gagtaacgcg 120
 tgaataacct acctattaga ggggaataac gaagagaaat tttcgctaat accgcataag 180
 ctgataggac cgcatggtct agtcagaaaa ggagtaatcc gctaa 225

<210> 1100
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 1100

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agagtttgat catggctcag aacgaacgct ggcggcgcgt ttaagcatg caagtcgcag 60
 ggtaaaattt tagcaataga attgagactg gcgaacgggt gagtaacacg tgaaaatcta 120
 ccttgagatg ggggatagcc ggtagaaata tcgggtaata ccgcatatgc cgagaggtga 180
 aaggggcaac tgctccgtct tgagatgagt ttgcgtctga ttaga 225

<210> 1101
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 1101
 agagtttgat catggctcag aatgaacgct ggcggtatgc ttaatacatg caagtcgaac 60
 gagaaagttc agcaatggac gagtaaagtg gcgtacgggt gagtaatata taggaatcta 120
 cccagtaatg aggaataagc actggaacg gtgtctaata ccacatacta ccatttattt 180
 gggaaagggt taatggcaac attaacctgt tattggatga gccta 225

<210> 1102
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mucilaginibacter

<400> 1102
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggatgggct ccttcggggg ccctgagagt ggcgcacggg tgcgcaacgc gtatgcaacc 120
 aacccccgac aggcggatag ccggtgaaa cgccggataa tacgcatgg ttccgtggga 180
 gggcatcctc ctgaggataa agccgagagg cggtcgggga cgggc 225

<210> 1103
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1103
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggaactagt accggagggt agaggatct atcttgcgat cactagttca gtggcggacg 120
 ggtgagtaaa acatgagcaa cctggctagt agagggggat agcttttggg aacagaagat 180
 aataccgat acatcagaga tttcgatga agtttttggg aaagg 225

<210> 1104
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Asaccharobacter
 <400> 1104
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaccgc ccttcgggcg gtcataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg tccgggacag cctcgcgaaa gcgggattaa taccggatgc accgcacctt 180
 tcgatgatc ggtgcgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1105
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 1105
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcatgta gacggaagtt ttcggatgga agtatatatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctgcctgtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc acagacatcg catggtgagt gtgccaaga tttat 225

<210> 1106
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium
 <400> 1106
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaagccaa tttgaagcgt tttcggacaa ttctgtttgg tgaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
 cctcataatg ccggttttac acatgttggc ccggccaag attta 225

<210> 1107
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 1107
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttatta gtagtaagtt ttcggatgga gcgaagataa cttagtggcg gacgggtgag 120
 taacgcgtg gtaacctgcc cattagaggg ggataacgtt ctgaaaagaa cgctaatacc 180
 gcataatata tttagttcgc atgaactgaa tatcaaagga gcaat 225

<210> 1108

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1108
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctccgg aagggcgact tcggtcaaac ggaaggaaga cttagtggcg aacgggtgag 120
 taacgcgtga ggaacctgcc tttcagtggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataacgta cggaggtcgc atgaccattg taccaaagat ttatt 225

<210> 1109
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1109
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagagacag cggagattca atcgatgatc tgcttcttct tagcggcgga tgggtgagta 120
 acacgtgggt aacctgccct gactggggg ataacagttg gaaacgactg ttaataccgc 180
 atatgvcac gggaccgcat ggtcctgggc ggaaagattt atcgg 225

<210> 1110
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Faecalibacterium

<400> 1110
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggtctaagag ataaatctt aatttatttc aaggatagtg gcgaacgggt gagtaacgcg 120
 tgagcaacct accttttaga gggggataac gcttgaaac aggcgctaata accgcataag 180
 ctccgagtat tgagtgatac aaggagaaaa ggaggaatcc gctaa 225

<210> 1111
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Alitererythrobacter

<400> 1111
 agagtttgat cctggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggtgttttct agtacttgta ttaggaaaca tagtggcaaa cgggtgagta acgcgtggga 120
 atgtaccctt aagtattgga taacgtctgg aaacggacgc taatacaata tacgctcgag 180

agaggaaaga gagatcgctg aaggagtagc ccgcgtaga ttagg 225

<210> 1112
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Gelidibacter*

<400> 1112
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggtaacggga gtagcaatac ttgccgacga gcggcggacg ggtgagtaac gcgtatgcaa 120
 cctacccttt attcaggat agccttccga aaggaggatt aatacctgat ggttcatttg 180
 agaggcatct tgataatgat aaagatttat tgataaagga tgggc 225

<210> 1113
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1113
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcacgg gattggttc ggccattcct ggtggcgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgcccgaac cgcggaatag cccgccgaaa ggcggattaa tgccgcatgc 180
 gctcgcgcg tgcatctga tcgagcaaa aggtttttcc ggttg 225

<210> 1114
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerovorax*

<400> 1114
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaatcttt gaagtagctt gctacggaga agaggacagc ggcggacggg tgagtaacgc 120
 gtaggtaagc tgccccttgc agaaggatag cctcgggaaa ctgggattaa tacttcataa 180
 agcgttttca tcgcatggtg agaacgcaa agatctatcg gcaag 225

<210> 1115
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Riemerella*

<400> 1115
 agagtttgat catggctcag gatgaacgct agcgggaggc ctaacacatg caagccgagc 60

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ggtagaaagt agcttgctac ttttgagagc ggcgtacggg tgcggaacac gtgtgcaacc 120
 tgcctttatc tggggaatag cctttcgaaa ggaagattaa tgcccataa catattgatt 180
 ggcatcaatt aatattgaaa gctccggcgg atagagatgg gcacg 225

<210> 1116
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Sphingobacterium*

<400> 1116
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggatctact ggtaagcttg cttattggta gtgagagtgg cgcacgggtg cgtaacgcgt 120
 gagcaacctt cccttgctcag ggggatagcc cggcgaaagt cggattaata ccgcatgaca 180
 tcattgagag gcatctttcg gtgatcaaag atttatcgga caagg 225

<210> 1117
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Syntrophococcus*

<400> 1117
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctctga tccccgatga ttcgtctgaa gggaaaggat gtccgagtgg cggatgggtg 120
 agtaacgcgt ggagaacctg ccccctgctg ggggataaca actggaaacg gttgacaata 180
 ccgcataagc gcttttgatc gcatgatctg aagcggaaag attta 225

<210> 1118
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 1118
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcgcgg ttagcaata cactggcggc gaccggcgca cgggtgagta acacgtatcc 120
 aacctgcctt cagctcgggg atagccctct gaaaggagga ttaatacccg atgtggtttt 180
 tcgcagacat ctgcgtataa ttaaagattt atcggctgat gatgg 225

<210> 1119
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Papillibacter*

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<400> 1119
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcacttt ggcggaacct tcgggggaag ctgatttgac ttagtggcgg acgggtgagt 120
aacgcgtgag caaccttct gcttgtgagg gataacacag ggaaacttgt gctaataccg 180
catgacgcat agacatcgca tggtgactat gccaaagaca tgttg 225

<210> 1120
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1120
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gggacttaga ggccttgccc ttaagtta gtggcggacg ggtgagtaac gcgtgagtaa 120
cctacctaca tgagagggat aacacagga aacttgtgct aataccacat aacatactga 180
attcgcattg atttagtattc aaagagcaat cgcatataga tggac 225

<210> 1121
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium*

<400> 1121
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggactgattt ccttcgggaa taaagttag tggcggacgg gtgagtaacg cgtgaggaac 120
ctgccttaca gaggggata acgataagaa attgtcgcta ataccgata acacctcaca 180
cccgcattgg tgaggggtca aaggagcaat ccgctgtaag atggc 225

<210> 1122
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Hydrogenoanaerobacterium*

<400> 1122
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60
gggtgtgtaa agagcttgct cttatttca ctagtggcgg acgggtgagt aacgcgtgag 120
taatctgcct tgaagtgggg aataacattt gaaacaaat gctaataccg cgtaataac 180
tttcttcgca tgaagtttgt atcatagttt ttcgcttcaa gatga 225

<210> 1123
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Marvinbryantia*

<400> 1123

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagaccccg aagcggagat ttcggttgaa gctaagggag gactgagtgg cggacgggtg      120
agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata      180
ccgcataagc gcacgaggag acatctccct gtgtgaaaag aatta                        225
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<210> 1124

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Brevibacillus*

<400> 1124

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac      60
ggagaggcct cgacggaaag gtgcttgac cttgaagatg aggaatctta gtggcgaacg      120
ggtgagtaat acatgagcaa cctaccctt tgactgggat aacattctga aaaggatgct      180
aataccgat aattaatatt gaggcatctc gatattatta aaggt                        225
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<210> 1125

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium IV*

<400> 1125

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agagtttgat cctggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac      60
gaagcacttt ttcttgagac ttcggtcaag agaggatttg acttagtggc ggacgggtga      120
gtaacgcgtg agcaacctgc ctaccggtgc gggataacgt ttggaaacgg acgctaatac      180
cgcataacgc atagatatcg catggtattt gtgccaaaga ttcatt                        225
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<210> 1126

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 1126

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcatcgcgg ggtagcaata ctctggcggc gaccggcgaa agggtgagta acgcgtgagc      120
aacatgccct tgggtggggg atagtcattg gaaacgatgc gtaatacccc gtacgacgag      180
agaccgcatg attttctggt aatagattta ttgcccaagg attgg                        225
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<210> 1127
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium IV

 <400> 1127
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 ggaacttgag ggcttgcct taagtttagt ggcggacggg tgagtaacgc gtgagtaacc 120
 tgcctttgag aggggaataa cttcccgaag gggatgctaa taccgataa cacatagctg 180
 tcgcatggca gagatgcaa agatattatc gctcaaagat ggact 225

 <210> 1128
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Amionobacter

 <400> 1128
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctacct tttgctacgg 120
 aataactcag ggaaacttgt gctaataccg tatgtgtcct tcgggagaaa gatttatcgg 180
 caagagatga gcccgcgttg gattagctag ttggtggggt aaagg 225

 <210> 1129
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Sporotomaculum

 <400> 1129
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggcgaccct tctacggaag gggagctagt ggcggacggg tgagtaacgc gtgagcaacc 120
 aaccataag agggggataa caacgggaaa ccgttgctaa taccgataa gaccaagaca 180
 gcgcatgctg aaggggtcaa aggagtaatc cgcttatgga cgggc 225

 <210> 1130
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium IV

 <400> 1130
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagagcgtg ttttgaattc ttcggaagga aagatacgtt tcttagtggc ggacgggtga 120

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gtaacacgtg agcaacctgc cttgcagaga gggataacga ttggaaacga tcgctaatac 180
cacataacat atggatatcg catggtgacc atatcaaaga tttat 225

<210> 1131
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Pedobacter*

<400> 1131
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
ggcagcgcgg ggtagcaata ccctggcggc gaccggcgga tgggtgcgta acgcgtatgc 120
aacctgcctc ggacaggagg ataaccctgg gaagctggga ctaatactcc gtatgacgag 180
acctcgcatg gggctttggt gaaagccttg gtggtccgag atggg 225

<210> 1132
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Victivallis*

<400> 1132
agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
ggggcgcagc gatgcgccca gtggcgaag ggtgagtagc acgtgaagaa cctgcccccg 120
gatccggaac aagcgtgga aacggcgtct gatacgggat gtggacgcgg cccgcatggg 180
ccgcgctcta aagattcatc gtccggggag ggcttcgcgt cccat 225

<210> 1133
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Gelidibacter*

<400> 1133
agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
ggtaacggga gtagcaatac ttgccgacga gcggcggacg ggtgagtaac gcgtatgcaa 120
cctacccttt atcagggat agccttccga aaggaggatt aatacctgat agtactcaat 180
gagggcatcc aaagtgagtt aaagatttat tgataaagga tgggc 225

<210> 1134
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 1134

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgg ctgttgcttg caacagccga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg ccccataccg cggcacagcc cggagaaatc cggattaact ccgcatgcgg 180
tcctttgatg gcatcagttt aggaccaaac gttcagggta tggga 225

<210> 1135
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Wautersiella*

<400> 1135
agagtttgat cctggctcag gatgaacgct agcgggaggc ttaacacatg caagccgagg 60
ggtagagata gcttgctatt ttgagaccgg cgcacgggtg cgtaacgcgt atgcaacttg 120
ccctattgaa agggatagcc cagagaaatt tggattaata cttataata aatttcattg 180
catgatgaga ttttgaaaga tttatcgag taggataggc atgcg 225

<210> 1136
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Slackia*

<400> 1136
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggttaaaccg gcttttagcc ggacataaag tggcgaacgg gtgagtaaca cgtgaccaac 120
ctgcccccg caccgggaca acgggcggaa acgcccgcta ataccggata ctccgggcgc 180
cggcgcgatg cggccccggg aaagcccagg cggcggggga tgggg 225

<210> 1137
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Pyramidobacter*

<400> 1137
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagttgggc 60
gaggatggtt tgaggagaca tatgttgaat tgaatcgttc gagcagcggga cgggtgagta 120
aagcacaagg acttgtccga aagagagggga caccttcggg aaaccggagc taatacctca 180
taagccggaa ggtgaaaagc agagatgcmc ttttgagag acttg 225

<210> 1138
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*
 <400> 1138
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggactttgct cgctgaaaaa ggaaggtgct tgcacctgag agtttcttga ggaaagttag 120
 tggcggacgg gtgagtaacg cgtgggtaac ctgcctatca cagggggata acagttggaa 180
 acgactgcta ataccgcata agcgcacggt atcgcgatgat acagt 225

<210> 1139
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 1139
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggtacaga cgctgaagag tggagtgtt gcacaaagcg attcttgttt gtacctagtg 120
 gcggacgggt gagtaacgcg tgggtaacct gccatacaca gggggacaac agttggaaac 180
 gactgctaata accgcatatg cacacagtga ggcattctcac aggg 225

<210> 1140
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*
 <400> 1140
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgggg 60
 ggacgacgg gaagcagcaa tgcttttggg tggcgaccgg cgaatgggtg agtaacgagt 120
 atccaacctg ccccgctgctc cgggacagcc ccgcgaaagc gggattaata ccggatgggtg 180
 cgtatgttcc gcatgggata tacgtcaaag attcatcggc acggg 225

<210> 1141
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lentisphaera*
 <400> 1141
 agagtttgat cctggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gccccgggct tgccccggga gtggcgaaag ggtgcgcaac gcgtggggaa cccgcccccg 120
 ggccccgggac aagcgtgga aacggcgtct gatacgggat gtcgagccgg gccgcatggc 180
 ccggcgtcga aagattcatc gcccggggag ggccccgcgt cccat 225

<210> 1142

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfoluna

<400> 1142
 agagtttgat catggctcag aatgaacgct ggcggcgtgc ctgaggcatg caagtcgaac 60
 gagaaagttc cttcggggat gaggatagtg gcgcacgggt gagtaatact taggtaacgt 120
 accttttcgc tggggatagc taggggaaac ttagataat accgaatata tccattttta 180
 ctgcggttta aatggagaaa gccgtaaggc gcgaagagag cggcc 225

<210> 1143
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1143
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatctct ggcttgccag agaggaaagt ggcggacggg tgagtaatat gtagagaatc 120
 tgcctagag agtgggacaa cagagggaaa cttctgctaa taccgcatat gcgcgtagct 180
 gagatgctat tcgtgaaaac tccggtgctc tgggatgagt ctgca 225

<210> 1144
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1144
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagtg actggagcta agaagttttc ttggttgcat tcactagttc agtggcggac 120
 gggtagtaaa agcatgagta acttgcccat tagtggggaa tagcttttgg aaacagaaga 180
 taataccgca tacatcggtt tggacacatg ttcggaccgg aaaag 225

<210> 1145
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1145
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcacgg ggactgcttg cagttcccgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaactg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180

tcgcgcgagg gcatcatttc gcgagcaaag gttcattccg gttgc 225

<210> 1146
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1146
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttattg cgattgatcc cttcgggggtg acgttgttct aacttagtgg cggacggggcg 120
 agtaacgcgt gaataacctg cccataagag gggaataatc catggaaacg tggactaata 180
 ccgcatattg taattttatc gcatggttta attatgaaag attta 225

<210> 1147
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1147
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcactga cgatgaagtc ttcggatgga attgtctttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctggcagtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc acgggaatcg catggtttta gtgccaaaga tttat 225

<210> 1148
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1148
 agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggcagcatga gggtagctcg ctaccttga tggcgaccgg cgaatgggtg agtcacgcgt 120
 gtccaacctg cctccggccc ggggatagcc cttggaaatg aggattaaga cccgataggt 180
 ggcgcttccg catggcggcg ccatgaaact ggaccggaga tgggg 225

<210> 1149
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1149
 agagtttgat cctggctcag gacaaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

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gagaatcagg agcttgctcc tgaggaaagt ggcggacggg tgagtaatat gtaggaaatc 120
 tgcccttagg agggggacaa cagttggaaa cgactgctaa taccatata gagcgtagct 180
 gaaatgctat tcttgaaatg atttttcgcc taaggatgag cctgc 225

<210> 1150
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Helicobacter

<400> 1150
 agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaattcttac agagtatcgt aagagttagc ggcaaacggg tgagtaacac atgggaaacc 120
 ttcttagaa aggggaacac ctccgtgaaa acggagttaa taccgataa gaccacagtt 180
 tggcatcгаа caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 1151
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1151
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagataagc tctgatgaag cttcggcaga atcttgctta tcttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctac ctgcaacagg gggataacga ttggaaacga tcgctaatac 180
 cgcataacc gctagagtcg catgactcag acggaaaaga tttat 225

<210> 1152
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 1152
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtttagc gcttcaaag cttcggcaga ggattgtaa acttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc catatacagg gggataacac ttagaaatag gtgctaatac 180
 cgcataagcg cacggcatcg catgatgccg tgtgaaaaac tccgg 225

<210> 1153
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bradyrhizobium

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<400> 1153
agagtttgat catggctcag aacgaacgct ggcggcacgc ctaacacatg caagtcggac 60
ggtatggata gcttgctatt catatagtgg cggactgggtg agtaatatgt aggaatctgc 120
ccataggtta gggatagcac cgggaaactg gtggaatac ctgatatcct ggagacagga 180
aaggagcaat tcgccgatgg aggagcctat atctgattag atagt 225

<210> 1154
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1154
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggactataa atagaagggtg cttgactgg aaatttaca gttagcggcg gacgggtgag 120
taacgcgtga gcaacctgtc ctctacaggg ggataagatt tcgaaagga ttctaatacc 180
gcatgagacc acagcagggc atcctgcggg ggtcaaagga ggaat 225

<210> 1155
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Sphingobacterium

<400> 1155
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
gggatccatt gatagcttgc tatccatggt gagagtggcg cacgggtgcg taacgcgtga 120
gcaacctacc tccatcaggg ggatagcctc tcgaaagaga gattaacacc gcataacata 180
atgttccggc atcgggatat tattaatat ttataggatg gagat 225

<210> 1156
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Gelidibacter

<400> 1156
agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
ggcatcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcaccttct 180
gggggcatcc ccgaaaggtt aatattcat aggtggtgga tgggc 225

<210> 1157
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Vasiliyevaea*

<400> 1157

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agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac      60
gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaatctacc agttctacgg      120
aacaactgag gaaacttca gctaataccg tatacgcctt acgggggaaa gatttatcgg      180
aattggatga gcccgcttg gattagctag ttggtggggt aatgg                          225
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<210> 1158

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Eubacterium*

<400> 1158

```
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gaagcttgat taatgaattc ttcggaatga tttatgatat gactgagtgg cggacgggtg      120
agtaacgcgt gagtaacctg cctcttgag ggggatagtg tttgaaacg aacagtaata      180
ccgcataacg tgcattgatg gcatcatcga tgtaccaaag attta                          225
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<210> 1159

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1159

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac      60
gagcagagat attcgtatca aagcgagtgg cggacgggtg agtaacgcgt gggaaacctg      120
ccctataccg ggggataaca gttgaaacg actgctaata ccgcataagc gcacgatgtc      180
gcatgacatt gtgcgaaaaa ctccggtggt ataggatggt cccgc                          225
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<210> 1160

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Eubacterium*

<400> 1160

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gaagcttgaa gatagatttc ttcggaatga catctgatat gactgagtgg cggacgggtg      120
agtaacgcgt gagcaacctg ccctcggag ggggatagcg tttgaaacg aacggtaata      180
ccgcataatg ttaacggaag gcatcttctg ttaacaaaa ctccg                          225
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<210> 1161
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 1161
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggaactccg atctgaaggt tcgctggatg attggaaatt ctagtggcgg acgggtgagt 120
 aacgcgtggg taacctgccc tttagaggga gataacagag agaaatttct gataatatcc 180
 catatgctta cagcttcgca tgaagcagtg aggaaagaat ttcgc 225

<210> 1162
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1162
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacagcatgt aggttgcttg caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt cccgcagta ggggtgcagcc cgttgaaaga cggattaatc ccctatgttg 180
 tcattgacg gcatccgatt tggacgaaag gtttcaccgc tgcgg 225

<210> 1163
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1163
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcggac 60
 ggcaagattg gtgcttgac tgatcctaga gtggcggact ggtgagtaac gcgtgggtga 120
 cgtaccctcc ggacggggat agtactaga aatagtagat aataccgat acgggtgact 180
 gtgtcagagg cagtgcagga aaggttcttt tgaaccgccg gggga 225

<210> 1164
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1164
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaagcttt ccagaagata cttcggttga ttcaggaag tggaaagcgg cggacgggtg 120

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agtaacgcgt aggcaacctg ccccttgtag agggatagcc tcgggaaacc gggattaataa 180
 cctcataatg cggtgagaag acatcttcat atcgccaaag attta 225

<210> 1165
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Erysipelotrichaceae incertae sedis*

<400> 1165
 agagtttgat cctggctcag gatgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 ggagcctttc ggggctcagt ggcgaacggg tgagtaacac gtaggtaacc tgcccatgtg 120
 cccgggacaa cagctggaaa cggctgctaa aaccggatag gtatcgagga ggcattctct 180
 ggatattaata ggggctttcg ggcctgaac atggatggac ctgcg 225

<210> 1166
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Sulfurovum*

<400> 1166
 agagtttgat catggctcag agtgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaacggc cttcgggatg tcagctaagt ggcggacggg tgagtaatgt atagttaatc 120
 tgccctttag agggggataa cagttgaaa cgactgctaa taccacatac tccttttacc 180
 ttaatggtaa ttgggaaacg ttttttcgct aaaggatgag actat 225

<210> 1167
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1167
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatttagc caatgttta catgaggcga aaatttagtg gcggacgggt gagtaacacg 120
 tgagcaacct gccttaaga gggggataac attgagaaat cagtgctaata accgcataaa 180
 gcatatccac cgcatgatgg atataagcca aaggagaaat ccgct 225

<210> 1168
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Papillibacter*

<400> 1168

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcacttt ggttgagac ttcggtaaaa gaccgatttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaacctgc cttgaagagg gggataacac agggaaactt gtgctaatac 180
cgcataacgt acgtggatcg catggttcgt gtaccaaagc ctta 225

<210> 1169
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Paracoccus

<400> 1169
agagtttgat catggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
gcaccttcgg gtgagcggcg gacgggtgag taacgcgtgg gaatatgcc ttctctacgg 120
aatagtctcg gaaactggg ggtaataccg tatacgcctt acgggggaaa gatttatcgg 180
agaaggatta gcccgcttg gattaggtag ttggtggggt aacgg 225

<210> 1170
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1170
agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
ggaactagt accggagggt agaaaactt tatcttgcca ttagtagttc agtggcggac 120
gggtgagtaa aacatgagca acctggctag tagaggggga tagcttttgg aaacagaaga 180
taataccgca tacatcagag atttcgcatg aagtttttgg aaaag 225

<210> 1171
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Adhaeribacter

<400> 1171
agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
ggtaacgacc gtagcaata ctggggcgac gactggcgca cgggtgcgta acgcgtatgc 120
aacctaccct caaccggggc ataacgccga gaaattggcg ctaatatccc atgtgtatat 180
ggagtggcat ctctcatat ataaagatcc gttggttaag gatgg 225

<210> 1172
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1172
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 gagatgagtg acttcggtca tgagtctagt ggcggacggg tgagtaacgc gtggacaact 120
 tgccttatag tgggggatag ccgaaagaaa tttcgattaa taccgataa tacaatttga 180
 tcgcatgatt ggattgggaa aggcttcggt cgctaaaaga aaggt 225

<210> 1173
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 1173
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gggaggttc ggccaccccc gatggcgacc ggcgaatggg tgagtaacgc 120
 gtatccaacc tgcccctgtc ccggggacag cccttagaaa tgaggattaa cccccgatgg 180
 cgcgattag ccgcatggct tttccgcaa atgcgaagga caggg 225

<210> 1174
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hydrogenoanaerobacterium*

<400> 1174
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaacttaa ttgatgtta cattagctta agtttagtgg cggactggtg agtaacacgt 120
 gagcaacctg cccttagag gggataaca ttgagaaatc agtgctaata ccgcataaag 180
 caacattatc gcatgatgaa gttgcaaag gagaaatccg ctgaa 225

<210> 1175
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Telmatospirillum*

<400> 1175
 agagtttgat catggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggtgtgttc agtacttga ttgagcaaca tagtgcaaa cgggtgagta acgcgtggga 120
 acgtaccaa cagtattgga taacgttgg aaacgaacgc taatacaata tacgctttag 180
 agaggaaaga gagatcgctg atggagcggc ccgcgttaga ttagg 225

<210> 1176

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1176
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcacttc tcccgttgaa gcctattagc ttgctatgaa gcggaaacaa ttgaagtgc 120
 ttagtggcgg acgggtgagt aacgcgtggg taacctgccc tgtacagggg gacaacagct 180
 agaaatggct gctaataccg cataagcgca cagcatcgca tgggtg 225

<210> 1177
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1177
 agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggaacttggg agcttgcttt caagtttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgcccttcgg cggggaataa tgattggaaa cgatcactaa taccataa aacagagata 180
 ccgcatggta attctgtcaa agattcatca ccgaaagatg ggctc 225

<210> 1178
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1178
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcactga cgaggaagtc ttcggatgga attgtctttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaaccttc ctggcagtga gggataacac agggaaactt gtgctaatac 180
 cgcgatgacg actgagatcg catggtttta gtgccaaaga ttcac 225

<210> 1179
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Vasilyevaea

<400> 1179
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaatctaccc agttctacgg 120
 aataaccag ggaacttgg actaataccg tatacgcctt acgggggaaa gatttatcgg 180

aattggatga gcccgcttg gattagctag ttggtgggt aatgg 225

<210> 1180
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 1180
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggcaac ctgactttaa 120
 gacgaggata accgttggaa acgacggata atactggata ggacatcaca aagggcatcc 180
 ttagatgttt aaagttatc atgccactta gagaggggcc tgcgg 225

<210> 1181
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporotomacul um

<400> 1181
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatgcc gaaaagcttg ctttttgaca tttcgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tcttctacag ggggataacg tcccgaaagg gacgctaata ccgcataaga 180
 ccacggtgcc gcatggcaca ggggtcaaag gagcaatccg gtgga 225

<210> 1182
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostri di um IV

<400> 1182
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttgag ggcttgccct taagcttagt ggcggacggg tgagtaacgc gtgagtaacc 120
 tgcctttgag aggggaataa cttcccgaag gggatgctaa taccgcataa cacataactg 180
 tcgcatggca gaaatgcaa agattatc gctcaaagat ggact 225

<210> 1183
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 1183
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggagaaaccg ccctcgggcg gagatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg tccgggacag cctcgcgaaa gcgggattaa taccggatgc gccgcggggc 180
 ccgatgggg cccgcgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 1184
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1184
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttcgatccc gcatgggat gcaacgaaag attcatcggt agggg 225

<210> 1185
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerotruncus

<400> 1185
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctccga tacggaatct tcggaggaag tagaggaaga cttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc tttcggaggg ggataacgat tggaaacgat cgctaatacc 180
 gcataacata tacgtatcgc atggtatgta tatcaaagct gaggc 225

<210> 1186
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rhodospirillum rubrum

<400> 1186
 agagtttgat catggctcag aatgaacggt ggcggcgtgg attaggcatg caagtcgaac 60
 ggtaaggta cttagcttgc tttgtaacc tagagtggcg aaaggatag tacaatgtag 120
 atcatatacc ctcaggttgg ggatagcgtc tggaaacggg cggaataacc cgataacatc 180
 tccgatcaa aggtgagatt ccgcctgagg attagtttac acact 225

<210> 1187
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

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<400> 1187
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
gaggaattgt gattgaagtt ttcggatgga tttcactttt ccgagtggcg gacgggtgag 120
taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc tggaaacggc tgctaatacc 180
gcataacccg ctagagtcgc atgactcaga cggaaaagat ttatc 225

<210> 1188
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Gelidibacter*

<400> 1188
agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
ggcagcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcattggga 180
gccggcatcg gcatccaatt aatatattat aggtggtgga tgggc 225

<210> 1189
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Anaerofustis*

<400> 1189
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gggaagctt ggtagttcg ctaaacaag tggacagtgg cgaacgggtg agtaacgcgt 120
agtaaccaa cctcactg ggggatagcc tttgaaacg aagagtaata ccgcataaga 180
ccacactgtc gcatggcaga ggggtaaaag atttatcggt atgag 225

<210> 1190
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1190
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
gggaacttta ttgaagttat ctgatataaa gttctagtgg cggactggtg agtaatgtat 120
aagcaacctg cctgcaagag ggaataaca gtgagaaatc attgctaata ccgcataagc 180
tgtgagtatg gcatcataca aacagaaaag gaagcaattc cgctt 225

<210> 1191
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1191

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac      60
ggagatattg ggatcaatcc ttcgggaagc gtttcaatat tttagtggcg gacgggtgag      120
taacgcgtga gcaacctgcc ttgaagaggg ggataacaca gggaaacttg tgctaatacc      180
gcataacgta cgatggctgc atggccgacg taccaaagct ccgac                          225
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<210> 1192

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1192

```
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagacgctt attcagattc tttcgggatg acgaatttgt ggactgagtg gcgacgggt      120
gagtaacgcg tgggtaacct gccttgatac gggggacaac agttagaaat gactgctaata      180
accgcataag ccaacggaat cgcatgattc agttggaaaa actcc                          225
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<210> 1193

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Cryptanaerobacter*

<400> 1193

```
agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac      60
ggaacaagac tggctgtagc gatactttcg gtcttgttta gtggcgaacg ggtgagtaac      120
acgtgagcaa cctgcctttt acacagggat aacagccgga aacggctgct aataccggat      180
aagaccacac cgaggcatct cggaggggtc aaagcgattt agcgg                          225
```

<210> 1194

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1194

```
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac      60
gaagctgatg cgacggaacc tttcgggggg aagatgcatt agactgagtg gcgacgggt      120
gagtaacgcg tgggtaacct gccttataca gggggataac atttgaaac agatgctaata      180
accgcataag cgacagAAC cgatggttc agtgtgaaaa gctcc                          225
```

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<210> 1195
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Mogibacterium

 <400> 1195
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatctcc tttgaagcgt tttcggacaa ttctgtggag aggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa 180
 cctcataatg ccattcttac acatgttggg atggccaaag attta 225

 <210> 1196
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Syntrophococcus

 <400> 1196
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagctatth tagaaagcgg agcttgctct gatggatag atagcttagt ggcggacggg 120
 tgagtaacgc gtgggcaacc tgccttacac agggggacaa cagttggaaa cgactgctaa 180
 taccgataa gccgtaatc tcgcatggga tatccgaaa agatt 225

 <210> 1197
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Bacteroides

 <400> 1197
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgtgg gggtagcaat actcccagc gcgaccggcg cacgggtgag taacgcgtat 120
 gcaacctttc ccagacaggg ggatagcca gggaaacttg gattaatacc ccgtaggccg 180
 gatgagggca tcctcgtccg gttaaagttc cggcggctctg ggggtg 225

 <210> 1198
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Treponema

 <400> 1198
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgggc 60
 gggattcatg tgcttgaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120

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caccccccg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180
gttggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 1199
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Coralimargarita*

<400> 1199
agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc 60
gagaatatac cttcgggtat agggaagcgg caaacgggtg agtaacacgt aagtaaccta 120
cccttgagac tgggatagct cagcgaaagt tgaggttaata ccggatgaca accattaacg 180
catgttaatg gattcaaagg gatgagacga tgctcaagga ggggc 225

<210> 1200
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ruminococcus*

<400> 1200
agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
gggactaaga gagaagcttg cttcactttt agtttagtgg cggacgggtg agtaacacgt 120
gagtaacctg cccttatcag gggaatagcc tccggaaacg gagagtaata ccgcataaga 180
tgacgatgtg gcatcacata gtcataaaag attttatcgg ataag 225

<210> 1201
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 1201
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg ccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgggg 180
tcgaacgagg acatctgatt tcgaccaaag ctttttcgg tcatg 225

<210> 1202
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Pseudaminobacter*

<400> 1202

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agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctacc aactctacgg 120
 aataaccag gaaacttg actaataccg tatacgtcct cgggagaaa gatttatcgg 180
 agttgatga gcccgctcg gattagctag ttggtgaggt aatgg 225

<210> 1203
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1203
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgt ttagcaata caatggcggc gaccggcgaa agggtagta acgcgtgagc 120
 gacgtgcccg tcacaggggg acaagggtg gaaacggctt ctgatcccc ataggaatgt 180
 atgcttcatg gtgtatgttt gaaagattta tcggtgacgg atcgg 225

<210> 1204
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1204
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 ggcaagatgg ggttcgcccc gtcccagagc ggcggactgg tgagtaacac gtgggtgacg 120
 caccctcggg atcgggatag cctgcagaaa tgcagggtaa taccgatga tgtccgtgca 180
 gccggaatgc acggagaaa ggggcttcgg ccccgccgga ggaac 225

<210> 1205
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 1205
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggaactcta gactgaaggt tcgctggaag ttagaaatt ctagtggcgg acgggtgagt 120
 aacgcgtggg taacctgcct ataagacgtg aacaacagtt agaatgact gctaatacac 180
 gataagcaca ccagtatcgc atgatacagt gtgaaaagaa tttcg 225

<210> 1206
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 1206
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagatatac tgattaatcc ttcgggaagc gtcggtatat tttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc ttgaagaggg ggataacaca gggaaacttg tgctaatacc 180
 gcataacata caagaatcgc atggttttag tatcaaagct cggac 225
 <210> 1207
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Tenacibaculum
 <400> 1207
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggtaacaggc ggtagcaata ctgtgctgac gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgcccg cgacagggggg ataacggagg gaaacttcca ctaatatccc atggtgccga 180
 aggttcgcat gggctttcgg ctaaaggggc gacccggttg cggat 225
 <210> 1208
 <211> 205
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Parabacteroides
 <400> 1208
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttatggtcaa tggacgcgag 60
 tctgaaccag ccaagtcgcg tgcgggacga aggccctccg ggtcgtaaac cgctttagcc 120
 ggggagtaac gtgggggacg tgtccctcag tgagagtacc cggagaataa gcatcggcta 180
 actccgtgcc agcagccgcg gtaat 205
 <210> 1209
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Lutimonas
 <400> 1209
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ctaaacatg caagttgaac 60
 ggggttagca atacatcagt agcggacggg tgaggaacat atgggaacgt gccctttggt 120
 gggggataac ttctggaac gggaggtaat accgcataag ccatgagtgg gaaatattta 180
 tagccggagg agcggcccat attggattag ctagtgggtt aggta 225
 <210> 1210

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1210
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctttaa ttagatttc ttcggaatga taaatgatat gactgagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg cccttcggag ggggatagcg ttggaaacg aacggtaata 180
 ccgcataatg ttaacggatg gcatcgtctg ttaacaaaa ctccg 225

<210> 1211
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1211
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacctatgg gactgattag cttgctatga actcccggaa ggtagtggtg ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctcatcagg gggatagcag ttggaaacga ctggtaatac 180
 cgcataagcg cacagtaccg catggtacag tgtgaaaagc tccga 225

<210> 1212
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1212
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctctca cgcttgagtt ttcgacaag agggtagaaa gacttagtggtg cggactggtg 120
 agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttgaaacg actgctaata 180
 ccgcataatg tacaggggcc gcatgaccct tgtaccaaag cttaa 225

<210> 1213
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1213
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatcaga agcttgcttc tgaggaaagt ggcggacggg tgagtaatat gtagagaatc 120
 tgcccttag atggggacaa cagttgaaa cgactgctaa tacccaatat gcgcgtagtt 180

gagatactat tcgtgaaaac tccggtgcta aaggatgagt ctgca 225

<210> 1214
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1214
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcacgg aggtagcttg ctacttttgg tggcgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgcgtgcc ggggatagcc cctggaaacg gggattaaga cccgatggcg 180
 tggtgccgcc gcatgacggc gccattaac cggcacgcga tgggg 225

<210> 1215
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1215
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagagtgcg ctttgaatcc ttcgggacga ttagctcatt tcttagtggc ggacgggtga 120
 gtaacacgtg agcaacctgc cttgcagagc gggataacga ttggaaacga tcgctaatac 180
 cgcataatat atgattgtcg catggctttc atatcaaaga tttat 225

<210> 1216
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1216
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggattatcc agcttgctgg atatgagagc ggcggactgg tgagtaacac gtaggcaacg 120
 tacccttcgg acgggatag ccggcagaaa tgtcgggtaa taccggatgt gaacatgagc 180
 cgtaaagggt catgtgaaa ggagcttcgg ctccgccgga ggagc 225

<210> 1217
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1217
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac 60

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ggtgaagggg gcttcggttc ccggatcagt ggcggacggg tgagtaacgc gtgaataacc 120
 tgccctgtgtg tgggggataa cagttggaaa cggctgctaa taccgataa cgtacggaca 180
 ccgcatgatg accgtaccaa agatttattg cgcacagatg gattc 225

<210> 1218
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 1218
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 ggggtgcagca atgcaccagt ggcgcaaggg tgaggaacac gtgagtaatc taccctcaag 120
 attgggatag ctctggaaa cgggaattaa taccggatga aacagtttat ccgcatggat 180
 gaacttttaa agcagcaatg cgcttgagga ggagctcgcg tccca 225

<210> 1219
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1219
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aggcagagat ttcggtcgaa gccaaaggag gactgagtgg cggacgggtg 120
 agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
 ccgcataagc gcacgagggg gcatcctcaa gtgtgaaaaa cttta 225

<210> 1220
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 1220
 agagtttgat catggctcag gacaaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagcttatc accttcggga ggtaagctta gtggcggact ggtgagtaac gcgtgagcaa 120
 cctgcccttc agtgggggac aacagccgga aacggctgct aataccgat gagattatgg 180
 gaaggcatct tcttgtaatt aaagatttat tgctgaagga tgggc 225

<210> 1221
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Papillibacter*

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<400> 1221
agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcacttc ggaacgagac ttcgggtcaag tgaagatttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaatctgc ctcgggggtgc gggataacgt ttggaaacga acgctaatac 180
cgcatgacgc atgaggttca catggacat atgccaaagg ttac 225

<210> 1222
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Cellulosilyticum

<400> 1222
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
gagtttaata cctagcttgc taggtaagcg actagtggcg gactggtgag taacacgtaa 120
ggaacctgcc tattagagag gaataccttt gagaaatcag agctaatacc tcatatgcct 180
tatttatcgc atgataaaag agggaaagga gcaatccact aatag 225

<210> 1223
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 1223
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
gggattcccc agcttgctgg ggatgagagc ggcggactgg tgagtaacgc gtgggcgacg 120
cgccccgtgg accgggatag cctgtgaaa cacagggtaa taccgggcga gtccccccgc 180
gccggaggcg ggggaggaaa ggagccgagg ctccgccacg ggagc 225

<210> 1224
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 1224
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagctgagg agcttgcttc tcagcttagt ggcggacggg tgagtaacgc gtgagtaacc 120
tgctccgag agtgaataa cgttttgaaa agaacgctaa taccgataa tattatgaag 180
tcgatggct ttataatcaa agagtatatc gctcggagat ggact 225

<210> 1225
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Coralimargarita*

<400> 1225

```
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc      60
gagaatatgc tttcgggcat agggaagcgg caaacgggtg agtaacacgt aagtaacctg      120
cccttgagac tgggatagct cagcgaaagt tgaggttaata ccggatgaca accattgatg      180
catgttaatg gattgaaagg gatgaaagga tgctcaagga ggggc                          225
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<210> 1226

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1226

```
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggagttgagg agcttgctcc ttaacttagt ggcgatcggg agccggactg agaggttgaa      120
cggccacatt gggactgaga cacggcccag actcctacgg gaggcagcag tgggggatat      180
tgcgcaatgg gggcaaccct gacgcagcaa cgccgcgtga aggat                          225
```

<210> 1227

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Blautia*

<400> 1227

```
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggagcttatg gtgaaagata cttcggtaga tggaagcgta agcttagtgg cggacgggtg      120
agtaacgcgt ggagaacctg ccctgtaccg ggggataaca gagggaagct tctgctaata      180
ccgataagc gcacggcacc gcatggtgca gtgtgaaaaa ctccg                          225
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<210> 1228

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1228

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agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgagc      60
ggagaattga cttcggttga ttcttagcgg cggacgggtg aggaacgcgt gggtaatctg      120
ccctatacag gggataaca cagagaaatt tgtgataaaa ccgataagc ccacgggatc      180
gcatggtcct gtgagaaaaa ctccggtggt ataggatgag cccgc                          225
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<210> 1229
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1229
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg ggtagcaata ctctggcggc gaccggcaga cgggtgcgta acgcgtatgc 120
 aacctacca ccacaggggt atagcccggc gaaagccgga ataatcccc atggttccaa 180
 cccaccgcat gatgagttgg ataaaccgc gagggggtga tggat 225

<210> 1230
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1230
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagttattt ggattcgtct ggataactta gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgcccttc agagggggac aacagctgga aacggctgct aataccgcat aacatatacg 180
 aaaggcatct tttgtatatac aaagatttat cgctgagggga tgggc 225

<210> 1231
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1231
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gagcgagtgc cttcgggac acgagctagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgcccctgtg tgcgggataa cgtcgggaaa ctgacgctaa taccgataa cacatgagtc 180
 ccgcatgggg catatgtcaa agatttattg cacagggatg ggctc 225

<210> 1232
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1232
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaaatag gaaaggatcc cttcggggag aatagaaata tggacagtgg cggacgggag 120

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agtaacgcgt gagtaacctg cccataagcg ggggatagcc gatggaaacg tcgagtaata 180
 ccccatgatg tatatatatc gcatggtata tatattaaag attta 225

<210> 1233
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Neptunomonas*

<400> 1233
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaatattgc acaatggggg aaaccctgat gcagccatgc cgcgtgtgtg aagaaggcct 120
 tcgggttgta aagcactttt gcattcgagg aagacagcgt ataaataaat gcgctatttg 180
 acgtagagt gtgaataagc accggcaaac tccgtgccag cagcc 225

<210> 1234
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1234
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacacctc ggggtgcagt ggcggacggg tgagtaacgc gtgagtaacc tgccgcggat 120
 tggggaataa cgaccgaaa cagtcgctaa taccgcataa cgcacgatga ccgcatggtc 180
 gacgtgcaa agatttatcg atccgcgatg gactcgcgtc caatt 225

<210> 1235
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Howardella*

<400> 1235
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggactgattc cttcgggatg aaagttagtg gcgaacgggt gagtaatgta tgagcaacct 120
 gcctctgtca acgggataac agttgaaac gactgctaatac acggtataag accacggcac 180
 cgcgatggtg tgcggtaaaa gatttttcgg acagagatgg gctca 225

<210> 1236
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1236

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagatagaa gcttcggttt ttatcttagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgcccctgtg tgcgggataa cgtttgaaa cggacgctaa taccgcatga cccaacggga 180
 ccgcatgatc ttgttgcaa agattcattg cacagggatg ggctc 225

<210> 1237
 <211> 220
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1237
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgaga 60
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 gaagaagtat ttcggtatgt aaagctctat cagcagggaa gataatgacg gtacctgact 180
 aagaagcacc ggctaaatac gtgccagcag ccgcggaat 220

<210> 1238
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1238
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagctctca cgcttgagtt ttcggacaag aggggtgagat gacttagtgg cggactggg 120
 agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaacg actgctaata 180
 ccgcataatg tacagagacc gcatgatctt tgtaccaaag ctta 225

<210> 1239
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1239
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaattac cgatgaagtt ttcggatgga tttggttttt ccgagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ttacttggg ggacaacaga gagaaatttc tgctaatacc 180
 gcataaccg ctaggggctc atgccccgga cggaaaagat ttatc 225

<210> 1240
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium IV
 <400> 1240
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 ggagagtgag cttcggctca caatcagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 cccggaagcg tgggataaca gagggaaact tctgctaata ccgtatatcg tattcggatc 180
 gcatgttctg aatacaaaag ggtttccgct tccgatggg ctcgc 225

<210> 1241
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporobacter
 <400> 1241
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggtgaagga cttcggctcc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg 120
 cctctgactg ggggataaca gccggaaacg gctgctaata ccgcataacg tgcgaccttc 180
 gcatgaagga cgaccaaag atttatcggg cagagatggg ctcgc 225

<210> 1242
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1242
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcatatt ggaaagagcc cttcgggacg atggaagata tgacttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaata 180
 accgcataag cgacagctt cgcatggagt agtgtgaaaa gcatt 225

<210> 1243
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio
 <400> 1243
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacttc ggacagatcc cttcggggtg aagactgatt tgacttagtg gcggacgggt 120
 gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaata 180
 accgcataac gtaccgacat cgcatggtga tggtagcaaa gcctt 225

<210> 1244

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1244
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 gagcgaggta tgaaacctag tgaataccga gcgagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc ttacagaggg ggataacagt ctgaaaagac tgctaatacc gcataagcac 180
 acagtaccgc atggtacagg gtgaaaagaa ttatcactgt aagat 225

<210> 1245
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Filomicrobium

<400> 1245
 agagtttgat catggctcag aacgaacgct ggcggcaggg ctaacacatg caagtcgaac 60
 gccctagcaa tagggagtgg cagacgggtg agtaacgcgt gggaaccttc ccagtggtac 120
 ggaatagccc agggaaactt ggagtaatac cgtataatac ccgaaagggg aaagatttat 180
 cgccattgga tgggcccgcg ttggattagc tagttggtga ggtaa 225

<210> 1246
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1246
 agagtttgat cctggctcag gatgaacgct agctacaggg ctaacacatg caagtcgcgg 60
 ggcagcatgg gcgtagcaat acgcctgatg gcgaccggcg cacgggtgcg taacgcgtat 120
 ccaacctggc cttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc 180
 aagcgatagc ctttctactt gaccaaagag ttattcggtg aggga 225

<210> 1247
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1247
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggactttat ggaatgcgat tcgtcaaatg aaataaagtt tagtggcgga cgggtgagta 120
 acgcgtgggt aacctgcctt acagaggggg ataacggttg gaaacgactg ctaataccgc 180

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ataagcccac agtaccgcat ggtacagggg gaaaagattt atcgc 225

<210> 1248
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 1248
 agagtttgat catggctcag gacgaacgct ggcggtgtgc ctacacatg caagtcgaac 60
 gataaggttc cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccccaaagcg ggggacaaca gagggaaact tctgctaata ccccatacga gcttagttga 180
 aataactaatc ttgaaagatt taccactttg ggatgagcct gtgcc 225

<210> 1249
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1249
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagacataa gaggaagcgg aagttttcgg atggaagcgg acatttatgt tttagcggcg 120
 gacgggtgag taacgcgtga gcaacctgtc ctcacaggg ggataacaca ccgaaaggtg 180
 tactaatacc gcatgacact gctgaaggac atcctatagc agtca 225

<210> 1250
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paracoccus

<400> 1250
 agagtttgat catggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
 gagaccttcg ggtctagcgg cggacgggtg agtaacgcgt gggaaatagc ctttctctac 120
 ggaatagtcc tgggaaactg ggggtaatac cgtatacgcc ctttggggga aagatttatac 180
 ggagaaggat tagcccgcgt tggattaggt agttggtggg gtaat 225

<210> 1251
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Schlegella

<400> 1251
 agagtttgat cctggctcag attgaacgct ggcggcatgc ctacacatg caagtcgaac 60

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ggcagcgggg gagcttgctc ctgccggcga gtggcgaacg ggtgagtaat gcatcggaac 120
 gtgtcctggt gtgggggata actgatcgaa agatcagcta ataccgcatg agacctgagg 180
 gtgaaagcgg gggatcgaaa gacctcgcgc gacaggagcg gccga 225

<210> 1252
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1252
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaacccttcg gggtgagcgg cggacgggtg agtaacgcgt gggtaacctg ccctgtacac 120
 acggataaca taccgaaagg tatgctaata cgagataata ttttttaatc gcatggttaa 180
 gatatacaag ctccggcggg acaggatgga cccgcgtctg attag 225

<210> 1253
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Diphtherobacter

<400> 1253
 agagtttgat cctggctcag attgaacgct ggcggcatgc cttacacatg caagtcgaac 60
 ggtaacggac cttcgggtgc cgacgagtgg cgaacgggtg agtaatacat cggaacgtgc 120
 ccgatcgtgg gggataacga ggcgaaagct ttgctaatac cgcatacgat ctacggatga 180
 aagcagggga ccgcaaggcc ttgcgcggac ggagcggccg atggc 225

<210> 1254
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1254
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagt accggagctt agaagtctt taggttcgt tcactagttc agtggcggac 120
 gggtgagtaa agcatgagta actttccat tagtggggaa tagcttttgg aaacagaaga 180
 taataaccgca tacatcgttg aggactcatg ttctcttcgg aaaag 225

<210> 1255
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharopolyspora

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<400> 1255
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gctgaagctc tgcccttggt gtgggggtgga tgagtggcga acgggtgagt aacacgtggg 120
 taatctgccc catactctgg gataaccctt ggaaacgggg gctaataccg gataggacat 180
 tctgccgcat ggtgggggtgt ggaaagtcc ggcggtatgg gatgg 225

<210> 1256
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1256
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcaggt atcaagcttg ctgatatgc tggcgaccgg cgcacgggtg cgtaacacgt 120
 atcgaacctt cccgcctctc cgggacagcc ctctgaaagg aggattaata ccggatggct 180
 tcaccttgcc gcatggcatg gtgaataaag attcatcgga gacgg 225

<210> 1257
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eggerthella*

<400> 1257
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gatgaaaccg cctccggggc gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacag cccccgaaa gggggattaa taccggatac tccggccggg 180
 ccgcatggcc cggccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1258
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Gelidibacter*

<400> 1258
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcggga gtagcaatac ttgccggcga gcggcggacg ggtgagtaac gcgatgcaa 120
 cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcattggga 180
 cccggcatcg ggatccaatt aatatattat aggtggtgga tgggc 225

<210> 1259
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1259

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatgg cggtagcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg cccacaacct ccgaatagcc cgccgaaagg cggattaatg cgggatgtgg      180
tctgaagaag acatctgaac tagaccaag gttttttccg gttgt                          225
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<210> 1260

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pseudomonas

<400> 1260

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agagtttgat catggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgagc      60
ggatgaaggg agcttgctcc cggattcagc ggcggacggg tgagtaatgc ctaggaatct      120
gcctgtagt gggggacaac gttccgaaag gagcgctaata accgcatacg tcctacggga      180
gaaagtgggg gatcttcgga cctcacgcta tcagatgagc ctagg                          225
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<210> 1261

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1261

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgggg      60
ggcagcacgg ggtgcagcaa tgcacttggg tggcgaccgg cgaatgggtg agtaacgagt      120
atccaacctg ccccgcgctc cgggacagcc ccgcaaaagc gggattaata ccggatgcgg      180
catggttccc gcatgggctc catgtcaaag attcatcggc gcggg                          225
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<210> 1262

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1262

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcgggg aggtagcttg ctatctctgc cggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg ccgcatagtc gggcacagcc ctctgaaagg aggattaatg ccggatgtgg      180
tcttagtgag acatctcata tagactgaag atttattgct atgcg                          225
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<210> 1263
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1263
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 ggcagcatgg cgggtggcttg cactgccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
 tcgctgggg gcatctgcc gcgagcaaag gttcactccg gttgc 225

<210> 1264
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Brevundimonas

<400> 1264
 agagtttgat catggctcag gacgaacgct ggcggtgtgc ctacacatg caagtcgaac 60
 gagaagcttt cttcgaaag tggaaagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccctaaagtg ggggacaaca gagggaaact cctgctaata ccccatcga gcttagttga 180
 aataactatc ttgaaagatt tatcgcttta ggatgagcct gtgcc 225

<210> 1265
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1265
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagg 60
 ggcagcatgg tcttagcttg ctaaggccga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccgtccagta ggggacagcc ctagaaatg cggattaata ccctatgttc 180
 tccgaggatg acatcagatt cggagtaaag attcatcgct ggacg 225

<210> 1266
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1266
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaacacatg caggtcgaac 60
 gaggtatcga agattaatct tcggaagcgt ttttgatacc gagtggcgga cgggtgagta 120

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acgcgtgggt aacctgcccg gaagaggggg acaacagttg gaaacgactg ctaataccgc 180
 ataagccgac ggagccgcat ggctctgccg gaaaaggagt gatcc 225

<210> 1267
 <211> 209
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Photobacterium

<400> 1267
 agagtttgat cctggctcag attgaacgct ggcgggggaa tattgcacaa tgggggaaac 60
 cctgatgcag ccatgccgcg tgtgtgaaga aggccttcgg gttgtaaagc acttttgcag 120
 tcgaggaaga cagcgtataa ataatgcgc tatttgacgt tagagtgtga ataagcaccg 180
 gcaaactccg tgccagcagc cgcggtaat 209

<210> 1268
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1268
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gggataaatt ggaagcttgc ttttgattta tctagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcataacatt 180
 gtggtaccgc atgatcac gatcaaata ttaggtat gagat 225

<210> 1269
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 1269
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagggttga gagcttgctc ttaactactt agcggcggac gggtagtaaa cgcgtgggta 120
 acctgccctg tacagaggaa taacagttag aatgactgc taatgcctca taagccgacg 180
 aatggcatc attatgtcgg aaaagattta tcggtacagg aggga 225

<210> 1270
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1270

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcaggg caatagcttg ctattgctgc tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaaccta ccccgcggtc agggacagcc cggcgaaagt cggattaata cctgatgcag 180
tcagaagagg gcatctgatt ttgacgaaag attttatcgc ctcgg 225

<210> 1271
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1271
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcttgat ttatgatttc ttcggaatga ataatgatat gacttagtgg cggacgggtg 120
agtaacgcgt gaggaacctg cctttcagag ggggacaaca tttgaaacg aatgctaata 180
ccgcataacg cattttaagg acatcctttt aatgccaaag attta 225

<210> 1272
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaeropl asma

<400> 1272
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat 60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggtaacctg tctaagacac 120
gaggataacc attgaaacg atggataata ctggatagga ctttgaagg catctttgga 180
tgtttaaaga tttatcggta atagaggggc ctgcggcgca ttagc 225

<210> 1273
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Caldil i nea

<400> 1273
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gtgaggggtg agcaatgtac ctgaaagtgg caaacgggtg agtaacacgt agatgacctg 120
cctcgtagtg ggggataacc acgggaaact gtggctaata ccgcatggtc ttgttagtat 180
gggaatactt tcaagtaaag ctttatgtgc tatgagaggg gtctg 225

<210> 1274
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1274
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagacttgg cgctgacgag tgaatagct tgctatggaa caaatcttgc caagacttag 120
 tggcggacgg gtgagtaacg cgtggacaac ctggcccata cagggggaca gcagctggaa 180
 acggctgata atacccata agcgcacagt atcacatggt acagt 225
 <210> 1275
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Victivallis
 <400> 1275
 agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 ggggcgcagc gatgcgcca gtggcgaaag ggtgagtagc acgtgaagaa cctgcccccg 120
 gatccggaac aagcgctgga aacggcgtct gatacgggat gtggacgtcc cccgcatggg 180
 gggcgctcta aagattcatc gtccggggag ggcttcgcgt cccat 225
 <210> 1276
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from Brevundimonas
 <400> 1276
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatctct agcttgctag agaggaaagt ggcggacggg tgagtaatat gtagagaatc 120
 tgccctagag agtgggacaa cagagggaaa cttctgctaa taccgcatat gcgcgtagct 180
 gagatgctat tcgtgaaaac tctggtgctc tgggatgagt ctgca 225
 <210> 1277
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 1277
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaaatgat agcttgctat catgaaagt ggcggacggg tgagtaatac ataggaatc 120
 tgcccttagc cgggggacaa cagttggaaa cgactgctaa taccgcatat gagtatagtt 180
 ttatacttga aaactccggt ggctaaggat gagcctgtgc ctgat 225
 <210> 1278

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1278
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcatgt cagtggcttg cactgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccccaagta ggaatagcc cggcgaaagt cggattaatg ccctatgttt 180
 tccttatgtg agcattctgt gaggaacaaa gattgatcgc ttggg 225

<210> 1279
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Slackia*

<400> 1279
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagaagccg ccctcgggcg ggtatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacaa cccccgaaa ggggggctga taccggatac gccccggcg 180
 ccgcatggcg gcggggggaa agcccagacg gcgcgggatg gggtc 225

<210> 1280
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pedobacter*

<400> 1280
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcatcgcgg gagtagcaat acacctggcg gcgaccggcg gaagggtgcg taacgcgtga 120
 gcaacatgcc cgtcacaggg ggataacaga tggaacgct tcctaatacc ccgtaacatc 180
 atctgcggca tcgcaggtgg ttgaaagttt cggcgggtgac ggatt 225

<210> 1281
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1281
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgacggt ttgttgcttg caacaactgg tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccgcaaccg cgaatagcc cgccgaaagg cggattaatg ccgcatgagc 180

tcgcgcgagg gcatcatttc gcgagcaaag gttcactccg gttgc 225

<210> 1282
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Trueperella

<400> 1282
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagctg gtgcttgac tggaggatta gtggcgaacg ggtgagtaat acgtgagtaa 120
 cctgcccttg tctttggat aagcctggga aactgggtct aatactggat attctgcgct 180
 ggccgcatgg ttggtgttg aaaggttat ggactggatg gggat 225

<210> 1283
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1283
 agagtttgat catggctcag gataaacgct ggcggcgac ataagacatg caagtcgaac 60
 ggaagtcgta attaaaagg acaaagatt tatcggagtg agattttaac tacaatggct 120
 ttagtggcgg actggtgagt aatgtataag taacctgcct attagagggg aacaacagtt 180
 ggaaacagct gctaataccg catatgcat aagaaccgca tggtt 225

<210> 1284
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1284
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaattggt agcttgctac caaggaaagt ggcggacggg tgagtaatac atagggaatc 120
 tgcccttagc tgggggacaa cagttggaaa cgactgctaa taccgcatat gagtatagtt 180
 gagatattat acttgaaaac tccggtggct agggatgagc ctgtg 225

<210> 1285
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 1285
 agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60

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ggggtccttc gggacctagt ggcgaaaggg tgagtaacac gtgagcaatc tgccccaag 120
 gccggaataa gactggaaa cgggtgtctaa aaccggatga ggcctggagt cgcatgactc 180
 ctgagcaaaa tattcatacc ctggggatga gctcgcggcc catta 225

<210> 1286
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1286
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcggag aagtagcaat acttctgccg gcgaccggcg cacgggtgag taacgcgtat 120
 gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg 180
 tggggcggca tcgccctatg gttaaagttc cggcggctctg gggtg 225

<210> 1287
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Micrococcus

<400> 1287
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagccc agcttgctgg gtggattagt ggcgaacggg tgagtaacac gtgagtaacc 120
 tgccctaac tctgggataa gcctgggaaa ctgggtctaa taccggatag gagcgcctac 180
 cgcatggtgg gtgttgaaa gatttatcgg ttttgatgg actcg 225

<210> 1288
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Olivibacter

<400> 1288
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
 ggtaagcggc ccttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctcg ccgggatagc cgggtgaaac gccggataat accggatgcg ccgcggggga 180
 ggcatcttcc cggcggcaag gcggagacgc ggagggggac gggca 225

<210> 1289
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerophaga

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<400> 1289
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
ggtaacaggg agcttgctcc gctgacgacc ggcgcacggg tgagtaacgc gtatgcaacc 120
tgcccgcggg atcgggatag cccccgaaa gggggattaa caccggatga ggctgcgagg 180
gggcatcccc atgtagccaa atgcgaagct cgcggatggg catgc 225

<210> 1290
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Selenomonas

<400> 1290
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggggcgattg aaagcttgct tttatgagcc tagtggaaca cgggtgagta acgcgtgggc 120
aacctgccgg aaagatgggg acaacatccc gaaaggggtg ctaataccga atgttgata 180
cggggcgcgat gccttgata ttaaaggatt ttatccgctt tccga 225

<210> 1291
<211> 151
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Megasphaera

<400> 1291
agagtttgat cctggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
ggtaacagag ggaagcttgc ttctctgctg acgagtgacg gtaccgaaca tagaaagcca 120
cggctaacta cgtgccagca gccgcggtaa t 151

<210> 1292
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1292
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagcacacg gattgatccc ttcgggggtga ttgaagtatg actgagtggc ggacgggtga 120
gtaacgcgtg ggtaacctgc ctatacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagcg cacagcatcg catggtgcag tgtgaaaaac tccgg 225

<210> 1293
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1293
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgtgaga agaagtgctt gcacggaatc aaacttgttt gtacttagtg 120
 gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat 180
 tcctgctaata accgcataag cgacacaggaa ggcacatcttc agtgt 225

<210> 1294
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium
 <400> 1294
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaaatcgc tcagttgata cttcggttga aaacagagcg acggaaagcg gcggacgggt 120
 gagtaacgcg tgggaaaacct gccctttaca gggggacagc cgaggggaaac ttcgattaat 180
 acccataat gccatagat cgcattgtac catggccaaa gattt 225

<210> 1295
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa
 <400> 1295
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaattgat agcttgctat caaggaaagt ggcggacggg tgagtaatac atagggaatc 120
 tgcccttagc tgggggacaa cagttggaaa cgactgctaa taccgcatat gaggatgatt 180
 gagatattat acttgaaaac tccggtggct aaggatgagc ctgtg 225

<210> 1296
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1296
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaatgtt tgatgaagat ttcggttga ttcaatacat tttagtggcg gacgggtgag 120
 taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180
 gcataagcgc aactgaggc atctcagagt gtgaaaaact ccggt 225

<210> 1297

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1297
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggattacct agcttgctag gtatgagagc ggcggactgg tgagtaacgc gtgggtgacg 120
 tacccttctg acggggatag ccggtagaaa taccgggtaa taccggatgc gttctcctgt 180
 cttggaagca ggagaagaaa ggagctacgg ctccgcagga ggaac 225

<210> 1298
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cryptanaerobacter

<400> 1298
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggaataagaa tggctgtagc gatactttcg ttcttattta gtggcgaacg ggtgagtaac 120
 acgtgagcaa cctgccttct acacagggat aacagccgga aacggctgct aataccggat 180
 aagaccacac tgaggcatct cagagggggtc aaagcgattt agcgg 225

<210> 1299
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Xanthomonas

<400> 1299
 agagtttgat cctggctcag agtgaacgct ggcggcagggc ctaacacatg caagtcgaac 60
 ggcagcacag gagagcttgc tctctgggtg gcgagtggcg gacgggtgag gaatacatcg 120
 gaatctacct tgtcgtgggg gataacgtag ggaaacttac gctaataccg catacgacct 180
 acgggtgaaa gcaggggacc ttcgggcctt gcgcgattgg atgag 225

<210> 1300
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asteroleplasma

<400> 1300
 agagtttgat catggctcag gataaacgcc ggcggcgtgc ctaatacatg caagtcgaac 60
 gggagtagca atactctagt ggcgtacggg tgagtaacac gttggtaacc taccccaagg 120
 accggaatac caaggagaaa tctttgctaa tgccggatga aaccatagaa gcgcaagctt 180

cattgatcaa aggcggcaat tgccgcgcca tgggatggac ctgcg 225

<210> 1301
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1301
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
gagaattggt agcttgctac caaggaaagt ggcggacggg tgagtaatac atagggaaac 120
tgcccttagc cgggggacaa cagttggaaa cgactgctaa taccgatat gaggtaagtt 180
gagatactta tcttgaaaac tccggtggct aaggatgagc ctgtg 225

<210> 1302
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Sporotomaculum

<400> 1302
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggaatggt gaaaagcttg ctttttgaca tttcgagtgg cggacgggtg agtaacgcgt 120
gaggaacctg tcttctacag ggggataacg tcccgaagg gacgctaata ccgcataaga 180
ccacagtatc gcatgataca ggggtcaaag gagcaatccg gtaga 225

<210> 1303
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Bacteroides

<400> 1303
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
ggcagcatgg ttggtagcaa taccgactga tggcgaccgg cgcacgggtg cgtaacaggt 120
gtgcaatctg tcctatacca agggatagcc cgctgaaagg cggattaataa ctttatgtgt 180
catatggagg catctctgtg tgatgaaacg cgagggtata ggatg 225

<210> 1304
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Asaccharobacter

<400> 1304
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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gattaacccg ccttcgggcg gtcataagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacag cctcgcgaaa gcgggattaa taccggatac tccgggggcg 180
 ccgcatggcg cccccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1305
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1305
 agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60
 gagtgtcgaa gagcttgctc ttcttctact agtggcggac gggtagta cgcgtgagta 120
 atctgcctca aagtggggga taacacttag aatgagtgc taataccgcg taatgtgcta 180
 gcttcgcatg aagtctgcac catagttttt cgctttgaga tgagc 225

<210> 1306
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1306
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaaactga cttcggttag tggaaagtgg cggacgggtg agtaatgtgt agagaatctg 120
 ccctggagag tgggacaaca gttggaaacg actgctaata ccgcatatga gcgtacctgc 180
 aatggtattc ttgaaatgaa ttatcgctcc gggatgagtc tgcat 225

<210> 1307
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1307
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gagcagagat attcgtatcg aagcgagtgg cggacgggtg agtaacgcgt gggaaacctg 120
 ccctataccg ggggataaca gttggaaacg actgctaata ccgcataagc gcacggagtt 180
 gcatgactct gtgtgaaaaa ctccggtggt ataggatggt cccgc 225

<210> 1308
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

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<400> 1308
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac 60
ggcaagctag acttcggttt agcctagagt ggcggactgg tgagtaacgc gtagatgacg 120
taccttaagg atggggatag ccgatagaaa tatcgggtaa taccgaatac ggtcactgct 180
gtagagggc agtgaggaaa gcagctatgg ctgcccctta agaac 225

<210> 1309
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1309
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcgggg gcgtagcaat acgcctgccg gcgaccggcg cacgggtgag taacgcgtat 120
ccaacctccc cccagtagg ggatagcccg gcgaaagtcg gattaatacc ctatgtcgtc 180
caggacgggc atcttttccg gacgaaagat tgatcgctgg gggat 225

<210> 1310
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Turicibacter

<400> 1310
agagtttgat catggctcag gatgaacgct ggcggtatgc ttaatacatg caagtcgagc 60
gagatcttcg gatcgagcgg cgaacgggtg agtaacacgt aggtaatctg ccctttagac 120
tgggataccc tgaggaaact taggctaata ccggatatga acttcgaagg catctttgaa 180
gtttgaaagt tccgtttggg aacttttggg atgaacctgc ggcgc 225

<210> 1311
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1311
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagttatta gaggtaagtt ttcggatgga gcgaagataa cttagtggcg gacgggtgag 120
taacgcgtga gtaacctgcc cattagaggg ggataacgtt ctgaaaagaa cgctaatacc 180
gcataacata ttcggttcgc atgaactgaa tatcaaagga gtaat 225

<210> 1312
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1312

agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac	60
ggactgattt ttagcttgc tacgaatgaa agttagtggc ggacgggtga gtaacgcgtg	120
agcaacctgc ctctgtgtgt gggataccgt ctggaaacgg acgttaatac cgcatgatcc	180
atagagatcg catgatattt atggcaaaga tttattgcac agaga	225

<210> 1313

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1313

agagtttgat catggctcag gacaaacgct ggcggcgtgc ttaacacatg caagtcgaac	60
ggagtacccg agaaagaagc ttcggcagat tgatcggaat acttagtggc ggacgggtga	120
gtaacacgtg agtaacctgc ccttgagtgg gggataacac tccgaaagga gtgctaatac	180
cgcataacat ggatatgttg catggcaaat ccatcaaaga tttat	225

<210> 1314

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Oscillibacter

<400> 1314

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac	60
gaagctctca cactcgagtt ttcggacaag agagtgatgacttagtgg cggactgggtg	120
agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gctggaaacg gctgctaata	180
ccgcataatg tgtacggacc gcatgatctg tacaccaaag ctta	225

<210> 1315

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Deinococcus

<400> 1315

agagtttgat catggctcag ggtgaacgct ggcggcgtgc ttaagacatg caagtagaac	60
ggcttttcg gagacagtgg cgcacgggtg agtaacacgt aactgacctg ccccaaagtc	120
gcgataact gggtgaaagt ccagctaata cgtgatgtgc tgtcagattt tgttctgcca	180
gtaaaggtt actgctttgg gatggggttg cgttccatca gctag	225

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<210> 1316
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1316
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaatgtc ccttcgggga catgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctca ccgggatagc cggtggaaac gccggataac accggatgcg cccatgggga 180
 ggcatctccc tgcgggcaag gcggcgacgc ggagggggac gggca 225

<210> 1317
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1317
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaatgtcc ggaatgaaac ttcggtcgaa tgaagggcag gacagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ccttgacagc ggatagcctc gggaaactgg gattaatacc 180
 tgataaagcg cagacagcac atgctgactg cgccaaagat ttatc 225

<210> 1318
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1318
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacttagct gtagtcttgc actcggcgac agttagtggc ggacgggtga gtaacgcgtg 120
 aataacctgc ccaacagagg gggataacgt ttggaaacga acgctaatac cgcataacat 180
 tggagcatcg catggtgttc taatcaaagg agcaatccgc tgatg 225

<210> 1319
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1319
 agagtttgat cctggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggcagcgcgg gtagcaatac ctggcggcga ccggcgcacg ggtgcgtaac aggtgtgcaa 120

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tctgtcctat accgggggat agcccggcga aagccgaatt aaaactccat gtgtcacgaa 180
gccgcatgac tttgtgatga aacgttatag ggtatagggt gagca 225

<210> 1320
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1320
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcactgt cgaggaagtc ttcggatgga attgactttg acttagtggc ggacgggtga 120
gtaacgcgtg agcaacctc ctgtttgtga gggataacac agggaaactt gtgctaatac 180
cgcatgatgc atgggaatcg catggtttcg atgccaaaga tttat 225

<210> 1321
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rhodococcus

<400> 1321
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggaagggccc cttcgggggt acacgagtgg cgaacgggtg agtaacacgt gggatgatctg 120
ccctgcactc tgggataagc ctgggaaact gggatctaata ccgatatga gctcctgtcg 180
catggcgggg gttggaaagg tttactgggtg caggatgggc ccgcg 225

<210> 1322
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 1322
agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcggac 60
ggcaagatcg gtgcttgac tgatcctaga gtggcggact ggtgagtaac gcgtgggtga 120
cgtaccctcc ggacggggat agtactaga aatagtagat aataccgat acggtgcact 180
gtgtcagagg cagtgcagga aaggttcttt tgaaccgccg gagga 225

<210> 1323
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Mucilaginibacter

<400> 1323

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agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 gggatctccc cttcggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 ccctcatccg ggggacagcc ggtggaaacg ccgggtaata ccccataccg attcctgtgg 180
 gcatccacgg ggattgaaag acttaggtcg gaggaggacg ggcac 225

<210> 1324
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1324
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgatgagc agaaatttc ggatggaagc ttatcatagt ggcggacggg tgagtaacgc 120
 gtggataacc tgcctcttgc tgggggatag cagccgaaa cggctggtaa taccgcatac 180
 gttcatttcc ccgcatgggg aggtgaggaa agatttatcg gcgag 225

<210> 1325
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Olivibacter

<400> 1325
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 gggatctccc cttcggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 ccctcatccg ggggacagcc ggtggaaacg ccgggtaata ccccatatcc actttgggag 180
 gcatcttctg aggtgaaag acttaggtcg gaggaggacg ggcac 225

<210> 1326
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1326
 agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gaggttatga acttcggtta ataacctagt ggcggacggg tgcgtaacgc gtgggtaatc 120
 tgcccttgac agggggataa cgtatagaaa tgtacgctaa taccgcataa gccacggag 180
 aggcattct ctgagggaaa aggatactg gtcaaggatg agccc 225

<210> 1327
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Barnesiella*

<400> 1327
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcatgg agtagcaata ctctgatggc gaccggcgca cgggtgctgta acaggtgtgc 120
 aatctgtcct ataccggggg atagcccggc gaaagccgaa ttaaaactcc atgtgagcga 180
 ttggcgcgat ccagttcttt gaaacgttta gggatataggg tgagc 225

<210> 1328
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Vb*

<400> 1328
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaagaattga gagcttgctc ttaattactt agcggcggac gggtagtaac cgcgtgggta 120
 acctgccctg tacaggggaa taacagttag aatgactgc taatgccccca taagccgacg 180
 aatggcatc tttatgtcgg aaaagattta tcggtacagg aggga 225

<210> 1329
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Gelidi bacter*

<400> 1329
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
 cctgcccac acacggagat agccgaccga aaggacgatt aaactccgat ggcatacaaga 180
 gggggcatcc ccatttgatt aatattcat aggtgatgga tgggc 225

<210> 1330
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Methanobrevibacter*

<400> 1330
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaatttagat tcgtggcgtg cggctcagta acacgtggat aacctaccct taggactggg 120
 ataactctgg gaaactgggg ctaataccgg atagatgatt tttcttgga tgggattttg 180
 tttaaatgtt ttttcgccta aggatgggtc tgcggcagat taggt 225

<210> 1331

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerotruncus

<400> 1331
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtttact ttttagattt cttcggaatg acgagttgta aacttagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg cctttcagag ggggacaaca gttggaaacg actgctaata 180
 ccgcataata ttaggtttag acatctttac ctaatcaaag gagca 225

<210> 1332
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 1332
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgaac 60
 gaggcgagga gtgcttgac accgaaccta gtggcggacg ggtgcgtaac gcgtgggtaa 120
 cctgccctaa acagggggat aacgtataga aatgtacgct aataccgcat aagctcacgg 180
 aaccgcatgg ttttgagga aaaggatttc cggtttagga tgggc 225

<210> 1333
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Erysipelotrichaceae incertae sedis

<400> 1333
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgtac 60
 gaggtggccc attgaaatgg agtgcttgca caaagtggat ttggattccc acctagtggc 120
 ggaagggatga gtaacacgta ggtaatctac cttagagact gggataacaa ttagaaatga 180
 ttgctaatac cggatgataa ttatgaggta aacttghtaat ttaa 225

<210> 1334
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mesorhizobium

<400> 1334
 agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaatctaccc atcactacgg 120
 aacaactccg ggaaactgga gctaataccg tatacgtcct tcgggagaaa gatttatcgg 180

tgatggatga gcccgcttg gattagctag ttggtgggt aatgg 225

<210> 1335
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1335
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggatttag tggaaggaag cttcggcgga cggaaggtaa atcttagcgg cggacgggtg 120
 agtaacgct gaacaatctg tcccggacag ggggataaca catggaaca ggtgctaata 180
 ccgcataaga ccacagcgtc gcatggcggg ggggtaaaag gagga 225

<210> 1336
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Planctomyces

<400> 1336
 agagtttgat catggctcag aatgaacggt ggtagcgtgg attaggcatg caagtcgagc 60
 gacaagggtt cttcggaaac tggaggagcg gcaaacgggg taggataaca tcggaacgta 120
 ccctctgtc cgggataccc gcgggaaact gcggttaata ccggataatc ccgaaagggc 180
 aaaggtccgc cgcgggagga gcggccgatg tgatatcagc tagtt 225

<210> 1337
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Aerococcus

<400> 1337
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaatacatg caagtcgagc 60
 gaacagatga agtgcttgca cttctgacgt tagcggcgaa cgggtgagta acacgtaagg 120
 aatctaccta taagcggggg ataacattcg gaaacgggtg ctaataccgc ataatatctt 180
 ctccgcatg gaagaagatt gaaagacggc tctgctgtca cttat 225

<210> 1338
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 1338
 agagtttgat catggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60

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ggtgcagcaa tgcatagtgg cgcaaggggtg aggaacgcgt gagtaatctg ccctcaagtt 120
 gggaacagct tctggaaacg gaaattaata ccgaatgtga ccattggaag gcatctttca 180
 gtggttaaag gccgcaaggt cgcttgagga ggggctcgcg tccca 225

<210> 1339
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1339
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaatcagg agcttgcttc tgaggaaagt ggcggacggg tgagtaatat gtagagaatc 120
 tgcccttaag cgggggacaa cagttggaaa cgactgctaa taccatata gcgcgtagtt 180
 gcgatactat tcgtgaaaac tccggtgctt aaggatgagt ctgca 225

<210> 1340
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1340
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
 ggtatcgcgg tgagtagcaa tactttctgg cggcgaccgg cggatgggtg agtaacgcgt 120
 atccaacctg gccctatctc ggggacagcc cctcgaaaga gggattaata cccgatgttc 180
 cctggtttcc gcatgtttac cagggcaaag gcttttgtcg gatag 225

<210> 1341
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1341
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaagttgc tgacggagat ttcggtcaac agaagcgatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ccgcacacag gaatagccta gggaaacctg gattaatgcc 180
 tgatgacgcg gcggagtcac atggctctgt cgccaaagat ttatc 225

<210> 1342
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

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<400> 1342
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagaccccg aagcggagat ttcggttgaa gcagagggag gactgagtgg cggacgggtg 120
agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
ccgcatgagc gcacgtggag acatctccat gtgtgaaaag attta 225

<210> 1343
<211> 200
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 1343
agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
ggtaacggag ggaactctga tgcagcgatg ccgctggag gaagaaggtt ttcggattgt 120
aaactcctgt ttcgaggac gataatgacg gtacctcggg aggaagctcc ggctaactac 180
gtgccagcag ccgcgtaat 200

<210> 1344
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Saccharofermentans

<400> 1344
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
ggagaagaag gcttcggcct tcggatcagt ggcggacggg tgagtaacgc gtgagtaatc 120
tgcctttgat tgggaataa cacaggaaa cctgtgctaa taccgataa cacagcgaca 180
ccgcatgatg atgctgtcaa agaattatcg atcaaagatg agctc 225

<210> 1345
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Oscillibacter

<400> 1345
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagctcttt tcaatgcgat tcgtcaagtt gaaaggatga cttagtggcg aacgggtgag 120
taacgcgtga gcaacctgcc ccgagtgagg ggacaacagt tgaaacgac tgctaatacc 180
gcatgatata tactaacggc atcgttggta tatcaaagat ttatt 225

<210> 1346
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1346

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gaagcaccct cacctcgata ctgaatgcga gcttgctcaa atgacgtatc acccgagggt      120
gactgagtg cggacgggtg agtaacgct gggtaacctg ccttagacag ggggataaca      180
acaagaaatt gttgctaata ccgcataagc acacagcatc gcatg                        225

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<210> 1347

<211> 207

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Fibrobacter*

<400> 1347

```

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caaatggggg      60
aaaccctgat gcagcaacgc cacgtgtggg aagaagcatt tcggtgtgta aaccactgtc      120
gtgaggggat aatcgcgctc ttcgggcgcg ggagaatgta cctcgaaagg aagcaccggc      180
aaacttcgtg ccagcagccg cgtaat                                           207

```

<210> 1348

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Kiloniella*

<400> 1348

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agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcaagg      60
gggtgtagca atacacaacc ggcgcacggg tgagtaacgc gtgggaatat gtccatttgt      120
ggggaatagc ttctggaac ggaaggtaat accgcatacg cccttcgggg gaaagattta      180
tcgagatgg agtggccgc gttagattag ctagttggtg aggta                        225

```

<210> 1349

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Olivibacter*

<400> 1349

```

agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcagcgcgt ttagcaata caatggcggc gaccggcggg agggcgcgta acgcgtgagc      120
aacctgcccc tgcaggggg atagtcgatg gaaacgtcgc gtaatacccc gtacgatgcg      180
gagtcgatg attctgcatt aaaagattta tcggacaggg atggg                        225

```


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<210> 1350
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1350
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcaccgg cgaggaagtc ttcggatgga attgcccttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaaccttc ctgcttgtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc acgattgtcg catggcagat gtgccaaaga tttat 225

<210> 1351
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1351
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ttaagcatg caagtcgagc 60
 ggtaagccgg agcaatccgg cctagagcgg cggacgggtg agtaacacgt ggataatctg 120
 gcctacagtt tgggatagcc tggtgaaagt caggataata ccggatacga cggtttggtc 180
 acaagagcga atcgggaaag gggctaaggc ctcgctgaag gatga 225

<210> 1352
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1352
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcatgt cgtgtgcttg cacgcgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccatgacct cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
 tcgaaagagg acatctgatt tcgaccaag cttcggcgggt catgg 225

<210> 1353
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Olivibacter

<400> 1353
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaaccgc ccttcggggg tgtgagagtg gcgcacgggt gcgtaacgcg tatgcaaccc 120

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acccgctgcc ggggatagc ccggagaaat ccgaattaat accccatgag gagtaaccaa 180
 ggcatcttgg ttatttcaaa acttcggtgg cggcggacgg gcatg 225

<210> 1354
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1354
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcaggt atcaagcttg cttgatatgc tggcgaccgg cgcacgggtg cgtaacacgt 120
 atcgaacctt cccgcctctc cgggacagcc ctctgaaagg aggattaata ccggatggct 180
 tcgcgagacc gcatggctct gcgaataaag atttatcgga gacgg 225

<210> 1355
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

<400> 1355
 agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggagcgggg gcgatggcaa cattgccgc cggcgaccgg cgcactggtg agtaacacgt 120
 atgcaacctg cccgcacag ggggataacc cagagaaatt tggcctaata ccccgtaaca 180
 ccgttggggg catccccggt ggttgaaaga ggcgactcgg tgcgg 225

<210> 1356
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1356
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggagcatgg aggttgcttg caacctctga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccctgcggtg ggaacagcc cggcgaaagt cggattaatg ccctatgtgc 180
 tcatttgaag gcatctgatt ttgagcaaag gattcgttcg ccgca 225

<210> 1357
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Leifsonia

<400> 1357

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaacgag ggagcttgct tcctccgat cagtggcgaa cgggtgagta acacgtgagc 120
 aatctgccc gaactctggg ataagcgttg gaaacgacgt ctaataccgg atacgacgcg 180
 ggagggcatc ctctccgct ggaaagaatt tcggttcggg atgag 225

<210> 1358
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1358
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaatccgg ggaaggagtt ttcggacaac ggaaccggag gaaagtggcg gacgggtgag 120
 taacgcgtga ggaacctgcc ttggagaggg ggacaacagc tgaaacggc tgctaatacc 180
 gcatgatacg tgatggggac atccctgaca cgtcaaagat ttatc 225

<210> 1359
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 1359
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 ggtgtagcaa tgcacagtgg cgcaaggggtg aggaacgcgt gagtaatcta ccctcaagtt 120
 ggaacagct tctggaaacg gaaattaata ccgaatgtga ccggttgaag gcatcttctg 180
 atggttaaag gccgcaaggt cgcttgagga ggggctcgcg tccca 225

<210> 1360
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1360
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgaac 60
 ggcaagttac cttcgggtaa cctagagtgg cggactggtg agtaacacgt aggtgacgta 120
 cccccggac ggggatagct cctagaaata ggagataata ccggataagg ttgcacgggc 180
 tgaaccgtg taaggaaagg tgcttcggca ccgccggggg agcgg 225

<210> 1361
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1361
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gagaagttac cttcgggtaa tggatagtgg cggacgggtg agtaatgtgt agagaatctg 120
 ccttcaagag ggggatagca gttggaacg actattaata ccccatatgc gcgtagttgg 180
 aatactattc gtgaaagatt aatcgcttga agatgagtct gcatc 225

<210> 1362
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporotomaculum

<400> 1362
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatgcc aaaaagcttg ctttttaaca tttcgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tcttctacag ggggataacg tcccgaaggg gacgctaata ccgcataaga 180
 ccacggtatc gcatgataca ggggtcaaag gagcaatccg gtaga 225

<210> 1363
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1363
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ttaagcatg caagttgagc 60
 ggtaacttgg atttattcaa gctagagcgg cggacgggtg agtaacacgt ggataatctg 120
 gcctacagtt gggaatagcc tgatgaaagt caggataatg ccgaatgagc agttgacggc 180
 acaagctggt gattggaag gggctaaggc ctcgctgaag gatga 225

<210> 1364
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1364
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagt accggagagt agatgaggat ctatcttgcg atcactagtt cagtggcgga 120
 cgggtgagta aagcatgagc aacctggcta ctagaggggg atagcttttg gaaacagaag 180
 ataataccgc ataatcaaa gatttcgcat gagatctttg gaaaa 225

<210> 1365

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1365
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctctgc gaaatgaaga ttcgtctgat tttcaaagat gtccgagtgg cggatgggtg 120
 agtaacgcgt ggagaacctg ccctatgctg ggggataaca actggaaacg gttgacaata 180
 ccgcataagc ttccatggtc gcatgacctt ggaaggaaag attta 225

<210> 1366
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1366
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaattccc tgaatgaac ttcggtcgaa tgacgggaag gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ctttgacagag ggatagccac tggaaacggt gattaaaacc 180
 tcataacacg ggactgagac atctcagacc cgccaaagat ttatc 225

<210> 1367
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1367
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gactgagcgt tattgacta agttaactaa tgaagttaat ttagtgcaat agtgcaagct 120
 agtggcggac tggtagtaa cgcgtgagca acctacctt aacaggggga taacacttag 180
 aataggtgc taataccgca taacattaag ttgtggcatc acaat 225

<210> 1368
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis

<400> 1368
 agagtttgat catggctcag aacgaacgct ggcggcatgg attagggatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgaaaggggtg aggaacgcgt gagtaatctg cccccaagtt 120
 gggataaca gctggaaacg gctgctaata ccgaatgtgg ctgattgacc gcatggttga 180

ttggctaaag atttatcgct tggggatgag ctcgctccc attag 225

<210> 1369
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1369
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtattag attttttaaat acttagtggc ggacgggtga gtaacgcgtg ggtaacctgc 120
 ctcacacagg gggataacag ttggaaacga ctgttaatac cgcataagac cacagtaccg 180
 catggtacag gggtaaaaac tccggtggtg tgagatggac ccgcg 225

<210> 1370
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 1370
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggaaacagt agcttgctac tgttgagagc ggcggactgg tgagtaacac gtgggtgacg 120
 caccctgtg agggggacag ccggcagaaa tgccgggtaa taccgatac gattgcctta 180
 agtgatgtt aggcaatgaa aggagcgaat gctccgcgca gggag 225

<210> 1371
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Vb*

<400> 1371
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagagaagcg aaaagcttgc tttttgccga tcgagtggcg gacgggtgag taacgcgtga 120
 gcaacctgcc ttacattggg gaataacggt tggaaacgga cggtaatacc gcatatgcag 180
 acaagtacgg catcgtacgg tttgaaaga tttatcgatg taaga 225

<210> 1372
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Oscillibacter*

<400> 1372
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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ggggcgcagc gacggaagtt ttcggacgga agacgctggt gccaaagtggc ggacgggtga 120
gtaacgcgtg aggaacctgc cttcagagg gggacaacag ttggaacga ctgctaatac 180
cgcataatgc ggcgagacgg catcgtcttg ccgcaaagg agcaa 225

<210> 1373
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Prevotella*

<400> 1373
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgg cgggtggcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
ccgagacg gcatcagcgc gcgggcaaag gtatattccg gttgt 225

<210> 1374
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Anaeropl asma*

<400> 1374
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggtgtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttaa 120
gacgaggata accattggaa acgatggata atactggata ggacatcata aagggcatcc 180
ttagatggtt aaaggagcaa tccacttita gaggggcctg cggcg 225

<210> 1375
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Adl ercreutzia*

<400> 1375
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggttaaaccg gcttcggccg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccgcgc accgggacag cctcgcgaaa gcgggattaa taccggatac tccggcgggg 180
gcgcatgccc ccgccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1376
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Cl ostri di um XI Va*

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<400> 1376
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcattac gtttcaaagc ctccgggcag cgagatgttt tgacttagtg gcggacgggt 120
gagtaacgcg tgggtaacct gccttgact gggggataac agttagaaat gactgctaata 180
accgcataag cccacggttt cgcattggaac tgtgagaaaa gattt 225

<210> 1377
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Beijerinckia

<400> 1377
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaatctaccg tgccctgcgg 120
aatagctccg ggaaactgga attaataccg catacgccct acgggggaaa gatttatcgg 180
ggtatgatga gccccggttg gattagctag ttggtgggggt aaagg 225

<210> 1378
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1378
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatgt cggtagcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180
tcgcgcgagg gcatctgac gcgagcaaag gttgattccg gttgc 225

<210> 1379
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coprococcus

<400> 1379
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagcacttc tcccgtcaaa ggtgattagc ttgctatgaa gcggagacat ttgaagtgc 120
ttagtggcgg acgggtgagt aacgcgtggg taacctgcc cataccgggg gacaacagtt 180
ggaaacggct gctaataccg cataagcgca cgatgtcgca tggca 225

<210> 1380
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Lenticula

<400> 1380

agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
gagaaagcgg cctcggccgc gagtaaagtg gcgaaagggt gagtagcacg tggggaacct 120
gccccgggga ccggaacaag cccgtgaaa cgggtctgaa accggatgtc gccccggccc 180
gcatgggccg gaggcgaaaa attcattgcc ccgggatggc cccgc 225

<210> 1381

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1381

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggagatatat ttatgaagtt ttcggatgga atatatatat cttagtggcg gacgggtgag 120
taacgcgtaa acaatctgcc ttagagagg ggataacaga tagaaatata tgctaatacc 180
gcataagacc acgtacagg atctagacgg ggtaaaagga gtaat 225

<210> 1382

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Saccharofermentans

<400> 1382

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggactcttta caggaaagt cttgcaccgg aatgtaaaga gttagcggcg gacgggtgag 120
taacgcgtga gcaatctgtc ccatacagg ggataatacc gcgaaagagg ttctaatacc 180
gcatgagacc acagtgagg atctcacagg ggtcaaagga gcaat 225

<210> 1383

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Porphyrobacter

<400> 1383

agagtttgat catggctcag aacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
gagaccttcg ggtctagtgg cgcacgggtg cgtaacgcgt gggaacctgc ctttaggttc 120
ggaataactc cccgaaagg gtgctaatac cggataatgt cttcggacca aagatttata 180
gcctttggat gggcccgcgt tggattagct tgttggtag gtaac 225

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<210> 1384
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rhodobacter

<400> 1384
 agagtttgat catggctcag aatgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
 gaagtcttcg gacttagtgg cggacgggtg agtaacacgt gggaacgtac cctttgctac 120
 ggaatagcct cgggaaactg ggagtaatac cgtatgtgcc cttcggggga aagatttatac 180
 ggcaaaggat cggcccgcgt tggattagct agttggtggg gtaat 225

<210> 1385
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1385
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatctaa tgacggagtt ttcggacaac tgagttagag gaaagtggcg gactggtgag 120
 taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataacata cacatgaggc atctcgagtg tatcaaagga gcaat 225

<210> 1386
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1386
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggtattaa cgctgaacga gcgaatagct tgctaggaac gagttcttgt taagacctag 120
 tggcggacgg gtgagtaacg cgtgggtaac ctgccatta cggggggaca acagttggaa 180
 acgactgcta ataccgata agcgcacggg gacgcatggt tctgt 225

<210> 1387
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1387
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcagga ggtcagcttg ctgaccttgc tggcgaccgg cgcacgggtg agtaacacgt 120

ASBI_002_03W0_SeqList_ST25

atccaacctg ccctgtacac ggggatagcc ctctgaaagg aggattaata cccgatgttg 180
 tcgcgagggg acatccctct gcgaccaaag tctcaacggt acggg 225

<210> 1388
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Aquiflexum*

<400> 1388
 agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaaggccg agcgtagcaa tacgcgaggt acacgagtgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg cccccttccg ggacaaaacg tcgagaaatt ggcgctaata tcccatggcg 180
 accttatgag gcatctcgtt tgggtcaaag attcattgga agggg 225

<210> 1389
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Rhodospirillum rubrum*

<400> 1389
 agagtttgat catggctcag aatgaacggt ggcggcgtgg attaggcatg caagtcgtac 60
 ggtaagcccc atagcttgct acggggccta gactggcgaa agggatagga taatgtagat 120
 gacataccct cgggaccggg atagcgtttg gaaacgaacg gtaataccgg ataacatctc 180
 cggatcaaag gtgagattcc gcctgaggat tggtttacac actat 225

<210> 1390
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 1390
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180
 ttatgatccc gcatggggat ataacgaaag attcatcggg agggg 225

<210> 1391
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 1391

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggagatgtgc accgaatgag gattcgtctg atttcaccgc gcatctgagt ggcggatggg 120
 atccaatcta cccgtcactt ggggatagc tttcgaaaga aagattaata cccgatggta 180
 tgtccatgcc gcatgacgtg gacattaaag atttatcggg gtcgg 225

<210> 1392
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1392
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatgtgc accgaatgag gattcgtctg atttcaccgc gcatctgagt ggcggatggg 120
 tgagtaacgc gtgataacc tgccttcac tgggggataa caaccgaaa cgggtgctaa 180
 taccgcatag gcgcacgaag tcgcatgact ttgagcgtaa agatt 225

<210> 1393
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1393
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggagcacctt ggtgctcagt ggcgaacggg tgaggagaac ataggtaacc tgcccctccg 120
 agggggacaa cagctggaaa cggctgctaa gaccgcatag acgcattcag ggcacctcgg 180
 atgcgctaaa tgaccgatg gtcagcgggg ggatggacct atgca 225

<210> 1394
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1394
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggagcgcgg gatagcaata tcctggcggc gaccggcaga aggtgacgta acgcgtgagc 120
 gacatgcccg tcaccggggg acaagcgtg gaaacggcgt ctaatacccc atatgcctgg 180
 ggagtgcatg cttccttggg gaaagtttcg acggtgacgg attgg 225

<210> 1395
 <211> 225
 <212> DNA
 <213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from *Mogibacterium*

<400> 1395
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaaattac ttgacgcgt tttcggacaa gtctgtgtaa tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
 cctcataatg ctgactaac acatgttaga gcagccaaag attta 225

<210> 1396
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1396
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaacgata tcgaaagctt gctttcgata ggcgtcgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgcctggaaa tagggaataa tccgtggaaa cgcggcctaa tgtcctatgt 180
 gctccgaaga ggacatctga tttggagtaa agatttatcg tttcc 225

<210> 1397
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1397
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggagatattc caccgagaga agctgagtgc ttgcacaagg ccaatctcac cggattatct 120
 tagtggcggg cgggtgagta acgctgggt aacctgcctt atacagggga ataacagcca 180
 gaaatgactg ctaataccgc ataagcgcac gagaccgcat ggtca 225

<210> 1398
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1398
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaacggta gtgggtggct tgccaccgc tggacgtcga ccggcggatg ggtgcgtaac 120
 gcgtatccaa cctgccgcag tcccggggat agcccgtgga aacgcggatt aacaccgat 180
 ggtgcatacg ttccgcatgg cgcgtatgcc aatgcgaag gactg 225

<210> 1399

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Capnocytophaga

<400> 1399
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggcagcgcgg tgcagcaatg cactggcggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aaccaccccg caacaggggt ataacggagg gaaacttcca ctaatcccc atattgccgt 180
 catcccgcat ggggaggcgg cgaaagcttc ggcggttgcg gacgg 225

<210> 1400
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Achol epl asma

<400> 1400
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gggagtgcct gactccagt ggcgaacggg tgagtaacac gtaggtaatc tagcattaag 120
 acgaggatag cttctagaaa tgggagataa tactggatag gaaattttcc tgcattggga 180
 aatttttaa gatttatcgc ttaatgggga gcctgcggtg catta 225

<210> 1401
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um IV

<400> 1401
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttatta gagtgaagtt ttcggatgga gcgataataa cttagtggcg gacgggtgag 120
 taacgcgtga gtaacctgcc catcagaggg ggataacggt ctgaaaagaa cgctaatacc 180
 gcataacata tttggttcgc atggactgaa tatcaaagga gcaat 225

<210> 1402
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Succ i ni vi bri o

<400> 1402
 agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac 60
 ggtaacatgg aagtagcaat acttttgatg acgagtggcg gacgggtgag taatacgtag 120
 ataactgcc ttctagaggg aaataacaga gagaaatttc tgctaattgc ccataagacc 180

acactatggc atcttagagt gatcaaagga gtaatccgct agaag 225

<210> 1403
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudonocardia

<400> 1403
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgagc 60
 gagtacttc ggtagcgagc ggcgcacggg tgagtaacgc gtagatgac taccctcgag 120
 actgagatac ctctgggaaa ctggagtaa taccagataa cgcacattgg ttggttctga 180
 tgtgttaaag cggtgcaagt cgcacttgag gatgagtctg cggcc 225

<210> 1404
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1404
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacatggca ccggagcaga agagttcgct tggacgctcc accgtcatgt tagtggcgga 120
 cgggtgagta acgcgtgagc aaccaaccct atgcaggggg ataacagtta gaaatgactg 180
 ctaataccgc ataagcccac agcatcgc at ggtgcagggg gaaaa 225

<210> 1405
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio

<400> 1405
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg cggtagcaat actgctgatg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc ccgcgcaggg ggataatccg gagaaatctg gtctaatacc ccgtacgccg 180
 cgcttccgca tggtagtgcg gtgaaaggag cgatccggca cggga 225

<210> 1406
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1406
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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gggaaataca gaacagaagg ttcgctggaa gttttgtatg gagagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ctttcagag ggatagccac tggaaacggt gattaaacc 180
 tcataatgcc attgattcac atgtttcgat ggccaaagat ttatc 225

<210> 1407
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1407
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacgtga gggaagcttg cttcccttga cgacgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct 180
 tatgctgctg catggtggta taagaaaaca ggcatgcatg gggga 225

<210> 1408
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 1408
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggtagcatga ggtagcaat accttcgatg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc cttgtcaggg ggataatccg gggaaaccgg gtctaatacc gcataacacc 180
 ttggggggcc tccccttagg ttgaaagata cgtcggacag ggatg 225

<210> 1409
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Parabacteroides*

<400> 1409
 agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggtagcgggg cgtggcaaca cgccgccggc gaccggcgca ctggtgagta acacgtatgc 120
 aacctgcca tgagaggggg ataaccctg gaaacgcgga ctaatacccc gtaagccggc 180
 gtgccgcatg gcatgttggg gaaaggagcg atccgttcat ggatg 225

<210> 1410
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

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<400> 1410
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagtaccac cggactgaga ttcgtcgaag gaaggtgact acttagtggc ggacgggtga 120
gtaacgcgtg ggtaacctgc ctcatagagg gggacaacag ttggaaacga ttgctaatac 180
cgcataagcc cgcagtaccg catggtacag agggaaaaga ttcac 225

<210> 1411
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XIVb

<400> 1411
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagaggtgc tgaggatag gcttcggctt tgaacacggc gcatatctta gtggcggacg 120
ggtgagtaac gcgtgggcaa cctgcccttt acaggggaat aatcattgga aacgatgact 180
aataccgcat gtcaccgtga gatggcatca ttttacggga aaagg 225

<210> 1412
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Bacteroides

<400> 1412
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgcag 180
ttatgattcc gcatgggaat ataacgaaag attcatcggt agggg 225

<210> 1413
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1413
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
gagaagtcac cttcgggtga tggatagtgg cggacgggtg agtaatgtgt agagaatctg 120
ccctagagag ggggatagca gttgaaacg actattaata ccccatatgc gcgtagttgc 180
gatactattc gtgaaagatt aatcgctcta ggatgagtct gcatc 225

<210> 1414
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Riemerella*

<400> 1414

agagtttgat catggctcag gatgaacgct agcgggaggc ctaacacatg caagccgagc	60
ggtagaaagt agcttgctac ttttgagagc ggcgtacggg tgcgtaacac gtgtgcaacc	120
tgcctttatc tggagaatag cctttcgaaa ggaagattaa tgctccataa catattgaat	180
ggcatcattt aatattgaaa gctgcggcgg atagagatgg gcacg	225

<210> 1415

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Anaeropl asma*

<400> 1415

agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat	60
ggttagcttg ctaacatgg cgaacgggtg agtaacacgt aggtaacctg tcttttagcc	120
gaggataacc attggaacg atggataata ctggatagga catttgaagg catctttaga	180
tgtttaaaga tttatcacta gaagaggggc ctgcggcgca ttagc	225

<210> 1416

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Rumino coccus*

<400> 1416

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggagctgaag agcttgcttt tcagcttagt ggcggacggg tgagtaacgc gtgagtaacc	120
tgcctccgag agtggataa cgttttgaaa agaacgctaa taccgataa cgcacaagag	180
tcgatggct aaagtccaa agatttcac gctcggagat ggact	225

<210> 1417

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from unknown taxa

<400> 1417

agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac	60
gggatcgccc gattagcaat aaccgggcgt gagagtggcg gattggggag gaacacgtga	120
gcaacctgcc cttgagttgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg	180
cccgacgaca tcgtcggagc gctaaagggg gccgcaaggc tcccg	225

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<210> 1418
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1418
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gaagcaccct tcccgatgat atgacgagct tgctctgaat tgaatcacct ggggtgactg 120
 agtggcggac gggtagtaa cgcgtgggta acctacctat gacaggggga tagcagttgg 180
 aaacgactga taataccgca taagtgcaca gtatcgcgat ataca 225

<210> 1419
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Syntrophococcus*

<400> 1419
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggctcttt tctttgaagt ttcgaccgaa aagagaagat caccgagtgg cggatgggtg 120
 agtaacgcgt ggagaaccta cccttatcag ggggataaca actggaaacg gttgacaata 180
 ccgcatatat gacgagaccg catgatcagc tcaggaaaga tttat 225

<210> 1420
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1420
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacttt ggacggaacc cttcgggggg aagactgatt tgactgagtg gcggacgggt 120
 gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaata 180
 accgcataac atatcgtgat cgcattggtc tggtatcaaa gctcc 225

<210> 1421
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Barnesiella*

<400> 1421
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcgcgt tggtagcaat accgatggcg gcgaccggcg cacgggtgcg taacaggtgt 120

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gcaatctgtc catagtcgga ggatagcccc ctgaaaggcg gattaatact ccatgtgagt 180
 tgaagccgca tggtttaaat ttgaaacgcg aggactatgg ttgag 225

<210> 1422
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Olivi bacter*

<400> 1422
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggacgagcgt ttagcaata caatggcggc gaccggcggg aggggtgcgta acgcgtgagc 120
 aacctgcccc tgcaggggg atagtcgatg gaaacgtcgc gtaatacccc gtacgatgagc 180
 tgaccgcatg gtcgtgcatt gaaagattta tcggacaggg atggg 225

<210> 1423
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1423
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gaagcacttt ttccggaagc cctcgggccg aaggaagctg tgacttagtg gcggacgggt 120
 gagtaacgagc tgggtaacct gcctcataca gggggacaac agttggaaac ggctgctaata 180
 acccataag cgacaacat cgcatggtga tgtgtgaaaa gattt 225

<210> 1424
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Cryptanaerobacter*

<400> 1424
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacgaatgt ttttgactc agtatgttgt aaaatatatt gagtgcagaa atatgagtta 120
 gtggcggact ggtgagtaac gcgtgagcaa cctgccttta actggggaat accacttaga 180
 aataggtgct aataccgcat aacattgcac tgtggcatca cagag 225

<210> 1425
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 1425

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggactttcat caggaagtg cttgactgg aaagatgaga gttagcggcg gacgggtgag 120
 taacgcgtga gcaatctgtc ccatacaggg ggataatacc gcgaaagagg ttctaatacc 180
 gcatgagacc acggtgaggc atctcacagg ggtcaaagga gcaat 225

<210> 1426
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1426
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcactgt cgaggaagtc ttcggatgga attgactttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctggtagtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc atgattgtcg catggcagac atgccaaaga catgt 225

<210> 1427
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 1427
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtttagc gcttccgaag cttcggcaga ggattgttaa acttagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc catgtacagg gggataacac ttagaaatag gtgctaatac 180
 cgcataagcg cacatgatcg catgatcagg tgtgaaaaac tgagg 225

<210> 1428
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Barnesella

<400> 1428
 agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggacgcggga gtgaagcttg cttcacttgc cggcgaccgg cgcacgggtg agtaacgcgt 120
 atgcaacctg cctgtaacag ggggataacc cggagaaatc cggactaaga ccgcataacg 180
 ctgagaagcc gcatgacttt tcagccaaat attcataggt tacag 225

<210> 1429
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1429
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagacatat cacggaagga ttcgtccgga aggggtatgt ttgagcggcg gacgggtgag 120
 taacgcgtga tgaacctgtc cttcacaggg ggataagaca tcgaaaggtg ttctaatacc 180
 gcataggacc acggtaccgc atggtacagg ggtgaaagga gcgat 225

<210> 1430
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1430
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatttagc caaatgttta catgaggcga agatttagtg gcggacgggt gagtaacacg 120
 tgagcaacct acctgaaga gggggataac attgagaaat cagtgctaata accgcataac 180
 acttcatatt cacatgaata agaagtcaaa ggagaaatcc gcttt 225

<210> 1431
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 1431
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagttatta gagcttgctt tgataactta gcggcggacg ggtgagtaac gcgtgggtaa 120
 cctgccctgt acagaggaat aacagttaga aatgactgct aatacctcat aagccgacgg 180
 aatggcatca tttgtcggga aaagatttat cggtagcagga gggac 225

<210> 1432
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1432
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagctgaat agcttgctat gaaagcttag tggcaaacgg gtgagtaacg cgtgggcaac 120
 ctgccgaaa gatggggaca acatcccgaagg ggggtgcta ataccgaatg ttgtatatag 180
 agcgcgatgct ctgtatatta aaggatacta tccgctttcc gatgg 225

<210> 1433

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1433
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagg 60
 ggcatcagga cggtagcttg ctatcgttgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180
 tccgaagagg gcatctgatt tggataaag attgatcggg catgg 225

<210> 1434
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1434
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagt accggaggat agatgaagtt tatcttgcca tcactagttc agtggcggac 120
 gggtgagtaa agcatgagca acttgcctga tagaggggga tagcttttgg aaacagaaga 180
 taataccgca tacttcaaaa gtttcgcatg gagtttttgg aaaag 225

<210> 1435
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1435
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 ggtaacttac cttcgggtaa gctagagcgg cggactggtg agtaacacgt gggtgacata 120
 ccctccggat cgggatagct cctagaaata ggagataata ccgggtacga cactacggt 180
 cagagcgtag tgaggaaagg tgcattagca ccgccggagg agtgg 225

<210> 1436
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 1436
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaacccg cttcggggcg gtcataagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cctcgcgaaa gcgggattaa taccgatac tccgcacccc 180

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ccgcatgggg ggtgcgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1437
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Thermoanaerobacter

<400> 1437
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgagc 60
 ggcgaagggg attcgtcccc ggaccagcgg cgaacgggtg agtaacgcgt gggcaacctg 120
 cccggggccc ggggatagcg gggggaaacc cccgtaaga cccgacgcgc ccggaggggg 180
 gcatccccct ccgggcgaag gagacggccc gggatgggcc cgcgt 225

<210> 1438
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1438
 agagtttgat catggctcag gacgaacgct agcgacgtgt ctaagaaatg caagtcgggc 60
 gatgacggag gcttcggcct cccgattagc ggcgaacggt cgcgtaacac gtaagcaatc 120
 tgcccaaag ttcgggatag cccggcgaaa gtcggattaa taccggatgt ggatgttttt 180
 gcgcatgcat ttgcatctaa agcagcgatg cgctttggga tgagc 225

<210> 1439
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 1439
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggaactctg aactgaaggt tcgctggatg ttagaaatt ctagtggcgg acgggtgagt 120
 aacgcgtggg taacctgcct ataagacgtg aacaacagtt agaaatgact gctaatacac 180
 gataagcaca cagtattgca tgatacagtg tgaaaagaat ttcgc 225

<210> 1440
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingobium

<400> 1440
 agagtttgat catggctcag agtgaacgct agcggaatgc ttatacatg caagtcgaac 60

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ggagttttat tgtgaagtag caatatggaa tagtaaaact tagtggcgaa ctggcgagta 120
 atagtttaga acttaccgag tagtggggga caacagttag aatgactgc taataccgca 180
 tacgcccag aggggaaaga tttatcgcta tttgagaggc ctaac 225

<210> 1441
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1441
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctcact ttttgaattc ttcggaagga aaaaagagaa gacttagtgg cggacgggtg 120
 agtaacgcgt gggtaatctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180
 ccgcataagc gtacgggtacc gcatgttaca gtacgaaaaa ctgag 225

<210> 1442
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Geosporobacter

<400> 1442
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaatctcc tgattgaaac ttcggtagat agacggagag gatagcggcg gacgggtgag 120
 taacgcgtag gtaagctgcc ctatgcacag ggatagccta gggaaacctg gattaatacc 180
 tgatgacgct gcgaggtcac atggccatgc agccaaagtt tttcg 225

<210> 1443
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 1443
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaagccg gcttcggccg gcatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cccccgaaa gggggattaa taccggatac tccgcctccc 180
 ccgcatgagg ggggcgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1444
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

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<400> 1444
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatccggg aggtagcaat acttcttggt gagagtggcg gattggggag gaacacgtga 120
 gcaacctgcc tttgagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg 180
 cccggtgaca tcaactggagc gctaaagggg gccgcaaggc tctcg 225

<210> 1445
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1445
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtacaga cgctgtgaga ggaagtgtt gcacagactt gaacttgttt gtacttagtg 120
 gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac agggagaaat 180
 tcctgctaataccgcataag cgcacggaac cgcatggttc agtgt 225

<210> 1446
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

<400> 1446
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg cgtgagcaat catgctggcg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc ccctgccggg gaataacca gggaaacttg gcctaatacc gcataacacg 180
 ccttccggca tcggtaggcg ttgaaagctc cggcggcagg ggatg 225

<210> 1447
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cryptanaerobacter

<400> 1447
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggatatgtag caatacatat tagtggcgga cgggtgagta acgcgtaatc aacctgcctt 120
 ttacagggga ataacttg gaacaggtg ctaataccgc atatgaccac aacacggcat 180
 cgtaagggg taaaagtttt atcggtaaaa gagggggttg cgtat 225

<210> 1448
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaeropl asma

<400> 1448

agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
 ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg actataagac 120
 gaggataacc attggaacg atggataata ctggatagga tatagatggg catccattta 180
 tatttaaaga tttatcactt aatgaggggc ctgcggcgca ttagc 225

<210> 1449

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Spi rochaeta

<400> 1449

agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
 ggcaagctgc cttcgggcag cctagagcgg cggactgggtg agtaacgcgt gggtgacgca 120
 ccccctgac ggggacagcc cgagaaatg cgggtaata ccggataagg tccccggggt 180
 tggagcccgg ggaggaaagg agctattgct ccgcgagggg agcgg 225

<210> 1450

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotell a

<400> 1450

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcggga gagtagcttg ctactcttgc cggcgaccgg cgaatgggtg agtaacgcgt 120
 atccaacctg ccacatgccc gggaatagcc cttggaaatg aggattaagt cccgatatgc 180
 ttattgtcg catgacatgt aagtgaaca ggcattgtgat gggga 225

<210> 1451

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Roseburi a

<400> 1451

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggactctaag tagaaagcgg agcttgctcc aatggaaatt tagagttagt ggcggacggg 120
 tgagtaacgc gtgggtaacc tgccttgcac agggggacaa cagttggaaa cgactgctaa 180
 taccgataa gccgtagtg ccgcatggca cattcggaaa agatt 225

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<210> 1452
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1452
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaagcggg ccttcgggac tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccgacg ggcggatagc cggtggaaac gccggataag ccgcatgcg gccgaggagg 180
 ggcatccctc ttigtcaaa gcggagacgc ggtgggggac gggca 225

<210> 1453
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1453
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggacgacgcg tgcagcaatg cactggcggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aaccacccg caacaggggt ataacggagg gaaacttcca ctaatcccc atattgccgt 180
 cttccgcat gggggggcgg cgaaagcttc ggcggttgcg gacgg 225

<210> 1454
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

<400> 1454
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaacgcac cttcgggtgc tagtagagtg gcgaacgggt gagtaacacg tgagcaacct 120
 gccttccact tcgggataac ccagggaaac ctgtgctaata accgaatact ccgggacctc 180
 cgcatggggg acccgggaaa gcgcatacgg tggaagatgg gctcg 225

<210> 1455
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1455
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt 120

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atccaacctg cccattaccc ggggatagcc cgccgaaagg cgaattaata cccgatgtgg 180
 tcccatgacg gcatcagagt gggaccaag tcttgtcggg aacgg 225

<210> 1456
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Rikenellia*

<400> 1456
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg agtagcaata ctctggcggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgcctg cgacaggggg ataacctgga gaaattcgga ctaatacccc ataccacgcc 180
 tggcggcatc gccgggcggt gaaaggagcg atccggtcgc agatg 225

<210> 1457
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerophaga*

<400> 1457
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgagt ggcgttgctt gcaacgcat gtcggcgacc ggcgactgg tgagtaacac 120
 gtatgcaacc tgcccttcac cggggcataa cccttgaaa cgaggcctaa ttccccatat 180
 acagattcg ggcattcgtg agctgtgaaa ggtttattcc ggtga 225

<210> 1458
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 1458
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgggc 60
 ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt gggtgacgca 120
 ccccttgac gggacagcc cgagaaatg cgggtaata ccggataagg tccccggggc 180
 cggagcccgg ggaggaaagg agctattgct ccgagggggg agcgg 225

<210> 1459
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1459

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agagtttgat cctggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatttagc cgaatgttta catgaggcga agatttagtg gcggacgggt gagtaacacg 120
 tgagcaacct acctagaga gggggataac attgagaaat cagtgctaata accgcataac 180
 actatagtac cacatggtac attagtcaaa ggagaaatcc acttt 225

<210> 1460
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Weissella

<400> 1460
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gctttgtgct taattgatat gatgagcttg ctctgatttg attttttgat ttcaaagagt 120
 ggcgaacggg tgagtaacac gtgggtaacc tacctcttag caggggataa catttgaaa 180
 caagtgctaa taccgtataa tatcaacaac cgcattggtt ttgat 225

<210> 1461
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio

<400> 1461
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 gggaactttg ttgaagttat ctgatataaa gttctagtgg cggactggtg agtaatgtat 120
 aagcaacctg cctacaagag gggaataaca gtgagaaatc attgctaata ccgcataagc 180
 tgtgagaatg gcatcattca aacagaaaag gaagcaattc tgctt 225

<210> 1462
 <211> 216
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Haemophilus

<400> 1462
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagc 60
 gggaactctg atgcagccat gccgcgtgtg tgaagaaggc cttcggggtg taaagcactt 120
 tagttttcga gaaaggtgct tgttctaata gggcagtatt cagatgttag aaaaagaata 180
 agtaccggca aactccgtgc cagcagccgc ggtaat 216

<210> 1463
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Acholeplasma*

<400> 1463
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgtac 60
 gctaaacttc ggttagagt ggcgaacggg tgagtaacac gtaggtaacc tgcccataag 120
 acgaggataa ctactggaaa cggtagctaa tactggatag tatatagaat cgcattgatt 180
 tatatttaa gatgcgttg catcattat ggatggacct gcggc 225

<210> 1464
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1464
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aggcgggat ttcgggtcaaa gccaaaggag gactgagtgg cggacgggtg 120
 agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
 ccgcataagc gcacaagga gacatcttc agtgtgaaaa gattt 225

<210> 1465
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Cellulosilyticum*

<400> 1465
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagcgtacg gacggaagt ttcggacgga agactgtacg cttagtggcg gacgggtgag 120
 taacgcgtga gcaatctgcc cataagagg ggacaacagc cggaaacagc tgctaatacc 180
 gcatgagacc acattaccgc atggtagagg ggtcaaagaa attcg 225

<210> 1466
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1466
 agagtttgat catggctcag aacgaacgct ggtagcgtgg attagcatg caagtcgaac 60
 gggatccatg aagtagcaat acggattggt gagagtggcg gaagggcgag gaacacgtga 120
 gcaacctgtc cttgaggtgg ggaaaaccgt tggaaacgac ggctaatacc gaatgtggcg 180
 cccggagaca tctccggagc gctaaaggg gccgcaaggc tctcc 225

<210> 1467

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1467
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaacag aagcggaggt tttcggactg aagcatttgt ggaacagtgg cggacgggtg 120
 agtaacgcgt ggataacctg cccatacag ggggatagca gttggaaacg actgataata 180
 ccgcataagc gcacagcacc acatggtgga gtgtgaaaaa ctatt 225

<210> 1468
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudoflavonifactor

<400> 1468
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatggt aaaagcttg cttttaaca tttcgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tcttctacag ggggataacg tcccgaaagg gacgctaata ccgcataaga 180
 ccacggtgcc gcatggcaca ggggtcaaag gaggaatccg gtaga 225

<210> 1469
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Calditerricola

<400> 1469
 agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gggatccctc gggatctagt ggcgaaaggg tgagtaacac gtgagcaacc tgcccccaag 120
 gccggaataa gactggaaa cggtgtctaa aaccggatga ggcctctgtc cacatggaca 180
 gtcagccaaa tattcatacc ctggggatgg gctcgcggcc catta 225

<210> 1470
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1470
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagacatac gacggagagg aagttttcgg atggaatcaa agatgtatgt tttagcggcg 120
 gacgggtgag taacgcgtga gcaacctgtc cctcacaggg ggataacaca ccgaaaggtg 180

tactaataacc gcatgacact gacttgagac atcttgagac agtca 225

<210> 1471
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1471
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagaatctgt ggaaggagtt ttcggacaac ggaaacagag gaaagtggcg gacgggtgag 120
 taacgcgtga ggaacctgcc ttggagaggg ggacaacagc tggaacggc tgctaatacc 180
 gcatgatgca cgatggggac atccctgacg tgccaaagat ttatc 225

<210> 1472
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Adlercreutzia*

<400> 1472
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggttaaaccg gcttcggccg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cctcgcgaaa gcgggattaa taccggatac tccggcggcg 180
 cgggatgggg tcgcgccca tcaggtagta ggtcgggtag gggcc 225

<210> 1473
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bulleidia*

<400> 1473
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gagagcgacc agcttgctgg tcaatcgagt ggcgaacggg tgagtaacac ataaacaatc 120
 tgccctgaag actgggataa cgtagggaaa cccacgctaa taccggatag gcagtgaggg 180
 ggcatcctct tactgttaaa gctgggctac agcactgcag gatga 225

<210> 1474
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1474
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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ggagtaagac accgaatgag gatccgtctg atttcaccgt cttacttagc ggcggatggg 120
 tgagtaacgc gtggacaacc tgcccttcac tgggggataa caaccgaaa cgggtgctaa 180
 taccgatgg gcgcgaacga ccgatgatc gatcgcgtaa agatt 225

<210> 1475
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mucilaginibacter

<400> 1475
 agagtttgat catggctcag gatgaacgct ggcggcaggc ctaatacatg caagtcggac 60
 ggcagcatgc cgtagcaata cggatgatggc gaggggcgta cgggtgctga acacgtgtgc 120
 aacctgccc gcacaggagc aaaacgccgg gaaactggcg ctaatatccc atgacgccgc 180
 gctggggcat ccctttgcgg ctaaaggagc gactcggatg gggat 225

<210> 1476
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Viciivallis

<400> 1476
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 ggaagcagca atgcttcagt ggcggaaggg tgaggaacgc gtgagtaatc tgccctcaag 120
 ttgggaataa cagttggaaa cgactgctaa taccgaatgt ggctgtaatt tcgcatgaag 180
 ttatggttaa agatttattg cttgaggatg agctcgcgctc ccatt 225

<210> 1477
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1477
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatcgc tgattgagat ttcggttgat tgaagcgatg gatagcggcg gacgggtgag 120
 taacgcgtag gtaatctgcc ttcagcacag ggatagccta gggaaacctg gattaatacc 180
 tgataacgca ttgaagtcac atggctttga tgccaaagat ttatc 225

<210> 1478
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

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<400> 1478
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagtttatt gagcttgctt aataaactta gcggcggacg ggtgagtaac gcgtgggtaa 120
 cctgccctgt acagaggaat aacagttaga aatgactgct aatgcctcat aagccgacgg 180
 aatggcatct ttcagtcgga aaagatttat cggtacagga gggac 225

<210> 1479
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1479
 agagtttgat catggctcag gatgaacgct ggcggcgcac ttaagacatg caagtcgaac 60
 gaaaaattt aatctaaacg gaattgaaga attatctgat aagaagtttt aaccgaattt 120
 tttagtggcg gacgggtgag taatacatag ataatctgcc ttttagaggg aaataactac 180
 tggaaacggt agataatgtc ccataagacc acactaccgc atgat 225

<210> 1480
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1480
 agagtttgat cctggctcag gatgaacgct agcggcagggc ttaacacatg caagtcgagg 60
 ggcagcgggc tgtagcaata cggtgccggc gaccggcggg cgggtgcgta acgcgtatgc 120
 aacctgcccg gcacagggga atagcccggc gaaagccgga gtaatgcccc atggttccag 180
 catcccgcac ggggagctgg ataaaccgc gaggggggtgc cggat 225

<210> 1481
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1481
 agagtttgat catggctcag gatgaacgct agcgcagggc ctaacacatg caagtcgagg 60
 ggcagcacga aggaagcttg ctttctttgg tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atgcaacctg tcataaccg aggatagcc tcccgaaggg gagattaaaa cttcatgtgc 180
 cacatgaggg catccgagag tggatgaaacg ttacgggtta tggtt 225

<210> 1482
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Schwartzia*

<400> 1482

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggggcgattt gaaagcttgc ttttgatgag cctagtggca aacgggtgag taacgcgtag      120
gcaacctgcc ctgagatgg ggacaacggc ccgaaaggac cgctaatacc gaatgacgta      180
tctttttcgc atggaagaga taccaaaggc ggagcaatcc gtcac                        225
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<210> 1483

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Pyramidobacter*

<400> 1483

```
agatttgatc ctggctcagg atgaacgctg gcggcgtgct taacacatgc aagttgcgcg      60
gggatctgat gatgagactt cggtaggattt gttagatcct agcggcggac gggtagtaa      120
agcacaagga cgtgtccgag cgagggggac aactgcggga aaccgtagct aataccccgt      180
aagccgagag gtgaaagcag caatgcgca gcggagcgac ttgtg                        225
```

<210> 1484

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Eubacterium*

<400> 1484

```
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagcttgat ttgagatttc ttcgaaaga cgaatgatat gactgagtgg cggacgggtg      120
agtaacgcgt gagcaacctg cccttggat cgggatagcg tttgaaacg aacggtaata      180
ccgaataaag tatttgatg gcatcatctg aatacctaag ctccg                        225
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<210> 1485

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1485

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
gaagacatgc ggacggaatc ctccgggagg aaggctgcat ggactgagtg gcggacgggt      120
gagtaacgcg tgggtaacct gccctgtaca gggggacaac agttgaaac gactgctaata      180
accgcataag catacaggac cgcatgttcc ggtatgaaaa actcc                        225
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<210> 1486
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1486
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggcttaac gaatgagatc ttcggatgga ttttgtaat ccgagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc cggaaacggc tgctaatacc 180
 gcataaccg ctagggccgc atggcccga cggaaaagat ttatc 225

<210> 1487
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1487
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacatg gacggaattc cttcggggag gaagaccatg tgactgagtg gcggacgggt 120
 gagtaacgcg tgggtaacct acctcataca gggggataac agctggaaac ggctgttaat 180
 accgcataag cgcacagggc cgcattgtcc ggtgtgaaaa actcc 225

<210> 1488
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 1488
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 gagagaagac gaaaagcttg cttttgtcc tatcgagtgg cggacgggtg agtaacgcgt 120
 gagtaacctg cccataactg gggataacg tttggaaacg gacgctaata ccgcataagc 180
 aggcggaggg acatccctca gtttgaaaag atttatcggg atggg 225

<210> 1489
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 1489
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaaaccg ccctcggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

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tgccccgctg accgggacaa ccgctggaaa cggcggctaa taccgggtac tccggagggg 180
 gcgcatgccc ccgccgggag agctccggcg gcgcgggatg gggtc 225

<210> 1490
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1490
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaattgc ccttcgggga catgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctca ccgggatagc cggtggaac gccggataag accggatgcg cccatgggga 180
 ggcatctccc tgcgggcaag gcggcgacgc ggagggggac gggca 225

<210> 1491
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1491
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacttaag agcgggaagtc ttcggatgga aggtcataag tcgagtggcg gacgggtgag 120
 taacgcgtga gcaacctgct ttatacaggg ggataaact ccgaaaggag cgctaatacc 180
 gcataagacc acgatgccgc atggtatcgg ggtaaaagga gcat 225

<210> 1492
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1492
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacttaggc caccgaactg aatttagctt gctattgaag gttcaccggt ctaagttagt 120
 ggcggacggg tgagtaacgc gtgggcaacc tgcctttatc cgggggataa cagttagaaa 180
 tgactgctaa taccgcataa gcgcacgagg aggcattctc ttgtg 225

<210> 1493
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1493

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agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagt accggagaat agatgagggt atctatcttg cgatcactag ttcagtggcg 120
 gacgggtgag taaagcatga gcaacctggc tactagaggg ggatagcttt tggaaacaga 180
 agataatacc gcatacatca aagatttcgc atgagatttt tggaa 225

<210> 1494
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 1494
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggaagtaaag atttcggttt ttactttagt ggcgaacggg tgagtaacgc gtgaacaacc 120
 tgactcgaag agggggataa caacgggaaa ctgttgctaa taccgataa gaccacagaa 180
 ccgcatgatt caggggtcaa agatttatcg ctttgagagg ggttc 225

<210> 1495
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1495
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaagcgtac attagaagtt ttcggatgga agatatacgt tttagtggcg gacgggtgag 120
 taacgcgtga gtaacctgcc tttcagaggg ggataacgtt ttgaaaagaa cgctaatacc 180
 gcataacgta aaggagtcgc atggcttcat taccaaagga gcaat 225

<210> 1496
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Proteinctasticum

<400> 1496
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagggatggg ggagagcttg ctctttttca ttccgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tctttcacag ggggataacg taccgaaagg gacgctaata ccgcataaga 180
 ccacagcacc gcatggtgaa ggggtcaaag gaggaatccg gtgga 225

<210> 1497
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 1497
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gagttgcttg caacttctga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccgacctt cccccaggta gggaacagcc cggcgaaagt cggattaatg ccctatagtc 180
 tgcaattgc gcatgttgtt tgcaagtaaag atttatcgcc ttggg 225

<210> 1498
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Faecalibacterium
 <400> 1498
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggagttgca tggaaagagg cttcgccaa tggaagttgt aacttagtgg cggacgggtg 120
 agtaacgcgt gagcaaccta cctatgcgcg ggggacaaca gttggaaacg actgctaata 180
 ccgcataaat catggtaaag gcatctttat catggcaaag attaa 225

<210> 1499
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Microbacterium
 <400> 1499
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagctg gagcttgctc tggtaggata gtggcgaacg ggtgagtaac acgtgagcaa 120
 cctgcccctg actctgggat aacagccgga aacggctgct aataccggat atgcaccatg 180
 aacgcatgtt ctgtggtggg aaagatTTTT cggttgggga tgggc 225

<210> 1500
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Leucobacter
 <400> 1500
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagccc agcttgctgg gtggaagagt ggcgaacggg tgagtaacac gtgagtaacc 120
 tgcccttgac tctgggataa gcgctggaaa cggcgtctaa tactggatac gacctatcac 180
 cgcattggtg gtgggtggaa agatttatcg gttttgatg gactc 225

<210> 1501

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1501
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacatga ttggagcttg ctctgattga tgacgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt ccccctacca gggaatagcc cgttgaaaga cggattaatg ccctatgttg 180
 tgtgataatg gcatcagagt tacacgaaag actttgtcgg tatgg 225

<210> 1502
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingobacterium

<400> 1502
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggatccaga tcaaagcttg ctttggtttg gtgagagtgg cgcacgggtg cgtaacgcgt 120
 gagcaaccta cccttgtcag ggggatagcc cggcgaaagt cggattaata ccgcatgaca 180
 tcattgagag gcatctttct atgatcaaag atttatcgga caagg 225

<210> 1503
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Fusibacter

<400> 1503
 agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gggaaatttg agagtgaagc ttcggcggaa cttttaaatg gagagcggcg gacgggtgag 120
 taacgcgtag gtaacctgcc ctgcacagag ggatagccac tggaaacggt gattaatacc 180
 tcataaaact gttttgccgc atgacaaaac agccaaagat ttatc 225

<210> 1504
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Howardella

<400> 1504
 agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaagtcggt attttagaag tggaaagaag atttatctga tagaagcaga agaaataaca 120
 atggctttag tggcggactg gtgagtaaca cgtaagcaac ctggctatta gaggggaata 180

acagtgagaa atcattgcta ataccgcata agcttghtaat accgc 225

<210> 1505
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1505
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaagtcc ccttcggggg attgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctca ccgggatagc cgggtgaaac gccggataag accggatgcg cccatgggga 180
 ggcatctccc tgcgggcaag gcggcgacgc ggagggggac gggca 225

<210> 1506
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Caldilinea

<400> 1506
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gtgagagata gcaatatctt gaaagtggca aacgggtgag taacacgtag ataacctgcc 120
 tcggagtggg ggataaccac gggaaactgt ggctaatacc gcatagtctt gcggacacgg 180
 gagtgcggc aagtaaagct ttagtgcttc gagaggggtc tgcgt 225

<210> 1507
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Turicibacter

<400> 1507
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggagcacttc ggtgcttagt ggcgaacggg tgagtaacac ataaacaatc taccctgaag 120
 actgggataa cggttggaaa cgaccgctaa taccggatag gtaactctga ggcattcttag 180
 agttattaa gttgggttac aacctgcag gatgagttta tgtcg 225

<210> 1508
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1508
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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ggtcttctta cgggtagcaa tacttgtttg aagatagtgg cggacgggtg agtaacgcgt 120
 gagcaacctg cccatcagag ggaatagcg tctggaaacg gacgataata ccgcataaaa 180
 ctgagtcacc gcatgatgac acagccaaag gagaaatccg ctgat 225

<210> 1509
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Alistipes*

<400> 1509
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 ggcagcgcgg tgtagcaata cactggcggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aaccacccg cgacaggggc ataacggggg gaaaccccca ctaattcccc gtaaggccgc 180
 gtccccgat ggggatgcgg cgaaagcctt cgggcggttg cggac 225

<210> 1510
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1510
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggaagatacc cagagcttgc tcttgatata tttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc tcatagagg ggataacagt tagaaatgac tgctaaaacc gcataacatt 180
 gcagtgccgc atgatactgc gatcaaata ttataggtat gagat 225

<210> 1511
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1511
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagcttatt aagaaagcgg agcttgctcc aatggatttt taagcttagt ggcggacggg 120
 tgagtaacgc gtgggtaacc tgccttgac agggggacaa cagttgaaa cgactgctaa 180
 taccgcataa gccggtagct tcgcatgaag catccgaaa agatt 225

<210> 1512
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

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<400> 1512
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaacggaa ggcggagctt gctttgccta gacgtcgacc ggcggatggg tgcgtaacgc 120
 gtatccaacc tgcccgtgtc ccggggatag cccatggaaa cgtggattaa caccgatgg 180
 tcctgcgctt ccgcatggcg gcgaggtaa acgtgagga catgg 225

<210> 1513
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1513
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 gaggtccta aacctgagat tcgtcgaagg ggaggaatt ccgagtggcg gatgggtgag 120
 taacgcgtgg agaacctgcc ctttgctggg ggataacaac tggaaacggt tgacaatacc 180
 gcataagctc ggttgccgc atgaccgacc gaggaaagat ttatc 225

<210> 1514
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrimonas

<400> 1514
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gggtggaac acctctgatg gcgaccggcg cactggtgag taacacgtat 120
 gcgacctgcc ccgttccggg gtatagacca gggaaacttg gcgtaatccc ccatgtgccc 180
 tggggctgca tggcccatg gtgaaagggt cgccgggacg ggatg 225

<210> 1515
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerobrio

<400> 1515
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggcggaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgatgtaca 180
 ttggtcgcg gactgatgca ccaaaggccg ggcaaccggt cactg 225

<210> 1516
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 1516

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctg ccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg      180
tcgaaagagg acatctgatt tcgaccaaag cttcggcggg catgg                        225
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<210> 1517

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Pseudoflavonifractor*

<400> 1517

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac      60
ggactgattc gatagcttgc tattgatgaa agttagtggc ggacgggtga gtaacgcgtg      120
agcaacctgc ccctatgtgc gggataacgt ctggaaacgg acgctaatac cgcataaacc      180
aatcggaccg catgatctgg ttggcaaaga tttattgcat aggga                        225
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<210> 1518

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Corynebacterium*

<400> 1518

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggaaaggccc agcttgctgg gtgctcgagt ggcgaacggg tgagtaacac gtgggtgatc      120
tgcccctaac ttcgggataa gcttgggaaa ctgggtctaa taccggatag gacaatcggt      180
tagtgcggt tgtggaaagt ttttcgggtt agggatgagc ccgcg                        225
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<210> 1519

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Leucobacter*

<400> 1519

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gatgaagcct agcttgctgg gtggaagagt ggcgaacggg tgagtaacac gtgagtaacc      120
tgccccgaac tctgggataa gcgctggaaa cggcgtctaa tactggatat gcaccatgga      180
ggcatcttct gtggtgggaa agatttatcg gttcgggatg ggctc                        225
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<210> 1520
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Kerstersia*

<400> 1520
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 ggcagcacga ggagcttgct ccttggtggc gaggggcga cgggtgagta atatatcgga 120
 acatgcccag tagcggggga taactactcg aaagagtggc taataccgca tacgtcctac 180
 gggagaaagc aggggacctt cgggccttgc actattggag tggcc 225

<210> 1521
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Slackia*

<400> 1521
 agagtttgat cctggctcag gatgaacgcc ggcggcgcgc ctaacacatg caagtcgagc 60
 ggaggacctg tcttcggaca ggcgatcagc ggcgaacggg tgagtaacgc gtgggcaacc 120
 tgccccccgc acgggaatag ccccgggaaa ccgggggtaa tgcccgacgg cccggcagag 180
 gggcatccct ctgccggcga agccatcgcg gcgggggatg ggccc 225

<210> 1522
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lactococcus*

<400> 1522
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 gctgaagggt ggtacttgta ccgactggat gacgagcga cgggtgagta acgcgtgggg 120
 aatctgcctt tgagcggggg acaacatttg gaaacgaatg ctaataccgc ataaaaactt 180
 taaacacaag ttttaagttt gaaagatgca attgcatcac tcaaa 225

<210> 1523
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1523
 agagtttgat catggctcag gatgaacact agctacaggc ttaacacatg caagtcgagg 60
 ggtaacatga ttggagcttg ctccgattga tgacgaccgg cgcacgggtg cgtaacgcgt 120

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atccaacctt cccctacca gggaaatagcc cgttgaaaga cggattaatg ccctatgttg 180
 tgtgataatg gcatcagagt tacacgaaag actttgtcgg tatgg 225

<210> 1524
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1524
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 ggagagtggg ttttgattct ttcgggatga tgaattcatt tcttagtggc ggacgggtga 120
 gtaacacgtg agcaacctgc cttgcagagc gggataacgg ttggaaacga tcgctaatac 180
 cgcataacat atgattgtcg catggctatc atatcaaaga tttat 225

<210> 1525
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1525
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaacggaa gggaaagctt gctttcccta gacgtcgacc ggcggatggg tgcgtaacgc 120
 gtatccaacc tgcccgtgtc ccggggatag cccatggaaa cgtggattaa cacccgatgg 180
 ccctgcgctt ccgcatggcg gcgcaggtaa acgcgagggga catgg 225

<210> 1526
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1526
 agagtttgat cctggctcag gatgaacgct agctacaggc ctaacacatg caagtcgcgg 60
 ggcagcattg aggtagcaat acctcagatg gcgaccggcg cacgggtgcg taacgcgtat 120
 ccaacctggc cttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc 180
 aagatggagc ctttttctt gaccaaagat ttatcggtaa gggat 225

<210> 1527
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 1527

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaactctggt attgattggt gcttgcatca tgatttacat ttgagtgagt ggcgaactgg 120
 tgagtaacac gtgggaaacc tgcccagaag cgggggataa cacctggaaa cacatgctaa 180
 taccgcataa caacttggac cgcatggtcc gagtttgaaa gatgg 225

<210> 1528
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1528
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga ttctagcttg ctagaattga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt cccgcgagtc aggcacagcc cggcgaaagt cggattaatt cctgatgttc 180
 tcctttgacg gcatcagaga aggagtaaag aatttttcgc ttgcg 225

<210> 1529
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1529
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtttatg aagttttcgg actgagtaaa cttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc tcatcaggg ggataacagt tggaaacggc tgctaaaacc gcataagcat 180
 acattgtcgc atgacagagt gtgaaaatat ttataggtat gagat 225

<210> 1530
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1530
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaggatctca ccggaaggcc ttcgggccgg aaggtaagat tcgagcggcg gacgggtgag 120
 taacgcgtga gcgatctgtc ccgcacaggg ggataacact tggaaacagg tgctaatacc 180
 gcataagacc acgaggccgc atggccatgg ggtaaaagga gcatg 225

<210> 1531
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Syntrophococcus
 <400> 1531
 agatttgatc ctggctcagg atgaacgctg gcggcgtgcc taacacatgc aagtcgagcg 60
 gagtatgacg agtgcttgca catgtcatac ttagcggcgg atgggtgagg aacgcgtgga 120
 gaacctgccc ctacagggg gataacagtt ggaaacgact gttaataccg catatgctca 180
 cggtgccgca tggcacaggg aggaaagatt tcatcggatga gagat 225

<210> 1532
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1532
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaaattgct gattgaagct ttcgggtgga tttcagtaat tttagtggcg gacgggtgag 120
 taacacgtgg gtaacctgcc ctgtaccggg ggataacagt tggaaacggc tgtaataacc 180
 gcataagcgc acagcttcgc atgaagcagt gtgaaaaact ccggt 225

<210> 1533
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Victivallis
 <400> 1533
 agagtttgat catggctcag aatgaacgct ggcggcatgg attagcatg caagtcgaac 60
 gagaaagcgg cttcgccgc gagtaaagtg gcgaaaggt gagtagcacg tggggaacct 120
 gccccgggga ccggaacaag cctgtgaaa cgggtctgag accggatgtc gccccggccc 180
 gcatgggccc gaggcgaaag attaatcgcc ccgggatggc cccgc 225

<210> 1534
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides
 <400> 1534
 agagtttgat cctggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60
 ggtagcatgg gcgtagcaat acgcctgatg gcgaccggcg cacgggtgcg taacgcgtat 120
 ccaacctggc cttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc 180
 aagcgaatag cttttactt gaccaaagag tttttcggtg aggga 225

<210> 1535

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1535
 agagtttgat cctggctcag gatcaacgct ggcggcgtgc ctaatgcatg caagtcgagc 60
 ggggtgtcct tcggggcgct tacgcggcgg acgggtgcgg aacacgtggg caacctgccc 120
 tgaggtgggg gatagccggt ggaaacaccg ggtaattccg catacgggtca cggaccgggg 180
 ggtctgtgag gaaaggctcg taagagtcgc cttgggaggg gcctg 225

<210> 1536
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1536
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcatgct ggaaagagac cttcggggaa ccggaaatca tgacttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaata 180
 accgcataag cgcacagctt cgcattggagc ggtgtgaaaa gcatt 225

<210> 1537
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1537
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg cggtagcaat accgccgatg gcgaccggcg cacgggtgag taacgcgtat 120
 ccaaccttcc ccctggtagg gcatagcccg gcgaaagtcg gattaatacc ctatgttttc 180
 ctttgacggc atccgacgag gaacaaagat ttatcgcccc gggat 225

<210> 1538
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1538
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatcagcc ggtagcaat aattggctgt gagagtggcg gattggggag gaacacgtga 120
 gcaacctgcc cttgagttgg ggaaaaccgt tggaacgac ggctaatacc ggatgtggcg 180

cccggagaca tcttcggagc gctaaagggg gccgcaaggc tcccg 225

<210> 1539
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1539
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aagcggaaat ttcggttgaa gtggaggag gactgagtgg cggacgggtg 120
 agtaacgct ggataacctg cccatacag ggggatagca gttgaaacg actgataata 180
 ccgcatgagc gcacgtggag acatctccat gtgtgaaaag aaata 225

<210> 1540
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1540
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 gggaatagag gtgcttcac ttctatgaga gcggcggact ggtgagtaac acgtaggcaa 120
 cgtacccttc ggacgggat agccggcaga aatgtcgggt aataccgat gtgaacttac 180
 ttcgtgaagg agtaagtga aaggagcttc ggctccgccg gagga 225

<210> 1541
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pyramidobacter

<400> 1541
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagttgcgc 60
 ggggatctga cgatgagact tcggtggatt tgtagatcc tagcggcggga cgggtgagta 120
 aagcacaagg acgtgtccga gcgagggggg caactgcggg aaaccgtagc taataccccc 180
 taagccgaga ggtgaaagca gcaatgcgagc agcggagcga cttgt 225

<210> 1542
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Robinsonella

<400> 1542
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

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ggggtgtcaa tcttcggaaa gacacttagt ggcggacggg tgagtaacgc gtgggtaacc 120
 tgccatac aggggatag cagttgaaa cgactgataa taccgataa gcgcacagca 180
 tcgcatgatg cagtgtgaaa aactccggtg gtatgagatg gaccc 225

<210> 1543
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1543
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagcactct ggaagattcc ttcgggatga ttccttagtg acttagcggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac 180
 cgcataagca cacagcatgg catcatgcag tgtgaaaac tccgg 225

<210> 1544
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1544
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaggatttag cggaaggaag cttcggcaga gagaaggtaa atcttagcgg cggacgggtg 120
 agtaacgcgt gaacaatctg tcccggacag ggggataaca catggaaaca ggtgctaata 180
 ccgcataaga ccacagcgtc gcatggcggg ggggtaaaag gagaa 225

<210> 1545
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bifidobacterium

<400> 1545
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggatccctg gcagcttgct gccgggggtga gagggtgagta atgcgtgacc 120
 gacctgccc atgcaccgga atagctcctg gaaacgggtg gtaatgccgg atgttcaca 180
 tgagcgcgat cgagtggtgg aaaggctttt tgcggcatgg gatgg 225

<210> 1546
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

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<400> 1546
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcgggg agtggcaaca ctctgccggc gaccggcgca cgggtgagta acacgtatcc 120
 aacctgccct gagcttgggg atagccctct gaaaggagga ttaatacccg atgtggttgt 180
 ttggcgacat cgcctttcaa ttaaagattt atcggctcat gatgg 225

<210> 1547
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gordoni bacter

<400> 1547
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaaaccg gctccggccg gaaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacag cctcgcgaaa gcgggattaa taccggatac tccggcggcg 180
 cgggatgggg tcgcggccca tcaggtagtg ggtcgggtag aggcc 225

<210> 1548
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterorhabdus

<400> 1548
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtaagccg gcttcggccg ggaataaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcg accgggacag cccccgaaa gggggattaa taccggatac tccgcggccc 180
 ccgcatgggg gccgcgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1549
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 1549
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gagtttgctt ttaatgaagg cggtgcttgc accaactgat ttaaaaataa acgagtggcg 120
 gacgggtgag taacacgtgg gtaacctacc ctaaagtggg ggataacatt tggaaacaga 180
 tgctaatacc gcataatatt aaaaaccaca tggtttttaa ttgaa 225

<210> 1550
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 1550

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatag gggaggtttc ggccaccccc gatggcgacc ggcggatggg tgagtaacgc      120
gtatccaacc tgcccctgtc ccggggacag cccttagaaa tgaggattaa cccccgatgg      180
cgcggagagg ccgcatggct tttccgcca atgcgaagga caggg                          225
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<210> 1551

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1551

```
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcagga cggtagcttg ctatcgttgc tggcgaccgg cgcacgggtg cgtaacacgt      120
atcgaacctt cctgcccgtc ggggatagcc ctctgaaagg aggattaata cccgatggtt      180
tccaatgggg acatccccgt tgaataaag attcattggc ggcgg                          225
```

<210> 1552

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Tannerella

<400> 1552

```
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg      60
gagaagttag aagtagcttg ctacggaaga tggaaaccgg cgcacgggtg cgtaacaggt      120
gtgcaatctg tccatagtcg gggatagcc cagcgaaagt tggattaaag ctccatgtga      180
gtgagaatcg catgtttttc acttgaacg taaggactat ggggtg                          225
```

<210> 1553

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 1553

```
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcatcaggg gactagcttg ctagtcttgc tggcgaccgg cgcacgggtg agtaacacgt      120
atccaacctg cccccagctt ggggatagcc ctctgaaagg aggattaata cccgatatgc      180
ttgttctccg gcatcggagg acaatcaaag attcatcggc tgtgg                          225
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ASBI_002_03W0_SeqList_ST25

<210> 1554
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1554
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg agtagcaata ctttggcggc gaccggcgga aggggtgcgta acgcgtgagc 120
 aacctgcccg tgtccggggc ataatcggtg gaaacgccgt ctaattcccc atacgttgct 180
 gggcgacatc gcttagtaat gaaaacttat tgcggacacg gatgg 225

<210> 1555
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Vb

<400> 1555
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagagaggcg aagagcttgc tttttgcca tcgagtggcg gacgggtgag taacgcgtga 120
 gcaacctgcc ttacattggg gaataacggt tggaaacgga cggtaatacc gcatatgcag 180
 acaagtacgg catcgtacgg tttgaaaga tttatcgatg taaga 225

<210> 1556
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gelidibacter

<400> 1556
 agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
 cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcattggga 180
 ctcggcatcg ggatccaatt aatatttat aggtggtgga tgggc 225

<210> 1557
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1557
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
 gtgaagctga cttcggctcag tggaaagtgg cggacgggtg agtaatacat aggaaatctg 120

ASBI_002_03W0_SeqList_ST25

cccttagctg ggggacaaca gttggaaacg actgctaata ccgcatatga gcttagctga 180
aatgctaatac ttgaaaacta cggtaggctaa ggatgagcct gtgcc 225

<210> 1558
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rhodoplanes

<400> 1558
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
gccccgcaag gggagtggca gacgggtgag taacacgtgg gaacgtgcct ttggttcgg 120
aacaacttcg ggaaactgga gctaataccg gataagccct tcgggggaaa gatttatcgc 180
caaaagatcg gcccgctct gattagctag ttggtgggt aatgg 225

<210> 1559
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Selenomonas

<400> 1559
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagacggata gaagcttgc tttagaagtc gaggggcaaa cgggtgagta acgcgtagac 120
aacctgcctc tgggatgggg acaacagccc gaaagggtg ctaataccga atgaaatgt 180
ttcttctcct gaagttatca tgaagatgg cctctattta taagc 225

<210> 1560
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Escherichia/Shigella

<400> 1560
agagtttgat catggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
ggtaacagga agcagcttg tgcttcgctg acgagtggcg gacgggtgag taatgtctgg 120
gaaactgcct gatggagggg gataactact gaaacggta gctaataccg cataatgtcg 180
caagacaaa gagggggacc ttcgggcctc ttgccatcgg atgtg 225

<210> 1561
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rikenellia

<400> 1561

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agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcaggc cgggtagcaa tacttggtgc tggcgaccgg cgcacgggtg cgtaacgcgt 120
atgcaacctg cccgtaacag gggataacg gagggaaact tccactaatc ccccatattg 180
tcactttttc gcatggggag gtgacgaaag ctttaattgtg gttac 225

<210> 1562
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coprococcus

<400> 1562
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggaacattcc acccgaagat tgaagaagct tgcttcggat tgattcaacc ggaatgttta 120
gtggcggacg ggtgagtaac gcgtgggtaa cctaccttac acagggggat aacagttaga 180
aatgactgct aataccgcat aagcgcacgg taccgcatgg tacag 225

<210> 1563
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1563
agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
gggactagtg accggagctt agaatttctc taggttgctg tcactagttc agtggcggac 120
gggtgagtaa agcatgagta actttcccat tagtggggaa tagcttttgg aaacagaaga 180
taataccgca tacatcgttg aggactcatg ttctcttcgg aaaag 225

<210> 1564
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Hyphomicrobium

<400> 1564
agagtttgat cctggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
gctgtagcaa tacagagtgg cagacgggtg agtaacacgt gggaatcttc ctatcggtac 120
ggaatagctc agggaaactt ggggtaatac cgcatacgcc cttcggggga aagatttatac 180
gccgatagat gagcccgcgt ctgattagct agttggtgag gtaat 225

<210> 1565
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Erysipelotrichaceae incertae sedis

<400> 1565
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 gaagcgacct caacagaatt gtgcttgac aaggaagatg agattctcgc ttagtggcga 120
 acgggtgagt aacacgtagg taacctgccc atctacctgg gacaacagtt agaatgact 180
 gctaaaaccg gatagtaac attgaggcat ctcatgtta ttaa 225

<210> 1566
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1566
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatcaccg atatagtaat attgaggtgt gagagtggcg gattggggag gaacacgtga 120
 gcaacctgcc ttggagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg 180
 cccggtgaca tcaccggagc gctaaagggg gccgcaaggc tctcg 225

<210> 1567
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Staphylococcus

<400> 1567
 agagtttgat cctggctcag gatgaacgct ggcggtatgc ctaatacatg caagtcgagc 60
 gagagacttc ggtctctagc ggcgaacggg tgagtaaca gttgtaatc tgcctattag 120
 ttggggatac ccaggcgaaa gcttggctaa taccgtaata cgtaataagc tgaaatgctt 180
 attataaaag gcgcttcggc gtcgtaata gatgagcctg cttct 225

<210> 1568
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1568
 agagtttgat catggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatccatg aagtagcaat acgatttgt gagagtggcg gaagggcgag gaacacgtgg 120
 gcaacctgtc caggaggtgg ggaaaacctc gggaaactga ggctaatacc gaatgtggcg 180
 cccgcacgca tgtcgggagc gccaaagggg gcgaaagctc ccct 225

<210> 1569

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 1569
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagtagcaa tacttagtgg cgcaagggtg aggaacacgt gagtgacctg cccgcaagtt 120
 tggaaacagct cctggaaacg ggaattaata ccggatgtga tcatattgct gcatggtgat 180
 atgattaaag cagtaatgcg cttgcggatg ggctcgcgctc ccatt 225

<210> 1570
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Selenomonas*

<400> 1570
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaattc ttttcggaga atataccgag tggcaaacgg gtgagtaacg cgtaggcaac 120
 ctgccttcaa gatggggaca acagtccgaa agggctgcta ataccgaatg acatgtctga 180
 accgcatggg acggacagca aagacggcct ccaaactatg ctgtc 225

<210> 1571
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Desulfobulbus*

<400> 1571
 agagtttgat cctggctcag aacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gcgaaagcgg cttcgccgt gagtagagt ggcacgggt gagtaacgcg tagataacct 120
 gtcttcatat ccgggataac acgccgaaag ggtactaat accggatata ctgcatttc 180
 aataggtgag gcgaggaaag gtggcctctg attcaagcta ctgta 225

<210> 1572
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium*

<400> 1572
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagccaatt gacggatccc ttcgggggtga agacgaggaa gcttagcggc ggacgggtga 120
 gtaacgcgtg agtaacctgc ctgtaagagg gggataattc ctggaaacgg ggactaatac 180

cgcatattga gcacatatcg catggtatat gcttgaaaga tttat 225

<210> 1573
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1573
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ttaagcatg caagttgagc 60
 ggtagtagta gcaatactat gagagcggcg gacgggtgag taacacgtgg ataactacc 120
 ttgaagttg gaataaccg tggaaacacg gagtaatacc ggataagacg gtacttgggg 180
 acaagtattg ggaaggtgc tacggcatcg cttaagatg agtcc 225

<210> 1574
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Kordia

<400> 1574
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggtaaacacgg ttagcaata cattggtgac gagcggcgga cgggtgagta acgcgtatgc 120
 aacctacca ctacacaagg atagccttcc gaaaggagga ttaatacttg atagtactct 180
 aagatggcat caaacagag ttaaagattt atcggtagtg gatgg 225

<210> 1575
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bosea

<400> 1575
 agagtttgat cctggctcag agcgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 gcatccttcg ggatgagtgg cagacgggtg agtaaacacgt ggaacgtac ctctttgttc 120
 ggaataactc atggaaacgt gagctaatac cggatacgcc cttttgggga aagatttacc 180
 gcagagagat cggcccgcgt ctgattagct agttggtgag gtaat 225

<210> 1576
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Enterococcus

<400> 1576
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagttgaac 60

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gcttctttct gatcgaactt cggttcacca agaaagaaga gtagcgaacg ggtgagtaac 120
 acgtgggtaa cctgcccatac agcgggggat aacacttga aacaggtgct aataccgcat 180
 aatacttttt ctctcatgag tgaagttga aaggcgcttt tgcgt 225

<210> 1577
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1577
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagctatth agacagaacc cttcgggggg aagattactt agcttagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cccataagag ggggataaca cagagaaatt tgtgctaata 180
 ccgcatatg atataatc gcatgtaat gtattgaaag attta 225

<210> 1578
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Xanthobacter

<400> 1578
 agagtttgat catggctcag agcgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
 gccagcaat gggagcggca gacgggtgag taacgcgtgg ggatctacc attggtacgg 120
 aataaccag ggaaacttg actaataccg tatgtgtcct tcgggagaaa gatttatcgc 180
 caatggatga acccgcgtct gattagctag ttggtgaggt aaagg 225

<210> 1579
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 1579
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 gagttcccg t gattgacgt gcttgactg atttcaacat tggacgagt ggcgaactgg 120
 tgagtaacac gtggaaaacc tgcccagaag caggggataa cacttgaaa caggtgctaa 180
 taccgtataa caacaaaac cgcattggtt ttgtttgaaa ggtgg 225

<210> 1580
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 1580
gctttgatca tggctccgga tgcacgctcg ctccaggctt aacacatgcc agtcgagggg 60
taacggcagt gaagcttgct ttactggccg acgaccggcg cacgggtgag taacgcgtat 120
ccaacctgcc catgactcag ggataacctt tcgaaagga gcctaatacc tgatgtttgtg 180
agacgagggc atctgagtgt caccaaagat tcatcgggtca tggat 225

<210> 1581
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Aci dami nococcus*

<400> 1581
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gggaaactta tttcggttaag tttctagtgg cgaacgggtg agtaacgcgt gggtaacctg 120
ccctccagat ggggacaaca ttccgaaagg gatgctaata ccgaatacga tccctccacc 180
gcatggagga gggatgaaag atggcctctg cttgcaagct atcgc 225

<210> 1582
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Eubacteri um*

<400> 1582
aggtttgatc ctggctcagg atgaacgctg gcggcgtgcc taacacatgc aagtcgagcg 60
agaaacctat gtgatgaaac ttcggtagaa tcttttaggt ggaaagcggc ggacgggtga 120
gtaacgcgta ggcaacctgc ccctagcagg gggatagcca ttggaaacga tgattaaaac 180
cccataatgc agatttatca catgttggat ctgccaaaga tttat 225

<210> 1583
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Bacteroi des*

<400> 1583
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga tcgaagcttg ctttgatcga tggcgaccgg cgcacgggtg cgtaacacgt 120
atccaatcta ccaccgctc agggatagcc ttgcgaaagt aagattaata cctgatggtt 180
tccttatgtg gcatcatgta tggataaag attcatcggc gatgg 225

<210> 1584
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1584

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agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac      60
gaacgacttc aaattgtttt actttttgaa gaagttagtg gcggactggt gaggaacacg      120
taaacaatct gcctataaga ggggaacaac attgagaaat cagtgctaata accgcataag      180
cctacgctat cgcatgataa agtaggaaaa ggagtaatcc gctta                          225
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<210> 1585

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Lactobacillus

<400> 1585

```
agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaatacatg caagtcgaac      60
gagcttccgt tgaatgacgt gcttgcactg attttaacaa tgaagcgagt ggcgaactgg      120
tgagtaacac gtgggaaatc tgcccagaag caggggataa cacttgaaa caggtgctaa      180
taccgtataa caacaaaatc cgcatggatt ttgtttgaaa ggtgg                          225
```

<210> 1586

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Devosia

<400> 1586

```
agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac      60
ggtctcttcg gaggcagtgg cagacgggtg agtaacgcgt gggaaatctac ctagttctac      120
ggaacaacag ttgaaacga ctgctaatac cgtatacgcc ctatggggga aagatttatac      180
ggaattagat gagcccgcgt aagattagct agttggtgag gtaat                          225
```

<210> 1587

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pedobacter

<400> 1587

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcagcgcgg gggtagcaat acacctggcg gcgaccggcg gaaggggtgcg taacgcgtga      120
gcaacatgcc cgtcacaggg ggataaaaga tggaaacgct tcctaatacc ccgtaacatc      180
atttgggca tcgcagatgg ttgaaagcta ttatgcggtg acgga                          225
```

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<210> 1588
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium IV

 <400> 1588
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggactgccc gaatgaagtt ttcggatgga atttgggtat gtttagtggc gaacgggtga 120
 gtaacgcgtg agtaacctgc cttggagagg gggacaacag ccggaaacgg ctgctaatac 180
 cgcacgacgt cacgggaggg catccttctg tgaccaaga tttat 225

 <210> 1589
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium XI Va

 <400> 1589
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcacttc tcccgttgaa gttgattagc ttgctatgaa gcggaaacat ttgaagtgc 120
 ttagtggcgg acgggtgagt aacgcgtggg taacctgccc tgtactgggg gacaacagtt 180
 ggaaacggct gctaataccg cataagcgca cagcatcgca tggtg 225

 <210> 1590
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Corynebacterium

 <400> 1590
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaaaggcct tgtgcttgca caaggtactc gaggggcga cgggtgagta acacgtgggt 120
 gatctgccct gcactgtggg ataagcctgg gaaactgggt ctaataccat ataggaccgc 180
 actttgatg gtgtggtgga aagcttttgc ggtgtgggat gagcc 225

 <210> 1591
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Spirochaeta

 <400> 1591
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 gggattatgg tgcttgacc atatgagagc ggcggactgg tgagtaacgc gtaggtgacg 120

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aacccccgg acggggacag cctctagaaa tagagggtaa taccggatga ggcgtgcagt 180
 gttagaggct gcacgtgaaa gcagctccgg ctgcgccggg ggatc 225

<210> 1592
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaeropl asma

<400> 1592
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaggtttctc ttcggggaaa ccgagtggcg aacgggtgag taacacatag gtaatctacc 120
 tttcagaatg ggatacccaa gagaaatfff ggctaatacc gtatacaatc atttctccgc 180
 atggagattt gatgaaaggg gctccaaagc ctcgctgtta gatga 225

<210> 1593
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um XI Va

<400> 1593
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatttc agatgaagtt ttcggatgga ttctggcttt ccgagtggcg gacgggtgag 120
 taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc cggaaacggc tgctaatacc 180
 gcataacctg ctagagtcgc atgactcaga cagaaaagat ttatc 225

<210> 1594
 <211> 183
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiracea incertae sedi s

<400> 1594
 agagtttgat catggctcag gataaacgct ggcggcgtgc tttggacaat gggggcaacc 60
 ctgatccagc gacgccgct gaacgaagaa gtatctcggg atgtaaagtt ctatcagcag 120
 ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgct 180
 aat 183

<210> 1595
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 1595

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaggacaatg gtttcggctg ttgttcgagc ggcggacggg tgagtaacgc gtgaacaatc 120
 tgtccctgac agggggataa cacttgaaa caggtgctaa taccgataa gaccacggga 180
 tcgcatggta ctggggtcaa aggagcaatc cggtgagggg tgagt 225

<210> 1596
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Slackia

<400> 1596
 agagtttgat catggctcag gatgaacgcc ggcggcgcgc ctaacacatg caagtcgagc 60
 ggcggaccgg ctccggccgg cgagcagcgg cgaacgggtg agtaacgcgt gggcaacctg 120
 cccccccct cgggaatagc ggccggaac ggccggtaat gcccgacggc ccccgggaga 180
 ggcatctccc ccggggcaaa gccctggcgg ggggggatgg gcccg 225

<210> 1597
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Limibacter

<400> 1597
 agagtttgat catggctcag gatgaacgct ggcggcaggc ctaatacatg caagtcgcac 60
 gggatcgctc cttcgggggc gtgagagtgg cggacgggtg cgcaacgcgt atgcaaccag 120
 ccccctgcag gcggatagcc ggtggaacg ccggataata cgccatgttt cgggtagagg 180
 gcatccttta cctgagaaag cggagacgcg gcgggggacg ggcat 225

<210> 1598
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingobium

<400> 1598
 agagtttgat catggctcag agcgaacgct agcggcatgc ttatacatg caagtcgaac 60
 gaacgagttt atattgagta gcaatacgat ttataaatga gttagtggcg aacgggtgag 120
 taatatatag gaattgccc agtagtgggg gacaacagtt agaaatgact gctaataccg 180
 catacgtccg agaggagaaa gatttatcgc tattggagaa gccta 225

<210> 1599
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1599
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcatctt tatatgatcc ctttgggggtg atgaattgat gactgagtgg cggacgggtg 120
 agtaacgcgt gggaaacctg ccctgtaccg ggggatagca gttggaaacg gctgataata 180
 ccgcataagc gcacagtaag acatcttacc gtgtgaaaaa ctccg 225

<210> 1600
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Riemerella
 <400> 1600
 agagtttgat catggctcag gatgaacgct agcgggaggc ctaacacatg caagccgagc 60
 gggatttagt agttagcttg ctaactactg atgagagcgg cgtacgggtg cggaacacgt 120
 gtgcaacctg cttttatctg ggagatagcc tttcgaaagg aagattaata tcccataata 180
 tattgattgg catcgattaa tattgaaagc tccggcggat aaaga 225

<210> 1601
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans
 <400> 1601
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggactttcat caggaagggtg cttgcaccgg aaagatggaa gtttagcggcg gacgggtgag 120
 taacgcgtga gcaatctgtc ccatacaggg ggataatacc gcgaaagagg ttctaatacc 180
 gcatgagacc acagtgaggc atctcacagg ggtcaaagga gcaat 225

<210> 1602
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides
 <400> 1602
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcagga gattagcttg ctaatcttgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg ccccgactc ggggacagcc ctctgaaagg aggattaata cccgatattg 180
 tcgctgtggg acatcccatg gtgacgaaag attcatcggg acggc 225

<210> 1603

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1603
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacgacgag ggtatggctt gccatacct ggtggcgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgcccgaac cgcggaatag cccgccgaaa ggcggattaa tgccgcatga 180
 gctcgcgtgg gggcatctgc ccgagcagca aggtccattc cggtt 225

<210> 1604
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Selenomonas*

<400> 1604
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggcgattg aaagcttgc tttatgagcc tagtgcaaa cgggtgagta acgcgtgggc 120
 aacctaccgg aaagatgggg acaacatccc gaaaggggtg ctaataccga atgttgata 180
 tgaggcgcag gcttcatata ttaaaggatt ctatccgctt tccga 225

<210> 1605
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 1605
 agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cgcaaggtg aggaacgcgt gagtgacctt cccgcaagtt 120
 tggacagct cctggaacg ggaattaata ccggatgtga tcatagggct gcatggtttt 180
 atgattaag cagcaatgag cttgcggatg ggctcgcgtc ccatt 225

<210> 1606
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Howardella*

<400> 1606
 agagtttgat catggctcag gataaacgct ggcggcgac ataagacatg caagtcgaac 60
 ggacttaact tctagcttgc tagaagagcg gttagtggcg gactggtgag taacacgtaa 120
 gaaatctgcc tatcagaggg gaataacagt gagaaatcac tgctaatacc gcatatgcca 180

tagttatcgc atgatgacag tgggaaagaa gcaattcgc gatag 225

<210> 1607
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pelospora

<400> 1607
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gaaatgagta gcttcggta cgagtttagt ggcggacggg tgagtaacgc gtggataatt 120
 tgcctttcag tgggggatag ctgagagaaa tctcaattaa taccgataa cataatttgt 180
 tcgcatgagt gattattaa agatgcaaat cgctggaaga gaagt 225

<210> 1608
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1608
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagtg accggagctt agaggctttc taggttgcca tcactagttc agtggcggac 120
 gggtgagtaa agcatgagta actttccat aagtggggaa tagcttttgg aaacagaaga 180
 taataccgca tgaatcgttg aggacacatg ttcacaacgg aaaag 225

<210> 1609
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1609
 agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacggata gaagcttgct tttagaagtc gagtggcaaa cgggtgagta acgcgtagac 120
 aacctgcctc tgggatgggg acaacagccc gaaagggctg ctaataccga atgaaatggt 180
 ttcttctct gaagatca tgaagatgg cctctaaatt atgct 225

<210> 1610
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Fibrobacter

<400> 1610
 agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagc 60

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gaggacgtag caatacgcgc cgagcggcga atgggtgagt aacgcgtaag caatctgccc 120
 cgattccgg aacaaccgtg ccaacgcgcg gctaatacgc ggagccgtgg cggccacat 180
 gggccgttga cgaaagattt atcgatgcgg gatgagcttg cgtcc 225

<210> 1611
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1611
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaagtctt gaaatgattc cttcgggatg aatggataga tggacagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg cccataagcg ggggatagcc gatggaaacg tcgagtaata 180
 cccatgaca taattgagtc gcatggctta attatcaaag attta 225

<210> 1612
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sphingomonas

<400> 1612
 agagtttgat catggctcag aacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 gagatcttcg gatctagtgg cgcacgggtg cgtaacgcgt gggaatctgc ctttggttc 120
 ggaataacag ttggaaacga ctgctaatac cggatgatga cgtaagtcca aagatttatac 180
 gccagaggat gagcccgcgt aggattagct agttggtgtg gtaag 225

<210> 1613
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1613
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgattg aaagcttgct tttgagagcc tagtgcaaa cgggtgagta acgcgtaggc 120
 aacctgcctt cgggatgggg acaacaggac gaaagccctg ctaataccga atgaagcatc 180
 ctccctgcat ggggagggtg tgaagatgg cctctgaata tgcta 225

<210> 1614
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

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<400> 1614
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gatgaaaccg ccctcgggcg gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccgcgc tccgggacag cctcgcgaaa gcgggattaa taccggatgc gccccggcgg 180
ccgcatggcc gccgggggaa agccctaagc ggcgcgggat ggggt 225

<210> 1615
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 1615
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
gggattcccc agcttgctgg g gatgagagc ggcggactgg tgagtaacgc gtgggcgacg 120
cgccccgtgg accgggatag cctgtggaaa cacagggtaa taccgggcga gctccccgcg 180
gccggaggcg ggggaggaaa ggagccgagg ctccgccacg ggagc 225

<210> 1616
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Mogibacterium

<400> 1616
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
gagaaattaa tcagaggcgt tttcggacaa gtcagattaa tggaaagcgg cggacgggtg 120
agtaacgcgt aggcaacctg cccttagcag agggatagcc attgaaacg atgattaaaa 180
cctcataacg ccaactcaac acatgttgag ctggccaaag attta 225

<210> 1617
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Adlercreutzia

<400> 1617
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
agttaaaccg gcttcggccg gaaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccgcgc accgggatag cccccgaaa gggggattaa taccggatgc gccgggaggg 180
ccgcatggcc ctccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 1618
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Selenomonas*

<400> 1618

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gagacgattt taagcttgct tagatgagtc gaggggcaaa cgggtgagta acgcgtagac      120
aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtcag      180
ttttccgcat gggagactga ttaaagatgg cctctacttg taagc                        225
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<210> 1619

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Methylobacterium*

<400> 1619

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agagtttgat cctggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgagc      60
gtagcaggc gtagcaatac gtgctgacga gcggcgaacg ggtgagtaat gcttaggaat      120
cttctcgta gtggggaata acttgggaa actcaagcta ataccgcata cgaactacgg      180
ttgaaagcgg gggatcgcaa gacctcgcgc tatgagatga gccta                        225
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<210> 1620

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Leuconostoc*

<400> 1620

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac      60
gcacagcga aggtgcttgc acctttcaag tgagtggcga acgggtgagt aacacgtgga      120
caacctgcct caaggctggg gataacattt gaaacagat gctaataccg aatgaaactt      180
agttcgcgat gacacaaagt taaaggcgc tttggcgta cctag                        225
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<210> 1621

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Pyramidobacter*

<400> 1621

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agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagttgtgc      60
ggcgagttt cgaagaagac ttcggttga attggaatg agcagcagcg gacgggtgag      120
taaagcacia ggacgtgtcc tgcagagggg gacaactacg ggaaaccgca gctaataccc      180
catacgccga gaggtgaaag cagcaatgcg ctggaggagc ggctt                        225
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<210> 1622
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1622
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgctttgc ggtgatgaag cttcggcaga ttcttgtaa gcatagtggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc ctctcagtgg gggatagcag ctggaaacgg ctggtataac 180
 cgcatatgcg cacggttccg catggaacag tgtgaaaaga tatat 225

<210> 1623
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Bacteroides*

<400> 1623
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcggga ggtcagcttg ctgacttcgc cggcgaccgg cgcacgggtg agtaacacgt 120
 atccaacctg ccgcgcactc cgggacagcc ctctgaaagg aggattaata ccggatgggtg 180
 tcatggaggg acatcccttc gtgactaaag attcatcggg gcgcc 225

<210> 1624
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 1624
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg gagtagcaat acacctggcg gcgaccggcg gaagggtgcg taacgcgtga 120
 gcaacatacc cgtcactggg ggataacagt tggaaacgac tcctaatacc ccataataca 180
 agaggtgaca tcatcttttg ttgaaagtta cggcgggtgac ggatt 225

<210> 1625
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Ruminococcus*

<400> 1625
 agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac 60
 ggtgaatact tagcttgctt tgtattcata gtggcggacg ggtgagtaac acgtgagcaa 120

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cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180
 tctcgcatgg gaatgttatc aatgaattt cgctcagaga tgggc 225

<210> 1626
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1626
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 gggactagtg accggagctt agagtaatt tgtctaggtt gcgatcacta gttcagtggc 120
 ggacgggtga gtaaagcatg agtaactttc ccataagtgg ggaatagctt ttggaaacag 180
 aagataatac cgcataaatc gttgagggca catgctcaca acgga 225

<210> 1627
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio

<400> 1627
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggttatct cgccgttgaa gcttcggcag agacatgagg taacttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccccgtacc ggggatagc agttggaaac gactgataat 180
 accgcataag cgcacggtgt ggcatcacac agtgtgaaaa actcc 225

<210> 1628
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Corynebacterium

<400> 1628
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaaaggcct cagcttgctg ggtactcga gtggcgaacg ggtgagtaac acgtgggtga 120
 tctgccctgc actttggat aagcccggga aactgggtct aataccgaat atgaccactt 180
 cttgatggtt gtggtgaaa gcttttgcg tgtgggatga gcctg 225

<210> 1629
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Proteinioborus

<400> 1629

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaactcgc tcagccgatt cttcgaaga aagcagagcg acggaaagcg gcggacgggt 120
 gagtaacgcg tgggaaacct gccctgtgca gggggacagc cgagggaaac ttcgattaat 180
 accccataac accaaagcat cgcatggtgc aatggtcaaa gattt 225

<210> 1630
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1630
 agagtttgat cctggctcag aacgaacgct ggcggcgtgc cttagcatg caagtcgagc 60
 ggaagaagt agcttgctac ttctgagagc ggcggactgg tgagtaacgc gtgggtgacg 120
 caccctgtg tcggggacag cccgtgaaa cacggagtga taccggatac ggtcccatgg 180
 atcagaaaca tgggaggaaa ggagctacgg cttcgcacgg ggagc 225

<210> 1631
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetivomaculum

<400> 1631
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtataga cgctgaagag gtttcgactg attcttgttt atacttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccctgtact ggggatagc agctggaaac ggctggtaat 180
 accgcataag cgcacgatac cgcatggtat agtgtgaaaa gctcc 225

<210> 1632
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1632
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggcgatta gaagcttgct tttatgagcc tagtgcaaa cgggtgagta acgcgtaggc 120
 aacctgcctt tgggatgggg acaacaggac gaaagccctg ctaataccga atgaagtagt 180
 cttccgcat ggagggacta tgaagatgg cctctacatg taagc 225

<210> 1633
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Aeropyrum pernix*

<400> 1633
 agagtttgat cctggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60
 ggtaatgtat agtacttgta ttatatatta tagtggcaaa cgggtgagta acgcgtgggg 120
 acgtaccctt cagtaatgaa taacggatgg aaacgtacgc taatacatta taggattgag 180
 agatgaaaga gagatcgctg agggagcggc ccgcgttaga ttagg 225

<210> 1634
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Atopobium*

<400> 1634
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggtaagacc ccttcggggg tgaataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
 tacctcttgc tctgggatag cctcgggaaa ccgtgggtaa taccggatac tctgtaactg 180
 tcgcatggcg gatacaggaa agcgcatacg gcaagagatg ggccc 225

<210> 1635
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1635
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacttagtt ggatgcttgc atccggcgac agttagtggc ggacgggtga gtaacgcgtg 120
 aataacctgc ccaacagagg gggataacgt ttggaaacga acgctaatac cgcataacat 180
 tatgtaccg catggtatta taatcaaagg agcaatccgc tgatg 225

<210> 1636
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1636
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacctaga gagtgaacag cttgctggga tctttcgaaa ggtagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctcatcagg gggatagcag ttggaaacga ctggtataac 180
 cgcataagcg cacagtaccg catggtatag tgtgaaaaac tccgg 225

<210> 1637

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1637
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gggAACtca tagtgagac ttcggTcaaa gcagtgagaa ttctagtggc ggacgggtga 120
 gtaacgcgtg gataacctgc cttaagaat tggataacag tgagaaatca ttgctaatac 180
 aatataagct tacagtctcg catgagacag tgagaaaaga tttat 225

<210> 1638
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1638
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gggactaac cgattaatcc ttcgggaagc gttgatttag tttagtggcg gacgggtgag 120
 taacgcgtga gcaacctgcc ttgaagaggg ggataacaca gggaaacttg tgctaatacc 180
 gcataacata tgacgatcgc atggtcgaca tatcaaagct cggac 225

<210> 1639
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1639
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaagtctt gaaatgatcc cttcgggggtg aatggataga tggacagtgg cggacgggCG 120
 agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata 180
 cctcatattg tagttaattc gcatggattg attatgaaag attta 225

<210> 1640
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1640
 agagtttgat catggctcag gatgaatgct ggcggcgtgc ctaatacatg caagtcgagc 60
 ggtaacaggg ggactcaccg tgctcttgac actcttgctt atgaggaaga ggtcggatcg 120
 agagtacagt gagtccctgc tgacgagcgg cggacggctg agtaacgcgt gggaacatac 180

cccaaactga gggataacta gtcgaaagat tagctaatac cgcat 225

<210> 1641
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 1641
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggagatattc cgccgttcaa ggtttcggct gagaacatgg gatatcttag tggcgaacgg 120
 gtgagtaacg cgtgaacaac ctgactcaaa gagggggata acaacgggaa actgttgcta 180
 ataccgcata agaccacagt gtcgcatggc acaggggtca aagat 225

<210> 1642
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1642
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 ggtaagtgcc cttcggggg cacgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccgtca tccgatagc cggtggaac gccggataat acggaatgaa cccttcggtg 180
 ggcatccacc ggagggcaag gcggcgacgc ggacggggac gggca 225

<210> 1643
 <211> 162
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1643
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga actcgagaaa gggtgctggt caaatagggc agtattcaga tgttagaaaa 120
 agaataagta ccggcaaact ccgtgccagc agccgcggta at 162

<210> 1644
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Asaccharobacter

<400> 1644
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggaaagcgc cctcgggcgc gactacagtg gcgaacgggt gagtaacacg tgaccaacct 120

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gcccccgca ccgggatagc cgggcgaaag cccgggtaat accggatgac cccgcaccgc 180
 ggcatcgcgg cgcgggcaaa gccagacgg cgggggatgg ggtcg 225

<210> 1645
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Microbacterium

<400> 1645
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtaaggcg gagcttgctc tgctggatca gtggcgaacg ggtgagtaac acgtgagcaa 120
 tctgccccga actctgggat aagcgtgga aacggcgtct aataccggat acgacacggg 180
 agggcatcct ctccgtgtgg aaagatTTTT cggttcggga tgagc 225

<210> 1646
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1646
 agagtttgat catggctcag aacgaacgcc ggcggcgcgt cttagcatg caagtcgggc 60
 gggatcaggg tgcttgacc ctgtgagagc ggcggactgg cgaggaacgc gtgggacgac 120
 tgccctccgc accgggacag ccggcagaaa tgccgggtga tacgggatga gctcgtgcga 180
 tgtggtgttg tacgaggaaa gctgccacgg cagcggcgga ggagc 225

<210> 1647
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Dethiosulfovibrio

<400> 1647
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacttt ggcggaagcc ttcgggtgga agctgatttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctggctgtga gggataacac agggaaactt gtgctaatac 180
 cacatgacgc atggagatcg catgttttcc atgccaaga tatat 225

<210> 1648
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1648

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagctcttt gaagggcggc ttcggccaaa cggatgagat gacttagtgg cgaacgggtg 120
 agtaacgcgt gaggaacctg cctttcagtg ggggacaaca gttggaaacg actgctaata 180
 ccgcataacg tacagaggtc gcatgacat tgtaccaaag attta 225

<210> 1649
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1649
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatta gaagcttgct tttatgacct gagtggcaaa cgggtgagta acgcgtagac 120
 aacctgcctc tcagatgggg acaacagccc gaaagggctg ctaataccga atgttgatt 180
 tcttccgcat ggaggagata ttaaagatgg cctctacttg taagc 225

<210> 1650
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1650
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcttgac gaatgattcc ttcgggatga tttctgatat gactgagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cctcttgag ggggatagtg tttggaaacg aacagtaata 180
 ccgcataacg tgtacggatg gcatcttctg tataccaaag attta 225

<210> 1651
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 1651
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagatattc ccttcggggg ataacttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgccttacag agaggaataa tgactggaaa cggtcactaa tacctcataa aatatttgaa 180
 tcgcatggtt tggatatcaa agaataatcg ctgtaagatg ggctc 225

<210> 1652
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Treponema
 <400> 1652
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 gggaataagg gagcttgctt cttatgaga gcggcggact ggtgagtaac acgtgggtaa 120
 cgcaccctcc tgacggggac agcctgtgga aacacagggg aataccggat gagatggact 180
 tctggaaggg agttcatgaa aggagctacg gctccgcagg gggaa 225

<210> 1653
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta
 <400> 1653
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60
 ggcaagacag tgcttgact gtcctagagc ggcggactgg tgagtaacac gtgggttacg 120
 taccctccgg acggggatag cctgtggaaa cacagggtaa taccggatac ggcggcacag 180
 catggagttg tgtcgggaaa ggagcttcgg ctccgccgga ggatc 225

<210> 1654
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia
 <400> 1654
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacctgatt aagtgattag cttgctaaga acttatgact ggtagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttggaaacga ctggaataac 180
 cgcataagcg cacggtaccg catggtacag tgtgaaaaac tccgg 225

<210> 1655
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus
 <400> 1655
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggggcacgat ttagatttct tcggaatgat agattattgc ttagtgccg acgggtgagt 120
 aatacgtgag taatctgcct tatagatggg gataacgatc agaaatggtc gctaataccc 180
 tataatgtat gtttccgca tggtagcat accaaagga ttcgc 225

<210> 1656

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrivibrio*

<400> 1656
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcga ttgtagcaat acgattggcg gcgaccggcg caaggggtgcg taacgcgtga 120
 gcaacatacc cgcaacaggg ggataagcga tggaaacgtc gtctaatacc ccatggagac 180
 caagggcggc atcgtccatg gcctaaacc acgggggttg cggat 225

<210> 1657
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pedobacter*

<400> 1657
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggagggggc ccttcggggc ctccgagagt ggcgcacggg tgcgtaacgc gtatgcaacc 120
 aaccccgcac tgggggacag ccggtggaaa cgccgggtaa taccatgc cgacgggagg 180
 ggacatcccc atccgttgaa aggcttcggt cgggtgcggga cgggc 225

<210> 1658
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirillum*

<400> 1658
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgaac 60
 ggcaagatgg agcttgctcc atcctagagt ggcggactgg tgagtaacac gtgggtgaca 120
 tgccttcag ttgggatag ctactagaaa tagtagataa taccgaatac ggtggcatat 180
 cttggaagta tgccaagaaa ggagctaagg ctccgctgag agatt 225

<210> 1659
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Parabacteroides*

<400> 1659
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgggg aggtagcaat acttccgccg gcgaccggcg cactggtgag taacacgtat 120
 gcaacctgcc cccggttggg gaataaccg cggaacgcg gactaatgcc ccgtatgcat 180

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ggccgccgca tgacggccat gtgatagaac ttcgtccggg gatgg 225

<210> 1660
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Methylococcus*

<400> 1660
 agagtttgat catggctcag attgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 gggagtaagg ggcaactctt actctagtgg cggacgggtg aggaatacgt aggaatctac 120
 cttagagtgg gggataactc ggggaaactc gagctaatac cgcatatggt ctacggagta 180
 aagggggcgc aagctctcgc ttaagatga gcctacgtcg gatta 225

<210> 1661
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Enterorhabdus*

<400> 1661
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaaccg cctccggggc gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgccccgcgc accgggacag cccccgaaa gggggattaa taccggatac tccggccggg 180
 ccgcatggcc cggccgggaa agctccggcg gcgcgggatg gggtc 225

<210> 1662
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*

<400> 1662
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggatagttag caatacatat tagtggcgga cgggtgagta acgcgtaatc aacctgccct 120
 ttacagggga ataacttg gaaacaggtg ctaataccgc atatgaccac aacacggcat 180
 cgtgaagggg taaaagtttt atcggtaaag gagggggttg cgtat 225

<210> 1663
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Gelidi bacter*

<400> 1663
 agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60

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ggcagcggga tntagcaata cattgccggc gagcggcggg cgggtgagta acgcgtatgc 120
aacctgcca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcattgg 180
gaccgcat cgggatccaa ttaaatattc ataggtggtg gatgg 225

<210> 1664
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Sporobacter

<400> 1664
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagcacaat ggaaggagac ttcggtcaac ggaagtgtg acttagtggc ggacgggtga 120
gtaacgcgtg agcaacctgc ctgagagtgg gggacaacag ctggaaacgg ctgctaatac 180
cgcataatac ttcggaagg catcttctga aagtcaaagc tttat 225

<210> 1665
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Pedobacter

<400> 1665
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
ggtaagcggc ccttcgggac tgcgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
acccccctcg ccgggatagc cgggtgaaac gccggataat accggatgcg ccgctgggga 180
ggcatctccc gagcggcaag gcggagacgc ggagggggac gggca 225

<210> 1666
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1666
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgaac 60
gagaaataca cttcgggtgta tggaaagtgg cggacgggtg agtaatgtgt agagaatctg 120
ccctgaagag ggggacaaca gagggaaact tctgctaata ccccatatgc gcgtagttga 180
gatactattc gtgaaagatt tatcgcttca ggatgagtct gcatc 225

<210> 1667
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Syntrophococcus

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<400> 1667
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacttgccc accgaagcgg aaggtgcttg cattcgaagc ttcaccgggc aggttagtg 120
 cggacgggtg agtaacgcgt ggggaacctg ccccgtagc ggggataaca gttagaaatg 180
 actgctaata ccgcataagc gcacactgag gcatctcaga gtgtg 225

<210> 1668
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Slackia*

<400> 1668
 agagtttgat cctggctcag gatgaacgcc ggcggcgcgc ctaacacatg caagtcgagc 60
 ggaggaccgc ccctcgggcg ggcgatcagc ggcgaacggg tgagtaacgc gtgggcaacc 120
 tgccccccgc acgggaatag ccccgggaaa ccgggggtaa tgcccgcagc cccggcagag 180
 gggcatccct ctgccggcga agccatcgcg gcgggggatg ggccc 225

<210> 1669
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Mogibacterium*

<400> 1669
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaatcta tgtgatgaaa cttcggtcga atcttttaga tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag ggggatagcc attggaaacg atgattaata 180
 ccccataata cggatttatc acatgttgaa tccgtcaaag attta 225

<210> 1670
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1670
 agagtttgat catggctcag gatgaacgct agctacagc ttaacacatg caagtcgagg 60
 ggcagcacgt gggtagcaat accctgggtg gcgaccggcg cacgggtgag taacgcgtat 120
 ccaacctggc ccatagtagg gaacagcccg gcgaaagtcg gattaatgcc ctatgttttc 180
 ctcagtgagc atttatgag gaacaaagac ttgtcgctat gggat 225

<210> 1671
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from *Pseudomonas fluorescens*

<400> 1671

```

agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc      60
ggagatgaat tgaatgagag cttcggcagg atttcgattg atcttagcgg cggacgggtg      120
agtaacgcgt gaacaatctg tcccacacag ggggataaca cttcgaaaga agtgctaata      180
ccgcataaga ccacggtgcc gcatggcaca ggggtaaaag aaatt                          225

```

<210> 1672

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Veillonella*

<400> 1672

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac      60
ggatgattcg gtctagcttg ctagatcggg gagtcagtgg cgaacgggtg agtaatacgt      120
aggcaacctg ccccaaagcg ggggatagca gttggaacg actattaata ccgcataggt      180
aatctcgagg catcttgaga ttattaaagg tgcgtttgca ccgct                          225

```

<210> 1673

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1673

```

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
gaagcacttt tccttgattc ttcggatgaa aaggaaattt gactgagtgg cggacgggtg      120
agtaacgcgt gggtaacctg ccctgtacag ggggataaca gttagaaatg actgctaata      180
ccgcataaga ccacagcatc gcatggtgca ggggtaaaaa ctccg                          225

```

<210> 1674

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Bacillus*

<400> 1674

```

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc      60
gaatggatta agagcttgct cttatgaagt tagcggcggg cgggtgagta acacgtgggt      120
aacctgccca taagactggg ataactccgg gaaaccgggg ctaataccgg ataacatttt      180
gaaccgcatg gttcgaaatt gaaaggcggc ttcggctgtc actta                          225

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<210> 1675
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pedobacter*

<400> 1675
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaacgcc cttcggggg cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctca ccgggatagc cggtggaac gccggataag accggatgcg ccgctgggga 180
 ggcatctccc cggcggcaag gcggcgacgc ggagggggac gggca 225

<210> 1676
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1676
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggagaagga gcttcggttc ccgatcagt ggcggacggg tgagtaacgc gtgagcaacc 120
 tgccttcgtg tggggaataa cacagggaaa cttgtgctaa taccgataa tgcaaagacg 180
 cagcattacg ttttgccaa agatttatcg catgaagatg ggctc 225

<210> 1677
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Fibrobacter*

<400> 1677
 agagtttgat catggctcag aacgaacgct ggcggcgtgc cttatacatg caagtcgagc 60
 gagggcgag caatgcgaac cgagcggcga acgggtgagt aacgcgtgaa caacctgccc 120
 caaagtccgg gatagccctt ccaacggagg attaataccg gatggcgagg gtttccgcat 180
 ggagacctat ccaagtctt ggcgctatgg gaggggttcg cgtcc 225

<210> 1678
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Paenibacillus*

<400> 1678
 agagtttgat catggctcag gattaacgct ggcacatgc ctaatacatg catgtcgagc 60
 ggagtttaga gagcttgctt tctaaactta gcggcaaagtg ggtgagtaac acgtaaggaa 120

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cctgcctaag tgacgaggac aacggttgga aacgactgct aatactggat agtataagaa 180
accgcatgat ttcttattta aaggtccggt tggaccacgc ttaga 225

<210> 1679
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Brevundimonas

<400> 1679
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctacatcatg caagtcgaac 60
gataaggttc cttcggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
ccctaaactg ggggacaaca gagggaaact tctgctaata ccccatacga gataagttga 180
aatatttatc ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 1680
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Desulfovibrio

<400> 1680
agagtttgat cctggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gcgaaagggg cttcgcccc aagtagagtg gcgcacgggt gagtaacgcg tggataatct 120
gccctgcaa ctggaatagc gactggaac ggtcgataat accggatagc cccttgttgt 180
acaacgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg 225

<210> 1681
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI

<400> 1681
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagacataa ggaacggagg cttcgccga agggagctat gttttagcgg cggacgggtg 120
agtaacgcgt gaacgatctg tcccttacag ggggataaca catggaaaca ggtgctaata 180
ccgcataaga ccacagagct gcatggctca ggggtcaaag gagga 225

<210> 1682
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Helicobacter

<400> 1682

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agagtttgat catggctcag agtgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gatgaagcct ttagcttgct agaagtggat tagtggcgca cgggtgagta atgcataggt 120
 tatgtgccct ttagtctggg atagccactg gaaacggtga ttaatactag atactcccta 180
 cgggggaaag ttttcgcta aaggatcagc ctatgtccta tcagc 225

<210> 1683
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1683
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcacgt gggtagcaat accctgggtg gcgaccggcg cacgggtgag taacgcgtat 120
 ccaacctggc ccatagtagg gaacagcccg gcgaaagtcg gattaatgcc ctatgttttc 180
 ctgagggagc atttatgag gaacaaagac ttgtcgtat gggat 225

<210> 1684
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1684
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggtgaaagaa gactgaagcc ttcgggcgga agttttttgg atcagtggcg gacgggtgag 120
 taacgcgtgg ataacctgcc tcatacaggg ggataacagg gagaaatcac tgctaatacc 180
 gcataagcgc acaggaccgc atggtctggt gtgaaaaact tcggt 225

<210> 1685
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1685
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgggt ttagcaata caatgccggc gaccggcgta aggtgagta acgcgtgagc 120
 gacgtgcccg tcacaggggg acaagcgtg gaaacggcgt ctgatacccc ataggaatgc 180
 tccctgcatg gggggtgttt gaaagattta tcggtgacgg atcgg 225

<210> 1686
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Herbiconiux*
 <400> 1686
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaaagcg ggagcttgct cctgctggat cagtggcgaa cgggtgagta acacgtgagt 120
 aacctgccct tgactctggg ataagcgctt gaaacgacgt ctaataccgg atacgacctt 180
 cggaggcatc tcctggaggt gaaagaatt tcggtcaagg atgga 225

<210> 1687
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*
 <400> 1687
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatt caagtcgaac 60
 ggtgaaggaa gcttgcttcc ggatcagtgg cggacgggtg agtaacgct gagcaacctg 120
 ccctgcattg ggggataaca cagggaaact tgtgctaata cctcatgaca catacttacc 180
 gcatgatagg tatgtcaaag agcaatc gatcaggatggg ctcgc 225

<210> 1688
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Rikenellia*
 <400> 1688
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggacgacgct ggtagcaata ccatggcggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgcctg taacaggggg ataaccgga gaaatttggga ctaataccgc atattgccga 180
 gctgcagcat tgcaattcgg cgaaggagc gatccggtta cagat 225

<210> 1689
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 1689
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgcgaga ggaagtgtt gcacggaatc aaacttgttt gtacttagtg 120
 gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaat 180
 tcctgctaata accgcatgag cgcacattac cgcattgtag agtgt 225

<210> 1690

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Hippaea*

<400> 1690
 agagtttgat cctggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaattcttac agagcatcgt aagagtttagc ggcaaacggg tgagtaacac atgggaaacc 120
 tcccttagaa tggggaatat ctccgtgaaa acggagctaa taccgataa gaccacagtt 180
 tggcatcaaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 1691
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lactobacillus*

<400> 1691
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 gaacaaact gaagattgat gcttgcatac tgattcagac cttggtgagt ggcggacggg 120
 tgagtaacac gtgggtaacc tgccaaaag tgggggataa catttgaaa caagtgctaa 180
 taccgataa caactacttt cacatgatcg tagcttgaaa gatgg 225

<210> 1692
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Eubacterium*

<400> 1692
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcttgat ttagatttc ttcggaatga taaatgatat gactgagtgg cggacgggtg 120
 agtaacgcgt gagcaacctg cccttcggag ggggatagcg tttgaaacg aacggtaata 180
 ccgcataatg ttaacggaag gcatcttctg ttaacaaaa ctccg 225

<210> 1693
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium IV*

<400> 1693
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggctgaag atggcacagg ctacactggg gagtcagggtg ggcgcgtgtc gtcttcagct 120
 tagtggcggg cgggtgagta acgcgtgagc gacctgacct atacaggggg acaacagctg 180

gaaacggctg ctaataccgc ataagaccac gtacctgagg gtagt 225

<210> 1694
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1694
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaaatattg gaaatgattc cttcggggag aatggaaata tggacagtgg cggacggggc 120
 agtaacgcgt gagtaacctg cccataagcg ggggatagcc gatggaaacg tcgagtaata 180
 ccccatgaca taattgagtc gcatggctta attatcaaag attta 225

<210> 1695
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 1695
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 gaaccatcct gaagattgaa gcttgcttca tgattcagat cttggtgagt ggcggacggg 120
 tgagtaacac gtgggtaacc tgccaaaag tgggggataa catttgaaa caagtgctaa 180
 taccgataa caactacttt cgcatgatcg tagtttaaaa gatgg 225

<210> 1696
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus

<400> 1696
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagcagaacc agcagattta cttcggtaat gacgctgggg acgcgagcgg cggatgggtg 120
 agtaacacgt ggggaacctg ccccatagtc tgggatacca cttggaaaca ggtgctaata 180
 ccggataaga aagcagatcg catgatcagc ttataaaagg cggcg 225

<210> 1697
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 1697
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60

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ggagatattc cgccgttcaa ggtttcggct gagaacatgg gatatcttag tggcgaacgg 120
 gtgagtaacg cgtgaacaac ctgactcaaa gagggggata acaacgggaa actgttgcta 180
 ataccgcata agaccacgcc ctcgcatggg ggaggggtaa aagat 225

<210> 1698
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1698
 agagtttgat catggatggg gatgcgtagg attaggcagt cggcggggta acgcccacc 60
 gagccgacga tccttagggg ttctgagagg aagggtcccc aactggtagc tgagacacgg 120
 accagactcc tacgggaggc agcagtgagg aatattggtc aatggtcgga agactgaacc 180
 agccaagtag cgtgcaggat gacggcccta cgggttgtaa actgc 225

<210> 1699
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Staphylococcus

<400> 1699
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gaacagacga ggagcttgct cctttgacgt tagcggcgga cgggtgagta acacgtgggt 120
 aacctaccta taagactggg ataacttcgg gaaaccggag ctaataccgg ataatatttc 180
 gaaccgcatg gttcgatagt gaaagatggc tctgctatca cttat 225

<210> 1700
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Tenacibaculum

<400> 1700
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggtaacaggc ggtagcaata ctgtgctgac gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgcccg cgacagggggg ataacggagg gaaacttcca ctaatatccc atgggtgccgg 180
 ggtctcgcac ggggccgagg ctaaaggggc gaccgggttg cggat 225

<210> 1701
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

ASBI_002_03W0_SeqList_ST25

<400> 1701
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggacgagggg cgtggcaaca cgccgccggc gaccggcgca ctggtgagta acacgtatgc 120
 aacctgcca tcggaggggg ataaccctg gaaacgcggc ctaatacccc gtacgccttt 180
 ggatcgcatg atttgagggt gaaaggaggc gactctgtcg atgga 225

<210> 1702
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XIVa

<400> 1702
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagacgagg cataagcttc cttcgggga agccgtttcg tcttagtggc ggacgggtga 120
 gtaacgcgtg gacaacctgc cgtatgctgg gggacaacag cgggaaactg ctgctaatac 180
 cgcataagcc ggggaggggg catccccatc ccgggaaaga tttat 225

<210> 1703
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1703
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggacttagag gggcttgctc ctcgaaagt agtggcggac gggtagtaac cgcgtgagca 120
 acctgccttt ttccggggga taacatcggg aaaccggtgc taataccgca taacgtacag 180
 gaaccgcatg atttttgtac caaagattca ttgggaaaag atggg 225

<210> 1704
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1704
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggacttagct ggatgcttgc atccggcgac agttagtggc ggacgggtga gtaacgcgtg 120
 aataacctgc ccaacagagg gggatacgt ttggaaacga acgctaatac cgcataatat 180
 tatgatatcg catggtatta taatcaaagg agcaatccgc tgatg 225

<210> 1705
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pedobacter

<400> 1705

agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 ggtaagtgcc ctttcggggg cacgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccgtct tccgatagc cggtggaac gccggataat acggaatgaa cccgaggagg 180
 ggcatccctt cgcgggcaag gcggcgacgc ggacggggac gggca 225

<210> 1706

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Helicobacter

<400> 1706

agagtttgat catggctcag agtgaacgct ggcggcgtgc ctaacacatg caagtcgcgc 60
 gggactttac agagtatcgt aaagtctagc ggcaaacggg tgagtaacac gtgggaaacc 120
 tccctcagaa tggggaatat ctccgggaaa ccggagtcaa taccgataa gaccacagtt 180
 tggcatcaaa caggggtcaa agcagtaatg cgttttgaga tggtc 225

<210> 1707

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Protei ni cl asti cum

<400> 1707

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggggacataa ttggaaaggc ttcggcccgg aaggttatgt tccagcggcg gacgggtgag 120
 taacgcgtga acaatctgtc ccagacaggg gaataacaga tggaacatc tgctaatacc 180
 gcataagacc acgaccgcac atcgggatga ggtaaaagga gcaat 225

<210> 1708

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anapl asma

<400> 1708

agagtttgat cctggctcag aacgaacgct ggcagtatgc ttaacatg caagtcgaac 60
 gagaaagtgt agcaatatat gagtaaagtg gcaaacgggt gagtaacaca caggaatcta 120
 cccagtagag aggaataagc actagaaatg gtgtctaata cctcataagc caatatagta 180
 aatatattg ggaaaggatt agtagtaata ttaattcact attgg 225

ASBI_002_03W0_SeqList_ST25

<210> 1709
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1709
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcatgg ggttggttc ggccgacatc gatggcgacc ggcggatggg tgagtaacgc 120
 gtatccaacc tgcccctgtc ccgcgacag cccttagaaa tgaggattaa cccgcatgt 180
 tgccccttg ccgcatgga ttggggtgaa atttttaagg acggg 225

<210> 1710
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1710
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagtattcc gcccgagacc agatgtagct tgctacggat gggatcaata gggatactta 120
 gtggcggacg ggtgagtaac gcgtgaataa cctgcccaac agagggggat aacgtttggg 180
 aacgaacgct aataccgcat aacattacgg tatcgcatgg tacag 225

<210> 1711
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mucilaginibacter

<400> 1711
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggattgcct ccttcgggag gcatgagagt ggcgcacggg tgcgcaacgc gtatgcaacc 120
 aacccccgac aggcggatag ccggtggaaa cgccggataa tacgcatgg ttccggtgga 180
 gggcatcctc tactggataa agccgagagg cggtcgggga cgggc 225

<210> 1712
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1712
 agagtttgat catggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatccggg aggtagcaat acttcttggg gagagtggcg gattggggag gaacacgtga 120

ASBI_002_03W0_SeqList_ST25

gcaacctgcc cttgagttgg ggaaaaccgt tggaaacgac ggctaatacc ggatgcggcg 180
 ccccgtagaca tcgctgggagc gctaaagggg gccgcaaggc tcccg 225

<210> 1713
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1713
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgattg agagcttgct cttgaaagcc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgcctc caagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtacc 180
 ttaaccgcat ggtgaaggta ttaaagatgg cctctatata taagc 225

<210> 1714
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Parabacteroides

<400> 1714
 agagtttaca tggctcagga tgaacgctag cgacaggcct aacacatgca agtcgcgggg 60
 cagcattgag gtagcaatac ttcagatggc gaccggcgca cgggtgcgta acgcgtatcc 120
 aacctggccc ttactcgggt atagccctgc gaaagtagga ttaatccccg atgtttgtcaa 180
 gatggagcct tttttcttga ccaaaggcat tagtcggtaa gggat 225

<210> 1715
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1715
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagatatcca tgacgaattc ttcggatgcc tgaatggatg gaaagcggcg gacgggtgag 120
 taacgcgtag gtaacctgcc ctgtacaaag ggatagccac tggaacggt gattaatacc 180
 ttatgacacc gcagcatccc atggtgaagc ggtcaaagat tttat 225

<210> 1716
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Coprococcus

<400> 1716

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcacctc aaccgaagaa gagaccagct tgctggtatt ggattcaccg gaggtgactt 120
agtggcgaac gggtagtaa cgcgtgggta acctacctt tacaggggga taacaattag 180
aatgattgc taataccgca taacttta gagccgatg gctca 225

<210> 1717
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Weissella

<400> 1717
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
gctttgtttt taattgatat gaagagcttg ctctgatttg atttatctg acaagagtg 120
gcgaacgggt gagtaacag tgggtaacct acctcttagc aggggataac atttgaaac 180
aagtgctaata accgtataac actaacaacc gcatggttgt tagtt 225

<210> 1718
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Pedobacter

<400> 1718
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
ggtaaatcc tcttcggggg attgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
acccccctcg ccgggatagc cggtgaaac gccggataat accggatgcg ccgcgtggga 180
ggcatctccc gtgcggcaag gcggagacgc ggagggggac gggca 225

<210> 1719
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI

<400> 1719
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggggacatac ggaacgaggg attcgtcccg agggaaatat gtttcagcgg cggacgggtg 120
agtaacgcgt gaacgatctg tccctgacag ggggataaca catggaaaca ggtgctaata 180
ccgcataaga ccacagcgt gcatggcgca ggggtcaaag gagag 225

<210> 1720
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Sphingomonas*
 <400> 1720
 agagtttgat cctggctcag aaggaacgct agctatatgc ttaacacatg caagtcgaac 60
 gttgttttcg gggagctggg cagaaggaaa agaggctcct agcgtgaagg ttgcttgtct 120
 cgcccaggag gtgggaacag ttgaaaacaa agtggcgaac ggggtgcgtaa tgcgtgggaa 180
 tctgccgaac agttcgggcc aatcctgaa gaaagctaaa aagcg 225

<210> 1721
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Treponema*
 <400> 1721
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
 gggattcatg tgcttgaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120
 caccccccg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180
 gttggaggag ggggagaaa ggggcttcgg ccccgccggg ggagc 225

<210> 1722
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Geobacter*
 <400> 1722
 agagtttgat catggctcag aacgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
 gtgaaagggg cttcggccct gagtaaagtg gcgcacgggt gagtaacacg tgaataatct 120
 gcccttatgt ctgggatagc agaccgaaag gactggtaac cccggataag cttccgcacc 180
 aaccgggtga gtggagaaaa atacgggatc gcaagaccgt atgca 225

<210> 1723
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*
 <400> 1723
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagatata cagcagaggc cttcgggcgg atgcagatat atacttagtg gcggacgggt 120
 gagtaacgcg tggagaacct gccgtatgca gggggacaac acctggaac ggggtgcta 180
 accgcataag cgcacgtgat agcattatcg agtgtgaaaa gctta 225

<210> 1724

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Filomicrobium

<400> 1724
 agagtttgat catggctcag agcgaacgct agcggaatgc ttatacatg caagtcgaac 60
 gaacgagttt atattgagta gcaatacgat ttataaatga gttagtggca aacgggtgag 120
 taatagttag gaacttgccg aatagtgggg gacaacagat agaaatgtct gctaataccg 180
 catattcccg agaggggaaa gatttattgc tatttgagag gccta 225

<210> 1725
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1725
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 gaaacgaca gagagtgctt gcactttttg ggcgtcgacc ggcgaatggg tgagtaacgc 120
 gtatccaacc tgcccttgac tgagggatag cccagtgaag actgaattaa tacctcatat 180
 cctcctccga cggcatcaga cgaggagtaa agatttatcg gtcaa 225

<210> 1726
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1726
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 ggtaagtgcc cttcggggg cagcagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 accccgtct tccgatagc cggtggaac gccggataat acggaatgaa ccctttgggg 180
 ggcatcccct ggagggcaag gcggcgacgc ggacggggac gggca 225

<210> 1727
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1727
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 ggtaagcgcc cttcggggg cgcgagagtg gcgcacgggt gcgtaacgcg tatgcaacca 120
 gccccgtcca ggcgatagc cggtggaac gccggataat accccacggt cccggagggg 180

ASBI_002_03W0_SeqList_ST25

ggcatccctt tccgggtgaa gcggagacgc gggacgggac gggca 225

<210> 1728
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1728
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagaccccg aggcagagat ttcggtcgaa gccaaaggag gactgagtgg cggacgggtg 120
 agtaacgct ggataacctg cccatacag ggggatagca gttgaaacg actgataata 180
 ccgcataagc gcacggggag acatctccta gtgtgaaaag agata 225

<210> 1729
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bifidobacterium

<400> 1729
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggatcggct ggagcttgct ccggccgtga gaggggcga cgggtgagta atgcgtgacc 120
 gacctgccc atacaccgga atagctcctg gaaacgggtg gtaatgccg atgctccagt 180
 tggatgcatg tccttctggg aaagattcta tcggtatggg atggg 225

<210> 1730
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 1730
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaaaaacttt caccgaatga aagatgaaga tcatcagat tctggatttc accgaaagtt 120
 tttagtggcg gacgggtgag taatacgtag ataatctgcc ttctagaggg aaataacaga 180
 gagaaattc tgctaatgtc ccataagacc aactatggc atctt 225

<210> 1731
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 1731
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60

ASBI_002_03W0_SeqList_ST25

ggagtatagg agcttgcttt tatacttagt ggcggacggg tgagtaacac gtgagcaacc 120
 tgcctttcgg agaggaataa tgattggaaa cggtcactaa tacctcataa aatatattta 180
 tcgcatggtg agtatataca agatttatcg ccgagagatg ggctc 225

<210> 1732
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Flavobacterium

<400> 1732
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcggga ggtggcaaca ccttgccggc gaccggcgca cgggtgcgta acgcgtatgc 120
 aacctgtccg ggacagtggg acagccccc gaaaggggga ttaataccgc atggctcttc 180
 aggaccgat ggtcttgaag gtaaacattc atgggtccc gctgg 225

<210> 1733
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rhodospirillum rubrum

<400> 1733
 agagtttgat cctggctcag aatgaacgct ggcggcgtgg attagcatg caagtcgagc 60
 gggagtagca atactccagc ggcgaaagg atagtaacgc gtagttacca acccccggga 120
 ctgggatagc ttttgaaac gaaaggtaat accagataac atctccggat caaaggtgag 180
 attccgcctg gggacgggac tgcgtcctat tagttagttg gtgag 225

<210> 1734
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1734
 agagtttgat cctggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaatccagc caaatgttta ccatgaggcg aagatttagt ggcggacggg tgagtaacac 120
 gtgagcaacc tacctcagg agggggataa cattgagaaa tcagtgctaa taccgcataa 180
 tactatgaga agacatcttc acatagtcaa aggatttccg cctaa 225

<210> 1735
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 1735
agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgagg 60
ggcatcagga cggtagcttg ctatcgttgc tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180
tccgaagagg gcatctgatt tggataaag attgatcggg catgg 225

<210> 1736
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Limibacter

<400> 1736
agagtttgat catggctcag gatgaacgct agcggcaggg ctaatacatg caagtcgtac 60
ggtaagcgcc ccttcggggg tgcgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
acccccctcg ccgggatagc cgggtgaaac gccggataat accggatgcg ccgcagggga 180
ggcatcttcc cggcggcaag gcggagacgc ggaggggggac gggca 225

<210> 1737
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Saccharofermentans

<400> 1737
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gaggacaacg gcttcggtcg ttgttcgagc ggcggacggg tgagtaacgc gtgaacaatc 120
tgtccctgac agggggataa cacttgaaa caggtgctaa taccgataa gaccacagga 180
ccgcatggtt caggggtcaa aggagcaatc cggtgagggg tgagt 225

<210> 1738
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1738
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaggtgtagc aatacaccga gtggcggacg ggtgagtaac gcgtgagcaa cctgcccttg 120
tcaggggaat aacacagaga aatctgtgct aataccgcat gacgttgaat caaggcatct 180
tgaatcaacc aaagcgaata agcggacaag gatgggctcg cgtcc 225

<210> 1739
<211> 225
<212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium III

<400> 1739

agagtttgat catggctcag gatgaacgct ggcggcgcac ataagacatg caagtcgaac 60
 gaacttaggc tctttctttt agttagagta cggttagtgg cggactggtg agtaatgtat 120
 aagcaacctg cctatcagag ggaataaca gtgagaaatc attgctaata ccgcatatgc 180
 taacagaatc gcatgattta gttaggaaag gagtaatccg ctgat 225

<210> 1740

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 1740

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcgggg gcttagcttg ctaagcttgc cggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccgcagga ggaacagcc cggcgaaagt cggattaatg ccctatgaat 180
 tcctttgatg gcatctgatg aggaataaag atttatcgcc tgcgg 225

<210> 1741

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pseudoxanthomonas

<400> 1741

agagtttgat catggctcag agtgaacgct ggcggtaggc ctaacacatg caagtcgaac 60
 ggcagcacag gagagcttgc tctctgggtg gcgagtggcg gacgggtgag gaatacatcg 120
 gaatctactc tgtcgtgggg gataacgtag ggaaacttac gctaataccg catacgacct 180
 acgggtgaaa gtgggggacc gcaaggcctc acgcgataga atgag 225

<210> 1742

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Anaerorhabdus

<400> 1742

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggacgctctg acaagcttgc ttgaaagagt agtgcgtggc gaacgggtga gtaatacata 120
 ggcaacctgc cccgatgagc gggataacca atggaaacgt tggataatac cgcataaggta 180
 atccgaaggc atctttggat tattaaagtc gcgtttgcgg cactt 225

ASBI_002_03W0_SeqList_ST25

<210> 1743
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium III

<400> 1743
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaaatgat gatttgattc cttcgggatg aaaagattca tggacagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata 180
 cctcatattg taatttgatc gcatgattga attatgaaag attta 225

<210> 1744
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Streptomyces

<400> 1744
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaaccgg cttcggccgg ggattagtgg cgaacgggtg agtaacacgt gggcaatctg 120
 ccctgcactc tgggacaagc cctggaaacg ggttctaata ccggatacga ccgtttgagg 180
 catctcatgg cggtggaag ctccggcggt gcaggatgag cccgc 225

<210> 1745
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1745
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaattgc cttcgggga catgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctca ccgggatagc cggtggaac gccggataag accggatgcg ccggcgggga 180
 ggcatctccc tgtcggcaag gcggcgacgc ggagggggac gggca 225

<210> 1746
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cellulomonas

<400> 1746
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaagacc agcttgctgg ttgatcagt ggcgaacggg tgagtaacac gtgagcaacc 120

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tgcccttcac tctgggataa gccttgaaa cggggctaa taccggatat gacgtcccta 180
 cgcatgtggg ggtgtggaaa gatttatcgg tgggggatgg gctcg 225

<210> 1747
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1747
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcatggt gaaagagtc cttcgggacg atggaagaca tgacttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaata 180
 accgcataag cgcacagctt tgcatgaagc agtgtgaaaa gcgca 225

<210> 1748
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Olivibacter

<400> 1748
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
 ggtaaacggc cttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccctcg ccgggatagc cggtgaaac gccggataat accggatgcg ccgctgggga 180
 ggcatctccc gtgcggcaag gcggagacgc ggagggggac gggca 225

<210> 1749
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1749
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 ggcaagttgg tgcttcacc aaccagagc ggcggactgg tgagtaacgc gtgggtgacg 120
 caccctccgg acggggacag cccgtgaaa cacggggtaa taccggatac ggcggcatgg 180
 gctggagcca tgccgggaaa ggagcttcgg ctccgccggg ggagc 225

<210> 1750
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Gelidibacter

<400> 1750

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agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
ggcagcggga ttagcaata cattgccggc gagcggcgga cgggtgagta acgcgtatgc 120
aacctgccca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcattgg 180
gagccggcat cggcatccaa ttaaatttt ataggtggtg gatgg 225

<210> 1751
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Ruminococcus

<400> 1751
agagtttcat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgaac 60
ggagaatgct tagcttgctt tgcgttctta gtggcggacg ggtgagtaac acgtgagcaa 120
cctgcctttt ggcgaggat agcttctgga aacggatggt aatacctcat aaatatagct 180
gaatcgcgatg atttagttat caaagaattt cgccaaaaga tgggc 225

<210> 1752
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1752
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagaatctgt ggaaggagtt ttcggacaac ggaaacagag gaaagtggcg gacgggtgag 120
taacgcgtga ggaacctgcc ttggagaggg ggacaacagc tggaaacggc tgctaatacc 180
gcatgatgcg tgaggagac atctcccaca cgccaaagat ttatc 225

<210> 1753
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Gemmatimonas

<400> 1753
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcacgg 60
gggcccgcaa gggtaccgg cgaacgggtg cgtaacacgt gagcaatctg ccgtacactg 120
gggatagcc ggccaacgg ccgggtaata ccgcatacgt tccctgtctg gcatcggatg 180
gggaggaaac ctccgggggt gtacgaggag ctcgcgccct atcag 225

<210> 1754
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1754
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga aggaagcttg cttcctttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccttaactt gggaatagcc cggtgaaaac cggattaatg cccgatgtgg 180
 tccagcgagg gcatctgacc cggaccaag attttttcgg ttaag 225

<210> 1755
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ethanoligenens

<400> 1755
 agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 ggagcaaaga gggcttgccc tttttgctta gtggcggacg ggcgagtaac gcgtgagcaa 120
 cctgcccctc agaggggaat aacgtccgga aacggacgct aataccgcat aacgcagcgg 180
 gaccgcatgg ttctgctgcc aaaggagcaa tccgctgagg gatgg 225

<210> 1756
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Leucobacter

<400> 1756
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gatgaagccc agcttgctgg gtggaagagt ggcgaacggg tgagtaacac gtgagtaacc 120
 tgcccctgac tctgggataa gcgctggaaa cggcgtctaa tactggatat gagcaatggc 180
 cgcatggtct gttgttgaa agatttatcg gttggggatg gactc 225

<210> 1757
 <211> 184
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1757
 agagtttgat cctggctcag gataaacgct ggcggcgtgc tttgcacaat gggggaaacc 60
 ctgatgcagc gacaccgcgt gagcgatgaa atatttcggt atgtaaagct ctatcagcag 120
 ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgg 180
 taat 184

<210> 1758

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1758
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gaagcgcctg cttctgatct ttcgggtgaa gaaacaggcg actgagcggc ggacgggtga 120
 gtaacacgta gggaacctgc ctacacacagg gggataacag ttagaaatga ctgctaatac 180
 cgcataagcg cacaggaccg catggtctgg tgtgaaaagc tccgg 225

<210> 1759
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eggerthella

<400> 1759
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gattaacca tcttcggatg gttatagagt ggcgaacggg tgagtaacac gtgatcaacc 120
 tacctttcac tttgggataa ctacgggaaa ctgtagctaa taccaaatac tcctgggggtt 180
 ccgcatggcg ccctagggaa agttccggcg gtgaaagatg ggatc 225

<210> 1760
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1760
 agatttgatc atggctcagg atgaacgcta gctacaggct taacacatgc aagtcgaggg 60
 gtaacggcag tgaagcttgc tttactggcc gacgaccggc gcacgggtga gtaacgcgta 120
 tccaacctgc ccatgactca gggataacct tccgaaaggg agcctaatac ctgatgtttg 180
 gagacgaggg catctgagtg tcaccaaaga ttcacggctc atgga 225

<210> 1761
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1761
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gagttgcttg caacttctga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccgacctt ccctcaggtg gggaacagcc cggcgaaagt cggattaatg ccctatagtc 180

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tgcgattgc gcatgttggt tgcagtaaag atttatcgcc tgggg 225

<210> 1762
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Solobacterium

<400> 1762
 agagtttgat catggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gatgaagttc tcaagcttgc ttgagaatag attagtggcg aacgggtgag taatacataa 120
 gcaacctacc catgaagact gggataatct ctggaaacgg ggactaatac cggataggta 180
 agcggaccgc atgatctgct tattaaggt taaaacact gatgg 225

<210> 1763
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Xanthobacter

<400> 1763
 agagtttgat cctggctcag agcgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
 gcccggaac gggagcggca gacgggtgag taacgcgtgg ggatctacc attggtacgg 120
 aataaccag gaaacttgg actaataccg tatgtgtcct tttggagaaa gatttatcgc 180
 caatgatga accgcgtcg gattagctag ttggtgggt aaagg 225

<210> 1764
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1764
 agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
 gggatccatg aagtagcaat acggattggt gagagtggcg gaagggcgag gaacacgtga 120
 gcaacctgtc cttgaggtgg ggaaaaccgt tggaaacgac ggctaatacc gaatgtggcg 180
 cccggagaca tctccgagc gctaaaggg gcccaaaagg ctctc 225

<210> 1765
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfovibrio

<400> 1765
 agagtttgat cctggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

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gcgaaagggg cttcgcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct 120
 gccctgtga ctggaatagc gactggaac ggtcgataat accggatagc cccttgttga 180
 acgatgaggg gaaaggagac ctctgcttgc aagtttccgt gcagg 225

<210> 1766
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Microbacterium

<400> 1766
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggtgaaagcg gagcttgctc tgctggatca gtggcgaacg ggtgagtaac acgtgagcaa 120
 tctgcccttg actctgggat aagcgcctgga aacggcgtct aataccgat acgagctgcg 180
 aaggcatctt cagcagctgg aaagaacttc ggtcaaggat gagct 225

<210> 1767
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1767
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaagcattct ggaaggagac ttcggtcaac ggaagggatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctgc ctgagagtgg gggacaacag ctggaaacgg ctgctaatac 180
 cgcatgatac ttttgaagg catcttctga aagtcaaagc tttat 225

<210> 1768
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Blautia

<400> 1768
 agatttgatc atggctcagg atgaacgctg gcggcgtgcc taacacatgc aagtcgaacg 60
 gagatcttat gaaagcggc ttcggccaat ggatatctga tcttagtggc ggacgggtga 120
 gtaacgcgtg gggaacctgc cctgtactgg gggataacac ccagaaatga gtgctaatac 180
 cgcataagcg cacagtaccg catggtacag tgtgaaaaac tccgg 225

<210> 1769
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papillibacter

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<400> 1769
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagttatth cgcacacgga gccactgagg aattagtggg tgcgtgttg ggataactta 120
 gtggcgaacg ggtgagtaac gcgtaagcaa tctgccttac agagggggat aacgtttgga 180
 aacgaacgct aataccgcat aacgtcatga agaggcatct tttta 225

<210> 1770
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1770
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggagcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccgacctt ccccctgccc aggtatagtc cgctgaaagg cggtttaatc cctgggtgctg 180
 tcctgggggt gcatgccatc gggacgaaag gatttccggc agggg 225

<210> 1771
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lenti sphaera

<400> 1771
 agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gccccgggct ttgcccgggg agtgggcaaa gggtgcgcaa cgcgtgggga acccgcccc 120
 gggcccggga caagcgttg aaacggcgtc tgatacggga tgtcgagccg ggccgcatgg 180
 cccggcgtcg aaagattcat cggccgggga gggccccgcy tccca 225

<210> 1772
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 1772
 agagtttgat catggctcag attgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 gggactaaga gagaagcttg cttactttt agtttagtgg cggacgggtg agtaacacgt 120
 gagtaacctg cccttatcag gggaatagcc tccggaaacg gagagtaata ccgcataaga 180
 tgacgatgtg gcatcacata gtcataaaag attttatcgg ataag 225

<210> 1773
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 1773

agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg	60
ggcagcgtgg gggtagcaat actcccgacg gcgaccggcg cacgggtgag taacgcgtat	120
gcaaccttc ccagacaggg ggatagcca gggaaacttg gattaatacc ccgtaggcca	180
gaagagggca tcctcatctg gttaaagttc cggcggctctg gggtg	225

<210> 1774

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Catonella

<400> 1774

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggggacgtcc cgccgttgaa gcttcggcag agacatggga catcctagtg gcggacgggt	120
gagtaacgcg tgggcaacct gccctgtact ggggatagc agctggaac ggctggtaat	180
accgcataag cgcacagtgt cgcatgacac agtgtgaaaa gctcc	225

<210> 1775

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1775

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac	60
ggaagttatt gggagcttgc tcttgatgac tttagtggcg gacgggtgag taacgcgtgg	120
gtaacctgcc tcatcaggg ggataacagt tagaatgac tgctaaaacc gcataacatg	180
atggaaccgc atgatttcat catcaatat ttataggtat gagat	225

<210> 1776

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1776

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggagttaaca atggaagttc cttcggggac ggaagctggt aacttagtgg cggacgggtg	120
agtaacgcgt gagtaacctg ctttcagag ggggataacg ttcggaaacg aacgctaata	180
ccgcataaca tagcgatacc gcatgtaat gctatcaaag gagca	225

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<210> 1777
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from unknown taxa

 <400> 1777
 agagtttgat catggctcag aacgaacgct ggcgcgtgg attagcatg caagtcgaac 60
 gggatccatg aagtagcaat acggattggt gagagtggcg gaagggcgag gaacacgtgg 120
 gcaacctgtc tttgaggtgg ggaaacctc gggaaactga ggctaatacc gaatgtggcg 180
 cggaagggca tccttctgc gctaaagggg gcgaaagctc ccct 225

 <210> 1778
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium XI

 <400> 1778
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagatacgt aaaagaagtt ttcggatgga attacatat cttagtggcg gacgggtgag 120
 taacacgtaa acaatctgcc tttgagagcg ggataacaga tagaaatatt tgctaatacc 180
 gcataagacc acaacatcgc atgatgaagg ggtaaaaggg gagca 225

 <210> 1779
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Prevotella

 <400> 1779
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacgggc agcagtgctt gactgctgt gctgacgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc ttccatgag tagtgcatag cccggcgaaa gtcggattaa ttactatat 180
 gtggcatttc ggcatttita tgtcacgaaa gattcatcgc tcatg 225

 <210> 1780
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from unknown taxa

 <400> 1780
 agagtttgat catggctcag gatgaatgct ggcggcgtgc ctaatacatg caagtcgagc 60
 ggtaacaggg ggactcaccg tactcttgac actcttgccc agagaggaag aggtcggatc 120

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gagggtagcag tgagtccccg ctgacgagcg gcggacggct gagtaacgcg tgggaacata 180
 ccccaaactg aggataact agtcgaaaga ttagctaata ccgca 225

<210> 1781
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogi bacterium

<400> 1781
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaagccaa ttgaaagcgt tttcggacaa ttctgtttgg tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa 180
 cctcataatg ccgattcaac acatgttgaa ccggccaaag attta 225

<210> 1782
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1782
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtttaga tgaaacctag tgattctaaa cctagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc gtagcaggg ggacaacagt tggaaacgac tgctaatacc gcataagcgc 180
 acagttcac atggagcagt gtgaaaagat ttatcggcat acgat 225

<210> 1783
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminococcus

<400> 1783
 agatttgatc ctggctcagg acgaacgctg gcggcagcgt taacacatgc aagtcgaacg 60
 ggactaagag agaagcttgc ttcactttta gtttagtggc ggacgggtga gtaacacgtg 120
 agtaacctgc cttatcagg ggaatagcct ctggaaacgg agagtaatac cgcataagat 180
 ggcaatgtgg catcatag tcataaaaga ttttatcgga taagg 225

<210> 1784
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1784

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agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaaatagt gatatgaac ttcggtagat tggatctatg gacagcggcg gacgggtgag 120
taacgcgtgg gcaacctgcc cttttctgga ggatagccaa gggaaacttt gaataatact 180
ccataacgca agagcatcgc atggtgcact tgccaaagat ttatc 225

<210> 1785
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1785
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggagacatac cacgaagtga aagttttcgg acggaagcgg agagatatgt tttagcggcg 120
gacgggtgag taacgcgtga gcaacctgtc cctcacaggg ggataacaca tcgaaaggtg 180
tactaatacc gcatgagacc acggcgggac atctcgcagg ggtca 225

<210> 1786
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Rhodococcus

<400> 1786
agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
gcggtcagca atgcacgagt ggcgcacggg tgagtaacgc gtggatatct gccttttggg 120
tcggaataac cccgggaaac tggggctaata accggatggt tcctacggga taaagattta 180
tcgcaaaaag atgagtccgc gtccgattag ctagttggtg gggtta 225

<210> 1787
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyrivibrio

<400> 1787
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagaacca cgaacgagtt ttcggacaag taagtggaat tcttagtggc ggacgggtga 120
gtaacgcgtg agcaacctgc ctttcagagg gggataacag tgggaaacca ctgctaatac 180
cgcataacgt atatataagg catcttagat ataccaaagg agcaa 225

<210> 1788
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Saccharofermentans
 <400> 1788
 agagtttgtc ctggctcagg atgaacgctg gcggcgtgct taacacatgc aagtcgaacg 60
 gagatataatg tatgaagttt tcggatggaa tgtatataatc ttagtggcgg acgggtgagt 120
 aacgcgtaaa caatctgcct tagagagggg gataacagat agaaatatct gctaataaccg 180
 cataagacca cgtacaggca tctagacggg gtaaaaggag caatc 225

<210> 1789
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 1789
 agagtttggat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gagttgcttg caattcccga tggcgaccgg cggatgggtg agtaacgcgt 120
 atccaacctg tcccgcgcgc ggggacagcc cttggaaatg aggattaacc cccgatagggc 180
 catggggccg catggtttca tggatgaacct ttgcgcgggt tgggg 225

<210> 1790
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mannheimia
 <400> 1790
 agagtttggat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggaatatt gcacaatggg ggaaccctg atgcagccat gccgcgtgtg tgaagaaggc 120
 cttcgggttg taaagcactt ttgcattcga ggaagacggc gtataaataa atgcgctatt 180
 tgacgttaga gtgtgaataa gcaccggcaa actccgtgcc agcag 225

<210> 1791
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lactobacillus
 <400> 1791
 agagtttggat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gagacttttt attgatgct tgcattttt aaaaagttga gtggcgaacg ggtgagtaac 120
 acgtgggtaa cctgccttaa agtgggggat aacacttggg aacaggtgct aataccgcat 180
 aaccatcaaa accgcctggt tttgatgtta aagatggttc tgcta 225

<210> 1792

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1792
 agagtttgat cctggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaacttagt tgaatgttta catgagacga aagtttagtg gcgacgggt gagtaacacg 120
 tgagcaacct gcctttaaga gggggataac attgagaaat cagtgctaata accgcataaa 180
 gcatagcatt cgcatgtaag ctatgccaaa ggagaaatcc gctta 225

<210> 1793
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1793
 agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 ggactgattg gggagcttgc tctccatgaa agtttagtggc ggacgggtga gtaacgcgtg 120
 agcaacctgc ctttgcgagg gggataacac agagaaatgt gtgctaatac cgcatgacgc 180
 accgaggtca catggccatg gtgtcaaagg agcaatccgc gcaaa 225

<210> 1794
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adlercreutzia

<400> 1794
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggttaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120
 tgcccccg tccgggataa cccaggaaa cctgcgctaa taccggacga tgccgcaagg 180
 gcgcatgcc tcgcggccga agcccaggcg gcgggggatg gggtc 225

<210> 1795
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1795
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggactgatt gaaagcttgc ttttgaaaag tctagtggca aacgggtgag taacgcgtag 120
 gcaacctgcc tctaagatgg ggacaacagt ccgaaaggac tgctaatacc gaatgttgtg 180

agtttttcgc atgaaagact cattaagat ggcctctact tgtaa 225

<210> 1796
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paeni bacillus

<400> 1796
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgtac 60
 gcgagggccc aatgaagaca ttgaaactga agaagcttgc ttctgatgtg gatttgttgg 120
 atttgattt tcctcgagt ggcaaacggg tgagtaacac gtgggttacc tgcctctatg 180
 ttggggataa cagttggaaa cgattgctaa taccgaatat gctct 225

<210> 1797
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1797
 agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
 ggagagtgtg ttttgaattc ttcggaagga aaggcacatt tcttagtggc ggacgggtga 120
 gtaacacgtg agcaacctgc cttgtagagg gggataacga ttggaaacga tgcctaatac 180
 cacatgatat atgggtatcg catggaacc atatcaaaga tttat 225

<210> 1798
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paeni bacillus

<400> 1798
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgaac 60
 gaggtggccc aatgaagggt gagtgcttgc acaatactgg atttgattc cgcctagtg 120
 gcagacgggt gagtaacacg tgggttacct acctctttgt tggggataac agttggaaac 180
 gattgctaataccgaataag atactcgtat tgaaggagc tttca 225

<210> 1799
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyricimonas

<400> 1799
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

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ggcagcgcgg ggtagcaata ctctggcggc gaccggcgga aggggtgcgta acgcgtgagc 120
aacttgcccg tctactggggg ataggcactg gaaacggtgt gtaatactcc ataacatag 180
gattcacatg gatttatatt gaaagattcg ttggtgacgg atggg 225

<210> 1800
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Wandonia

<400> 1800
agagtttgat catggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
ggcagcagga ggtagcaata ccttgctggc gaccggcgca cgggtgcgta acgcgtatgc 120
aacctacca tgacaggggg ataacggaga gaaatttcca ctaatacccc gtattgttca 180
ggaatcgcag ggtttttgga cgaaagcctt tgggcgggtca tggac 225

<210> 1801
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Punicococcus

<400> 1801
agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc 60
gagaagggtc cttcgggtat cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120
cccttaagac gggaatagct tgatgaaaat tgagataatg cccgatatca aattcttccg 180
catggaagaa gtttgaaagg tttgtgatga cgcttaagga gggac 225

<210> 1802
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lactonifactor

<400> 1802
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatcg ggcagtgggg gatattgcac aatgggcgca agcctgatgc agcgacgccg 120
cgtaaggaa gacgtatttc ggtatgtaa cttctatcag cggggaagaa gatgacggta 180
cccgactaag aagccccggc taattacgtg ccagcagccg cggt 225

<210> 1803
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Selenomonas

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<400> 1803
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagacggatt gaaagcttgc ttttgaaatg tcgagtggca aacgggtgag taacgcgtag 120
acaacctgcc gcaaatgagg ggacaacagt ccgaaaggac tgctaatacc gaatgttgtc 180
aagtttccgc atgggagctt gattaaagat ggcctctact tgtaa 225

<210> 1804
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Brevundimonas

<400> 1804
agagtttgat catggctcag gacgaacgct ggcgggtgtgc ctacacatg caagtcgaac 60
gataaggctt cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120
ccctaaagcg ggggacaaca gagggaaact cctgctaata ccccatatga gcttgggtga 180
aataccaatc ttgaaagatt taccacttta ggatgagcct gtgcc 225

<210> 1805
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1805
agatttgatc ctggctcagg atgaacgcta gctacaggct taacacatgc aagtcgaggg 60
gcagcgggaa gtttgcttgc aagcttcgcc ggcgaccggc gcacgggtga gtaacgcgta 120
tccaacctgc cccacggctg gggacagccc ggcgaaagtc ggattaacct cccgatgttc 180
cgcaagacgg catcagattg cgggtaaagg ctctgccgcc gtggg 225

<210> 1806
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Gelidibacter

<400> 1806
agagtttgat cctggctcag gataaacgct agcggcaggg ctaacacatg caagtcgagc 60
ggcaacggga gtagcaatac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
cctgcccatac acacggagat agccgaccga aaggacgatt aaactccgat ggcatcaaga 180
gggggcatcc ccatttgatt aatattcat aggtgatgga tgggc 225

<210> 1807
<211> 225
<212> DNA

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<213> Unknown

<220>
<223> Encodes 16S rRNA from Mogibacterium

<400> 1807
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
gagaagctcc attgaagcgt tttcggacaa ttcaaaggag tggaaagcgg cggacgggtg 120
agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaata 180
cctcataacg ccaactcaac acatggtgag ctggcctaag attta 225

<210> 1808
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1808
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagttggtt ccatccgaca gaatatcttc ggatatgaag tcaccggaaa cgcttagtgg 120
cggacgggtg agtaacgcgt gggcaacctg ccctacacag ggggatagcg gttggaaacg 180
accgtaata ccgcatacct ttattgaacc gcatgattta ataaa 225

<210> 1809
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Coprococcus

<400> 1809
agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggactgatga gagagcttgc tctttctgaa agttagtggc ggacgggtga gtaacgcgtg 120
ggaaacctgc ctactactgg gggataacag atggaaacgc ctgtaatac cgcataagcg 180
cacggtgctg catggtaccg tgtgaaaac tctggtggtg taaga 225

<210> 1810
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1810
agagtttgat catggctcag aacgaacgct ggcagcgtgg attaggcatg caagtcgaac 60
gggatccgga aggtagcaat atcgccgggt gagagtggcg gaagggcgag gagcacgtgg 120
acaacctgtc cagaggacgg ggaaaacctc gggaaactga ggctaatacc cgatgcgccg 180
ggagctgggc atccatcttc cggcaaaggg ggcgaaagct cccgc 225

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<210> 1811
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Barnesiella*

 <400> 1811
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcatta tcgaagcttg cttgataga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atgcaacctg tccgtcatag tgggataatc ccgagaaatt gggctctaata ccacgtatgc 180
 cgtatatggg catccatgta cggtgaaaga gattcgttga cggtt 225

 <210> 1812
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from unknown taxa

 <400> 1812
 agagtttgat catggctcag aacgaacgct ggcagcgtgg atgaggcatg caagtcgaac 60
 ggtcgtgtgc tggtagcaat attggtgcac gatagtggcg gaagggcgag taatgcgaga 120
 gcaagctacc cctcgattcg gaacaacggc tggaaacggc cgctaatacc ggatacgaac 180
 gcgaagccgc atggctttgc gttgaaaggc cgggacccgc aaggg 225

 <210> 1813
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

 <400> 1813
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatgtga caccggaaga ggattcgtct gattccaccg ttgcatctta gtggcggatg 120
 ggtgagtaac gcgtggataa cctgcccttc actgggggat aacaaccgga aacgggtgct 180
 aataccgcat aggcgcacgg ggccgcatgg cttgagcgt aaaga 225

 <210> 1814
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Anaerovorax*

 <400> 1814
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gagaaaccta aaaatgacgc ttcggtagat ttttaggcg gaaagcggcg gacgggtgag 120

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taacgcgtag gcaacctgcc cttagcagag ggatagcctc gggaaaccgg gattaaaacc 180
tcataatact gtacattcac atgtatgtat agtcaaagat ttatc 225

<210> 1815
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Bacteroides

<400> 1815
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcgtgt tggtagcaat accgacgacg gcgaccggcg cacgggtgag taacgcgtat 120
gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccca 180
cggatgggca tccgtctgtg gttaaagttc cggcggctctg gggtg 225

<210> 1816
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Parasporobacterium

<400> 1816
agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
gaggttatgg acttcggtta ataacctagt ggcggacggg tgcgtaacgc gtgggtaatc 120
tgcccttgac agggggataa cgtatagaaa tgtacgctaa taccgataa gcccacgaga 180
ccgcatggtc ttgagggaaa agggatactg gtcaaggatg agccc 225

<210> 1817
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1817
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60
ggcagcatga agccagcttg ctggctttga tggcgaccgg cgcacgggtg agtaacgcgt 120
atccaacctg cccatgggcg aggcacagcc cggcгааagc cggattaatg ccttgcggtc 180
tccttgaagg ccatccgccg aggagtaaag gcttttagcc gccca 225

<210> 1818
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Parapedobacter

<400> 1818

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agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
ggcagcgcgg tgtggcaaca cactggcggc gaccggcgga tgggtgcgta acgcgtatgc 120
aacctgcctc cgagaggggg ataaccctg gaaacgcgga ctaatacccc gtatgcgcac 180
gacgccgat gacgttgtgc ggaaagattc attgctcgga gatgg 225

<210> 1819
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Streptomyces

<400> 1819
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggtgaaccag ggcttgcctt ggggatcagt ggcgaacggg tgagtaacac gtgggcaacc 120
tgcccagac tctgggataa ctccgggaaa ccggggctaa taccggatac gacctccttg 180
ggcatcctcg gaggtggaaa gtttttcggt ctgggatggg cccgc 225

<210> 1820
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1820
agagtttgat cctggctcag gatgaatgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggcagcgcga gtagtttact acttggcggc gagcggcgga cggctgagta acgcgtggga 120
atctgcccta aagtgagga taacgcaccg aaaggtgtgc taataccgca tatggtcttc 180
ggattaaaga atttattcgc tttaggagga gcccgcgtcg gatta 225

<210> 1821
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Thermotalea

<400> 1821
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gagaaacctt tcagaagatt cttcggatga ttcagagagg tggacagcgg cggacgggtg 120
agtaacgcgt gggcaacctg cccctatccg gaggatagcc aagggaact ttgaataata 180
ctccataaag catggacatc acatggtgac catgccaag attta 225

<210> 1822
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Alkaliflexus

<400> 1822
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg gtagcaatac ctggcggcga cgggcggaag ggtgcgtaac gcgtgagcga 120
 catacccgat acagggggat aacagatgga aacgtctcct aataccat aagatcatat 180
 atcgatggt atgtgattga aagtgagaa cgggtcacgg attgg 225

<210> 1823
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Oscillibacter

<400> 1823
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaatctat ggacggaggc ttcggccaac tgaaatagag gaaagtggcg aacgggtgag 120
 taacgcgtga gaaacctgcc ttggagtggg ggacaacagt tggaaacgac tgctaatacc 180
 gcataatag cctgaggggc atccctccgg gcatcaaagc tttat 225

<210> 1824
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerotruncus

<400> 1824
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaacttagt cgaatgtaa ccaggagacg aaagtttagt ggcggacggg tgagtaacac 120
 gtgagcaacc taccttagag agggggataa cattgagaaa tcagtgctaa taccgcataa 180
 agctattagt tcgcatggac aagatagcca aaggagaaat ccgct 225

<210> 1825
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1825
 agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc 60
 gggagtaagg gagcttgctt cttatgaga gcggcggact ggtgagtaac acgtgggtaa 120
 cgcaccctcc tgacggggac agcctgtgga aacacagggt aataccgat gagatggact 180
 tctggaagg agttcatgaa aggagctacg gctccgcagg gggaa 225

<210> 1826

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI

<400> 1826
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagacatat gacggaagtt ttcggatgga agatataatgt cttagtggcg gacgggtgag 120
 taacacgtaa acaatctgcc tttgagagcg ggacaacaga tagaaatatt tgctaatacc 180
 gcataagacc acaggttcgc atgaactagg ggtaaaaggg gagca 225

<210> 1827
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporotomaculum

<400> 1827
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggaatggt tgaagcttg cttttggaca tttcgagtgg cggacgggtg agtaacgcgt 120
 gaggaacctg tcttctacag ggggataacg tcccgaaggg gacgctaata ccgcataaga 180
 ccacagtgcc gcatggcaga ggggtcaaag gagagatccg gtaga 225

<210> 1828
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporaceti genium

<400> 1828
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaggggaggg gcttcggccc cgaaccgagc ggcggacggg tgagtaacgc gtgaatgatc 120
 tgtcccttac aggggaataa cacttgaaa caggtgctaa taccgataa gaccacgggtg 180
 ctgcatggca ctgaggtaaa aggagcgatc cggtgagggg tgagt 225

<210> 1829
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bulleidia

<400> 1829
 agagtttgat catggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaaggaacc agtttactgg tgaacttagt ggcgaacggg tgagtaatac gtaagcaacc 120
 tgcccacgga gaccgggata atccctggaa acggggacta agaccggata ggcagcggag 180

gggcatccca ctgctgtaa agatggaaaa cactggtgga tgggc 225

<210> 1830
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1830
 agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60
 ggagttttga gagcttgctc ttaaaactta gtggcggacg ggtgagtaac acgtgagcaa 120
 cctgccttcg ggtgtggaat aatggctgga aacgaccact aataccgcat aacacgatcg 180
 gaccgcatga tctgatcgtc aaaggtttac cgcctgaaga tgggc 225

<210> 1831
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophomonas

<400> 1831
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaattaaa cgagaatttc ggttcattgt taattttagt ggcggacggg tgagtaacgc 120
 gtgagaatct gcctttaagt ggggaataac agttgaaac gactgctaata accgcataac 180
 atgggaaacc atcaaagggg gtgcaagccc tcgcttagag atgag 225

<210> 1832
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfatiferula

<400> 1832
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc atcatacatg caagtcgaac 60
 gagaatctat agcttgctat agaggaaagt ggcggacggg tgagtaaaat ataggggaatc 120
 tgcccgtaag aggggggaaa caaggggaaa ctttgctaa taccgcatat gagatattct 180
 gaaatggata tcttgaaga atttatcgct tacggatgag cctgt 225

<210> 1833
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1833
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

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ggagaaagt cttcggagct ttcttagtgg cgaacgggtg agtaacacgt gagcaacctg 120
 cctttctgag ggggataacg tttggaaacg aacgctaata ccgcatgaca ccgtagagtc 180
 acatggctca gcggtcaaag gagtaatccg cagaaagatg ggctc 225

<210> 1834
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1834
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaactttaa tgaagcctag cgatttaaag tttagtggcg gacgggtgag taacgcgtgg 120
 gtaacctgcc gtatgcaggg ggacaacagt tggaaacgac tgctaatacc gcataagcgc 180
 acagcttcgc atggagcagt gtgaaaagat ttatcggcat acgat 225

<210> 1835
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 1835
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaaattga tcagacgcgt tttcggacaa gtcaggtaa tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa 180
 cctcataatg ccggaggagc acatgctcca tcggcceaag attta 225

<210> 1836
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spirochaeta

<400> 1836
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 ggtaagattg gtgcttgac cgatcctaga gcggcgact ggtgagtaac gcgtgggtga 120
 cctaccccgt ggatgggaat agccggtaga aataccgggt aatgccgaat acggctccctg 180
 acgtcagagg tcagggagga aaggagctcc ggctccgcca cggga 225

<210> 1837
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

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<400> 1837
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggacagcatgt cgtgtgcttg cacgcgatga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccatgacct cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180
 tcgaaagagg acatctgatt tcgaccaaag cttcggcggg catgg 225

<210> 1838
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1838
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 gggattcggg agcttgctac cgatgagagc ggcggactgg tgagtaacac gtaggtgacg 120
 taccttgagg acggggacag ccggcagaaa tgccgggtaa taccggataa gctcgcgcga 180
 gccggaatcg cgcgaggaaa ggagctaagg ctccgcctcc agagc 225

<210> 1839
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Spiroplasma

<400> 1839
 agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgaac 60
 gaagtggccc acaaaaaact gcgtacttgt acaaagttgg cgatggaatt tccacttagt 120
 ggacagcggg tgagtaatac ataagtaatc tgccctcaag actggaataa tgtctggaaa 180
 cggacactaa taccggataa ttcatttata gataactatt tatgc 225

<210> 1840
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1840
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagtaagcc accggatgaa gattcgtcgg attccaccgg ttacttagc ggcggatggg 120
 tgagtaacgc gtggacaacc tgcccttcac tgggggataa caaccgaaa cgggtgctaa 180
 taccgatgg gcgcgacggg ccgatgacc tgtagcgtaa agatt 225

<210> 1841
 <211> 225
 <212> DNA

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<213> Unknown

<220>

<223> Encodes 16S rRNA from Bacteroides

<400> 1841

agagtttgat cctggctcag gatgaacgct agctacaggc ctaacacatg caagtcgcgg	60
ggcagcattg aggtagcaat acctcagatg gcgaccggcg cacgggtgcg taacgcgtat	120
ccaacctggc cttactcgg gtatagcct gcgaaagtag gattaatccc cgatgttgtc	180
aagatggagc ctttttctt gaccaaagat ttatcggtaa gggat	225

<210> 1842

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Treponema

<400> 1842

agagtttgat catggctcag aacgaacgct ggcggcgcgt ctaagcatg caagtcgagc	60
gggaatgtgg tgcttcacc acaggagagc ggcggactgg tgagtaacgc gtggatgacg	120
cacccccctg acggggacag cctgcagaaa tgcagggtga taccggatac gatcttggtt	180
attggaagcc cgagaggaaa gcacctgcgg gtgcgcaggg ggagc	225

<210> 1843

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Selenomonas

<400> 1843

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac	60
ggggcaattg aaagcttgct tttgagagcc tagtggcaaa cgggtgagta acgcgtaggc	120
aacctgcctt cgggatgggg acaacaggac gaaagccctg ctaataccga atgaagcatc	180
cttcctgcat ggaagggtg tgaagatgg cctctgaata tgcta	225

<210> 1844

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Butyrivibrio

<400> 1844

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
ggggtaccct ctacggaagc ttcggccgaa gaagaggact acctagtggc ggacgggtga	120
gtaacgcgtg agcaacctgc cttaagagg gggataacat accgaaaggt atgctaatac	180
cgcataagat attagtaccg catgatacag atatcaaaga tttca	225

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<210> 1845
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Gelidibacter*

 <400> 1845
 agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
 ggcagcacgg tgtagcaata cattggtggc gagcggcgga cgggtgagta acgcgtatgc 120
 aacctacctg taacacgggg atagccaacc gaaaggatga ttaacacccg atagtacttt 180
 taaactgcat ggtttaaag ttaaatattt ataggttaca gatgg 225

 <210> 1846
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Acetivomaculum*

 <400> 1846
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagccgat ggaaggagcc ttcgggtgac agaaatccat gcttagtggc ggacgggtga 120
 gtaacgcgtg ggcaacctgc cctgtggagg gggatactg ttggaaacgg cagttaatac 180
 cccatgagcg cacgcctgtg catgcaggcg tgtgaaaagg agcaa 225

 <210> 1847
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Proteiniclasticum*

 <400> 1847
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 ggggataatg agacggaagg cttcggccgg aagacttatt attctagcgg cggacgggtg 120
 agtaacgcgt gaatgatctg tctcttacag ggggataaca cttggaaaca ggtgctaata 180
 ccgcataaga ccacggggct gcatggcttt ggggtaaag gagca 225

 <210> 1848
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Papillibacter*

 <400> 1848
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcactgt cgaggaagtc ttcggacgga attgactttg acttagtggc ggacgggtga 120

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gtaacgcgtg agcaacctc ctgcctgtga gggataacac agggaaactt gtgctaatac 180
 cgcatgaagc atgattatcg catggtagac atgccaaaga ttaat 225

<210> 1849
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1849
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgcgg tagtagcaat actactggcg gcgaccggcg aaaggtgcg taacgcgtga 120
 gcgacatgcc cgcgaccggg ggataacaga tggaaacgtc tactaatacc ccataacaac 180
 agggttcgca tggatcttgt ttgaaagatt tatcgtttgc ggatt 225

<210> 1850
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Elusimicrobium*

<400> 1850
 agagtttgat cctggctcag agttaaagct ggcagcgtgc ataacacatg caagtcgaac 60
 ggggattatt cgatgtagca atacattgga taattctagt ggcagacgag tgagtaatac 120
 ataagaaatc tacccgaaag tggggaataa cgggccgaaa ggttcgctaa taccataa 180
 tatttgaaag cggcatcgct ttcttcttaa aggtttttcg ctttc 225

<210> 1851
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1851
 agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggaatttata gcttcggttg taaattcagt ggcggacggg tgagtaacgc gtggataact 120
 tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgataa agtaatttat 180
 tcgcatgaat agattaataa agatgaaat cgctaaaaga taggt 225

<210> 1852
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Devosia*

<400> 1852

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agagtttgat catggctcag aacgaacgct gtcgacatgc ttaacacatg caagtcggac 60
 gggataact tgttatacca gtggcaaacg ggtgagtaat acgtagaaat gtaccagta 120
 gttccgaata acaactggaa acggttgta atacgggata agatagagat atgaaagatc 180
 tgaaggatc gctattggag cagtctacga tggattagat agttg 225

<210> 1853
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia

<400> 1853
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggacctgacg gagtgaatag cttgctagga actccagact ggtagcggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttgaaacga ctggaatac 180
 cgcataagcg cacagtaccg catggtacgg tgtgaaaaac tccgg 225

<210> 1854
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mucilaginibacter

<400> 1854
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60
 gggaactccc cttcggggga gcgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 ccccgactg ggggacagcc ggtgaaacg ccgggtaata cccatgccg accctgtggg 180
 gcatcccatg gggtcgaaag cagcgatgcg gtgcgggacg ggcat 225

<210> 1855
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Mogibacterium

<400> 1855
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60
 gagaatctt agaacaatt cttcgatgc gttcaggag aggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg cccctggcag agggatagcc attgaaacg atgattaata 180
 ctcataacg ctcaagagc acatgctgtt gaagccaaag attta 225

<210> 1856
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Saccharofermentans
 <400> 1856
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagatattt tccggaaagc ttcggccgga aggggaatat tttagcggcg gacgggtgag 120
 taacgcgtga gcaacctttc cttcacaggg ggataaagca ccgaaaggtg ccctaatacc 180
 gcatgagacc acggcatcac atgaagcagg ggtcaaagga gcaat 225

<210> 1857
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Paenibacillus
 <400> 1857
 agagtttgat catggctcag gattaacgct ggcggcatgc ctaagacatg caagtcgaac 60
 gagagggccc attgacattt atcgaaagt gaagtgcttg cactgatgct ggacttattt 120
 agatttggat tttccctcta gtggcaaacg ggtgagtaac acgtgggtta cctgcctctt 180
 agactgggat accgattgga aacgatcgtt aataccggat gttct 225

<210> 1858
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerotruncus
 <400> 1858
 agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggagttgatt ttaacaccc gagtctgca ggcaggagct ttgcagattg ggggttaaga 120
 atcaacttag tggcggacgg gtgagtaaca cgtgagcaac ctgcctttca gagggggata 180
 acgtctggaa acggacgcta ataccgatg aagtatattt ttcgc 225

<210> 1859
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Leucobacter
 <400> 1859
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gctgaagccc ggagcttgct ctgggtgat gagtggcga cgggtgagta acacgtgagt 120
 aacctgccc tactctggg ataagcgtg gaaacggcgt ctaatactgg atatgacca 180
 taccggcatc ggtagtgggt ggaaagattt atcgggtggg gatgg 225

<210> 1860

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1860
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagaggctg cggagattca atagatgatc tgcatttct tagcggcgga tgggtgagta 120
 acacgtgggt aacctgccct gactgggga ataacagttg gaaacgactg ttaataccgc 180
 atatgcgcac ggggtcgcat gaccccgggc ggaaagattt atcgg 225

<210> 1861
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1861
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcatcgcgg gtagcaata ccctggcggc gaccggcgaa aggggtcgtgta acgcgtgagc 120
 gacatgcccg tcacaggggg ataaccggcg gaaacgccgc ctaatacccc atatgaggcc 180
 aggccacatg gctgggtctt gaaagtcaag gcggtgacgg attgg 225

<210> 1862
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Beijerinckia

<400> 1862
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60
 ggaacatagg gagcttgctc cttatgtcag tggcgcacgg gtgagtaacg cgtaggaatc 120
 tgccttttg cctgggatag cctctgaaa cggagggtaa aaccgatga gccctaaggg 180
 ggaaatgagc aatcagctgg aggaggagcc tgcgttagat taggc 225

<210> 1863
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1863
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcggga gagtagcttg ctactcttgc cggcgaccgg cgcacgggtg agtaacacgt 120
 atccaacctg ccctgaacc cgggatagcc ctctgaaagg aggattaata ccggatgtgg 180

ccgctggggg acatccccg gcgtctaaag attcatcggg tgagg 225

<210> 1864
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1864
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
ggaggaaatc gaaagaagcc ttcgggtgaa ttttggtgga cttagcggcg gacgggtgag 120
taacgcgtga gtaacctgcc cataagaggg ggataatcct tggaacggg gactaatacc 180
gcatatagag tatttgttc atgattgata cttgaaagat ttatc 225

<210> 1865
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1865
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
gagaaattac cttcgggtaa tggacagtgg cggacgggtg agtaatgtgt agagaatctg 120
cccttagtg ggggatagca gttgaaacg actattaata ccccatatgc gcgtagttgg 180
gatactattc gtgaaagatt aatcgctaaa ggatgagtct gcatc 225

<210> 1866
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Pseudoflavonifactor

<400> 1866
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagggtatta gtcagcttgc tgattgatac ccgagtggcg gacgggtgag taacgcgtga 120
ggaacctgtc ttcacaggg ggataactc ccgaaagga tgctaatacc gcataagacc 180
acgataccgc atggattga ggtcaaagga gcaatccgga tgaag 225

<210> 1867
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyrivibrio

<400> 1867
agatttgatc atggctcagg atgaacgctg gcggcgtgcc taacacatgc aagtcgaacg 60

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gacgctttga ggagagtctt cggatgattc ttaaagttgt tagtggcgga cgggtgagta 120
 acgcgtgggg aacctgcctt tgtccggggg atagcagctg gaaacggctg gtaataccgc 180
 ataagaccac gaagccgcat ggctttgcgg taaaagattt atcgg 225

<210> 1868
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Acholeplasma*

<400> 1868
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 ggatcacttc ggtgatcagt ggcgaacggg tgagtaacac ataaacaatc taccctgaag 120
 actgggataa cggttggaaa cgaccgctaa taccggatag gtgatcataa ggcattctga 180
 gatcattaa gttgggctgc aacctgcag gatgagttta tgtcg 225

<210> 1869
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Filomicrobium*

<400> 1869
 agagtttgat cctggctcag aacgaacgct ggcggcaggc cttagatatg caagttgaac 60
 ggtctaaggt ggagcttgct ctactttaga tagtagcgga cgggtgagta atacatggga 120
 acgtaccctc ttgtggggaa tagcttttgg aaacgaaagg taataccgca taagccctac 180
 gggggaaagg agtaattcgc gagaggatcg gcccatgcca gatta 225

<210> 1870
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium III*

<400> 1870
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaagtgat gaaaagattc cttcgggatg attagattca tggacagtgg cggacgggcg 120
 agtaacgcgt gagtaacctg cccataagcg ggggatagcc gatggaaacg tcgagtaata 180
 cccatgacg tatatatatc gcatggata tatatcaaag attta 225

<210> 1871
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pseudoflavonifractor*

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<400> 1871
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
gaagcacttt ggacggatcc cttcgggggtg aagactgatt tgacttagtg gcggacgggt 120
gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaata 180
accgcataac atacgtgaat cgcattggtc gtgtatcaaa gctcc 225

<210> 1872
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerophaga

<400> 1872
agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
ggcagcgagt ggcgttggtc gcaacgccat gtcggcgacc ggcgactgg tgagtaacac 120
gtatgcaacc tgccctttac cggggcataa cccttgaaa cgaggcctaa ttccccatat 180
acagcgcttg ggcattcggg tgctgtgaaa ggtttattcc ggtga 225

<210> 1873
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 1873
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gaagctcctt tgcggatctc ttcggagtga aggaaaggat gactgagtgg cggacgggtg 120
agtaacgcgt ggtaattctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180
ccgcatgagc gtacagcatc gcatgatgca gtgcgaaaaa ctgag 225

<210> 1874
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Asaccharobacter

<400> 1874
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggtaagccg acttcggtcg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120
tgccccccgc accgggaaa cctccgaaa cggaggctaa taccgatat gcccgggcgc 180
ccgcatgggc ggccggggaa agcccaggcg gcgggggatg gggtc 225

<210> 1875
<211> 225
<212> DNA

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<213> Unknown

<220>
<223> Encodes 16S rRNA from *Kordia*

<400> 1875
agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60
ggcagcgtgg atagcaatat ctgacggcga gcggcggacg ggtgagtaac gcgtatgcaa 120
cctaccact acacaaggat agccttccga aaggaggatt aatacttgat agtactctaa 180
gatggcatca aacagagtt aaagatttat cggtagtgga tgggc 225

<210> 1876
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ruminococcus*

<400> 1876
agatttgatc atggctcagg acgaacgctg gcggcagcgt taacacatgc aagtcgaacg 60
ggactaagag agaagcttgc ttcactttta gtttagtggc ggacgggtga gtaacacgtg 120
agtaacctgc cttatcagg ggaatagcct ccgaaacgg agagtaatac cgcataagat 180
gacagtacgg catcgtacag tcataaaaga ttttatcgga taagg 225

<210> 1877
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium III*

<400> 1877
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gagaaatgat gatttgattc cttcgggatg aaaagaatca tggacagtgg cggacgggcg 120
agtaacgcgt gagtaacctg ccataagag agggatagcc gatggaaacg tcgagtaata 180
cctcatattg taattaattc gcatggattg attatgaaag attta 225

<210> 1878
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ethanoligenens*

<400> 1878
agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60
ggaactgtac ggattaatcc ttcgggaagc gtttgtagac ttttagtggcg gacgggtgag 120
taacgcgtga gcaacctgcc tacgagaggg gaataacgtc tggaaacgga cgctaatacc 180
gcataaacg cggggttcgc atggactccg gggcaaagat ttatc 225

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<210> 1879
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1879
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatgtcc aatgggctgc ttcggcagtc cgggcatctt agtggcggac gggtgagtaa 120
 cgcgtggaga acctggccca tgcaggggga taacagcggg aaaccgctgc taataccgca 180
 taagcgcga ggggggcatc ccttttggtg gaaagcgtaa gcggc 225

<210> 1880
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Barnesiella

<400> 1880
 agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60
 ggcagcacgg ttagcaata cactggtggc gaccggcgca cgggtgcgta acaggtatgc 120
 aatctgtccc ataccggggc atagcccgct gaaaggcgga ttaattctcc atgtgtcatg 180
 agagggcatc ctttatgat gaaacgtaag ggtatgggat gagca 225

<210> 1881
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1881
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaatcttc ggaaggaatc ttcggaggac ggaaggagag gaaagcggcg gacgggtgag 120
 taacgcgtag gtaacctgcc ctgtacagag ggatagccac tggaaacggt gattaatacc 180
 ttataaaact gagtattcac atggagattc agtcaaagat ttatc 225

<210> 1882
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1882
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg aggttgcttg caacttctga tggcgaccgg cgcacgggtg agtaacgcgt 120

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atccgacctt cccccaggta gggaacagcc cggcgaaagt cggattaatg ccctatagtc 180
 tgcgaattgc gcatgttggt tgcaagaaag attgatcgcc ttggg 225

<210> 1883
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerophaga

<400> 1883
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagg 60
 ggacagatgg gaggtggcaa caccaccga tggcgaccgg cgactggtg agtaacacgt 120
 atgcaacctg cccctacag ggggataatc cagagaaatt tggcttaata ccccgtagtc 180
 agcgagaggg catcctcttg ctgggagagc tccggcggtg gggga 225

<210> 1884
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acetivibrio

<400> 1884
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggatgcct cgccgttgaa gcttcggcag agacatgaga catcctagtg gcggacgggt 120
 gagtaacgag tgggcaacct gccctgtact ggggatagc agctggaaac ggctggtaat 180
 accgcataag cgcgcgccat cgcatggtgc tgcgtgaaaa gccga 225

<210> 1885
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1885
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagg 60
 ggacagatga aggttgcttg caaccttga tggcgaccgg cggatgggtg cgtaacgcgt 120
 atccaacctg cctgtgtccc gggcatagcc cgtggaaacg cggattaact cccgatggtg 180
 cagcgggtgcc gcatggcgtt gctgccaat gtaaaggaca cagat 225

<210> 1886
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium

<400> 1886

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agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gagaaatgat gatttgattc tttcgggatg aaatgattca tggacagtgg cggacgggcg 120
agtaacgcgt gagtaacctg cccataagag agggatagcc gatggaaacg tcgagtaata 180
ccacatattg tagtaagatc gcatggtttt gctatgaaag attta 225

<210> 1887
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Marinoscillum

<400> 1887
agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
ggtaaggcct gatgtagcaa tacagagggt acacgagtgg cgcacgggtg cgtaacgcgt 120
atgtaatctg cctgcaaccg ggacaaaaca gttgaaacg gctgctaata tcccatggtc 180
aattttcag gcatctggga gattgtaaag atttattggt tgcag 225

<210> 1888
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Pedobacter

<400> 1888
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
ggtaaagtcc cttcggggg attgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
acccccctca ccgggatagc cggtgaaac gccggataag accggatgcg ccggcgggga 180
ggcatctccc tgtcggcaag gcggcgacgc ggagggggac gggca 225

<210> 1889
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1889
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
ggcagcatga atcaagcttg cttgatttga tggcgaccgg cgcacgggtg cgtaacgcgt 120
atccaacctc cccgtcactc agggatagcc ttgcgaaagt aagattaata cctgatggtc 180
tccttccggg gcatcccgtt tgagtaaag attcatcggg ggcgg 225

<210> 1890
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1890
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcatgg gggttgttta caatccctga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cttcgagtc agggataacc ttccgaaagg gagcctaata cctgatgcag 180
 tgcaagatg gcatcagatt tgactaaag cttttgcgct cgggg 225

<210> 1891
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerovorax

<400> 1891
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaagcttt tcagtcgatt cttcgaaaa gacagagaag tggaaagcgg cggacgggtg 120
 agtaacgcgt aggcaacctg ccccttgag agggatagcc tcgggaaacc gggattaata 180
 cctcataatg catccatg acatcttgag gatgcaaag attta 225

<210> 1892
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1892
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gaagcgcct gtacagattt cttcggaatg aagttttggg tgacttagtg gcggacgggt 120
 gagtaacgcg tgggtaacct gcctcatgca gggggacaac agctggaaac ggctgctaata 180
 accgcataag cgcacgagat cgcatgatca agtgtgaaaa gattt 225

<210> 1893
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1893
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcactgg cgaggaagtc ttcggatgga attgccttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctc ctggtagtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc actgaggtcg catggtttta gtgcaaaga tttat 225

<210> 1894

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1894
 agagtttgat cctggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60
 ggaatgattg gcttcggtca tgaattcagt ggcgaacggg tgagtaacac gtggataact 120
 tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgataa tgtaatctat 180
 tcgcatgaat agattaataa agatgaaaat cgctaaaaga taggt 225

<210> 1895
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium sensu stricto*

<400> 1895
 agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
 gggataagtt tggttgtagc gatacttttg aacttattca gtggcgaacg ggtgagtaac 120
 acgtgagcaa cctgcctttt acacagggat aacagttgga aacgactgct aataccggat 180
 aagaccacac tgaggcatct cagagggggtc aaagcgattc agcgg 225

<210> 1896
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lishizhenia*

<400> 1896
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggcagcgcga ggtagcaata ccttggcggc gaccggcgga cgggtgcgta acgcgtatgg 120
 aaccaaccg tcacaggggg acaagccagg gaaacttggc ctaatacccc atactactgt 180
 taaatcgcat ggtatgacag tgaaagctta cgggcggtga cggac 225

<210> 1897
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pedobacter*

<400> 1897
 agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
 gggatctccc cttcggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 ccctcatccg ggggacagcc ggtggaacg ccgggtaata ccccatatcc actttgggag 180

gcatcttctg aggtggaaag gctttggctg gaggaggacg ggcat 225

<210> 1898
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Howardella*

<400> 1898
 agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaacttaga ttgatgttta cattgaacta agtttagtgg cggactgggtg agtaacacgt 120
 gagcaacctg cccttagag ggggataaca ttgagaaatc agtgctaata ccgcataacg 180
 caattcttcc gcatgaaaga attgccaaag gagaaatccg cttaa 225

<210> 1899
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Roseburia*

<400> 1899
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggactttact gaaaagaggg cttgcccaat ggaaggtaaa gttagtggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ttacacaggg ggacaacagt tggaacgac tgctaatacc 180
 gcataagccg gtagtgccgc atggcacatc cggaaaagat tgtat 225

<210> 1900
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1900
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggggatgtcc acccgatgaa gccagagtgc ttgcacaaag gccgattcaa ccgggcatcc 120
 tagtggcgga cgggtgagta acgcgtgggt aacctgcctc atactgggga ataacagtca 180
 gaaatgactg ctaataccgc ataagcgcac agtgccgcat ggcat 225

<210> 1901
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerovorax*

<400> 1901
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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gggaaatatt gaaatgaaac ttcggtagat tttcgatatg gagagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc cctggcagag ggatagccac tggaacggt gattaaacc 180
 tcataacgcg cagatgctgc atagcaactg cgccaaagat ttatc 225

<210> 1902
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lentisphaera*

<400> 1902
 agagtttgat catggctcag aatgaacgct ggcggcatgg attagcatg caagtcgaac 60
 ggcagggcag cgatgcccga gaggggcga agggtgagca acgctgggg aacctgcccc 120
 cgggaccgga acaagcctgt gaaaacgggt ctgaaaccgg atgaagcccc gcaccgatg 180
 gtgcggcggc gaaatattca tagcccggg agggccccgc gtccc 225

<210> 1903
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 1903
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gaggtgcaa caccaccga tggcgaccgg cgactggtg agtaacacgt 120
 atgcaacctg ccccctacag ggggataatc cagagaaatt tggcttaata ccccgtagtc 180
 agcgagaggg catcctcttg ctgggagagc tccggcggtg gggga 225

<210> 1904
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Saccharofermentans*

<400> 1904
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttagcatg caagtcgagc 60
 gggaaataagg gagcttgctt cttatgaga gcggcgact ggtgaggtaa cggcccacca 120
 aacctacgat cggtagccga actgagaggt tgatcgcca cattgggact gagacacggc 180
 ccagactcct acgggaggca gcagtgggga atattgggca atggg 225

<210> 1905
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

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<400> 1905
 agagtttgat cctggctcag gacgaacgct ggcggtgtgc ctcatcatg caagtcgaac 60
 gagaagctga cttcggttag tggaaagtgg cggacgggtg agtacaacat aggaaatctg 120
 ccccaaagcg ggggacaaca gagggaaact tctgctaata ccccatacga gcttagttga 180
 aatactaadc ttgaaagatt taccactttg ggatgagcct gtgcc 225

<210> 1906
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Proteiniphilum*

<400> 1906
 agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gcgtggcaac acgcctgatg gcgaccggcg cactggtgag taacacgtat 120
 gcgacctgcc tccttcaggg ggataacca gagaaatttg gcctaatacc ccatagtccg 180
 cgcggtgca tggccgtgcg gggaaagcct cggcggaagg agatg 225

<210> 1907
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Schwartzia*

<400> 1907
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggcgattt gaaagcttgc ttttgatgag cctagtggca aacgggtgag taacgcgtag 120
 gcaacctgcc cttaggatgg ggacaacggc ccgaaaggac cgctaatacc gaatgacgta 180
 tcgggaccgc atgatcctga taccaaaggc ggagcaatcc gtcac 225

<210> 1908
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Anaerorhabdus*

<400> 1908
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gaacaaaatc agaaagcttg cttttgatc tagttagtgg cgaacgggtg agtaatacgt 120
 aggcaaccta cctcaaagag ggggatagca gttgaaacg actattaata ccgcataggt 180
 aatgaagggg catccctaca ttattaaagg tgcgtttgca ccgct 225

<210> 1909
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Robinsonella

<400> 1909

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
gatgaataaa ccgacaaggt ttcggccaag gaagtttatt cagagcggcg gatgggtgag      120
gaacgcgtgg ggaacctgcc tttcaccggg ggataccagc tggaaacggc tgtaataacc      180
gcatatgctc acagtgccgc atggcacagg gaggaaaact ccggg                          225
```

<210> 1910

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium IV

<400> 1910

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agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac      60
ggagtgttgc gctgaaattg agattagctt gctaaaggat atttcttgta acacttagtg      120
gcgacgggt gagtaacgcg tgagtaacct gccttacaga gggggacaac agttggaaac      180
gactgctaata accgataaa gttttttgta ggcatttata agaaa                          225
```

<210> 1911

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Erysipelotrichaceae incertae sedis

<400> 1911

```
agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgaac      60
gaagtgtccc gttgaagttt ggagtgcttg cacaaaaaat ggatacggat tcgcacttag      120
tggcagacgg gtgagtaaca cgtgggtaat ctacctcgga gactgggata actattagaa      180
atgatagcta ataccgata attcgtaatc ggataactga ttatg                          225
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<210> 1912

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Flavobacterium

<400> 1912

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agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg      60
ggcagcgggg ctagcaata cgccgccggc gaccggcgca cgggtgcgta acgcgtatgc      120
aaccaccccg caacaggggt ataacggagt gaaaattcca ctaatcccc atatggtttg      180
gggaccgcat ggtttctaa cgaaagctta tttgtggttg cggac                          225
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<210> 1913
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Pedobacter

 <400> 1913
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 gggaagggtc cttcggggcc ctgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 cccctttccg ggggacagcc ggtggaacg ccgggtaata ccccatgtcg acgaaggagg 180
 acatcctctt tcgttgaaag acttcggtcg gagagggacg ggcat 225

 <210> 1914
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Clostridium III

 <400> 1914
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gagaaatag acaatgaatc cttcgggatg atttgatta tggacagtgg cggacgggacg 120
 agtaacgcgt gagtaacctg cccataagag agggatagcc gatggaaacg tcgagtaata 180
 ccacatattg tagttaattc gcatggattg attatgaaag attta 225

 <210> 1915
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Selenomonas

 <400> 1915
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacgattg aaagcttgct tttgaaagtc gaggggcaaa cgggtgagta acgcgtagac 120
 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgtatc 180
 gtttccgcat ggagatgata ttaaagatgg cctctacttg taagc 225

 <210> 1916
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from Rhizobium

 <400> 1916
 agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc 60
 gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctaccg taccctaccg 120

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aataacgcat ggaaacgtgt gctaataccg tatacgccct ttgggggaaa gatttatcgg 180
 ggtatgatga gcccgcttg gattagctag ttggtgggt aaagg 225

<210> 1917
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Victivallis*

<400> 1917
 agagtttgat catggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60
 gaagcagcaa tgcttagtgg cggaaggtg aggaacgcgt gagtaatctg ccctcaagtt 120
 ggaataaca actggaaacg gttgctaata ccgaatgtgg ctgcaagacc gcatgatttt 180
 gcagttaaag attattgct tgaggatgag ctgcgctccc attag 225

<210> 1918
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Butyrimonas*

<400> 1918
 agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcagcgggt ctagcaatag atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120
 catacccttg acagggggat aggcactgga aacggtgtgt aataccccgt aacacattcc 180
 accgcatgat gggatattga aagattcatt ggtcaaggat tggct 225

<210> 1919
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Parabacteroides*

<400> 1919
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggcagcgggc gactggcaac acttgctgtc ggcgaccggc gactggtga gtaacacgta 120
 tgcaacctgc ccccttctgg gagataacc atagaaatgt ggcctaataat cccatagtcg 180
 gccagccgc atggccgggc cgggaaaggc gagccggaag gggat 225

<210> 1920
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Adhaeribacter*

<400> 1920

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agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggtaaacggt ccttcgggac tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120
 acccccgacg ggcggacagc cggtggaac gccggataat acgccatggg gccagggag 180
 ggcatccttt ccgggcaaaa gcctcggcgg tcggggacgg gcatg 225

<210> 1921
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1921
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gagaaacagt gaagagattc ttcggatgaa cagatctgtg gacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc ctttccgga ggatagccaa gggaaacttt gaataatact 180
 ccataaagca tcattgccgc atgacagaga tgccaaagat ttatc 225

<210> 1922
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1922
 agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatgcatg caagtcgaac 60
 gtggtctctt cggagattaa cgtggcggac gggtgaggaa cacgtgggga acctgccat 120
 cggtgggggg tagcccgcgg aaacgcgggg taattccgca tacggtctcc tgggggtagc 180
 tcaggagagg aaaggtctt cggactcgcc gatggagggg cctgc 225

<210> 1923
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Treponema

<400> 1923
 agagtttgat cctggctcag aacgaacgct ggcggcgcgt ttaagcatg caagtcgagc 60
 gggaatcggg ggcaactccg aggagagcgg cggacgggtg agtaacacgt ggataatcta 120
 tcttttagac tgggatagcc tggtgaaagt caggataata ccggataata cgtaatccgc 180
 acaagcggag aacgggaaag gagctaaggc ttcgcttgaa ggtga 225

<210> 1924
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1924
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 ggaagatatac gggagcttgc tcttgatatac tttagtgggc gacgggtgag taacgcgtgg 120
 gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcatgacata 180
 gtcaaaccgc atgatttgac tatcaaatat ttataggtat gagat 225

<210> 1925
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va
 <400> 1925
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gaggcgagga gtgcttgac accgaaccta gtggcggacg ggtgcgtaac gcgtgggtaa 120
 cctgccctaa acagggggat aacgtataga aatgtacgct aataccgcat aagctcacgg 180
 aaccgcatgg ttttgagga aaaggatttc cggtttagga tgggc 225

<210> 1926
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Schwartzia
 <400> 1926
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggcgattt gaaagcttgc ttttgatgag cctagtggca aacgggtgag taacgcgtag 120
 gcaacctgcc ctgagatgg ggacaacggc ccgaaaggac cgctaatacc gaatgacgta 180
 tcgggatcgc atgatactga taccaaaggc ggagcaatcc gtcac 225

<210> 1927
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella
 <400> 1927
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatgg gattgcttg caattcccga tggcgaccgg cggatgggtg agtaacgcgt 120
 atccaacctg tccgcgcgc ggggacagcc cttggaaatg aggattaacc cccgatacgc 180
 catggggccg catggtcccc tggatgaacct ttgcgcgggt tgggg 225

<210> 1928

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1928
 agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gagacgattt agaagcttgc ttttattgag tcgagtggca aacgggtgag taacgcgtag 120
 acaacctgcc gcaaatgagg ggacaacagt ccgaaaggac tgctaatacc gaatgttgta 180
 tctcctccgc atggaagaga tattaagat ggcctctact tgtaa 225

<210> 1929
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Beijerinckia

<400> 1929
 agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagttgaac 60
 gggatcctta agatagcttg ctatattaag gtgagagtag cgcacgggtg agtaacacgt 120
 gggaacatac cttatagtgt gggataaca ttggaaacga ttgataatac cgcataagcc 180
 ctgaggggga aaggaggaat tcgctataag attggcccgc ggaag 225

<210> 1930
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 1930
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcttgat tgatgattac ttcggtatga tttatgatat gactgagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cctcttgag ggggatagtg tttggaaacg aacagtaata 180
 ccgcataacg tgcagagaag gcatcttttt tgtaccaaag attta 225

<210> 1931
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Adhaeribacter

<400> 1931
 agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaacgacc ggtagcaata ctggggcgac gaggggcgca cgggtgcgta acgcgtatgc 120
 aacctgccct caaccgggac ataacgtcga gaaattggcg ctaatatccc atgtgtatgc 180

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gaggcggcat cgtcttacat ataaagattc attggttgag gatgg 225

<210> 1932
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

<400> 1932
 agagtttgat catggctcag aacgaacgct ggtagcgtgg attagggcatg caagtcgaac 60
 gggatccggg agatagcaat atttcctggt gagagtggcg gaagggcgag gaacacgtga 120
 acaacctgtc catcaggtgg ggaaaaccgt tggaacgac ggctaatacc gaatgtggcg 180
 tcgtgacaca tgtcatgaac gctaaagggg gcccgcaagg gctct 225

<210> 1933
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desul fobul bus

<400> 1933
 agagtttgat cctggctcag aacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gcgaaagcgg cttcggtcgt gagtagagtg gcgcacgggt gagtaacgag tagataacct 120
 gtcttcatat ctgggataac acgccgaaag ggtactaat accggatata ctcgcatttc 180
 aataggtgag gcgagaaaag gtggcctctg gttcaagcta ctgta 225

<210> 1934
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Bacteroides

<400> 1934
 agagtttgat cctggctcag gatgaacct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctg cccctacc ggggatagcc ttgcgaaagt aagattaata cccggtgcag 180
 ttatgattcc gcatgggaat ataacgaaag attcatcggg ggggg 225

<210> 1935
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rummelii bacillus

<400> 1935
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

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gaatgacgag gagcttgctc ctctgattta gcggcggacg ggtgagtaac acgtgggtaa 120
 cctgccctgt agactgggat aacttcggga aaccggagct aataccggat aattctttta 180
 acctcatggt ttttagctga aaggcgcttc ggcgtcacta cagga 225

<210> 1936
 <211> 224
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Agarivorans

<400> 1936
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcattg 60
 cacaatgggg gaaaccctga tgcagccatg ccgcgtgtgt gaagaaggcc ttcgggttgt 120
 aaagcacttt tgcattcgag gaagacagcg tataaataaa tgcgctattt gacgtagag 180
 tgtgaataag caccggcaaa ctccgtgcca gcagccgcgg taat 224

<210> 1937
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1937
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatttgg cgctgacgag tgaagtagct tgctatggaa caaatcttgc caaagcttag 120
 tggcggacgg gtgagtaacg cgtggacaac ctggcccata cagggggaca gcagctggaa 180
 acggctgata ataccgcata agcgcacagt atcacatggt acagt 225

<210> 1938
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 1938
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggggctatta gaagcttgct ttttagagcc tagtggcaaa cgggtgagta acgcgtaggc 120
 aacctgcctc taagatgggg acaacagtcc gaaaggactg ctaataccga atgacgtaag 180
 tatctcgcacat gggaaactta ccaaagatgg cctctgcttg taagc 225

<210> 1939
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from unknown taxa

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<400> 1939
agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac 60
gggatcagga aggcagcaat gtcggcctgt gagagtggcg gaagggcgag gaacacgtga 120
gcaacctgtc cttgaggtgg ggaaaactcc gggaaactgg agctaatacc gaatgtggcg 180
ccgggagaca tcttccgagc gctaaagggg gccgaaaggc tctcc 225

<210> 1940
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Prevotella

<400> 1940
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcgggt ccagcaatgg atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120
cgtgcccgtc tgagggggat agtcattgga aacgatgcgt aataccccgt aacaacattt 180
accgcatggt ggggtgtttga aagatttatt gcagacggat cggct 225

<210> 1941
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Spirochaeta

<400> 1941
agagtttgat cctggctcag aacgaacgct ggcggcgcgt ttaagcatg caagtcgagc 60
ggtaagccgg agcaatccgg ttagagcgg cggacgggtg agtaacacgt ggataatctg 120
gccttagtt cgggatagcc tggtgaaagt caggataata ccgatacga cgcttatggc 180
acaagcgata agcgggaaag gagccaaggc tttgctgaag gatga 225

<210> 1942
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Selenomonas

<400> 1942
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggggcgatta gaagcttgct tttatgagcc tagtggcaaa cgggtgagta acgcgtaggc 120
aacctgcctc taagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtaag 180
taactcgcag gagagactta ccaaagatgg cctctacttg taagc 225

<210> 1943
<211> 225
<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Spiroplasma

<400> 1943

agagtttgat cctggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgaac 60
gaggtggccc attgaagggt gagtgcttgc acgaagctgg atatggattc ccacctagtg 120
gcagacgggt gagtaacacg tgggttacct acctctttgt tggggataac agttggaaac 180
gattgctaataccgaataag atactcgtat tgaaggagc tttca 225

<210> 1944

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Pedobacter

<400> 1944

agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60
gggagtcccc cttcgggggg atgagagtgg cggacgggtg cgtaacgcgt atgcaacca 120
cccctgtcag ccgatagcc ttgggaaacc gggggtaaca cggcatgttc ccgcgtgggg 180
gcatcccat acgggcaaag cggcgacgcg gacggggacg ggcat 225

<210> 1945

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Clostridium XI Va

<400> 1945

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
gaagcacttt ccccgactt tttcggaacg aagggggttg tgacttagtg gcggacgggt 120
gagtaacgcg tggataacct gccccatgca gggggacaac agctggaaac ggctgctaata 180
accgcataag cgcacagtga ggcatctcac ggtgtgaaaa gattt 225

<210> 1946

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from unknown taxa

<400> 1946

agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac 60
gagaaattgc cttcgggcaa tggacagtgg cggacgggtg agtaatgtgt agagaatctg 120
ccctatagtg ggggatagca gttggaaacg actattaata ccccatatgc gcgtagttgc 180
gatactattc gtgaaagatt tatcgctata ggatgagtct gcatc 225

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<210> 1947
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Lactobacillus*

 <400> 1947
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gcaatctttt aacaatgagt gcttgactc agcgttttaa gtgcgagtgg cgaacgggtg 120
 agtaacacgt gggcaatctg cccaaaagag ggggataaca cttggaaaca ggtgctaata 180
 ccgcataaac caactgatcg catgatcggg tgggcaaaga tgggtg 225

 <210> 1948
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

 <400> 1948
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtacaga cgctgtcgg agaagtgtt gcacggaacc aaacttgttt gtacttagtg 120
 gcggacgggt gagtaacgag tggagaacct gcctcacaca gggggataac agggagaaat 180
 tcctgctaata accgcataag cgcacgacat ggcacatga agtgtg 225

 <210> 1949
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Prevotella*

 <400> 1949
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagg 60
 ggacgatgt aggttgctt caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt 120
 atccaacctt ccccgagta ggggtgcagc cgttgaaaga cggattaatc ccctatgttg 180
 tccattgacg gcatccgatt tggacgaaag atttcatcgc tgcgg 225

 <210> 1950
 <211> 225
 <212> DNA
 <213> Unknown

 <220>
 <223> Encodes 16S rRNA from *Prevotella*

 <400> 1950
 agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60
 ggtaacatga agaaagcttg ctttcttga tgacgaccgg cgcacgggtg agtatcgcgt 120

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atccaacctg ccataagta gggaatagcc ttgcgaaagt aagattaatg ccctatggtt 180
 tccgcaaag acatctgaga tgaataaag atttatcgct tatgg 225

<210> 1951
 <211> 154
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Marinobacter

<400> 1951
 agagtttgat cctggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac 60
 ggtaacagag gaagacagcg tataaataaa tgcgctatth gacgtagag tgtgaataag 120
 caccggcaaa ctccgtgcca gcagccgagg taat 154

<210> 1952
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrimonas

<400> 1952
 agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
 ggcatcgcgg agtagcaata ctctggcggc gaccggcggg aggggtgcgta acgctgagc 120
 aactgcccg tcaactgtggg ataggcactg gaaacggtgt gtaataccac gtaacacagc 180
 ggtccgcatg gacggttgth gaaagatccg ttggtgacgg atagg 225

<210> 1953
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 1953
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60
 ggagcgggg tagcaatacc gccggcgacc ggcgcacggg tgagtaacgc gtatgtaacc 120
 tagttcacia agaggatag ccttccgaaa gggagattaa taccacatat gatgatagct 180
 tcgcatggag cagtcatgaa aaatttattg atgtgaaatg gacat 225

<210> 1954
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Dongia

<400> 1954
 agagtttgat cctggctcag aacgaacgct ggcggcacgc ttaacacatg caagtcggac 60

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gggtggaagt tagtttactg atggaagcta gtggcggact ggtgagtata atacaggaat 120
atgcccttag gtatgggata gctttgggaa actggaggta ataccgtatg aggtcgagag 180
aggaaagcag gaatgcgctt gaggattagc ctgtatctga ttagg 225

<210> 1955
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaerovorax

<400> 1955
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
gggattctta cgaatggaga ttcgtcgaag taagtaagat gatagcggcg gacgggtgag 120
taacgcgtag gtaacctacc cccggctgcg ggatagccta gggaaacctg gattaatacc 180
gcatgatgcg ttgaagtcac atggctttaa cgccaaagat ttatc 225

<210> 1956
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Butyrimonas

<400> 1956
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60
ggcagcgcgg agtagcaata ctctggcggc gaccggcgga agggcgcgta acgcgtgagc 120
aactgcccg tcaactgtggg ataggcactg gaaacgggtg gtaataccac gtaacacatt 180
tgctcgcgat ggtagatggt gaaaggttta ccgggtgacgg atggg 225

<210> 1957
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Cryptanaerobacter

<400> 1957
agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60
ggaataagaa tggctgtagc gatactttcg ttcttattta gtggcgaacg ggtgagtaac 120
acgtgagcaa cctgccttct acacagggat aacagttgga aacgactgct aataccggat 180
aagaccacac tgaggcatct cagaggggtc aaagcgctta gcggt 225

<210> 1958
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Papillibacter

ASBI_002_03W0_SeqList_ST25

<400> 1958
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacagt tgatgaagtc ttcggatgga attggctatg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaaccttc ctggtagtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc atagacatcg catggtgact atgccaaaga caagt 225

<210> 1959
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 1959
 agagtttgat catggctcag gacgaacgct ggcgggtgtgc ttaatacatg caagtcgagc 60
 ggacttgcgg gggcttgctc ccgcaagtta gcggcggacg ggtgagtaac gcgcgagcaa 120
 cctgcctata tctggggaat aacacagaga aatttgtgct aataccgat aagaccacag 180
 tggggcatcc cacaggggta aaagatttat cggatataga tgggc 225

<210> 1960
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Escherichia/Shigella

<400> 1960
 agagtttgat cctggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgaac 60
 ggtaacagga aacagcttgc tgtttcgtg acgagtggcg gacgggtgag taatgtctgg 120
 gaaactgcct gatggagggg gataactact ggaaacggta gctaataccg cataacgtcg 180
 caagaccaa gagggggacc ctcgggcctc ttgccatcgg atgtg 225

<210> 1961
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Butyrivibrio

<400> 1961
 agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaagccgtg cgagagacaa ttgaagattt atctgattga gtctcacgca caatgacttt 120
 agtggcggac tggtagtaa cacgtaagca atctgcctat cagaggggaa taacagttag 180
 aatcattgc taataccgca tatgctcaca gcatcgcgat atgca 225

<210> 1962
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Prevotella*

<400> 1962

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatgg ttgttgcttg caacaactga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctt ccccaagta gggaatagcc cggcgaaagt cggattaatg ccctatgttt      180
tccttggatg gcatctgatg aggaacaaag acttgtcgtc tgggg                          225
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<210> 1963

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1963

```
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac      60
ggggaaacat atttgaagat ttcggttgga agatatgttt tctagtggcg gacgggtgag      120
taacgcgtaa acaatctgcc ttagagaggg ggataacaga tagaaatatt tgctaatacc      180
gcataagacc acagctagc atctagcagg ggtaaaagga ggaat                          225
```

<210> 1964

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Thermotalea*

<400> 1964

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc      60
gagaagcttc ggagtagatt cttcgatga cactgaag tggacagcgg cggacgggtg      120
agtaacgcgt gggcaacctg cccctttccg gaggatagcc aagggaact ttgaataata      180
ctccataaag cagtgacatc acatggtgat actgccaaag attta                          225
```

<210> 1965

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from *Cohaesibacter*

<400> 1965

```
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac      60
ggaacatagg tagcttgcta tctatgtcag tggcgacagg gtgagtaacg cgtaggaacc      120
tgtcttttag cctgggatag cctctggaaa cggagggtaa aaccggatga gccctgaggg      180
ggaaatgagt aatcagctgg aagaggggcc tgcgttagat taggc                          225
```

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<210> 1966
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XVIII*

<400> 1966
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaggattcat tgatggagct tgctccggat ttgaattcga gtggcgaacg ggtgagtaat 120
 acatgaataa tctaccctt agtctgggat accaatctga aaagattgct aataccggat 180
 aggcaattct gggcatctc ggaattatta aagatgggtt tccat 225

<210> 1967
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1967
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggacttttct cgctgaaaaa ggaagtgct tgcaccggag agtttcttga gggaagttag 120
 tggcggacgg gtgagtaacg cgtgggtaac ctgcctatca cagggggata acagttggaa 180
 acgactgcta ataccgata agcgcacggt atcgcgatgat acagt 225

<210> 1968
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Spirochaeta*

<400> 1968
 agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
 ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt gggtgacgca 120
 cccccttgac ggggacagcc cgcagaaatg cggggtaata ccggataagg tcctcggggt 180
 tggagcccgg ggaggaaagg agctattgct ccgcgagggg agcgg 225

<210> 1969
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Clostridium XI Va*

<400> 1969
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcactaa ggatgagacc ttcgggtgga attcttagtg acttagtggc ggacgggtga 120

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gtaacgcgtg ggtaacctgc cccatacagg gggataacag ttggaaacga ctgctaagac 180
 cgcataaaa gggagtaccg catgacctt ccttcaaaga tttat 225

<210> 1970
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Hydrogenoanaerobacterium

<400> 1970
 agagtttgat catggctcag gagaaacgct ggcggcgac ataagacatg caagtcgaac 60
 ggaatttagc cgaatgttta catgaggcga agatttagtg gcgacgggt gagtaacacg 120
 tgagcaacct gccttagga ggggataac attgagaaat cagtgtaat accgcataat 180
 gcataagctt cgcatgaagc ctatgcaaa ggagtaatcc accta 225

<210> 1971
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1971
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatattt tgaatgaaga cttcggttgg atttcgattt atcttagtgg cggacgggtg 120
 agtaacgcgt gagtaacctg cctttttgag ggggataaca tcgggaaatc gatgctaata 180
 ccgcataata ttcaagattc gcatggattt tgaatcaaag gagca 225

<210> 1972
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Papillibacter

<400> 1972
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60
 gaagcacttt gacggaagtc ttcggacgga agttgatttg acttagtggc ggacgggtga 120
 gtaacgcgtg agcaacctt ctggtagtga gggataacac agggaaactt gtgctaatac 180
 cgcatgacgc atggatatcg catggtatat atgcaaaaga cttgt 225

<210> 1973
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Sporosarcina

<400> 1973

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agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgtac 60
gaagcggccc actgacttat attgatacat tgagagcttg ctcgatttga ggatttataa 120
tgacgtggat tttccgctta gtggcaaacg ggtgagtaac acgtgggtta cctgcctcta 180
tgttggggat accaattgga aacgattggt aataccgaat atgat 225

<210> 1974
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Selenomonas*

<400> 1974
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagacgattg aaagcttgct tttgaaagtc gagtggcaaa cgggtgagta acgcgtagac 120
aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgtttgcat 180
ttctcccgca tgggagactg attaaagatg gcctctactt gtaag 225

<210> 1975
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Papillibacter*

<400> 1975
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60
ggaccaaatt agtttgttta caaattgaag aggttagtgg cggactggtg agtaatatgt 120
aagcaatctg cctgttagag tgaacaaca gtgagaaatc actgctaata ccgcatatgc 180
catagatgtc acatgacaac agtgggaaag gagcaatccg ctaac 225

<210> 1976
<211> 187
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 1976
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaattggac aatgggggaa 60
accctgatcc agcgacgccg cgtgaacgaa gaagtatctc ggtatgtaaa gttctatcag 120
caggaagat aatgacggta cctgactaag aagcaccggc taaatacgtg ccagcagccg 180
cgtaat 187

<210> 1977
<211> 225
<212> DNA
<213> Unknown

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<220>
 <223> Encodes 16S rRNA from Clostridium XI Va

<400> 1977
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtataga agagaagttt tcggatggat cttttatacc gagtggcgga cgggtgagta 120
 acgcgtggag aacctgcccc atacaggggg ataccaatta gaaatgattg ttaataccgc 180
 ataagcgcac actgaggcat ctgagagtgt gaaaagctcc ggcgg 225

<210> 1978
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Saccharofermentans

<400> 1978
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 gaggacaacg gcttcggctg ttgttcgagc ggcggacggg tgagtaacgc gtgaacaatc 120
 tgtccctgac agggggataa cacttgaaa caggtgctaa taccgataa gaccacgtga 180
 ccgcatggtc gaggggtcaa aggagcaatc cggtagggg tgagt 225

<210> 1979
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1979
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagttaaac gctgaatgga tggtagcttg ctactgaaa ttcttgttta acttagtggc 120
 ggacgggtga gtaacgcgtg agcaacctgc ctttcagagg gggataacgg ctggaaacgg 180
 tcgctaatac cgcataactg atatttaagg catcttagat atacc 225

<210> 1980
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 1980
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60
 gaagcatggt gacggaatcc cctcggggag gaagatgaca tgacttagtg gcggacgggt 120
 gagtaacgcg tgggcaatct gccctgtaca gggggacaac agttggaac gactgctaata 180
 accgcataag cgcacgatga ccgcatggtc aggtgtgaaa aggag 225

<210> 1981

ASBI_002_03W0_SeqLi st_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium IV

<400> 1981
 agagtttgat cctggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60
 ggaacttagt cgaatgttta catgagacaa aagtttagtg gcgacgggt gagtaacacg 120
 tgagcaacct gcctttaaga gggggataac attgagaaat cagtgctaata accgcataac 180
 gcatttctac cgcatgatag aatagccaa aggagaaatc cgctt 225

<210> 1982
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 1982
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggggtgtcag ctcttcggaa cggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120
 cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180
 tatcgcattg tacagtgtga aaaactccgg tggatgaga tggac 225

<210> 1983
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Desulfotomaculum

<400> 1983
 agagtttgat catggctcag gactaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 gattcatttt ttgtagcaat atagaagatg gagagtggcg cacgggtgag taacacatag 120
 atgatctgcc tttcagactg ggacaactca gggaaacttg agctaatacc agataagacc 180
 ccatgaaggg attcacgtga tcaaaggggg agcaatctcc tgctg 225

<210> 1984
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pedobacter

<400> 1984
 agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60
 ggaaggggtc cttcggggcc ctgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120
 cccctttccg ggggacagcc ggtggaacg ccgggtaata ccccatgtcg atccatttgg 180

gcatccaaga ggattgaaag atttcggctc gagagggacg ggcat 225

<210> 1985
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Anaeropl asma

<400> 1985
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60
ggtagcttg ctaacatgg cgaacgggtg agtaacacgt aggcaacctg acgtaaagcc 120
gaggataacc attggaacg atggataata ctggatagga catttgagg catctttgga 180
tgtttaaaga tttatcactt tacgaggggc ctgcggcgca ttagc 225

<210> 1986
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostri di um IV

<400> 1986
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagaatccgt ggaaagagat ttcgggtcaat ggaagcggag gaaagtggcg gacgggtgag 120
taacgcgtga ggaacctgcc ttggagagg ggacaacagc cggaaacggc tgctaatacc 180
gcatgacgca cagaggggac atccccattg tgccaaagat ttatc 225

<210> 1987
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Treponema

<400> 1987
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60
gggattcatg tgcttgaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120
caccctcgg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180
gtcggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 1988
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Mogi bacteri um

<400> 1988
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

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gagatacttt caaatgagac ttcggtggat tttggaggtt gaaagcggcg gacgggtgag 120
 taacgcgtag gcaacctgcc ctttgacag ggatagccat tgaaacgat gattaatacc 180
 tgataacgcg ggagcgatgc atatcgcttc cgtcaaagat tcac 225

<210> 1989
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Candida pararugos*

<400> 1989
 tcctccgctt attgatatgc ttaagttcag cgggtgatct tacttgatat gaggtcaaaa 60
 tttgataatt ttccacagct tgtgtctaac aactgtgtat aatctttttc agtccatata 120
 gtgaaccatt acccactaat atatatgtgg agaaaaaatg acgctcacac aagtatacct 180
 ccaagagggt gcaatgtgcg ttcaaaaact caatgattca cgtct 225

<210> 1990
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Dipodascaceae* s

<400> 1990
 tcctccgctt attgatatgc ttaagttcag cgggtaatcc tacttgatct gaggttgaat 60
 agtgttgttt ttcaaacgaa tttgattcga aatttttagaa gagcaaagca attccaagag 120
 agaaacaacg ctcaaacaag tatactttgg gggatacccc aaagtgcaat gtgctgttcaa 180
 aaactgatga ttacttctg caattcacia gaaatatcgc gtttc 225

<210> 1991
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Orpionomyces* sp AF CTS CH0

<400> 1991
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttttaa ttaaattttc cttttaatt aagcaacaat taatatttta atttttaccc 120
 tttaaaactg aaaagtttat tcctttttac gggaaaattt tatccaattt tattagataa 180
 aaacaaaaaa aattggctt ttaaaaatca atttaagtg aaaca 225

<210> 1992
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Candida catenulata*

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<400> 1992
 tcctccgctt attgatatgc ttaagttcag cgggtagtct tacgtgtgtg agggaaaaag 60
 tatggttgtg agtaaactgt aatactacac caatcacttt ttggaggaac agctgacgcc 120
 gtatgtccat tacctgcgag ggagataacc gctcacacac gcatgcccgc gggaataccc 180
 acgggcgcaa tgtgcgttca aagattcgat gattcacaaa atctg 225

<210> 1993
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Aspergillus cibarius*

<400> 1993
 tcctccgctt attgatatgc ttaagttcag cgggatatccc tacctgatcc gaggtcaacc 60
 tggtaaaaa gattggttgc gaggctagct gccagctgga cctacgggag cgggtgacaa 120
 agccccatac gctcgaggac cagacatggt gccgccactg ccttttgggc ccgtccccgt 180
 tgccagggac ggaagcccaa cacacaagcc gtgcttgagg gcagc 225

<210> 1994
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Candida etchellsii*

<400> 1994
 tcctccgctt attgatatgc ttaagttcgg cgggtaatct tgcttgattg ggggccataa 60
 aaaatattac tgcacagagt tattaacgtg tgctgttcca tttctttgac tccaataagg 120
 agcaacacct cgtaatccac aagaagtaga ttagagagaa agttcggcgc tccaacaagc 180
 atgctactag gagatcctag aagcgcaatg tgcgttcaaa gattc 225

<210> 1995
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Anaeromyces* sp K

<400> 1995
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tgttttaaaa aatttccttt ttgttttgaa tatgaaaagg ttttttaaaa attgtctagg 120
 ttattccttg gaaaaggaaa attttatcca attttaaaaa ttgaaatfff caaatccaat 180
 ttaaaaattc aatttaaagt gaaacaactt gtatcgttgt aaaac 225

<210> 1996
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Cladosporium* sp 4 MU 201

<400> 1996

tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc 60
 ttagaaatgg ggttgtttta cggcgtagcc tcccgaacac ctttagcga atagtttcca 120
 caacgcttag gggacagaag acccagccgg tcgatttgag gcacgcggcg gaccgcggtg 180
 cccaatacca agcgaggctt gagtggtgaa atgacgctcg aacag 225

<210> 1997

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Wallemia* seb

<400> 1997

tcctccgctt attgatatgc ttaagttcag cgggtaatcc catctgattt gaggtcagatt 60
 tgatcagggtt gtttgccaaa aattggcagt tagaagcaat cactacaaat tactaaggcg 120
 agattactct ctgactggtg atggatgtaa tccattataa cacacagtat taaccattc 180
 ataaggatcat cactaatcat tttaaagga gtcattatac atgac 225

<210> 1998

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Orpionomyces* sp AF CTS CH0

<400> 1998

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttgaaat aaatttcctt ttgctattga atttttaatt tcagattaaa aaattgtcaa 120
 gtttattcct ttttacggg aaaattttat ccaatttttt aaaaattgaa aataaaaaaa 180
 caattttaa attcaattta aagtgaaca acttgatcgt ttgta 225

<210> 1999

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Orpionomyces* sp AF CTS CH0

<400> 1999

tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaaaat aaatttcctt ttcttgaaaa atttattttc gcttttttaa actgtcaagg 120
 ttattccttt ttacgggaaa attttatcca attttaaaaa attgaaaata aaattttaca 180
 atttaaaaat tcaatttaa gtgaacaac ttgtatcgtt gtaaa 225

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<210> 2000
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Kodamaea ohmeri*

<400> 2000
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacttgattt gaggaaaaaa 60
 aatgagtgta ctgacggtac cgttttgtag agtactgtcg tcattatfff cgtgcaaaca 120
 caatacaatc cgtgaggatt agggaagtat tcgctcaaac aagcatacca ttggaatac 180
 ccaatggtgc aatgtgcgtt caagattcg atgattccga gagct 225

<210> 2001
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Pichia burtoni*

<400> 2001
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gaggaaaatg 60
 tgtttttagt gtggttgca ctactaaatt agaaaataac aacacaagaa aaatactfff 120
 cgaatggact gactaagagc tcgtgccatt caacgccaac ccgcggggggt tgaggagaa 180
 atgacgctca aacaggcata cttgtggaa taccacaagg tgcaa 225

<210> 2002
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Pachyphloeus carneu*

<400> 2002
 tcctccgctt attgatatgc ttaagttaag ggagtcctct tacaagtttc aagtctttct 60
 taaaatacag tttataatat tttcctttta taatttaaaa atgttacttt ttaatttatt 120
 aaagtactta tattactttc tgttttttgg attttacttt tgtaaaatct ttctttttat 180
 tttatattat ttttaaggg acgttgaac ttatatacat cgatc 225

<210> 2003
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Anaeromyces sp FFE*

<400> 2003
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttgaaat aaatttcctt ttgctattgg attttattct ctttcaaaaa attgtcaagg 120

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ttattccttt tttacgggaa aattttatcc aattttttaa aaattgaaaa taaaaaacia 180
 ttttaaaatt caatttaaag tgaacaact tgtatcgttg taaaa 225

<210> 2004
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Trichosporon asteroide*

<400> 2004
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt caggccagag 60
 tcaaagtaat tgccttgcg gacgattaga agcagccttc aacacaatgg acccagttaa 120
 acttattaca ccagacatta atgtcaaact tgctaactct ttttaaggcga gcgatcagag 180
 atcgcagacg cccaaatcca atccattagg aaaccctagt ggttg 225

<210> 2005
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Rhizophydim sp MP 00*

<400> 2005
 tcctccgctt attgatatgc ttaagttaag agagtcactt taaaaatttc aaatcttttt 60
 ttaacttttg aatttacttt tgattttact cttataaat tcttttttat aatcaattgt 120
 ttttaattgat ttattataat ttattttatt ttaaaaagag gatattgaaa cttttatatt 180
 taattaaagc taattaaata ctttcatgca ttcaaatatt tactt 225

<210> 2006
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Vrystaatia aloecol*

<400> 2006
 tcctccgctt attgatatgc ttaagttaag agagtcactt tgaaaatttc aaatcttttt 60
 taaatcgttt gaccttttca ttttttacgt gattagatca attcttattc aattaatcaa 120
 ttgctttaat tgatttatta aatatgttat tttaaaattg ggatgttgaa actttcatat 180
 ttaattgaa ttcaattaa tactttcatg cattcaata tttac 225

<210> 2007
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Rhizophydim sp MP 00*

<400> 2007

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tcctccgctt attgatatgc ttaagttaag agagtcacatct taaaaatttc aaatcttttt 60
 ttaacttttg aatttacttt ttgtatttta ctcttaaaaa ataaattctt ttattttata 120
 atcaattggt ttaattgatt tattataatt tatttttattt taaaaagagg atattgaaac 180
 ttttatattt aattaaagct aattaaatac tttcatgcat tcaaa 225

<210> 2008
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of Ascomycota s

<400> 2008
 tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc 60
 tggaaaaaat ggttgaaaaa cgtcggcagg cgccggccaa tcctacagag catgtgacaa 120
 agcccatac gtcgaggat cggacgcggt gccgccgctg cctttcgggc ccgtccccc 180
 ggagaggggg acggcgaccc aacacacaag ccgggcttga gggca 225

<210> 2009
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of Wallemia seb

<400> 2009
 tcctccgctt attgatatgc ttaagttcag cgggtaatcc catctgattt gaggtcgatt 60
 tgatcagttt gtttgcaat ggcagttaga agcaatcact acaaattact aaggcgagat 120
 tacttctga ctggtgatgg atgtaatcca ttataacaca cagtattaac ccattcataa 180
 ggatcact aattatttta aaggagtc tttttatat gacaa 225

<210> 2010
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of Vrystaatia aloicola

<400> 2010
 tcctccgctt attgatatgc tcctctacct tgacatccgc taccttgata attttgctgt 60
 tgttgcttc ttctatcttc ttcttgctta cgtctatctt ctctcttct acgtctatct 120
 tcttcttc ttcttctct ttcatctct tgtcttcttc tatcttgctc ttgtctacgt 180
 ctatctctt ctgatgtct tctatcttct tctcgggtgc ttcta 225

<210> 2011
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> ITS sequence of *Trichoderma virid*
 <400> 2011
 tcctccgctt attgatatgc ttaaattcag cgggttcaac ttattggaat cagagtaaat 60
 cgaggctgtc gttgatctta attaggttcc acgaaccgct tgcaccacaa gattatcttg 120
 agcacttcat ttattgtgta attacatcta ctgaaatcaa taacacgctc attgaggtgt 180
 tttacatgtg ttcagatgtg ttcaaatgct aatctaataga ttgac 225

<210> 2012
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Anaeromyces* sp FFEEX
 <400> 2012
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaaata aatttccttt taataattgg aattttttaa tttcaattaa tttaaaattg 120
 tcaaggttat tcctttttac gggaaaattt tatccaattt taaaaattga attaaaaaaaa 180
 tacaatttaa aaattcaatt taaagtgaac caacttgat cgttg 225

<210> 2013
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Anaeromyces* sp FFEEX
 <400> 2013
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttttaa taaatttctt ttgctattg aattcttaatt ttcagcttaa aaaattgtca 120
 aggttattcc tttttacagg aaaattttat ccaatttttt aaaaattgaa aataaaaaaaaa 180
 caatttttaa attcaattta aagtgaacaa acttgatcgt ttgta 225

<210> 2014
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Vrystaati a aloei* col
 <400> 2014
 tcctccgctt attgatatgc tcatgatatt cctctttgga aatgctgccg ttgcatggag 60
 cgtaacataa gtcaatctgg ctgttcaagc atggaccatc cattcttttg caggttctta 120
 ttctaatacaaa ttgctttagg aacttaacgg tttggcgaac agcagtaaca tctgtaaaag 180
 gaccatagta tgaacctttt ttgcctatat cccttgttac gactt 225

<210> 2015

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Orpionomyces* sp AF CTS CHO

<400> 2015
 tcctccgctt attgatatgc ttaagttaag agagtcacatct taaaaatttc aaatcaaatt 60
 taaatatatt aagttaattt ttaaaaaatg ttatttttaa attaactcgt ttattattta 120
 attaattggt ttaattaatt aattatata tttattta ttttaaattg atgttgaaat 180
 ttttatattt aattcaagat gaattaaata ctttcatgca ttcaa 225

<210> 2016
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Candida glabrata*

<400> 2016
 tcctccgctt attgatatgc ttaagttcgg cgggtaactct tatctggctt gatgttttat 60
 atattgttga tattgaaaat atgtttttct ttaatataca aatcgttaaa acccacaagt 120
 gtatttgatg ggtcaagcaa caacaatca aacagatata aagccgagtc tcctttggct 180
 ttgcaaaatg cgttcaaaga ttcgatgatt cacagaataa tgcac 225

<210> 2017
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Neocallimastix* s

<400> 2017
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttaata aattccttt taaaatcgtt cccaaccgac gatttcaatt aaaatccatt 120
 taaagtga caacttggtt atcgttgtaa aacactcata accataaaat caaatgattt 180
 tatgagaata ttttactgat actcaaacag acatactttt ttagt 225

<210> 2018
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Anaeromyces* sp SSD BRL

<400> 2018
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tgtttaaaaa atttcctttt tgttttgaat aagaaaacta tttttaaaat tgtctagggt 120
 attccttggg aaaggaaaat tttatccaat tttaaaaatt gaaattttca aatccaattt 180

aaaaattcaa tttaaagtga aacaacttgt atcgttgtaa aacac 225

<210> 2019
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of *Trichoderma virid*

<400> 2019
tcctccgctt attgatatgc aattttcaag gttcaaccgg ttcagcttcg ctgaccgggg 60
caagaatctc gatacttcgt atcttcgatt cttgaagggt tccatcctga ccggtttccc 120
agtctctttg aaaaccaac agtataacat ctgagaggct gtctttgtgac aaccgcaag 180
aattcaaact ctgtttggat tcttgcttcg aagctctgct tcgaa 225

<210> 2020
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of *Candida glabrata*

<400> 2020
tcctccgctt attgatatgc ttaagttcag cgggtagtct tacggggggg agaaacaaag 60
tagtcgagaa cgtgttttct gactgttgat tctaaggccc ggaggagaaa atgtatgctc 120
caccgcat gcgccggagc gcgccatgtg cgttcaaaga ttaatgattc acgtttgcag 180
atcatgatac gtatcgcaat ttgctgcggt cttcatcggg acgag 225

<210> 2021
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of *Candida glabrata*

<400> 2021
tcctccgctt attgatatgc ttaagttcag cgggtactcc catctgattt gagataagtt 60
tatagatagg ccagcgtaat tatgtaattc acagtcccac ttggattcaa acccactaaa 120
taaaaagata ggtcaagttg tgttatgctc aaacagatgt acgacaaacg tcgtgcaaga 180
tgcgttcaaa gattcgatga ttacagaat aatgcaattc acatt 225

<210> 2022
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of *Anaeromyces mucronatus*

<400> 2022
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

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tgtttaaaaa atttcctttt tgttttgaat aagaaaacta tttttaaaat tgtctaggtt 120
 attccttgct taaaggaaaa ttttatccaa ttttaaaaat tgaattttc aaatccaatt 180
 aaaaattcaa tttaaagtga aacaacttgt atcgttgtaa aacac 225

<210> 2023
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Phyllosticta capitalensi*

<400> 2023
 tcctccgctt attgatatgc cccttaccgc ttcagctgct ttaagctccc ttaaaacaaa 60
 ctcaagcttt tttatgtcaa gaaaggccct ttcgttactt ccctgcgccg aacagaaggg 120
 gcaatgcccc gggcaataca ttgtcgggca gattgaaagc tgaagcttta aaggcttttt 180
 cttttccctg ttcggagcac cgtttacgga gcagtgataa ttctt 225

<210> 2024
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Schizangium serpenti*

<400> 2024
 tcctccgctt attgatattc atatatccta tttgatgaga tcaaagaact taataattac 60
 ttatTTTTTc tttctgtgat cttcttaata ttatTTTTt aaaaaataat acccaaatac 120
 attatctagt tttcaaagaa ctatttctga gagaacaatc tctcaaaact aagcaaaaacg 180
 ttatagctag atcttctttt ctacaaatat actccataga aagga 225

<210> 2025
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Pleosporaceae* s

<400> 2025
 tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaaaa 60
 gttgaaaaaa ggctttgtgg atgctgacct tggctggaag agagcgcgac ttgtgctgcg 120
 ctccgaaacc agtaggccgg ctgccaatta cttaaggcg agtctccagc gaactggaga 180
 caagacgccc aacaccaagc aaagcttgag ggtacaaatg acgct 225

<210> 2026
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Alternaria* sp 3 MU 201

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<400> 2026
 tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaaaa 60
 gttgaaaaaa aggcttaatg gatgctagac ctttgctgat agagagtgcg acttgtgctg 120
 cgctccgaaa ccagtaggcc ggctgccaat tactttaagg cgagtctcca gcaaagctag 180
 agacaagacg cccaacacca agcaaagctt gaggttacia atgac 225

<210> 2027
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Penicillium brevicompactum*

<400> 2027
 tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc 60
 tggaaaaaag tttggttgat cggcaggcgc cggccagtcc taaaagcgg gtgacaaagc 120
 cccatagct tgaggaccgg acgcggtgcc gccgctgcct ttcgggcccg tccccggaa 180
 ggaggacgga gcccaacaca caagccgtgc ttgagggcag caatg 225

<210> 2028
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Cryptococcus terrestris*

<400> 2028
 tcctccgctt attgatatgc ttaagttcag cgggtagccc tacctgattt cagggtcaaag 60
 tcaaaagtgc gcgatggcag gttctgagca gtcatcacca caaggagaga cgaaacttat 120
 tacgtctaac actgatgtgg gatgttcac taagtcattt gaggcgagcc atcactggca 180
 gacgcccaag tccaagtcta acatgttcag aaaacatatt agatt 225

<210> 2029
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Rhizophyidum sp MP 00*

<400> 2029
 tcctccgctt attgatatgc ttaagttaag agagtcattt taaaatttc aatcaaaat 60
 aacattttta ttgaattttt ttatttatta aattcaattt taaatttttt tcaattaatt 120
 attttaatta atttattata atttgtgta tttttttttt taattgatgt tgaatttttt 180
 atatttaatt caagttgaat taaatacttt catgcattca aatat 225

<210> 2030
 <211> 225
 <212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Monascus purpureus*

<400> 2030

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tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc      60
taaggaaaaa aaggttggag agggcaaagg ccccggccg acctactgag cgggtgacaa      120
agccccatac gtcgaggac cggacgcggc gccgccactg cctttcgggc ccgtccccct      180
tgcccggagg cgcaggggac ggcggcccaa cacacaagcc gcgct                          225
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<210> 2031

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Saccharomycetales*

<400> 2031

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tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgattt gaggtcgagc      60
ttatgtatta agttcggcgg ccaagcgtcc tactcatagt tcgcttcgcc cgcaacgttt      120
ctttcagag cggcccaat gccagggcc cccatttct gctcgcaagc aagaagggaaa      180
cgacgctcaa acaggcatgc cctccggaat accagagggc gcaat                          225
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<210> 2032

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Cylindroascus aberensis*

<400> 2032

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tcctccgctt attgatatgc ttacgttcag cgggtactct tatctgattt gagatcaagt      60
taatTTTTTtac TTTTTTTTcc tttgtaagta cttttaaaaa atcaaaactaa ttcattctta      120
aaattgttta ggttattcct tttttacggg aaaattttat ccaattttta aaaaaatcag      180
TTTTTaaatg atTTTTTaca agacaaagaa tttaaagtga aacaa                          225
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<210> 2033

<211> 225

<212> DNA

<213> Unknown

<220>

<223> ITS sequence of *Microascaceae*

<400> 2033

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tcctccgctt attgatatgc ttaagttcag cgggtaacct tacctgatcc gaggtcaaac      60
catcaggagt tgaggttcga cggctggcct tcgccgggac ccgatgag gagtgagctaac      120
ttactacgca gggggcgccg cggcgggacc gccacttcat ttcagggcct gcgggcaacg      180
gtggcccgca gcgcccac accgggcggc ggcgcggccc acggt                          225
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<210> 2034
 <211> 198
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Orpionomyces* sp AF CTS CHO

<400> 2034
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttataaa taaatttcct ttaactgtac ggtatggaaa ctattaaaat ttctaaaaaa 120
 ctgaaatagc tttattcctt gttacgactt ttacttcccc tccgcttatt gatatgcctt 180
 gttacgactt ttacttcc 198

<210> 2035
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Trichoderma virid*

<400> 2035
 tcctccgctt attgatatgc ttaagttcag cagggtactcc catccgattc gatatgaaat 60
 atatttttcg atagagtcac aaattcataa gactcaatcc ttctcattt cagatcaaca 120
 ttacatgagt gatcaaagtt tggtcatact cgatcggatg tggaaagctt gcgctcccca 180
 gcgtgtgctg tcaaaaattg gatgattcac agtgaattg tcatt 225

<210> 2036
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Orpionomyces* sp AF CTS CHO

<400> 2036
 tcctccgctt attgatatgc ttaagttaag agagtcacatct taaaatttc aaatcaaatt 60
 taaatatatt aagttaattt ttaaaaatgt tattttaaaa ttaactcgtt tatttattta 120
 attaattggt ttaattaatt aattatattt atttttttta tttttaaatt gatgttgaaa 180
 tttttatatt taattcaaga tgaattaat actttcatgc attca 225

<210> 2037
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Rhizophydim* sp MP 00

<400> 2037
 tcctccgctt attgatatgc ttaagttaag agagtcacatct taaaatttc aaatcaaaaa 60
 ttaaattttt atttgtttta aattaatttt taaataatt taaacaaatt catttatttc 120

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aattaattat attaattaat ttattataat tttattttta attttttaat tgatgttgaa 180
 atttttatat ttaattctag tagaattaa tactttcatg cattc 225

<210> 2038
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Piromyces* sp I GRL 1

<400> 2038
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttagtta aattttcctt ttaatgaaaa aatctaataca aaaaattaaa attgttttagg 120
 ttattccttt tttacgggaa aattttatcc aattttattt taaaattaga aaaattcaaa 180
 ttttaaaaaa aatttaaagt gaaacaactt gtatagttgt aaaac 225

<210> 2039
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Paracocci dioides brasiliensis*

<400> 2039
 tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcgatt 60
 tctagaatat gtaaatattc aagtaaaaa atcagaccgg cgacggccgg gccgcgtgag 120
 cgtactatgt tgaaaaaacc ccatatgctc gggcaccgga gtcgcgacgc cgccaatgca 180
 tttcaggcaa atccctacat atcaggatga gcccaacaca caagc 225

<210> 2040
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Millerozyma farinos*

<400> 2040
 tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgattt gaggtcaaac 60
 tttgtagatt gttgtaaggc cgagcctctt ttacacagat actaccgcta actgtttcaa 120
 cgagttgggt agacctataa cattgaagag tcaaacggca tttatctact gtaaatactc 180
 atgccaatcc atttcaagca aatagatata gaatatctat atcgc 225

<210> 2041
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Trichoderma virid*

<400> 2041

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tcctccgctt attgatatgc ttaaattcag ctggttcaaa ttattggaat cagagtaaat 60
 cgagactgtc gttgatctta attagattcc acgaaccgct tgcaccacaa gactatcttg 120
 agtacttcat ttcatgtgta attaagacta ctgaaatcaa taacacgctc attgaggtgt 180
 ttacatgtg ttcagagata aaagttcgaa agatcatagt tcgct 225

<210> 2042
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Debaryomyces prosopidi*

<400> 2042
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gaggtcaaac 60
 ttgtttgtta tattgtaagg ccgagcctag aataccgaga aatatacctt taaactattc 120
 aacgagttgg ataacctaa tacattgaaa gtcatatagc actatccagt accactcatg 180
 ccaatacatt tcaagcaaac gcctagttcg actaagagta tcaact 225

<210> 2043
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Vrystaati aloeicola*

<400> 2043
 tcctcgctta ttgatatgct taagttaaga gagtcatctt gaaaatttca aatctttttt 60
 aaattctttt gaccttttca gtttttacgt gattagatca attcttattc aattaatcaa 120
 ttgctttaat tgatttatta aatatgttat tttaaaattg tgatgttgaa actttcatat 180
 ttaattgaag ttcaattaa tactttcatg cattcaaata tttac 225

<210> 2044
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Cryptococcus albidus*

<400> 2044
 tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gaggccagat 60
 gtcaagagta ttaatccgaa gatcaatgga ttagaaagcg gtcctttagtc ctgcaacgcg 120
 gccatccgaa gatgtcctta gcgaaatact tattacgcca agtcaaacca tgtcgcgaga 180
 cagatccagc tattactttt aagacgagcc gacttatcat cggca 225

<210> 2045
 <211> 225
 <212> DNA
 <213> Unknown

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<220>
 <223> Encodes 16S rRNA from *Succinivibrio*
 <400> 2045
 agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac 60
 ggtaacagta gaaaagcttg cttttctagc tgacgagtgg cggacgggtg agtaacattt 120
 gggaaactac ctgatagagg gggacaacag ttggaaacga ctgctaatac cgcataaagc 180
 ctgaggggtga aagcagcaat gcgctatcag atgtgcccaa acggg 225
 <210> 2046
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from *Prevotella*
 <400> 2046
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctatacta gaggatagcc cggcgaaagt cggattaata ctctatgttc 180
 ttcgtagaag acatctgaaa tgaagcaaag gtttaccggt atagg 225
 <210> 2047
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from *Prevotella*
 <400> 2047
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga tcgaagcttg ctttgattga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctatagta gagaatagcc cggcgaaagt cggattaatg ctctatgttg 180
 tatttagaag acatctgaag aatacceaag gtttaccgct atagg 225
 <210> 2048
 <211> 225
 <212> DNA
 <213> Unknown
 <220>
 <223> Encodes 16S rRNA from *Prevotella*
 <400> 2048
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacgata ttgaaagctt gctttcgata ggcgacgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgccataac taagggataa tccgtagaaa tgcggtctaa taccttatgt 180
 gttccgacga ggacatctga attggaataa agatttatcg gttat 225
 <210> 2049

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<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ruminobacter

<400> 2049
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaacatga gaaagcttgc tttcttgatg acgagtggcg gacgggtgag taatgcctgg 120
 gaagctgcct gaatgagggg gacaacacct ggaaacgggt gctaataccg cgtataccct 180
 gagggggaaa gaccggatac ggtcacattc agatgcgccc aggtg 225

<210> 2050
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Syntrophococcus

<400> 2050
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
 gaagcacaga aacggatttc ttcggattga aggttctgtg actgagcggc ggacgggtga 120
 gtaacgcgtg gggaacctgc cctgtaccgg gggataacag acagaaatgt ctgctaatac 180
 cgcataagcg cacgagaagg catcttcttg tgtgaaaaac tccgg 225

<210> 2051
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Succinivibrio

<400> 2051
 agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac 60
 ggtaacataa gaaagcttgc tttcttgatg acgagtggcg gacgggtgag taatatttgg 120
 gaagctacct gatagagggg gacaacagtt ggaaacgact gctaataccg catacagcct 180
 gagggtgaaa gcagcaatgc gctatcagat gcgccc aaac gggat 225

<210> 2052
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Pseudobutyribrio

<400> 2052
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcaattt tctacgatcc cttcgggggtg acggattatt gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaaccta ccttgtacag ggggacaaca gttggaaacg actgctaata 180

ccgcataagc gcacagcatc gcatgatgca gtgtgaaaag ttttt 225

<210> 2053
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 2053
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcataa cgaaagcttg cttttgttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccccatagta gagaatagcc cggcgaaagt cggattaatg ctctatgttg 180
 tatcatgagg acatctgaat aataccaaag gttcaccgct atggg 225

<210> 2054
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 2054
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatga tcgaagcttg ctttgattga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctatagta gagaatagcc cggtgaaaat cggattaatg ctctatgtta 180
 ttcaatgcfg acatctaagt tgaatcaaag gtttaccgct atagg 225

<210> 2055
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 2055
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggtaacgaca gcgaaagctt gcttttgctg ggcgacgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgcccataac taagggataa tccgtagaaa tgcggtctaa taccttatgt 180
 gttccgacga agacatctga attggaataa agatttatcg gttat 225

<210> 2056
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

<400> 2056
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

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ggaaacgata ttgaaagctt gctttcttta ggcgtcgacc ggcgaatggg tgagtaacgc 120
gtatccaacc tgcccctgag taaggatag cccatcgaaa gatggattaa taccttatgg 180
tttccttga aggcacgaga ttaggaataa agatttatcg ctgag 225

<210> 2057
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae_incertae_sedis*

<400> 2057
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagtcttct agacagattc cttcgggatg acgactagat gtacttagtg gcggacgggt 120
gagtaacgcg tgggtaacct gcctcataca gggggataac agttggaaac agctgctaata 180
accccataag cgcaaatgt cgcatagaaa agtgtgaaaa actcc 225

<210> 2058
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Syntrophococcus*

<400> 2058
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60
gaagcacttg aatggatttc ttcggattga agttcttgtg acttagcggc ggacgggtga 120
gtaacgcgtg ggaaacctgc ctcatatcgg gggataacag ttggaaacga ctgctaatac 180
cgcataagcg cacagtaccg catggtacgg tgtgaaaaac tccgg 225

<210> 2059
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Ruminobacter*

<400> 2059
agagtttgat catggctcag attgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
ggtaacagca ggaagcttgc ttcttgctg acgagtggcg gacgggtgag taataacctg 120
ggagctgcct gaatgagggg gacaacacct ggaaacgggt gctaataccg cgtaagccct 180
gagggggaaa ggctgggcaa ccagtcgcat tcagatgcgc ccagg 225

<210> 2060
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Butyrivibrio*

ASBI_002_03W0_SeqList_ST25

<400> 2060
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagaattta cgctgatgaa gcttcggcag attcttgtaa attcttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gcctcact gggggataac agctggaaac gactgttaat 180
 accgcataag cgcacggtat cgcatgatac agtgtgaaaa actcc 225

<210> 2061
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Cl. ostri di um_XI Va*

<400> 2061
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcattta ctacgatct cttcggagt acgagttat gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttgtacag ggggataaca gttagaaatg actgctaata 180
 ccgcataagc gcacagtatt gcatgataca gtgtgaaaaa ctccg 225

<210> 2062
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 2062
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcataa tcgaagcttg ctttgattga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt cccttagta gggcatagcc cggcgaaagt cggattaata ccctatgtta 180
 tccgtcgagg acatctgaaa tggattaaag atttatcgct aaggg 225

<210> 2063
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 2063
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggaaacgata ttggaagctt gcttccgata ggcgtcgacc ggcgcacggg tgagtaacgc 120
 gtatccaacc tgccatcac ttgggaataa cttgcgaaa gtaagactaa tgcccaatga 180
 cattataga aggcatttga aatgaattaa agatttatcg gtgat 225

<210> 2064
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 2064
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggagtacttc tcccgagact gaggaagctt gcttctgaag aatcatttga agtacttagt 120
ggcggacggg tgagtaacgc gtgggtaacc tgcctcacac agggggataa cagttggaaa 180
cgactgttaa taccgcataa gcgcacagta tcgcatgata cagtg 225

<210> 2065
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Roseburia*

<400> 2065
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
ggacttatat tgaagtttc ggccggatat ataagttagt ggcggacggg tgagtaacgc 120
gtgggtaacc tgccttacac cgggggataa cagttggaaa cgactgctaa taccgcataa 180
gccacagta ccgcatggta cagggggaaa agttgaggcg atgta 225

<210> 2066
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Lachnospiraceae incertae sedis*

<400> 2066
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gaagcaactt atcacgattc cttcgggatg acgatttggt gactgagtgg cggacgggtg 120
agtaacgcgt ggtaacctg cttatacag ggggatagca gctggaaacg gctgataata 180
ccgcataagc gcacagcatc gcatgatgca gtgtgaaaaa ctccg 225

<210> 2067
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Butyrivibrio*

<400> 2067
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagttaaac gctgatgaag cttcggcaga ttcttgtaa acttagtggc ggacgggtga 120
gtaacgcgtg ggtaacctgc ctatacagg gggatagcag ttggaaacga ctgataaac 180
cgcataagcg cacggtatcg catgatacag tgtgaaaata tttat 225

ASBI_002_03W0_SeqList_ST25

<210> 2068
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pseudobutyri vi brio*

<400> 2068
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcagttt attacgatcc cttcgggggtg acgatttact gactgagtgg cggacgggtg 120
 agtaacgcgt gggtaacctg cttgtacag ggggacaaca gttggaaacg actgctaata 180
 ccgcataagc gcacagcttc gcatgaagca gtgtgaaaag tattt 225

<210> 2069
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Turicibacter*

<400> 2069
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
 gaggtgtagc aatacaccga gtggcgaacg ggtgagtaac acgtaggtaa cctgcccccta 120
 agtctgggat acccagggga aaccttggtc aataccggat agcggcggag gggacatccc 180
 ttccgcacga aagtcgcggt tgcgacgctt tcggatggac ctgcg 225

<210> 2070
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospira_ incertae_ sedis*

<400> 2070
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagatttac cacctgcttg caggaggtaa atcttagtgg cggacgggtg agtaacgcgt 120
 gggtaacctg ctcacacag ggggataaca gttggaaacg actgttaata ccgcataagc 180
 gcacggtatc gcatgataca gtgtgaaaaa ctccggtggt gtgag 225

<210> 2071
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Pseudobutyri vi brio*

<400> 2071
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcaattt cttacgatcc cttcgggggtg acgagttatt gactgagtgg cggacgggtg 120

ASBI_002_03W0_SeqLi st_ST25

agtaacgcgt gggtaaccta ccttgtagc ggggacaaca gttggaaacg actgctaata 180
 ccgcataagc gcacgggtgtt gcatgacaca gtgtgaaaag ttttt 225

<210> 2072
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Anaerol i nea

<400> 2072
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcggac 60
 ggtagtagca atactgtagt ggcgaacggg tgagtaacac gttggtgacc tgccccaaag 120
 atgggaatat cacctggaaa cgggtggcaa aaccgaataa gctcgtgtga gttagagaag 180
 catgagtaaa agagcgatct actttgggag gggcctgcgg cccat 225

<210> 2073
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburi a

<400> 2073
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacttt acttgatctc ttcggagtga ttgttctgtg actgagtggc ggacgggtga 120
 gtaacgcgtg ggtaacctgc cttgtacagg ggggataaca gttggaaacg actgctaata 180
 ccgcataagc gcacaggacc gcatggtccg gtgtgaaaaa ctccg 225

<210> 2074
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Propi oni bacteri um

<400> 2074
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggaaaggccc tgcttttgtg ggggtgctcga gtggcgaacg ggtgagtaac acgtgagtaa 120
 cctgcccttg actttgggat aacttcagga aactggggct aataccgat aggagctcct 180
 gctgcatggt gggggttggg aagtttcggc ggttggggat ggact 225

<210> 2075
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um_XI Va

<400> 2075

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agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
gagccttgtc ggacggatcc cttcggggtg aagaccggcg ctggcgagtg gcggacgggt 120
gagtaacgcg tggggaacct gcctcattcc gggggatacc agtcggaaac ggctgttaat 180
accgcataag cgcacggtgt ggcatcacac agtgtgaaaa actcc 225

<210> 2076
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Olsenella*

<400> 2076
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60
ggttaaagca cctccgggtg tgataaagt ggcgaacggc tgagtaacac gtgggcaacc 120
tgcccctcgc accgggacag cctcgggaaa ccgtggataa taccggatac tccggcacc 180
ccgcatgggg gagccgggaa agcccagacg gcgagggatg ggccc 225

<210> 2077
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Streptococcus*

<400> 2077
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtgaac 60
gcagtagtga tcaccggagc ttgctccacc gattagtact gagtcgcaa cgggtgagta 120
acgcgtaggt aacctgcctt gaagaggggg ataactattg gaaacgatag ctaataccgc 180
ataaaatagc gagttgcatg actggctatt gaaaggtgca atcgc 225

<210> 2078
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from *Clostridium_XIVa*

<400> 2078
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
ggagattaga cgctgacgag acttcgggtca aatcttgttt aatcttagtg gcggacgggt 120
gagtaacgcg tgggcaacct gcctcact gggggatagc agttggaaac gactgataat 180
accgcataag cgcacgagat cgcatgatct agtgtgaaaa actcc 225

<210> 2079
<211> 225
<212> DNA
<213> Unknown

ASBI_002_03W0_SeqList_ST25

<220>
 <223> Encodes 16S rRNA from Clostridium_XIVa
 <400> 2079
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatttaa cgctgatgaa gcttcggcag aatcttgta aatcttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gcctcact ggggatagc agttgaaac gactgataat 180
 accgataag cgcacggagt cgcatactc tgtgtgaaaa actcc 225

<210> 2080
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Roseburia
 <400> 2080
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gggaattact ttttagcttg ctaagttgta attctagtg cggacgggtg agtaacgcgt 120
 ggtaacctg cttataaccg ggggacaaca gttgaaacg actgctaata ccgataagc 180
 gcacagtctc gcatgagacg gtgtgaaaa ctccgggtgtg ataag 225

<210> 2081
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium_IV
 <400> 2081
 agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatatgt cgaatgaaga tttcggttg aatttgatat atcttagtg cggacgggtg 120
 agtaacgcgt gagtaacctg ccgatgagag tggataacg ttctgaaaag aacgctaata 180
 ccgataacg tatcgaagcc gcatgacatt gatacceaag atttt 225

<210> 2082
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium_XIVc
 <400> 2082
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60
 ggagagccgt aacggaagcc ttcgggtgga agatacggtt acttagcggc ggacgggtga 120
 gtaacgcgtg gataacctg ctatacagg gggataacag agagaaattt ctgctaatac 180
 cgcataagcg cacgtaaccg catggttatg tgtgaaaagc cgaga 225

<210> 2083

ASBI_002_03W0_SeqList_ST25

<211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae_incertae_sedis*

<400> 2083
 agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtattcc ttcggaagat cgaagagctt gctcggagag attctttgga atacttagtg 120
 gcggacgggt gagtaacgcg tgggtaacct gcctcacaca gggggataac agttggaaac 180
 gactgttaat accgcataag cgcacagtac cgcatggtac agtgt 225

<210> 2084
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Erysipelotrichaceae_incertae_sedis*

<400> 2084
 agagtttgat cctggctcag gatgaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 ggagaaggaa ggtgcttgca tcttccgat cagtggcgaa cgggtgagta acacgtaggt 120
 aacctgcca tgtaccggg acaacggtg gaaacgactg ctaaaccgg ataggcatat 180
 ggaaggcatc ttcgatatgt taaaggggcc acggccctgg acatg 225

<210> 2085
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Solobacterium*

<400> 2085
 agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgatc 60
 gctggaattc aagcttgctt gaatgaagga gaggcgaac ggtgagtaat acataagcaa 120
 cctgcccacg aagactggga taatctctgg aaacggggac taataccgga taggtaacga 180
 aggcgcatgc ctctgttatt aaagatgaga agcactggtg gatgg 225

<210> 2086
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Lachnospiraceae_incertae_sedis*

<400> 2086
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 ggagtatctc tcccagagacc aaagaagctt gcttctgagg aatcaattga gatacttagt 120
 ggcggacggg tgagtaacgc gtgggtaacc tgcctcacac agggggataa cagttggaaa 180

ASBI_002_03W0_SeqList_ST25

cgactgttaa taccgcataa gcgcacagta ccgcatggta cagtg 225

<210> 2087
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium_XIVa

<400> 2087
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatataa cgctgcagag acttcgggtca aagcttggtg tatcttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gcctcact gggggataac agttgaaac ggctgttaat 180
 accgcataag cgcacagagt cgcacagagt agtgtgaaaa actcc 225

<210> 2088
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Ralstonia

<400> 2088
 agagtttgat catggctcag attgaacgct ggcggcatgc cttacacatg caagtcgaac 60
 ggcagcatga tctagcttgc tagattgatg gcgagtggtg aacgggtgag taatacatcg 120
 gaacgtgccc ttagtggtgg gataactagt cgaagatta gctaataccg catacgacct 180
 gaggtgaaa gtgggggacc gcaaggcctc atgctatagg agcgg 225

<210> 2089
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Clostridium_XIVa

<400> 2089
 agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggaagcttaa cgctgacgag acttcgggtca aatcttggtg agcttttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gcctcact gggggataac agttgaaac gactgttaat 180
 accgcataag cgcacagagt cgcacagagt agtgtgaaaa actcc 225

<210> 2090
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Eubacterium

<400> 2090
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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gggaagctca caaatgattc ttcggatgaa tgcgtgagtg aacagcggcg gacgggtgag 120
 taacgcgtgg gcaacctgcc cttactgaa ggatagccga gggaaacttc gagtaatact 180
 tcataatgca tttttttcac atggagggaa tgccaaagat ttatc 225

<210> 2091
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Lachnobacterium

<400> 2091
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaagcacctc taatcgaaga ttgagaaagc ttgcttttga ttgattcacc ttgaggtgac 120
 tgagtggcgg acgggtgagt aacgcgtggg taacctaccc tatacagggg gataacagtt 180
 ggaaacgact gctaataccg cataagcgca caggaccgca tggtc 225

<210> 2092
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Acholiplasma

<400> 2092
 agagtttgat catggctcag gataaacgct ggcggcatgc ctaatacatg caagtcgaac 60
 ggagttacct tcgggtaact tagtggcgaa cgggtgagta acacgtaggt aatccatccc 120
 aaggacgagg atagcttctg gaaacggaag gtaaaactgg atagttaatt aaagggcatc 180
 ctttagttat taaaagagca atctaccctg ggaagagcct gcggc 225

<210> 2093
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Selenomonas

<400> 2093
 agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60
 gaggtcgaat gagaagcttg ctttttatga agccgagtg caaacgggtg agtaacgcgt 120
 agacaacctg ccgtgaagat ggggacaaca gatcgaaagg tctgctaata ccgaatgttg 180
 tagatcctcc gcatgaagga ttactaaag gtgccctctg tatat 225

<210> 2094
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Prevotella

ASBI_002_03W0_SeqList_ST25

<400> 2094
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcataa cgaagcttg cttttgttga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctatagta gagaatagcc cggcgaaagt cggattaatg ctctatgttg 180
 tattagaag acatctgaag aatacceaag gtttaccgct atagg 225

<210> 2095
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Cl ostri di um_XI Va

<400> 2095
 agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
 ggagatttaa cgctgatgag gcttcggcgg aatcttgta aatcttagtg gcggacgggt 120
 gagtaacgcg tgggcaacct gcctcact gggggataac agttggaaac gactgttaat 180
 accgcataag cgcacagtgt cgcatgacac agtgtgaaaa actcc 225

<210> 2096
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Succini vi bri o

<400> 2096
 agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac 60
 ggtaacatgg aagtagcaat acttttgatg acgagtggcg gacgggtgag taatatttgg 120
 gaatctacct atcagagggg gatagcaact gaaacgggtt gataagaccg cgtacgctct 180
 gaggaggaaa gtaatgggat cgcaagacca ttagctgata gatga 225

<210> 2097
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from Rumi nobacter

<400> 2097
 agagtttgat catggctcag attgaacgct ggcggcaggc ttaatacatg caagtcgaac 60
 ggtaacagca ggaagcttgc ttctggctg acgagtggcg gacgggtgag taatacctgg 120
 ggagctgcct gaatgagggg gacaacacct gaaacgggt gctaataccg cgtaagccct 180
 gagggggaaa ggctgggcaa ccagtcgcat tcagatgcgc ccagg 225

<210> 2098
 <211> 225
 <212> DNA

ASBI_002_03W0_SeqList_ST25

<213> Unknown

<220>

<223> Encodes 16S rRNA from Sharpea

<400> 2098

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agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcggac      60
ggagcgcttc ggcgctcagt ggcgaacggg tgagtagcac atgggcaacc tgcccttcag      120
agggggacaa cagctggaaa cggctgctaa gaccgcatag gcgcgacggg gacatcccgt      180
ccacgttaaa cgtccttacg gggacggctg aaggatgggc ctgtg                        225
```

<210> 2099

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 2099

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agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggaaacggca ttttagcttg ctaagatgga cgtcgaccgg cgaatgggtg agtaacgcgt      120
atccaacctt ccgttaagta gggaatagcc ttgcgaaagt aagattaatg ccctatgtgg      180
tgtttgagg acatctgaag atcaccaaag gtttaccgct taacg                        225
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<210> 2100

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 2100

```
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggtaacgaca gcgaaagctt gcttttgctg gtcgacgacc ggcgaatggg tgagtaacgc      120
gtatccaacc tgccgcaaag tagggcacag cttgacgaaa gtaagattaa tgccctatgt      180
gctgtgatga ggacatctga attgcagtaa aggttcaccg ctttg                        225
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<210> 2101

<211> 225

<212> DNA

<213> Unknown

<220>

<223> Encodes 16S rRNA from Prevotella

<400> 2101

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agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg      60
ggcagcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt      120
atccaacctt ccctatacta gaggatagcc cggcgaaagt cggattaata ctctatgttc      180
ttcgtagaag acatctgaaa tgaagcaaag gtttaccggt atagg                        225
```

ASBI_002_03W0_SeqList_ST25

<210> 2102
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 2102
 agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcagcatta tcgaagcttg ctttgataga tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccccttagta gggcatagcc cgtagaaatg cggattaata ccctatgttg 180
 tattatgagg acatctgaat aataccaaag gttcaccgct aaggg 225

<210> 2103
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> Encodes 16S rRNA from *Prevotella*

<400> 2103
 agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60
 ggcatcagat cgaaagcttg cttttgatgc tggcgaccgg cgcacgggtg agtaacgcgt 120
 atccaacctt ccctatagta gagaatagcc cggcgaaagt cggattaatg ctctatgttg 180
 tattagaag acatctgaag aataccaaag gtttaccgct atagg 225

<210> 2104
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Orpionomyces*

<400> 2104
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tattttgta aatttccttt taattaggct caactaaagt ttacctttt aaaactgaaa 120
 agttattcct ttttacggga aaattttatc caattttatt agataaaacc aaaattggct 180
 tttaaaaatc aatttaaagt gaacaactt gtttatcggt gtaaa 225

<210> 2105
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Piromyces*

<400> 2105
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttagtta aatttccttt ttagtttggg ttttctaatac aaaaattaaa attgtttagg 120

ASBI_002_03W0_SeqList_ST25

ttattccttt ttacgggaaa attttatcca attttatctt aaaattagaa aaattcaaat 180
 tttaaaaaaa tttaaagtga aacaacttgt atcgttgtaa aacac 225

<210> 2106
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Piromyces*

<400> 2106
 tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60
 tatttagtta aattttcctt tataattgaa agaattcta atcaaaaatt aaaattgttt 120
 aggttattcc ttttttacgg gaaaatttta tccaatttta ttttaaaatt agaaaaattc 180
 aaattttaaa aaaaatttaa agtgaacaa cttgtatcgt tgtaa 225

<210> 2107
 <211> 225
 <212> DNA
 <213> Unknown

<220>
 <223> ITS sequence of *Piromyces*

<400> 2107
 tcctcgctta ttgatatgct taagttcagc ggggtactctt atctgatttg agatcaagtt 60
 attattaaa ttttccttta taatgaaaa ttctaatcaa aaaactaaaa ttgtttaggt 120
 tattcctttt ttacgggaaa attttatcca attttatctt aaaattagaa aaattcaaat 180
 tttaaaaaaa tttaaagtga aacaacttgt atcgttgtaa aacac 225