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(71) Applicant(s)
Native Microbials, Inc.

(72) Inventor(s)
Embree, Mallory;Picking, Luke;Gogul, Grant;Tarasova, Janna

(74) Agent / Attorney
Pizzeys Patent and Trade Mark Attorneys Pty Ltd, GPO Box 1374, Brisbane, QLD, 4001, AU

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(71) Applicant: **ASCUS BIOSCIENCES, INC.** [US/US]; 6450 Lusk Blvd, Suite E109 / 209, San Diego, California 92121 (US).

(72) Inventors: **EMBREE, Mallory**; c/o Ascus Biosciences, Inc., 6450 Lusk Blvd, Suites E109 / 209, San Diego, California 92121 (US). **PICKING, Luke**; c/o Ascus Biosciences, Inc., 6450 Lusk Blvd, Suites E109 / 209, San Diego, California 92121 (US). **GOGUL, Grant**; c/o Ascus Biosciences, Inc., 6450 Lusk Blvd, Suites E109 / 209, San Diego, California 92121 (US). **TARASOVA, Janna**; c/o Ascus Biosciences, Inc., 6450 Lusk Blvd, Suites E109 / 209, San Diego, California 92121 (US).

(74) Agents: **BOLLAND, Jeffrey R.** et al.; Cooley LLP, 1299 Pennsylvania Avenue, N.W., Washington, District of Columbia 20004-2400 (US).

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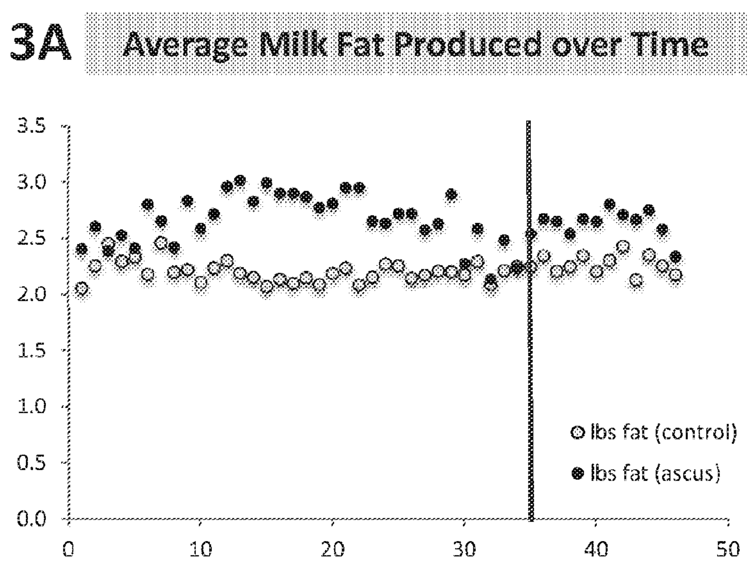
(54) Title: METHODS FOR IMPROVING MILK PRODUCTION BY ADMINISTRATION OF MICROBIAL CONSORTIA



(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.

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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 glucose. 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 it's natural state in the rumen, as the microbe would be unable to survive outide 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 it's 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 train 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 dislcosure, 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, 2016[1], 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. *Clostridium* IV (Cluster)	*Clostridiaceae bacterium*	96%	100%	*Ruminococcus bromii*	91%	82%	Ascusb_5	SEQ ID NO:1	0.85694
2. *Ruminococcus* (Genus)	*Rumen bacterium*	93%	84%	*Ruminococcus bromii*	91%	82%	Ascusb_7	SEQ ID NO:2	0.97384
3. *Clostridium* IV (Cluster)	*Rumen bacterium NK4A214*	89%	97%	*Intestinimonas butyriciproducens*	85%	100%	Ascusb_26	SEQ ID NO:3	0.82051
4. *Roseburia* (Genus)	*Lachno- spiraceae bacterium*	89%	100%	*Pseudobutyrivibrio ruminis*	89%	96%	Ascusb_27	SEQ ID NO:4	0.87214
5. *Hydrogenoan-aerobacterium* (Genus)	*Lachno- spiraceae bacterium*	87%	93%	*Roseburia inulinivorans*	86%	93%	Ascusb_32	SEQ ID NO:5	0.81269
6. *Clostridium* XIVa (Cluster)	*Eubacterium ventriosum*	92%	100%	*Eubacterium ventriosum*	92%	100%	Ascusb_79	SEQ ID NO:6	0.82765
7. *Saccharofermentans* (Genus)	*Rumen bacterium*	87%	100%	*Faecalibacterium prausnitzii*	91%	76%	Ascusb_82	SEQ ID NO:7	0.93391
8. *Saccharofermentans* (Genus)	*Saccharofermentans sp.*	100%	99%	*Saccharofermentans acetigenes*	83%	92%	Ascusb_102	SEQ ID NO:8	0.82247

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

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

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

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

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

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

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

	ruminicola			*ruminicola*				NO:2099	
86. *Prevotella* (Genus)	*Prevotella sp. DJF*	88%	89%	*Prevotella ruminicola*	87%	945	Ascusb_17461	SEQ ID NO:2100	0.44777
87. *Prevotella* (Genus)	*Bacterium MB2027*	100%	93%	*Prevotella ruminicola*	91%	99%	Ascusb_20083	SEQ ID NO:2101	0.52538
88. *Prevotella* (Genus)	*Prevotella ruminicola*	99%	100%	*Prevotella ruminicola*	99%	100%	Ascusb_20187	SEQ ID NO:2102	0.59156
89. *Prevotella* (Genus)	*Prevotella ruminicola*	100%	100%	*Prevotella ruminicola*	100%	100%	Ascusb_20539	SEQ ID NO:2103	0.4912
90. *Piromyces* (Genus)	*Piromyces sp.*	93%	100%	*Neocallimastix frontalis*	84%	100%	Ascusf_11	SEQ ID NO:31	0.81719
91. *Candida xylopsoc* (Genus + Species)	*Pichia kudriavzevii*	100%	100%	*Pichia kudriavzevii*	100%	100%	Ascusf_15	SEQ ID NO:32	0.76088
92. *Orpinomyces* (Genus)	*Orpinomyces sp.*	100%	100%	*Neocallimastix frontalis*	86%	100%	Ascusf_22	SEQ ID NO:33	0.76806
93. *Orpinomycs* (Genus)	*Neocallimastix frontalis*	86%	80%	*Neocallimastix frontalis*	86%	80%	Ascusf_23	SEQ ID NO:34	0.85707
94. *Orpinomyces* (Genus)	*Orpinomyces sp.*	95%	100%	*Neocallimastix frontalis*	86%	100%	Ascusf_24	SEQ ID NO:35	0.85292
95. *Candida apicol* (Genus + Species)	*Candida apicola*	100%	100%	*Candida apicola*	100%	100%	Ascusf_25	SEQ ID NO:36	0.70561
96. *Candida rugosa*	*Candida*	100%	100%	*Candida*	100%	100%	Ascusf_38	SEQ ID	0.78246

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

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

118. *Orpinomyces* (Genus)	*Neocallimastix frontalis*	87%	77%	*Neocallimastix frontalis*	87%	77%	Ascusf_1020	SEQ ID NO:59	0.68043
119. *Orpinomyces* (Genus)	*Neocallimastix frontalis*	85%	80%	*Neocallimastix frontalis*	85%	80%	Ascusf_1103	SEQ ID NO:60	0.73004
120. *Orpinomyces* (Genus)	*Fungal sp. Tianzhu-Yak6*	99%	100%	*Orpinomyces joyonii*	94%	96%	Ascusf_81	SEQ ID NO:2104	0.44471
121. *Piromyces* (Genus)	*Piromyces sp.*	99%	100%	*Neocallimastix frontalis*	84%	100%	Ascusf_206	SEQ ID NO:2105	0.49752
122. *Piromyces* (Genus)	*Piromyces sp.*	96%	100%	*Neocallimastix frontalis*	82%	100%	Ascusf_208	SEQ ID NO:2106	0.4176
123. *Piromyces* (Genus)	*Piromyces sp.*	99%	100%	*Neocallimastix frontalis*	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 #
Clostridium IV (Cluster)	Ascusb_5	SEQ ID NO:1	PATENT201612001, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	*Streptococcus* (Genus)	Ascusb_1786	SEQ ID NO:2077	PATENT201612011, PATENT201612012, PATENT201612013
Ruminococcus (Genus)	Ascusb_7	SEQ ID NO:2	PATENT201612005, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012, PATENT201612013	*Clostridium_XlVa* (Cluster)	Ascusb_1812	SEQ ID NO:2078	PATENT201612011, PATENT201612012
Clostridium IV (Cluster)	Ascusb_26	SEQ ID NO:3	PATENT201612005, PATENT201612009,	*Clostridium_XlVa* (Cluster)	Ascusb_1850	SEQ ID NO:2079	PATENT201612013

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

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

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

Howardella (Genus)	Ascusb_1763	SEQ ID NO:24	PATENT201612011, PATENT201612012	*Prevotella* (Genus)	Ascusb_17461	SEQ ID NO:2100	
Prevotella (Genus)	Ascusb_1780	SEQ ID NO:25	PATENT201612013	*Prevotella* (Genus)	Ascusb_20083	SEQ ID NO:2101	PATENT201612006
Butyricimonas (Genus)	Ascusb_1801	SEQ ID NO:26	PATENT201612005	*Prevotella* (Genus)	Ascusb_20187	SEQ ID NO:2102	PATENT201612009, PATENT201612011, PATENT201612012
Clostridium sensu stricto (Genus)	Ascusb_1833	SEQ ID NO:27	PATENT201612006, PATENT201612007, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	*Prevotella* (Genus)	Ascusb_20539	SEQ ID NO:2103	
Clostridium sensu stricto (Genus)	Ascusb_3138	SEQ ID NO:28	PATENT201612005, PATENT201612006, PATENT201612008, PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012, PATENT201612013, NRRL B-67248	*Piromyces* (Genus)	Ascusf_11	SEQ ID NO:31	

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

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

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

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

			PATENT201612009, PATENT201612010, PATENT201612011, PATENT201612012	+ Species)			
Lachnospiraceae incertae sedis (Family)	Ascusb_974	SEQ ID NO:2070	PATENT201612013	*Orpinomyces* (Genus)	Ascusf_1020	SEQ ID NO:59	
Pseudobutyrivibrio (Genus)	Ascusb_1069	SEQ ID NO:2071	PATENT201612011, PATENT201612012, NRRL B-67348	*Orpinomyces* (Genus)	Ascusf_1103	SEQ ID NO:60	
Anaerolinea (Genus)	Ascusb_1074	SEQ ID NO:2072	PATENT201612005, PATENT201612007, PATENT201612008, PATENT201612012	*Orpinomyces* (Genus)	Ascusf_81	SEQ ID NO:2104	
Roseburia (Genus)	Ascusb_1293	SEQ ID NO:2073		*Piromyces* (Genus)	Ascusf_206	SEQ ID NO:2105	PATENT201612003
Propionibacterium (Genus)	Ascusb_1367	SEQ ID NO:2074	PATENT201612007, PATENT201612009, PATENT201612012	*Piromyces* (Genus)	Ascusf_208	SEQ ID NO:2106	PATENT201612003
Clostridium_XlVa (Cluster)	Ascusb_1632	SEQ ID NO:2075	PATENT201612011, PATENT201612012	*Piromyces* (Genus)	Ascusf_1012	SEQ ID NO:2107	PATENT201612003
Olsenella (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
Corynebacterium	Ascusb_3	61	*Sharpea*	Ascusb_6473	692	*Prevotella*	Ascusb_11892	1356
Prevotella	Ascusb_50	62	*Dongia*	Ascusb_6499	693	*Leifsonia*	Ascusb_11896	1357
Comamonas	Ascusb_90	63	*Eubacterium*	Ascusb_6505	694	*Clostridium_IV*	Ascusb_11901	1358
Clostridium_XlVa	Ascusb_117	64	*Prevotella*	Ascusb_6507	695	*Victivallis*	Ascusb_11903	1359
Hippea	Ascusb_171	65	*Clostridium_IV*	Ascusb_6519	696	*Treponema*	Ascusb_11929	1360
Anaerovorax	Ascusb_177	66	*Parabacteroides*	Ascusb_6525	697	*Cyanobacteria*	Ascusb_11952	1361
Clostridium_XlVa	Ascusb_179	67	*Brevundimonas*	Ascusb_6535	698	*Sporotomaculum*	Ascusb_11954	1362
Rummeliibacillus	Ascusb_224	68	*Clostridium_XlVa*	Ascusb_6540	699	*Spirochaeta*	Ascusb_11955	1363
Clostridium_XlVa	Ascusb_234	69	*Ruminococcus*	Ascusb_6541	700	*Clostridium_III*	Ascusb_11960	1364
Lachnospiracea_ incertae_sedis	Ascusb_274	70	*Thermotalea*	Ascusb_6558	701	*Clostridium_XlVa*	Ascusb_11962	1365
Prevotella	Ascusb_276	71	*Victivallis*	Ascusb_6561	702	*Anaerovorax*	Ascusb_11963	1366
Anaerovorax	Ascusb_293	72	*Anaeroplasma*	Ascusb_6563	703	*Oscillibacter*	Ascusb_11964	1367
Pseudoflavonifractor	Ascusb_327	73	*Oscillibacter*	Ascusb_6564	704	*Victivallis*	Ascusb_11988	1368
Prevotella	Ascusb_337	74	*Ruminococcus*	Ascusb_6570	705	*Lachnospiracea _incertae_sedis*	Ascusb_11993	1369
Clostridium_XlVa	Ascusb_357	75	*Clostridium_XlVa*	Ascusb_6578	706	*Spirochaeta*	Ascusb_11997	1370

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

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

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

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

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

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

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

Prevotella	Ascusb_1571	167	*Pedobacter*	Ascusb_7476	831	*Clostridium_IV*	Ascusb_13353	1495
Streptophyta	Ascusb_1578	168	*Sphingomonas*	Ascusb_7487	832	*Proteiniclasticum*	Ascusb_13371	1496
Ochrobactrum	Ascusb_1580	169	*Verrucomicrobia*	Ascusb_7525	833	*Prevotella*	Ascusb_13412	1497
Mogibacterium	Ascusb_1591	170	*Anaerovorax*	Ascusb_7533	834	*Faecalibacterium*	Ascusb_13417	1498
Adlercreutzia	Ascusb_1600	171	*Spirochaeta*	Ascusb_7534	835	*Microbacterium*	Ascusb_13419	1499
Prevotella	Ascusb_1609	172	*Paraeggerthella*	Ascusb_7539	836	*Leucobacter*	Ascusb_13424	1500
Riemerella	Ascusb_1627	173	*Lachnospiracea _incertae_sedis*	Ascusb_7542	837	*Prevotella*	Ascusb_13426	1501
Prevotella	Ascusb_1640	174	*Bacteroides*	Ascusb_7543	838	*Sphingobacterium*	Ascusb_13457	1502
Roseburia	Ascusb_1645	175	*Paenibacillus*	Ascusb_7549	839	*Fusibacter*	Ascusb_13458	1503
Slackia	Ascusb_1647	176	*Prevotella*	Ascusb_7553	840	*Howardella*	Ascusb_13463	1504
Clostridium_IV	Ascusb_1656	177	*Bacteroides*	Ascusb_7555	841	*Pedobacter*	Ascusb_13488	1505
Syntrophococcus	Ascusb_1659	178	*Clostridium_XlVa*	Ascusb_7563	842	*Caldilinea*	Ascusb_13504	1506
Prevotella	Ascusb_1667	179	*Clostridium_XlVa*	Ascusb_7568	843	*Turicibacter*	Ascusb_13513	1507
Treponema	Ascusb_1689	180	*Roseburia*	Ascusb_7572	844	*Clostridium_IV*	Ascusb_13516	1508
Prevotella	Ascusb_1708	181	*Clostridium_XlVa*	Ascusb_7581	845	*Alistipes*	Ascusb_13546	1509
Anaerovorax	Ascusb_1723	182	*Clostridium_III*	Ascusb_7591	846	*Clostridium_XlVa*	Ascusb_13547	1510
Prevotella	Ascusb_1727	183	*Pedobacter*	Ascusb_7599	847	*Clostridium_XlVa*	Ascusb_13567	1511
Methanobrevibacter	Ascusb_1739	184	*Robinsoniella*	Ascusb_7614	848	*Prevotella*	Ascusb_13597	1512
Corynebacterium	Ascusb_1773	185	*Anaeroplasma*	Ascusb_7615	849	*Clostridium_XlVa*	Ascusb_13611	1513
Clostridium_XlVa	Ascusb_1793	186	*Clostridium_XlVa*	Ascusb_7622	850	*Butyricimonas*	Ascusb_13648	1514

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Clostridium_IV	Ascusb_4332	441	*Clostridium_IV*	Ascusb_9591	1105	*Papillibacter*	Ascusb_17736	1769
Clostridium_IV	Ascusb_4345	442	*Mogibacterium*	Ascusb_9605	1106	*Prevotella*	Ascusb_17759	1770
Clostridium _sensu_stricto	Ascusb_4347	443	*Clostridium_IV*	Ascusb_9617	1107	*Lentisphaera*	Ascusb_17766	1771
Coraliomargarita	Ascusb_4375	444	*Oscillibacter*	Ascusb_9619	1108	*Ruminococcus*	Ascusb_17767	1772
Sharpea	Ascusb_4380	445	*Clostridium_XlVa*	Ascusb_9628	1109	*Bacteroides*	Ascusb_17769	1773
Clostridium_IV	Ascusb_4394	446	*Faecalibacterium*	Ascusb_9640	1110	*Catonella*	Ascusb_17771	1774
Anaerovorax	Ascusb_4416	447	*Altererythrobacter*	Ascusb_9644	1111	*Clostridium_XlVa*	Ascusb_17773	1775
Blautia	Ascusb_4421	448	*Gelidibacter*	Ascusb_9656	1112	*Clostridium_IV*	Ascusb_17782	1776
Clostridium_XlVa	Ascusb_4422	449	*Prevotella*	Ascusb_9662	1113	*Verrucomicrobia*	Ascusb_17802	1777
Clostridium_IV	Ascusb_4432	450	*Anaerovorax*	Ascusb_9663	1114	*Clostridium_XI*	Ascusb_17804	1778
Anaerovorax	Ascusb_4433	451	*Riemerella*	Ascusb_9664	1115	*Prevotella*	Ascusb_17810	1779
Coraliomargarita	Ascusb_4434	452	*Sphingobacterium*	Ascusb_9666	1116	*Candidate phylum TM7*	Ascusb_17824	1780
Lachnospiracea _incertae_sedis	Ascusb_4442	453	*Syntrophococcus*	Ascusb_9668	1117	*Mogibacterium*	Ascusb_17838	1781
Aquiflexum	Ascusb_4449	454	*Bacteroides*	Ascusb_9669	1118	*Clostridium_XlVa*	Ascusb_17846	1782
Pedobacter	Ascusb_4450	455	*Papillibacter*	Ascusb_9678	1119	*Ruminococcus*	Ascusb_17857	1783
Robinsoniella	Ascusb_4457	456	*Butyricicoccus*	Ascusb_9679	1120	*Eubacterium*	Ascusb_17866	1784
Pelomonas	Ascusb_4468	457	*Clostridium_IV*	Ascusb_9680	1121	*Clostridium_IV*	Ascusb_17892	1785
Saccharofermentans	Ascusb_4469	458	*Hydrogeno*	Ascusb_9684	1122	*Rhodomicrobium*	Ascusb_17896	1786

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

Altererythrobacter	Ascusb_4626	478	*Desulfoluna*	Ascusb_9895	1142	*Gelidibacter*	Ascusb_18283	1806
Hydrogeno anaerobacterium	Ascusb_4627	479	*Clostridium_III*	Ascusb_9897	1143	*Mogibacterium*	Ascusb_18287	1807
Clostridium_III	Ascusb_4634	480	*Clostridium _sensu_stricto*	Ascusb_9925	1144	*Clostridium_XlVa*	Ascusb_18303	1808
Clostridium_XlVb	Ascusb_4639	481	*Prevotella*	Ascusb_9929	1145	*Coprococcus*	Ascusb_18329	1809
Saccharofermentans	Ascusb_4644	482	*Clostridium_III*	Ascusb_9934	1146	*Verrucomicrobia*	Ascusb_18335	1810
Roseburia	Ascusb_4652	483	*Clostridium_IV*	Ascusb_9949	1147	*Barnesiella*	Ascusb_18339	1811
Anaeroplasma	Ascusb_4657	484	*Prevotella*	Ascusb_9951	1148	*Verrucomicrobia*	Ascusb_18351	1812
Planctomyces	Ascusb_4676	485	*Cyanobacteria*	Ascusb_9954	1149	*Clostridium_XlVa*	Ascusb_18354	1813
Ruminococcus	Ascusb_4679	486	*Helicobacter*	Ascusb_9958	1150	*Anaerovorax*	Ascusb_18371	1814
Selenomonas	Ascusb_4695	487	*Clostridium_XlVa*	Ascusb_9977	1151	*Bacteroides*	Ascusb_18389	1815
Anaeroplasma	Ascusb_4696	488	*Coprococcus*	Ascusb_9982	1152	*Parasporobacterium*	Ascusb_18444	1816
Anaerovorax	Ascusb_4700	489	*Bradyrhizobium*	Ascusb_9993	1153	*Prevotella*	Ascusb_18449	1817
Rummeliibacillus	Ascusb_4701	490	*Clostridium_IV*	Ascusb_9996	1154	*Parapedobacter*	Ascusb_18475	1818
Clostridium_XlVa	Ascusb_4716	491	*Sphingobacterium*	Ascusb_10002	1155	*Streptomyces*	Ascusb_18495	1819
Anaeroplasma	Ascusb_4731	492	*Gelidibacter*	Ascusb_10023	1156	*Candidate phylum TM7*	Ascusb_18503	1820
Butyrivibrio	Ascusb_4737	493	*Vasilyevaea*	Ascusb_10029	1157	*Thermotalea*	Ascusb_18516	1821
Lachnospiracea _incertae_sedis	Ascusb_4738	494	*Eubacterium*	Ascusb_10030	1158	*Alkaliflexus*	Ascusb_18519	1822

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

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

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

Treponema	Ascusb_5280	547	*Roseburia*	Ascusb_10495	1211	*Kordia*	Ascusb_19371	1875
Clostridium _sensu_stricto	Ascusb_5281	548	*Oscillibacter*	Ascusb_10504	1212	*Ruminococcus*	Ascusb_19376	1876
Clostridium_XlVa	Ascusb_5289	549	*Cyanobacteria*	Ascusb_10529	1213	*Clostridium_III*	Ascusb_19379	1877
Anaerovorax	Ascusb_5292	550	*Prevotella*	Ascusb_10547	1214	*Ethanoligenens*	Ascusb_19392	1878
Saccharofermentans	Ascusb_5294	551	*Clostridium_IV*	Ascusb_10548	1215	*Clostridium_XlVa*	Ascusb_19412	1879
Clostridium_XlVa	Ascusb_5295	552	*Treponema*	Ascusb_10557	1216	*Barnesiella*	Ascusb_19414	1880
Clostridium_III	Ascusb_5301	553	*Clostridium_IV*	Ascusb_10561	1217	*Eubacterium*	Ascusb_19444	1881
Clostridium_IV	Ascusb_5313	554	*Victivallis*	Ascusb_10562	1218	*Prevotella*	Ascusb_19457	1882
Ruminococcus	Ascusb_5324	555	*Clostridium_XlVa*	Ascusb_10576	1219	*Anaerophaga*	Ascusb_19496	1883
Clostridium_XlVa	Ascusb_5326	556	*Oscillibacter*	Ascusb_10586	1220	*Acetitomaculum*	Ascusb_19498	1884
Clostridium_XI	Ascusb_5335	557	*Papillibacter*	Ascusb_10598	1221	*Prevotella*	Ascusb_19503	1885
Clostridium_XlVa	Ascusb_5336	558	*Cellulosilyticum*	Ascusb_10604	1222	*Clostridium_III*	Ascusb_19507	1886
Eubacterium	Ascusb_5338	559	*Treponema*	Ascusb_10607	1223	*Marinoscillum*	Ascusb_19558	1887
Lachnospiracea _incertae_sedis	Ascusb_5342	560	*Ruminococcus*	Ascusb_10609	1224	*Pedobacter*	Ascusb_19568	1888
Clostridium_IV	Ascusb_5352	561	*Coraliomargarita*	Ascusb_10612	1225	*Prevotella*	Ascusb_19579	1889
Ruminococcus	Ascusb_5353	562	*Butyricicoccus*	Ascusb_10613	1226	*Prevotella*	Ascusb_19613	1890
Clostridium_IV	Ascusb_5354	563	*Blautia*	Ascusb_10615	1227	*Anaerovorax*	Ascusb_19633	1891
Faecalibacterium	Ascusb_5360	564	*Lachnospiracea _incertae_sedis*	Ascusb_10617	1228	*Clostridium_XlVa*	Ascusb_19658	1892

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

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

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

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

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

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

Prevotella	Ascusb_6326	673	*Aerococcus*	Ascusb_11713	1337			
Saccharofermentans	Ascusb_6330	674	*Victivallis*	Ascusb_11721	1338			
Erysipelotrichaceae _incertae_sedis	Ascusb_6337	675	*Cyanobacteria*	Ascusb_11736	1339			
Spirochaeta	Ascusb_6342	676	*Bacteroides*	Ascusb_11752	1340			
Clostridium_XlVa	Ascusb_6372	677	*Clostridium_XI*	Ascusb_11753	1341			
Clostridium_XlVb	Ascusb_6376	678	*Clostridium_XlVa*	Ascusb_11757	1342			
Clostridium_XlVa	Ascusb_6387	679	*Ruminococcus*	Ascusb_11761	1343			
Adlercreutzia	Ascusb_6389	680	*Saccharofermentans*	Ascusb_11780	1344			
Clostridium_XlVa	Ascusb_6394	681	*Oscillibacter*	Ascusb_11781	1345			
Lachnospiracea _incertae_sedis	Ascusb_6400	682	*Lachnospiracea _incertae_sedis*	Ascusb_11783	1346			
Clostridium_IV	Ascusb_6403	683	*Fibrobacter*	Ascusb_11793	1347			
Adlercreutzia	Ascusb_6406	684	*Kiloniella*	Ascusb_11809	1348			
Prevotella	Ascusb_6409	685	*Olivibacter*	Ascusb_11819	1349			
Syntrophococcus	Ascusb_6420	686	*Clostridium_IV*	Ascusb_11821	1350			
Treponema	Ascusb_6433	687	*Spirochaeta*	Ascusb_11865	1351			
Prevotella	Ascusb_6448	688	*Prevotella*	Ascusb_11870	1352			
Clostridium_III	Ascusb_6450	689	*Olivibacter*	Ascusb_11881	1353			
Pseudoflavonifractor	Ascusb_6463	690	*Prevotella*	Ascusb_11884	1354			
Clostridium_IV	Ascusb_6468	691	*Parabacteroides*	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) ± 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) ± 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) ± 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) ± 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 compostion 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 humic 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 fate 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 microorgansims' 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 mircrobiome).

[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:

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

[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; Crameri *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; Crameri *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 (Tm) for the specific sequence at a defined ionic strength and pH. The Tm 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 nonparamentric 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, Anaerolinaeceae, 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, Butyricicoccus, Caldanaerocella, Caloramator, Caloranaerobacter, Caminicella, Candidatus Arthromitus, Clostridium, Coprobacillus, Dorea, Ethanologenbacterium, 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 *Candidadus Soleaferrea*.

[0132] In further embodiments, isolated microbial species may be selected from genera of family Lachnospiraceae, including *Butyrivibrio, Roseburia, Lachnospira, Acetitomaculum,* *Coprococcus*, *Johnsonella*, *Catonella*, *Pseudobutyrivibrio*, *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 Anaerolinaeceae 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 Anaerolinaeceae including *Aestuariimicrobium, Arachnia, Auraticoccus, Brooklawnia, Friedmanniella, Granulicoccus, Luteococcus, Mariniluteicoccus, Microlunatus, Micropruina, Naumannella, Propionibacterium, Propionicicella, Propioniciclava, Propioniferax, Propionimicrobium,* and *Tessaracoccus.*

[0146] In further embodiments, isolated microbial species may be selected from genera of family Prevotellaceae, including *Paraprevotella, Prevotella, hallella, 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 *Zygotorulaspora.*

[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, Eudarluca, 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, Nattrassia, Neodeightonia, Neofusicocum, Neoscytalidium, Otthia, 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 adenyltransferase, dihydrofolate reductase, acetolactase synthase, bromoxynil nitrilase, β-glucuronidase, dihydrogolate 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.

Intestinimonas	*Anaerolinea*
Pseudobutyrivibrio	*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	*Cyllamyces*
Lachnospira	*Caecomyces*
Sinimarinibacterium	*Tremella*
Hydrogenoanaerobacterium	*Turicibacter*
Clostridium XlVa	*Anaerolinea*
Saccharofermentans	*Piromyces*
Butyricicoccus	*Olsenella*
Papillibacter	*Clostridium XICa*
Pelotomaculum	*Erysipelotrichaceae*
Lachnospiracea	*Solobacterium*
Anaeroplasma	*Ralstonia*
Clostridium	*Eubacterium*
Rikenella	*Lachnobacterium*
Tannerella	*Acholeplasma*
Howardella	*Selenomonas*
Butyricimonas	*Sharpea*
Succinivibrio	*Phyllosticta*
Ruminobacter	*Candida xylopsoc*
Syntrophococcus	*Candida apicol*

Pseudobutyrivibrio	*Saccharomycetales*
Ascomycota	*Candida rugos*

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, zygospores, ascospores, basidiospores, ascospores, 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 gumand 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, erythrobic 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 benzoiate, 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 hydro-xyanisole, 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, palitoleic 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, nonadecyclic 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; polyvinylpyrolidones; polysaccharides, including starch, modified starch, dextrins, 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 10μm, 20μm, 30μm, 40μm, 50μm, 60μm, 70μm, 80μm, 90μm, 100μm, 110μm, 120μm, 130μm, 140μm, 150μm, 160μm, 170μm, 180μm, 190μm, 200μm, 210μm, 220μm, 230μm, 240μm, 250μm, 260μm, 270μm, 280μm, 290μm, 300μm, 310μm, 320μm, 330μm, 340μm, 350μm, 360μm, 370μm, 380μm, 390μm, 400μm, 410μm, 420μm, 430μm, 440μm, 450μm, 460μm, 470μm, 480μm, 490μm, 500μm, 510μm, 520μm, 530μm, 540μm, 550μm, 560μm, 570μm, 580μm, 590μm, 600μm, 610μm, 620μm, 630μm, 640μm, 650μm, 660μm, 670μm, 680μm, 690μm, 700μm, 710μm, 720μm, 730μm, 740μm, 750μm, 760μm, 770μm, 780μm, 790μm, 800μm, 810μm, 820μm, 830μm, 840μm, 850μm, 860μm, 870μm, 880μm, 890μm, 900μm, 910μm, 920μm, 930μm, 940μm, 950μm, 960μm, 970μm, 980μm, 990μm, 1000μm, 1010μm, 1020μm, 1030μm, 1040μm, 1050μm, 1060μm, 1070μm, 1080μm, 1090μm, 1100μm, 1110μm, 1120μm, 1130μm, 1140μm, 1150μm, 1160μm, 1170μm, 1180μm, 1190μm, 1200μm, 1210μm, 1220μm, 1230μm, 1240μm, 1250μm, 1260μm, 1270μm, 1280μm, 1290μm, 1300μm, 1310μm, 1320μm, 1330μm, 1340μm, 1350μm, 1360μm, 1370μm, 1380μm, 1390μm, 1400μm, 1410μm, 1420μm, 1430μm, 1440μm, 1450μm, 1460μm, 1470μm, 1480μm, 1490μm, 1500μm, 1510μm, 1520μm, 1530μm, 1540μm, 1550μm, 1560μm, 1570μm, 1580μm, 1590μm, 1600μm, 1610μm, 1620μm, 1630μm, 1640μm, 1650μm, 1660μm, 1670μm, 1680μm, 1690μm, 1700μm, 1710μm, 1720μm, 1730μm, 1740μm, 1750μm, 1760μm, 1770μm, 1780μm, 1790μm, 1800μm, 1810μm, 1820μm, 1830μm, 1840μm, 1850μm, 1860μm, 1870μm, 1880μm, 1890μm, 1900μm, 1910μm, 1920μm, 1930μm, 1940μm, 1950μm, 1960μm, 1970μm, 1980μm, 1990μm, 2000μm, 2010μm, 2020μm, 2030μm, 2040μm, 2050μm, 2060μm, 2070μm, 2080μm, 2090μm, 2100μm, 2110μm, 2120μm, 2130μm, 2140μm, 2150μm, 2160μm, 2170μm, 2180μm, 2190μm, 2200μm, 2210μm, 2220μm, 2230μm, 2240μm, 2250μm, 2260μm, 2270μm, 2280μm, 2290μm, 2300μm, 2310μm, 2320μm, 2330μm, 2340μm, 2350μm, 2360μm, 2370μm, 2380μm, 2390μm, 2400μm, 2410μm, 2420μm, 2430μm, 2440μm, 2450μm, 2460μm, 2470μm, 2480μm, 2490μm, 2500μm, 2510μm, 2520μm, 2530μm, 2540μm, 2550μm, 2560μm, 2570μm, 2580μm, 2590μm, 2600μm, 2610μm, 2620μm, 2630μm, 2640μm, 2650μm, 2660μm, 2670μm, 2680μm, 2690μm, 2700μm, 2710μm, 2720μm, 2730μm, 2740μm, 2750μm, 2760μm, 2770μm, 2780μm, 2790μm, 2800μm, 2810μm, 2820μm, 2830μm, 2840μm, 2850μm, 2860μm, 2870μm, 2880μm, 2890μm, 2900μm, 2910μm, 2920μm, 2930μm, 2940μm, 2950μm, 2960μm, 2970μm, 2980μm, 2990μm, or 3000μm 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.*, Carghill 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 though 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 10μm, 20μm, 30μm, 40μm, 50μm, 60μm, 70μm, 80μm, 90μm, 100μm, 110μm, 120μm, 130μm, 140μm, 150μm, 160μm, 170μm, 180μm, 190μm, 200μm, 210μm, 220μm, 230μm, 240μm, 250μm, 260μm, 270μm, 280μm, 290μm, 300μm, 310μm, 320μm, 330μm, 340μm, 350μm, 360μm, 370μm, 380μm, 390μm, 400μm, 410μm, 420μm, 430μm, 440μm, 450μm, 460μm, 470μm, 480μm, 490μm, 500μm, 510μm, 520μm, 530μm, 540μm, 550μm, 560μm, 570μm, 580μm, 590μm, 600μm, 610μm, 620μm, 630μm, 640μm, 650μm, 660μm, 670μm, 680μm, 690μm, 700μm, 710μm, 720μm, 730μm, 740μm, 750μm, 760μm, 770μm, 780μm, 790μm, 800μm, 810μm, 820μm, 830μm, 840μm, 850μm, 860μm, 870μm, 880μm, 890μm, 900μm, 910μm, 920μm, 930μm, 940μm, 950μm, 960μm, 970μm, 980μm, 990μm, 1000μm, 1010μm, 1020μm, 1030μm, 1040μm, 1050μm, 1060μm, 1070μm, 1080μm, 1090μm, 1100μm, 1110μm, 1120μm, 1130μm, 1140μm, 1150μm, 1160μm, 1170μm, 1180μm, 1190μm, 1200μm, 1210μm, 1220μm, 1230μm, 1240μm, 1250μm, 1260μm, 1270μm, 1280μm, 1290μm, 1300μm, 1310μm, 1320μm, 1330μm, 1340μm, 1350μm, 1360μm, 1370μm, 1380μm, 1390μm, 1400μm, 1410μm, 1420μm, 1430μm, 1440μm, 1450μm, 1460μm, 1470μm, 1480μm, 1490μm, 1500μm, 1510μm, 1520μm, 1530μm, 1540μm, 1550μm, 1560μm, 1570μm, 1580μm, 1590μm, 1600μm, 1610μm, 1620μm, 1630μm, 1640μm, 1650μm, 1660μm, 1670μm, 1680μm, 1690μm, 1700μm, 1710μm, 1720μm, 1730μm, 1740μm, 1750μm, 1760μm, 1770μm, 1780μm, 1790μm, 1800μm, 1810μm, 1820μm, 1830μm, 1840μm, 1850μm, 1860μm, 1870μm, 1880μm, 1890μm, 1900μm, 1910μm, 1920μm, 1930μm, 1940μm, 1950μm, 1960μm, 1970μm, 1980μm, 1990μm, 2000μm, 2010μm, 2020μm, 2030μm, 2040μm, 2050μm, 2060μm, 2070μm, 2080μm, 2090μm, 2100μm, 2110μm, 2120μm, 2130μm, 2140μm, 2150μm, 2160μm, 2170μm, 2180μm, 2190μm, 2200μm, 2210μm, 2220μm, 2230μm, 2240μm, 2250μm, 2260μm, 2270μm, 2280μm, 2290μm, 2300μm, 2310μm, 2320μm, 2330μm, 2340μm, 2350μm, 2360μm, 2370μm, 2380μm, 2390μm, 2400μm, 2410μm, 2420μm, 2430μm, 2440μm, 2450μm, 2460μm, 2470μm, 2480μm, 2490μm, 2500μm, 2510μm, 2520μm, 2530μm, 2540μm, 2550μm, 2560μm, 2570μm, 2580μm, 2590μm, 2600μm, 2610μm, 2620μm, 2630μm, 2640μm, 2650μm, 2660μm, 2670μm, 2680μm, 2690μm, 2700μm, 2710μm, 2720μm, 2730μm, 2740μm, 2750μm, 2760μm, 2770μm, 2780μm, 2790μm, 2800μm, 2810μm, 2820μm, 2830μm, 2840μm, 2850μm, 2860μm, 2870μm, 2880μm, 2890μm, 2900μm, 2910μm, 2920μm, 2930μm, 2940μm, 2950μm, 2960μm, 2970μm, 2980μm, 2990μm, or 3000μm 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 esophagas 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 esophagas 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 capsul that releases the mcirobes 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, Butyricicoccus, Tannerella, Prevotella, Butyricimonas, Piromyces, Pichia, Candida, Vrystaatia, 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 arrive 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-di-amino-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 trichome 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 fuchsine 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 lipohilic 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, carbohydrazide, 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 makers 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), phosphoribosylformylglycinamidine 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, frr 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; Fadrosh *et al.* (2014) Microbiome 2, p. 6; Caporaso *et a*l. (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 puposes). 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 puposes). 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 16SrRNA 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 ^{13}C or ^{15}N) 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 typi, Salmonella typhimurium, Salmonella enterica, Salmonella pullorum, Erysipelothrix insidiosa, 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 x milk pounds) + (12.95 x fat pounds) + (7.2 x 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 (± SEM) of cows assigned to Control and Inoculated groups.

	Treatment	
Outcome	Control	Inoculated
Dry matter intake, kg	26.2 ± 2.8	30.2 ± 1.2
Milk yield, kg	25.7 ± 1.9	30.6 ± 1.9
FCM, kg	27.7 ± 2.5	32.5 ± 2.5
ECM, kg	27.2 ± 2.4	32.1 ± 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 importantce 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 Ascusf_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 Ascusf_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*, *Pseudobutyrivibrio*, *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, Eubacteiru, Pedobacter, Butyricimonas, Mogibacterium*, and *Desulfovibrio* were all found to be at least 10 fold higher on average in the experimental animals. *Prevotella, Lachnospira, Butyricicoccus, Clostridium XIVa, Roseburia, Clostridium_sensu_stricto,* and *Pseudobutyrivibrio* 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
Pseudobutyrivibrio	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
Anaeroplasma	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
Pseudobutyrivibrio	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 conventration sof acetate, butyrate, and propionate in spent media. M2GSC media was used in an assay mimicking rumen conditions as closely as possibile.

[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, enrichments 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 H_2SO_4, 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. Optican 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 dilutiopn 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	$(NH_4)_2SO_4$	0.10g
Cellobiose	1g	$MgSO_47H_2O$	0.005g
Starch	1g	K_2HPO_4	0.05g
Glucose	1g	KH_2PO_4	0.05g
$(NH_4)_2SO_4$ (1M)	2.55mL	DI H_2O	Up to 1000mL
$MgSO_47H_2O$ (0.25M)	0.288mL		
K_2HPO_4 (1M)	1mL		
KH_2PO_4 (1M)	1.275mL		
Clarified Rumen Fluid	50mL		
HCl-L-cysteine	0.3g		
DI H_2O	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	$MgSO_4$ $7H_2O$	140
p-Aminobenzoic	0.25	Nitrilotriacetic acid	10.96
Lipoic Acid	0.216	NaCl	50.06
Nicotinic Acid	0.252	$MnSO_4$ H_2O	24.99
Riboflavin	0.013	$CaCl_2$	5

Thiamine HCL	0.25	$CoCl_2$ $6H_2O$	4.997
Calcium – DL – Pantothenate	0.1	$FeSO_2$ $7H_2O$	4.997
Biotin	0.044	$ZnSO_2$ $7H_2O$	5.003
Folic Acid	0.004	$AlK(SO_4)_2$ 12 H_2O	0.5
Vitamin B12	0.007	$CuSO_4$ $5H_2O$	0.499
		H_3BO_3	0.498
		$NaMoO_4$ $2H_2O$	0.503
		DI H_2O	1L

[0459] All media was prepared with anaerobic water (boiled DI H_2O for 15 minutes then cooled to room temperature in a water bath while sparging with N_2. 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% N_2 20% CO_2 for 3 minutes.

Table 19: **RAMM Salts Media Recipe**

Component	g/500mL
KH_2PO_4	0.11
K_2HPO_4	0.08
NH_4Cl	0.265
$NaHCO_3$	0.6
DI H_2O	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:Lachnospiracea_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)

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:Microlunatus(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_XlVa(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_XlVa(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_XlVa(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_XlVa(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, Pseudobutyrivibrio, 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_XlVa, 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, Pseudobutyrivibrio, 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. <u>Budapest Treaty Deposits of the Disclosure</u>

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. An orally deliverable composition for increasing milk production or improving milk compositional characteristics in a ruminant, comprising:
   a. a *Clostridium* sp. comprising a 16S nucleic acid sequence sharing at least 98% sequence identity to SEQ ID NO: 28; and/or
   b. a *Pichia* sp. comprising an ITS nucleic acid sequence sharing at least 98% sequence identity to SEQ ID NO: 32; and
   c. a carrier suitable for oral ruminant administration.

2. The composition of claim 1, wherein the ruminant is a cow.

3. The composition of claim 1, wherein a ruminant administered the composition exhibits an increase in milk production that leads to an increase in milk yield or an increase in energy-corrected milk.

4. The composition of claim 1, wherein a ruminant administered 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.

5. The composition of claim 1, wherein a ruminant administered the composition 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.

6. The composition of claim 1, wherein the composition is combined with cereal, starch, oilseed cake, vegetable waste, hay, haylage, silage, livestock feed, forage, fodder, beans, grains, micro-ingredients, fermentation compositions, mixed ration, total mixed ration, or a mixture thereof..

7. The composition of claim 1, wherein the composition is formulated as a solid, liquid, or mixture thereof.

8. The composition of claim 1, wherein the composition is formulated as a pellet, capsule, granulate, or powder.

9. The composition of claim 1, wherein the composition is combined with food, water, medicine, vaccine, or a mixture thereof.

10. The composition of claim 1, wherein the *Clostridium* sp. comprises a 16S nucleic acid sequence sharing at least 99% sequence identity to SEQ ID NO: 28.

11. The composition of claim 1, wherein the *Clostridium* sp. comprises a 16S nucleic acid sequence of SEQ ID NO: 28.

12. The composition of claim 1, wherein the *Clostridium* sp. is deposited as NRRL B-67248.

13. The composition of claim 1, wherein the *Pichia* sp. comprises an ITS nucleic acid sequence sharing at least 99% sequence identity to SEQ ID NO: 32.

14. The composition of claim 1, wherein the *Pichia* sp. comprises an ITS nucleic acid sequence of SEQ ID NO: 32.

15. The composition of claim 1, wherein the *Pichia* sp. is deposited as NRRL Y-67249.

16. The composition of claim 1, wherein:
   a. the *Clostridium* sp. comprises a 16S nucleic acid sequence sharing at least 99% sequence identity to SEQ ID NO: 28; and/or
   b. the *Pichia* sp. comprises an ITS nucleic acid sequence sharing at least 99% sequence identity to SEQ ID NO: 32.

17. The composition of claim 1, wherein:
   a. the *Clostridium* sp. comprises a 16S nucleic acid sequence of SEQ ID NO: 28; and/or
   b. the *Pichia* sp. comprises an ITS nucleic acid sequence of SEQ ID NO: 32.

18. The composition of claim 1, wherein the *Clostridium* sp. is deposited as NRRL B-67248; and/or the *Pichia* sp. is deposited as NRRL Y-67249.

19. The composition of claim 1, wherein the composition further comprises:

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a. a purified population of one or more bacteria that comprises a 16S nucleic acid sequence that is at least 97% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30, 2045-2103; and/or

b. a purified population of one or more fungi that comprises 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.

20. The composition of claim 1, wherein the composition further comprises:

a. a purified population of one or more bacteria that comprises a 16S nucleic acid sequence that is at least 98% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30, 2045-2103; and/or

b. a purified population of one or more fungi that comprises an ITS nucleic acid sequence that is at least about 98% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31, 33-60 and 2104-2107.

21. The composition of claim 1, wherein the composition further comprises:

a. a purified population of one or more bacteria that comprises a 16S nucleic acid sequence that is at least 99% identical to a nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30, 2045-2103; and/or

b. a purified population of one or more fungi that comprises 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.

22. The composition of claim 1, wherein the composition further comprises:

a. a purified population of one or more bacteria that comprises a 16S nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 1-30, 2045-2103; and/or

b. a purified population of one or more fungi that comprises an ITS nucleic acid sequence selected from the group consisting of: SEQ ID NOs: 31, 33-60 and 2104-2107.

23. A method for increasing milk production or improving milk compositional characteristics in a ruminant, comprising: administering to the ruminant the composition of any one of claims 1-22.

24. The method of claim 23, wherein the ruminant is a cow.

25. The method of claim 23, wherein the ruminant administered the composition exhibits an increase in milk production that leads to an increase in milk yield.

26. The method of claim 23, wherein the ruminant administered the composition exhibits an increase in milk production that leads to an increase in energy-corrected milk.

27. The method of claim 23, wherein the ruminant administered 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.

28. The method of claim 23, wherein the ruminant administered 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.

FIG. 1

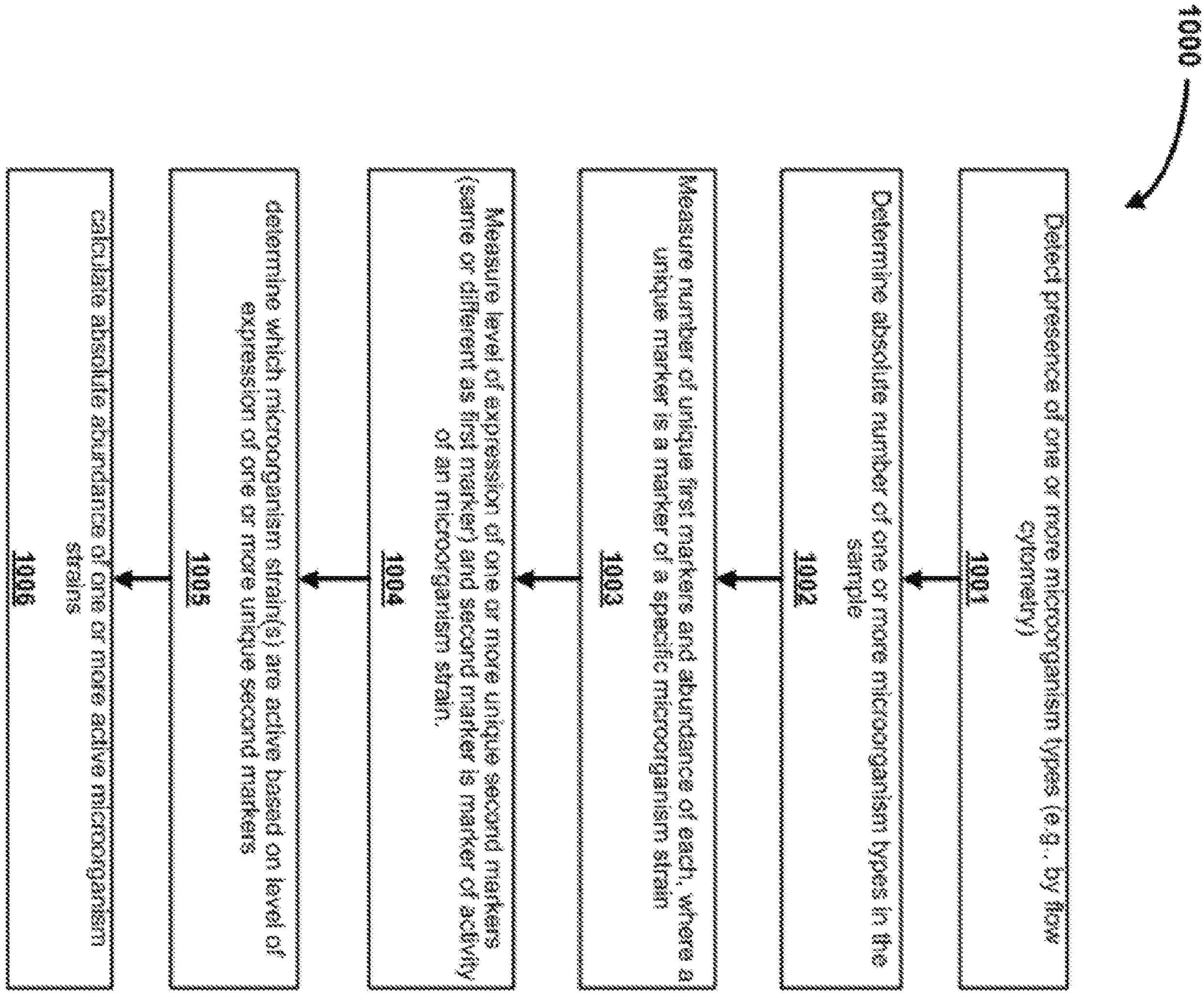

1000
Detect presence of one or more microorganism types (e.g., by flow cytometry)
1001
Determine absolute number of one or more microorganism types in the sample
1002
Measure number of unique first markers and abundance of each, where a unique marker is a marker of a specific microorganism strain
1003
Measure level of expression of one or more unique second markers (same or different as first marker) and second marker is marker of activity of an microorganism strain.
1004
determine which microorganism strain(s) are active based on level of expression of one or more unique second markers
1005
calculate absolute abundance of one or more active microorganism strains
1006

FIG. 2

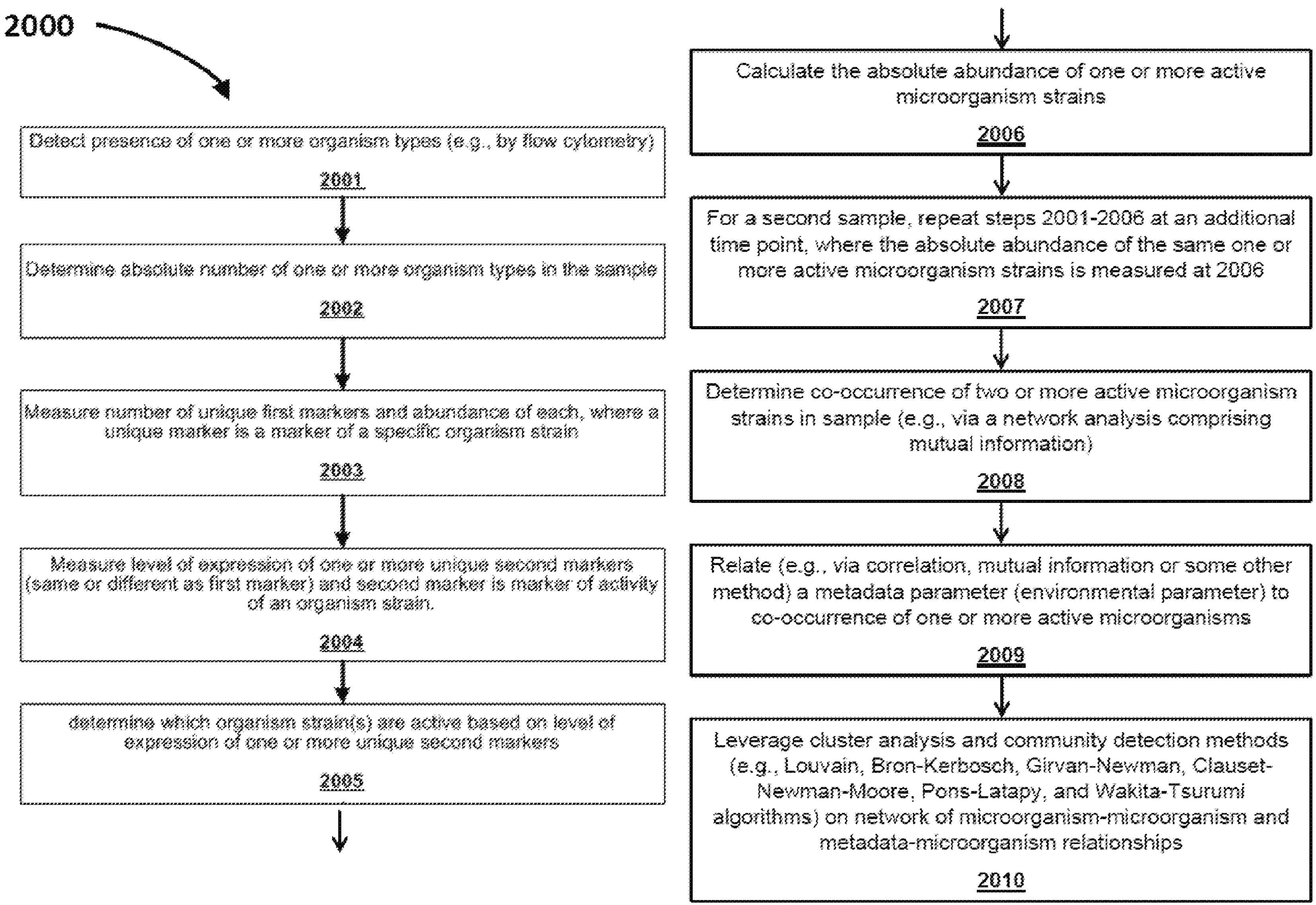
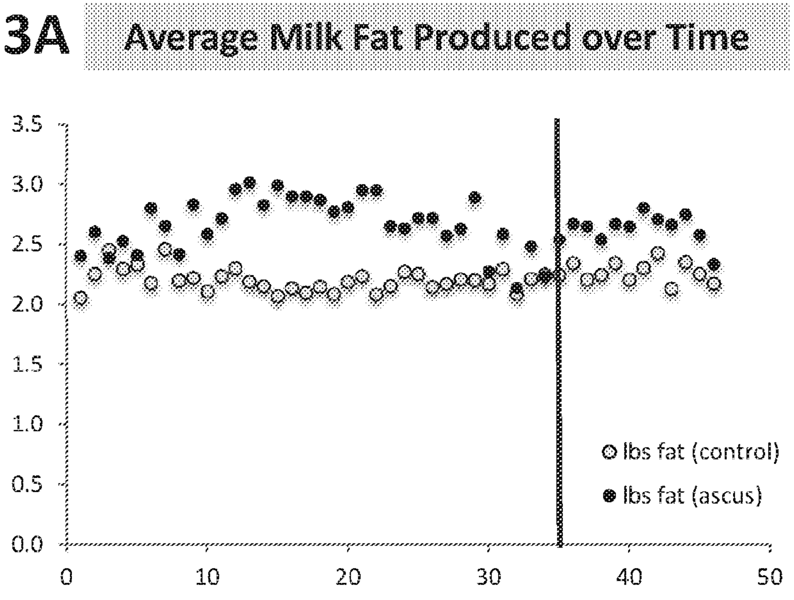
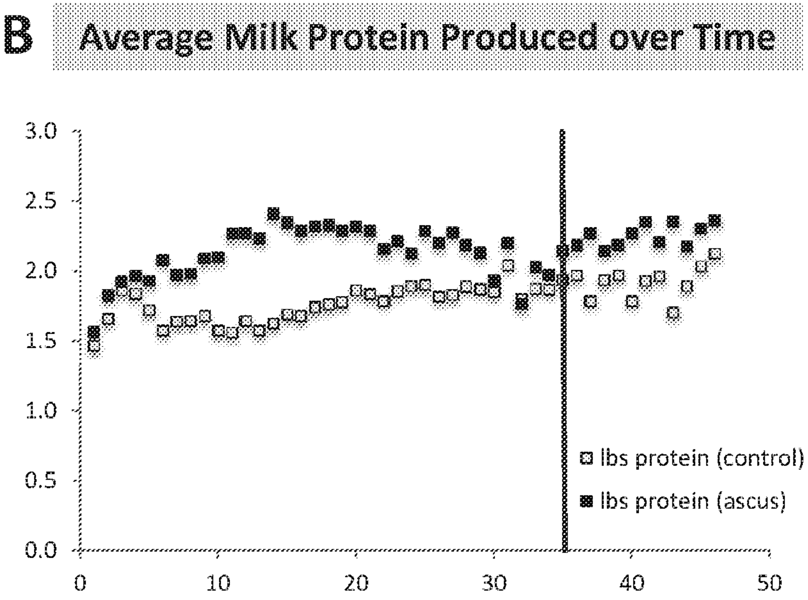

2000
Detect presence of one or more organism types (e.g., by flow cytometry)
2001
Determine absolute number of one or more organism types in the sample
2002
Measure number of unique first markers and abundance of each, where a unique marker is a marker of a specific organism strain
2003
Measure level of expression of one or more unique second markers (same or different as first marker) and second marker is marker of activity of an organism strain.
2004
determine which organism strain(s) are active based on level of expression of one or more unique second markers
2005
Calculate the absolute abundance of one or more active microorganism strains
2006
For a second sample, repeat steps 2001-2006 at an additional time point, where the absolute abundance of the same one or more active microorganism strains is measured at 2006
2007
Determine co-occurrence of two or more active microorganism strains in sample (e.g., via a network analysis comprising mutual information)
2008
Relate (e.g., via correlation, mutual information or some other method) a metadata parameter (environmental parameter) to co-occurrence of one or more active microorganisms
2009
Leverage cluster analysis and community detection methods (e.g., Louvain, Bron-Kerbosch, Girvan-Newman, Clauset-Newman-Moore, Pons-Latapy, and Wakita-Tsurumi algorithms) on network of microorganism-microorganism and metadata-microorganism relationships
2010

FIG. 3

3A



3B



Milk Fat: 20.9% increase

Milk Protein: 20.7% increase

ECM: 19.4% increase

3C

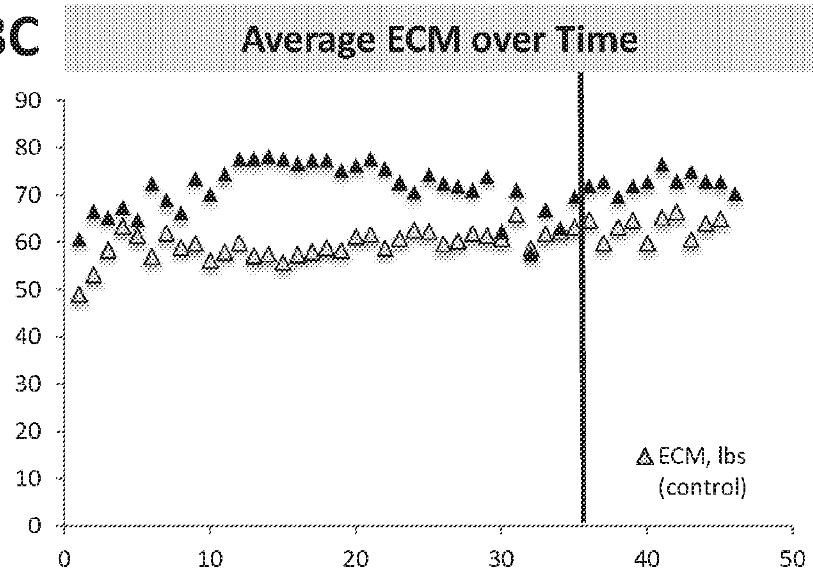


FIG. 4

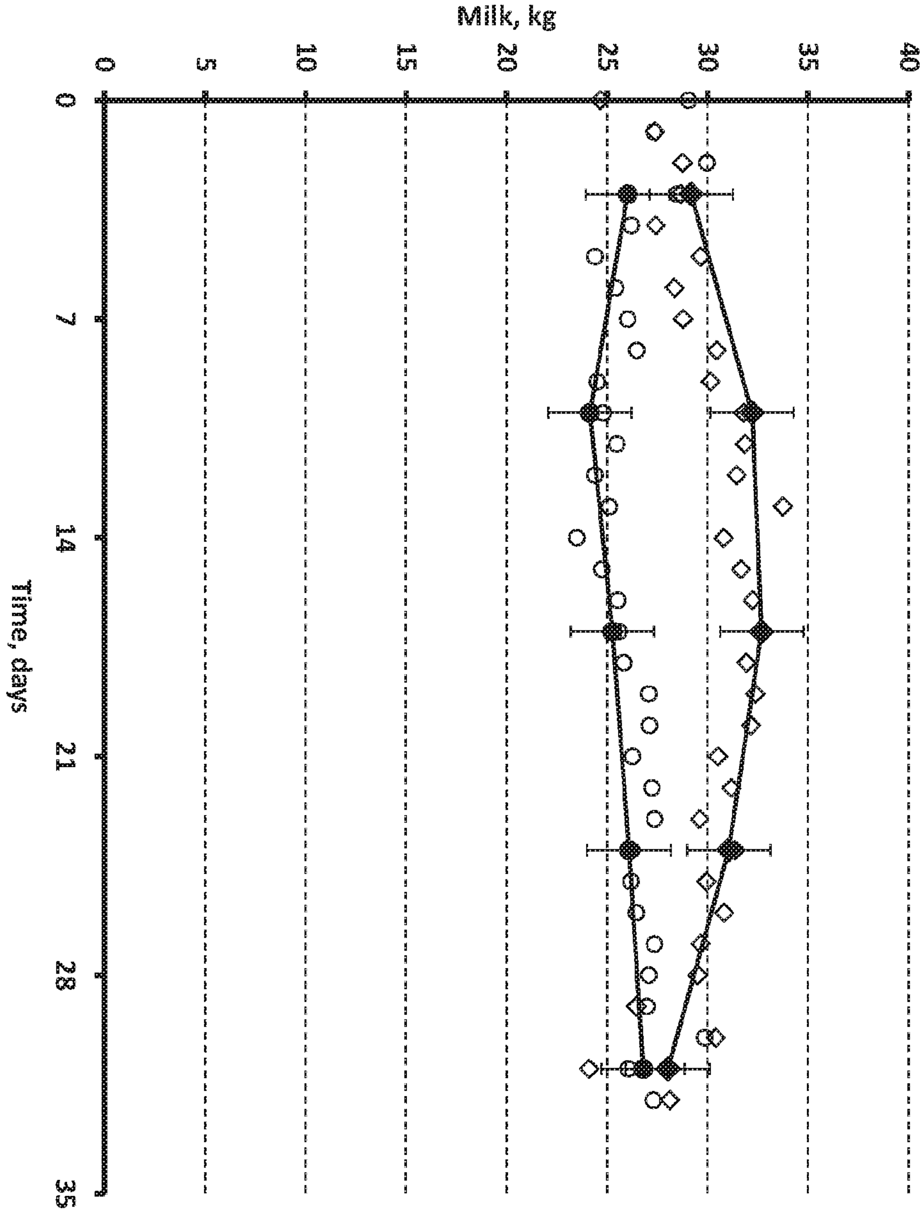


FIG. 5

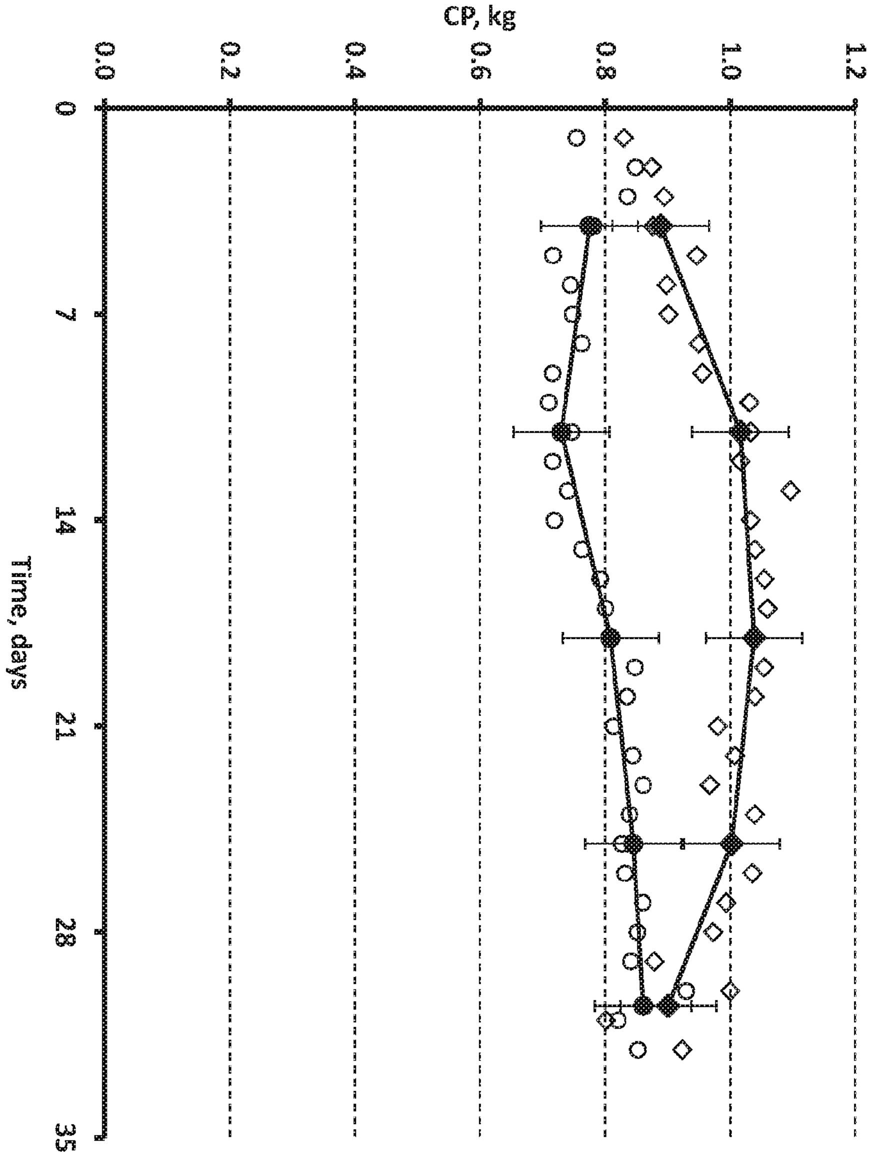


FIG. 6

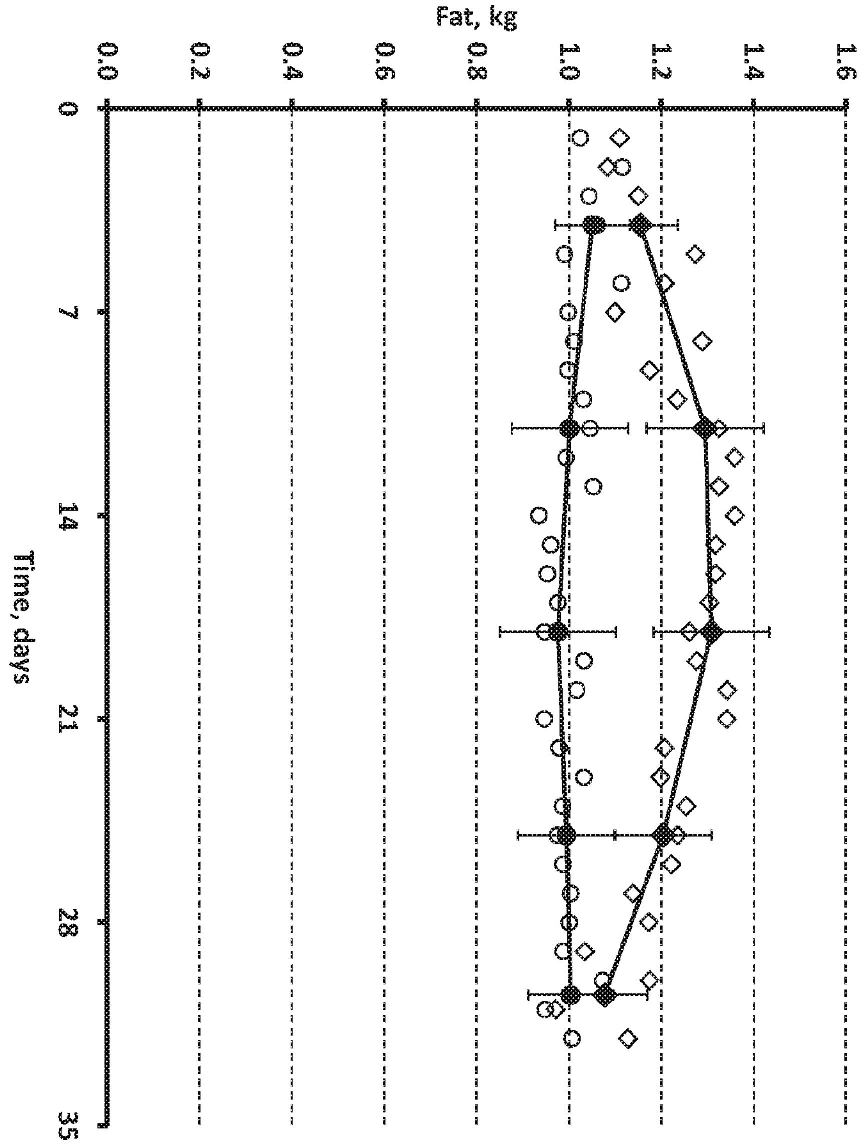


FIG. 7

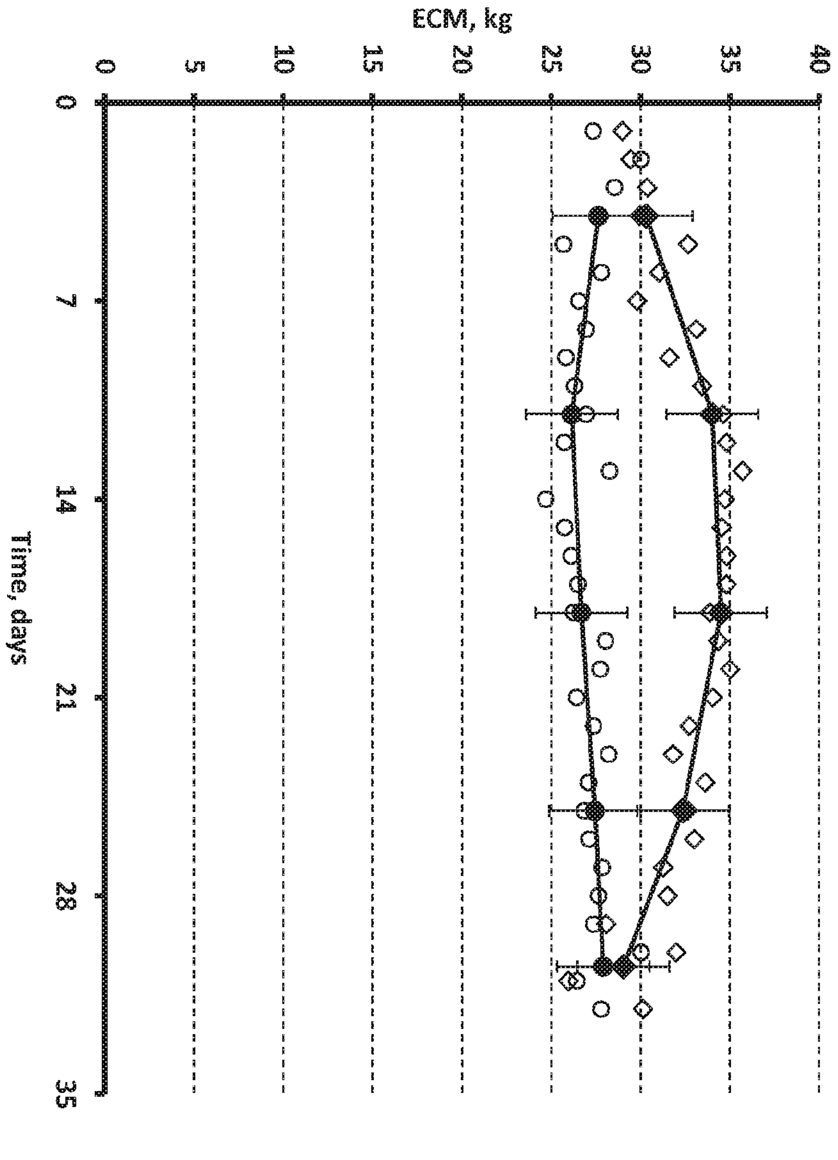


FIG. 8

FIG. 8A

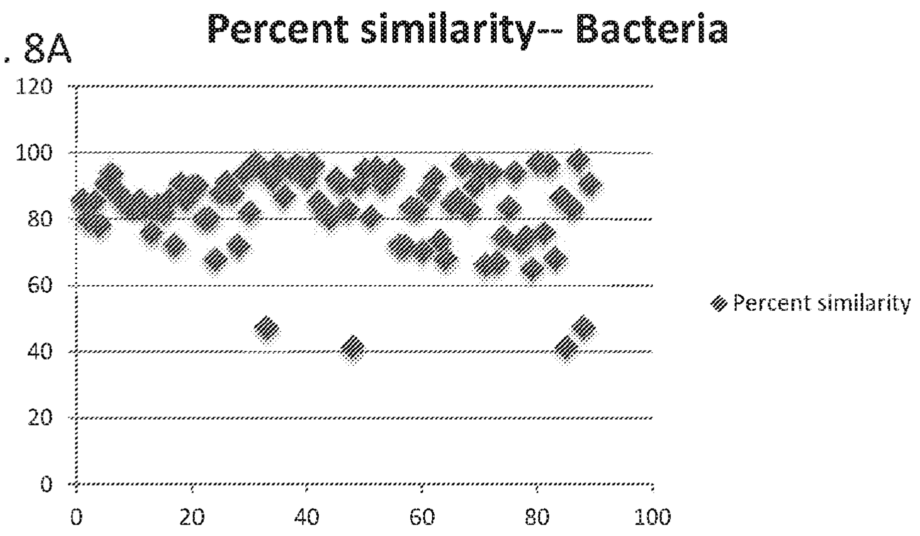
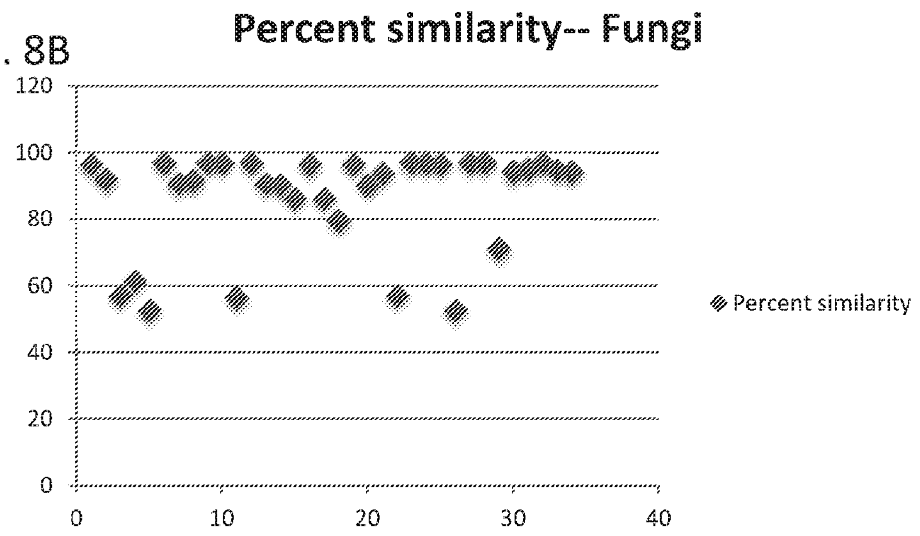


FIG. 8B



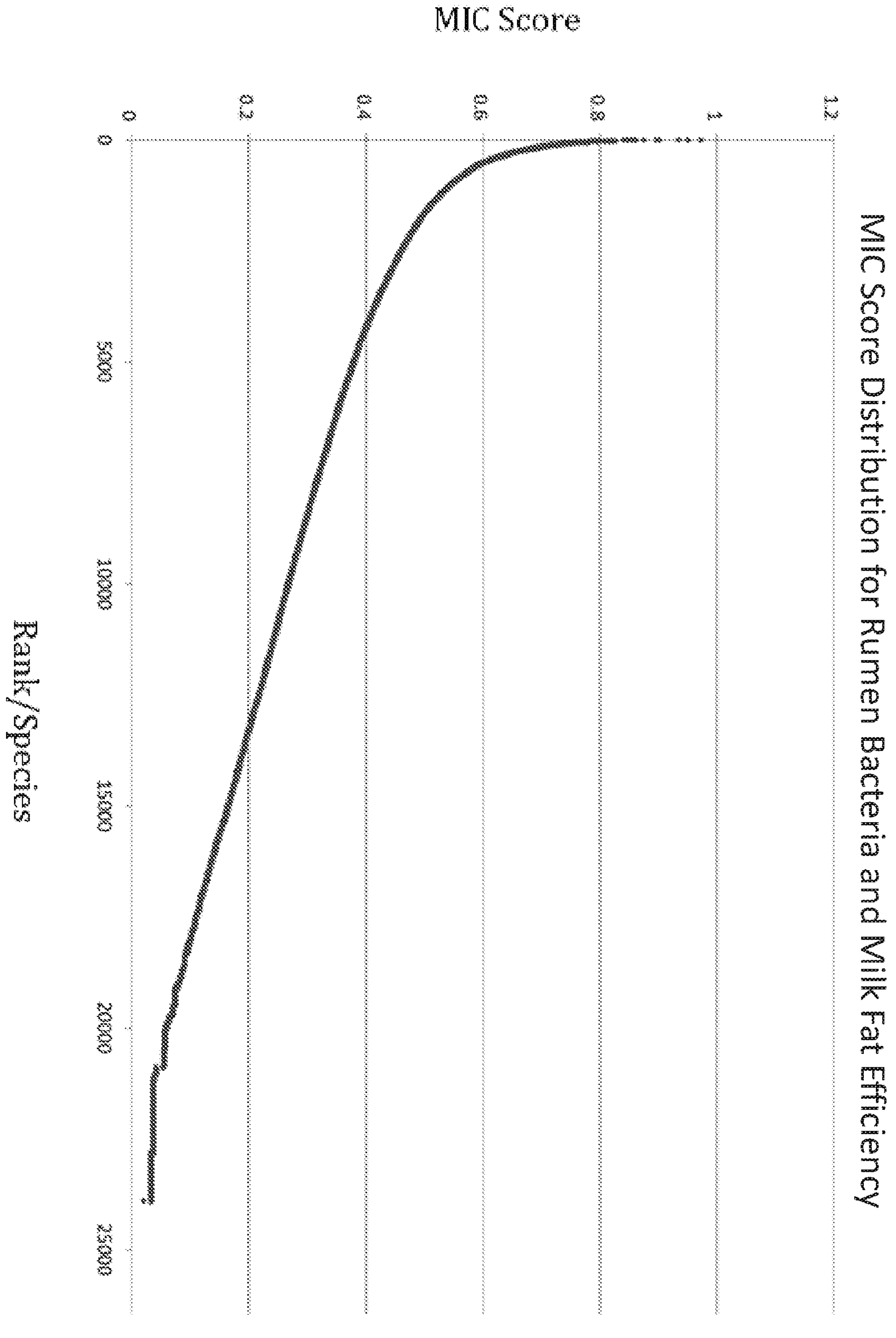

MIC Score Distribution for Rumen Bacteria and Milk Fat Efficiency
MIC Score
Rank/Species
0
0.2
0.4
0.6
0.8
1
1.2
0
5000
10000
15000
20000
25000

FIG. 9

FIG. 10

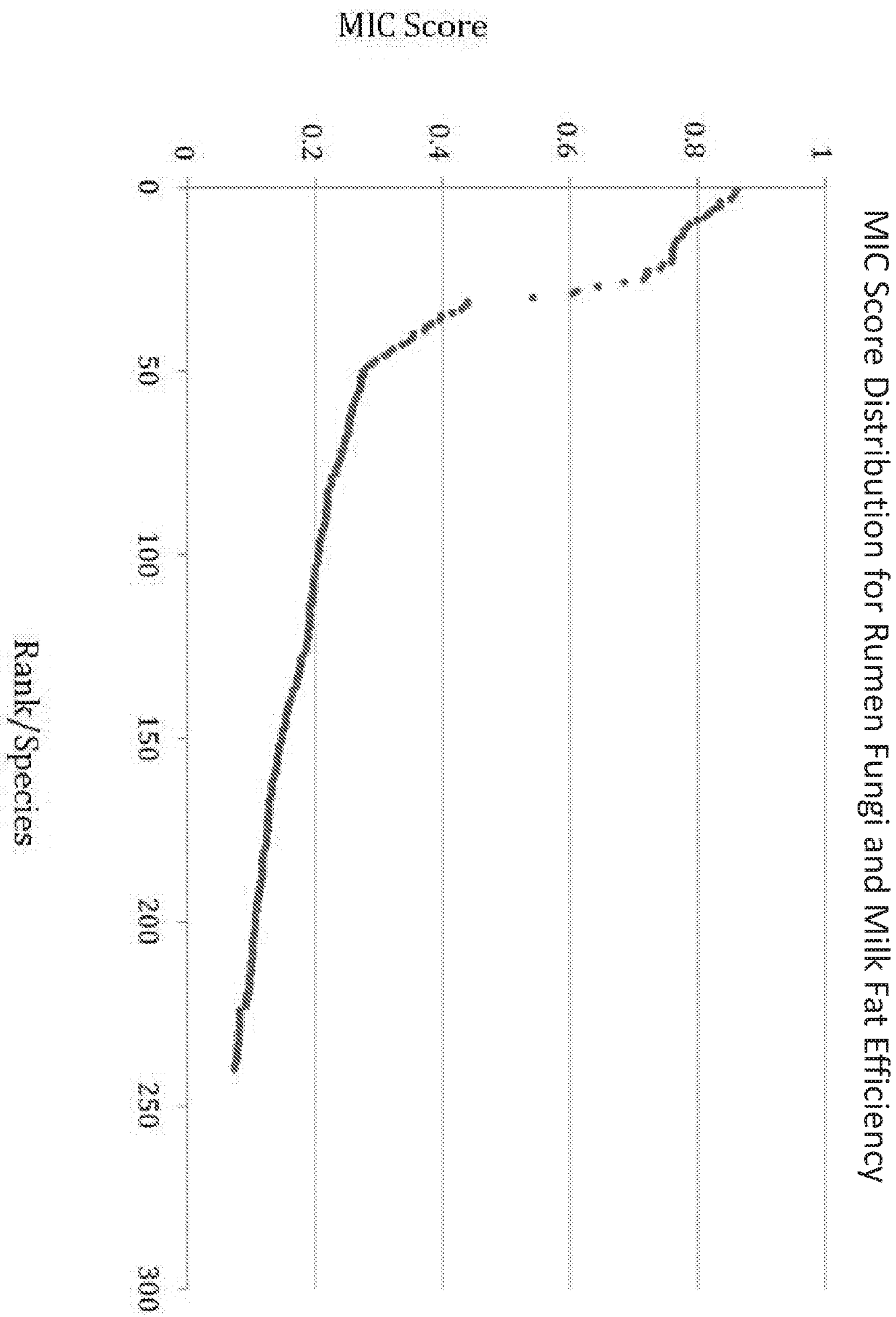

MIC Score Distribution for Rumen Fungi and Milk Fat Efficiency
MIC Score
0
0.2
0.4
0.6
0.8
1
0
50
100
150
200
250
300
Rank/Species

FIG. 11

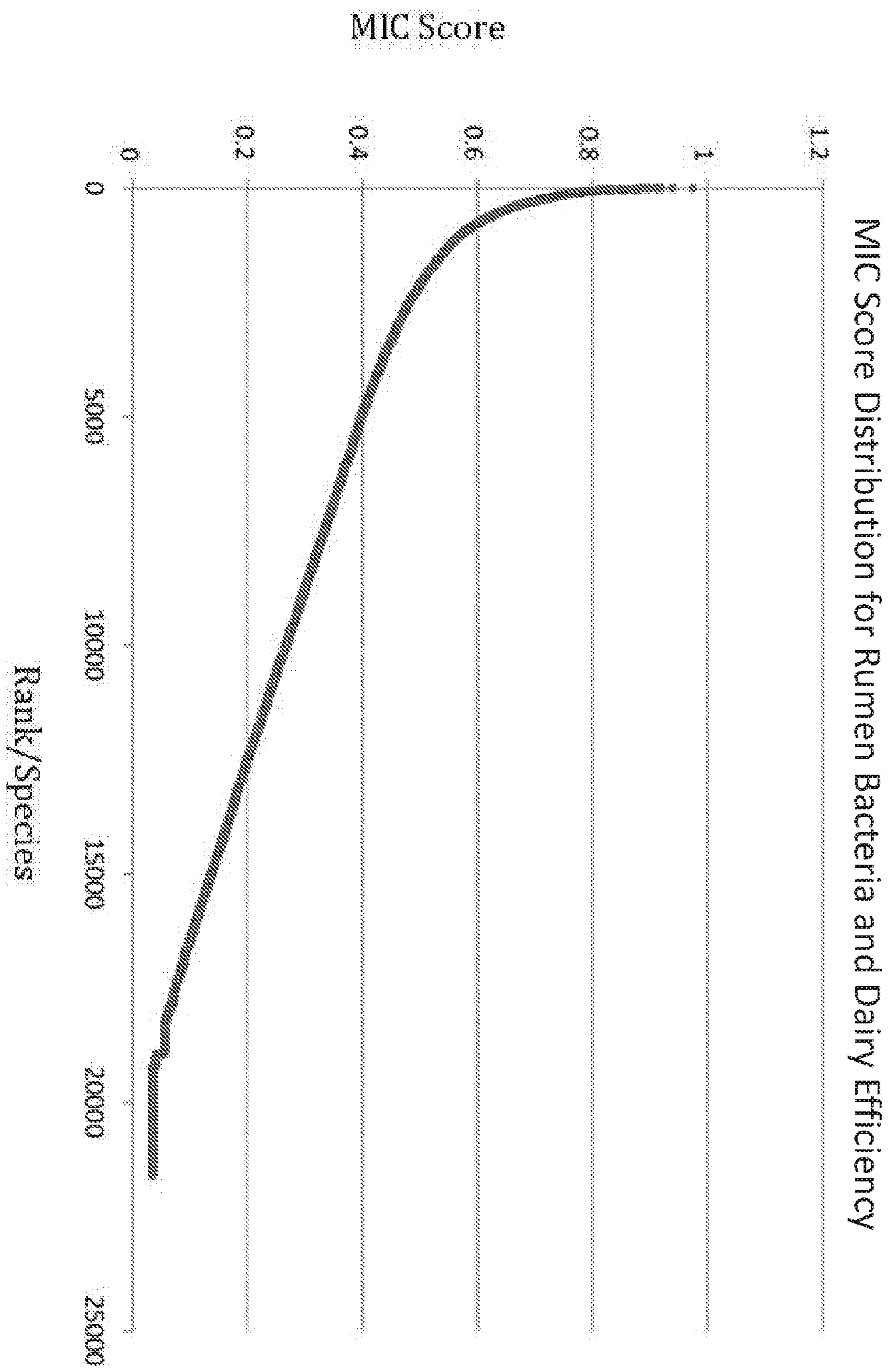

MIC Score Distribution for Rumen Bacteria and Dairy Efficiency
MIC Score
0
0.2
0.4
0.6
0.8
1
1.2
0
5000
10000
15000
20000
25000
Rank/Species

FIG. 12

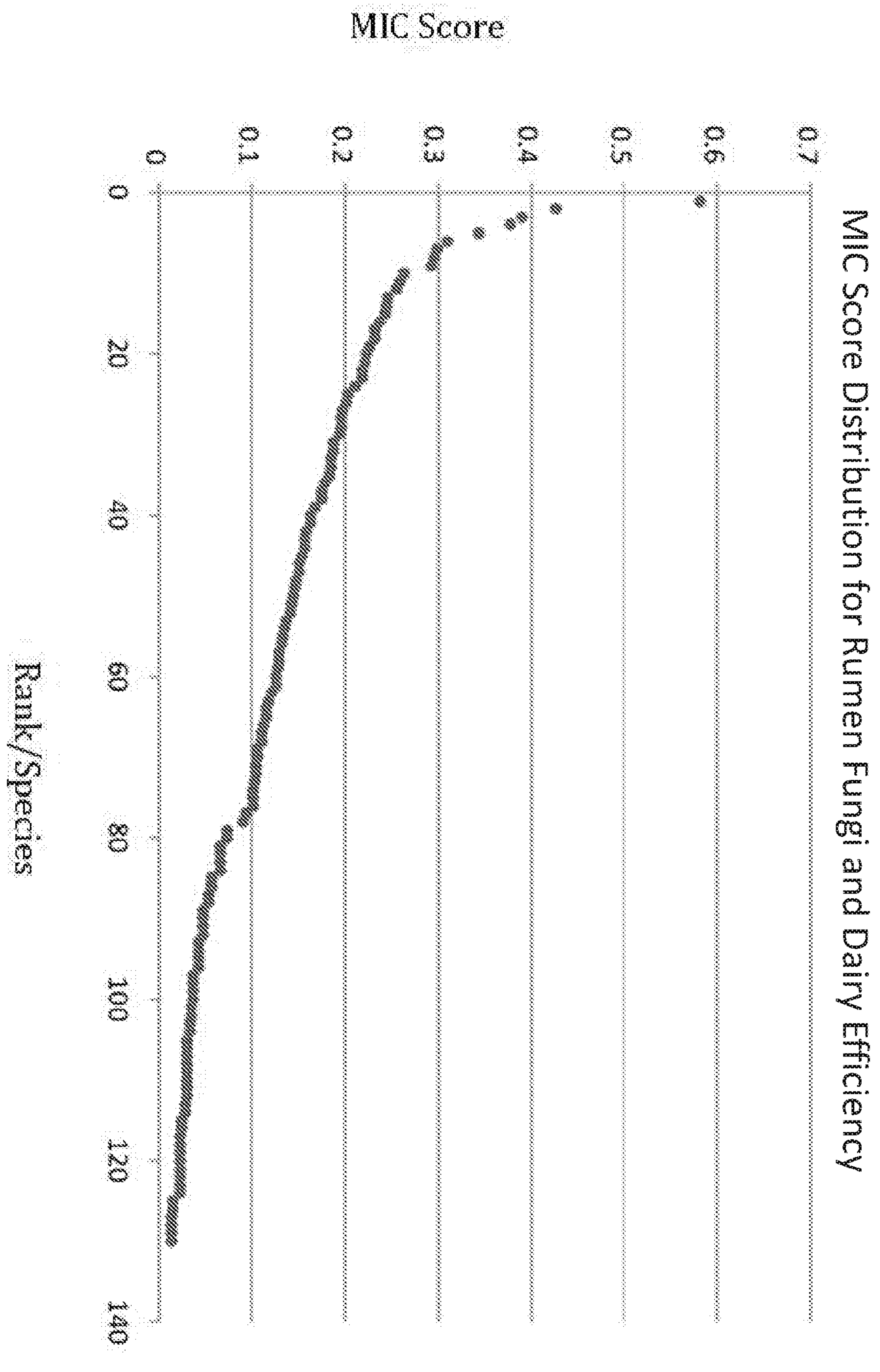

MIC Score Distribution for Rumen Fungi and Dairy Efficiency
MIC Score
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0
20
40
60
80
100
120
140
Rank/Species

FIG. 13

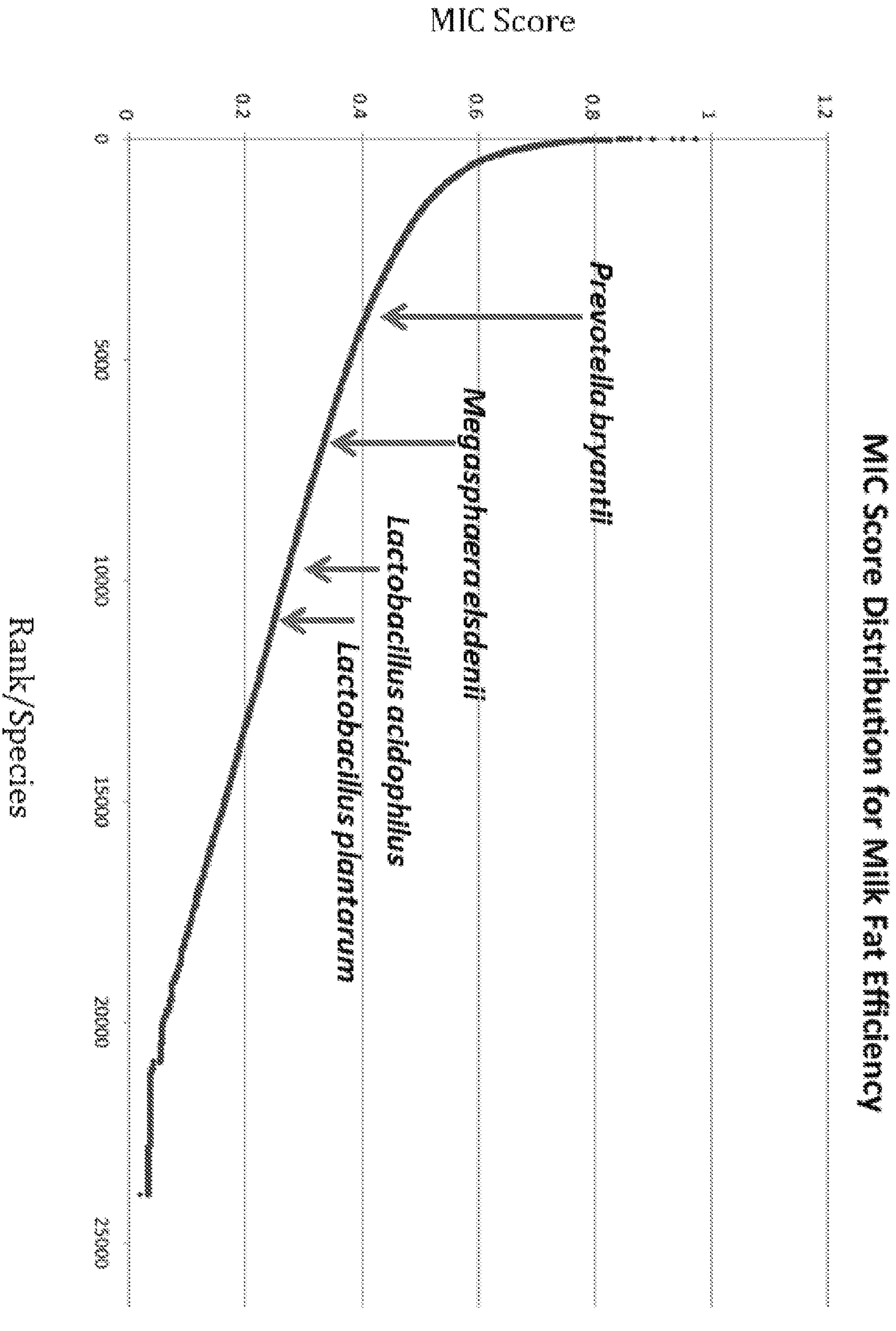
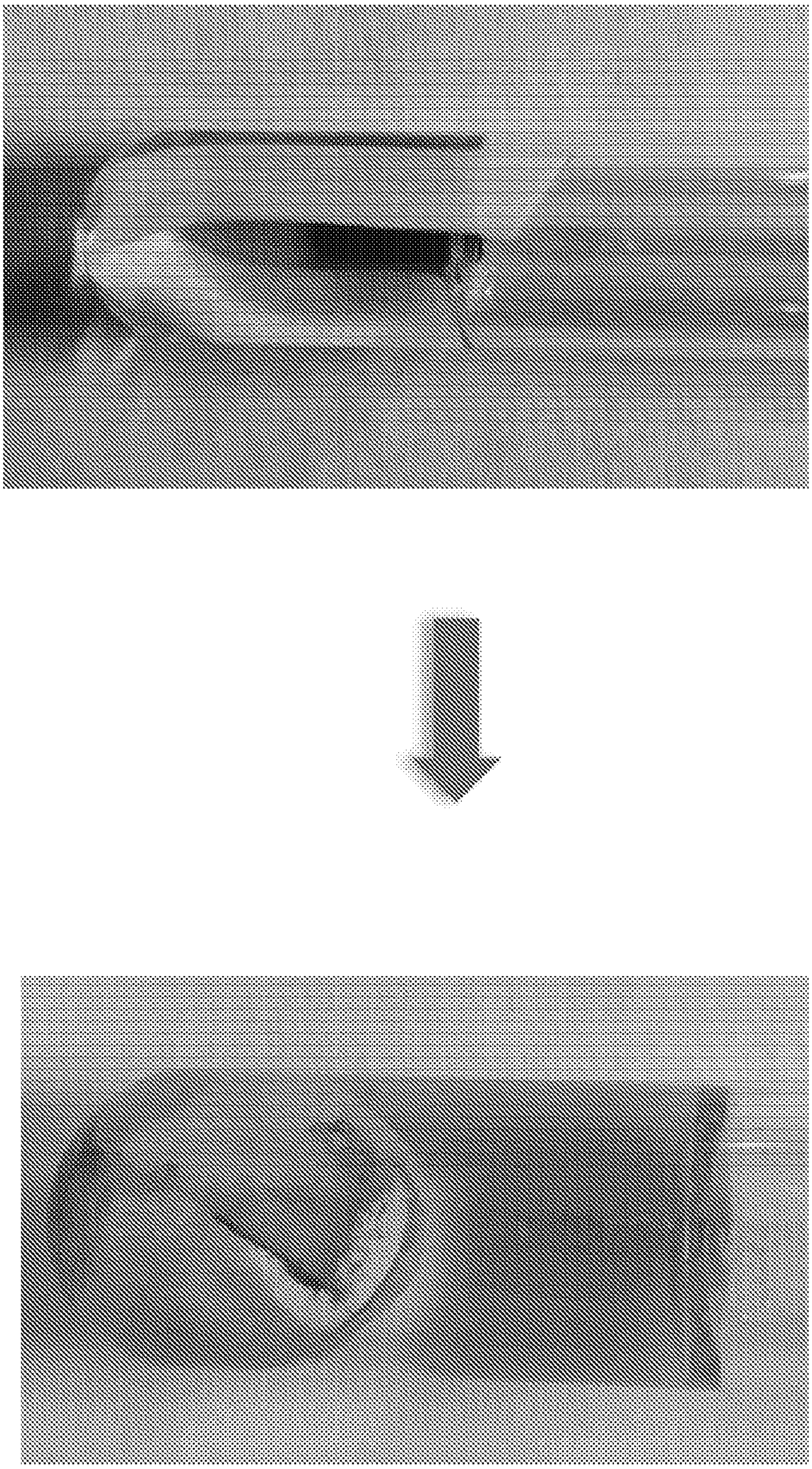

MIC Score Distribution for Milk Fat Efficiency
MIC Score
Rank/Species
0
0.2
0.4
0.6
0.8
1
1.2
0
5000
10000
15000
20000
25000
Prevotella bryantii
Megasphaera elsdenii
Lactobacillus acidophilus
Lactobacillus plantarum

FIG. 14



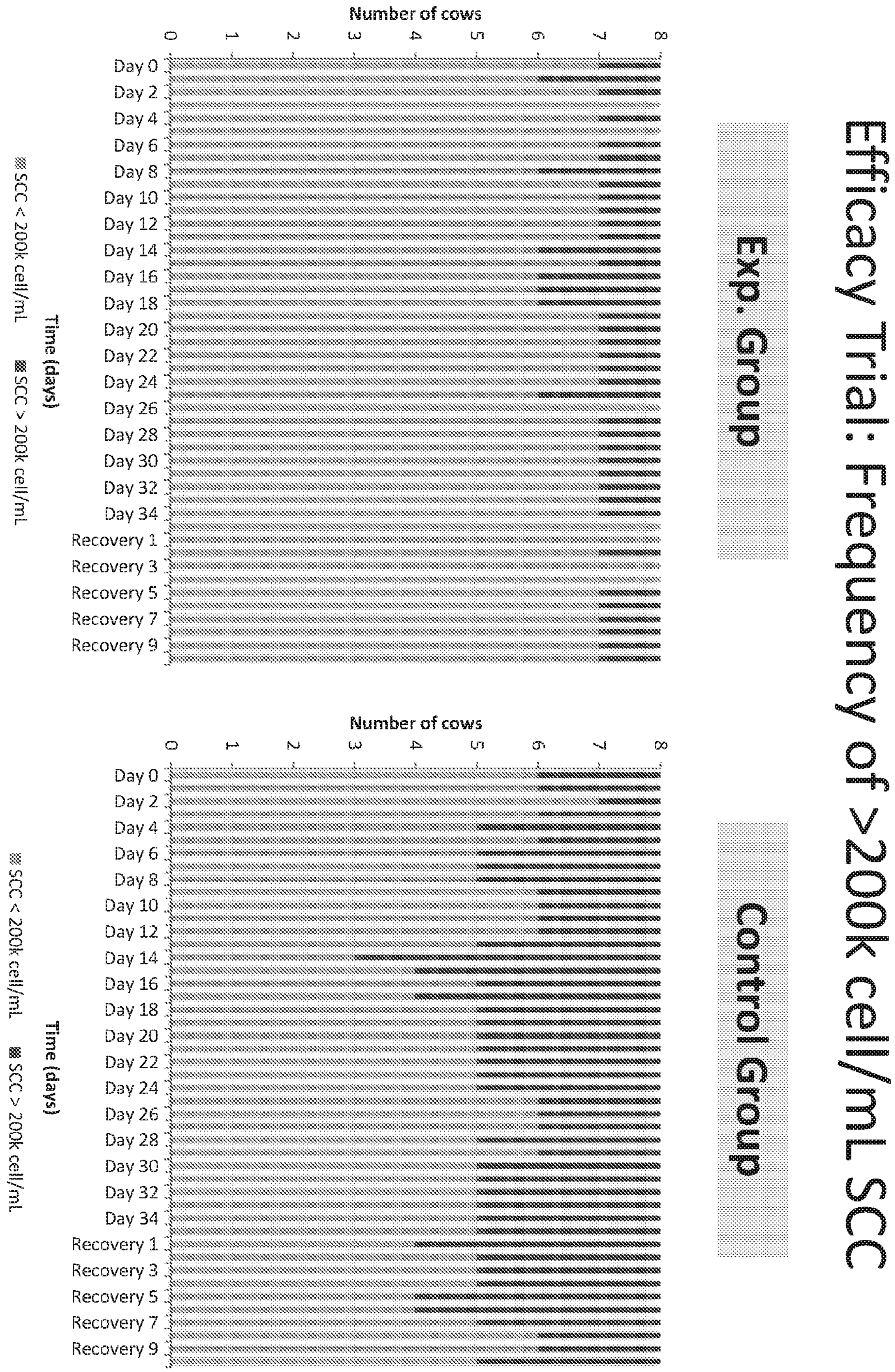

Efficacy Trial: Frequency of >200k cell/mL SCC
Exp. Group
Control Group
Number of cows
0 1 2 3 4 5 6 7 8
Day 0
Day 2
Day 4
Day 6
Day 8
Day 10
Day 12
Day 14
Day 16
Day 18
Day 20
Day 22
Day 24
Day 26
Day 28
Day 30
Day 32
Day 34
Recovery 1
Recovery 3
Recovery 5
Recovery 7
Recovery 9
Time (days)
SCC < 200k cell/mL
SCC > 200k cell/mL

FIG. 15

FIG. 16

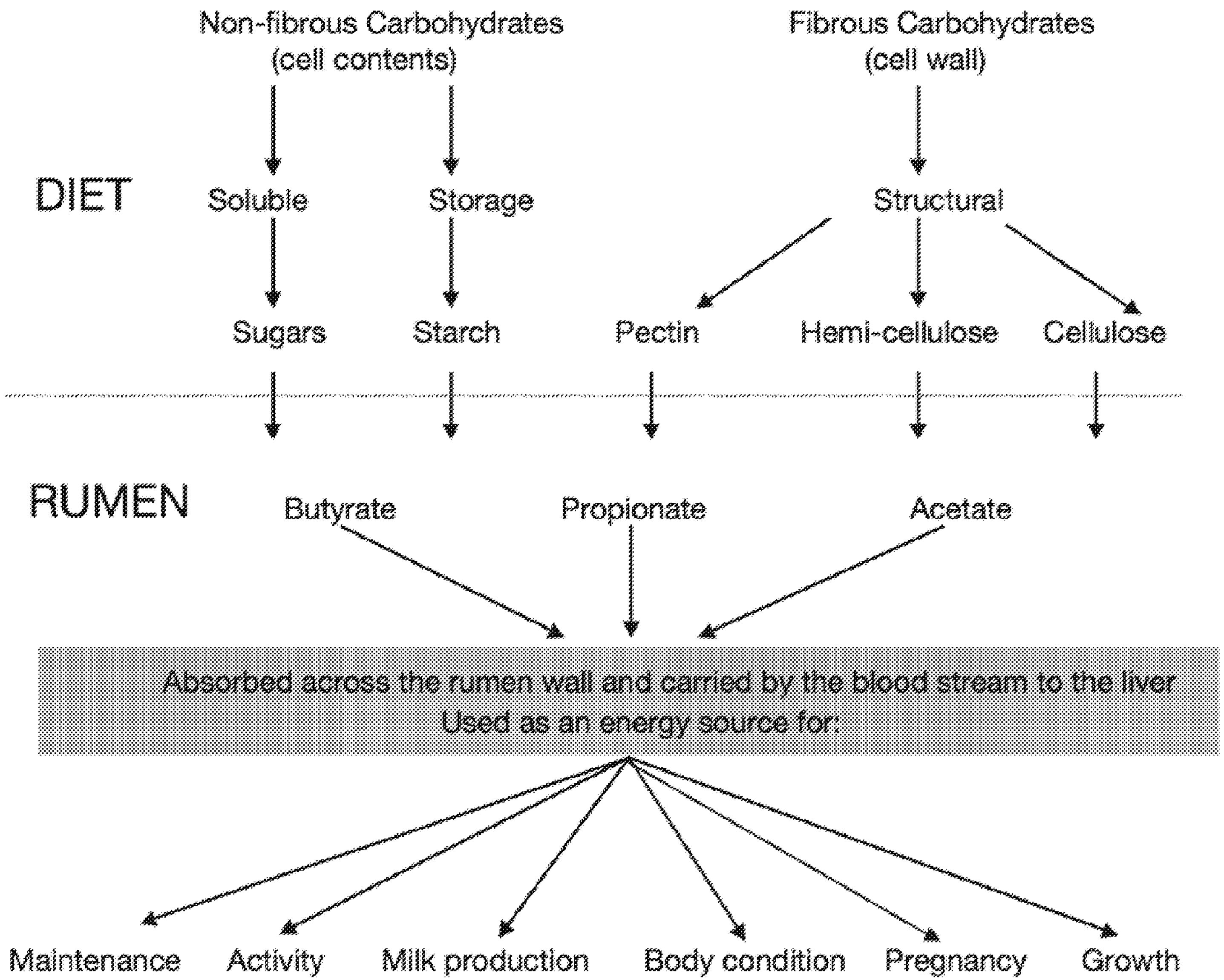
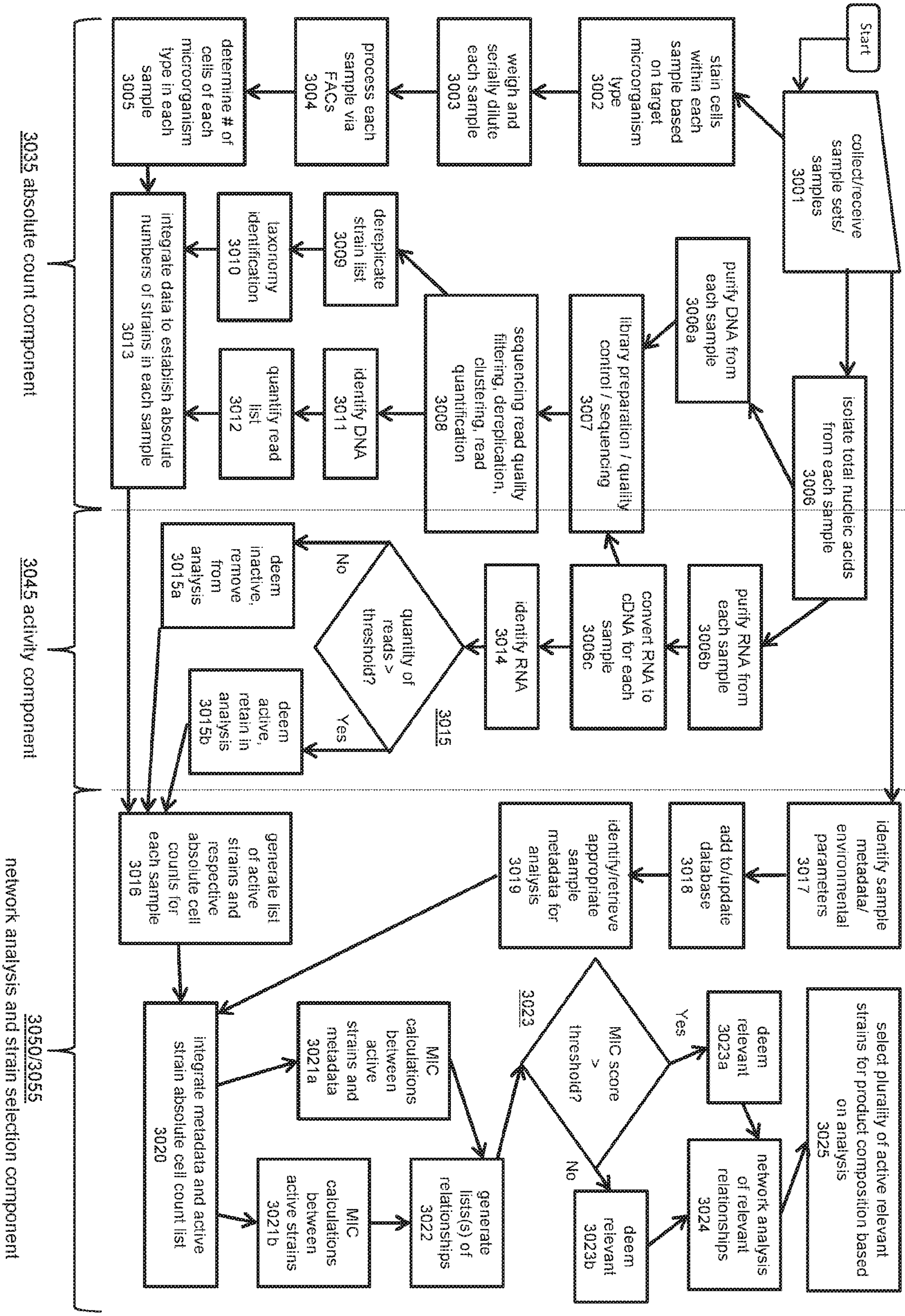

Non-fibrous Carbohydrates
(cell contents)
Fibrous Carbohydrates
(cell wall)
DIET
Soluble
Storage
Structural
Sugars
Starch
Pectin
Hemi-cellulose
Cellulose
RUMEN
Butyrate
Propionate
Acetate
Absorbed across the rumen wall and carried by the blood stream to the liver
Used as an energy source for:
Maintenance
Activity
Milk production
Body condition
Pregnancy
Growth

FIG. 17


Start
collect/receive sample sets/ samples 3001
stain cells within each sample based on target microorganism type 3002
weigh and serially dilute each sample 3003
process each sample via FACs 3004
determine # of cells of each microorganism type in each sample 3005
isolate total nucleic acids from each sample 3006
purify DNA from each sample 3006a
purify RNA from each sample 3006b
convert RNA to cDNA for each sample 3006c
library preparation / quality control / sequencing 3007
sequencing read quality filtering, dereplication, clustering, read quantification 3008
dereplicate strain list 3009
taxonomy identification 3010
identify DNA 3011
quantify read list 3012
integrate data to establish absolute numbers of strains in each sample 3013
identify RNA 3014
3015
quantity of reads > threshold?
No
Yes
deem inactive, remove from analysis 3015a
deem active, retain in analysis 3015b
generate list of active strains and respective absolute cell counts for each sample 3016
identify sample metadata/ environmental parameters 3017
add to/update database 3018
identify/retrieve appropriate sample metadata for analysis 3019
integrate metadata and active strain absolute cell count list 3020
MIC calculations between active strains and metadata 3021a
MIC calculations between active strains 3021b
generate lists(s) of relationships 3022
3023
MIC score > threshold?
Yes
No
deem relevant 3023a
deem relevant 3023b
network analysis of relevant relationships 3024
select plurality of active relevant strains for product composition based on analysis 3025
3035 absolute count component
3045 activity component
3050/3055
network analysis and strain selection component

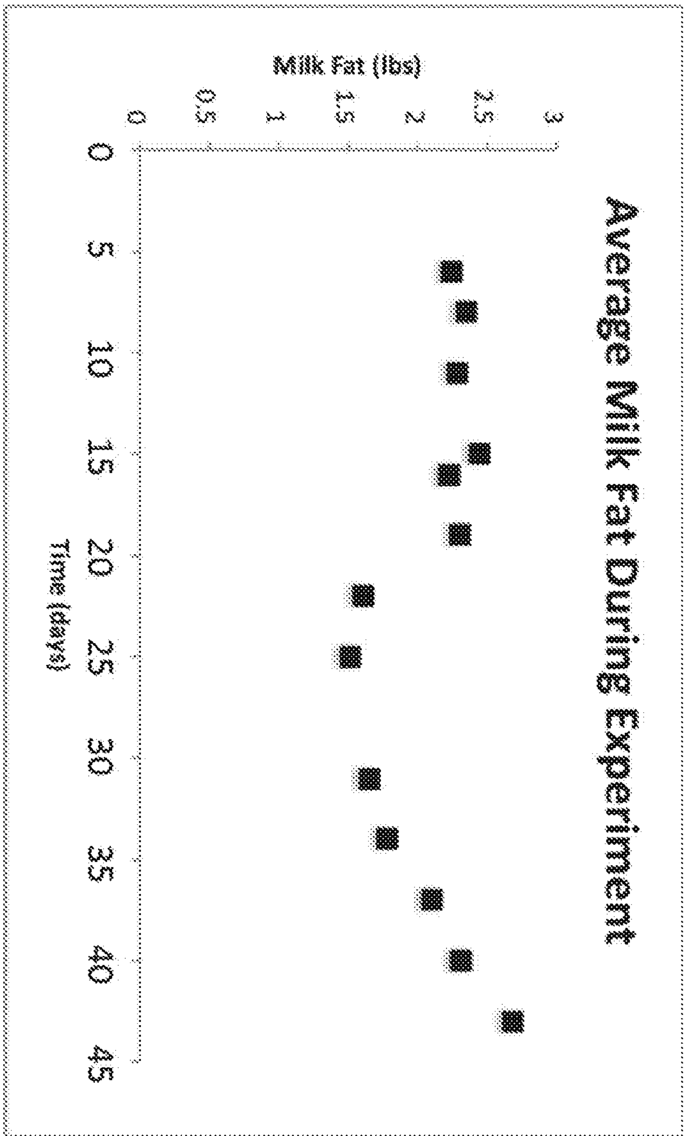

Average Milk Fat During Experiment
Milk Fat (lbs)
0
0.5
1
1.5
2
2.5
3
0
5
10
15
20
25
30
35
40
45
Time (days)

FIG. 18

FIG. 19

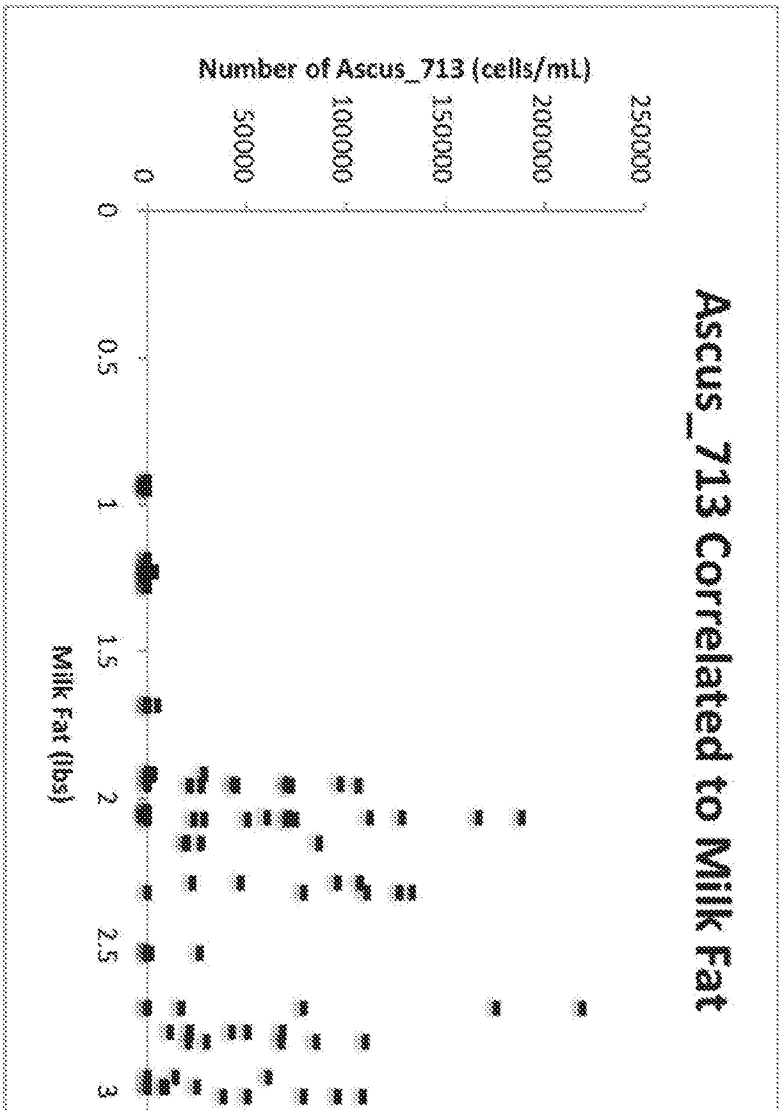

Ascus_713 Correlated to Milk Fat
Number of Ascus_713 (cells/mL)
0
50000
100000
150000
200000
250000
0
0.5
1
1.5
2
2.5
3
3.5
Milk Fat (lbs)

FIG. 20

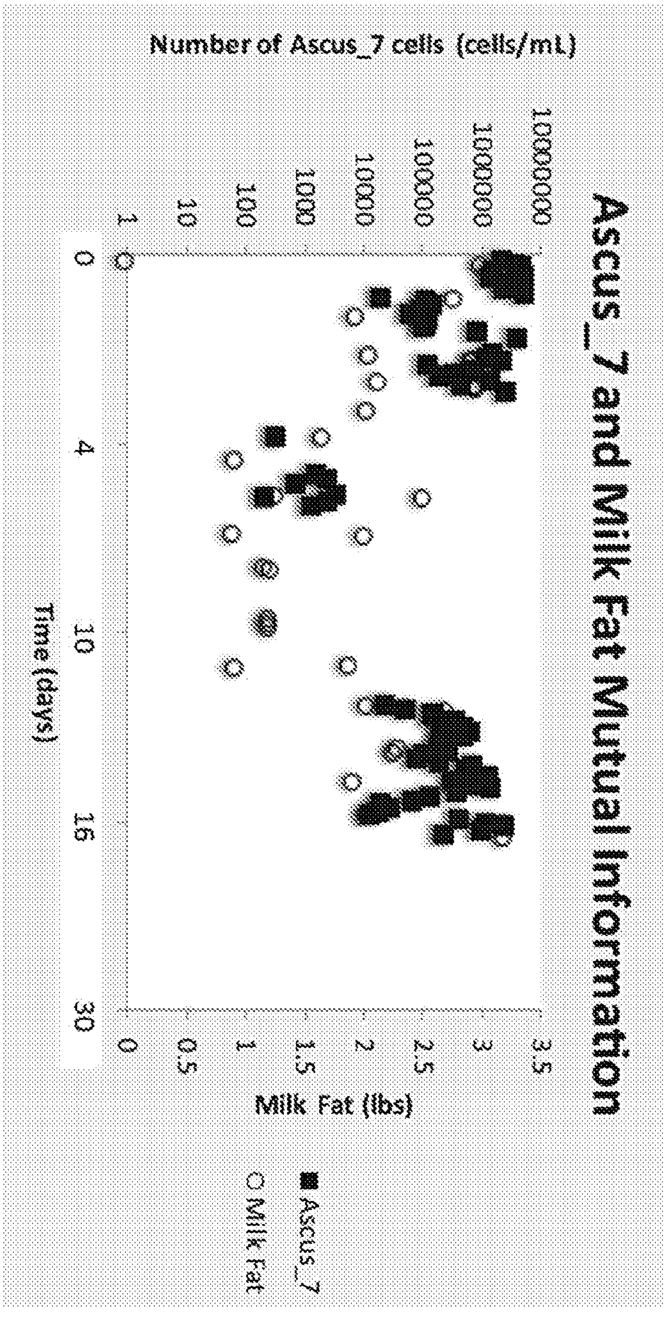
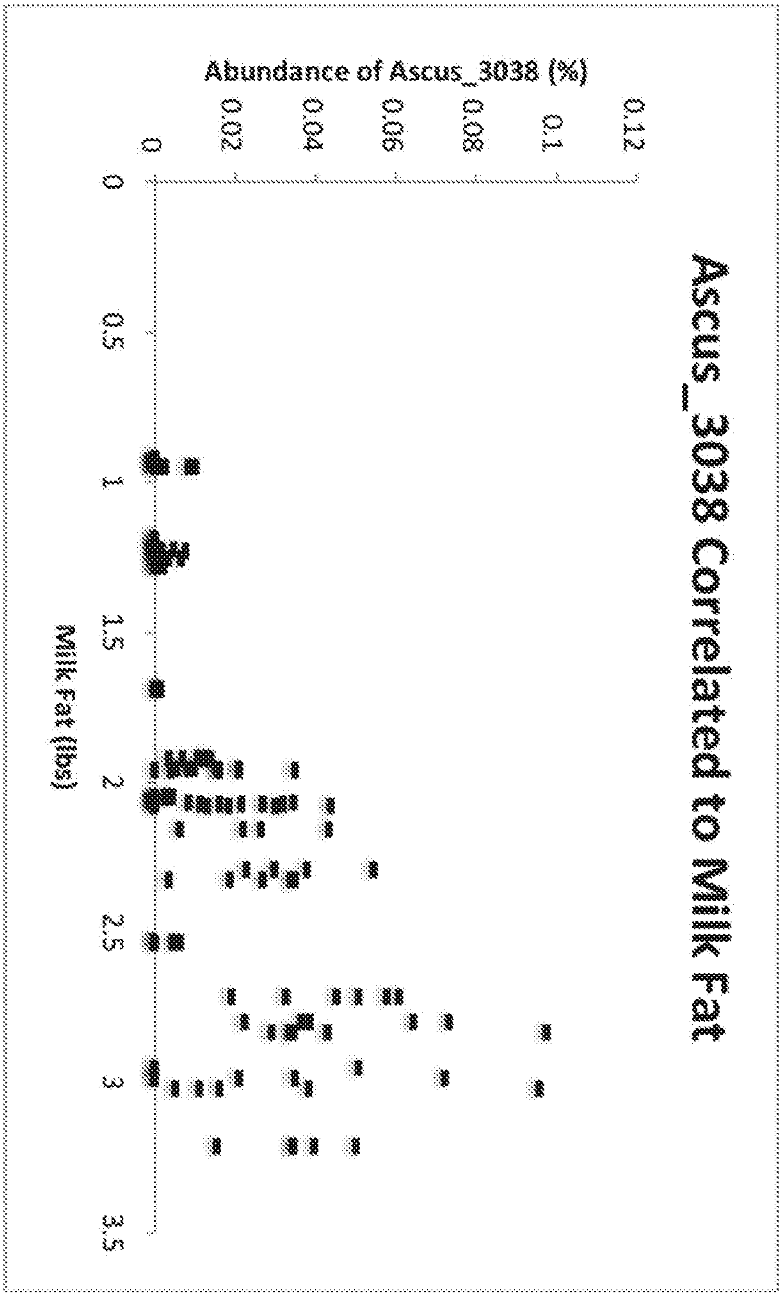

Ascus_7 and Milk Fat Mutual Information
Number of Ascus_7 cells (cells/mL)
10000000
1000000
100000
10000
1000
100
10
1
0
4
10
16
30
Time (days)
3.5
3
2.5
2
1.5
1
0.5
0
Milk Fat (lbs)
Ascus_7
Milk Fat

FIG. 21


Ascus_3038 Correlated to Milk Fat
Abundance of Ascus_3038 (%)
0
0.02
0.04
0.06
0.08
0.1
0.12
0
0.5
1
1.5
2
2.5
3
3.5
Milk Fat (lbs)

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-002/03WO 325233-2021

<160> 2107

<170> PatentIn version 3.5

<210> 1
<211> 225
<212> DNA
<213> Unknown

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

<400> 1
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaacttctt tgacagaatt cttcggaagg aagttgatta agtttagtgg cggacgggtg   120

agtaacgcgt gagtaacctg cctttgagag gggaataact tcccgaaagg gatgctaata   180

ccgcataaag catagaagtc gcatggcttt tatgccaaag attta   225

<210> 2
<211> 225
<212> DNA
<213> Unknown

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

<400> 2
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaactattt tgactgattc cttcgggatg aagaattttt agtttagtgg cggacgggtg   120

agtaacgcgt gagtaacctg cctctgagag gggaataacg ttctgaaaag aacgctaata   180

ccgcataaca catatttgcc gcatgacaga tatgtcaaag atttt   225

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

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

<400> 3
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gaagctcgat cctcggagat ttcggtcaaa gaggaaagat gacttagtgg cggacgggtg   120

agtaatgcgt gagcaacctg ccttggagtg ggggacaaca gttggaaacg actgctaata   180 ccgcataatg tatttggggg gcatcctctg aataccaaag attta 225

<210> 4
<211> 225
<212> DNA
<213> Unknown

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

<400> 4
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaggttccta tttacgatcc cttcggggtg acgagtttga accgagtggc ggacgggtga 120

gtaacgcgtg ggaacctgc ctcatgccgg gggataccag agggaaactt ctgttaatac 180

cgcataagcg cacggtgtgg catcacacag tgtgaaaaac tccgg 225

<210> 5
<211> 225
<212> DNA
<213> Unknown

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

<400> 5
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagcatttg gagctgatct cttcggagtg acgcacctta tgacttagtg gcggacgggt 120

gagtaacacg tgagcaacct gcctttcaga gtggaataac agttggaaac ggctgctaat 180

accgcataac gtcatagtac cgcatgatac cttgaccaaa gattt 225

<210> 6
<211> 225
<212> DNA
<213> Unknown

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

<400> 6
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gaagcaatca agacagaatc cttcgggagg aagatttgat tgactgagtg gcggacgggt 120

gagtaacgcg tgggtaacct gccttgtaca gggggataac agttagaaat gactgctaat 180

accgcataag cgcacagtac tgcatggtac agtgtgaaaa actcc 225

<210> 7
<211> 225
<212> DNA
<213> Unknown

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

<400> 7
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagttacga gagcttgctt ttgtaactta gtggcggacg ggtgagtaat gtatgagcaa 120

cctgcctttc agagggggac aacagttgga aacgactgct aataccgcat aatgtatttg 180

ggtggcatca cctggatacc aaaggagcaa tccgctgaaa gatgg 225

<210> 8
<211> 225
<212> DNA
<213> Unknown

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

<400> 8
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ggggtttaag aaggaagctt gctttcattt taaacctagt ggcggacggg tgagtaacgc 120

gtgaggaacc tgcccttcag tggggaacaa caactagaaa tggttgctaa taccgcataa 180

tgtcggagag ccgcatgaca ttccgaccaa aggatttatt cgctg 225

<210> 9
<211> 225
<212> DNA
<213> Unknown

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

<400> 9
agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60

ggagatattg agagcttgct tttgatatct tagtggcgga cgggtgagta acgcgtgagc 120

aacctgcctt tcagtgggga ataatacttc gaaagaggta ctaataccgc ataacgtatt 180

gagatcgcat ggttttgata ccaaagattt atcgctgaga gatgg 225

<210> 10
<211> 225
<212> DNA
<213> Unknown

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

<400> 10
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gaagcacttt ggatggagat tcgtcaaaat ctgatttgac ttagtggcgg acgggtgagt 120

aatgtgtgag caacctgcct ttcagagggg gacaacagtt ggaaacggct gctaataccg 180

cataatgtat attgagggca tcctcgatat accaaaggag caatc 225

<210> 11
<211> 225
<212> DNA
<213> Unknown

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

<400> 11
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagttgagg agcttgctcc ttaacttagt ggcggacggg tgagtaacgc gtgagtaacc   120

tgcctctgag aggggaataa cgttctgaaa agaacgctaa taccgcatga cacatatttg   180

ccgcatgaca gatatgtcaa agattttatc gctcagagat ggact   225

<210> 12
<211> 225
<212> DNA
<213> Unknown

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

<400> 12
agagtttgat catggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac   60

ggagtttaga gagcttgctt tttaaactta gtggcggacg ggtgagtaac acgtgagcaa   120

cctgccttca agcgaggaat aatgagtgga aacgctctgt aatacctcat aacgtatttt   180

taccgcatga taggaatacc aaagatttat cacttgaaga tgggc   225

<210> 13
<211> 225
<212> DNA
<213> Unknown

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

<400> 13
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagtaagaa tttcggtttt tacttagtgg cgaacgggtg agtaacgcgt gaacaacctg   120

ccttcctgag gggataaca cctggaaaca agtgctaata ccgcataaga ccacatgtcc   180

gcatggacga ggggtcaaag gagcaatccg cagggagagg ggttc   225

<210> 14
<211> 225
<212> DNA
<213> Unknown

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

<400> 14
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagttatga gaggtgcttg caccactttt aacttagcgg cggacgggtg agtaacacgt   120

gagtaacctg cccttgagtg gggaacaaca tcgagaaatc ggtgctaata ccgcataata   180

tctctttgcc gcatgacaga gagatcaaag gatttattcg cttga   225

<210> 15
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 15
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagttatca atgaaaccta gtgatttgat aacttagtgg cggacgggtg agtaacgcgt 120

gggtaacctg ccttatccgg ggggataaca gttagaaatg actgctaata ccgcataagc 180

gcacagaatc gcatgattcc gtgtgaaaag atttatcggg ataag 225

<210> 16
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA of Butyricicoccus - sensu stricto

<400> 16
agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60

ggagtttaag ggcttgctc cttaaactta gtggcggacg ggtgagtaac gcgtgagcaa 120

cctgcctctc agtggggaat aatgtactga aaaggacact aataccgcat gacgtaccgg 180

agtcgcatgg cactggtacc aaagatttat cgctgagaga tgggc 225

<210> 17
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 17
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagtttaga tgaaagcttg cttttgacta aacttagtgg cggacgggtg agtaacgcgt 120

gggtaacctg ccttataccg gggacaaca gttggaaacg gctgctaata ccgcataagc 180

gcacgaggag gcatctccta gtgtgaaaaa ctccggtggt ataag 225

<210> 18
<211> 225
<212> DNA
<213> Unknown

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

<400> 18
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggtagcaata ccatggcgaa cgggtgagta acacgtaggt aacctgtctt taagacgagg 120

ataaccgttg gaaacgacgg ataatactcg ataggtgatt ttagggcatc ctagaatcat 180

taaagattta tcacttagag aggggcctgc ggcgcattag ctaga 225

<210> 19
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 19
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggggacattg cgacggagac gaagtactcg tacggagtca aagatgtaat gttctagcgg   120

cggacgggtg agtaacgcgt gagcaacctg tcccttacag gggataaca cagcgaaagt   180

tgtactaata ccgcatgaga ccacaggatg acatcatcca ggggt   225

<210> 20
<211> 225
<212> DNA
<213> Unknown

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

<400> 20
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

ggacttaacc gttagtttac taatggagcg gttagtggcg gactggtgag taacgcgtaa   120

gcaatctgcc tgttagaggg ggataacagt gagaaatcac tgctaatacc gcatatgctg   180

tgaacatcac atgatgtaaa caggaaagga gcaatccgct aatag   225

<210> 21
<211> 225
<212> DNA
<213> Unknown

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

<400> 21
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

gaacttaatc ttttagttta ctattagaag cggttagtgg cggactggtg agtaacgcgt   120

aaacaatctg cctatcagag gggaacaaca gtgagaaatc actgctaata ccgcatatgc   180

tgtgagtacg gcatcgtaca aacaggaaag gagcaatccg ctgat   225

<210> 22
<211> 225
<212> DNA
<213> Unknown

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

<400> 22
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcaggc ggtagcaata ccgtgctggc gaccggcgca cgggtgcgta acgcgtatgc   120 aacctaccca ctacaggggg ataacggagg gaaacttcca ctaatatccc atggagttgt 180

tttttcgcat ggagagacaa ctaaagctac ggtggtagtg gatgg 225

<210> 23
<211> 225
<212> DNA
<213> Unknown

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

<400> 23
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgggg tgtagcaata cactgccggc gaccggcgca cgggtgcgta acgcgtatgc 120

aacctgcccg taacaggggg ataactcggg gaaacccgaa ctaatacccc gtattgacaa 180

ggggccgcat ggtcttttgt cgaaagcttc ggtggttacg gatgg 225

<210> 24
<211> 225
<212> DNA
<213> Unknown

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

<400> 24
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60

ggaagtcgtt gtaatgatgt ggacatgaac ggagaacttg ttcaaagaga gtgaaaattg 120

acttacaaca atggctttag tggcggactg gtgagtaatg tataagtaac ctgcctatca 180

gaggggaaca acagttggaa acgactgcta ataccgcata tgcca 225

<210> 25
<211> 225
<212> DNA
<213> Unknown

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

<400> 25
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgtgg agtagcaata ctctgacggc gaccggcgaa agggtgagta acgcgtgagc 120

aacatgcccg tagttggggg atagtcgatg gaaacgtcgc gtaatacccc gtaacaacag 180

aggccgcatg acctttgttt aagagattta ttgtctacgg attgg 225

<210> 26
<211> 225
<212> DNA
<213> Unknown

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

<400> 26

agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgggt gtagcaatac atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120

cgtgcccgta tgtgggggat agtcgatgga aacgtcgcgt aataccccgt aacacatttt 180

cccgcatggg aatatgttga aagatttatt gcatacggat cggct 225

<210> 27
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 27
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggggacatgc gacggatagg aagttttcgg atggaattga agatgtatgt tctagcggcg 120

gacgggtgag taacgcgtga gcaacctgtc cttcacaggg ggataacaca gcgaaagttg 180

tactaatacc gcataagacc acagtgagac atctcacagg ggtca 225

<210> 28
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 28
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60

gatgaagttc cttcgggaat ggattagcgg cggacgggtg agtaacacgt gggtaacctg 120

cctcatagag ggggaatagcc tttcgaaagg aagattaata ccgcataaga ttgtagcacc 180

gcatggtgca gcaattaaag gagtaatccg ctatgagatg gaccc 225

<210> 29
<211> 225
<212> DNA
<213> Unknown

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

<400> 29
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagttacta gagcttgctt tggtaactta gtggcggacg ggtgagtaat gtatgagcaa 120

cctgcctttc agagggggac aacagttgga aacgactgct aataccgcat aatgtgcgaa 180

gggggcatcc cttttgtacc aaaggagcaa tccgctgaaa gatgg 225

<210> 30
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiraceae incertae sedis

<400> 30
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcatttt tcgattcttc ggaaaagagg aatgactgag tggcggacgg gtgagtaacg   120

cgtgggaaac ctgccttata ccgggggata gcagttggaa acgactggta aaaccgcata   180

agcgcacggg tacgcatgta tctgtgtgaa aaactctggt ggtat   225

<210> 31
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Pyromyces

<400> 31
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttaatta aattttcctt tgttggattt tttctaaaaa aatacaaaat tgtttaggtt   120

attccttttt acgggaaaat tttatccaat tttatattaa aattagaaaa aatttcaata   180

atcaaaaaat ttaaagtgaa acaacttgta tcgttgtaaa acact   225

<210> 32
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Candida xylopsoci

<400> 32
tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgattt gaggtcgagc   60

tttttgttgt ctcgcaacac tcgctctcgg ccgccaagcg tccctgaaaa aaagtctagt   120

tcgctcggcc agcttcgctc cctttcaggc gagtcgcagc tccgacgctc tttacacgtc   180

gtccgctccg ctcccccaac tctgcgcacg cgcaagatgg aaacg   225

<210> 33
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 Sequence of Orpinomyces

<400> 33
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tagttttata attaaatttc ctttttgta ggtcaattta agttttaact ttaaaactga   120

aaagtttatt cctttttacg ggaaaatttt atccaatttt aaaaataaaa ccaaattggc   180

ttattaaaaa aatcaattta aagtgaaaca acttgttatc gttgt   225

<210> 34

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

<220>
<223> ITS2 sequence of Orpinomyces

<400> 34
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 Orpinomyces

<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 aagtgaaaca acttgttatc gttgt   225

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

<220>
<223> ITS2 sequence of Candida apicol

<400> 36
tcctccgctt attgatatgc ttaagttcag cgggtagcct tgcttgattg gaggccaaaa   60

gattgtaagt aactgcacag agttatctaa cgtgtgcact tccattcttt tgactcctaa   120

aaggagcaga acctcgtact 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

tatttaaata aatttccttt taaaatcgga ccgtttgttg gtaataatta aaaaactgaa 120

aagtttattc ctttttacgg gaaaatttta tccaattttt tattaaaacc ataaatggtc 180

ttaaattaaa atgaatttaa agtgaaacaa cttgtttatc gttgt 225

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

<220>
<223> ITS2 sequence of Orpinomyces

<400> 39
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tatttagtta aatttccttt taattaggca caattaagtt ttaactatta aaactgaaaa 120

gttattcctt tttacgggaa aattttatcc aattttatta gataaaacca aaaattggct 180

tttaaaaatc aatttaaagt gaaacaactt gtttatcgtt gtaaa 225

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

<220>
<223> ITS2 sequence of Orpinomyces

<400> 40
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tatttataaa taaatttcct ttaactgtac ggtatggaaa ctattaaaat ttctaaaaaa 120

actgaaatag cttattcctt ttttacggga aaattttatc caatttttta aaaaaaatta 180

aaatcgttcc 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

tatttaaata aatttccttt taaaatcgga ccgagatttc tctaactaaa actgaaaagt 120

ttattccttt ttacgggaaa attttatcca attttaatta ttaaaaccat aaaggtctta 180

attaaaatga atttaaagtg 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 ataaatttcc ttttaaaatc ggaccgtttg ttggtaataa ttaaaaaaac 120

tgaaaagttt attccttttt acgggaaaat tttatccaat ttttttttat taaaaccaaa 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

ataaaaatat agtgttaatg gctgcataac tagaaccaag aatgcttagc actcgggcta 120

gtcacactga ccaccttctg gctacattta gattcggtcc tgagacttga atcaaatcgc 180

attgctgcat aaaggtatgc ggcactcaaa caaacatgcc tcaaa 225

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

<220>
<223> ITS2 sequence of Piromyces

<400> 44
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

taatttttac ttttttcctt tttttatcaa gaaaaatcaa accaatttta attttttaaa 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 Orpinomyces

<400> 45
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tagttttata attaaatttc ctttttttcaa ggtcaattag gattttattt ttaaaactga 120

aaagtttatt cctttttttac gggaaaattt tatccaattt taataataaa aaccaaattg 180

gctttttaaa aaatcaattt aaagtgaaac aacttgttat cgttg 225

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

<220>
<223> ITS2 sequence of Cyllamyces

<400> 46
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

taatttgact tttccttttt atgtcaaaag aaatcgctaa ttttaatatt ttttaaaatt 120

gtttaggtta ttcctttttta caggaaaatt ttatccaatt ttaaaaaaaa tctttaaaat 180

tagtttaatg atttttttttg ataacaaaga atttaaagtg aaaca 225

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

<220>
<223> ITS2 sequence of Piromyces

<400> 47
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

taatttgact ttttcctttt ttaattcaaa aagaaatcaa accaatttca tttttcttaa 120

aattgtttag gttattcctt ttttacggga aaattttatc caattttaaa aaaaatcttt 180

aaaattagtt tttaaatgat ttttttttgat aacaaagaat ttaaa 225

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

<220>
<223> ITS2 sequence of Cyllamyces

<400> 48
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

taatttttac ttttttttcc ttgttagatc tttttaaaaa atcaaactaa ttcatttatt 120

aaaattgttt aggttattcc tttttacggg aaaattttat ccaattttaa aaaaaaatca 180

gtttttaaat gattttttaa taagacaaag aatttaaagt gaaac 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 tttacgggaa 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 tttttccttt ttttatcaag aaaaatcaaa ccaattttaa ttttttaaaa   120

ttgtttaagg ttattccttt ttacgggaaa attttatcca attttaaaaa atctttaaaa   180

ttagctttta atgatttttt tgatgacaaa gaatttaaag tgaaa   225

<210> 51
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Neocallimastix

<400> 51
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttaaaat aaatttcctt ttaaaatcgg accgagattt ctctaactaa aactgaaaag   120

tttattcctt tttacgggaa aattttatcc aattttaatt attaaaacca taaggtctta   180

aattaaaatg aatttaaagt gaaacaactt gtttatcgtt 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

tatttttaaa taaattttcc ttttattttg aaaaattcta attaaaaatt aaaattgttt   120

aggttattcc tttttacagg aaaattttat ccaattttat tttaaaatta gaaaaaaatt   180

tcaaatttta aaaaaattta aagtgaaaca acttgtatcg ttgta   225

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

<220>
<223> ITS2 sequence of Neocallimastix

<400> 53
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttaaatt ataaatttcc ttttaaaatc ggaccgagat ttctctaact aaaactgaaa   120

agtttattcc ttttttacgg gaaaatttta tccaatttta attattaaaa ccatattggt   180

cttaattaaa atgaatttaa agtgaaacaa cttatttatc gttgt   225

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

<220>
<223> ITS2 sequence of Saccharomycetales

<400> 54
tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgatct gaggtcgagc   60

tcatagtgct cggagacccc aagcgtcctg ttctagttcg ctcgtggcct cgtttctttt   120

cggcggggcc gtggccgggc cagctctgcg caactctcgt cttgcaagaa ggaaacgacg   180

ctcagacagg 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

gttatttaat taaattttcc ttttggattt tttctaaaaa aatacaaaat tgtttaggtt   120

attccttttt acgggaaaat tttatccaat tttatattaa aattagaaaa aatttcaata   180

acaaaaaatt taaagtgaaa caacttgtat cgttgtaaaa cactc   225

<210> 56
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Orpinomyces

<400> 56
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttataaa taaatttcct ttaactgtac cggtatggaa attattaaaa ttagaaaaaa   120 tttcaataat caaaaaattt aaagtgaaac aacttgtatc gttgtaaaac actcatcacc 180

ataaaaacaa aaaagttttt atgagaatat tttactgata ctcaa 225

<210> 57
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Piromyces

<400> 57
tcctccgctt attgatttgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tatttaatta aattttcctt tacttgggat tttttctaaa aaaaatacaa aattgtttag 120

gttattcctt tttacgggaa aattttatcc aattttatat taaaattaga aaaaatttca 180

ataatcaaaa aatttaaagt aaaacaactt gtttatcgtt 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 gggtgacgaa acttattacg 120

tcaagctaat gggtcatcca ctaacgcatt taaggcgagc cagatggcaa cgcccaagtc 180

caagccgatt aggaaaccct aatggttgat atttcatgac actca 225

<210> 59
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Orpinomyces

<400> 59
tcctccgctt attgatatgc ttcagttcag cgggtactct tatctgattt gagatcaagt 60

tatttataaa taaatttcct ttaaactgta cggtatggaa actattaaaa tttctaaaaa 120

actgaaatag tttattcctt tttacgggaa aattttatcc aattttttaa aaaaattaaa 180

tcgttccaac cgacgatttc aattaaaatc catttaaagt gaaac 225

<210> 60
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS2 sequence of Orpinomyces

<400> 60

tcctcgctta ttgatatgct tagttcagcg ggtactctta tctgatttga gatcaagtta 60

tttataaata aatttccttt aactgtacgg tatggaaact aattaaaatt tctaaaaaac 120

tgaaatagct tattcctttt ttacgggaaa attttatcca attttttaaa aaaattaaaa 180

tcgttcccaa ccgacgattt caattaaaat ccatttaaag 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 gtgctcgagt ggcgaacggg tgagtaacac gtgggtgatc 120

tgcccctaac ttcgggataa gcttgggaaa ctgggtctaa taccggatag gacaatcgtt 180

tagtgtcggt tgtggaaagt tttttcggtt 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 ctttctttga tgacgaccgg cgcacgggtg agtatcgcgt 120

atccaacctg cccataagta gggaatagcc ttgcgaaagt aagattaatg ccctatggtt 180

tccattaaag acatctgaga tggaataaag 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 ccttcgggat gccgacgagt ggcgaacggg tgagtaatac atcggaacgt 120

gcctggtagt gggggataac tactcgaaag agtggctaat accgcatgag atctcaggat 180

gaaagcaggg gaccctcggg ccttgcgcta tcagagcggc cgatg 225

<210> 64
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 64
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagcgagaga tgaaacctag 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 aagagttagc ggcaaacggg tgagtaacac atgggaaacc   120

tcccttagaa tggggaacat ctccgtgaaa acggagctaa taccgcataa 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 tttacaggcg gaaagcggcg gacgggtgag   120

taacgcgtag gcaacctgcc ccatgcacag ggatagcctc gggaaaccgg gattaaaacc   180

tgatgatacc gcattgtcac atgacggagc ggtcaaagat ttatc   225

<210> 67
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 67
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaaatgttt agatgaagtt ttcggatgga ttcttttcat tttagtggcg gacgggtgag   120

taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc   180

gcataagcgc acactgacgc atgtcagagt gtgaaaaact ccggt   225

<210> 68

<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 aataccggat aatcctttta   180

acctcatggt tttaagttga aaggcgcttc ggcgtcacta cagga   225

<210> 69
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 69
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaaatgttt tgatgaagat ttcggttgga ttcatttcat tttagtggcg gacgggtgag   120

taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc   180

gcataagcgc acactgacgc atgtcagagt gtgaaaaact ccggt   225

<210> 70
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea 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 attgatcggt 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 tttacaggcg gaaagcggcg gacgggtgag 120

taacgcgtag gcaacctgcc ccttgcacag ggatagcctc gggaaaccgg gattaaaacc 180

tgataacacc gcactttcac atgtaagagc ggtcaaagat ttatc 225

<210> 73
<211> 225
<212> DNA
<213> Unknown

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

<400> 73
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggacgatttc ccttcgggga gaaagttagt ggcggacggg tgagtaacgc gtgagtaacc 120

tgccttggaa tgggggataa cacagggaaa cctgtgctaa taccgcataa 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

gttcgaccta ccctttactc gggaacagcc catcgaaaga tggattaatg cccgatgttc 180

tccctatatc gcatggtatt tggagcaaag atttatcggt agagg 225

<210> 75
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 75
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagatactt gataagcttg cttaatgagt atcttagcgg cggatgggtg aggaacgcgt 120

ggagaacctg cccttcacag gggataaca 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 XlVa

<400> 76
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagatactt gataagcttg cttaatgagt atcttagcgg cggatgggtg aggaacgcgt 120

ggagaacctg cccttcacag gggataaca 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 gacgccgcgt gaacgatgaa gtatttcggt atgtaaagtt ctatcagcag 120

ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgg 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 tcggtggatt tgttagatcc aagcggcgga cgggtgagta 120

aagcacaagg acgtgtccga gcgaggggga caactgcggg aaaccgtagc taataccccg 180

taagccgaga ggtgaaagca gcaatgcgcg agcggagcga cttgt 225

<210> 79
<211> 225
<212> DNA
<213> Unknown

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

<400> 79
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagtgtgac gagtgcttgc acatgtcata cttagcggcg gatgggtgag gaacgcgtgg   120

agaacctgcc tctcacaggg ggataacagt tggaaacgac tgttaatacc gcatatgctc   180

acggtgccgc atggcacagg gaggaaagat ttcatcggtg 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

ggcagcatgt tgtgtgcttg cacacaatga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt   180

tccgaagagg gcatctgatt tggaataaag attgatcggt catgg   225

<210> 81
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 81
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacttt ggaagcttgc ttttaaagtg actgagtggc ggacgggtga gtaacgcgtg   120

gataacctgc ctcacacagg gggataacag ttagaaatga ctgctaatac cgcatatgcc   180

tacagtaccg catggtacag gagggaaaga tttatcggtg 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 cccccaagta gggcacagcc cggcgaaagt cggattaatt ccctatgtgg   180

tcatgttatg gcatcagtat atgactaaag gctttggttg cttgg   225

<210> 83
<211> 225
<212> DNA

<213> Unknown

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

<400> 83
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcacctg gtcacgatcc cttcggggtg acgaccttgt gactgagtgg cggacgggtg   120

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 XlVa

<400> 84
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagaggttg cggagattca atcgatgatc tgcttcttct tagcggcgga tgggtgagta   120

acacgtgggt aacctgccct gcactgggga ataacagttg gaaacgactg ttaataccgc   180

atatgcgcac ggggtcgcat gaccccgggc ggaaagattt atcgg   225

<210> 85
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea 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 XlVa

<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

<210> 87
<211> 225
<212> DNA
<213> Unknown

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

<400> 87
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagaacgttc ccttcgggga actagtaaag tggcgaacgg gtgagtaaca cgtgggcaac   120

ctacccctta 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 Adlercreutzia

<400> 88
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggttaaaccg gcttcggccg gaaatagagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggatag ccccccgaaa 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

ggcagcatgg gagttgcttg caattcccga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccttaactc cggaatagcc cgctgaaagg cggattaatg ccggatgcgg   180

tccagcgagg gcatctgacc cggaccaaag 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 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 Proteiniclasticum

<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 tgcctcgtac tgggggataa cagttggaaa 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 cctttgcagg gggatagccg ttggaaacga 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

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcaggg 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 caagtcgcgg 60

ggcagcattg aggtagcaat acctcagatg gcgaccggcg cacgggtgcg taacgcgtat 120

ccaacctggc ccttactcgg gtatagccct 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

caccgcatga tggacatatc 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

ggcagcggga ggaaagcttg ctttccttgc cggcgaccgg cgcacgggtg cgtaacgcgt 120

atcgaacctg gcccatacac ggggatagtc tcctgaaagg gaggttaata cccggcggtc 180

ccacttggtc gcatgactgt gtgggtgaag attcatcggt atggg 225

<210> 98
<211> 225
<212> DNA
<213> Unknown

<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 taccgcatac gccctacggg   180

ggaaagcagg ggatcttcgg accttgcgct aatagatgag cctaa   225

<210> 99
<211> 225
<212> DNA
<213> Unknown

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

<400> 99
agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

ggacatagct tgctatgtca gtggcgaacg ggtgagtaat acataagcaa cctgcctaca   120

gggaccggga taacacttgg aaacgagcgc taataccgga taggcaggat cggggcatcc   180

tgatcctgtt 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgcag   180

ttatgattcc gcatgggaat ataacgaaag attcatcggt agggg   225

<210> 101
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 101
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagatatta cggatgaagg attcgtctgg aatctgtttt atcttagtgg cggacgggtg   120

agtaacgcgt ggagaacctg cctctttccg gggatagca gttggaaacg actggtaata   180

ccgcatgagc gcacagtacc gcatggtacg gggtgaaaag attta   225

<210> 102

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

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

<400> 102
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagtttaga tgaaacctag 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 atggtgaagc 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 cttcctttga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccttaactt gggaatagcc cggtgaaaac cggattaatg cccgatgtgg   180

tccagcgagg gcatctgacc cggaccaaag 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 tccatatcac atgatgagga tgccaaagat 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 cacttgttga tggcgaccgg cgcacgggtg cgtaacgcgt 120

atcgaacctt ccccttactc gggaatagcc cggtgaaaac cgaattaatg cccgatatat 180

atttagatgg catcagaaga gtatgaaaga tttatcggta aggga 225

<210> 107
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 107
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggacctttta cagactgcga ttcgtcaaag gaagttcaag gttagtggcg gacgggtgag 120

taacgcgtgg gtaacctgcc tcgtagaggg ggataacagt tggaaacgat 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

taccgcatgg tacagtgtga aaaactccgg tggtatgaga 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

ctgaaccagc caagtagcgt gcaggatgac ggccctatgg gttgtaaact gcttttgtat 120

ggggataaag tgctccacgt gtggagtttt gtaggtacca tacgaataag gaccggctaa 180

ttccgtgcca gcagccgcgg taat 204

<210> 110
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 110
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcatttt ggttcaaagc cttcgggcag cgaaacttaa tgacttagtg gcggacgggt 120

gagtaacgcg tgggtaacct gccttgtact gggggataac agttagaaat gactgctaat 180

accgcataag cccacggttt cgcatggaac 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

ggcagcatgt aggttgcttg caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt 120

atccaacctt ccccgcagta gggtgcagcc 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 ttccgatgtt cttagtggcg gacgggtgag 120

taacgcgtgg gtaatctgcc ctgtatcggg gaatagcagc tggaaacggc tggtaatacc 180

gcgtacgccg gttggatcgc atgatccgat cgggaaactt tttaa 225

<210> 113
<211> 225
<212> DNA
<213> Unknown

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

<400> 113
agagtttgat catggcagaa gctactgcta ttgggattcg attaagccat gcaagtcgaa   60

cgaatttaga ttcgtggcgt acggctcagt aacacgtgga taacctaccc ttaggactgg   120

gataactctg ggaaactggg gctaataccg gatagatgat tttcttgga atgggatttt   180

gtttaaatgt tttttcgcct 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 caagtcgaac   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 Lachnospiracea incertae sedis

<400> 115
agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac   60

gaggcgagga gtgcttgcac accgaaccta gtggcggacg ggtgcgtaac gcgtgggtaa   120

cctgccctaa acagggggat aacgtataga aatgtacgct aataccgcat aagctcacgg   180

aaccgcatgg ttttgaggga 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 gacgccgcgt gagtgatgaa gtatctcggt atgtaaagct ctatcagcag   120

ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgg   180

taat   184

<210> 117
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 117
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcactta attacgatcc cttcggggtg acgattttgt gacttagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccctgtactg ggggacaaca gttggaaacg gctgctaata   180

ccgcataagc gcacgatatc gcatggtatt gtgtgaaaaa ctccg   225

<210> 118
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 118
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggggttattt cgagaagctt gcttcatgaa ataacctagt ggcggacggg tgagtaacgc   120

gtgggaaacc tgcctcgtac tgggggataa cagttggaaa cgactgttaa taccgcataa   180

gcgcacaatg ttgcatgaca tagtgtgaaa aactccggtg gtacg   225

<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

<210> 120
<211> 225
<212> DNA
<213> Unknown

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

<400> 120
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gagaaactta tgattgacgc ttcggttgat ttcataagcg gaaagcggcg gacgggtgag   120

taacgcgtag gcaacctgcc ccttgcagag ggatagcctc gggaaaccgg gattaaaacc   180

tcataatgct gatcctacac atgtttgatc agccaaagat ttatc   225

<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 XlVa

<400> 122
agagtttgat cctggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac   60

ggagtttaga tgaaacctag tgattttaaa cttagtggcg gacgggtgag taacgcgtgg   120

gtaacctacc tggtattggg 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 ccttgggttc   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 Lachnospiracea incertae sedis

<400> 124
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggggttattt cgagtagctt gctacatgaa ataacctagt ggcggacggg tgagtaacgc   120 gtgggaaacc tgcctcgtac tgggggataa 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 gagtgattag cttgctatga actcatgact ggttagcggc ggacgggtga 120

gtaacgcgtg ggtaacctgc ctcatacagg 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 XlVa

<400> 126
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagtatcaa tgaagcctag cgatttgata cttagtggcg gacgggtgag taacgcgtgg 120

ataacctgcc tcacacattg ggataacagt tagaaatggc tgctaatacc gaataagccc 180

acagtgccgc atgacacagg gggaaaagat tttatcggtg 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 taccgcatac 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

agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatta aggaagcttg ctttcttaga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttatgattcc gcatgggaat ataacgaaag attcatcggt 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 aataccgcat aagcgcacag 180

taccgcatgg tacagtgtga aaaactccgg tggtatgaga tggac 225

<210> 131
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 131
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggacccaagg aagagagtag cttgctatga acttccggaa ggttagtggc ggacgggtga 120

gtaacgcgtg ggcaacctgc cctgtactgg gggatagcag ctggaaacgg ctggtaatac 180

cgcataagcg cacagtaccg catggtacag tgtgaaaagc tccga 225

<210> 132
<211> 198
<212> DNA
<213> Unknown

<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 gcggtaat   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 tggtatgaga 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 gattaaaacc   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 tccggaaaca gacgctaata ccgcatgaca cgtgcttccg   180

gcatcggagg cacgtcaaag atttatcgcg taaggatgga ctcgc   225

<210> 136

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

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

<400> 136
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

ggtgaagtcc cttcgggggc ggatcagtgg cggacgggtg agtaacgcgt gagtaacctg 120

cccttacgag cggaataacg tccggaaaca gacgctaata ccgcatgaca cgtgcttccg 180

gcatcggagg cacgtcaaag atttatcgcg taaggatgga ctcgc 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

ggcagcatga cgagagcttg ctcttgttga tggcgaccgg cgcacgggtg cgtaacgcgt 120

atccaacctt ccccctgcca gggaacagcc cgttgaaaga cggattaatg ccctatgttg 180

tgcgaagatg gcatcagatt tgcacgaaag attttatcgg catgg 225

<210> 138
<211> 185
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 138
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctatgcacaa tggaggaaac 60

tctgatgcag caacgccgcg tgagtgatga agtagttcgc tacgtaaagc tctatcagta 120

gggaagataa tgacggtacc tacacaagaa gctccggcta aatacgtgcc 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 ctcatacagg 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 gcttttgtac 120

ggggataaag gagcttacgt gtaagttttt gcaggtaccg tacgaataag gaccggctaa 180

ttccgtgcca gcagccgcgg 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 agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180

tctcgcatgg 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

tacccctctc tctgggatag cctcgagaaa tcgtgggtaa taccggatac tccggatcca 180

tcgcatggtg gatccgggaa 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

ggaacttatt gaatgaagtt ttcggatgga ttttgataag tttagtggcg gacgggtgag 120

taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgttaatacc 180

gcataagacc acagcaccgc atggtgcagg ggtaaaagct 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 aataccgcat aagcgcacag 180

taccgcatgg 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

ggcagcatca agaagcttgc ttcttggatg gcgagtggcg aacgggtgag taatgcatcg 120

gaatgtaccg agtaatgggg 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 agcggaataa tgactggaaa cggtcactaa taccacataa catatggaga 180

tcgcatggta tccatatcaa agatttatcg ctgtaagatg ggctc 225

<210> 147
<211> 225
<212> DNA
<213> Unknown

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

<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 atttatcggt 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 cacttcggtg ggtgcataaa gtggcgaacg ggtgagtaac acgtgaccaa   120

cccgcccccc 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 ctctctttga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg ccccctagta gggaacagcc cgtagaaatg cggattaatg ccctatgttc   180

tccgaagacg gcatcagatt cggagcaaag gccttttggt tgcta   225

<210> 150
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 cggtgtgaga tggat   225

<210> 151
<211> 225
<212> DNA

<213> Unknown

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

<400> 151
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgcag 180

ttatgattcc gcatgggaat ataacgaaag attcatcggt agggg 225

<210> 152
<211> 225
<212> DNA
<213> Unknown

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

<400> 152
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

ggggtacctt cgggtaccta gtggcgaacg ggtgagtaac acataaacaa tctgccctgg 120

agactgggat accgtcggga aaccgacgct aataccggat aggcagtaag gggcatccc 180

catactgtta aagctgggtt gcagcgctgc aggatgagtt tatgt 225

<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

<210> 154
<211> 225
<212> DNA
<213> Unknown

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

<400> 154
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatga cggtagcttg ctactgttga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctt cccacaaata aggaatagcc cggtgaaaat cgaattaata ccttatgtgg 180

tcataagagg acatctgatt atgattaaag atttatcgtt tgtgg 225

<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 gggtacacga gtggcgaacg ggtgagtaac acgtgggtga   120

cctgccctgc acttcgggat aagcctggga aactgggtct aataccggat aggactgcac   180

cgtgagggtg tggtggaaag 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

taccccccctc 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

gggaagtggt gtttccagtg gcgaacgggt gagtaacgcg taagaacctg cccttgggag   120

gggaacaaca actggaaacg gttgctaata ccccgtaggc tgaggagcaa aaggagaaat   180

ccgcccaagg 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 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 gagtggcgga cgggtgagta acgcgtgggt 120

aacctgcctc atacaggggg ataacaactg gaaacggttg ataataccgc ataagcgcac 180

agcatcgcat gatgcagtgt gaaaaactcc 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 cccсttactc tggaatagcc 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

tccattgacc gcatgggtga tggaataaag atttattgga taagg 225

<210> 162
<211> 225
<212> DNA
<213> Unknown

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

<400> 162

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 gtgcttgcac ttagcagaga gtagcgcact ggtgagtaac acgtgggaac 120

atgccctaaa gtacgggata gcgtctggaa 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 ccccctacca 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 XlVa

<400> 165
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagctgcga cgctgaggag tggagtactt gtacaaagcg aatcttgtcg tagcttagtg 120

gcggacgggt gagtaacgtg tggataacct ggtccatcca gggggatagc agctggaaac 180

ggctggtaat accgcataag cgcacagtag ggcatcctac ggtgt 225

<210> 166
<211> 225
<212> DNA
<213> Unknown

<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 cccatgaccc 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

gggaagtggt gtttccagtg gcggacgggt gagtaacgcg taagaaccta cccttgggag   120

gggaacaaca gctggaaacg gctgctaata ccccgtaggc tgaggagcaa aaggaggaat   180

ccgcccgagg aggggctcgc gtctgattag ctagttggtg 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

gggtataact tgttatacca gtggcaaacg ggtgagtaat acgtagaaat gtacccaata   120

gtcttgaata acaattggaa acgattgata atacaagata ttatggtaac ataaaaggtt   180

tagtaataaa ctgctattgg agcagtctac ggtggattag attgt   225

<210> 170

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

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

<400> 170
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc   60

gagaatctcc tttgaagcgt tttcggacaa ttctgtggag aggaaagcgg cggacgggtg   120

agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa   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

ggttaaaccg ccttcgggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa 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 ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct   180

tgtgagctcg catgagcata caagaaaaca ggcatgcgat 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

tgcctttatc tggggaatag cctttcgaaa ggaagattaa tgctccataa catattgaat   180 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 ctttcctcgc tgacgaccgg cgaatgggtg agtaacgcgt 120

atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct 180

tgcccttccg catgaagggg caagaaaaca ggcatgcgat 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 gggatcgcat 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

tgacatctct 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

ggagttatta gagtgaagtt ttcggatgga atgataataa cttagtggcg gacgggtgag 120

taacgcgtga gtaacctgcc catgagaggg ggataacgtt 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 tgttaatacc 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 agctacaggc ttaacacatg caagtcgagg 60

ggtaacgtga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120

atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct 180

tatcgttccg catggagtga taagaaaaca ggcatgcgat gggga 225

<210> 180
<211> 225
<212> DNA
<213> Unknown

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

<400> 180
agagtttgat catggctcag aatgaacgct ggcggcgggt cttaagcatg caagtcggac 60

ggcaagggag tgcttgcact cccctagagt ggcggactgg tgaggaacac gttggtgacg 120

taccctttgg atggggatag ccggtagaaa taccgggtaa taccgaataa ggtcggtggt 180

ctcggaagcc accgaggaaa gcagcttcgg ctgcgccgaa ggaac 225

<210> 181
<211> 225
<212> DNA
<213> Unknown

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

<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 gattaaaacc   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 taacctaccc ttaggaccgg   120

gataaccctg ggaaactggg gctaatactg gatagatgat ttttcctgga atggtttttt   180

gtttaaatgt tttttcgcct aaggatgggt ctgcggcaga ttagg   225

<210> 185
<211> 225
<212> DNA

<213> Unknown

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

<400> 185
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggaaaggccc tgcttgcagg gtactcgagt ggcgaacggg tgagtaacac gtgggtgatc   120

tgccctgcac ttcgggataa gcctgggaaa ctgggtctaa taccggatag gaccatcgtt   180

tagtgtcggt ggtggaaagt ttttcggtgc aggatgagct cgcgg   225

<210> 186
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 186
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac   60

ggagcatcat taatgagact ttcgggtgga tttgatgatg acttagtggc ggacgggtga   120

gtaacgcgtg ggaacctgc cctgtacagg gggacaacag ccggaaacag 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 ccttactggt 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

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 189
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggaacttatt gaatgaagtt ttcggatgga ttttgataag tttagtggcg gacgggtgag 120

taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgttaatacc 180

gcataagacc acagtgccgc atggcacagg ggtaaaagct gcgac 225

<210> 190
<211> 225
<212> DNA
<213> Unknown

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

<400> 190
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gagaagagaa tgacctattc ttcggatgaa gccattctcg gacagcggcg gacgggtgag 120

taacacgtag gaaacctgcc ctttactggg ggatagccga gggaaacttc gagtaatacc 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 ctaagtttga tggcgaccgg cgcacgggtg agtaacacgt 120

atccaacctg cccatgactc agggatagcc ctctgaaagg aggattaata cctgatgcgg 180

ttgactgggg acatcccctt tcaaccaaag attcatcggt catgg 225

<210> 192
<211> 225
<212> DNA
<213> Unknown

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

<400> 192
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggacccatgg aaaagattag cttgctatga ttttccggaa ggttagtggc ggacgggtga 120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac 180 cgcataagcg cacagtaccg catggtacag tgtgaaaaac tccgg 225

<210> 193
<211> 225
<212> DNA
<213> Unknown

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

<400> 193
agagtttgat cctggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60

gagaaagccc gcaagggcga gtaaagtggc gaaagggtga gtaacacgtg agcaacctgc 120

ccccgagacc ggaacaagcc tgggaaaccg ggtctgaaac cggatgagga ccgggaaggc 180

atcttcccgc ctccaaacat tcatggctcg gggatgggct cgcgg 225

<210> 194
<211> 225
<212> DNA
<213> Unknown

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

<400> 194
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gagaattaaa tgaatgattc ttcggatgaa ttcgtttaag gacagcggcg gacgggtgag 120

taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact 180

ccataaagca tttttgccgc atgacagaga tgccaaagat ttatc 225

<210> 195
<211> 225
<212> DNA
<213> Unknown

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

<400> 195
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggaccttaga gagtgaacag cttgctggga tctttcgaaa ggttagcggc ggacgggtga 120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac 180

cgcataagcg cacagtaccg catggtacgg tgtgaaaaac tccgg 225

<210> 196
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 196
agagtttgat catggctcag gatgaacgct ggcggcatgc ctaacacatg caagtcgaac 60

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 Butyricicoccus

<400> 198
agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60

ggacgatacg agaaacttcg gtttttgta aagttagtgg cggacgggtg agtaacgcgt 120

gagcaatctg cctttgatag 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

ggacttgtat ttggaaagtg cttgcaccgg aagaatacaa gttagcggcg gacgggtgag 120

taacgcgtga gcaacctgtc ctctacaggg ggataagatc tcgaaaggga ttctaatacc 180

gcatgagacc acagcagggc atcctgcggg ggtcaaagga ggaat 225

<210> 200
<211> 225
<212> DNA
<213> Unknown

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

<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

ggtgaaggga cttcggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg 120

ccctgcagtg cgggataaca gagggaaact tctgctaata ccgcatatag catcggaacc 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

gcccctgcaa ctggaatagc gactggaaac ggtcgataat accggatacg 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 gggcatagcc cggagaaatc cggattaaca ccgcatgaca 180

cagcaattcg gcatcgaatc actgttaaat atttatagga tatgg 225

<210> 204
<211> 225
<212> DNA

<213> Unknown

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

<400> 204
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggacctgatt aagtgaatag cttgctatga acttatgact ggttagcggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac   180

cgcataagcg cacagtaccg catggtacag tgtgaaaaac tccgg   225

<210> 205
<211> 225
<212> DNA
<213> Unknown

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

<400> 205
agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcatga gagtagcaat acttttgatg gcgaccggcg cacgggtgcg taacaggtgt   120

gcaatctgtc cataatcggg gaatagcccg ccgaaaggtg aattaacgct ccatgtgtaa   180

tgaagaggca tctctttatt atgaaacgta aggattatgg gtgag   225

<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

<210> 207
<211> 225
<212> DNA
<213> Unknown

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

<400> 207
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcatcgggt ccagcaatgg atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa   120

cgtgcccgtc tgagggggat agtcattgga aacgatgcgt aataccccgt aacaacagtc   180

accgcatggt gggtgtttga aagatttatt gcagacggat cggct   225

<210> 208
<211> 225
<212> DNA
<213> Unknown

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

<400> 208
agagtttgat cctggctcag gataaacgcc ggcggcgtgc ctaatacatg caagtcgaac   60

gaggctcttc ggagccgagt ggcgtacggg tgagtaacac gttggtaacc tgccctccag   120

accggaatac cagagagaaa tctctgctaa tgccggatga cgtcatatgg tcgcaagacc   180

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

ggacttatga tgagattctt cggatgattt ttataagtta gcggcggatg ggtgaggaac   120

gcgtggagaa cctgcccttc acagggggat aacagttgga aacgactgtt 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
agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac   60

gccccggtcc ctcgggtccg gggagtggcg aaagggtgcg caacgcgtgg ggaacccgcc   120

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 agtaacgcgt gggaaacctg ccatgtactg ggggataaca gttggaaacg gctgctaata 180

ccgcataaca ctgttggatc gcatgatccg atagccaaaa ctccg 225

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

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 212
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagctctta cgacagatct cttcggagtg aagatgtttg agactgagtg gcggacgggt 120

gagtaacgcg tgggtaacct gcctcataga gggggacaac agttggaaac gactgctaat 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
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60

ggacgccttc gggcgccagt ggcggacggg tgagtaacgc gtgaggaacc tgccgcggat 120

tggggaataa cgaccggaaa cagtcgctaa taccgcataa cgcacagagg ccgcatgacc 180

tttgtgccaa agatttatcg atccgcgatg gactcgcgtc 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

gaggattgag acttcggttt taatccgagt ggcgaacggg tgagtaaaac gtaagcaacc 120

tgcctacaag gaccgggata acacctggaa acgggcgcta aaaccggata ggcaataagg 180

gggcatcctc atattgttaa aggtgagaaa cacaagtaga tgggc 225

<210> 215
<211> 225
<212> DNA
<213> Unknown

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

<400> 215

agagtttgat catggctcag aacgaacgct ggcggcatgc ttaacacatg caagtcgaac 60

ggtgttttct agtacttgta ttaggaaaca tagtggcaaa cgggtgagta acgcgtggga 120

atgtaccctt tggtattgaa 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 XlVa

<400> 216
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagaaagat gcttcggtat ctttcttagt ggcggacggg tgagtaacgc gtgggtaacc 120

tgccccatac aggggaacaa cagctggaaa cggctgctaa taccgcataa gcgcacggta 180

ccgcatggta cagtgtgaaa agattgtatc ggtatgggat ggacc 225

<210> 217
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 Proteiniclasticum

<400> 218
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60

gaaaaacgag ggcttgctct cgtttttagt ggcgcacggg tgagtaacgc gtgagtaatc 120

tgccttaaag tgggggacaa catttggaaa cgaatgctaa taccgcgtaa tatacagttt 180

tcgcatggat tttgtattat agatttatcg ctttaagatg agctc 225

<210> 219
<211> 225
<212> DNA
<213> Unknown

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

<400> 219
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gggatcctgc aagcttgctt gcgggtgaga gtggcgaacg ggtgagtaat gcgtgaccaa   120

cctgccccat tctccggaat agctcctgga aacgggtggt aatgccggat gctccgcccc   180

ctcgcatggg gggtcgggaa ggcttttgcg gaatgggatg gggtc   225

<210> 220
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 220
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagtgaatc gagtgcttgc acatgattca cttagcggcg gatgggtgag gaacgcgtgg   120

agaacctgcc tcacacaggg ggataacagt tggaaacgac tgttaatacc gcatatgctc   180

acggtaccgc atggtacagg gaggaaagat ttatcggtgt gagat   225

<210> 221
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 221
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagttgttt ccacccgaca gattatcttc ggatatgaag tcaccggaaa cgcttagtgg   120

cggacgggtg agtaacgcgt gggcaacctg ccctacacag gggggatagcg gttggaaacg   180

accggtaata ccgcatacct ttattttgcc gcatgacaga ataaa   225

<210> 222
<211> 225
<212> DNA
<213> Unknown

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

<400> 222
agagtttgat catggctcag gacaaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagcccttcg ggctagtgg cagacgggtg agtaacgcgt aggtaatgta cctcttcgct   120

ggggataccg ttccgaaagg aacgttaata ccgaatgaat tcatcgggcg gcatcgcttg   180

atgaataaac cgcaagggcg aggagatcag cttgcgtact atcag   225

<210> 223

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 223
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggcggatgca tttcggtgta 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
agagtttgat catggctcag agcgaacgct agcggaatgc tttatacatg caagtcgaac   60

gaatgagttt atattgagta gcaatacgat ttataaatga gttagtggcg aacgggtgag   120

taatagatag gaacttgccg agtagtgggg gacaacagat agaaatgtct gctaataccg   180

catacgcccg 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

tgccccgcgc 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 cttcggccgg aagacttatt attctagcgg cggacgggtg   120

agtaacgcgt gaatgatctg tctcttacag gggataaca cttggaaaca ggtgctaata   180 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 atcttccctg 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

tcccttagaa 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 tgcttgcagg gtactcgagt ggcgaacggg tgagtaacac gtgggtgatc 120

tgccctgcac ttcgggataa gcctgggaaa ctgggtctaa taccggatag gaccatcgtt 180

tagtgtcggt ggtggaaagt ttttcggtgc 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

ggtgaatttt ggatttattc gagattcata gcggcggacg ggtgagtaac acgtgagcaa 120

cctacctcta agtgagggat agcttctgga aacggatggt aataccttat aatatatatt 180

tatcacatga tagatatatc 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 aataccgcat aagcgcacag 180

catcgcatgg tgcagtgtga aaaactccgg tggtatgaga tggac 225

<210> 232
<211> 225
<212> DNA
<213> Unknown

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

<400> 232
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

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 Rikenella

<400> 233
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgagt tgtagcaata caatgtcggc gaccggcgga agggtgcgta acgcgtgagc 120

aacatgcccg tatctggggg ataggagatg gaaacgtctt ataatacccc ataacaacag 180

aggctgcatg gcctttgttt gaaagattca ttggatacgg attgg 225

<210> 234
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 234
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggacttaaga aaagaatctt cggatgaaat ttttaagtta gcggcggatg ggtgaggaac   120

gcgtggagaa cctgcccttc acagggggat aacagctgga aacggctgtt 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
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggatgagttt tctagcttgc tagaagatga ttcagtggcg aacgggtgag taatacgtag   120

gcaacctgcc ccaaagcggg ggatagcagt tggaaacgac tattaatacc gcataggtaa   180

tcttaaggca tcttgagatt attaaaggtg 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

ggtagatact tagcttgctt tgtatctata gtggcggacg ggtgagtaac acgtgagcaa   120

cctgcctctg agagagggat 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 cggaatagcc cgccgaaagg cggattaatg ccgcatgagc   180

tcgcgtgagg acatctgccc gcgagcaaag gttcgttccg gttgc   225

<210> 238
<211> 225
<212> DNA

<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 aagatttatc   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

tgcgatgatg gcatcagaat tgcactaaag ctttagcgct cggag   225

<210> 240
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 240
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagatatca cggatgaagg attcgtctga attctgtttt atcttagtgg cggacgggtg   120

agtaacgcgt ggagaacctg cctctttccg gggatagca gttggaaacg actggtaata   180

ccgcatgagc gcacagtacc gcatggtacg gggtgaaaag attta   225

<210> 241
<211> 225
<212> DNA
<213> Unknown

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

<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 gacgttagag   120

tgtgaataag caccggcaaa ctccgtgcca gcagccgcgg 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 gggataaca 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 cttcggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg   120

cctttgcccg gggataaca gccggaaaca gctgctaata ccgcataacg tacggacgcc   180

gcatgacgac cgtaccaaag atttattggg caaagatggg ctcgc   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 ttcggtcaaa ggaagttaag tttagtggcg gacgggtgag   120

taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc   180 gcataacgta cggaggaggc atctttttcg taccaaagat ttatc 225

<210> 246
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ccttcggggg 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 cttcggtccg ggattagtgg cggacgggtg agtaacgcgt gagcaacctg 120

ccccggagtg agggataaca 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 XlVa

<400> 249
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggtgtccg atcttcggac tggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120

cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180

catcgcatga tgcagtgtga aaaactccgg tggtatgaga tggac 225

<210> 250
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 250
agagtttgat catggctcag gatgaacgct ggcggcgtgt ttaaggcatg caagtcgaat 60

gggtttagac ccatggcaaa cgggagagta atactttggt aatttacccc ttagtcgtga 120

ataactattc gaaagattag ataatacacg atggtctcaa agaactcgag tttttgagt 180

aaagatttat cgctaaggga 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 ttcggtcaac 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 XlVa

<400> 252
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaggtttaag acttcggttt taaaccgagt ggcggacggg tgagtaacgc gtgggtaacc 120

tgccgtatgc agggggacaa cagttagaaa tgactgctaa taccgcataa gcttacagta 180

tcgcatgata cagtgagaaa agatttatcg gcatacgatg gaccc 225

<210> 253
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 253
agagtttgat cctggctcag gacgaacgct ggcggtatgc 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 acatgtttag 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 gggtaacctg 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 Lachnospiracea incertae sedis

<400> 256
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

gaagcgctct ggaagattcc tttgggatga ttccttagtg acttagcggc ggacgggtga   120

gtaacgcgtg ggcaacctgc cttgtacagg gggataacag ttagaaatga ctgctaatac   180

cgcataagcg cacagcatgg catcatgcag tgtgaaaaac tccgg   225

<210> 257
<211> 225
<212> DNA

<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 taccgcataa 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

tgaccttgag agggggataa cgacgggaaa ctgtcgctaa taccgcatga gaccacagcc   180

cggcatcggg gaggggtcaa aggagaaatc cgctgaagga ggggc   225

<210> 259
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 259
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagctgcga cgctgaggag tggagtactt gtacaaagcg aatcttgtcg tagcttagtg   120

gcggacgggt gagtaacgtg tggataacct ggtccatcca gggggatagc agctggaaac   180

ggctggtaat accgcataag cgcacagaga ggcatctctc ggtgt   225

<210> 260
<211> 225
<212> DNA
<213> Unknown

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

<400> 260
agagtttgat cctggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac   60

gagggaaaag gagcttgctc ctttgaccta gtggcggacg ggtgcgtaac gcgtgggtaa   120

tctgccctgc acagggggat aacgtataga aatgtacgct aataccgcat aagcccacag   180

agtggcatca ctcaggggga aaagcgaata cggtgcagga tgagc   225

<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

ggtatttgtg gcttgctaca aagagaccgg cgcacgggtg cgtaacgcgt atgcaacttg 120

ccctactgaa agggatagcc ttttgaaaag aagattaata ccttataata gtgagactgg 180

catcagtaac acttgaaaga tttatcgcag taggataggc atgcg 225

<210> 263
<211> 184
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 263
agagtttgat catggctcag gatgaacgct ggcggcgtgc tttgcacaat gggggaaacc 60

ctgatgcagc gacgccgcgt gagtgatgaa gtatttcggt acgtaaaact ctatcagcag 120

ggaagaaaat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgg 180

taat 184

<210> 264
<211> 225
<212> DNA
<213> Unknown

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

<400> 264
agagtttgat cctggctcag aatgaacgtt ggcggcatgg attaggcatg caagtcgtac 60

ggtgaagggg agcttgctcc tccgatcagt ggcgaaaggg atagtaacgc gtagacacct 120 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

gggaataagg gagcttgctt ccttatgaga gcggcggact ggtgagtaac acgtgggtaa 120

cgcaccctcc tgacggggac agcctgtgga aacacagggt aataccggat gagatggact 180

tctggaaggg 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 ccgatcaatc gagtggcgga cgggtgagta acgcgtgggt 120

aacctgcctc atacaggggg ataacaactg gaaacggttg ataataccgc ataagcgcac 180

ggtatcgcat gatacagtgt 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 ggttagcgg cggacgggtg agtaacgcgt gggaacgtgc cctttgctac 120

ggaatagccc cgggaaactg ggagtaatac cgtatacgcc cttaggggga aagatttatc 180

ggcaagggat cggcccgcgt tggattaggt agttggtggg gtaat 225

<210> 268
<211> 225
<212> DNA
<213> Unknown

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

<400> 268

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 ccttcggggg 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

ggtgaaggga cttcggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaaccta 120

ccttcttgtg gggataacat cagggaaact tgtgctaata ccgcataacg tatctgaccc 180

gcatggggcg gataccaaag atttattgca gggagatggg ctcgc 225

<210> 272
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 272
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagttacat tagcttgctt ttgtaactta gcggcggatg ggtgaggaac gcgtggataa   120

cctgcctcac actgggggat aacagctgga aacggctgtt aataccgcat atgctcacag   180

taccgcatgg tacagggagg aaagatttat cggtgtgaga tggat   225

<210> 273
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ccggt   225

<210> 274
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ctttctttgt cggcgaccgg cgcacgggtg agtaacgcgt   120

atccaaccta ccctttacac tgggatagcc cgttgaaaag cggattaata ccagatgcag   180

tcctttgcgg acatctaagt aggacgaaag gtttttccgg tagag   225

<210> 276

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

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

<400> 276
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gaagcgccgg gacggaaccc ttcgggggga agacccgatg acttagtggc ggacgggtga   120

gtaacgcgtg agcaacctgc ctgcgataga gggataacac cgggaaaccg gtgctaatac   180

cacatgacgc agcggggtca catggccctg ttgttaaaga tttat   225

<210> 277
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XI

<400> 277
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagatacgg agcggaaccc ttcgggggga agatctgtag actgagtggc ggacgggtga   120

gtaacgcgtg agcaacctgc ctacaagagg gggacaacag ctggaaacgg ctgctaatac   180

cgcataagac cacgctatcg catggtagag gggtcaaaga tttat   225

<210> 278
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 278
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagttccgt tgaatgagat ttcggtcaaa 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 ttttgtatat tttagtggcg gacgggtgag taatgcatga   120

gcaacctgcc ttaaagaggg ggataacaca gagaaatttg tgctaatacc gcataagctg   180 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 gggaataact tttggaaaca 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 aagattttta tgacttagtg gcgaacgggt 120

gagtaacgcg tgggtaacct gcctcatgca gggggataac aattagaaat gattgctaat 180

accgcataag accgcagaac cgcatggttg agcggccaaa gattt 225

<210> 282
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 282
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcactta cacttgattt cttcggattg aaagagtttg tgactgagtg gcggacgggt 120

gagtaacgcg tggataacct gcccttcaca gggggataac agttagaaat gactgctaat 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

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

agggggatag cttctggaaa cagaagataa taccgcatat ttcaaaattt ccgcatggtt 180

tttttggcaa 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 cggaagggtg aggaacgcgt gagcaacctg ccctcaagtt 120

gggaataaca 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

ggagttctta cagatgaagc ttcggccgat gaagtttgaa cttagtggcg gacgggtgag 120

taacgcgtga gcaacctgcc ttacagaggg ggacaacagt tggaaacgac tgctaatacc 180

gcataacgta tttggagggc atcctctgga taccaaagat ttatc 225

<210> 287
<211> 225
<212> DNA
<213> Unknown

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

<400> 287
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagtaaaga gcttcggttt tttacttagt ggcgaacggg tgagtaacgc gtgagcaacc   120

tgactctttg agggggataa cagtcggaaa caactgctaa taccgcataa gaccacgaac   180

cggcatcggt atgaggtcaa aggagcaatc cgcagagaga ggggc   225

<210> 288
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 288
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacttc tcccgtcaaa gtagattagc ttgctatgaa gcggagacat ttgaagtgac   120

ttagtggcgg acgggtgagt aacgcgtggg taacctgccc tgtactgggg gacaacagtt   180

ggaaacggct gctaataccg cataagcgca cagcatcgca tggtg   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 caattggaaa cgattgctaa taccgcataa cgtatagata   180

tcgcatgaca tttataccaa agaaaatcgc gtaaagatgg gctcg   225

<210> 290
<211> 225
<212> DNA
<213> Unknown

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

gccatatgct tacggaatcg catgattttg tgaggaaaag aattt   225

<210> 291
<211> 225
<212> DNA

<213> Unknown

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

<400> 291
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcactta cgattgactg gagagcttgc tcgaagggat tttgtttgtg acttagtggc   120

ggacgggtga gtaacgcgtg ggtaacctgc ctcatacagg gggataacag ttggaaacga   180

ctgttaatac cgcataagcg cacggtatcg catgatacag tgtga   225

<210> 292
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 292
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 XlVb

<400> 293
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

gaaggacaaa gagcttgctc tttgttactt agcggcggac gggtgagtaa cgtgtgggca   120

atctgcccta tgcagaggaa taacatagag aaatttatgc taatgcctca taaactctta   180

gtactgcatg gtacatagag aaaagattta tcggcatagg aggag   225

<210> 294
<211> 225
<212> DNA
<213> Unknown

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

<400> 294
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatt caagtcgaac   60

ggacgagagg gggcttgctc cctcaagtta gtggcggacg ggtgagtaac gcgtgagcaa   120

cctgcctttt ttcgggggat aacacgggga aaccggtgct aataccgcat aacgtaccga   180

gaccgcatga tcatggtacc aaaggagcaa tccgaggaaa gatgg   225

<210> 295
<211> 225
<212> DNA
<213> Unknown

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

<400> 295
agagtttgat cctggctcag aacgaacgct gtcgacatgc ttaacacatg caagtcgtac   60

gggtataact tgttatacca gtggcaaacg ggtgagtaat gcgtaggaat gtacccaata   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 taccgcataa cgtatagata   180

ttgcatgata actataccaa 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

gagaattaaa gaaatgattc ttcggatgaa tttctttaag gacagcggcg gacgggtgag   120

taacgcgtgg gcaacctgcc cctttccgga 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 gagtacagtg gcgaacgggt gagtaacacg tgaccaacct   120 gccccccgca ccgggatagc cgggcgaaag cccgggtaat accggatgac cccgcaccgc 180

ggcatcgcgg cgcgggcaaa gcccagacgg 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 ttttggagac ttcggtcaaa gaagcttaag cttagtggcg gacgggtgag 120

taacgcgtgg agaacctgcc ctgtaccggg ggataacagc cggaaacggc tgctaatacc 180

gcataagcgc acgaggccgc atggccctgt gtgaaaaact ccggt 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 gggtggcttg ccatccctgg tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccccgaaccg cggtatagcc cgccgaaagg cggattaatc ccgcatgtgg 180

tcgtgagatg acatctgacc acgactaaag gtattttccg gttcg 225

<210> 302
<211> 225
<212> DNA
<213> Unknown

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

<400> 302

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 aacataggtt tcaaatgacg gtacctgacg aggaagccac 120

ggctaactac gtgccagcag ccgcggtaat 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 cgcttgcgcg 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 Butyricicoccus

<400> 306
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaactattt tgactgattc cttcgggatg aagaattttt agtttagtgg cgatcggtag   120

ccggactgag aggttgaacg gccacattgg gactgagaca cggcccagac tcctacggga   180

ggcagcagtg gggatattg cgcaatgggg gcaaccctga cgcag   225

<210> 307
<211> 225
<212> DNA
<213> Unknown

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

<400> 307
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggaatgtt gaaaagcttg 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 gggtacacga gtggcgaacg ggtgagtaac acgtgggtga   120

cctgccccgc acttcgggat aagcctggga aactgggtct aataccggat aggaccgcac   180

cgtgagggtg tggtggaaag tttttcggtg tgggatgggc ccgcg   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 ccttcggggg tgtataaagt ggcgaacggg tgagtaacac gtgagcaacc   120

tacctctcac accgggataa caactggaaa cggttgataa taccggatac tccgattgga   180

tcgcatgttc ctttcgggaa agctccgacg gtgagagatg ggctc   225

<210> 310
<211> 225
<212> DNA

<213> Unknown

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

<400> 310
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagacgattg aaagcttgct tttgagagtc gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtgca   180

atctccgcat ggaggatgca ttaaagatgg cctctacttg taagc   225

<210> 311
<211> 225
<212> DNA
<213> Unknown

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

<400> 311
agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc   60

gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg   120

cccttaagac gggaatagct tgatgaaaat tgagataatg cccgatatcg aattcttccg   180

catgggagaa gtttgaaagg tttgtgatga cgcttaagga ggggc   225

<210> 312
<211> 225
<212> DNA
<213> Unknown

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

<400> 312
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgagt cggtagcaat actgatgtcg gcgaccggcg cacgggtgag taacgcgtat   120

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggcca   180

gaggagggca tcctcgtctg gttaaagttc cggcggtctg gggtg   225

<210> 313
<211> 225
<212> DNA
<213> Unknown

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

<400> 313
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggacttatt ggaatgagac ttcggtcaaa ggaaaataag tttagtggcg gacgggtgag   120

taacgcgtga gcaacctgcc tttcagaggg ggacaacagt tggaaacgac tgctaatacc   180

gcataacgtg tattggaggc atcttcggta caccaaagat ttatc   225

<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 ccttgcagag 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 XlVa

<400> 315
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatg caagtcgaac   60

ggagttacat tgaaacctag tgatatgtaa cttagtggcg gacgggtgag taacgcgtgg   120

gtaacctacc tggtattggg ggacaacagt tagaaatgac 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 cgggtaccta gtggcgaacg ggtgagtaac acataaacaa tctgccctgg   120 agactgggat accgtcggga aaccgacgct aataccggat aggcagtaag gggcatctc 180

catactgtta 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

gggtgtagca atacacaacc ggcgtacggg tgagtaacgc gtgggaatgt gtccatttgt 120

ggggaatagc ttctggaaac ggaaggtaat accgcatacg cccttcgggg gaaagattta 180

tcgcagatgg agcggcccgc gttagattag ctagttggtg 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

gaataacccg ccttcgggcg gtcatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

ttccccccgc atggggataa ccgggcgaaa gcccggctaa tacccaatac tccgggccct 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

tgccccaaag tttgggatag ccatccgaaa ggatgattaa taccggatgt ggaatatata 180

tcgcatgtta tatattctaa agtagcgata cgctttggga tgagc 225

<210> 321
<211> 225
<212> DNA
<213> Unknown

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

<400> 321

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 Anaeroplasma

<400> 322
agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60

gaattagatt catggcgaac gggtgagtaa 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 Prevotella

<400> 323
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatga cggtagcttg ctatcgttga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt 180

tccgaagagg gcctctgatt tggaataaag attcatcggt catgg 225

<210> 324
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<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

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 325
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggacttatag atagaaagtg cttgcactgg acatttacaa gttagcggcg gacgggtgag   120

taacgcgtga gcaacctgtc ctctacaggg ggataagatc tcgaaaggga 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 aaagttggaa 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 Cellulosilyticum

<400> 327
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagtttaag 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 ccttcgggcg tgtatagagt ggcgaacggg tgagtaacac gtgatcaacc   120

tacctcgtac ttcgggatag cctcgtgaaa acgggattaa taccggatac tccgattaaa   180

tcgcatgatt ctttcgggaa agcctttacg gtacgagatg ggatc   225

<210> 329
<211> 225
<212> DNA

<213> Unknown

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

<400> 329
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggttaaaccg gcttcggccg gaaataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa 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 tgcttgcaca 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 ttatacaggg 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 cggaagggtg aggaacgcgt gagtaatctg ccctcaagtt   120

gggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgcaagacc gcatgatttt   180

gcagttaaag atttattgct tgaggatgag ctcgcgtccc attag   225

<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 ccccctagta 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 taccgcataa 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 aaatgaattt 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 agtaacgcgt aggcaacctg ccctcagcag agggatagcc attggaaacg atgattaaaa 180

cctcataatg ctgaaccaac acatgttgga tcagccaaag attta 225

<210> 337
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea 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 catggtcgag 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

ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg cccatgaccc 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 ctaacccatg caagtcgaac 60

ggacgagacg acttcggttg tcaagtcagt ggcggacggg tgagtaacac gtgaacaacc 120

aacctcatac tgggggacaa catttggaaa cgaatgctaa taccgcataa 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

agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60

gaagcagcaa tgcttagtgg cgcaagggtg aggaacacgt gagtgaccta cccgcaagtt 120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcatgaagct gcatggtttc 180

atgattaaag cagcaatgcg cttgcggatg ggctcgcgtc ccatt 225

<210> 341
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 341
agagtttgat cctggctcag gacgaacgct ggcggtgtgc ctcatacatg 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 cttaagcatg caagtcgagc 60

gggaataagg gagcttgctt ccttatgaga gcggcggact ggtgagtaac acgtgggtaa 120

cgcatcctcc tgacggggac agcctgtgga aacacagggt aataccggat gagatggact 180

tctggaaggg 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 tgcgcgattg aatga 225

<210> 344
<211> 225
<212> DNA
<213> Unknown

<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 gggtgcgtcc tatca   225

<210> 345
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 aatacaaatt tgaagttttt agtggcgaac tggcgagtaa   120

tagttaggaa cttaccgagt agtgggggac aacagttaga aatgactgct aataccgcat   180

acgcccgaga ggggaaagat ttatcgctat ttgagaggcc taacc   225

<210> 347
<211> 184
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 347
agagtttgat catggctcag gataaacgct ggcggcgtgc tttggacaat gggggcaacc   60

ctgatccagc gacgccgcgt gagcgaagaa gtatctcggt atgtaaagct ctatcagcag   120

ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgg   180

taat   184

<210> 348

<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 ggtcagcgg cggacgggtg agtaacgcgt gggaacgtgc cttccggttc   120

ggaataaccc tgggaaacta gggctaatac cggatacgcc cttatgggga aaggtttact   180

gccggaagat cggcccgcgt ctgattagct agttggtggg 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 agcacttgtg ttatgtaaca tagtggcaaa cgggtgagta acgcgtggaa   120

acatacccct cagtattgga taacgtttgg aaacgaacgc taatacaata tacgctcgag   180

agaggaaaga gagatcgctg agggagtggt ccgcgtcaga ttaga   225

<210> 351
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 351
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagttgttt caccgaatga actggagagc ttgctcaaag gggaattcac cgagacaact   120

tagtggcgga cgggtgagta acgcgtgggt aacctaccct tatcaggggg 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 ccggagtggg ggacaacagt tggaaacgac tgctaatacc 180

gcatgacatg ttcggatggc atcatctgaa catcaaagat ttatt 225

<210> 353
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 353
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaacttacta gcaatagtaa gttagtggcg gacgggtgag taatacatga gtaacctgcc 120

ttatacaggg ggataacacc tagaaatggg tgctaatacc gcataataac tcagtatggc 180

atcatattga gaggaaagga gcaatccggt aaaagatgga ctcat 225

<210> 354
<211> 225
<212> DNA
<213> Unknown

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

<400> 354
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgagc 60

gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120

cccttaagac gggaacagct tgatgaaaat tgagataatg cccgatatcc gcttctttcg 180

catgggagaa gtcggaaagg 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

gagaagtggt 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

ggttaaaccg ccctcgggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc accgggacag ccccccgaaa 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 XlVa

<400> 357
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaatttctta ttcgcggagg cttcggccga aggggatatg aagtgagtgg cggacgggtg 120

agtaacgcgt gggtaacctg ccttacaccg ggggataaca gagggaaact tctgctaata 180

ccgcataaga ccacagtgcc gcatggtaca 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

gggaagactt ttaggaagat ttcggttgga ataaaagtat tctagtggcg gacgggtgag 120

taacgcgtaa acaatctgcc ttagagaggg ggataacaga tagaaatatt tgctaatacc 180

gcataagacc acgtttaggc atctagatgg ggtaaaagga gcaat 225

<210> 359
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 359
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatt caagtcgaac   60

ggacaagagg gggcttgctc ccttgcgtta gtggcggacg ggtgagtaac gcgtgagcaa   120

cctgcctttc tccgggggat aacattggga aaccggtgct 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 gggggataaca cagcgaaagt   180

tgtactaata ccgcatgaga ccacgatatc acatggtata 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 cggaagggtg aggaacgcgt gagtaatctg cccccaagtt   120

gggaataaca gttggaaacg actgctaata ccgaatgtgg ctgcgaagtc gcatgatttt   180

gcagttaaag atttattgct tggggatgag ctcgcgtccc 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 gtctggaaac ggacgctaat   180

accgcataag cgcacgatga ggcatcttgt tgtgtgaaaa actcc   225

<210> 363
<211> 225
<212> DNA

<213> Unknown

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

<400> 363
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggataatg acttcggttg ttattcgagt ggcggacggg tgagtaacgc gtgagcaatc   120

tgtccttaag agggggataa caactggaaa cagttgctaa taccgcataa gaccacggcc   180

tcacatgggg ctgaggtaaa agaagcaatt cgcttaaggg tgagc   225

<210> 364
<211> 225
<212> DNA
<213> Unknown

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

<400> 364
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat   60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctaagagac   120

gaggataacc attggaaacg atggataata ctggatagga tataataagg catcttgtta   180

tatttaaaga tttatcactt ttagaggggc ctgcggcgca ttagc   225

<210> 365
<211> 225
<212> DNA
<213> Unknown

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

<400> 365
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat   60

ggtggtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttact   120

gacgaggata accgttggaa acgacggata atactggata ggacatcata aagggcatcc   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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg   180

ttatgattcc gcatgggaat ataacgaaag attcatcggt agggg   225

<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 tgcttgcacc tgattcctag cggcggacgg gtgagtaatg cttaggaatc   120

tgcctattag tgggggacaa cgttccgaaa gggacgctaa taccgcatac 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 attaggcatg caagtcgaac   60

gaagcagcaa tgcttagtgg cggaagggtg aggaacgcgt gagtaatctg ccctcaagtt   120

gggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgttgggtc gcatgatctg   180

acagttaaag atttattgct tgaggatgag ctcgcgtccc attag   225

<210> 369
<211> 225
<212> DNA
<213> Unknown

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

<400> 369
agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac   60

gggtgcagca atgcaccagt ggcgcaaggg tgaggaacac gtgagtaatc taccctcaag   120

attgggatag ctcctggaaa cgggaattaa 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 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 tgaaagaggt ttcggccaat ggaaggggtt acttagtggc ggactggtga 120

gtaacgcgtg aggaacctgc ctttcagagg gggacaacag ctggaaacgg ctgctaatac 180

cgcatgacac attcgggcgg catcgcctgg atgtcaaaga tttat 225

<210> 372
<211> 225
<212> DNA
<213> Unknown

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

<400> 372
agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60

ggcagcacgg cggtggcaac actgctggtg gcgaccggcg cactggtgag taacacgtat 120

gcaacctgcc ccgcacaggg ggataatccg cggaaacgcg gtctaatacc ccgtagaacc 180

tttggtcgca tgattagagg tggaaagctc cggtggtgcg 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

gaagcgccgg gacggaaccc ttcgggggga agacccgatg acttagtggc ggacgggtga 120

gtaacgcgtg agcaacctgc ctgcgataga 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

agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

ggcgaagtcc cttcgggggc ggaacagtgg cggacgggtg agtaacgcgt gagtaacctg 120

cccttacgag cggaatagcg tcgggaaact gacggtaata ccgcatgaag cttgaccccg 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 cttcggtcaa gtaaattcta agcttagtgg cggacgggtg 120

agtaacgcgt gagtaacctg cctttcagag gggataacg ttcggaaacg aacgctaata 180

ccgcataaca tagcggaacc gcatgattct gctatcaaag atttt 225

<210> 376
<211> 225
<212> DNA
<213> Unknown

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

<400> 376
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tcttacagac 120

gaggataacc gttggaaacg acggataata ctggatagta catcacaatg ggcatccata 180

gatgtttaaa ggagcaatcc actgtaagag gggcctgcgg cgcat 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 ttcggtcaac 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

<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 gttggaaacg actgataata ccggataaga ccacgctgtc   180

gcatgacaga ggggtcaaag cgctttagcg 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 cctttccgga 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

tgccccaaag tttgggatag ccatccgaaa ggatgattaa taccggatgt ggaatatata   180

tcgcatgtta 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 gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtcaa   180

gtttccgcat gggagcttga ttaaagatgg cctctacttg taagc   225

<210> 382

<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 atgattaaaa 180

cctcataatg ctgttgtgac 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 taccgcataa cgcatcgacg 180

tagcattacg atgatgccaa 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 aaatggcagt gtcgcatgac acaac 225

<210> 386
<211> 225
<212> DNA
<213> Unknown

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

<400> 386
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggggcgaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca 180

ttggtcgcat 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 gcgaaagttg 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

ggacgatgaa gctcagcttg ctgagattca aagttagtgg cggactggtg agtaatgtat 120

gagcaacctg cctttcagag gggaataaca caatgaaagt tgtgctaata ccgcataata 180

ttgtaatatt gcatgataat acaatcaaag gagtgatccg 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 gagttgcttg caattcccga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctt cccttaactc cggaatagcc 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 XlVa

<400> 391
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaaatgttc tgatgaagtc ttcggataga ttcattacat tttagtggcg gacgggtgag 120

taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180

gcataagcgc acactgaggc atctcagagt gtgaaaaact ccggt 225

<210> 392
<211> 225
<212> DNA
<213> Unknown

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

<400> 392
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagc 60

gatgaataaa ccgacaaggt ttcggccaag gaagtttatt cagagcggcg gatgggtgag 120

gaacgcgtgg ggaacctgcc tttcaccggg ggataccagc tggaaacggc tgttaatacc 180

gcatatgctc acagtgccgc atggcacagg gaggaaaact ccggt 225

<210> 393
<211> 225
<212> DNA
<213> Unknown

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

<400> 393
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac   60

gataaggctt cttcggaagt acataagtgg cggacgggtg agtacaacat aggaaatctg   120

ccttagggtg 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 tttgaaggtc cttcgggaac ggatgttgta cacttagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cctttcagag gggataaca 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 tgcttagtgg cgcaagggtg aggaacacgt gagtgaccta cccgcaagtt   120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcgatgaact gcatggttta   180

ttgattaaag cagcaatgcg cttgcggatg ggctcgcgtc 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

gtgcaatttg tcctatacca agggatagcc cgctgaaagg cggattaata ctttatgtga   180

gtaggggggg catcctcttt atttgaaacg tgagggtata ggttg   225

<210> 397
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<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 gggtatagcc ttgcgaaagt aagattaatc cccgatgagt   180

atagttactg catggtgatt atataaaaga tttatcggta 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 cagttggaaa cgactgttaa taccgcataa aatagtaaga   180

ccgcatgatc 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

tccctcgaaa tggggaatat cttcgtgaaa acggagttaa taccgcataa gaccacagtt   180

tggcatcaga caggggtcaa agcagcaatg cgtttcgaga tggtc   225

<210> 401
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 401
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaatttctta cggatcgcga cttcggtcaa gagaagtttg aagtgagtgg cggacgggtg 120

agtaacgcgt gggtaacctg ccttacaccg 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 XlVa

<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 gcggaaagat ttatcggtgc aggat 225

<210> 403
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 403
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaagcatagg tgcttgcact tatgacttag cggcggacgg gtgagtaacg 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 cctgcctcat acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180

catcgcatga tgcagtgtga aaaactccgg tggtatgaga 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 ttttggataa cttagtggcg gacgggtgag taacgcgtga 120

gtaacctgcc tttcagaggg ggataacgtt 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

ggaactttta aggaacaaga cttcggtcaa gtgatattta agtttagtgg cggacgggtg 120

agtaacgcgt gagcaacctg cctctcagag gggataacg 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 ctcatacagg gggataacag ttggaaacga 180

ctgttaatac cgcataagcg cacagtaccg catggtacag tgtga 225

<210> 408
<211> 225
<212> DNA
<213> Unknown

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

<400> 408

agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac 60

gaagcagcaa tgcttagtgg cggaagggtg aggaacgcgt gagcaacctg cccccaagtt 120

gggaataaca gttggaaacg actgctaata ccgaatgtgg cttttggacc gcatggtttg 180

atggctaaag atttattgct tggggatggg ctcgcgtccc 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 tgcccttcac agggggataa cacagggaaa cttgtgctaa 180

taccgcataa gatcgtataa cggcatcgtt aagcgaccaa aggag 225

<210> 410
<211> 225
<212> DNA
<213> Unknown

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

<400> 410
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggggcgaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca 180

ttggtcgcat 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 gtgattaaaa 180

cctcataaca ccattctatc acatgttaga acggtcaaag attta 225

<210> 412
<211> 225
<212> DNA
<213> Unknown

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

<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 gattaaaacc   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 aaagcttgct tttgagaacc gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtgca   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 taccccataa aataggttta   180

tcgcatgata gatttatcaa agattcatca ccgaaagatg ggctc   225

<210> 416

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

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

<400> 416
agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac   60

ggacgaggat ccttcgggat ccgagttagt ggcgaacggg tgagtaacac gtgaggaacc   120

tacctttcag agggggataa cacttagaaa taggtgctaa taccgcataa gaccacgacc   180

gggcatccgg atgaggtcaa aggagcaatc cgctgagaga cggcc   225

<210> 417
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 417
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcatgag ctgaaatttt cggatggatg cccatgactt agtggcggac gggtgagtaa   120

cgcgtgggta acctgcctca tgcagggggа caacagctgg aaacggctgc taataccgca   180

taagaccccg tgagcgcatg 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

tgccccatac ttcgggataa ctcagggaaa cttgtgctaa taccggatac tccgatttga   180

tcgcatggtc ttttcgggaa agcctttacg gtatgggatg gggtc   225

<210> 419
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 419
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggagatgtcc acctgatgaa gcagagtgct 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 Lachnospiracea incertae sedis

<400> 420
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagtaagac accggatgaa gattcgtctg aatccaccgt cttacttagc ggcggatggg 120

tgagtaacgc gtggacaacc tgcccttcac tgggggataa caaccggaaa cgggtgctaa 180

taccgcatgg gcgcgaacga ccgcatgatc 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 ttttgtatat 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 cggtggcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180

tcgcgcgagg acatctgatc gcgagcaaag gtttttccgg 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

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctataagac 120

gaggataacc attggaaacg 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 cttaaccatg caagtcggac 60

ggcaaggcgg gagcttgctc ctgccctaga gtggcggact ggtgagtaac acgtgggtga 120

cgaaccctgc tgactgggat agccgctaga aatagcggat aataccggat acggccgtat 180

gtatcagaag catacgggga aagggagctt 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 agccaaagat 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

ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg cccatgactc 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 Hippea

<400> 427
agagtttgat catggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gaatttctac agagcatcgt agagattagc ggcaaacggg tgagtaacac atgggaaacc   120

ttccttagaa tggggaatat ctccgtgaaa acggagctaa taccgcataa gaccacagat   180

tggcatcaaa 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 ccccgcagta 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 cctggctaat agagggggat agcttttgga aacagaagat   180

aataccgcat gaatcagaga tttcgcatga agtttttgga aaagg   225

<210> 431
<211> 225
<212> DNA

<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 agttggaaac gactgctaat acggtataag 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 gcccccgccc   180

ccgcatgggg gaggggggaa agcccaggcg gcgcgggatg gggtc   225

<210> 433
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 433
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggttgtta 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 XlVa

<400> 434
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caggtcgaac   60

gggacctatg tagatcaaga cttcggtcaa gtgaaattta ggtttagtgg cggacgggtg   120

agtaacgcgt gagcaatctg ccgtatgcag ggggacaaca gagggaaact tctgctaata   180

ccgcataagc gcacggtatc gcatggtaca gtgtgaaaag ctccg   225

<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 tcaaagattt tatcg   225

<210> 436
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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

ggtaaggtct 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 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

gaggcaagtt ccttcgggga cttaccgagt ggcggacggg tgagtaacgc gtgagcaatc 120

tgtcccagac agggggataa caactggaaa cagttgctaa taccgcataa 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 cccataagag gggataacg 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

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaggttagcg gcttcggctg ttaaccgagt ggcggacggg tgagtaacgc gtgaacaatc 120

tgtcctgcaa agggggatac caactggaaa cagttgctaa taccgcataa 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 gttagaaatg actgctaata ccggataaga 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 tgcgaaggaa gaacgccgga gggaggaaat 120

ggcctccggg tgacggtact tcgcgagaaa gccacggcta actacgtgcc agcagccgcg 180

gtaat 185

<210> 446
<211> 225
<212> DNA
<213> Unknown

<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 catcggtatc   180

gcatggtacg ggtgccaaag atttatcgat gagggatgag ctcgc   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 ctttgcacag ggatagcctc gggaaaccgg gattaaaacc   180

tgatgatacc gagacaccac atggtgttcc ggccaaagat 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

gggtctaaag ttttggaggc 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 XlVa

<400> 449
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagcgagaga tgaaacctag tgaatttcga gcgagtggcg gacgggtgag taacgcgtgg   120

gtaacctgcc ttacagaggg ggataacagt ttgaaaagac tgctaatacc gcataagcac   180

acagtaccgc atggtacagg gtgaaaagat ttatcactgt aagat   225

<210> 450

<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 agcaaccttc 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 ggataaccca gggaaacttg ggataatacc   180

acataacgcg gtgaagtcac atggctttac cgccaaagat ttatc   225

<210> 452
<211> 225
<212> DNA
<213> Unknown

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

<400> 452
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc   60

gagaatatac cttcgggtat agggaagcgg caaacgggtg agtaacacgt aagtaaccta   120

cccttgagac tgggatagct cagcgaaagt tgaggtaata ccggatgcca accattaatg   180

catgttaatg gattgaaagg gatgagacga tgctcaagga ggggc   225

<210> 453
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 453
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggaacatttc gcccgatgat tgagaaagct tgcttcctcc tgattcaact gaaatgttta   120

gtggcggacg ggtgagtaac gcgtgggtaa cctaccttac acagggggat 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 cccccaaccg 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 ccttcggggc ctctgagagt ggcgcacggg tgcgtaacgc gtatgcaacc 120

aaccccgcac tgggggacag ccggtggaaa cgccgggtaa taccccatgc cgacgggagg 180

ggacatcccc atccgttgaa aggcttcggt cggtgcggga cgggc 225

<210> 456
<211> 225
<212> DNA
<213> Unknown

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

<400> 456
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagtaacaa ttcttcggaa atgttactta gtggcggacg ggtgagtaac gcgtgggtaa 120

cctgcctcat acagggggat agcagctgga aacggctgat aataccgcat aagcgcacag 180

agacgcatgt ttcagtgtga aaaactccgg 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

ggtaacaggt taagctgacg agtggcgaac gggtgagtaa tatatcggaa cgtgcccagt 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 ggaatgcgac ttcggtcaaa tgaaattaaa 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 cgcgttggat 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

ggttaaaccg gcttcggccg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc accgggatag ccccccgaaa 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

<400> 461
agagtttgat catggctcag agcgaacgct agcggaatgc tttatacatg caagtcgaac   60

ggaaaattaa atgaagtagc aatatggatt tgaagttttt agtggcgaac gggtgagtaa   120

tatataggaa tttgcccagt 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 ccttcggagg 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 gggtgagtaa cgcgtgagca   120

acctgccttt ctccgggggga taacattggg aaaccggtgc taataccgca taacgtacag   180

agatcgcatg ttttttgtac 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 cctgcccctt   120

tgactgggat aaccgtctga aaagacagct aataccggat aggtaatatt gaggcatctc   180

gatattatta aagatgggtt acatcacatt gggatgggtt caagt   225

<210> 465
<211> 225
<212> DNA

<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 acagggggat accacttgga 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 cttaagcatg caagtcgagc   60

gggattgggt agcttgctac tcatgagagc ggcggactgg tgagtaacgc gtgggtgacg   120

taccctttag acggggatag ctcctagaaa taggaggtaa taccggatac gatagtgagt   180

gtcagaggct cattatgaaa ggttcttttg 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 ccttttcca gggaataacc ttgcgaaagt aagactaatg ccctatgtgt   180

cctttgacgg catcagacga ggacgaaaga tttatcggaa 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 ttcggtagat tagatccatg gacagcggcg gacgggtgag   120

taacgcgtgg gcaacctgcc cctttccgga ggatagccaa gggaaacttt gaataatact   180

ccataaagca agagtaccgc atgatacact tgccaaagat ttatc   225

<210> 469
<211> 225
<212> DNA
<213> Unknown

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

<400> 469
agagtttgat cctggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac   60

ggacgagggt agcaataccc aagttagtgg cgaacgggtg agtaacacgt gagcaacctg   120

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
agagtttgat cctggctcag agcgaacgct ggcggcaggc ctaacacatg caagtcgaac   60

ggacccttcg ggttagtgg cggacgggtg agtaacacgt gggaacgtgc ctttaggttc   120

ggaatagctc ctggaaacgg gtggtaatgc cgaatgtgcc cttcgggga aagatttatc   180

gcctttagag 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 gattaaaacc   180

tcataacgct cgtatgacac atgtcatatg agccaaagat 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 ataaacaacc   120 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

gggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgtcgggtc gcatgatctg 180

acagttaaag atttattgct tggggatgag ctcgcgtccc 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 ctttgcagag ggatagccac tggaaacggt gattaaaacc 180

tcataatgcc atttgttcac atgttcagat ggccaaagat ttatc 225

<210> 476
<211> 225
<212> DNA
<213> Unknown

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

<400> 476

agagtttgat catggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60

ggtaaggcct gaagtggcaa cacggagggt acacgagtgg cgcacgggtg cgtaacgcgt 120

atgcaacctg cccctaaccg ggacaaaaca gctggaaacg gctgctaata tcccatggcc 180

acacgagggg gcatccccat 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 taggtatatc 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

gagattgcgg 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 taccgcataa tgcagcggga 180

tcgcatgatc ctgctgccaa aggtttactg cctgaagatg ggctc 225

<210> 480
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 480
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagaagtctt gaaatgatcc cttcggggtg aatggataga tggacagtgg cggacgggcg   120

agtaacgcgt gagtaacctg cccataagag 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 XlVb

<400> 481
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gaagcatagg tgcttgcact 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 gggataaca 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

gaatttcttt cggaacgcgg cttcggccaa gggaagagag aagtgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg cctcacatcg gggataccca gtcggaaacg actgctaaaa   180

ccgcataaga ccacggtatc gcatgatact gaggccaaaa ctccg   225

<210> 484

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

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

<400> 484
agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat   60

gagaagcttg cttctcatgg cgaacgggtg agtaacacgt aggtaacctg ccttacactc   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 Planctomyces

<400> 485
agagtttgat cctggctcag aatgaacgtt ggcggcatgg attaggcatg caagtcgtac   60

ggtgaagggg agcttgctcc tctgatcagt ggcgaaaggg atagtaacgc gtagatacca   120

ccctcctgga cggggatagc 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 Ruminococcus

<400> 486
agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac   60

ggagataatg gatttattcg ttatcttagt ggcggacggg tgagtaacac gtgagcaacc   120

tgcctttaag agggggatag cttctggaaa cggatggtaa taccctataa aatatattta   180

aggcatctta ggtatatcaa agatttatca cttaaagatg ggctc   225

<210> 487
<211> 225
<212> DNA
<213> Unknown

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

<400> 487
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagaaaatat tggaagcttg cttttgatag attcgagtgg caaacgggtg agtaacgcgt   120

agacaacctg ccgcaaagat ggggacaaca gatcgaaagg tctgctaata ccgaatgttg   180 cggagctccc gcatgggagc tccgccaaag atggcctcta cttgt 225

<210> 488
<211> 225
<212> DNA
<213> Unknown

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

<400> 488
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggtagtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctgtctttaa 120

gacgaggata accgttggaa acgacggata atactggata ggacattaca aggggcatcc 180

caaaatgttt 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 ctttgcagag ggatagccta gggaaacctg gattaatacc 180

acataatgca gtctggtcac atggcgaggc tgccaaagat ttatc 225

<210> 490
<211> 225
<212> DNA
<213> Unknown

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

<400> 490
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

gaatgacgag aagcttgctt ctctgattta gcggcggacg ggtgagtaac acgtgggcaa 120

cctgccctgt agactgggat aacttcggga aaccggagct aataccggat aattctttta 180

gcctcatggc tttaagctaa aaggcgcttc ggcgtcacta cagga 225

<210> 491
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 491
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaggtgcagt aaacggagat tcgtcgaagg gaactgtatc cgagtggcgg atgggtgagt 120

aacgcgtgga gaacctgccc ttatcagggg gataacaact ggaaacggtt gacaataccg 180

cataagcttc ggttatcgca tgatagcaga aggaaagatt tatcg 225

<210> 492
<211> 225
<212> DNA
<213> Unknown

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

<400> 492
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggtaacctg tcttttagcc 120

gaggataacc attggaaacg atggataata ctggatagga catttgaagg catctttgga 180

tgtttaaaga tttatcacta gaagaggggc ctgcggcgca ttagc 225

<210> 493
<211> 225
<212> DNA
<213> Unknown

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

<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 Lachnospiracea incertae sedis

<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

<400> 495
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagttatta cgctgaaatg atattagctt gctaaaggaa tttcttgtaa tgcttagtgg   120

cggacgggtg agtaacgcgt gagcaacctg cctttcagag 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

gaggctcttc tctctgacgt ttcgactgat tagagaagat caccgagtgg cggatgggtg   120

agtaacgcgt ggagaacctg cccccatcag gggataaca 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

tgccccgcgc accgggacag ccccccgaaa gggggattga taccggatgc tccgccccct   180

ccgcatggcg gggcgggaa 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 tcatggtacc aaaggagcaa tccgaggaaa gatgg   225

<210> 499
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 499
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggacttatga caagattctt cggatgattt ttataagtta gcggcggatg ggtgaggaac   120

gcgtggagaa cctgcccttc acagggggat aacagttgga aacgactgtt aataccgcat   180

atgctcacgt gaccgcatgg tcgagtgagg aaagctccgg cggtg   225

<210> 500
<211> 225
<212> DNA
<213> Unknown

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

<400> 500
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcatcaggt actgtgcttg cacagtatgc tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccatgactc cggttcagcc cgccgaaagg cggattactc ccggatggtt   180

tccgaagagg gcctctgatt tggaataaag atttatcggt catgg   225

<210> 501
<211> 225
<212> DNA
<213> Unknown

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

<400> 501
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

<210> 502
<211> 225
<212> DNA
<213> Unknown

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

<400> 502
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggatgattct tccagcttgc tggaagatga ttcagtggcg aacgggtgag taatacgtag   120

gcaacctgcc ccaaagcggg ggatagcagt tggaaacgac tattaatacc gcataggtaa   180

tcttaaggca tcttgagatt attaaaggtg cgtttgcacc gctgt   225

<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 taacctaccc ttaggaccgg   120

gataaccttg ggaaactgag gataatactg gataggcaat tattcctgta atggtttttt   180

gtttaaatgt tttttcgcct 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 cggtggcttg ccaccgctga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccccaaccg cggcacagcc cgccgaaagg cggattaatt ccgcatgtgg   180

tcgtgatgtg acatcttttc 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

ggcagcgagg gggcagcaat gcccctgtcg 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

ggcagcatgg gagaagcttg cttttcccga tggcgaccgg cgaatgggtg agtcacgcgt   120 gtccaacctg cctccggccc ggggatagcc cttggaaatg aggattaaga cccgataggt 180

ggagcttccg catggcggct ccatgaaacg agaccggaga tgggg 225

<210> 507
<211> 225
<212> DNA
<213> Unknown

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

<400> 507
agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc 60

gagaatatgc ctttgggcat agggaagcgg caaacgggtg agtaacacgt aagtaaccta 120

cccttaagac tgggatagcc ctgtgaaagt gggggtaata ccggatgagg 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 ccggatgttg 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 cctttcccga 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 XlVa

<400> 510

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcaggtt 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 ccttcggggg tgtataaagt ggcgaacggc tgagtaacac gtgggcaacc 120

tacctctcac tccgggatag cctcgagaaa tcgtggataa taccggatac tccaggataa 180

tcgcatggtt ttcctgggaa 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 atttatcggt 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 atgattaaaa 180

cctcataatg ccaacttaac acatgttgag ctggccaaag attta 225

<210> 514
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 514
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggaattgc gaaagaagtt ttcggatgga ttttgctttt ccgagtggcg gacgggtgag   120

taacgcgtgg gtaacctgcc ttacactggg ggacaacaga gagaaatttc tgctaatacc   180

gcataacccg ctatgagcgc atgctcaaga cggaaaagat ttatc   225

<210> 515
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 515
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagaccccg aggcagagat ttcggtcgaa gccaagggag gactgagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag 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 ccccccgaaa 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

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

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

<400> 518
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatacga gcttagttga 180

aatactaatc 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 aataccgcat aacgtgccga 180

gatcgcatgg 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 ggaaactgga attaataccg catacgccct acgggggaaa gatttatcgg 180

ggaaggattg gcccgcgttg gattagctag ttggtggggt 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180 ttatgattcc gcatggggat ataacgaaag attcatcggt 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 XlVa

<400> 524
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaatttctgt tagaatgcgg cttcggccaa gtgaagacag aagtgagtgg cggacgggtg 120

agtaacgcgt gggtaaccta ccttacacag ggggataacg attggaaacg atcgctaata 180

ccgcataaga ccacagtgcc gcatggtaca ggggtaaaag attta 225

<210> 525
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 525
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gggcactggc ggaagaagcc ttcgggtgga agctgccaga gctagtggcg gacgggtgag 120

taacgcgtgg ataacctgcc ctgttccggg ggataacagc tggaaacggc tgctaatacc 180

gcataagcgc acgaggcggc atcgcctagt gtgaaaaact ccggt 225

<210> 526
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 526
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaaatgatt tgatgaaggt ttcggttgga ttcttatcat tttagtggcg gacgggtgag 120

taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc 180

gcataagcgc acactgacgc 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 cggaggggtc 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 cttggaaatg aggattaagc cccgatatgc 180

gcattcgccg catggcgtgt gcgtgaagtt gtgcatggga tgggg 225

<210> 529
<211> 225
<212> DNA
<213> Unknown

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

<400> 529
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaaactatt cgagaatttc ggttcatgaa tagttttagt ggcggacggg tgagtaacgc   120

gtgagaatct gcctttgagt ggggaataac agttggaaac gactgctaat accgcataac   180

atggaaacat 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

tgcccatcag actgggataa cagttggaaa cgactgctaa taccggatag gtagttgagt   180

ggcatcacat agctattaaa 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 aaagcttgct tttgaaagtc gagtggcaaa 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 cttcggggtg acgacggaag aggaaagcgg cggacgggtg   120

agtaacgcgt gagtaatctg ccccatggtg gggaataaca cagtgaaaac tgtgctaatg   180

ccccataatg tatacttgtt gcatagcagg gataccaaag attta   225

<210> 533
<211> 225
<212> DNA

<213> Unknown

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

<400> 533
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg   60

ggtagagata gcttgctatc ttgagaccgg cgcacgggtg cgtaacgcgt atgcaatcta   120

ccttatacta agggatagcc cggagaaatc cggattaata ccttatggtt tttatgaata   180

gcattattta tagaataaag atttatcggt ataagatgag catgc   225

<210> 534
<211> 225
<212> DNA
<213> Unknown

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

<400> 534
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

<210> 535
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 535
agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac   60

ggaatttgta acttcggttg tggattcagt ggcggacggg tgagtaacac gtggataact   120

tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgcataa tgtaatttgt   180

tcgcatgaat agattaataa agatgaaaat cgctaagaga taggt   225

<210> 536
<211> 225
<212> DNA
<213> Unknown

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

<400> 536
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac   60

gggaactccc cttcgggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa   120

ccctcatccg ggggacagcc ggtggaaacg ccgggtaata ccccatgtcc actttgggag   180

gcatcttctg aggtggaaag actttggtcg gaggaggacg ggcat   225

<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 attcatcggt 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

ggagttaaat aagcttgctt atttaactta gtggcggacg ggtgagtaac acgtgagcaa 120

cctgccttac agagaggaat aatgattgga aacggtcact aatacctcat aaaatatcta 180

tactgcatgg tattggatat caaagattta tcgctgtaag atggg 225

<210> 539
<211> 191
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 539
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggaaaccctg atgcagcgac gccgcgtgag tgaagaagta tttcggtatg taaagctcta 120

tcagcaggga 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 cttcggggtg aataaagtgg cgaacgggtg agtaacacgt gaccaacctg 120 cctcgcactc 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 cctcatactg ggggatacca gtgagaaatc actgctaaaa 180

ccgcataagc gcacggtacc 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 gccgtatgcc gggggacaac agttggaaac gactgctaat 180

accgcataag cgcacgggga ggcatctttc cgtgtgaaaa actcc 225

<210> 544
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 544

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 Butyricimonas

<400> 545
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgggt ctagcaatag atgccggcga ccggcgaaag ggtgagtaac gcgtgagcaa 120

catacccttg acagggggat aggcactgga aacggtgtgt aataccccgt aatacattcc 180

atcgcatggt ggggtgttga aagattcatt ggtcaaggat tggct 225

<210> 546
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 546
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagctcctg cgcagatccc ttcggggtga 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 cttaagcatg caagtcggac 60

gggatatggt agcttgctac cattgagagt ggcggactgg tgagtaacgc gtgggtgacg 120

taccctggtg accgggacag ctcctagaaa taggaggtaa taccggatac gctggatgct 180

gtcagagggc attcaggaaa gcagcttttg ctgcgcacga ggagc 225

<210> 548
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium sensu stricto

<400> 548
agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac   60

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 XlVa

<400> 549
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagatagaa caccggatga agattcgtcg gaatccaccg ttttatctta gcggcggatg   120

ggtgagtaac gcgtggataa cctgcccttc acagggggat aacaaccgga aacgggtgct   180

aataccgcat gggcgcaggg ggccgcatgg ttcccggcgt aaaga   225

<210> 550
<211> 225
<212> DNA
<213> Unknown

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

<400> 550
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gagaaaggac gaagcagctt gctgcagagt cccggacagc ggcggacggg tgagtaacgc   120

gtaggtaagc tgccccttgc aggaggatag cctcgggaaa ccgggattaa tacttcataa   180

cgcgttttta tcgcatggtg aaaacgccaa 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 gggataaca cttggaaaca ggtgctaata ccgcataagc   180

ccacggtacc gcatggtaca gggggaaaag gagcgatccg gttcg   225

<210> 552

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 552
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagttgttt ccacccgaca gattatcttc ggatatgaag tcaccggaaa cgcttagtgg 120

cggacgggtg agtaacgcgt gggcaacctg ccctacacag ggggatagcg gttggaaacg 180

accggtaata 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 aaagttagtg gcggactggt 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

gggcgagagg 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 XlVa

<400> 556
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaaaggatt cttcggaatt ctttcagtgg cggacgggtg agtaacgcgt gggtaacctg 120

ccccatacag gggaacaaca gctggaaacg gctgctaata ccgcataagc gcacagtact 180

gcatggtaca 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 XlVa

<400> 558
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagttacat aagcttgctt ttgtaactta gcggcggatg ggtgaggaac gcgtggataa 120

cctgcctcgc actgggggat aacagctgga aacggctgtt aataccgcat atgctcacgg 180

taccgcatgg tacagggagg 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

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 Lachnospiracea incertae sedis

<400> 560
agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60

ggaatttata gcttcggttg tgaattcagt ggcggacggg tgagtaacac gtggataact 120

tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgcataa agtaatttat 180

tcgcatgaat agattaataa agatgaaaat 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 agcaaccttc ctgcctgtga gggataacac agggaaactt gtgctaatac 180

cgcataaagc atttgagtcg catggtttag gtgccaaaga 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 tgttaatacc gcataacatg 180

atagaaccgc atgattttat catcaaagat ttattgcctg aagat 225

<210> 563
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<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 gggaataaca gagagaaatt tctgctaata ccgcataagc   180

tgaaagaatc gcatgattta gtcagaaaag gagcaatccg cttat   225

<210> 565
<211> 225
<212> DNA
<213> Unknown

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

<400> 565
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagtgaagg ggagcttgct ccttggaact tagtggcaaa cgggtgagta acgcgtaggc   120

aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgacgtgca   180

ttggtcgcat 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

ggttaagccg gcttcggccg ggtatagagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc cccgggatag cctcgtgaaa acgggattaa caccggatgc gccgcgggcc   180

ccgcatgggg cccgcgggaa agcttggcgg cgcgggatgg ggtcg   225

<210> 567
<211> 225
<212> DNA

<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

tggaaggggg 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 cccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgtgg   180

tcgaaagagg acatctgatt tcgaccaaag cttcggcggt catgg   225

<210> 570
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 570
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcacctc tcccgaagat tgaagtagct tgctacggat tgattcattt gaggtgactt   120

agtggcggac gggtgagtaa cgcgtgggta acctgcctca tagaggggga caacagttgg   180

aaacgactgc taataccgca taacatgtga ctgtcacatg acaga   225

<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 gggataacg 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 ccccctagtt   120

gggaataaca gttggaaacg 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 tttgcacaat gggggaaacc   60

ctgatgcagc gacgccgcgt gagtgatgaa gtatttcggt atgtaaagct ctatcagcag   120 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 Desulfovibrio

<400> 576
agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gcgaaagggg cttcggtccc gagtagagtg gcgcacgggt gagtaacgcg tggatgatct 120

gcccctgcag ctggaatagc gactggaaac ggtcgataat accggatacg 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 gccccataga gggggacaac agttggaaac gactgctaat 180

accgcatagt aagagaaatt cgcatgtttt tctcttgaaa gcttt 225

<210> 578
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 578

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagtgtcat ttcttcggat aggacactta gtggcggacg ggtgagtaac gcgtgggtaa 120

cctgcctcac acagggggat agcagttgga aacgactgat aataccgcat aagcgcacag 180

tatcgcatgg tacagtgtga aaaactccgg tggtgtgaga 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

ggagagtggt ttttgattcc ttcgggatga ttattccatt tcttagtggc ggacgggtga 120

gtaacacgtg agcaacctgc cttgcagtgg gggataacgg ttggaaacga 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 gtccctttttt gtaggtaccg tatgaataag gaccggctaa 180

ttccgtgcca gcagccgcgg 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 cttcggccgc 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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 582
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcatagc ttgtgaattt cttcggattg aagcagttat gactgagtgg cggacgggtg 120

agtaacgcgt gggtaacctg ccttacacag ggggacaaca gagggaaacc tctgctaata 180

ccgcataacc cgctagggcc gcatggcccg 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 aaagcttgct tttgagagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgcctt tgggatgggg acaacaggac gaaagccctg ctaataccga atgaagtatt 180

cttcctgcat gggaaggata tgaaagatgg 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 tggtagcaat accgatgtcg gcgaccggcg cacgggtgcg taacaggtgt 120

gcaatctgtc catagtcgga ggatagcccg gtgaaaaccg aattaatact ccatgtgtca 180

ttaaatcgca tgttttgatg atgaaacgta aggactatgg ttgag 225

<210> 585
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 585
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gggactttta ccgacggaga ttcgtcaaag ttggtttaag tctagtggcg gacgggtgag 120

taacgcgtgg agaacctgcc ctttaccggg ggataacaga gggaagcttc tgctaatacc 180

gcataagcgc acagtaccgc atggtacagt gtgaaaaact ccggt 225

<210> 586

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

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

<400> 586
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gattaaccca tcttcggatg gttataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tacctttcac attgggataa ctaagggaaa ctgtagctaa taccaaatac tccgggtatc   180

cggcatcgga aacccgggaa 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 atgattaaaa   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

tgccccaaag tttgggatag ccatccgaaa ggatgattaa taccggatgt ggaacataaa   180

tcgcatgttt tatgttctaa agcagcgatg cgctttggga tgagc   225

<210> 590
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 cgcaagggtg aggaacgcgt gagtgaccta cccgcaagtt   120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcaatgagct gcatggttta   180

ttgattaaag cagtaatgcg cttgcggatg ggctcgcgtc 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 ggcagcaatg tcatggtggc gaccggcgca cgggtgagta acgcgtatcc   120

gacctggcct tcactccggg 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 ggcggtgtgc ctcatacatg caagtcgaac   60

gataaggctt cttcggaagt acataagtgg cggacgggtg agtacaacat aggaaatctg   120 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

ggcagcgctg gggttgcttg caacccctgg 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

ggtaacgtga gagaagcttg cttctcttga cgacgaccgg cgaatgggtg agtaacgcgt 120

atccaacctg ccgcacgccc gggaacagcc cttggaaacg aggattaaat cccgatacct 180

tattattccg catggagaaa taagaaaaca ggcatgcgat 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

ggggatattg cacaatgggc ggaagcctga tgcagcgacg ccgcgtgaag gaagaagtat 120

ttcggtatgt 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

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 Butyricimonas

<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 cctttcagag gggataacg tttggaaacg aacgctaata 180

ccgcataacg tatggaaatc gcatggtaac cataccaaag atttt 225

<210> 601
<211> 225
<212> DNA
<213> Unknown

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

<400> 601
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggggacaaaa ctggaagggt ttcggcctgg aaggaaatgt tccagcggcg gacgggtgag   120

taacgcgtga acaatctgtc ccagacaggg ggataacaga tggaaacatc tgctaatacc   180

gcataagacc acgaggcgac atcgccttga 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 gggataccca gtcggaaacg actgctaaaa   180

ccgcataaga ccacggtatc gcatgatact gaggccaaaa ctccg   225

<210> 603
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 603
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagaccccg aagcggagat ttcggttgaa gctaagggag gactgagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag gggggatagca 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

gggaagcttt gacaagtttt actttgatga gtggacagtg gcgaacgggt gagtaacgcg   120

taggtaacca accttatgct gggggatagc ctttggaaac gaagagtaat accgcataag   180

accacactgc cgcatggcag aggggtaaaa gatttattgg catga   225

<210> 605

<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 ccgcgtgagt 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

ggtggtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttact   120

gacgaggata accgttggaa 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 ctgacccagc 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 caagaccaaa 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 agggtatagg atggg 225

<210> 610
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 610
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggggacgcgc caaagaggat gattcgtctg attcttagcg cgtcttagcg gcggatgggt 120

gagtaacgcg tggacaacct gcccgcaaca 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 XlVa

<400> 611
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggtgaaagaa gacggaagcc ttcgggcgga agtttttgg 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

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 gggataaca 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 cccatgaccc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180

tcgaaagagg acatctgatt tcgaccaaag cttcggcggt 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 gattgctaat 180

accgcataag accgcggtac cgcatggtac agcggccaaa gattt 225

<210> 616
<211> 225
<212> DNA
<213> Unknown

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

<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 ccccacaggg 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 tttccgccaa 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 atgattaaaa   180

cctcataatg ctgcagtaac acatgttaca gcagccaaag attta   225

<210> 620
<211> 225
<212> DNA

<213> Unknown

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

<400> 620
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgatc   60

gcgtcatgta gcttcggtta tatgatgaga ggcgaacggg tgagtaatac ataagcaacc   120

tgcccacgga gaccgggata acccctggaa acggggacta agaccggata ggcaaaatga   180

aggcatcttc attatgttaa 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 ccttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc   180

aagatggagc ctttttctt gaccaaaggt ttatgtcggt 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 cgcaagggtg aggaacgcgt gagtaatctg ccctcaagtt   120

gggaacagct tctggaaacg gaaattaata ccgaatgtga tctttgggag gcatctttca   180

aagattaaag gccgcaaggt cgcttgagga ggggctcgcg tccca   225

<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 gggataaga 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 cacttggaaa caggtgctaa taccgcataa gaccacgagg 180

gggcatcctt ttgaggtaaa aggaggaatc cggtccgggg tgagt 225

<210> 626
<211> 225
<212> DNA
<213> Unknown

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

<400> 626
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac 60

ggtaaacggt ccttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctcg ccgggatagc cggtggaaac 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 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 Proteiniclasticum

<400> 628
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60

gaaaaaagag agcttgcttt cttttttagt ggcgcacggg tgagtaacgc gtgagtaatc 120

tgccttaaag tgggggacaa catttggaaa cgaatgctaa taccgcgtaa tatgcagttt 180

tcgcatgaat tttgtattat agatttatcg ctttaagatg agctc 225

<210> 629
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 629
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagaaatgat gattagattc cttcgggatg aaaagattca tggacagtgg cggacgggcg 120

agtaacgcgt gagtaacctg cccataagag agggatagcc gatggaaacg tcgagtaata 180

cctcatattg taattaattc gcatggattg attatgaaag attta 225

<210> 630
<211> 225
<212> DNA
<213> Unknown

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

<400> 630
agagtttgat cctggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60

gagaagcttg cttctcatgg cgaacgggtg agtaacacgt aggtaacctg ccttacactc 120

gaggataacc gttggaaacg acggataata 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

agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60

ggcaaggaag gagcttgctt cttccctaga gcggcggact 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 XlVa

<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 tcactagttc agtggcggac 120

gggtgagtaa 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 taccgcataa gaccacattt 180

ccgcatggga gaggggtcaa agatttatcg ctttgagagg ggttc 225

<210> 635
<211> 225
<212> DNA
<213> Unknown

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

<400> 635
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgatc   60

gggagtagca atacttcaga ggcgtacggg tgagtaacac atagggaacc tgcccttaag   120

actgggatac ccagacgaaa gtttggctaa taccggataa caacagaggt cgcatgacct   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 gccgcgtgga ggaagaaggt tttcggattg taaactcctg   120

tcttaaagga cgataatgac ggtactttag gaggaagctc cggctaacta cgtgccagca   180

gccgcggtaa 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 ggaaaccctg atgcagccat gccgcgtgtg   120

tgaagaaggc cttcgggttg taaagcactt ttgcattcga ggaagacagc acgtaaataa   180

acgtgttatt tgacgttaga gtgtgaataa gcaccggcaa actcc   225

<210> 639

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

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

<400> 639
agagtttgat catggctcag gacgaacgct ggcggcgcgc ttaacacatg caagtcgaac   60

ggagcttgct tttgaaggtc cttcgggaac ggatgttgca agcttagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cctttcagag ggggataaca caacgaaagc tgtgctaata   180

ccgcatgaca ttgcgacacc gcatggtgat gcaatcaaag gagca   225

<210> 640
<211> 225
<212> DNA
<213> Unknown

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

<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 XlVa

<400> 641
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttatgcacaa tgggggaaac   60

cctgatgcag cgacgccgcg tgagcgatga agtatttcgg tatgtaaagc tctatcagca   120

gggaagaaaa tgacggtacc tgactaagaa gcaccggcta aatacgtgcc 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

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaagcca 180

gaagagggca tcctcgtctg gttaaagttc cggcggtctg gggtg 225

<210> 644
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 644
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagcacttcg gtgcgagtgg cggacgggtg agtaacgcgt gggtaacctg ccttacacag 120

ggggacaaca gttggaaacg actgctaata ccgcataagc ccacggtacc gcatggtact 180

gtgagaaaag atttatcggt 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 acttcggtta ttaacttagt ggcggacggg tgagtaacac gtgagcaacc 120

tgccttacag agaggaataa tgactggaaa cggtcactaa tacctcataa aatatttaga 180

tcgcatggtt tggatatcaa agatttatcg ctgtaagatg ggctc 225

<210> 646
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 646
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagccctac aagtggagat ttcggttgaa gcgaggaggt gactgagtgg cggacgggtg 120

agtaacgcgt ggagaacctg gcccatacag 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 cggactggtg 120

agtaacgcgt gagcaacctg ccttccggtg ggggacaaca gttggaaacg actgctaata 180

ccgcataaca tatgtctaag gcatcttaga tatatcaaag cttta 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 XlVa

<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 atcgcatggt acagt 225

<210> 650
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<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 ccttcggggg tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca   120

acccccctcg ccgggatagc cggtggaaac gccggataat accggatgcg ccgcgtggga   180

ggcatctccc gagcggcaag gcggagacgc ggagggggac gggca   225

<210> 652
<211> 225
<212> DNA
<213> Unknown

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

<400> 652
agagtttgat cctggctcag attgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gcgaaagggg cttcggcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct   120

gcccctgcgg ctggaatagc gactggaaac ggtcgataat gccggatacg 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 gggataaca gttagaaatg actgctaata   180

ccgcataaga ccacagcatc gcatggtgca gtggtaaaaa ctccg   225

<210> 654
<211> 225
<212> DNA

<213> Unknown

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

<400> 654
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gggaaatttg agagtgaggc ttcggcggat ctcttaaatg gagagcggcg gacgggtgag   120

taacgcgtag gtaacctgcc ctgcacagag ggatagccac tggaaacggt gattaatacc   180

tcataaaact gttttgccgc atgacagaac agccaaagat ttatc   225

<210> 655
<211> 225
<212> DNA
<213> Unknown

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

<400> 655
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac   60

ggcaagctac cttcgggtag cctagagtgg cggactggtg agtaacacgt gggtgacatg   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
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttcatacatg caagtcgaac   60

gagaagcaag agcttgctct tgtggaaagt ggcggacggg tgagtaacac gtagggaatc   120

tgccttcagg cgggggacaa cagttggaaa cgactgctaa taccccatat gagctaagtt   180

gaaatactta tcttgaaaac tccggtgcct gtagatgagc ctgcg   225

<210> 657
<211> 225
<212> DNA
<213> Unknown

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

<400> 657
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagatgagg agaagcttgc ttcgagacat ctcagcggcg gacgggtgag taacgcgtga   120

gcaacctgtc ctctgcaggg ggataagaca gcgaaagttg ttctaatacc gcataagacc   180

acaacgtcac atggcgaagg ggtcaaagga ggaatccggc agagg   225

<210> 658
<211> 225
<212> DNA
<213> Unknown

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

<400> 658
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat   60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctaaaagac   120

gaggataacc attggaaacg 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 Clostridium III

<400> 659
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaatccatg caagtcgaac   60

ggggcgattc cggaaagtct tcggactgga aggaagagct tagtggcgaa cgggtgagta   120

acgcgtgacc 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 Victivallis

<400> 660
agagtttgat cctggctcag aacgaacgct ggcggcatgg attaggcatg caagtcgaac   60

gaagcagcaa tgcttagtgg cgcaagggtg aggaacacgt gagtgaccta cccgcaagtt   120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcaacgggct gcatggtctg   180

ttgattaaag cagcaatgcg cttgcggatg ggctcgcgtc 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

ggttaaggcg gcttcggccg cgaatagagt ggcgaacggg tgagtaacac gtgaccaacc   120 tgccccgcgc accgggacag cctcgtgaaa acgggattaa taccggatac tccggcggcg 180

cgggatgggg tcgcggccca ttaggtagta ggcggggtga 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 ttagtggcgg acgggtgagt aacgcgtgag 120

caacctgcct tttttcgggg gataacacgg ggaaaccggt 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 cggttggaaa cgaccgctaa taccggatag gtgatcttaa ggcatcttga 180

gatcattaaa gttgggctac aacactgcag 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 ctttgatatc 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

agagtttgat catggctcag gacgaacgct ggcggcatgc ctaacacatg caagtcgaac 60

ggaataggtt tggttgtagc gatactttcg gacctattta gtggcgaacg ggtgagtaac 120

acgtgagcaa cctgccttct acacagggat aacagccgga aacggctgct aataccggat 180

aagaccacac cgaggcatct cggaggggtc 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 tgtagcaata cattgccggc gagcggcgga cgggtgagta acgcgtatgc 120

aacctgccca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcacctc 180

atcaaggcat cttcttgagg ttaaatattc ataggtggtg 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 gacttagtgg cggacgggtg 120

agtaacgcgt gggtaacctg cctctgacag ggggacaaca gttagaaatg actgctaaca 180

ccgcataagc 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 tttacacatg caagtcgaac 60

ggcagcgtgg tagtgcttgc actactgacg gcgagtggcg aacgggtgag taatgcatcg 120

gaatgtaccg agtaatgggg gataactaat cgaaagatta gctaataccg catacgacct 180

gagggtgaaa gcaggggatc ttaggacctt gcgttattcg agcag 225

<210> 669
<211> 225
<212> DNA
<213> Unknown

<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 tgcttgcacc agaggaaagt ggcggacggg tgagtaaaat gtagagaatc   120

tgccctagag agggggatag cagttggaaa cgactattaa taccccatat 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

gggactctta acgaccgagg cttcggccaa gtgaattttg agtttagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cctttcagag ggggacaaca gttggaaacg actgctaata   180

ccgcatgaca tacggagggg gcatcccttt tgtatcaaag attta   225

<210> 672
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 672
agagtttgat catggctcag ggttaacgct agcggtgcgc ctaacacatg caagtcgagc   60

gggaatgtga gaaagcttgc tttcaaacaa gatagcggcg aacgggtgag taatatgttg   120

gtatctgtcc ttaagtcagg aatagctcag ggaaacttga attaatgccg gatgtgctct   180

ttggagtaaa gatttatcgc ttaaggggga gccttcattc tatca   225

<210> 673

<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

tgcgaagagg 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 tacccattag   120

acgaggataa ctattggaaa cgatagctaa aactggatag gatatagcga ggcatcttgt   180

aatatttaaa 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

taccctttag acggggatag ctcctagaaa taggaggtaa taccggatac gatagtgagt   180 gtcagaggct cattatgaaa ggttcttttg aaccgctgaa ggagc 225

<210> 677
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 677
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagcgagaga tgaaacctgg 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 XlVb

<400> 678
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgtac 60

ggggtatagc aatataccta gtggcgaacg ggtgagtaac acgtgagtaa cctgccctat 120

acagggggac 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 XlVa

<400> 679
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagataagt tgaagcctag cgattcttat cttagcggcg gatgggtgag taacacgtgg 120

gtaacctgcc ctgtactggg gaataacagc tggaaacggc tgttaatgcc gcatatgcgc 180

acggagccgc atgactccgg gcggaaagat ttatcggtac 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

ggttaaaccg gcttcggccg gaaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc accgggatag ccccccgaaa gggggattaa taccggatgc gccgggccgg 180

ccgcatggcc ggcccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 681
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 681
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaaatggtt gatgaagttt tcggatggat ttttccattt tagtggcgga cgggtgagta 120

acgcgtgggt 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 Lachnospiracea incertae sedis

<400> 682
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagctcctt tgcggaactc ttcggaggga aggaaaggat gactgagtgg cggacgggtg 120

agtaacgcgt gggtaacctg ccctgtacag gggacaaca 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 taccgcataa gaccacagta 180

tcgcatggta cagaggtaaa agcagcaatg cgatgcaggg tgagt 225

<210> 684
<211> 225
<212> DNA
<213> Unknown

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

<400> 684
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggtcaaaccg ccctcgggcg gacataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa 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

tccatatgct 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

ggcaaggtac cttcgggtac cctagagtgg cggactggtg agtaacacgt aggtgacgta   120

ccttttggac ggggatagcc cgtagaaata cgggataata ccggataagg ttgcacgggt   180

tggagccgtg caaggaaagg cgctacggcg tcgccgaaag aacgg   225

<210> 688
<211> 225
<212> DNA

<213> Unknown

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

<400> 688
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgtgg 60

ggcagcacgg gaagcagcaa tgcttttggg tggcgaccgg cgaatgggtg agtaacgagt 120

atccaacctg ccccgtgctc cgggacagcc ccgcgaaagc gggattaata ccggatggtg 180

cgtgtttccc gcatgggata tacgtcaaag attcatcggc acggg 225

<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 tttcggggtg atttggatta tggacagtgg cggacgggcg 120

agtaacgcgt gagtaacctg cccataagag 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

ggagcatact tgatggtaac tgatggtatt gcttagtggc ggacgggtga gtaacgcgtg 120

aggaacctgc cttggagtgg ggaataacag tcagaaatga ttgctaatac cgcataatgt 180

atacgggtcg catggtctgt ataccaaaga tttatcgctc tgaga 225

<210> 691
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 691
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60

gaagcacttt gacggaagcc ttcgggcgga agttgatttg acttagtggc ggacgggtga 120

gtaacgcgtg agcaacctgc ctgtatgtga gggataacac agggaaactt gtgctaatac 180

cgcatgaagc atgggaatcg catggttttg atgccaaaga cttgt 225

<210> 692
<211> 225
<212> DNA
<213> Unknown

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

<400> 692
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggcc   60

ggggaggggga aagcttgctt tcacctccca ggggcgaacg ggtgagtaat acgtaagcaa   120

cctgcccgcg ggtccgggat aagccctgga aacggggtct aagaccggat aggcggcggg   180

ggcgcatgcc ccctccgtta 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 ggcttgctct attgcatagt ggcggacggg tgagtaacac gtaggaacct   120

acctggtaat ggtggatagc ttcgggaaac tggaggtaat acagcatgag ctcgagagag   180

gaaaggccat aaggtcgtta 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 tatatttgtg gcatcgcaga tataccaaag 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 cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt   120 atccaacctg cccatgaccc cgggatagcc cgctgaaaag cggattaaca ccggatgtgg 180

tcgaacgagg acatctgatt tcgaccaaag ctttttgcg gtcat 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 ggaaacaggg gaaagtggcg gacgggtgag 120

taacgcgtga ggaacctgcc ttggagaggg ggacaacagc tggaaacggc 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 agcgacaggc tttggtcaat ggacgctagt 60

ctgaaccagc caagtcgcgt gcgggatgaa ggccctccgg gtcgtaaacc gctttagccg 120

gggagtaacg tgggggacgc gtccctcagt gagagtaccc ggagaataag catcggctaa 180

ctccgtgcca gcagccgcgg taat 204

<210> 698
<211> 225
<212> DNA
<213> Unknown

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

<400> 698
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatacga gcttagttga 180

aatactaatc ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 699
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 699

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggactttact gaaaagaggg cttgcccgat ggaaggtaaa gttagtggcg gacgggtgag 120

taacgcgtgg gtaacctgcc ttacacaggg ggacaacagt tggaaacgac 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 tgattggaaa cgatcactaa taccccataa aataaattta 180

ccgcatgata aatttatcaa 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 ttcggtggaa ttcagtcaag gacagcggcg gacgggtgag 120

taacgcgtgg gcaacctgcc cctttccgga 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 cgcaagggtg aggaacgcgt gagtaatctg ccctcaagtt 120

gggaacagct tctggaaacg gaaattaata ccgaatgtga tctcagggag gcatctttct 180

gggattaaag gccgcaaggt cgcttgagga ggggctcgcg tccca 225

<210> 703
<211> 225
<212> DNA
<213> Unknown

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

<400> 703
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat   60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctatcagcc   120

gaggataacc attggaaacg 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 Oscillibacter

<400> 704
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagctccga gaaacaagac ttcggtcaag cggaacggat gactgagtgg cgaacgggtg   120

agtaacgcgt gaggaacctg cctttcagtg gggataaca gttggaaacg actgctaata   180

ccgcatgaag tattctgggg gcatccccgg ggtaccaaag attta   225

<210> 705
<211> 225
<212> DNA
<213> Unknown

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

<400> 705
agagtttgat cctggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgagc   60

ggtgaatttt ggatttattc gagattcata gcggcggacg ggtgagtaac acgtgagcaa   120

cctacctcta agtgagggat agcttctgga aacggatggt aataccttat aatatatatt   180

tatcacatga tagatatatc aaagatttat tgcttagaga tgggc   225

<210> 706
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 706
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaggctctgc gaaatgaaga ttcgtctgaa tttcaaggat gtccgagtgg cggatgggtg   120

agtaacgcgt ggagaacctg ccctatgctg gggataaca actggaaacg gttgacaata   180

ccgcataagc ttccttagtc gcatgacctt ggaaggaaag attta   225

<210> 707

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 707
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaatttcctt cgaacagagg cttcggccaa cgggagattg aagtgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccttacaccg ggggataaca gagggaaact tctgctaata   180

ccgcataaga ccacggtacc gcatggtaca 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

cgcatgacgc atatttttcg catgtgagat atgccaaaga 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 gcggacgggt   120

gagtaacgcg tgggtaacct gcctatcaca gggggacaac agttggaaac gactgctaat   180

accgcataag cgcacggcac cgcatggtgc 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 ccctcgggcg gagatgaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa gggggattaa taccggatgc 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 ccttggtggc 180

atcaccaggg gaggaaagga gaaatccagt aaaagatggg ctcat 225

<210> 712
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 712
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggtacaga cgctgtgaga agaagtgctt gcacggaatc gaacttgttt gtacttagtg 120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat 180

tcctgctaat accgcataag cgcacagtat cgcatgatag 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

gcatcccgtt gaattgaagt gcttgcactg atttttaaca tcggatgagt ggcgaactgg 120

tgagtaacac gtgggtaacc tgcccagaag cgggggataa cacttggaaa caggtgctaa 180

taccgcataa caacagaaac cgcatggttt 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

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 ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggtct cttcggagat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccttagggtg 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 atgccaaaga tttat 225

<210> 718
<211> 225
<212> DNA
<213> Unknown

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

<400> 718
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatga cgagtgcttg cacttgttga tggcgaccgg cgcacgggtg cgtaacgcgt   120

atcgaacctt ccccttactc gggaatagcc cggtgaaaac cgaattaatg cccgatatat   180

atttagatgg catcagaaga gtatgaaaga tttatcggta 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

gagtgcttgt aaagactagc ggcaaacggg tgagtaacac atgggaaacc ttccttagaa   120

tgggggatat ctccgtgaaa acggagctaa taccgcataa 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 gacatacgga   180

attcgcatgt ttttcgtatc aaagatttat cgctcgaaga tgggc   225

<210> 721
<211> 225
<212> DNA
<213> Unknown

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

<400> 721
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac   60

gaaaacgggg cttgctctcg tttttagtgg cgcacgggtg agtaacgcgt gagtaatctg   120

ccttaaagtg gggaacaaca tttggaaacg aatgctaata ccgcgtaata tacagttttc   180

gcatgaattt tgtattatag atttatcgct ttaagatgag ctcgc   225

<210> 722
<211> 225
<212> DNA

<213> Unknown

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

<400> 722
agagtttgat catggctcag agcgaacgct ggcggcaggc ctaacacatg caagtcgaac   60

gaactcttcg gagttagtgg cggacgggtg agtaacacgt gggaacgtgc ctttaggttc   120

ggaataactc agggaaactt gtgctaatac cgaatgtgcc cttcgggggga aagatttatc   180

gcctttagag cggcccgcgt ctgattagct agttggtgag gtaaa   225

<210> 723
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 723
agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac   60

ggagtcacat tgaaacctag tgatttgtga cttagtggcg gacgggtgag taacgcgtgg   120

gtaacctgcc tggtattggg ggacaacagt tagaaatgac tgctaatacc gcatacgaca   180

tccggagggc atcctctgga tgggaaagga tttatccgat atcag   225

<210> 724
<211> 204
<212> DNA
<213> Unknown

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

<400> 724
agagtttgat cctggctcag gatgaacgct agctacaggc tttggtcaat gggcggaagc   60

ctgaaccagc caagtagcgt gcaggatgac ggccctatgg gttgtaaact gcttttatgc   120

gggaataaag aggctcacgt gtgggctgtt gcatgtaccg catgaataag gaccggctaa   180

ttccgtgcca gcagccgcgg taat   204

<210> 725
<211> 225
<212> DNA
<213> Unknown

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

<400> 725
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

<210> 726
<211> 225
<212> DNA
<213> Unknown

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

<400> 726
agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgggc   60

ggttgtgcgc cttcgggtgt acaatagcgg caaacgggtg agtaacacgt aagtaacctg   120

cccttaagac tgggatagcc cagcgaaagt tggggtaata ccggatgagg acctttagcg   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 ggaggtcatg gacagcggcg gacgggtgag   120

taacgcgtgg gcaacctgcc cttaactgag ggatagccga gggaaacttc gtgtaatacc   180

tcataacgca ttttgaccgc atgatcgaaa 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 caagtcgaac   60

gagggaagtt gattgagtag caatacgatt tcaatggaac gagtggcaaa 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 ctttctttga tgacgaccgg cgcacgggtg agtatcgcgt   120 atccaacctg cccataagta gggaatagcc ttgcgaaagt aagattaatg ccctatggtt 180

tccgtcgtag acatcttaga tggaataaag atttatcgct tatgg 225

<210> 730
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 730
agagtttgat cctggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac 60

gggtgttgaa gagcttgctc ttcttctact agtggcggac gggtgagtaa cgcgtgagta 120

atctgcctca aagtgggga taacacttag aaatgagtgc 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

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg 180

agggatggca tcgtccttcg gttaaagttc cggcggtctg gggtg 225

<210> 732
<211> 225
<212> DNA
<213> Unknown

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

<400> 732
agagtttgat cctggctcag gacgaacgct ggcggcacgc ttaacacatg caagtcgaac 60

ggagttaaag gagcttgctc ctttaactta 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

agagtttgat catggctcag gatgaacgct ggcggcgcat ttaagacatg caagtcgaac 60

gaagaatttg caccgaatga aagatgaaga ttcatcagat tctggatttc accgtaaatt 120

cttagtggcg gacgggtgag taatacgtag ataatctgcc ttctagaggg aaataacaga 180

gagaaatttc tgctaatgtc ccataagacc acactatggc 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 ttcggggtga 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 gaggaaagga 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 ggcatctccg 180

gatcctaaaa ggggctccaa agcctcgctg attgatggac ctgcg 225

<210> 737
<211> 225
<212> DNA
<213> Unknown

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

<400> 737
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgt atctggcttg ccagatatga tggcgaccgg cgcacgggtg cgtaacgcgt   120

atccaacctg ccgtttaccc 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 XlVa

<400> 738
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggggatgcgc caaagatgat gactcgtctg attcttagcg catcttagcg gcggatgggt   120

gagtaacgcg tggacaacct gcccgcaaca gggggataac agctggaaac ggctgataat   180

accgcatatg cacacgtggc cgcatggcca 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 XlVa

<400> 740
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagctctct tttggaaccc ttcggggtga agaaggagat gactgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccctgtacag gggacaaca gttagaaatg actgctaata   180

ccgcataagc gcacagcacc gcatggtgcc gtgtgaaaag ccttt   225

<210> 741

<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 tttggatatc 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 aataccggat aattctttta   180

acctcatggt tttaagctga 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

gagaagttgg aggtagcttg ctactgaaga tggaaaccgg cgcacgggtg cgtaacaggt   120

atgcaatctg tcctataccg gaggatagcc cactgaaagg tggattaata ctccatgtgc   180 cactgcgggg catcctatgg tggtgaaact tgagggtata gggtg 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 taccgcataa 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 cttcggtgga tatagagtgg cgaacgggtg agtaacacgt gggcaacctg 120

cccctcacac cgggacaact attggaaacg 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 gacgggtgag 120

taacgcgtgg gtaacctgcc ctgtacaggg ggataacagt tagaaatgac tgttaatacc 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

ggagcttact tttttaatac 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 XlVb

<400> 749
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaagttttag gaaagcttgc tttccgaaga acttagcggc ggacgggtga gtaacgtgtg 120

ggtaacttgc cctatgcaga gggataacag tgagaaatca ctgctaatac ctcataagct 180

cacactttca 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 tttaaccatg caagtcgaac 60

gagaaagggt agcaatacct gagtaaagtg 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 ccttactggt 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

<400> 752
agagtttgat catggctcag attgaacgct ggcggcaggc ttaacacatg caagtcgtac   60

ggtaacagag gggaataaag tgaggtacgt gtacctttt gtatgtaccc tatgaataag   120

gaccggctaa ttccgtgcca gcagccgcgg taat   154

<210> 753
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 753
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagtttagg ggaaggcgga ttcgtccaac ggaacctaaa cttagcggcg gatgggtgag   120

gaacgcgtgg ataacctacc gtgcacaggg ggataacagt tggaaacgac tgttaatacc   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 cttaagcatg 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 cggactggtg agtaatgtat   120

aagcaacctg cctataagag gggaataaca gtgagaaatc attgctaata ccgcataagc   180

tgtgagaatg gcatcattca aacagaaaag gaagcaattc cgctt   225

<210> 756
<211> 225
<212> DNA
<213> Unknown

<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 atgttgtata   180

taaggcgcat 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 acactgcgag   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 cagcgaaagt   180

tgtactaata ccgcataaga ccacggcatc acatggtggt ggggt   225

<210> 760

<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 ggataaccca 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 tttaagcatg 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

tgccctagag agggggacaa cagagggaaa ctcctgctaa taccccatat 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 ttctttaaag tggaaagcgg cggacgggtg   120

agtaacgcgt aggcaacctg cccttagcag gggatagcc attggaaacg atgattaaaa   180 ccccataatg cagagagttc acatgtattt tctgccaaag attta 225

<210> 764
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 764
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagttgttt ctatccgaca gatcatcttc ggatgtgaag tcaccagaaa cgcttagtgg 120

cggacgggtg agtaacgcgt gggcaacctg ccctgcacag ggggatagcg gttggaaacg 180

accggtaata 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 tagtggcgga cgggtgagta acacgtgagc 120

aacctgcctt caagtgcgga atagcttctg gaaacggatg gtaataccgc ataatgttat 180

ctggccgcat gaccggataa ccaaagaaat 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

ggagttattt ccgacacgga gccacttgag agagtggttg cgtgttgggg ataacttagt 120

ggcgaacggg tgagtaacgc gtaagcaatc tgccttacag agggggataa cgtttggaaa 180

cgaacgctaa taccgcataa cgtcatgaag aggcatcttt 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 cttcggggtg acgatttttt aacttagtgg cgaacgggtg 120

agtaacgcgt gagtaacctg ccttcaagag 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 cttcggtcaa gtctgtttca agtttagtgg cggacgggtg 120

agtaacgcgt gagcaacctg cctttcagag gggataacg ttcggaaacg atcgctaata 180

ccgcataaca tagggatatc 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 gtaagctaat accgaatact ccatttcctt 180

cgcatgttgg atctgggaaa gctttagcgg tgaaagatgg gctcg 225

<210> 771
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 771
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcagctt tgaaggagat ttcggtcaat 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 taatacggta tacgccctga   180

gggggaaaga tttatcgctt taggattggc ccgcggaaga ttagg   225

<210> 773
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 773
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagcgccttc gggtgcgagt ggcggacggg tgagtaacgc gtgggtaacc tgccttacac   120

agggggacaa cagttggaaa cgactgctaa taccgcataa gcccacggaa ccgcatggtt   180

ctgtgagaaa agatttatcg gtgtaagatg gacccgcgtc 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 gtgcttgcac tttatgtcag tggcgcacgg gtgagtaacg cgtaggaacc   120

tgtcttttag cctgggatag cctctggaaa cggagggtaa aaccggatga gccctgaggg   180

ggaaatgagc aatcagctga aagaggggcc tgcgttagat taggc   225

<210> 775
<211> 225
<212> DNA

<213> Unknown

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

<400> 775
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

gaagctttct ttcaccgaat gcttgcattc accgaaagaa gcttagtggc gaacgggtga   120

gtaacacgta ggcaacctgc ccaaaagagg gggataacac ttggaaacag 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 atcctattta 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 gtattttccg gttcg   225

<210> 778
<211> 225
<212> DNA
<213> Unknown

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

<400> 778
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagcgaaga agagcttgct ctttggagct tagtggcaaa cgggtgagta acgcgtaggc   120

aacctgccct tcagatgggg acaacacctc gaaaggggtg ctaataccga atgacgtgca   180

ttggtcgcat gaccgatgca ccaaaggccg ggcaaccggt cactg   225

<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 Lachnospiracea incertae sedis

<400> 780
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagttgaac   60

gaagaagtca gagtgcttgc actcaggctt actgagtggc ggacgggtga gtaacgcgtg   120

ggtaacctgc ctcacacagg 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

ggttaaaccg ccctcgggcg gacataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa 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 XlVb

<400> 782
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gggacgttcc gagtagcaat atgagggatg tttagtggcg gacgggtgag taacgcgtga   120 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 gagtggcaaa cgggtgagta acgcgtagac 120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtcag 180

attcccgcat gggagactga 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 gactgagtgg 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

gagaagttcg caacggaagc ttcggccgaa gatgcggatg 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

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggttaagccg gcttcggccg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccccgc accgggacag ccccgcgaaa gcgcggttaa taccggatag gcccccgcgc 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

gatgatcgga ggatgagacc ttcgggtgga ttcttccgag attagcggcg gatgggtgag 120

taacgcgtgg gcaatctgcc ctccacaggg ggataacaca gggaaacttg tgctaatacc 180

gcataacatc ttcgggaggc 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 tagtggcgga 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 tgcttgcaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120

cacccccccgg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180

gttggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 790
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 790
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggtgaaaggg 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 agggacagcc 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 ggctagtgg 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 Aminobacter

<400> 794
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc   60

gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctaccc atctctacgg   120

aataactcag ggaaacttgt gctaataccg tatacgccct tcgggggaaa gatttatcgg   180

agatggatga gcccgcgttg gattagctag ttggtggggt aatgg   225

<210> 795
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 795
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 Rikenella

<400> 796
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
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gattaaaccg ccttcgggcg gatataaagt ggcgaacggg tgagtaacac gtaaccaacc   120

taccccgcac actgggacag cctcgcgaaa gcgggattaa taccagatac tccttatgtt   180

acgcatgttt tataagggaa agcttttgcg gtgcgggatg gggtt   225

<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 cccccatcag gggataaca 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

gaggtatagc aatataccga gtggcgaacg 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 ctccgtgcca gcagccgcgg taat 154

<210> 802
<211> 225
<212> DNA
<213> Unknown

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

<400> 802
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggttt cttcggaaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccctaaactg ggggacaaca gagggaaact tctgctaata ccccatacga gctagcttga 180

aatagctatc ttgaaagctc cggcggttta 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

tgcctcatac agggggatag cagttggaaa cgactgataa taccgcataa gcgcacagta 180

ccgcatggta cagtgtgaaa aactccggtg gtatgagatg gaccc 225

<210> 804
<211> 225
<212> DNA
<213> Unknown

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

<400> 804
agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc 60

gagaaggtgc cttcgggtgc cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120

cccttaagac gggaatagct tgatgaaaat tgagataatg cccgatatta aattcttccg 180

catggaagag gtttgaaagg tttgtgatgg cgcttaagga ggggc 225

<210> 805
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 805
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagccatct tgaagatccc ttcggggtga 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 XlVa

<400> 806
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagctttgc ttatgatttt ttcggaatga ttaagtgaat gactgagtgg cggacgggtg 120

agtaacgcgt ggataacctg ccctttgcag gggataaca 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 gaccgcggaa 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

<400> 809
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gggaacctca tagtggagac ttcggtcaaa 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 Lachnospiracea incertae sedis

<400> 810
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg cagcagtggg 60

gaatattgca caatggagga aactctgatg cagcgacgcc gcgtgagcga tgaagtattt 120

cggtatgtaa agctctatca gcagggaaga 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 tggaaacggc 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 tccataaccg agggatagcc tcccgaaagg gagattaaaa cttcatgtgc 180

cacatgaggg catccgagag tggtaaaacg tttgggttat ggttg 225

<210> 813
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 813
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggactcata gtgacggaga tttcggtcaa agaagctttg agtccagtgg cggacgggtg   120

agtaacgcgt ggggaacctg ccctgtaccg ggggataaca gtgagaaatc actgctaata   180

ccgcataagc gcacatggtc gcatgaccgg gtgtgaaaag ctccg   225

<210> 814
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 814
agagtttgat cctggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac   60

gagatgagtg gcttcggtca tgaatctagt ggcggacggg tgagtaacgc gtggacaact   120

tgccttatag tgggggatag ccgaaagaaa tttcgattaa taccgcataa tacaatttgg   180

ttgcatgatc agattgggaa aggcttcggt cgctaaaaga aaggt   225

<210> 815
<211> 225
<212> DNA
<213> Unknown

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

<400> 815
agagtttgat cctggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac   60

ggtaaggtcc gaggtagcaa taccgaggat acacgagtgg cgcacgggtg cgtaacgcgt   120

atgcaaccta cctttgactg gaacataacg ttgagaaatc ggcgctaata ttccatgtgg   180

ttatgacccg gcatcgggat gtaactaaag atttattggt caagg   225

<210> 816
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 816
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

ggacatattg acttcggttg gtatgttagt ggcggacggg tgagtaacgc gtgagcaacc   120

tgcccctatg tgcgggataa cggctggaaa cggacgctaa taccgcataa cccaacggaa   180

ccgcatgatt ttgttggcaa agatttattg catagggatg ggctc   225

<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 tagtggcgga cgggtgagta acgcgtaacc aacctgcctt   120

ttacagggga ataacacttg gaaacaggtg ctaataccgc atatgaccac aacgcggcat   180

cgcgaagggg taaaagtttt atcggtaaaa 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 tttgcattcg 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

gaggaatgtt tgaaagcttg 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 aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtcag 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

gaagcacttc ggaacgagac ttcggtcaag ggaagatttg acttagtggc ggacgggtga 120

gtaacgcgtg agcaatctgc ctcggggtgc gggataacgt ttggaaacga acgctaatac 180

cgcatgacgc 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 gagtggcgaa cgggtgagta atgcgtgacc 120

gacctgcccc 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 XlVb

<400> 823
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaagaatgag aagcttgctt ttcattactt agcggcggac gggtgagtaa cgcgtgggta 120

acctgccctg tacaggggaa taacagttag aaatgactgc taatgcccca 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

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gattaaaccg gcttcggccg gatatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

taccccatac tccgggataa ctcagggaaa 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 tgttaatacc 180

gcataagacc acagcaccgc atggtgcagg ggtaaaagct ccgac 225

<210> 826
<211> 225
<212> DNA
<213> Unknown

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

<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

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

<400> 828
agagtttgat catggctcag gacgaacgct ggcggcacgc ctaacacatg caagtcgaac   60

ggtgtcggag gtgcttgcac 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 caccccttagg   120

acgaggatag cttctggaaa cggaaggtaa aactggatag tatataggga ggcatcttct   180

tatatttaaa agagcaatct acctaaggaa gagcctgcgg cgcat   225

<210> 831
<211> 225
<212> DNA
<213> Unknown

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

<400> 831
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgggc cgtagcaata cggtgccggc gaccggcgga cgggtgcgta acgcgtatgc   120

aaccttccct gcacaggggt atagcccggc gaaagccgga ataatccccc atagtttcaa   180

ttttccgcat ggagagttgg ataaacgggc gaccgggtgc aggat   225

<210> 832

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

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

<400> 832
agagtttgat catggctcag agcgaacgct agcggcatgc tttatacatg caagtcgaac   60

gaacgagttt atattgagta gcaatacgat ttatgaatga gttagtggcg aacgggtgag   120

taatatatag gaatttgccc agtagtgggg gacaacagtt agaaatgact gctaataccg   180

catacgcccg 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

ggttaaggcg ccttcgggcg cgaatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc tccgggacag cctcgggaaa ccgggattaa taccggatgc gccgggggc 180

gcgcatgcgc cccccgggaa agcccaggcg gcgcgggatg gggtc 225

<210> 837
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 837
agagtttgat cctggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

gaaatgagta gcttcggtta caagtttagt ggcggacggg tgagtaacgc gtggataatt 120

tgcctttcag tgggggatag ctgagagaaa tctcaattaa taccgcataa 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

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 accaacaaag atttatcggt 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

tggtaatatt gcatgataat accattaaag attaattggt aaacg 225

<210> 842
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 842
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcatccc ttgaaatttt cggatggatg gggatgactt agtggcggac gggtgagtaa 120

cgcgtgggta acctgcctca tgcaggggga caacagctgg aaacggctgc taataccgca 180

taagaccccg tgagcgcatg ctcaagaggt aaaagattta tcggc 225

<210> 843
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 XlVa

<400> 845
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtacaga cgctgtgaga agaagtgctt gcacggaatc aaacttgttt gtacttagtg   120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat   180

tcctgctaat accgcataag 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 cgtctggaaa cagacgctaa taccgcatat cgtacataat   180

tcgcatgaat aagtgtatga aaggagtaat ttgctggtag atggg   225

<210> 847
<211> 225
<212> DNA

<213> Unknown

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

<400> 847
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac   60

ggtaaacgcc ccttcggggg tgtgagagtg gcgcacgggt gcgtaacgcg tatgcaaccc   120

acccgctgcc gggggatagc ccggagaaat ccgaattaat accccatgag gaggaggtga   180

ggcatctcat ctttttcaaa acttcggtgg cggcggacgg gcatg   225

<210> 848
<211> 225
<212> DNA
<213> Unknown

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

<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 tgctagttca gtggcgaacg ggtgagtaac acgtaggtaa tctaccttta   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 XlVa

<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

<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 gcccg   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

gaggttggta gcaatatcaa ccgagtggcg aacgggtgag taacacgtag ggaacctgcc   120

ctttagtttg ggatacccag aggaaacttt ggctaatacc ggataattgt tctggaggca   180

tctccggaat ctgaaagggg cctttaaagc ctcgcttaag gatgg   225

<210> 853
<211> 225
<212> DNA
<213> Unknown

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

<400> 853
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaacacatt caagtcgaac   60

ggacggaggg gagcttgctc ccccgagtta gtggcggacg ggtgagtaac gcgtgagcaa   120

cctgcctttt ttcgggggat aacacgggga aaccggtgct aataccgcat aaagtaccga   180

catcgcatgg tgatggtacc aaaggagcaa tccgaggaaa gatgg   225

<210> 854
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 854
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggacttatga taagattctt cggatgattt ttataagtta gcggcggatg ggtgaggaac   120 gcgtggagaa cctgcccttc acagggggat aacagctgga aacggctgtt 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 cacttggaaa caggtgctaa taccgcataa gaccacgggt 180

tcgcatgaac caggggtaaa aggagagatc cggtgagggg tgagt 225

<210> 856
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 856
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaagttttag 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

ggagaaggga gcttcggctc ccggatcagt ggcggacggg tgagtaacgc gtgagcaacc 120

tgccttcgtg tggggaataa cacagggaaa cttgtgctaa taccgcataa tgcaaagaca 180

tagcattgtg actttgccaa agatttattg catgaagatg ggctc 225

<210> 858
<211> 225
<212> DNA
<213> Unknown

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

<400> 858

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gagaaagcac cttcgggtgt aagtagagtg gcgaacgggt gagtaacacg tgagcaacct 120

gcctctcact ttggaataac tcagagaaat ttgagctaat 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttgcgatccc gcatggggat gcaacgaaag attcatcggt agggg 225

<210> 860
<211> 225
<212> DNA
<213> Unknown

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

<400> 860
agagtttgat catggctcag gattaacgct ggcggcatgc ctaatacatg caagtcgaat 60

gggaagcttg ctttccatgg cgaacgggtg agtaacacgt aggtaagcca tacatcagac 120

gaggataacc tttggaaacg aaggataata ctggatagga tatttgatcg 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 ttcggtcaac ggaagggaag gacagtggcg gacgggtgag 120

taacgcgtga gcaacctgcc cttcggaggg ggacaacagc tggaaacggc tgctaatacc 180

gcataacgta tcacacaggc atctgagaga taccaaagat ttatc 225

<210> 862
<211> 225
<212> DNA
<213> Unknown

<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 gggtctaata ccggatggga ctgctggggg   180

catcctctgg tggtggaaag 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 ccttatattc   180

ctttttatca aaagataaaa agggaaagat ttattggtaa gagat   225

<210> 864
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 864
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggacccatgg aaatgattag cttgctatga aattccggaa ggttagtggc 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 Barnesiella

<400> 865
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcggga gcaaagcttg ctttgcttgc cggcgaccgg cgcacgggtg agtaacgcgt   120

atgcaacctg cctgtaacag ggggataacc cggagaaatc cggcctaaca ccgcataaca   180

catgtaagcc gcatggtttt catgtcaaat attcgtaggt tacag   225

<210> 866

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

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

<400> 866
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc   60

gagcggaacc aacagattta cttcggtaat gacgttggga aagcgagcgg cggatgggtg   120

agtaacacgt ggggaacctg cccctaagtc tgggatacca tttggaaaca ggtgctaata   180

ccggataaga aagcagatcg catgatcagc ttttaaaagg 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

ggtctcgcat ggggtttcgg ctaaaggggc gacccggttg 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 tgcccgggga gtggcgaaag ggtgcgcaac acgtgaggaa cccgcccccg   120

ggtccgggac aagcgctgga aacggcgtct aataccggat gccgaccgga atcgcatgat   180

tccgcgtcga aagtcttctc gcccggggaa ggcctcgcgt cccat   225

<210> 869
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 869
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gatgaaatac ggagacgagt tttcggacga gaggaagtat ggaatagtgg cggacgggtg   120

agtaacgcgt ggataatctg ccccatacag gggg atagca gttggaaacg actgataaca   180 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 ggcaccatgc ctaatacatg catgtcgagc 60

ggagtttaga gagcttgctt tctaaactta gcggcaaatg ggtgagtaac acgtaaggaa 120

cctgcctaag cgacgaggac aacggttgga aacgactgct aatactggat agtataagaa 180

accgcatgat ttcttattta aaggtccgtt 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

cctttcagag 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 tgcatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

cgccccggac accgggacaa cgggcggaaa cgcctgctaa taccggatac tccgcgacgg 180

acgcatgtcc gacgcgggaa agcccaggcg gtccgggatg gggtc 225

<210> 873
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 873
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagataagc accggatgaa gatttatcgg attccaccgc ttatcttagc ggcggatggg 120

tgagtaacgc gtggataacc tgccccttgc agggggataa caaccggaaa 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

ggagcttatc 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

ggcagcatgg 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

ggcagcggga ggtagcaata ccttgccggc gaccggcgca cgggtgcgta acgcgtatgc 120

aacctacctt caacaggggg ataacccaga gaaatccgga ctaatacccc gtatagtagc 180

gagaccgcat gatcttgcta cgaaagcttc ggtggttgga gatgg 225

<210> 877
<211> 225
<212> DNA
<213> Unknown

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

<400> 877
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc   60

gggaaacagt agcttgctac tgttgagagc ggcggactgg tgagtaacgc gtgggtgacg   120

taccctctgg atggggatag ctcctagaaa 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 gggaagcttg 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 Butyricicoccus

<400> 880
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

gggaacttta ttgaagttta ctgatataaa gttctagtgg cggactggtg agtaatgtat   120

aagcaacctg cctataagag gggaataaca gtgagaaatc attgctaata ccgcataagc   180

tgtgagaatg gcatcattca aacagaaaag gaagcaattc cgctt   225

<210> 881
<211> 225
<212> DNA

<213> Unknown

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

<400> 881
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcaagg   60

gggtgtagca atacacaacc ggcgcacggg tgagtaacgc gtgggaatat gtccatttgt   120

ggggaatagc ttctggaaac ggaaggtaat accgcatacg ccctacgggg gaaagattta   180

tcgcagatgg agtggcccgc gttggattag ctagttggtt gggta   225

<210> 882
<211> 225
<212> DNA
<213> Unknown

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

<400> 882
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat   60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggtaacctg tcttaaagac   120

gaggataacc attggaaacg 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 Oscillibacter

<400> 883
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagctccga aagcaacggt ttcggccgga gtggacggat gacttagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cccttcagag gggacaaca gttggaaacg actgctaata   180

ccgcataacg taaggaaatg gcatcatatt cttaccaaag attta   225

<210> 884
<211> 225
<212> DNA
<213> Unknown

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

<400> 884
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

gtgaagtttg aagtagcttg ctacggataa tggaaaccgg cgcacgggtg cgtaacaggt   120

atgcaatcta tcctaagccg gggatagcc cactgaaaag tggattaata ctccatgtgc   180

cacgaggggg catccttttg tggtgaaacg tgagggcata ggttg   225

<210> 885
<211> 225
<212> DNA
<213> Unknown

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

<400> 885
agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac   60

ggttaaagcc cttcggggtg aataaagtgg cgaacggctg agtaacacgt gggcaaccta   120

cccctcacat tgggatagcc tcgggaaacc gggagtaata ccgaatactc cggacatctc   180

gcatgggatg accgggaaag ctccggcggt gagggatggg cccgc   225

<210> 886
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 886
agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac   60

ggagtcacat tgaaacctag tgatttgtga cttagtggcg gacgggtgag taacgcgtgg   120

gtaacctgcc tggtattggg ggacaacagt tagaaatgac 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 taacctaccc ttaggactgg   120

gataaccctg ggaaactggg gataataccg gataggcaat ttttcctgta atggtttttt   180

gtttaaatgt tttttcgcct aaggatgggt ctgcggccga ttagg   225

<210> 888
<211> 225
<212> DNA
<213> Unknown

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

<400> 888
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcgt cgtagcaata cgatggcggc gaccggcgga agggtgcgta acgcgtgagc   120 aacttgcccg tcactgtggg ataggcactg gaaacggtgt gtaataccac gtaacactac 180

gagctgcatg gtttgtagtt gaaagattca ttggtgacgg atagg 225

<210> 889
<211> 225
<212> DNA
<213> Unknown

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

<400> 889
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgcgt tgtagcaata cgatggcggc gaccggcgca agggtgcgta acgcgtgagc 120

aacatgcccg caacaggggg ataaccggag gaaactccga ctaatacccc ataaggacgt 180

aggacggcat cgtccagcat ctaaacttac 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 cctgcgctaa taccggatac tccgcccggg 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

agagtttgat catggctcag aatgaacgct ggcggcgggt cttaagcatg caagtcggac 60

ggcaagaaag tgcttgcact ttcctagagt ggcggactgg tgaggaacac gttggtgacg 120

taccctttgg atggggatag ccggtagaaa taccgggtaa taccgaataa ggtcggtggt 180

cttggaagcc accgaggaaa gcggctttgg ccgcgccgaa ggaac 225

<210> 893
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 893
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcatgag tgatgagtaa tctgatctca tgacttagtg gcggacgggt gagtaacgcg 120

tgggtaacct acctcacaca gggggataac agttggaaac gactgctaaa accgcataac 180

atggcgatac cgcatgacat tgccatcaaa tatttatagg tgtga 225

<210> 894
<211> 225
<212> DNA
<213> Unknown

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

<400> 894
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gattaaccca 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
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgcgg 60

ggcagcggga gagaagcttg cttttcttgc cggcgaccgg cgcacgggtg cgtaacgcgt 120

atcgaacctg ccccagtcag gggacagcc ctctgaaagg aggattaata ccccatggtt 180

ccctgtgtcc gcatggacgt tgggataaag gagagattcg gactg 225

<210> 896
<211> 225
<212> DNA
<213> Unknown

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

<400> 896
agagtttgat catggctcag gatgaacgct ggcggcgcgc ctaacacatg caagtcgaac   60

ggtgaagtcc cttcgggggc tgatcagtgg cggacgggtg agtaacgcgt gaggaacctg   120

cccttatgag cggaataacg tcgggaaact gacgctaata ccgcataatg catcaccggg   180

gcatcgcggt gatgccaaag cttcggcgca taaggatgga ctcgc   225

<210> 897
<211> 225
<212> DNA
<213> Unknown

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

<400> 897
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

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 cctttcagag gggataacg 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 acactgggat aacctcggga aaccggggct aataccggat acgagacgct   180

cgggcatccg aagcgtctgg aaagatttat cggtctggga tggac   225

<210> 900

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

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 900
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggaacatttc gcccgatgat tgaagtagct tgctacggat tgaatcaact gaaatgttta   120

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
agagtttgat catggctcag gatgaacgct ggcggtatgc ttaacacatg caagtcgaac   60

ggtagcagca atgctatagt ggcggacggg tgagtaacgc gtgaacaatc tgcctgtatc   120

aggggaataa cagttcgaaa ggactgctaa taccgcatat gatcatagag ggcatccct   180

cagtgatgaa agatttatcg gatacagatg agttcgcgtc ctatt   225

<210> 902
<211> 225
<212> DNA
<213> Unknown

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

<400> 902
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

ggaaaggccc ttcggggtac tcgagcggcg aacgggtgag taacacgtga gcaacctgtc   120

cttgactctg ggataagcct gggaaaccgg gtctaatacc ggataggacc tgtctccgca   180

tgggggtggg tggaaagttt tttcggtcag ggtgggctc 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

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctaagagac   120

gaggataacc attggaaacg 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 attaggcatg caagtcggac 60

ggggtgcagc gatgcaccca gtggcgaaag ggtgcgcaac gcgtggggaa cctgcccccg 120

gatccgggac aagcgctgga aacggcgtct gatacgggat gcggaggggg gccgcatggc 180

ccccgctcca aagattcatc gtccggggag ggccccgcgt cccat 225

<210> 905
<211> 225
<212> DNA
<213> Unknown

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

<400> 905
agagtttgat catggctcag gatgaacgct agctacaggc ctaacacatg caagtcgagg 60

ggcagcatgg gagaagcttg cttttcccga tggcgaccgg cgaatgggtg agtcacgcgt 120

gtccaacctg ccttcagccc 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 XlVa

<400> 906
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gatgaagcgg ggaggaagtt ttcggatgga attcctgtgg aagagtggcg gacgggtgag 120

taacgcgtgg ataacctgcc ccgtacaggg ggatagcagc gggaaactgc tggtaatacc 180

gtatatgcgc acaactgccg 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 attaggcatg caagtcgaac 60

gaagcagcaa tgcttagtgg cgcaagggtg aggaacacgt gagtgaccta cccgcaagtt 120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcgataggcc gcatggttta 180

ttgattaaag cagcaatgcg cttgcggatg ggctcgcgtc 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

ggcatcaggt atctagcttg ctaggtatgc tggcgaccgg cgcacgggtg cgtaacacgt 120

atccaacctg cccgcagctc agggacagcc tttcgaaaga aagattaata cctgacggtc 180

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 acgagacgtt 180

cgggcatccg aagcgtctgg aaagatttat cggtctggga 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

ggttaagccg gcttcggccg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccccgc cccgggatag ccccccgaaa 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

<400> 911
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgaga gagtagcaat acttttgtcg gcgaccggcg cacgggtgag taacgcgtat   120

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg   180

agggatggca tcgtccttcg gttaaagttc cggcggtctg gggtg   225

<210> 912
<211> 225
<212> DNA
<213> Unknown

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

<400> 912
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagggtatta gtcagcttgc tgattgatac tcgagtggcg gacgggtgag taacgcgtga   120

ggaacctgtc ttcatcaggg ggataacgtc ccgaaaggga tgctaatacc gcatgagacc   180

acgataccgc atggtattga 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 aaatattcat aggtggtgga tgggc   225

<210> 915
<211> 225
<212> DNA

<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 ggcggtatgc ttaacacatg caagtcgcac 60

gagaaagttc ttcggaatga gtaaagtggc gtacgggtga gtaatgtata ggaatctacc 120

cagtaatgag gaataagcac tggaaacggt gtctaatacc acatactacc gatttatcgg 180

gaaaggttta atcttcgggt taaactgtta ttggatgagc ctata 225

<210> 917
<211> 225
<212> DNA
<213> Unknown

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

<400> 917
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

ggataccttc gggtattagt ggcgaacggg tgagtaacac gtaggtaatc taccttaaag 120

acggggataa cagatggaaa cgactgttaa taccggatag tatatgaagt cgcatgattt 180

tatatttaaa gttcccacgg gaacacttta agatgagcct gcggc 225

<210> 918
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 918
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagatgcat cagcgagagg attcgtccga tcaagatgta tcttagtggc ggacgggtga 120

gtaacgcgtg gataacctgc ctccatccgg gggatagcag ttggaaacga ctggtaatac 180

cgcatgagcg cacggtaagg catcttacag tgtgaaaaga ttaat 225

<210> 919
<211> 225
<212> DNA
<213> Unknown

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

<400> 919
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgaga gagtagcaat acttttgtcg gcgaccggcg cacgggtgag taacgcgtat   120

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg   180

agtggcggca tcgccgttcg gttaaagttc cggcggtctg gggtg   225

<210> 920
<211> 225
<212> DNA
<213> Unknown

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

<400> 920
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgtgg gggtagcaat acttccgacg gcgaccggcg cacgggtgag taacgcgtat   120

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggcca   180

caggcgggca tccgccagtg gttaaagttc cggcggtctg 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

gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaat   180

accgcataac gtacgtggat cgcatggtcc gtgtaccaaa 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 ctcttaaatg gagagcggcg gacgggtgag   120 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 Coraliomargarita

<400> 923
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagtcgagc 60

gagaaggtgc cttcgggtac cggaaagcgg caaacgggtg cgtaacacgt aagtaacctg 120

cccttaagac gggaacagct tgatgaaaat taagataatg cccgatatcc gcttctttcg 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 XlVa

<400> 925
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagctgcga cgctgatgat tggagtactt gtacgaagag aatcttgtcg tagcttagtg 120

gcggacgggt gagtaacgtg tggataacct ggtccaatct gggggatagc agctggaaac 180

ggctggtaat accgcataag cgcacggtgt ggcatcacac agtgt 225

<210> 926
<211> 225
<212> DNA
<213> Unknown

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

<400> 926

agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gagctgcttc ggcagcgagt ggcgaacggg tgagtaacat atgaataatc tacctcttta 120

actgggatac cagtctgaaa agactgctaa taccggatag gtaatactga ggcatctcgg 180

tattattaaa gatgcgtttg catcgaattg agatgagttc atatc 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 agctttagga aatgaaagtt 180

atttgacgac 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 taccgcataa 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 taccgcataa cgtatgatga 180

acgcatgttc gacataccaa aggagcgatc cgaagaaaga tgggc 225

<210> 930
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 930
agagtttgat catggctcag gacgaacgct ggcggtatgc ctaacacatg caagtcgaac   60

gggtgtgtag agagcttgct ctttatttca ctagtggcgg acgggtgagt aacgcgtgag   120

taatctgcct tgaagtgggg gataacattt ggaaacaagt gctaataccg cgtaatatac   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 tttatacatg caagtcgaac   60

gaaaaaccat acggagtagc aatacaaagt ggaagttttt agtggcgaac gggtgagtaa   120

tagataggaa cttgccgagt agtgggggac 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 attaggcatg caagtcgaac   60

gaagcagcaa tgcttagtgg cgcaagggtg aggaacacgt gagtgacctg cccgcaagtt   120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcatagagct gcatggtttt   180

atgattaaag cagcaatgcg cttgcggatg ggctcgcgtc 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 tttgaaagtc gagtggcaaa cgggtgagta acgcgtagac   120

aacctgcctt tgagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtgga   180

ttttccgcat gggagatcca ccaaagatga cctcttcctg aaagt   225

<210> 934

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

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

<400> 934
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggttaaagcg ccttcgggcg tgcatagagt ggcgaacggg tgagtagcac gtgaccaacc   120

tgccccgcgc 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 tttcggtgtg aagaacttaa tgacttagtg gcggacgggt   120

gagtaacgcg tgggtaacct acctcataca gggggatagc agttggaaac gactgataat   180

accgcataag cgcacaggac cgcatggtcc 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 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 cccggctaat 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 cccggtactc gggaacagcc ctctgaaagg aggattaatg cccgatgttc 180

cgtgcatccc gcctgggatg cccggcaaag attcatcggt accgg 225

<210> 940
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 940
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaggtattgc aatcgagatg gaggagcttg ctccgaagtc tcactcgtga taccgagtgg 120

cggacgggtg agtaacgcgt ggagaacctg ccccgtacag gggatacca attagaaatg 180

attgttaata 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

ggcagcggga gtagcaatac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa 120

cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcacctcat 180

caaggcatct ttttgaggtt aaatatttat aggtggtgga tgggc 225

<210> 942
<211> 225
<212> DNA
<213> Unknown

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

<400> 942
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccctaaactg ggggacaaca gagggaaact cctgctaata ccccatatga gcttagttga 180

aatactaatc ttgaaagctc cggcggttta ggatgagcct gtgcc 225

<210> 943
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 943
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagcgcccg gaacagagga ttcgtccgaa gggaagggat 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 ccccgcgctc 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

<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 Asteroleplasma

<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 Anaeroplasma

<400> 947
agagtttgat cctggctcag gataaacgct ggcggcgtgc ctaatacatg caagttgaac   60

ggagagcttc ggctcttagt agcgaacggg tgagtaacac gtaggcaacc tgccctgttg   120

actgggataa caagacgaaa gacttgctaa taccggatga taacgtatat cgcatgatat   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 tataccaaag cttaa   225

<210> 949
<211> 225
<212> DNA

<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

tctttaaaag 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 ttcggtcaag cggaacggat gactgagtgg cgaacgggtg   120

agtaacgcgt gaggaacctg cctttcagtg ggggacaaca gttggaaacg 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 ttcggtcaaa agaagcggac acttagtggc ggacgggtga   120

gtaacgcgtg agtaacctgc ctttcagagg ggaataacat ttggaaacga atggtaatac   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

ggcagcgagg gggcagcaat gcccctgtcg gcgaccggcg cacgggtgag taacgcgtat   120

ccaacctgcc ccatggtagg gaatagcccg gagaaatccg gattaatgcc ctatgttctc   180

cgacgatggc atctgacttg gagcaaagat ttatcgccat gggat   225

<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 Butyricimonas

<400> 954
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcgt cgtagcaata cgatggcggc gaccggcgca agggtgcgta acgcgtgagc   120

aacatgcccg caacaggggg 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 Pseudoflavonifractor

<400> 955
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagggtgaat gggagcttgc ttctgttcac ccgagtggcg gacgggtgag taacgcgtga   120

ggaacctgtc ttcatcaggg ggataacttc ccgaaaggga tgctaatacc gcataagacc   180

acggtaccgc atggtattga ggtcaaagga gcgatccgga tgaag   225

<210> 956
<211> 225
<212> DNA
<213> Unknown

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

<400> 956
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcgagt ttgtagcaat acagatgtcg gcgaccggcg cacgggtgcg taacaggtgt   120 gcaacctggc ctataccaag ggatagcccg ctgaaaggcg gattaagact ttatatgtta 180

tggtgagaca tctcattata atgaaacgtg agggtatagg 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 gagtggcaaa cgggtgagta acgcgtaggc 120

aacctacctt cgagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtatc 180

aattccgcat ggagttggta 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 ctttgtcggc gaccggcgaa agggtgagta acgcgtgagc 120

gacgtgcccg tcacaggggg acaagggctg 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

tgccccgcgc tccgggatag ccccgcgaaa gcgagattaa taccggatga cgcgggaggg 180

gcgcatgccc ctcccgccaa agcctcaacg gcgcgggatg gggtc 225

<210> 960
<211> 225
<212> DNA
<213> Unknown

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

<400> 960

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagaatcata tgacggaggc ttcggccaac tgagtatgag gaaagtggcg aacgggtgag 120

taacgcgtga ggaacctgcc tcggagtggg ggacaacagt tggaaacgac 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 tggaaacgac 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 gaataccttt 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 ggaaagagtt ttcggacaat ggaagcggag ggaagtggcg gacgggtgag 120

taacgcgtga ggaacctgcc ttagagaggg ggacaacagc tggaaacggc tgctaatacc 180

gcatgacaca cagtggaggc atctttactg tgtcaaagat ttatc 225

<210> 964
<211> 225
<212> DNA
<213> Unknown

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

<400> 964
agagtttgat catggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg   60

ggcagcgggg gcgatggcaa cattgcctgc cggcgaccgg cgcactggtg 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 gcaattcgct 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 ccccgcagta gggtccagcc cgttgaaaga cggattaatc ccctatgttg   180

tccattgacg gcatccgatt tggacgaaag atttgatcgc tgcgg   225

<210> 968

<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 gcggacgggt gagtaacacg 120

tgagcaacct gcctttagga gggggataac attgagaaat cagtgctaat accgcataac 180

gcataatgtt cgcatgaacg atatgccaaa ggagaaatcc accta 225

<210> 969
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 969
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaggtgtcc gtacgggtgc ttcggcatcc agggcacctt agtggcggac gggtgagtaa 120

cgcgtggaga acctggccca tgcaggggga taacagcggg aaaccgctgc taataccgca 180

taaacgcgaa agggggcatc ccttttggcg 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 ggccctatgg gttgtaaact gtttttatac 120

ggggataaaa cgagggacgt gtccctcctt gcaggtaccg tatgaataag gaccggctaa 180

ttccgtgcca gcagccgcgg 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 aacaaagatt tatcggagtg agattttaat tacaatggct 120

ttagtggcgg actggtgagt aatgtataag taacctgcct attagagggg aacaacagtt 180

ggaaacagct gctaataccg catatgccat 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

ggttaaggca tcttcggatg cgaataaagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccccgc accgggacaa cgggcggaaa cgcctgctaa taccggatac tccgcgacgg 180

acgcctgtcc ggcgcgggaa agcccaggcg gcgggggatg ggtc 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 actggaaacg 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 cttaagcatg caagtcgggc 60

gggatcgtgg tgcttgcacc acgtgagagc ggcggactgg cgaggagcgc gtgggtgacg 120

cacccccccgg acggggacag ccggcagaaa tgccgggtga taccggatga ggtccccctt 180

gttggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 976
<211> 187
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 976
agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaattggac aatgggggca 60

accctgatcc agcgacgccg cgtgagcgat gaagtatctc ggtatgtaaa gctctatcag 120

cagggaagat aatgacggta cctgactaag aagcaccggc taaatacgtg ccagcagccg 180

cggtaat 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

gggtataact tgttatacca gtggcaaacg ggtgagtaat acgtagatat gtacccagta 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

tcgcatggtt cggatatcaa agatttatcg ctgtaagatg ggctc 225

<210> 979
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 979
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacccc 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

ggagttgttt tggatgatgc cttcgggtgg attccgattc aacttagtgg cggacgggcg   120

agtaacgcgt gaataacctg cccataagag 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 ctcgtggcgt acggctcagt aacacgtgga taacctaccc ttaggactgg   120

gataaccctg ggaaactggg gataatacta gataggcaat ttttcctgga atggtttttt   180

gtttaaatgt tttttcgcct 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

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggcca   180

tggatgggca tccatctatg gttaaagttc cggcggtctg ggtg   225

<210> 983
<211> 225
<212> DNA

<213> Unknown

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

<400> 983
agagtttgat cctggctcag aacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gcgaaagcgg cttcggtcgt gagtagagtg gcgcacgggt gagtaacgcg tagataacct 120

gtcttcatat tcgggataac acgccgaaag ggtactaat accggatata ctcgcatttc 180

aataggtgag gcgaggaaag gtggcctctg attcaagcta ctgta 225

<210> 984
<211> 225
<212> DNA
<213> Unknown

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

<400> 984
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaactattt tgaaggatct cttcggagtg acggattttt 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 XlVa

<400> 985
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagatgcac attggatgaa gattcgtccg aatcctggtg catcttagcg gcggatgggt 120

gagtaacgcg tggacaacct gcccgcaaca gggggataac agctggaaac ggctgataat 180

accgcatatg cacacggaac cgcatggttt tgggtggaaa gatta 225

<210> 986
<211> 225
<212> DNA
<213> Unknown

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

<400> 986
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gggaggaaaa gagaagcttg cttctttttg aatctagtgg caaacgggtg agtaacacgt 120

aaacaacctg ccttcaggat ggggacaaca gacggaaacg actgctaata ccgaatgtgt 180

tccggagacc gcatgatttc cggaagaaag gatggcctct attta 225

<210> 987
<211> 225
<212> DNA
<213> Unknown

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

<400> 987
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagacgattt taagcttgct tagatgagtc gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtatc   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 ttcggggtga 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 tgccatacac agggggataa cgaccggaaa cagtcgctaa taccgcataa cgcatgaagg 180

tcacatggtc tttatgccaa 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

ggcagcatgg aggttgcttg caacctctga tggcgaccgg cgcacgggtg cgtaacgcgt 120

atccaacctg ccccttactc tggaatagcc cggcgaaagt cggattaatg ccggatgttg 180

tcagacgagg acatctgaat ctgaccaaag gccctagggt cggta 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

gatcgcatgg tcgagatacc aaaggagcaa ttcgctgaag gatgg 225

<210> 994
<211> 225
<212> DNA
<213> Unknown

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

<400> 994

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagctctca cgcttgagtt ttcggacaag agggtgagaa gacttagtgg cggactggtg 120

agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaaacg actgctaata 180

ccgcataatg tacagagacc gcatgatctt tgtaccaaag cttta 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 gagcaaccta cctatgcgcg 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 XlVb

<400> 996
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60

gaaggacaaa gagcttgctt tttgttactt agcggcggac gggtgagtaa cgtgtgggca 120

atctgcccta tgcagaggaa taacatagag aaatttatgc taatgcctca taaactctta 180

gaatcgcatg 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 gtgttgaaac ttcggtagat acatctggtg gacagcggcg gacgggtgag 120

taacgcgtgg gaaacctgcc cttatctgag ggatagccga gagaaatttc gagtaatacc 180

tcataatgca tcgagaccgc atggccatga tgccaaagat ttatc 225

<210> 998
<211> 225
<212> DNA
<213> Unknown

<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

taccgcataa 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 gcatcatttc 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 ggatacccag 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

ggtaaacgcc ccttcggggg tgtgagagtg gcgcacgggt gcgtaacgcg tatgcaaccc   120

acccgctgcc gggggatagc ccggagaaat ccgaattaat accccatgag gaggagatga   180

ggcatctcat ctttttcaaa acttcggtgg cggcggacgg gcatg   225

<210> 1002

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

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

<400> 1002
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

gggaacttta ttgaagttat ctgatataaa gttctagtgg cggactggtg agtaatgtat   120

aagcaacctg cctacaagag gggaataaca 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 XlVa

<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

ggacccatgg agatgattag cttgctatga atttccggaa ggttagtggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga 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 gggtgagtaa cgcgtgagga   120

acctgccttt cagaggggga taacgtcttg aaaaggacgc taataccgca tgacaccgga   180 ttgtcgcatg gcagaccggt 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 gggtccaaag 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 tttttctaag gacagcggcg gacgggtgag 120

taacgcgtgg gcaacctgcc cctttccgga 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttatgtttcc gcatgggaat ataacgaaag attcatcggt 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

gaagcagcaa tgcttagtgg cggaagggtg aggaacgcgt gagtaatctg cccccaagtt 120

gggaataaca gctggaaacg gttgctaata ccgaatgtgg ctgcctggtc gcatgatcgg 180

gcagttaaag atttattgct tggggatgag ctcgcgtccc 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 ccttacacag ggggataacg attggaaacg atcgctaata 180

ccgcataaga ccacagtacc gcatggtaca ggggtaaaag 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

gggaatacct agcttgctag gtatgagagc ggcggactgg tgagtaacac gtagataacg 120

caccctctag acggggatag ctgccagaaa tggcagataa taccggatgt gaacgtatgc 180

cgtgaaggtg 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 ggttggcttg ccatccctgg tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccccgaaccg cggtatagcc 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

<400> 1013
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcactg ggtgcgcttg cgcaccctgg tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc   180

tcgcgcgatg gcatcttatc 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

gggactagtg accggagatt agagcttgtt gttctagttt gcgatcacta gttcagtggc   120

ggacgggtga gtaaagcatg agcaacctgc ctagtagagg gggatagctt ttggaaacag   180

aagataatac cgcatgaatc agagatttcg catgagattt ttgga   225

<210> 1015
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1015
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagggtccta 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 cttagcttgc taaggccgat ggcgaccggc gcacgggtga gtaacgcgta   120

tccaacctgc cgtccagtag gggacagccc gtagaaatgc ggattaatac cctatgttct   180

ccgaggatga catcagattc ggagtaaaga ttcatcgctg gacga   225

<210> 1017
<211> 155
<212> DNA

<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 cttcggtatg atttttctaa aatcgagtgg cggacgggtg   120

agtaacacgt gggtaacctg cccttaagta ggggataaca tttggaaaca gatgctaata   180

ccgtataaat ctcagaaaca 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

ggttaagccg gcttcggccg ggtatacagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc tccgggacaa ccgctggaaa cggcggctaa taccggatac tcccgcctcc   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 tgaaagcttg cttttgagaa tacttagtgg cggacgggtg agtaatgcat   120

gagcaacctg cctttaagag gggataaca cagagaaatc tgtgctaata ccgcatagaa   180

cactgagatg gcatcatcat agtgggaaag gagcaatccg cttaa   225

<210> 1021

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

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

<400> 1021
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaaaacatg caagtcgaac   60

ggagatttta gggagcttgc ttcttgaaat cttagtggcg gacgggtgag taacacgtga   120

gcaacctgcc tatcacaggg ggataacact tagaaatagg tgctaatacc gcatatgacc   180

acagaccggc atcggtcaga ggtgaaagga gttaaatctg 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 cggttggaaa cgaccgctaa taccggatag gtaaaaccga ggcatcttgg   180

ttttattaaa 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 ggcggtgtgc ctcatacatg caagtcgaac   60

gataaggttc cttcgggaat 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 cggtataaga 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 cttcggtcag tggaaagtgg cggacgggtg agtaatacat aggaaatctg 120

cccttaggaa ggggataaca gtcggaaacg attgctaata ccctatatga gcttggttgc 180

aataccaatc ttgaaaactc cggtgcctaa 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 taccggatag 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 tacgcgaggt acacgagtgg cgcacgggtg cgtaacgcgt 120

atgcaacctg ccccccttccg ggacaaaacg tcgagaaatt ggcgctaata tcccatggcg 180

acccttgggg gcatccccgg gggtccaaag attcattgga agggg 225

<210> 1028
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1028
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcactta ttgagaacct tcgggtgatc ggcaagtgac tgagtggcgg acgggtgagt 120

aacgcgtggg taacctgccc tgtacagggg gataacagcc agaaatggct 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 gcgat 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 tgagttagtg gcggactggt gagtaacgcg 120

tgagcaacct gcctataaga ggggaataac ggagagaaat tttcgctaat accgcataag 180

ctgatagagt cgcatgactt 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

ggacttaccc tggatgaggc cctcgggcgg 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 Glaciecola

<400> 1032
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggactattt ggggaatatt gcacaatggg ggaaaccctg atgcagccat gccgcgtgtg   120

tgaagaaggc cttcgggttg taaagcactt ttgcattcga ggaagacagc gtataaacaa   180

atgcgctatt tgacgttaga gtgtgaataa gcaccggcaa actcc   225

<210> 1033
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1033
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggaattaa cattgaaatt ttcggatgga tttgtttttt 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 cagtgctaat accgcataaa   180

gcatctttac cgcatgatag 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

cgcatgacgc 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 ggaaaccgga gctaagaccg catacgttca gtttcgggga   180

cggaattgag gaaagctttc gagcgctgat ggagggggct gcggc   225

<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

ccctttagtg gggacaaca gttggaaacg actgctaata ccgcatatgc gcgtacctgt   180

aatggtattc gtgaaaactc cggtgctaaa ggatgagtct gcatc   225

<210> 1038
<211> 225
<212> DNA
<213> Unknown

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

<400> 1038
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgt cggtggcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg ccctcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc   180

tcgcgcgggg gcatctgccc gcgagcaaag gtttgttccg gttgg   225

<210> 1039
<211> 225
<212> DNA
<213> Unknown

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

<400> 1039
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

gagatagcaa tatcgagtgg cgaacgggtg agtaacacgt aggtaacctg ccttacagtt   120

tgggataccc tggcgaaagc taggctaata ccgaataatt ggattggagg catctccgat   180

ctctaaaagg ggcccttaaa gcctcgctga atgatggacc tgcgg   225

<210> 1040
<211> 225
<212> DNA
<213> Unknown

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

<400> 1040
agagtttgat catggctcag gacgaacgct ggcggcacgc 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 gggaataaca gatcgaaagg cctgctaata ccgcatgacg tacgactgtc   180

gcatggcaga ggtaccaaag atttatcgca cacagatgga ctcgc   225

<210> 1042
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1042
agagtttgat catggctcag gatgaacgct ggcggcgcgc ataacacatg caagtcgaac   60

ggagtgtaat tgaaacctag tgattttaca cttagtggcg gacgggtgag taacgcgtgg   120

gtaacctgcc tggtattggg 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 tcggccggaa gggatgagtt tagcggcgga cgggtgagta   120 acgcgtgagc aacctgtcct tcacaggggg ataagacagc gaaagttgtt ctaataccgc 180

ataggaccac gggtgggcat ccatctgggg tgaaaggagc aatcc 225

<210> 1044
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1044
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagatattt aagatgaagg cttcggtctg attttttat 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

gaaaaagttt caccgcagct tgctgcaccg aaacttttta gtggcggacg ggtgagtaac 120

acgtgagcaa tctgcctttt agagggggat accagttgga aacgactgtt aataccgcat 180

aacatatcga aaccgcatga ttttgatatc 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 tttcggtgtg taaaccactg tcgtgaggga ataaggcgtc ttctcggaga 120

cgttgaatgt acctcgaaag gaagcaccgg caaacttcgt gccagcagcc gcggtaat 178

<210> 1047
<211> 225
<212> DNA
<213> Unknown

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

<400> 1047
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgtac 60

ggggtatagc aatataccta gtggcgaacg ggtgagtaac acgtgagtaa cctgccctat 120

acagggggac aacagctgga aacggctgct aataccgcat aagaccacag caccgcatgg 180

tgcagaggta aaaggctacg gccggtatag gatgggcttg cgtac 225

<210> 1048
<211> 225
<212> DNA
<213> Unknown

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

<400> 1048
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg tctataagac 120

gaggataacc attggaaacg atggataata ctggatagga tattggaagg catcttctaa 180

tatttaaaga 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 ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccctaaagcg gggacaaca gagggaaact tctgctaata ccccatatga gcttggttga 180

aataccaatc ttgaaagatt tatcacttta ggatgagcct gtgcc 225

<210> 1050
<211> 225
<212> DNA
<213> Unknown

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

<400> 1050
agagtttgat cctggctcag gatgaacgct ggcggcaggc ctaatacatg caagtcgcgc 60

gggaattgcc ctttcggggg tgatgagagc ggcggacggg tgcgtaacgc gtatgcaacc 120

aacccccgac aggcggatag ccggtggaaa cgccggataa tacgccatga acccttttg 180

gggcatccca gggaggggaa agcggagacg cggtcgggga cgggc 225

<210> 1051
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1051
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcgtctc gcccgaagaa gcgaagtgct tgcacggagt ggattcaatt gagacgactt   120

agtggcggac gggtgagtaa cgcgtgggta 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 gcaattcgct gatag   225

<210> 1053
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1053
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggggcgttc cgccggggag gcttcggccg aaccatgggg cgcccgagtg gcggacgggt   120

gagtaacgcg tggacaacct gccccccacc ggggaataac acctggaaac aggtgctaat   180

accgcatgag ccccagagcc cgcatgggca ctgggggaaa gctcc   225

<210> 1054
<211> 225
<212> DNA
<213> Unknown

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

<400> 1054
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcgaga ggaaagcttg ctttctttgt cggcgaccgg cgcacgggtg cgtaacgggt   120

gtgcaatctg cccataatcg gggcatagcc taacgaaagt tggattaatt ccccatgtgc   180

tatggagagg catctcttcg tagtgaaacg taaggattat ggttg   225

<210> 1055
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1055
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggggacttta cgacagattt gaagacttcg gttgaatatg aagatgtaaa gttctagcgg   120

cggacgggtg agtaacgcgt gagcaacctg tcccttacag gggataaca cagcgaaagt   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 cggtggcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccacaacct ccgaatagcc cgccgaaagg cggattaatg cgggatgtgg   180

tctgaagaag acatctgaac tagaccaaag gttttttccg gttgt   225

<210> 1057
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1057
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggataatg acttcggtca ttattcgagt ggcggacggg tgagtaacgc gtgagcaatc   120

tgtccttaag agggggataa caactggaaa cagttgctaa taccgcataa gaccacggct   180

tcacatggag ctgaggtaaa agaagcaatt cgcttaaggg tgagc   225

<210> 1058
<211> 225
<212> DNA
<213> Unknown

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

<400> 1058
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcgg ggtagcaata ctctggcggc gaccggcgga agggtgcgta acgcgtgagc   120

aacttgcccg tcactgtggg ataggcactg gaaacggtgt gtaataccac gtaatacatt   180

tgctcgcatg ggtggatgtt gaaaggatta ccggtgacgg atggg   225

<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 tctgcggaga tttcggtcaa 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 tttggtcaat gggcgcgagc   60

ctgaaccagc caagtagcgt gcaggatgac ggccctatgg gttgtaaact gcttttatgc   120

ggggataaag ttcactacgt gtagtgtttt gtaggtaccg catgaataag gaccggctaa   180

ttccgtgcca gcagccgcgg taat   204

<210> 1061
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1061
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtacaga cgctgtgaga agaagtgctt gcacggaatc aaacttgttt gtacctagtg   120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat   180

tcctgctaat accgcataag cgcacaagag ggcatcctca 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 tggaatggta agtctagtgg cggacgggtg   120 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

gggaaatatc tgaaagcttg cttttggata tttttagtgg cggacgggtg agtaacacgt 120

gagcaacctg ccttagagag gggataacg 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 tgcccgcatc aggggcataa tcggtggaaa cgccgtctaa ctccccataa 180

catacgaggt ggcatcactt tgtattgaaa tccttggagg 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 cccatgaccc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180

tcgaacgagg acatctgatt tcgaccaaag cttcggcggt catgg 225

<210> 1066
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1066

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggttgtgc gctgaggaag cttcggcaga atcttgcaca 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 XlVa

<400> 1067
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcactgg ggatgaagtt ttcggacaga attccctttg acttagtggc ggacgggtga 120

gtaacgcgtg ggtaacctgc ctcacactgg 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 tttcggtcaa atcttttaag tggaaagcgg cggacgggtg 120

agtaacgcgt aggcaacctg cccttagcag ggggatagcc attggaaacg atgattaaaa 180

ccccataata cggatatatc acatgttaaa tccgtcaaag attta 225

<210> 1069
<211> 225
<212> DNA
<213> Unknown

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

<400> 1069
agagtttgat cctggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac 60

ggacgatacg agaaacttcg gttttttgta aagttagtgg cggacgggtg agtaacacgt 120

gagcaatctg cctttgattg gggataacg cagggaaact tgtgctaata ccgcataaag 180

tgccgaggac gcatgaccac ggcaccaaag ctccggcgat caaag 225

<210> 1070
<211> 225
<212> DNA
<213> Unknown

<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 ggtggttgga gatgg   225

<210> 1071
<211> 225
<212> DNA
<213> Unknown

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

<400> 1071
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggggcgaaga agagcttgct ctttggagcc tagtggcaaa cgggtgagta acgcgtaggc   120

aacctgccct tcagatgggg acaacacctc gaaaggggtg ctaataccga atgacgtatg   180

ctggtcgcat gaccggcata ccaaaggccg 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 cgaagtttgg 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 attaggcatg caagtcgaac   60

gggatccggg aggtagcaat acttcctggt gagagtggcg gattggggag gaacacgtga   120

gcaacctgcc tttgagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg   180

cccggagaca tcttcggagc gctaaagggg gccgcaaggc tctcg   225

<210> 1074

<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 cttaagcatg caagtcgagc   60

ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt ggatgacgca   120

ccctcctgat cgggatagcc tgtggaaaca cagggtaata 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 gggattaaaa   180 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 gtcggaaacg actgctaata 180

ccgcataaga ccccggcacc gcatggtgct gaggccaaaa 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 ccttcggggg ccctgagagt ggcgcacggg tgcgcaacgc gtatgcaacc 120

aacccccgac aggcggatag ccggtggaaa cgccggataa tacgccatgg 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 tgccttgtac 120

acagggataa cagatggaaa catctgctaa taccggataa gaccacagac cggcatcggt 180

caggggtaaa agtgatttag cggtacaaga tgggctcgcg tccaa 225

<210> 1081
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1081
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagctctgc tgcggaactc ttcggaggga aggagcggat gactgagtgg cggacgggtg 120

agtaacgcgt gggtaacctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180

ccgcataagc gtacggtgcc gcatggcaca gtgcgaaaaa ccgag 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 III

<400> 1083
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagaatttag taaatgattt cttcggaatg attttgctaa aggaaagtgg cggacgggcg 120

agtaacgcgt gagtaacctg cccataagag gggataatc cttggaaacg aggactaata 180

ccgcatattg tagctttacc gcatggttta gttatgaaag attta 225

<210> 1084
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1084
agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcatttt gccacgatcc cttcggggtg acggcattct gacttagtgg cggacgggtg 120

agtaacgcgt ggacaacctg ccgcatgcag gggataaca gccggaaacg gctgctaata 180

ccgcataagc gcacagtgcc gcatggcacg gtgtgaaaaa ctttc 225

<210> 1085
<211> 225
<212> DNA
<213> Unknown

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

<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 Acholeplasma

<400> 1086
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

gctaactttc gggttagagt ggcgaacggg tgagtaacac gtaggtaacc tgcccataag   120

acgaggataa ctactggaaa cggtagctaa tactggatag tatatagagt cgcatggctt   180

tatatttaaa gatgccttca agcatcactt atggatggac ctgcg   225

<210> 1087
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1087
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagaatttag caaatgattt cttcggaatg attttactaa aggaaagtgg cggacgggcg   120

agtaacgcgt gagtaacctg cccataagag gggataatc 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 gccccaaagc gggggataac atttggaaac   180

agatgctaat accgcataac aatttgaatc gcatgattca aattt   225

<210> 1089
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1089
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

<210> 1090
<211> 225
<212> DNA
<213> Unknown

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

<400> 1090
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
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gggatcctgc gggctttgct tgcgggtgag agtggcgaac gggtgagtaa tgcgtgacca 120

acctgcccca tgctccggaa tagctcctgg aaacgggtgg taatgccgga tgctcccgcg 180

ccccgcatgg ggtgtgggga aagctttcgt ggcatgggat ggggt 225

<210> 1092
<211> 225
<212> DNA
<213> Unknown

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

<400> 1092
agagtttgat cctggctcag gatgaacgct ggcggcaggc ttaatacatg caagtcgaac 60

ggtaaggccc gaggtagcaa taccgagggt acacgagtgg cgcacgggtg cgtaacgcgt 120

atgtaatctg cccctgaccg gaacaaaaca gctggaaacg gctgctaata ttccatggcc 180

atcttcccgg gcatccggga ggatgtaaag attcattggt cgggg 225

<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 accttggaga gggggataac attgagaaat cagtgctaat 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 tgctaatacc   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 taccgcatat 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 tgtagcaata cattgatgac gaccggcgta tgggtgagta atacgtacgt   120 aatctacctc atatagaaga ataactccta gaaatgggaa ctaatgcttc atacagtttt 180

aaaaggaatc ttttaaaatg 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 Hippea

<400> 1098
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaattcttac agagtatcgt aagagttagc ggcaaacggg tgagtaacac atgggaaacc 120

tcccttagaa tggggaacat ctccgtgaaa acggagctaa taccgcataa 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

ggacgaagtt agaatcttta cgtttttaac taagttagtg gcggactggt 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

agagtttgat catggctcag aacgaacgct ggcggcgcgt tttaagcatg 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 actggaaacg 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 ccggtggaaa cgccggataa tacgccatgg 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

ggaactagtg accggagggt agagggatct atcttgcgat cactagttca gtggcggacg 120

ggtgagtaaa acatgagcaa cctggctagt agagggggat agcttttgga aacagaagat 180

aataccgcat acatcagaga tttcgcatga agtttttgga aaagg 225

<210> 1104
<211> 225
<212> DNA
<213> Unknown

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

<400> 1104
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggttaacccg ccttcgggcg gtcataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc tccgggacag cctcgcgaaa gcgggattaa taccggatgc accgcacctt   180

tcgcatgatc 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 agcaaccttc ctgcctgtga gggataacac agggaaactt gtgctaatac   180

cgcatgacgc acagacatcg catggtgagt gtgccaaaga 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 tggaaagcgg cggacgggtg   120

agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa   180

cctcataatg ccggttttac acatgttgga ccggccaaag 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 gagtgaagtt ttcggatgga gcgaagataa cttagtggcg gacgggtgag   120

taacgcgtga gtaacctgcc cattagaggg ggataacgtt ctgaaaagaa cgctaatacc   180

gcataatata tttagttcgc atgaactgaa tatcaaagga gcaat   225

<210> 1108

<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 XlVa

<400> 1109
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagagacag cggagattca atcgatgatc tgcttcttct tagcggcgga tgggtgagta   120

acacgtgggt aacctgccct gcactggggg ataacagttg gaaacgactg ttaataccgc   180

atatgcgcac 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 ataaattttt aatttatttc aaggatagtg gcgaacgggt gagtaacgcg   120

tgagcaacct accttttaga gggggataac gcttggaaac aggcgctaat accgcataag   180

ctccgagtat tgagtgatac aaggagaaaa ggaggaatcc gctaa   225

<210> 1111
<211> 225
<212> DNA
<213> Unknown

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

<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 ccgcgttaga 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 attcagggat 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 gattggtttc ggccattcct ggtggcgacc ggcgcacggg tgagtaacgc 120

gtatccaacc tgcccgcaac cgcggaatag cccgccgaaa ggcggattaa tgccgcatgc 180

gctcgcgcgc tggcatctga tcgcgagcaa 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 agaacgccaa 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

ggtagaaagt agcttgctac ttttgagagc ggcgtacggg tgcggaacac gtgtgcaacc 120

tgcctttatc tggggaatag cctttcgaaa ggaagattaa tgccccataa 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

gagcaaccta cccttgtcag 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 tgtagcaata 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

<400> 1119
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gaagcacttt ggcggaacct tcgggggaag ctgatttgac ttagtggcgg acgggtgagt   120

aacgcgtgag caaccttcct 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 Butyricicoccus

<400> 1120
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gggacttaga gggcttgccc tttaagttta gtggcggacg ggtgagtaac gcgtgagtaa   120

cctacctaca tgagagggat aacacaggga aacttgtgct aataccacat aacatactga   180

attcgcatgt atttagtatc aaagagcaat cgcatataga tggac   225

<210> 1121
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1121
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggactgattt ccttcgggaa tgaaagttag tggcggacgg gtgagtaacg cgtgaggaac   120

ctgccttaca gagggggata acgataagaa attgtcgcta ataccgcata acacctcaca   180

cccgcatggg 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 ctttatttca ctagtggcgg acgggtgagt aacgcgtgag   120

taatctgcct tgaagtgggg aataacattt ggaaacaaat gctaataccg cgtaatatac   180

tttcttcgca tgaagtttgt atcatagttt ttcgcttcaa gatga   225

<210> 1123
<211> 225
<212> DNA

<213> Unknown

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

<400> 1123
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagaccccg aagcggagat ttcggttgaa gctaagggag gactgagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag gggatagca gttggaaacg actgataata   180

ccgcataagc gcacgaggag acatctccct gtgtgaaaag aatta   225

<210> 1124
<211> 225
<212> DNA
<213> Unknown

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

<400> 1124
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

ggagaggcct cgacggaaag gtgcttgcac cttgaagatg aggaatctta gtggcgaacg   120

ggtgagtaat acatgagcaa cctacccctt tgactgggat aacattctga aaaggatgct   180

aataccggat aattaatatt gaggcatctc gatattatta aaggt   225

<210> 1125
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1125
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 ttcat   225

<210> 1126
<211> 225
<212> DNA
<213> Unknown

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

<400> 1126
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcatcgcgg ggtagcaata ctctggcggc gaccggcgaa agggtgagta acgcgtgagc   120

aacatgccct tgggtggggg atagtcattg gaaacgatgc gtaatacccc gtacgacgag   180

agaccgcatg atttttcgtt aatagattta ttgcccaagg attgg   225

<210> 1127
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1127
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaacttgag ggcttgccct taagtttagt ggcggacggg tgagtaacgc gtgagtaacc   120

tgcctttgag aggggaataa cttcccgaaa gggatgctaa taccgcataa cacatagctg   180

tcgcatggca gagatgtcaa agattttatc gctcaaagat ggact   225

<210> 1128
<211> 225
<212> DNA
<213> Unknown

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

<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

aacccataag agggggataa caacgggaaa ccgttgctaa taccgcataa 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 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 ggtcttgtt 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 gtggcgaaag ggtgagtagc acgtgaagaa cctgcccccg 120

gatccggaac aagcgctgga 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 attcagggat 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

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 ccttataata aatttcattg 180

catgatgaga ttttgaaaga tttatcgcag 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

ctgccccccg caccgggaca acgggcggaa acgcccgcta ataccggata ctccgggcgc 180

cggcgcatgc 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 gagcagcgga cgggtgagta 120

aagcacaagg acttgtccga aagagaggga caccttcggg aaaccggagc taatacctca 180

taagccggaa ggtgaaaagc agagatgcgc ttttggagag acttg 225

<210> 1138
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1138
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggactttgct cgctgaaaaa ggaaggtgct tgcacctgag agtttcttga ggaaagttag   120

tggcggacgg gtgagtaacg cgtgggtaac ctgcctatca caggggggata acagttggaa   180

acgactgcta ataccgcata agcgcacggt atcgcatgat acagt   225

<210> 1139
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1139
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggggtacaga cgctgaagag tggagtgctt gcacaaagcg attcttgttt gtacctagtg   120

gcggacgggt gagtaacgcg tgggtaacct gccatacaca gggggacaac agttggaaac   180

gactgctaat accgcatatg cacacagtga ggcatctcac agggt   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

ggcagcacgg gaagcagcaa tgcttttggg tggcgaccgg cgaatgggtg agtaacgagt   120

atccaacctg ccccgtgctc cgggacagcc ccgcgaaagc gggattaata ccggatggtg   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 tgcccgggga gtggcgaaag ggtgcgcaac gcgtggggaa cccgcccccg   120

ggcccgggac aagcgctgga aacggcgtct gatacgggat gtcgagccgg gccgcatggc   180

ccggcgtcga aagattcatc gcccggggag ggccccgcgt cccat   225

<210> 1142

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

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

<400> 1142
agagtttgat catggctcag aatgaacgct ggcggcgtgc ctcaggcatg caagtcgaac   60

gagaaagttc cttcggggat gagtatagtg gcgcacgggt gagtaatact taggtaacgt   120

accttttcgc tggggatagc taggggaaac tttagataat 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

tgccctagag 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

gggtgagtaa 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 cttcggggtg acgttgttct aacttagtgg cggacgggcg 120

agtaacgcgt gaataacctg cccataagag ggaataatc 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 agcaaccttc 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 ctacctttga 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

gagaatcagg agcttgctcc tgaggaaagt ggcggacggg tgagtaatat gtaggaaatc 120

tgcccttagg agggggacaa cagttggaaa cgactgctaa taccccatat 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

ttccttagaa aggggaacac ctccgtgaaa acggagttaa taccgcataa gaccacagtt 180

tggcatcgaa caggggtaaa agcagcaatg cgttctaaga tggtc 225

<210> 1151
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1151
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagataagc tctgatgaag cttcggcaga atcttgctta tcttagtggc ggacgggtga 120

gtaacgcgtg ggtaacctac ctgcaacagg gggataacga ttggaaacga tcgctaatac 180

cgcataaccc 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 gcttccaaag cttcggcaga ggattgttaa 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

<400> 1153
agagtttgat catggctcag aacgaacgct ggcggcacgc ctaacacatg caagtcggac   60

ggtatggata gcttgctatt catatagtgg cggactggtg agtaatatgt aggaatctgc   120

ccataggtta gggatagcac cgggaaactg gtggtaatac 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

ggacttataa atagaaggtg cttgcactgg aaatttacaa gttagcggcg gacgggtgag   120

taacgcgtga gcaacctgtc ctctacaggg ggataagatt tcgaaaggga 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 tattaaatat 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 aaatattcat aggtggtgga tgggc   225

<210> 1157
<211> 225
<212> DNA

<213> Unknown

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

<400> 1157
agagtttgat catggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac   60

gccccgcaag gggagtggca gacgggtgag taacgcgtgg gaatctaccc agttctacgg   120

aacaactgag ggaaacttca gctaataccg tatacgccct acgggggaaa gatttatcgg   180

aattggatga gcccgcgttg gattagctag ttggtggggt aatgg   225

<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 cctcttggag gggatagtg tttggaaacg aacagtaata   180

ccgcataacg tgcattgatg gcatcatcga tgtaccaaag attta   225

<210> 1159
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1159
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gagcagagat attcgtatca aagcgagtgg cggacgggtg agtaacgcgt gggaaacctg   120

ccctataccg ggggataaca gttggaaacg actgctaata ccgcataagc gcacgatgtc   180

gcatgacatt gtgcgaaaaa ctccggtggt ataggatggt cccgc   225

<210> 1160
<211> 225
<212> DNA
<213> Unknown

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

<400> 1160
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcttgaa gatagatttc ttcggaatga catctgatat gactgagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cccttcggag ggggatagcg tttggaaacg aacggtaata   180

ccgcataatg ttaacggaag gcatcttctg ttaaccaaaa ctccg   225

<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

ggcagcatgt aggttgcttg caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt   120

atccaacctt ccccgcagta gggtgcagcc cgttgaaaga cggattaatc ccctatgttg   180

tccattgacg 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 gtgcttgcac tgatcctaga gtggcggact ggtgagtaac gcgtgggtga   120

cgtaccctcc ggacggggat agctactaga aatagtagat aataccggat acggtgcact   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 ttcagggaag tggaaagcgg cggacgggtg   120 agtaacgcgt aggcaacctg ccccttgcag agggatagcc tcgggaaacc gggattaaaa 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 ggcatctcct 180

ggatattaaa ggggctttcg ggccctgaac 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

gagaacggtc cttcgggatg tcagctaagt ggcggacggg tgagtaatgt atagttaatc 120

tgccctttag agggggataa cagttggaaa cgactgctaa taccccatac 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 caaatgttta catgaggcga aaatttagtg gcggacgggt gagtaacacg 120

tgagcaacct gcctttaaga gggggataac attgagaaat cagtgctaat 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

agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60

gaagcacttt ggttggagac ttcggtcaaa gaccgatttg acttagtggc ggacgggtga 120

gtaacgcgtg agcaacctgc cttgaagagg gggataacac agggaaactt gtgctaatac 180

cgcataacgt acgtggatcg catggttcgt gtaccaaagc cttta 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 gaatatgccc ttctctacgg 120

aatagtctcg ggaaactggg ggtaataccg tatacgccct acgggggaaa gatttatcgg 180

agaaggatta gcccgcgttg 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

ggaactagtg accggagggt agaaaacttc tatcttgcga tcactagttc 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 ggtagcaata ctggggcgac gagtggcgca cgggtgcgta acgcgtatgc 120

aacctaccct caaccggggc ataacgccga gaaattggcg ctaatatccc atgtgtatat 180

ggagtggcat ctctccatat ataaagatcc gttggttaag gatgg 225

<210> 1172
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1172
agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac   60

gagatgagtg acttcggtca tgagtctagt ggcggacggg tgagtaacgc gtggacaact   120

tgccttatag tgggggatag ccgaaagaaa tttcgattaa taccgcataa 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 gggaggtttc ggccaccccc gatggcgacc ggcgaatggg tgagtaacgc   120

gtatccaacc tgcccctgtc ccggggacag cccttagaaa tgaggattaa cccccgatgg   180

cgcggattag ccgcatggct tttccgccaa 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

ggaacttaaa ttgatgttta cattagctta agtttagtgg cggactggtg agtaacacgt   120

gagcaacctg ccctttagag gggaataaca ttgagaaatc agtgctaata ccgcataaag   180

caacattatc gcatgatgaa gttgccaaag 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

ggtgttgttc agtacttgta ttgagcaaca tagtggcaaa cgggtgagta acgcgtggga   120

acgtacccaa cagtattgga taacgtttgg aaacgaacgc taatacaata tacgcttgag   180

agaggaaaga gagatcgctg atggagcggc ccgcgttaga ttagg   225

<210> 1176

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1176
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacttc tcccgttgaa gcctattagc ttgctatgaa gcggaaacaa ttgaagtgac   120

ttagtggcgg acgggtgagt aacgcgtggg taacctgccc tgtacagggg gacaacagct   180

agaaatggct gctaataccg cataagcgca cagcatcgca tggtg   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

tgcctttcgg cggggaataa tgattggaaa cgatcactaa taccccataa 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

cgcatgacgc actgagatcg catggtttta gtgccaaaga ttcat   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

aataacccag ggaaacttgg actaataccg tatacgccct acgggggaaa gatttatcgg   180 aattggatga gcccgcgttg gattagctag ttggtggggt aatgg 225

<210> 1180
<211> 225
<212> DNA
<213> Unknown

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

<400> 1180
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggtagtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggcaac ctgactttaa 120

gacgaggata accgttggaa acgacggata atactggata ggacatcaca aagggcatcc 180

ttagatgttt aaaggttatc atgccactta gagaggggcc tgcgg 225

<210> 1181
<211> 225
<212> DNA
<213> Unknown

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

<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 Clostridium IV

<400> 1182
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagcttgag ggcttgccct taagcttagt ggcggacggg tgagtaacgc gtgagtaacc 120

tgcctttgag aggggaataa cttcccgaaa gggatgctaa taccgcataa cacataactg 180

tcgcatggca gaaatgtcaa agattatatc 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

ggagaaaccg ccctcgggcg gagatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc tccgggacag cctcgcgaaa gcgggattaa taccggatgc gccgcgggcc 180

ccgcatgggg 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttgcgatccc gcatggggat 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 Rhodopirellula

<400> 1186
agagtttgat catggctcag aatgaacgtt ggcggcgtgg attaggcatg caagtcgaac 60

ggtaaggtta cttagcttgc tttgtaaccc tagagtggcg aaagggatag tacaatgtag 120

atcatatacc ctcaggttgg ggatagcgtc tggaaacggg cggtaatacc cgataacatc 180

tccggatcaa aggtgagatt ccgcctgagg attagtttac acact 225

<210> 1187
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 aaatatttat 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

gggaagcttt ggttagttcg ctaaacaaag tggacagtgg cgaacgggtg agtaacgcgt   120

aggtaaccaa cctcatactg gggatagcc tttggaaacg aagagtaata ccgcataaga   180

ccacactgtc gcatggcaga ggggtaaaag atttatcggt atgag   225

<210> 1190
<211> 225
<212> DNA
<213> Unknown

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

<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 Butyricicoccus

<400> 1191
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

ggagatattg ggatcaatcc ttcgggaagc gtttcaatat tttagtggcg gacgggtgag   120

taacgcgtga gcaacctgcc ttgaagaggg ggataacaca gggaaacttg tgctaatacc   180

gcataacgta cgatggtcgc atggccgacg taccaaagct ccgac   225

<210> 1192
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1192
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagacgctt attcagattc tttcgggatg acgaatttgt ggactgagtg gcggacgggt   120

gagtaacgcg tgggtaacct gccttgtaca gggggacaac agttagaaat gactgctaat   180

accgcataag ccaacggaat cgcatgattc agttggaaaa actcc   225

<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 XlVa

<400> 1194
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gaagctgatg cgacggaacc tttcgggggg aagatgcatt agactgagtg gcggacgggt   120

gagtaacgcg tgggtaacct gccttataca gggggataac atttggaaac agatgctaat   180

accgcataag cgcacagaac cgcatggttc agtgtgaaaa gctcc   225

<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

ggagctattt tagaaagcgg agcttgctct gatggatatg atagcttagt ggcggacggg 120

tgagtaacgc gtgggcaacc tgccttacac agggggacaa cagttggaaa cgactgctaa 180

taccgcataa gccggtaatc tcgcatggga tatccggaaa 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 actcccgacg gcgaccggcg cacgggtgag taacgcgtat 120

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggccg 180

gatgagggca tcctcgtccg gttaaagttc cggcggtctg ggtg 225

<210> 1198
<211> 225
<212> DNA
<213> Unknown

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

<400> 1198
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60

gggattcatg tgcttgcaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120 caccccccgg 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 Coraliomargarita

<400> 1199
agagtttgat catggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc 60

gagaatatac cttcgggtat agggaagcgg caaacgggtg agtaacacgt aagtaaccta 120

cccttgagac tgggatagct cagcgaaagt tgaggtaata 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 cccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgggg 180

tcgaacgagg acatctgatt tcgaccaaag ctttttgcgg tcatg 225

<210> 1202
<211> 225
<212> DNA
<213> Unknown

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

<400> 1202

agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgagc 60

gccccgcaag gggagcggca gacgggtgag taacgcgtgg gaatctaccc aactctacgg 120

aataacccag ggaaacttgg actaataccg tatacgtcct ccgggagaaa gatttatcgg 180

agttggatga gcccgcgtcg 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 tgtagcaata caatggcggc gaccggcgaa agggtgagta acgcgtgagc 120

gacgtgcccg tcacaggggg acaagggctg gaaacggctt ctgatacccc 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 cttaagcatg caagtcgagc 60

ggcaagatgg ggttcgcccc gtcccagagc ggcggactgg tgagtaacac gtgggtgacg 120

caccctcggg atcgggatag cctgcagaaa tgcagggtaa taccggatga tgtccgtgca 180

gccggaatgc acggaggaaa 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 tttagaaatt ctagtggcgg acgggtgagt 120

aacgcgtggg taacctgcct ataagacgtg aacaacagtt agaaatgact gctaatacac 180

gataagcaca ccagtatcgc atgatacagt gtgaaaagaa tttcg 225

<210> 1206
<211> 225
<212> DNA
<213> Unknown

<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 ccgac   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 cgacaggggg 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 Luteimonas

<400> 1209
agagtttgat cctggctcag aacgaacgct ggcggcaggc ctaaaacatg caagttgaac   60

gggtgtagca atacatcagt agcggacggg tgaggaacat atgggaacgt gccctttggt   120

gggggataac ttctggaaac gggaggtaat accgcataag ccatgagtgg gaaatattta   180

tagccggagg agcggcccat attggattag ctagttggtt aggta   225

<210> 1210

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

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

<400> 1210
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcttgaa tttagatttc ttcggaatga taaatgatat gactgagtgg cggacgggtg   120

agtaacgcgt gagcaacctg cccttcggag gggatagcg tttggaaacg aacggtaata   180

ccgcataatg ttaacggatg gcatcgtctg ttaaccaaaa 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

ggacccatgg gagtgattag cttgctatga actcccggaa ggttagtggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg 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 ttcggacaag agggtgagaa gacttagtgg cggactggtg   120

agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaaacg 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

tgccctttag atggggacaa cagttggaaa 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 ccgcgtgccc ggggatagcc cctggaaacg gggattaaga cccgatggcg 180

tggtgccgcc gcatgacggc gccattaaac 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 acggggatag ccggcagaaa tgtcgggtaa taccggatgt gaacatgagc 180

cgtaaaggtt catgtggaaa 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

ggtgaagggg gcttcggttc ccggatcagt ggcggacggg tgagtaacgc gtgaataacc 120

tgcctgtgtg tgggggataa cagttggaaa cggctgctaa taccgcataa 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

gggtgcagca atgcaccagt ggcgcaaggg tgaggaacac gtgagtaatc taccctcaag 120

attgggatag ctcctggaaa 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 XlVa

<400> 1219
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagaccccg aggcagagat ttcggtcgaa gccaagggag gactgagtgg cggacgggtg 120

agtaacgcgt ggataacctg ccccatacag 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 aataccgcat gagattatgg 180

gaaggcatct tcttgtaatt aaagatttat tgctgaagga tgggc 225

<210> 1221
<211> 225
<212> DNA
<213> Unknown

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

<400> 1221
agagtttgat catggctcag gataaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gaagcacttc ggaacgagac ttcggtcaag tgaagatttg acttagtggc ggacgggtga   120

gtaacgcgtg agcaatctgc ctcggggtgc gggataacgt ttggaaacga acgctaatac   180

cgcatgacgc atgaggttca catggaccat atgccaaagg tttac   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 cctgtggaaa cacagggtaa taccgggcga gctcccccgc   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

tgcctccgag agtggaataa cgttttgaaa agaacgctaa taccgcataa tattatgaag   180

tcgcatggct ttataatcaa agagtatatc gctcggagat ggact   225

<210> 1225
<211> 225
<212> DNA

<213> Unknown

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

<400> 1225
agagtttgat cctggctcag agtgaacgct ggcggcgtgg ctaagacatg caagttgagc   60

gagaatatgc tttcgggcat agggaagcgg caaacgggtg agtaacacgt aagtaacctg   120

cccttgagac tgggatagct cagcgaaagt tgaggtaata ccggatgaca accattgatg   180

catgttaatg gattgaaagg gatgaaagga tgctcaagga ggggc   225

<210> 1226
<211> 225
<212> DNA
<213> Unknown

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

<400> 1226
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagttgagg agcttgctcc ttaacttagt ggcgatcggt 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

ccgcataagc gcacggcacc gcatggtgca gtgtgaaaaa ctccg   225

<210> 1228
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1228
agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgagc   60

ggagaattga cttcggttga ttcttagcgg cggacgggtg aggaacgcgt gggtaatctg   120

ccctatacag gggaataaca cagagaaatt tgtgataaaa ccgcataagc ccacgggatc   180

gcatggtcct gtgagaaaaa ctccggtggt ataggatgag cccgc   225

<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

aacctaccca ccacaggggt atagcccggc gaaagccgga ataatccccc atggttccaa   180

cccaccgcat gatgagttgg ataaacccgc 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 tttgtatatc aaagatttat cgctgaggga 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 ccttcgggac acgagctagt ggcggacggg tgagtaacgc gtgagcaacc   120

tgcccctgtg tgcgggataa cgtcgggaaa ctgacgctaa taccgcataa 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

gagaaatatg gaaaggatcc cttcggggag aatagaaata tggacagtgg cggacgggcg   120 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

acgttagagt 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

ggacaccttc gggtgtcagt ggcggacggg tgagtaacgc gtgagtaacc tgccgcggat 120

tggggaataa cgaccggaaa cagtcgctaa taccgcataa cgcacgatga ccgcatggtc 180

gacgtgccaa 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 agttggaaac gactgctaat acggtataag accacggcac 180

cgcatggtgc tgcggtaaaa gatttttcgg acagagatgg gctca 225

<210> 1236
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1236

agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac 60

ggagatagaa gcttcggttt ttatcttagt ggcggacggg tgagtaacgc gtgagcaacc 120

tgcccctgtg tgcgggataa cgtttggaaa cggacgctaa taccgcatga cccaacggga 180

ccgcatgatc ttgttggcaa 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

ggcagcagtg gggaatattg cacaatgggg gaaaccctga tgcagcgacg ccgcgtgagc 120

gaagaagtat ttcggtatgt aaagctctat cagcagggaa gataatgacg gtacctgact 180

aagaagcacc ggctaaatac gtgccagcag ccgcggtaat 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 agggtgagat gacttagtgg cggactggtg 120

agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gttggaaacg actgctaata 180

ccgcataatg tacagagacc gcatgatctt tgtaccaaag cttta 225

<210> 1239
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1239
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaggaattac cgatgaagtt ttcggatgga tttggttttt ccgagtggcg gacgggtgag 120

taacgcgtgg gtaacctgcc ttacactggg ggacaacaga gagaaatttc tgctaatacc 180

gcataacccg ctaggggcgc atgccccgga cggaaaagat ttatc 225

<210> 1240
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1240
agagtttgat catggcttag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

ggagagtgag cttcggctca caatcagtgg cggacgggtg agtaacgcgt gagcaacctg   120

cccggaagcg tgggataaca gagggaaact tctgctaata ccgtatatcg tattcggatc   180

gcatgttctg aatacaaaag ggtttccgct tccggatggg 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

ggtgaaggga cttcggtccc ggatcagtgg cggacgggtg agtaacgcgt gagcaacctg   120

cctctgactg gggataaca gccggaaacg gctgctaata ccgcataacg tgcgaccttc   180

gcatgaagga cgcaccaaag atttatcggt cagagatggg ctcgc   225

<210> 1242
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1242
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcatatt ggaaagagcc cttcgggacg atggaagata tgacttagtg gcggacgggt   120

gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaat   180

accgcataag cgcacagctt cgcatggagt agtgtgaaaa gcatt   225

<210> 1243
<211> 225
<212> DNA
<213> Unknown

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

<400> 1243
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gaagcacttc ggacagatcc cttcggggtg aagactgatt tgacttagtg gcggacgggt   120

gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaat   180

accgcataac gtaccgacat cgcatggtga tggtaccaaa gcctt   225

<210> 1244

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1244
agagtttgat catggctcag attgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

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 ggcggcaggc 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 agctacaggc ctaacacatg caagtcgcgg   60

ggcagcatgg gcgtagcaat acgcctgatg gcgaccggcg cacgggtgcg taacgcgtat   120

ccaacctggc ccttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc   180

aagcgatagc cttttcactt gaccaaagag ttattcggta aggga   225

<210> 1247
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1247
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggactttat ggaatgcgat tcgtcaaatg aaataaagtt tagtggcgga cgggtgagta   120

acgcgtgggt aacctgcctt acagaggggg ataacggttg gaaacgactg ctaataccgc   180 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 ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg 120

ccccaaagcg gggacaaca gagggaaact tctgctaata ccccatacga gcttagttga 180

aatactaatc ttgaaagatt tatcactttg 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 cctcacaggg 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 gggaatatgc ccttctctac 120

ggaatagtcc tgggaaactg gggtaatac cgtatacgcc ctttgggga aagatttatc 180

ggagaaggat tagcccgcgt tggattaggt agttggtggg gtaat 225

<210> 1251
<211> 225
<212> DNA
<213> Unknown

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

<400> 1251
agagtttgat cctggctcag attgaacgct ggcggcatgc cttacacatg caagtcgaac 60

ggcagcgggg gagcttgctc ctgccggcga gtggcgaacg ggtgagtaat gcatcggaac 120

gtgtcctgtt 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 ggtgagcgg cggacgggtg agtaacgcgt gggtaacctg ccctgtacac 120

acggataaca taccgaaagg tatgctaata cgagataata tattttaatc gcatggttaa 180

gatatcaaag ctccggcggt acaggatgga cccgcgtctg attag 225

<210> 1253
<211> 225
<212> DNA
<213> Unknown

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

<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

gggactagtg accggagctt agaagtcttc taggttgcgt tcactagttc agtggcggac 120

gggtgagtaa agcatgagta actttcccat tagtggggaa tagcttttgg aaacagaaga 180

taataccgca tacatcgttg aggactcatg ttctcttcgg aaaag 225

<210> 1255
<211> 225
<212> DNA
<213> Unknown

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

<400> 1255
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gctgaagctc tgcccttgtg gtggggtgga tgagtggcga acgggtgagt aacacgtggg   120

taatctgccc catactctgg gataacccct ggaaacgggg gctaataccg gataggacat   180

tctgccgcat ggtggggtgt ggaaagttcc 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 cttgatatgc 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 cctccgggcg gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag cccccccgaaa 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 gcgtatgcaa   120

cctgcccacc acacggagat agccgaccga aaggacgatt aaactccgat ggcattggga   180

cccggcatcg ggatccaatt aaatatttat aggtggtgga tgggc   225

<210> 1259
<211> 225
<212> DNA

<213> Unknown

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

<400> 1259
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgg cggtggcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccacaacct ccgaatagcc cgccgaaagg cggattaatg cgggatgtgg   180

tctgaagaag acatctgaac tagaccaaag gttttttccg gttgt   225

<210> 1260
<211> 225
<212> DNA
<213> Unknown

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

<400> 1260
agagtttgat catggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgagc   60

ggatgaaggg agcttgctcc cggattcagc ggcggacggg tgagtaatgc ctaggaatct   120

gcctggtagt gggggacaac gttccgaaag gagcgctaat accgcatacg tcctacggga   180

gaaagtgggg gatcttcgga cctcacgcta tcagatgagc ctagg   225

<210> 1261
<211> 225
<212> DNA
<213> Unknown

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

<400> 1261
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgggg   60

ggcagcacgg ggtgcagcaa tgcacttggg tggcgaccgg cgaatgggtg agtaacgagt   120

atccaacctg ccccgcgctc cgggacagcc ccgcgaaagc gggattaata ccggatgcgg   180

catggttccc gcatgggctc catgtcaaag attcatcggc gcggg   225

<210> 1262
<211> 225
<212> DNA
<213> Unknown

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

<400> 1262
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

<210> 1263
<211> 225
<212> DNA
<213> Unknown

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

<400> 1263
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgg cggtggcttg ccactgccga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc   180

tcgcgtgggg gcatctgccc 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 ctcatacatg caagtcgaac   60

gagaagcttt cttcggaaag tggaaagtgg cggacgggtg agtacaacat aggaaatctg   120

ccctaaagtg ggggacaaca gagggaaact cctgctaata ccccatacga gcttagttga   180

aatactaatc 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 cgtagaaatg cggattaata ccctatgttc   180

tccgaggatg acatcagatt cggagtaaag attcatcgct ggacg   225

<210> 1266
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1266
agagtttgat cctggctcag gataaacgct ggcggcgtgc ttaacacatg caggtcgaac   60

gaggtatcga agattaatct tcggaagcgt ttttgatacc gagtggcgga cgggtgagta   120 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 acttttgcat 120

tcgaggaaga cagcgtataa ataaatgcgc tatttgacgt tagagtgtga ataagcaccg 180

gcaaactccg tgccagcagc cgcggtaat 209

<210> 1268
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1268
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60

gggataaatt ggaagcttgc ttttgattta tctagtggcg gacgggtgag taacgcgtgg 120

gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcataacatt 180

gtggtaccgc atgatatcac gatcaaatat ttataggtat gagat 225

<210> 1269
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1269
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaagggttga gagcttgctc ttaactactt agcggcggac gggtgagtaa cgcgtgggta 120

acctgccctg tacagaggaa taacagttag aaatgactgc taatgcctca taagccgacg 180

aaatggcatc attatgtcgg aaaagattta tcggtacagg aggga 225

<210> 1270
<211> 225
<212> DNA
<213> Unknown

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

<400> 1270

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 tttggaaacg aatgctaata 180

ccgcataacg cattttaagg acatcctttt aatgccaaag attta 225

<210> 1272
<211> 225
<212> DNA
<213> Unknown

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

<400> 1272
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggtaacctg tctaagacac 120

gaggataacc attggaaacg atggataata ctggatagga catttgaagg catctttgga 180

tgtttaaaga tttatcggta atagaggggc ctgcggcgca ttagc 225

<210> 1273
<211> 225
<212> DNA
<213> Unknown

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

<400> 1273
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gtgagggtgc 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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1274
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagacttgg cgctgacgag tgaaatagct tgctatggaa caaatcttgc caagacttag   120

tggcggacgg gtgagtaacg cgtggacaac ctggcccata caggggggaca gcagctggaa   180

acggctgata ataccgcata 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 gatgcgccca 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 catggaaagt ggcggacggg tgagtaatac atagggaatc   120

tgcccttagc cgggggacaa cagttggaaa cgactgctaa taccgcatat gagtatagtt   180

ttatacttga aaactccggt ggctaaggat gagcctgtgc ctgat   225

<210> 1278

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

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

<400> 1278
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgt cagtggcttg ccactgatga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccccaagta gggaatagcc 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

tgccccgcgc accgggacaa ccccccgaaa ggggggctga taccggatac gcccccggcg   180

ccgcatggcg gcggggggaa agcccagacg gcgcgggatg ggtc   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 tggaaacgtc tcctaatacc ccgtaacatc   180

atctgcggca tcgcaggtgg ttgaaagttt cggcggtgac 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

ggcagcacgg ttgttgcttg caacaactgg tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccgcaaccg cggaatagcc 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 gtgcttgcac tggtggatta gtggcgaacg ggtgagtaat acgtgagtaa 120

cctgcccttg tctttgggat aagcctggga aactgggtct aatactggat attctgcgct 180

ggccgcatgg ttggtgttgg aaagggttat ggactggatg gggat 225

<210> 1283
<211> 225
<212> DNA
<213> Unknown

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

<400> 1283
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60

ggaagtcgta attaaaaagg aacaaagatt tatcggagtg agattttaac tacaatggct 120

ttagtggcgg actggtgagt aatgtataag taacctgcct attagagggg aacaacagtt 180

ggaaacagct gctaataccg catatgccat 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

ggggtccttc gggacctagt ggcgaaaggg tgagtaacac gtgagcaatc tgcccccaag 120

gccggaataa gcactggaaa cggtgtctaa aaccggatga ggcctggagt cgcatgactc 180

ctcagccaaa 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 cggcggtctg 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

tgcccttaac tctgggataa gcctgggaaa ctgggtctaa taccggatag gagcgcctac 180

cgcatggtgg gtgttggaaa gatttatcgg ttttggatgg 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

ggtaagcggt ccttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctcg ccgggatagc cggtggaaac gccggataat accggatgcg ccgcgggggga 180

ggcatcttcc cggcggcaag gcggagacgc ggagggggac gggca 225

<210> 1289
<211> 225
<212> DNA
<213> Unknown

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

<400> 1289
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggtaacaggg agcttgctcc gctgacgacc ggcgcacggg tgagtaacgc gtatgcaacc   120

tgcccgcggg atcgggatag ccccccgaaa 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 tagtggcaaa cgggtgagta acgcgtgggc   120

aacctgccgg aaagatgggg acaacatccc gaaaggggtg ctaataccga atgttgtata   180

cggggcgcat gccttgtata 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 XlVa

<400> 1292
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacacg gattgatccc ttcggggtga ttgaagtatg actgagtggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggataacag ttagaaatga ctgctaatac   180

cgcataagcg cacagcatcg catggtgcag tgtgaaaaac tccgg   225

<210> 1293
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1293
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtacaga cgctgtgaga agaagtgctt gcacggaatc aaacttgttt gtacttagtg   120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat   180

tcctgctaat accgcataag cgcacaggaa ggcatctttc 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 tgggaaacct gccctttaca gggggacagc cgagggaaac ttcgattaat   180

accccataat gccatagtat cgcatggtac 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 gagtatgatt   180

gagatattat acttgaaaac tccggtggct aaggatgagc ctgtg   225

<210> 1296
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1296
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaaatgttt tgatgaagat ttcggttgga ttcaatacat tttagtggcg gacgggtgag   120

taacacgtgg gtaacctgcc ctgtaccggg ggataacact tagaaatagg tgataatacc   180

gcataagcgc acactgaggc atctcagagt gtgaaaaact ccggt   225

<210> 1297

<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 cagaggggtc aaagcgattt agcgg   225

<210> 1299
<211> 225
<212> DNA
<213> Unknown

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

<400> 1299
agagtttgat cctggctcag agtgaacgct ggcggcaggc 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 atagggaatc 120

tgcccttagc cgggggacaa cagttggaaa cgactgctaa taccgcatat 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

gaggaatgtt gaaaagcttg ctttttgaca tttcgagtgg cggacgggtg agtaacgcgt 120

gaggaacctg tcttctacag ggggataacg tcccgaaagg 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 cggattaaaa 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

gattaacccg ccttcgggcg gtcatagagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc 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 gggtgagtaa cgcgtgagta 120

atctgcctca aagtggggga taacacttag aaatgagtgc 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 XlVa

<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

<400> 1308
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac   60

ggcaagctag acttcggttt agcctagagt ggcggactgg tgagtaacgc gtagatgacg   120

taccttaagg atggggatag ccgatagaaa tatcgggtaa taccgaatac ggtcactgct   180

gttagagggc agtgaggaaa gcagctatgg ctgcgcctta 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 ccccagtagg 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 tccgtttgga acactttggg 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 gagtgaagtt ttcggatgga gcgaagataa cttagtggcg gacgggtgag   120

taacgcgtga gtaacctgcc cattagaggg ggataacgtt ctgaaaagaa cgctaatacc   180

gcataacata ttcggttcgc atgaactgaa tatcaaagga gtaat   225

<210> 1312
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1312
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

ggactgattt tgtagcttgc 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 agagtgagat gacttagtgg cggactggtg   120

agtaacgcgt gagcaacctg ccctccggtg ggggacaaca gctggaaacg gctgctaata   180

ccgcataatg tgtacggacc gcatgatctg tacaccaaag cttta   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

ggtcttttcg gagacagtgg cgcacgggtg agtaacacgt aactgacctg ccccaaagtc   120

gcggataact gggtgaaagt ccagctaata cgtgatgtgc tgtcagattt tgttctgcca   180

gtaaaggttt actgctttgg gatggggttg cgttccatca gctag   225

<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

accccctca 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 ccttgcacag 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 gagtgcttgc 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 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 agcaaccttc 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

ggtaaggccc cttcgggggt acacgagtgg cgaacgggtg agtaacacgt gggtgatctg 120

ccctgcactc tgggataagc ctgggaaact gggtctaata ccggatatga gctcctgtcg 180

catggcgggg gttggaaagg tttactggtg caggatgggc ccgcg 225

<210> 1322
<211> 225
<212> DNA
<213> Unknown

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

<400> 1322
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcggac 60

ggcaagatcg gtgcttgcac tgatcctaga gtggcggact ggtgagtaac gcgtgggtga 120

cgtaccctcc ggacggggat agctactaga aatagtagat aataccggat 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

agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcggac 60

gggatctccc cttcgggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120

ccctcatccg gggacagcc ggtggaaacg ccgggtaata ccccataccg attcctgtgg 180

gcatccacgg ggattgaaag acttaggtcg gaggaggacg ggcat 225

<210> 1324
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1324
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggtgatgagc agaaattttc ggatggaagc ttatcatagt ggcggacggg tgagtaacgc 120

gtggataacc tgcctcttgc tgggggatag cagccggaaa 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 cttcgggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120

ccctcatccg gggacagcc ggtggaaacg ccgggtaata ccccatatcc actttgggag 180

gcatcttctg aggtggaaag acttaggtcg gaggaggacg ggcat 225

<210> 1326
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1326
agagtttgat catggctcag gatgaacgct ggcggcacgc ttaacacatg caagtcgaac 60

gaggttatga acttcggtta ataacctagt ggcggacggg tgcgtaacgc gtgggtaatc 120

tgcccttgac agggggataa cgtatagaaa tgtacgctaa taccgcataa gcccacggag 180

aggcatctct ctgagggaaa agggatactg gtcaaggatg agccc 225

<210> 1327
<211> 225
<212> DNA
<213> Unknown

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

<400> 1327
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcatgg agtagcaata ctctgatggc gaccggcgca cgggtgcgta acaggtgtgc   120

aatctgtcct ataccggggg atagcccggc gaaagccgaa ttaaaactcc atgtgagcga   180

ttggcgcatg ccagtctctt gaaacgttta gggtataggg tgagc   225

<210> 1328
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1328
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gaagaattga gagcttgctc ttaattactt agcggcggac gggtgagtaa cgcgtgggta   120

acctgccctg tacaggggaa taacagttag aaatgactgc taatgcccca taagccgacg   180

aaatggcatc tttatgtcgg aaaagattta tcggtacagg aggga   225

<210> 1329
<211> 225
<212> DNA
<213> Unknown

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

<400> 1329
agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc   60

ggcagcggga gtggcaacac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa   120

cctgcccatc acacggagat agccgaccga aaggacgatt aaactccgat ggcatcaaga   180

gggggcatcc ccatttgatt aaatattcat 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 tcgtggcgta cggctcagta acacgtggat aacctaccct taggactggg   120

ataactctgg gaaactgggg ctaataccgg atagatgatt tttcttggaa tgggattttg   180

tttaaatgtt ttttcgccta aggatgggtc tgcggcagat taggt   225

<210> 1331

<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 gggacaaca gttggaaacg actgctaata   180

ccgcataata ttaggtttag acatctttac ctaatcaaag gagca   225

<210> 1332
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1332
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgaac   60

gaggcgagga gtgcttgcac accgaaccta gtggcggacg ggtgcgtaac gcgtgggtaa   120

cctgccctaa acagggggat aacgtataga aatgtacgct aataccgcat aagctcacgg   180

aaccgcatgg ttttgaggga 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

ggaagggtga gtaacacgta ggtaatctac cttagagact gggataacaa ttagaaatga   180

ttgctaatac cggatgataa ttatgaggta aacttgtaat ttaaa   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 gcccgcgttg gattagctag ttggtggggt 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

agtaacgcgt gaacaatctg tcccggacag gggataaca catggaaaca ggtgctaata 180

ccgcataaga ccacagcgtc gcatggcggt ggggtaaaag gagga 225

<210> 1336
<211> 225
<212> DNA
<213> Unknown

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

<400> 1336
agagtttgat catggctcag aatgaacgtt ggtagcgtgg attaggcatg caagtcgagc 60

gacaaggttt cttcggaaac tggaggagcg gcaaacgggg taggataaca tcggaacgta 120

ccctcttgtc 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

cttccgcatg 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

ggtgcagcaa tgcatagtgg cgcaagggtg 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 taccccatat 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 XlVa

<400> 1342
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagaccccg aagcggagat ttcggttgaa gcagagggag gactgagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag gggatagca 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 ccgcgtggag gaagaaggtt ttcggattgt   120

aaactcctgt ttcgagggac gataatgacg gtacctcggg aggaagctcc ggctaactac   180

gtgccagcag ccgcggtaat   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 tggggaataa cacagggaaa cctgtgctaa taccgcataa 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 ccggagtggg ggacaacagt tggaaacgac tgctaatacc   180

gcatgatata tactaacggc atcgttggta tatcaaagat ttatt   225

<210> 1346
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1346
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcaccct cacctcgata ctgaatgcga gcttgctcaa atgacgtatc acccgagggt   120

gactgagtgg cggacgggtg agtaacgcgt gggtaacctg ccttagacag ggggataaca   180

acaagaaatt gttgctaata ccgcataagc acacagcatc gcatg   225

<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

gtgagggaat aatacgcgtc ttcgggcgcg ggagaatgta cctcgaaagg aagcaccggc   180

aaacttcgtg ccagcagccg cggtaat   207

<210> 1348
<211> 225
<212> DNA
<213> Unknown

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

<400> 1348
agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcaagg   60

gggtgtagca atacacaacc ggcgcacggg tgagtaacgc gtgggaatat gtccatttgt   120

ggggaatagc ttctggaaac ggaaggtaat accgcatacg cccttcgggg gaaagattta   180

tcgcagatgg agtggcccgc 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 tgtagcaata caatggcggc gaccggcgga agggtgcgta acgcgtgagc   120

aacctgcccc tgtcaggggg atagtcgatg gaaacgtcgc gtaatacccc gtacgatgcg   180

gagtcgcatg attctgcatt aaaagattta tcggacaggg atggg   225

<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 tttaagcatg 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

ggcagcatgt cgtgtgcttg cacgcgatga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg cccatgaccc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg 180

tcgaaagagg acatctgatt tcgaccaaag cttcggcggt 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

ggtaaacgcc ccttcggggg tgtgagagtg gcgcacgggt gcgtaacgcg tatgcaaccc 120 acccgctgcc gggggatagc 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

tcgcggagcc 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

ggcagcgggg gcgatggcaa cattgcccgc cggcgaccgg cgcactggtg agtaacacgt 120

atgcaacctg ccccgcacag gggataacc 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 caagtcgcgg 60

ggcagcatgg aggttgcttg caacctctga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccctgcggta gggaacagcc 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

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggtgaacgag ggagcttgct tcctccggat cagtggcgaa cgggtgagta acacgtgagc 120

aatctgcccc gaactctggg ataagcgttg gaaacgacgt ctaataccgg atacgacgcg 180

ggagggcatc ctctccgcgt 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 tggaaacggc 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 cgcaagggtg aggaacgcgt gagtaatcta ccctcaagtt 120

gggaacagct tctggaaacg gaaattaata ccgaatgtga ccgttggaag 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 cttaagcatg caagtcgaac 60

ggcaagttac cttcgggtaa cctagagtgg cggactggtg agtaacacgt aggtgacgta 120

ccccccggac ggggatagct cctagaaata ggagataata ccggataagg ttgcacgggc 180

tggaaccgtg taaggaaagg tgcttcggca ccgccggggg agcgg 225

<210> 1361
<211> 225
<212> DNA
<213> Unknown

<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 gggatagca gttggaaacg 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 gggataacg tcccgaaagg 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 tttaagcatg caagttgagc   60

ggtaacttgg atttattcaa gctagagcgg cggacgggtg agtaacacgt ggataatctg   120

gcctacagtt gggaatagcc tgatgaaagt caggataatg ccgaatgagc agttgacggc   180

acaagctgtt gattggaaag 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

gggactagtg accggagagt agatgaggat ctattttgcg atcactagtt cagtggcgga   120

cgggtgagta aagcatgagc aacctggcta ctagaggggg atagcttttg gaaacagaag   180

ataataccgc atacatcaaa gatttcgcat gagatttttg gaaaa   225

<210> 1365

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 tgaatgaaac ttcggtcgaa tgacgggaag gaaagcggcg gacgggtgag   120

taacgcgtag gcaacctgcc ctttgcagag 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

gagtgagcgt tattgcacta agttaactaa tgaagttaat ttagtgcaat agtgcaagct   120

agtggcggac tggtgagtaa cgcgtgagca acctaccttt aacaggggga taacacttag   180

aaataggtgc 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 attaggcatg caagtcgaac   60

gaagcagcaa tgcttagtgg cgaaagggtg aggaacgcgt gagtaatctg cccccaagtt   120

gggaataaca gctggaaacg gctgctaata ccgaatgtgg ctgattgacc gcatggttga   180 ttggctaaag atttatcgct tggggatgag ctcgcgtccc attag 225

<210> 1369
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1369
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagtattag attttttaat 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

cacccctgtg agggggacag ccggcagaaa tgccgggtaa taccgcatac gattgcctta 180

agtgatgttg aggcaatgaa aggagcgaat gctccgcgca gggag 225

<210> 1371
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1371
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagagaagcg aaaagcttgc tttttgccga tcgagtggcg gacgggtgag taacgcgtga 120

gcaacctgcc ttacattggg gaataacgtt tggaaacgga cggtaatacc gcatatgcag 180

acaagtacgg catcgtacgg tttggaaaga 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

ggggcgcagc gacggaagtt ttcggacgga agacgctgtt gccaagtggc ggacgggtga 120

gtaacgcgtg aggaacctgc ctttcagagg gggacaacag ttggaaacga ctgctaatac 180

cgcataatgc ggcgagacgg catcgtcttg ccgccaaagg 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 cggtggcttg ccaccgccga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc 180

ccgcgagacg gcatcagcgc gcgggcaaag gtatattccg gttgt 225

<210> 1374
<211> 225
<212> DNA
<213> Unknown

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

<400> 1374
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggtggtagca atacaaacca tggcgaacgg gtgagtaaca cgtaggtaac ctatcttaaa 120

gacgaggata accattggaa acgatggata atactggata ggacatcata aagggcatcc 180

ttagatgttt aaaggagcaa tccactttta gaggggcctg cggcg 225

<210> 1375
<211> 225
<212> DNA
<213> Unknown

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

<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 Clostridium XlVa

<400> 1376
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcattac gtttcaaagc ctccgggcag cgagatgttt tgacttagtg gcggacgggt   120

gagtaacgcg tgggtaacct gccttgtact gggggataac agttagaaat gactgctaat   180

accgcataag cccacggttt cgcatggaac 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 gcccgcgttg gattagctag ttggtggggt 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 cggtggcttg ccaccggcga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccgcaaccg cggaatagcc cgccgaaagg cggattaatg ccgcatgagc   180

tcgcgcgagg gcatctgatc 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 ttgaagtgac   120

ttagtggcgg acgggtgagt aacgcgtggg taacctgccc cataccgggg gacaacagtt   180

ggaaacggct gctaataccg cataagcgca cgatgtcgca tggca   225

<210> 1380
<211> 225
<212> DNA

<213> Unknown

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

<400> 1380
agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac   60

gagaaagcgg cctcggccgc gagtaaagtg gcgaaagggt gagtagcacg tggggaacct   120

gccccgggga ccggaacaag cccgtgaaaa 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 XlVa

<400> 1381
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagatatat ttatgaagtt ttcggatgga atatatatat cttagtggcg gacgggtgag   120

taacgcgtaa acaatctgcc ttagagaggg ggataacaga tagaaatatc tgctaatacc   180

gcataagacc acgtacaggc 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 caggaaagtg cttgcaccgg aatgtaaaga gttagcggcg gacgggtgag   120

taacgcgtga gcaatctgtc ccatacaggg ggataatacc gcgaaagagg ttctaatacc   180

gcatgagacc acagtgaggc 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 ccttaggttc   120

ggaataactc cccgaaaggg gtgctaatac cggataatgt cttcggacca aagatttatc   180

gcctttggat gggcccgcgt tggattagct tgttggtgag gtaac   225

<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 cttcgggga aagatttatc   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 ctgcccatta ccgggggaca acagttggaa   180

acgactgcta ataccgcata agcgcacggg gacgcatgtt 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 atccaacctg ccctgtacac ggggatagcc ctctgaaagg aggattaata cccgatgttg 180

tcgcggaggg 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 ccccttccg ggacaaaacg tcgagaaatt ggcgctaata tcccatggcg 180

accttatgag gcatctcgtt tggtccaaag attcattgga agggg 225

<210> 1389
<211> 225
<212> DNA
<213> Unknown

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

<400> 1389
agagtttgat catggctcag aatgaacgtt ggcggcgtgg attaggcatg caagtcgtac 60

ggtaagcccc atagcttgct acggggccta gagtggcgaa 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 ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgctg 180

ttatgatccc gcatggggat ataacgaaag attcatcggt agggg 225

<210> 1391
<211> 225
<212> DNA
<213> Unknown

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

<400> 1391

agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatgg ccgaagcttg cttcggccga tggcgaccgg cgcacgggtg cgtaacacgt 120

atccaatcta cccgtcactt ggggataggc tttcgaaaga aagattaata cccgatggta 180

tgtccatgcc gcatgacgtg gacattaaag atttatcggt gtcgg 225

<210> 1392
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1392
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagatgtgc accgaatgag gattcgtctg atttcaccgc gcatctgagt ggcggatggg 120

tgagtaacgc gtggataacc tgcccttcac tgggggataa caaccggaaa 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 ggcatcctgg 180

atgcgctaaa tgaccggatg 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

ggcagcgcgg gatagcaata tcctggcggc gaccggcaga agggtgcgta acgcgtgagc 120

gacatgcccg tcaccggggg acaagcgctg gaaacggcgt ctaatacccc atatgcctgg 180

ggagtgcatg cttccttggt gaaagtttcg acggtgacgg attgg 225

<210> 1395
<211> 225
<212> DNA
<213> Unknown

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

<400> 1395
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc   60

gagaaattac tttgacgcgt tttcggacaa gtctgtgtaa tggaaagcgg cggacgggtg   120

agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa   180

cctcataatg ctgcactaac 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 XlVa

<400> 1397
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggagatattc caccgagaga agctgagtgc ttgcacaagg ccaatctcac cggattatct   120

tagtggcgga cgggtgagta acgcgtgggt 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 tgccacccgc tggacgtcga ccggcggatg ggtgcgtaac   120

gcgtatccaa cctgccgcag tcccggggat agcccgtgga aacgcggatt aacacccgat   180

ggtgcatacg ttccgcatgg cgcgtatgcc aaatgcgaag gactg   225

<210> 1399

<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

aacccacccg caacaggggt ataacggagg gaaacttcca ctaatccccc atattgccgt 180

catcccgcat ggggaggcgg cgaaagcttc ggcggttgcg gacgg 225

<210> 1400
<211> 225
<212> DNA
<213> Unknown

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

<400> 1400
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gggagtgctt gcactccagt ggcgaacggg tgagtaacac gtaggtaatc tagcattaag 120

acgaggatag cttctagaaa tgggagataa tactggatag gaaattttcc tgcatgggga 180

aatttttaaa gatttatcgc ttaatgggga gcctgcggtg catta 225

<210> 1401
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1401
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagttatta gagtgaagtt ttcggatgga gcgataataa cttagtggcg gacgggtgag 120

taacgcgtga gtaacctgcc catcagaggg ggataacgtt ctgaaaagaa cgctaatacc 180

gcataacata tttggttcgc atggactgaa tatcaaagga gcaat 225

<210> 1402
<211> 225
<212> DNA
<213> Unknown

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

<400> 1402
agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac 60

ggtaacatgg aagtagcaat actttttgatg acgagtggcg gacgggtgag taatacgtag 120

ataatctgcc ttctagaggg aaataacaga gagaaatttc tgctaatgtc 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

gagctacttc ggtagcgagc ggcgcacggg tgagtaacgc gtagatgatc taccctcgag 120

actgagatac ctctgggaaa ctggagttaa 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 XlVa

<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 agcatcgcat ggtgcagggg gaaaa 225

<210> 1405
<211> 225
<212> DNA
<213> Unknown

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

<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

gggaaataca gaacagaagg ttcgctggaa gttttgtatg gagagcggcg gacgggtgag 120

taacgcgtag gcaacctgcc ctttgcagag ggatagccac tggaaacggt gattaaaacc 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 ggcatgcgat gggga 225

<210> 1408
<211> 225
<212> DNA
<213> Unknown

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

<400> 1408
agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60

ggcagcatga gggtagcaat accttcgatg gcgaccggcg cactggtgag taacacgtat 120

gcaacctgcc cttgtcaggg ggataatccg gggaaacccg gtctaatacc gcataacacc 180

ttgggggggcc 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

ggcagcgggg cgtggcaaca cgccgccggc gaccggcgca ctggtgagta acacgtatgc 120

aacctgccca tgagaggggg ataacccgtg gaaacgcgga ctaatacccc gtaagccggc 180

gtgccgcatg gcatgttggt gaaaggagcg atccgttcat ggatg 225

<210> 1410
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ttcat 225

<210> 1411
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1411
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagaggtgc tgagggatag 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 ccccctaccc 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 gggatagca gttggaaacg actattaata ccccatatgc gcgtagttgc 180

gatactattc gtgaaagatt aatcgctcta ggatgagtct gcatc 225

<210> 1414
<211> 225
<212> DNA

<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 Anaeroplasma

<400> 1415
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcggat   60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggtaacctg tcttttagcc   120

gaggataacc attggaaacg 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 Ruminococcus

<400> 1416
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagctgaag agcttgcttt tcagcttagt ggcggacggg tgagtaacgc gtgagtaacc   120

tgcctccgag agtggaataa cgttttgaaa agaacgctaa taccgcataa cgcacaagag   180

tcgcatggct aaagtgccaa agatttcatc 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

<210> 1418
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1418
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gaagcacccc tcccgatgat atgacgagct tgctctgaat tgaatcacct ggggtgactg   120

agtggcggac gggtgagtaa cgcgtgggta acctacctat gacaggggga tagcagttgg   180

aaacgactga taataccgca taagtgcaca gtatcgcatg 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 gggataaca actggaaacg gttgacaata   180

ccgcatatat gagcagaccg 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 ttgtgctaat   180

accgcataac atatcgtgat cgcatggtcg 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 gcaatctgtc catagtcgga ggatagcccg ctgaaaggcg gattaatact ccatgtgagt 180

tgaagccgca tggttttaat ttgaaacgcg aggactatgg ttgag 225

<210> 1422
<211> 225
<212> DNA
<213> Unknown

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

<400> 1422
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgcgt tgtagcaata caatggcggc gaccggcgga agggtgcgta acgcgtgagc 120

aacctgcccc tgtcaggggg atagtcgatg gaaacgtcgc gtaatacccc gtacgatgcg 180

tgaccgcatg gtcgtgcatt gaaagattta tcggacaggg atggg 225

<210> 1423
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1423
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60

gaagcacttt ttccggaagc cctcgggccg aaggaagctg tgacttagtg gcggacgggt 120

gagtaacgcg tgggtaacct gcctcataca gggggacaac agttggaaac ggctgctaat 180

accccataag cgcacaacat 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 ttttgcactc 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

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggactttcat caggaaggtg cttgcactgg 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 agcaaccttc 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 Barnesiella

<400> 1428
agagtttgat cctggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg 60

ggcagcggga 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

<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 accttgaaga gggggataac attgagaaat cagtgctaat accgcataac   180

acttcatatt cacatgaata agaagtcaaa ggagaaatcc gcttt   225

<210> 1431
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1431
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

gaagttatta gagcttgctt tgataactta gcggcggacg ggtgagtaac gcgtgggtaa   120

cctgccctgt acagaggaat aacagttaga aatgactgct aatacctcat aagccgacgg   180

aatggcatca ttttgtcgga aaagatttat cggtacagga 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

ctgccggaaa gatggggaca acatcccgaa aggggtgcta ataccgaatg ttgtatatag   180

agcgcatgct ctgtatatta aaggatacta tccgctttcc gatgg   225

<210> 1433

<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 tggaataaag attgatcggt 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

gggactagtg accggaggat agatgaagtt tatcttgcga 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 cttaagcatg caagtcgagc   60

ggtaacttac cttcgggtaa gctagagcgg cggactggtg agtaacacgt gggtgacata   120

ccctccggat cgggatagct cctagaaata ggagataata ccgggtacga ccactacggt   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 ccttcgggcg gtcatagagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag cctcgcgaaa gcgggattaa taccggatac tccgcacccc   180 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

ccccgggccc ggggatagcg gggggaaacc cccggtaaga 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

tgccccaaag 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 tttagaaatt 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 tttatacatg caagtcgaac 60

ggagttttat tgtgaagtag caatatggaa tagtaaaact tagtggcgaa ctggcgagta 120

atagttagga acttaccgag tagtggggga caacagttag aaatgactgc taataccgca 180

tacgcccgag aggggaaaga tttatcgcta tttgagaggc ctaac 225

<210> 1441
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1441
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagctcact ttttgaattc ttcggaagga aaaaagagaa gacttagtgg cggacgggtg 120

agtaacgcgt gggtaatctg ccctgtacag ggggacaaca gttagaaatg actgctaata 180

ccgcataagc gtacggtacc gcatggtaca 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

ggttaagccg gcttcggccg ggcatacagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc accgggacag ccccccgaaa 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

<400> 1444
agagtttgat cctggctcag aacgaacgct ggtagcgtgg attaggcatg caagtcgaac   60

gggatccggg aggtagcaat acttcctggt gagagtggcg gattggggag gaacacgtga   120

gcaacctgcc tttgagtcgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg   180

cccggtgaca tcactggagc gctaaagggg gccgcaaggc tctcg   225

<210> 1445
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1445
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagtacaga cgctgtgaga ggaagtgctt gcacagactt gaacttgttt gtacttagtg   120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac agggagaaat   180

tcctgctaat accgcataag 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 gaataaacca gggaaacttg gcctaatgcc 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 ataacacttg gaaacaggtg ctaataccgc atatgaccac aacacggcat   180

cgtgaagggg taaaagtttt atcggtaaaa gagggggttg cgtat   225

<210> 1448
<211> 225
<212> DNA

<213> Unknown

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

<400> 1448
agagtttgat cctggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg actataagac 120

gaggataacc attggaaacg 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 Spirochaeta

<400> 1449
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgggc 60

ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt gggtgacgca 120

ccccccttgac ggggacagcc cgcagaaatg cggggtaata ccggataagg tccccggggt 180

tggagcccgg ggaggaaagg agctattgct ccgcgagggg agcgg 225

<210> 1450
<211> 225
<212> DNA
<213> Unknown

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

<400> 1450
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcggga gagtagcttg ctactcttgc cggcgaccgg cgaatgggtg agtaacgcgt 120

atccaacctg ccacatgccc gggaatagcc cttggaaatg aggattaagt cccgatatgc 180

ttatttgtcg catgacatgt aagtgaaaca ggcatgtgat gggga 225

<210> 1451
<211> 225
<212> DNA
<213> Unknown

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

<400> 1451
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggactctaag tagaaagcgg agcttgctcc aatggaaatt tagagttagt ggcggacggg 120

tgagtaacgc gtgggtaacc tgccttgcac agggggacaa cagttggaaa cgactgctaa 180

taccgcataa gccggtagtg ccgcatggca cattcggaaa agatt 225

<210> 1452
<211> 225
<212> DNA
<213> Unknown

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

<400> 1452
agagtttgat cctggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac   60

ggtaagcggt ccttcgggac tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca   120

accccccgacg ggcggatagc cggtggaaac gccggataag ccgccatgcg gccgaggagg   180

ggcatccctc tttggtcaaa 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

ggcagcgcgg tgcagcaatg cactggcggc gaccggcgca cgggtgcgta acgcgtatgc   120

aacccacccg caacaggggt ataacggagg gaaacttcca ctaatccccc atattgccgt   180

ctttccgcat 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 ctgtgctaat 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

ggcagcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt   120 atccaacctg cccattaccc ggggatagcc cgccgaaagg cgaattaata cccgatgtgg 180

tcccatgacg gcatcagagt gggaccaaag tcttgtcggt aacgg 225

<210> 1456
<211> 225
<212> DNA
<213> Unknown

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

<400> 1456
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgcgg agtagcaata ctctggcggc gaccggcgca cgggtgcgta acgcgtatgc 120

aacctgcctg cgacaggggg ataacctgga gaaattcgga ctaatacccc ataccacgcc 180

tggcggcatc gccgggcgtt 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 ggcgttgttc gcaacgccat gtcggcgacc ggcgcactgg tgagtaacac 120

gtatgcaacc tgcccttcac cggggcataa cccttggaaa cgaggcctaa ttccccatat 180

acagcattcg ggcatccgtg 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 cttaagcatg caagtcgggc 60

ggcaagctgc cttcgggcag cctagagcgg cggactggtg agtaacgcgt gggtgacgca 120

ccccccttgac ggggacagcc cgcagaaatg cggggtaata ccggataagg tccccggggc 180

cggagcccgg ggaggaaagg agctattgct ccgcgagggg agcgg 225

<210> 1459
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1459

agagtttgat cctggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60

ggaatttagc cgaatgttta catgaggcga agatttagtg gcggacgggt gagtaacacg 120

tgagcaacct accttagaga gggggataac attgagaaat cagtgctaat 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 catttggaaa 180

caagtgctaa taccgtataa tatcaacaac cgcatggttg ttgat 225

<210> 1461
<211> 225
<212> DNA
<213> Unknown

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

<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 Hahella

<400> 1462
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagc 60

gggaactctg atgcagccat gccgcgtgtg tgaagaaggc cttcgggttg taaagcactt 120

tagttttcga gaaagggtgc tgttctaata gggcagtatt cagatgttag aaaaagaata 180

agtaccggca aactccgtgc cagcagccgc ggtaat 216

<210> 1463
<211> 225
<212> DNA
<213> Unknown

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

<400> 1463
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgtac   60

gctaaacttc ggtttagagt ggcgaacggg tgagtaacac gtaggtaacc tgcccataag   120

acgaggataa ctactggaaa cggtagctaa tactggatag tatatagaat cgcatgattt   180

tatatttaaa gatgcgtttg catcacttat ggatggacct gcggc   225

<210> 1464
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1464
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagaccccg aggcggagat ttcggtcaaa gccaagggag gactgagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag gggatagca gttggaaacg actgataata   180

ccgcataagc gcacaaggga gacatcttcc 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 gacggaagtt ttcggacgga agactgtacg cttagtggcg gacgggtgag   120

taacgcgtga gcaatctgcc cataagaggg 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 attaggcatg caagtcgaac   60

gggatccatg aagtagcaat acggattggt gagagtggcg gaagggcgag gaacacgtga   120

gcaacctgtc cttgaggtgg ggaaaaccgt tggaaacgac ggctaatacc gaatgtggcg   180

cccggagaca tctccggagc gctaaagggg gccgcaaggc tctcc   225

<210> 1467

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1467
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggtgaaacag aagcggaggt tttcggactg aagcatttgt ggaacagtgg cggacgggtg   120

agtaacgcgt ggataacctg ccccatacag gggatagca gttggaaacg actgataata   180

ccgcataagc gcacagcacc acatggtgga gtgtgaaaaa ctatt   225

<210> 1468
<211> 225
<212> DNA
<213> Unknown

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

<400> 1468
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggaatgtt aaaaagcttg ctttttaaca 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 gcactggaaa 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 tactaatacc 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 tggaaacggc 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 tcgcggccca 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 Lachnospiracea incertae sedis

<400> 1474
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

ggagtaagac accgaatgag gatccgtctg atttcaccgt cttacttagc ggcggatggg 120

tgagtaacgc gtggacaacc tgcccttcac tgggggataa caaccggaaa cgggtgctaa 180

taccgcatgg gcgcgaacga ccgcatgatc 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 cggtgatggc gagtggcgta cgggtgcgta acacgtgtgc 120

aacctgcccc gcacagggac aaaacgccgg gaaactggcg ctaatatccc atgacgccgc 180

gctggggcat ccctttgcgg ctaaagaggc gactcggtgc gggat 225

<210> 1476
<211> 225
<212> DNA
<213> Unknown

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

<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 agctcgcgtc 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 XlVb

<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 XlVa

<400> 1479
agagtttgat catggctcag gatgaacgct ggcggcgcat ttaagacatg caagtcgaac   60

gaaaaaattt 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 agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgggc tgtagcaata cggtgccggc gaccggcgga cgggtgcgta acgcgtatgc   120

aacctgcccg gcacagggga atagcccggc gaaagccgga gtaatgcccc atggttccag   180

catcccgcat ggggagctgg ataaacccgc gaggggtgc cggat   225

<210> 1481
<211> 225
<212> DNA
<213> Unknown

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

<400> 1481
agagtttgat catggctcag gatgaacgct agcgacaggc ctaacacatg caagtcgagg   60

ggcagcacga aggaagcttg ctttctttgg tggcgaccgg cgcacgggtg cgtaacgcgt   120

atgcaacctg tccataaccg agggatagcc tcccgaaagg gagattaaaa cttcatgtgc   180

cacatgaggg catccgagag tggtgaaacg ttacgggtta tggtt   225

<210> 1482
<211> 225
<212> DNA

<213> Unknown

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

<400> 1482
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggggcgattt gaaagcttgc ttttgatgag cctagtggca aacgggtgag taacgcgtag 120

gcaacctgcc ctcaggatgg ggacaacggc ccgaaaggac cgctaatacc gaatgacgta 180

tctttttcgc atggaagaga taccaaaggc ggagcaatcc gtcac 225

<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 cggtggattt gttagatcct agcggcggac gggtgagtaa 120

agcacaagga cgtgtccgag cgaggggac aactgcggga aaccgtagct aataccccgt 180

aagccgagag gtgaaagcag caatgcgcga 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 ttcagatttc ttcggaaaga cgaatgatat gactgagtgg cggacgggtg 120

agtaacgcgt gagcaacctg ccctttggat cgggatagcg tttggaaacg aacggtaata 180

ccgaataaag tatttggatg gcatcatctg aataccaaag ctccg 225

<210> 1485
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1485
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagacatgc ggacggaatc ctccgggagg aaggctgcat ggactgagtg gcggacgggt 120

gagtaacgcg tgggtaacct gccctgtaca gggggacaac agttggaaac gactgctaat 180

accgcataag catacaggac cgcatggtcc ggtatgaaaa actcc 225

<210> 1486
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1486
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaggcttaac gaatgagatc ttcggatgga ttttgttaat ccgagtggcg gacgggtgag   120

taacgcgtgg gtaacctgcc ttacacaggg ggacaacagc cggaaacggc tgctaatacc   180

gcataacccg ctagggccgc atggcccgga 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 cgcatggtcc ggtgtgaaaa actcc   225

<210> 1488
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVb

<400> 1488
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagagaagac gaaaagcttg ctttttgtcc tatcgagtgg cggacgggtg agtaacgcgt   120

gagtaacctg ccccatactg gggaataacg tttggaaacg gacgctaata ccgcataagc   180

aggcggaggg acatccctca gtttgaaaag atttatcggt 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

ggttaaaccg ccctcgggcg gacatagagt ggcgaacggg tgagtaacac gtgaccaacc   120 tgccccgcgc 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

ggtaaatgtc ccttcgggga catgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctca ccgggatagc cggtggaaac gccggataag accggatgcg cccatgggga 180

ggcatctccc tgcgggcaag gcggcgacgc ggaggggac 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 agcggaagtc ttcggatgga aggtcataag tcgagtggcg gacgggtgag 120

taacgcgtga gcaacctgtc ttatacaggg ggataacact ccgaaaggag cgctaatacc 180

gcataagacc acgatgccgc atggtatcgg ggtaaaagga gcgat 225

<210> 1492
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 aggcatctcc ttgtg 225

<210> 1493
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1493

agagtttgat catggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

gggactagtg accggagaat agatgaggtt atctattttg 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 taccgcataa 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 Proteiniclasticum

<400> 1496
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gagggatggg ggagagcttg ctctttttca ttccgagtgg cggacgggtg agtaacgcgt 120

gaggaacctg tctttcacag gggataacg taccgaaagg gacgctaata ccgcataaga 180

ccacagcacc gcatggtgaa ggggtcaaag gaggaatccg gtgga 225

<210> 1497
<211> 225
<212> DNA
<213> Unknown

<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

tgcgaattgc gcatgttgtt tgcagtaaag 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

ggagttgcga tggaaagagg cttcggccaa 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 tggtggatta 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

cgcatggtgt gtgggtggaa agatttatcg gttttggatg gactc   225

<210> 1501

<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 gggatagcc 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

ggaagtcgtt attttagaag tggaaagaag atttatctga tagaagcaga agaaataaca   120

atggctttag tggcggactg gtgagtaaca cgtaagcaac ctggctatta gaggggaata   180 acagtgagaa atcattgcta ataccgcata agcttgtaat 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 cggtggaaac 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

gagtgtcggc 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 ggcatcttag 180

agttattaaa gttgggttac aacactgcag 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

ggtcttctta cgggtagcaa tacttgtttg aagatagtgg cggacgggtg agtaacgcgt 120

gagcaacctg cccatcagag gggaatagcg 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
agagtttgat catggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60

ggcagcgcgg tgtagcaata cactggcggc gaccggcgca cgggtgcgta acgcgtatgc 120

aacccacccg cgacaggggc ataacggggg gaaacccca ctaattcccc gtaaggccgc 180

gtccccgcat ggggatgcgg cgaaagcctt cgggcggttg cggac 225

<210> 1510
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1510
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60

ggaagatacc cagagcttgc tcttgatatc tttagtggcg gacgggtgag taacgcgtgg 120

gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcataacatt 180

gcagtgccgc atgatactgc gatcaaatat ttataggtat gagat 225

<210> 1511
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1511
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagcttatt aagaaagcgg agcttgctcc aatggatttt taagcttagt ggcggacggg 120

tgagtaacgc gtgggtaacc tgccttgcac agggggacaa cagttggaaa cgactgctaa 180

taccgcataa gccggtagct tcgcatgaag catccggaaa agatt 225

<210> 1512
<211> 225
<212> DNA
<213> Unknown

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

<400> 1512
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggaaacggaa ggcggagctt gctttgccta gacgtcgacc ggcggatggg tgcgtaacgc 120

gtatccaacc tgcccgtgtc ccggggatag cccatggaaa cgtggattaa cacccgatgg 180

tcctgcgctt ccgcatggcg gcgcaggtaa acgtgaggga catgg 225

<210> 1513
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1513
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gagggtccta aacctgagat tcgtcgaagg ggagggaatt ccgagtggcg gatgggtgag 120

taacgcgtgg agaacctgcc ctttgctggg ggataacaac tggaaacggt tgacaatacc 180

gcataagctc ggttggccgc atgaccgacc gaggaaagat ttatc 225

<210> 1514
<211> 225
<212> DNA
<213> Unknown

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

<400> 1514
agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg 60

ggcagcatgg gggtggcaac acctctgatg gcgaccggcg cactggtgag taacacgtat 120

gcgacctgcc ccgttccggg gtatagacca gggaaacttg gcgtaatccc ccatgtgccc 180

tggggctgca tggccccatg gtgaaaggtt cgccgggacg ggatg 225

<210> 1515
<211> 225
<212> DNA
<213> Unknown

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

<400> 1515
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggggcgaaga ggagcttgct cttcctagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgccct tcagatgggg acaacatttc gaaaggaatg ctaataccga atgatgtaca 180

ttggtcgcat gactgatgca ccaaaggccg ggcaaccggt cactg 225

<210> 1516
<211> 225
<212> DNA

<213> Unknown

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

<400> 1516
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgt cgtgtgcttg cacacgatga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccatgactc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg   180

tcgaaagagg acatctgatt tcgaccaaag cttcggcggt catgg   225

<210> 1517
<211> 225
<212> DNA
<213> Unknown

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

<400> 1517
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

<210> 1518
<211> 225
<212> DNA
<213> Unknown

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

<400> 1518
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggaaaggccc agcttgctgg gtgctcgagt ggcgaacggg tgagtaacac gtgggtgatc   120

tgcccctaac ttcgggataa gcttgggaaa ctgggtctaa taccggatag gacaatcgtt   180

tagtgtcggt tgtggaaagt tttttcggtt agggatgagc ccgcg   225

<210> 1519
<211> 225
<212> DNA
<213> Unknown

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

<400> 1519
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

<210> 1520
<211> 225
<212> DNA
<213> Unknown

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

<400> 1520
agagtttgat cctggctcag attgaacgct agcgggatgc tttacacatg caagtcgaac   60

ggcagcacga ggagcttgct ccttggtggc gagtggcgaa 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
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagttgagc   60

gctgaaggtt ggtacttgta ccgactggat gagcagcgaa 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 atccaacctt ccccctacca gggaatagcc 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
agagtttgat cctggctcag gacgaacgct ggcggcgcgc ctaacacatg caagtcgaac 60

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 acgcgaggga 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 ccttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc 180

aagatggagc ctttttcttt gaccaaagat ttatcggtaa gggat 225

<210> 1527
<211> 225
<212> DNA
<213> Unknown

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

<400> 1527

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gaactctggt attgattggt gcttgcatca tgatttacat ttgagtgagt ggcgaactgg 120

tgagtaacac gtgggaaacc tgcccagaag cgggggataa cacctggaaa cagatgctaa 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 XlVa

<400> 1529
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagtttatg aagttttcgg actgagtaaa cttagtggcg gacgggtgag taacgcgtgg 120

gtaacctgcc tcatacaggg 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 gcgat 225

<210> 1531
<211> 225
<212> DNA
<213> Unknown

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

<400> 1531
agatttgatc ctggctcagg atgaacgctg gcggcgtgcc taacacatgc aagtcgagcg   60

gagtatgacg agtgcttgca catgtcatac ttagcggcgg atgggtgagg aacgcgtgga   120

gaacctgccc ctcacagggg gataacagtt ggaaacgact gttaataccg catatgctca   180

cggtgccgca tggcacaggg aggaaagatt tcatcggtga gagat   225

<210> 1532
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1532
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggaaattgct gattgaagct ttcgggtgga tttcagtaat tttagtggcg gacgggtgag   120

taacacgtgg gtaacctgcc ctgtaccggg ggataacagt tggaaacggc tgttaatacc   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 attaggcatg caagtcgaac   60

gagaaagcgg cttcggccgc gagtaaagtg gcgaaagggt gagtagcacg tggggaacct   120

gccccgggga ccggaacaag cctgtgaaaa cgggtctgag accggatgtc gccccggccc   180

gcatgggccg 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 caagtcgcgg   60

ggcagcatgg gcgtagcaat acgcctgatg gcgaccggcg cacgggtgcg taacgcgtat   120

ccaacctggc ccttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc   180

aagcgatagc cttttcactt gaccaaagag tttttcggta aggga   225

<210> 1535

<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 catacggtca cggaccgggg   180

ggtctgtgag gaaaggctcg taagagtcgc cttgggaggg gcctg   225

<210> 1536
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1536
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcatgct ggaaagagac cttcggggaa ccggaaatca tgacttagtg gcggacgggt   120

gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaat   180

accgcataag cgcacagctt cgcatggagc 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 ttatcgcccg 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 ggttagcaat aattggctgt gagagtggcg gattggggag gaacacgtga   120

gcaacctgcc cttgagttgg ggaaaaccgt tggaaacgac ggctaatacc ggatgtggcg   180 cccggagaca tcttcggagc gctaaagggg gccgcaaggc tcccg 225

<210> 1539
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1539
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagaccccg aagcggaaat ttcggttgaa gtggagggag gactgagtgg cggacgggtg 120

agtaacgcgt ggataacctg ccccatacag ggggatagca gttggaaacg 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 cttaagcatg caagtcgagc 60

gggaatagag gtgcttgcac ttctatgaga gcggcggact ggtgagtaac acgtaggcaa 120

cgtacccttc ggacggggat agccggcaga aatgtcgggt aataccggat gtgaacttac 180

ttcgtgaagg agtaagtgga 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 tgttagatcc tagcggcgga cgggtgagta 120

aagcacaagg acgtgtccga gcgagggggg caactgcggg aaaccgtagc taataccccg 180

taagccgaga ggtgaaagca gcaatgcgcg agcggagcga cttgt 225

<210> 1542
<211> 225
<212> DNA
<213> Unknown

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

<400> 1542
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggtgtcaa tcttcggaaa gacacttagt ggcggacggg tgagtaacgc gtgggtaacc 120

tgcctcatac agggggatag cagttggaaa cgactgataa taccgcataa 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 tgtgaaaaac 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 gcatggcggt 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 gccggggtga gagtggcgaa cgggtgagta atgcgtgacc 120

gacctgcccc atgcaccgga atagctcctg gaaacgggtg gtaatgccgg atgttccaca 180

tgagcgcatg cgagtgtggg aaaggctttt tgcggcatgg gatgg 225

<210> 1546
<211> 225
<212> DNA
<213> Unknown

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

<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 Gordonibacter

<400> 1547
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gattaaaccg gctccggccg gaaatagagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc 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

ggttaagccg gcttcggccg ggaataaagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccgcgc accgggacag ccccccgaaa 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

<213> Unknown

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

<400> 1550
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg 60

ggcagcatag gggaggtttc ggccaccccc gatggcgacc ggcggatggg tgagtaacgc 120

gtatccaacc tgcccctgtc ccggggacag cccttagaaa tgaggattaa cccccgatgg 180

cgcggagagg ccgcatggct tttccgccaa atgcgaagga caggg 225

<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

atcgaaccta cctgccgctc ggggatagcc ctctgaaagg aggattaata cccgatggtt 180

tccaatgggg acatccccgt tggaataaag 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 gggaatagcc cagcgaaagt tggattaaag ctccatgtga 180

gtgagaatcg catgtttttc acttgaaacg taaggactat gggtg 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 ctagtcctgc tggcgaccgg cgcacgggtg agtaacacgt 120

atccaacctg cccccagctt ggggatagcc ctctgaaagg aggattaata cccgatatgc 180

ttgttctccg gcatcggagg acaatcaaag attcatcggc tgtgg 225

<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 agggtgcgta 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 XlVb

<400> 1555
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gagagaggcg aagagcttgc tttttgccaa tcgagtggcg gacgggtgag taacgcgtga   120

gcaacctgcc ttacattggg gaataacgtt tggaaacgga cggtaatacc gcatatgcag   180

acaagtacgg catcgtacgg tttggaaaga 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 aaatatttat 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 cttcggtcag tggaaagtgg cggacgggtg agtaatacat aggaaatctg   120 cccttagctg ggggacaaca gttggaaacg actgctaata ccgcatatga gcttagctga 180

aatgctaatc ttgaaaacta cggtggctaa 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 tttggttcgg 120

aacaacttcg ggaaactgga gctaataccg gataagccct tcgggggaaa gatttatcgc 180

caaaagatcg gcccgcgtct gattagctag ttggtggggt 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 gaagcttgct tttagaagtc gagtggcaaa cgggtgagta acgcgtagac 120

aacctgcctc tgggatgggg acaacagccc gaaagggctg ctaataccga atgaaatggt 180

ttcttctcct gaagttatca tgaaagatgg 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 agcagcttgc tgcttcgctg acgagtggcg gacgggtgag taatgtctgg 120

gaaactgcct gatggagggg gataactact ggaaacggta gctaataccg cataatgtcg 180

caagaccaaa gagggggacc ttcgggcctc ttgccatcgg atgtg 225

<210> 1561
<211> 225
<212> DNA
<213> Unknown

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

<400> 1561

agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcaggc cgggtagcaa tacttggtgc tggcgaccgg cgcacgggtg cgtaacgcgt 120

atgcaacctg cccgtaacag gggtataacg gagggaaact tccactaatc ccccatattg 180

tcactttttc gcatggggag gtgacgaaag cttaattgtg 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 taggttgcgt 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 cttcgggggа aagatttatc 180

gccgatagat gagcccgcgt ctgattagct agttggtgag gtaat 225

<210> 1565
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Erysipelotrichaceae incertae sedis

<400> 1565
agagtttgat catggctcag gatgaacgct ggcggcatgc ctaatacatg caagtcgaac   60

gaagcgacct caacagaatt gtgcttgcac aaggaagatg agattctcgc ttagtggcga   120

acgggtgagt aacacgtagg taacctgccc atctacctgg gacaacagtt agaaatgact   180

gctaaaaccg gataggtaac attgaggcat ctcgatgtta ttaaa   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 tgagtaacaa gttggtaatc tgcctattag   120

ttggggatac ccaggcgaaa gcttggctaa taccgtaata cgtaataagc tgaaatgctt   180

attataaaag gcgcttcggc gtcgctaata 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 acggattggt gagagtggcg gaagggcgag gaacacgtgg   120

gcaacctgtc caggaggtgg ggaaaacctc gggaaactga ggctaatacc gaatgtggcg   180

cccgcacgca tgtgcggagc gccaaagggg gcgaaagctc cccct   225

<210> 1569

<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

tggaacagct cctggaaacg ggaattaata ccggatgtga tcatattgct gcatggtgat   180

atgattaaag cagtaatgcg cttgcggatg ggctcgcgtc 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

gagggaattc 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 cttcggccgt gagtagagtg gcgcacgggt gagtaacgcg tagataacct   120

gtcttcatat ccgggataac acgccgaaag ggtactaat accggatata ctcgcatttc   180

aataggtgag gcgaggaaag gtggcctctg attcaagcta ctgta   225

<210> 1572
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1572
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagccaatt gacggatccc ttcggggtga 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 ggcggtgcgt tttaagcatg caagttgagc 60

ggcagtagta gcaatactat gagagcggcg gacgggtgag taacacgtgg ataatctacc 120

ttgaagtttg gaatataccg tggaaacacg gagtaatacc ggataagacg gtacttgggg 180

acaagtattg ggaaaggtgc tacggcatcg ctttaagatg 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

ggtaacacgg tgtagcaata cattggtgac gagcggcgga cgggtgagta acgcgtatgc 120

aacctaccca ctacacaagg atagccttcc gaaaggagga ttaatacttg atagtactct 180

aagatggcat caaaacagag 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 agtaacacgt gggaacgtac ctctttgttc 120

ggaataactc atggaaacgt gagctaatac cggatacgcc cttttgggga aagatttatc 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

gcttctttct gatcgaactt cggttcacca agaaagaaga gtagcgaacg ggtgagtaac 120

acgtgggtaa cctgcccatc agcgggggat aacacttgga aacaggtgct aataccgcat 180

aatacttttt ctctcatgag tgaaagttga 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

ggagctattt agacagaacc cttcgggggg aagattactt agcttagtgg cggacgggtg 120

agtaacgcgt gagtaacctg cccataagag ggggataaca cagagaaatt tgtgctaata 180

ccgcatatag atataatatc gcatggtaat 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

gcccagcaat gggagcggca gacgggtgag taacgcgtgg ggatctaccc attggtacgg 120

aataacccag ggaaacttgg 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

gagttcccgt tgattgacgt gcttgcactg atttcaacat tggaacgagt ggcgaactgg 120

tgagtaacac gtggaaaacc tgcccagaag caggggataa cacttggaaa caggtgctaa 180

taccgtataa caacaaaaac cgcatggttt ttgtttgaaa ggtgg 225

<210> 1580
<211> 225
<212> DNA
<213> Unknown

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

<400> 1580
gctttgatca tggctccgga tgcacgctcg ctccaggctt aacacatgcc agtcgagggg   60

taacggcagt gaagcttgct ttactggccg acgaccggcg cacgggtgag taacgcgtat   120

ccaacctgcc catgactcag ggataacctt tcgaaaggga gcctaatacc tgatgttgtg   180

agacgagggc atctgagtgt caccaaagat tcatcggtca tggat   225

<210> 1581
<211> 225
<212> DNA
<213> Unknown

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

<400> 1581
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gggaaactta tttcggtaag 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 Eubacterium

<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 Bacteroides

<400> 1583
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatga tcgaagcttg ctttgatcga tggcgaccgg cgcacgggtg cgtaacacgt   120

atccaatcta cccaccgctc agggatagcc ttgcgaaagt aagattaata cctgatggtt   180

tccttatgtg gcatcatgta tggaataaag attcatcggc gatgg   225

<210> 1584
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1584
agagtttgat cctggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac 60

gaacgacttc aaattgtttt actttttgaa gaagttagtg gcggactggt gaggaacacg 120

taaacaatct gcctataaga ggggaacaac attgagaaat cagtgctaat accgcataag 180

cctacgctat cgcatgataa agtaggaaaa ggagtaatcc gctta 225

<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 cacttggaaa 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 gggaatctac ctagttctac 120

ggaacaacag ttggaaacga ctgctaatac cgtatacgcc ctatggggga aagatttatc 180

ggaattagat gagcccgcgt aagattagct agttggtgag gtaat 225

<210> 1587
<211> 225
<212> DNA
<213> Unknown

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

<400> 1587
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgcgg gggtagcaat acacctggcg gcgaccggcg gaagggtgcg taacgcgtga 120

gcaacatgcc cgtcacaggg ggataaaaga tggaaacgtc tcctaatacc ccgtaacatc 180

atttgtggca tcgcagatgg ttgaaagcta ttatgcggtg acgga 225

<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

cgcatgacgt cacgggaggg catccttctg tgaccaaaga tttat   225

<210> 1589
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1589
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagcacttc tcccgttgaa gttgattagc ttgctatgaa gcggaaacat ttgaagtgac   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 gagtggcgaa cgggtgagta acacgtgggt   120

gatctgccct gcactgtggg ataagcctgg gaaactgggt ctaataccat ataggaccgc   180

actttggatg 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 cttaagcatg caagtcgagc   60

gggattatgg tgcttgcacc atatgagagc ggcggactgg tgagtaacgc gtaggtgacg   120 aaccccccgg 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 Anaeroplasma

<400> 1592
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gaggtttctc ttcggggaaa ccgagtggcg aacgggtgag taacacatag gtaatctacc 120

tttcagaatg ggatacccaa gagaaatttt ggctaatacc gtatacaatc atttctccgc 180

atggagattt gatgaaaggg gctccaaagc ctcgctgtta gatga 225

<210> 1593
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 sedis

<400> 1594
agagtttgat catggctcag gataaacgct ggcggcgtgc tttggacaat gggggcaacc 60

ctgatccagc gacgccgcgt gaacgaagaa gtatctcggt atgtaaagtt ctatcagcag 120

ggaagataat gacggtacct gactaagaag caccggctaa atacgtgcca gcagccgcgt 180

aat 183

<210> 1595
<211> 225
<212> DNA
<213> Unknown

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

<400> 1595

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaggacaatg gtttcggctg ttgttcgagc ggcggacggg tgagtaacgc gtgaacaatc 120

tgtccctgac agggggataa cacttggaaa caggtgctaa taccgcataa 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 ggccggaaac 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 ggtggaaacg 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 tttatacatg caagtcgaac 60

gaacgagttt atattgagta gcaatacgat ttataaatga gttagtggcg aacgggtgag 120

taatatatag gaatttgccc agtagtgggg gacaacagtt agaaatgact gctaataccg 180

catacgtccg agaggagaaa gatttatcgc tattggagaa gccta 225

<210> 1599
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1599
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcatctt tatatgatcc ctttggggtg atgaattgat gactgagtgg cggacgggtg   120

agtaacgcgt gggaaacctg ccctgtaccg gggatagca 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 cctttatctg 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 caggaaggtg cttgcaccgg aaagatggaa gttagcggcg 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 ccccgtactc ggggacagcc ctctgaaagg aggattaata cccgatattg   180

tcgctgtggg acatcccatg gtgacgaaag attcatcggt acggc   225

<210> 1603

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

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

<400> 1603
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcacgg ggtatggctt gccataccct ggtggcgacc ggcgcacggg tgagtaacgc   120

gtatccaacc tgcccgcaac cgcggaatag cccgccgaaa ggcggattaa tgccgcatga   180

gctcgcgtgg gggcatctgc ccgcgagcaa 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

ggggcgattg aaagcttgct tttatgagcc tagtggcaaa cgggtgagta acgcgtgggc   120

aacctaccgg aaagatgggg acaacatccc gaaaggggtg ctaataccga atgttgtata   180

tgaggcgcat 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 cgcaagggtg aggaacgcgt gagtgaccta cccgcaagtt   120

tggaacagct cctggaaacg ggaattaata ccggatgtga tcatagggct gcatggtttt   180

atgattaaag cagcaatgcg cttgcggatg ggctcgcgtc ccatt   225

<210> 1606
<211> 225
<212> DNA
<213> Unknown

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

<400> 1606
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

ggacttaact tctagcttgc tagaagagcg gttagtggcg gactggtgag taacacgtaa   120

gaaatctgcc tatcagaggg gaataacagt gagaaatcac tgctaatacc gcatatgcca   180 tagttatcgc atgatgacag tgggaaagaa gcaattcgct 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 gcttcggtta cgagtttagt ggcggacggg tgagtaacgc gtggataatt 120

tgcctttcag tgggggatag ctgagagaaa tctcaattaa taccgcataa cataatttgt 180

tcgcatgagt gagttattaa 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 taggttgcga tcactagttc agtggcggac 120

gggtgagtaa agcatgagta actttcccat 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

ttcttctcct gaagagatca tgaaagatgg 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

gaggacgtag caatacgagc cgagcggcga atgggtgagt aacgcgtaag caatctgccc 120

cgcattccgg aacaaccgtg ccaacgcgcg gctaatgccg ggagccgtgg cggtccacat 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 gggatagcc gatggaaacg tcgagtaata 180

ccccatgaca 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 cctttggttc 120

ggaataacag ttggaaacga ctgctaatac cggatgatga cgtaagtcca aagatttatc 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 tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgcctt cgggatgggg acaacaggac gaaagccctg ctaataccga atgaagcatc 180

ctccctgcat ggggagggta tgaaagatgg cctctgaata tgcta 225

<210> 1614
<211> 225
<212> DNA
<213> Unknown

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

<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 ggatgagagc ggcggactgg tgagtaacgc gtgggcgacg   120

cgccccgtgg accgggatag cctgtggaaa cacagggtaa taccgggcga gctcccccgc   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 attggaaacg 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 ccccccgaaa gggggattaa taccggatgc gccgggaggg   180

ccgcatggcc ctcccgggaa agcccaggcg gcgcgggatg gggtc   225

<210> 1618
<211> 225
<212> DNA

<213> Unknown

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

<400> 1618
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagacgattt taagcttgct tagatgagtc gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtcag   180

ttttccgcat gggagactga ttaaagatgg cctctacttg taagc   225

<210> 1619
<211> 225
<212> DNA
<213> Unknown

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

<400> 1619
agagtttgat cctggctcag attgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

ggtagcaggc gtagcaatac gtgctgacga gcggcgaacg ggtgagtaat gcttaggaat   120

cttcctcgta gtggggaata acttggggaa actcaagcta ataccgcata cgaactacgg   180

ttgaaagcgg gggatcgcaa gacctcgcgc tatgagatga gccta   225

<210> 1620
<211> 225
<212> DNA
<213> Unknown

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

<400> 1620
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

gcacagcgaa aggtgcttgc acctttcaag tgagtggcga acgggtgagt aacacgtgga   120

caacctgcct caaggctggg gataacattt ggaaacagat gctaataccg aatgaaactt   180

agtgtcgcat gacacaaagt taaaaggcgc tttggcgtca cctag   225

<210> 1621
<211> 225
<212> DNA
<213> Unknown

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

<400> 1621
agagtttgat catggctcag attgaacgct ggcggcgtgc ttaacacatg caagttgtgc   60

ggcgagtttt cgaagaagac ttcggttgga attggaaatg agcagcagcg gacgggtgag   120

taaagcacaa ggacgtgtcc tgcagagggg gacaactacg ggaaaccgca gctaataccc   180

catacgccga gaggtgaaag cagcaatgcg ctggaggagc ggctt   225

<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 ttcttgtaaa gcatagtggc ggacgggtga   120

gtaacgcgtg ggcaacctgc ctctcagtgg gggatagcag ctggaaacgg ctggtaatac   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 ccggatggtg   180

tcatggaggg acatcccttc gtgactaaag attcatcggt gcgcc   225

<210> 1624
<211> 225
<212> DNA
<213> Unknown

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

<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 cggcggtgac 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 cctgcctctg agagagggat agcttctgga aacggatggt aatacctcat gatatagcgt 180

tctcgcatgg gaatgttatc aaatgaattt 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 agaggtaatt 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 gggggatagc 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 gggtactcga gtggcgaacg ggtgagtaac acgtgggtga 120

tctgccctgc actttgggat aagcccggga aactgggtct aataccgaat atgaccactt 180

cttggatgtt gtggtggaaa gcttttgcgg tgtgggatga gcctg 225

<210> 1629
<211> 225
<212> DNA
<213> Unknown

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

<400> 1629

agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgagc 60

gagaactcgc tcagccgatt cttcggaaga 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 ggcggcgcgt cttaagcatg caagtcgagc 60

gggaagaagt agcttgctac ttctgagagc ggcggactgg tgagtaacgc gtgggtgacg 120

cacccctgtg tcggggacag cccgtggaaa cacggagtga taccggatac ggtcccatgg 180

atcagaaaca tgggaggaaa ggagctacgg cttcgcacgg ggagc 225

<210> 1631
<211> 225
<212> DNA
<213> Unknown

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

<400> 1631
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggtataga cgctgaagag gtttcgactg attcttgttt atacttagtg gcggacgggt 120

gagtaacgcg tgggcaacct gccctgtact gggggatagc 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

ggggcgatta gaagcttgct tttatgagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgcctt tgggatgggg acaacaggac gaaagccctg ctaataccga atgaagtagt 180

ctttccgcat ggagggacta tgaaagatgg cctctacatg taagc 225

<210> 1633
<211> 225
<212> DNA
<213> Unknown

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

<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

ggttaagacc 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

tatggtaccg catggtatta taatcaaagg agcaatccgc tgatg   225

<210> 1636
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1636
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggaccttaga gagtgaacag cttgctggga tctttcgaaa ggttagcggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac   180

cgcataagcg cacagtaccg catggtatag tgtgaaaaac tccgg   225

<210> 1637

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1637
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gggaacctca tagtggagac ttcggtcaaa gcagtgagaa ttctagtggc ggacgggtga   120

gtaacgcgtg gataacctgc ctttaagaat 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

gggactaaac cgattaatcc ttcgggaagc gttgatttag tttagtggcg gacgggtgag   120

taacgcgtga gcaacctgcc ttgaagaggg ggataacaca gggaaacttg tgctaatacc   180

gcataacata tgacgatcgc atggtcgaca tatcaaagct ccgac   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 cttcggggtg aatggataga tggacagtgg cggacgggcg   120

agtaacgcgt gagtaacctg cccataagag 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 actcttgcct 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 ccttcggggg cacgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccgtca tccggatagc cggtggaaac 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 gggtgctgtt 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 gagtacagtg gcgaacgggt gagtaacacg tgaccaacct 120 gccccccgca ccgggatagc cgggcgaaag cccgggtaat accggatgac cccgcaccgc 180

ggcatcgcgg cgcgggcaaa gcccagacgg 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

ggtgaaggcg gagcttgctc tgctggatca gtggcgaacg ggtgagtaac acgtgagcaa 120

tctgccccga actctgggat aagcgctgga 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 cttaagcatg caagtcgggc 60

gggatcaggg tgcttgcacc ctgtgagagc ggcggactgg cgaggaacgc gtgggcgacg 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 atgccaaaga tatat 225

<210> 1648
<211> 225
<212> DNA
<213> Unknown

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

<400> 1648

agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagctcttt gaagggcggc ttcggccaaa cggatgagat gacttagtgg cgaacgggtg 120

agtaacgcgt gaggaacctg cctttcagtg ggggacaaca gttggaaacg actgctaata 180

ccgcataacg tacagaggtc gcatgaccat 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

gagggaatta gaagcttgct tttatgaccc gagtggcaaa cgggtgagta acgcgtagac 120

aacctgcctc tcagatgggg acaacagccc gaaagggctg ctaataccga atgttgtatt 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 cctcttggag gggatagtg 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

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

<400> 1652
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc   60

gggaataagg gagcttgctt ccttatgaga gcggcggact ggtgagtaac acgtgggtaa   120

cgcaccctcc tgacggggac agcctgtgga aacacagggt 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 tgcttgcact 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 ggttagcggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac   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 ttagtggcgg acgggtgagt   120

aatacgtgag taatctgcct tatagatggg gataacgatc agaaatggtc gctaataccc   180

tataatgtat gttttccgca tggttagcat accaaaggga ttcgc   225

<210> 1656

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

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

<400> 1656
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcga ttgtagcaat acgattggcg gcgaccggcg caagggtgcg taacgcgtga   120

gcaacatacc cgcaacaggg ggataagcga tggaaacgtc gtctaatacc ccatggagac   180

caagggcggc atcgtccatg gcctaaaccc 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 taccccatgc cgacgggagg   180

ggacatcccc atccgttgaa aggcttcggt cggtgcggga cgggc   225

<210> 1658
<211> 225
<212> DNA
<213> Unknown

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

<400> 1658
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac   60

ggcaagatgg agcttgctcc atcctagagt ggcggactgg tgagtaacac gtgggtgaca   120

tgcctttcag ttggggatag 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 gaataacccg cggaaacgcg gactaatgcc ccgtatgcat   180 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 cgcatatgtt ctacggagta 180

aagggggcgc aagctctcgc tttaagatga 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 cctccgggcg gacatgaagt ggcgaacggg tgagtaacac gtgaccaacc 120

tgccccgcgc accgggacag ccccccgaaa 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

ggatatgtag caatacatat tagtggcgga cgggtgagta acgcgtaatc aacctgccct 120

ttacagggga ataacacttg 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 Gelidibacter

<400> 1663
agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60

ggcagcggga tgtagcaata cattgccggc gagcggcgga cgggtgagta acgcgtatgc 120

aacctgccca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcattgg 180

gacccggcat 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 ggaagttgtg acttagtggc ggacgggtga 120

gtaacgcgtg agcaacctgc ctcagagtgg gggacaacag ctggaaacgg ctgctaatac 180

cgcataatac tttcggaagg 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

ggtaagcggt ccttcgggac tgcgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

accccccctcg ccgggatagc cggtggaaac gccggataat accggatgcg ccgcgtggga 180

ggcatctccc gagcggcaag gcggagacgc ggaggggggac 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 cttcggtgta 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

<400> 1667
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggacttgccc accgaagcgg aaggtgcttg cattcgaagc ttcaccgggc aggttagtgg   120

cggacgggtg agtaacgcgt ggggaacctg ccccgtaccg gggataaca 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

ggaggacccg ccctcgggcg ggcgatcagc ggcgaacggg tgagtaacgc gtgggcaacc   120

tgccccccgc acgggaatag ccccgggaaa ccgggggtaa tgcccgacgg 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 atgattaaaa   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 agctacaggc ttaacacatg caagtcgagg   60

ggcagcacgt gggtagcaat accctgggtg gcgaccggcg cacgggtgag taacgcgtat   120

ccaacctggc ccatagtagg gaacagcccg gcgaaagtcg gattaatgcc ctatgttttc   180

ctcagtgagc attttatgag gaacaaagac ttgtcgctat gggat   225

<210> 1671
<211> 225
<212> DNA

<213> Unknown

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

<400> 1671
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgagc   60

ggagatgaat tgaatgagag cttcggcagg atttcgattg atcttagcgg cggacgggtg   120

agtaacgcgt gaacaatctg tcccacacag gggataaca 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
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggatgattcg gtctagcttg ctagatcgga gagtcagtgg cgaacgggtg agtaatacgt   120

aggcaacctg ccccaaagcg ggggatagca gttggaaacg actattaata ccgcataggt   180

aatctcgagg catcttgaga ttattaaagg tgcgtttgca ccgct   225

<210> 1673
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 tagcggcgga cgggtgagta acacgtgggt   120

aacctgccca taagactggg ataactccgg gaaaccgggg ctaataccgg ataacatttt   180

gaaccgcatg gttcgaaatt gaaaggcggc ttcggctgtc actta   225

<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 ccttcggggg cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

accccccctca ccgggatagc cggtggaaac 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 ctaacacatg caagtcgaac 60

ggagaaggga gcttcggttc ccggatcagt ggcggacggg tgagtaacgc gtgagcaacc 120

tgccttcgtg tggggaataa cacagggaaa cttgtgctaa taccgcataa tgcaaagacg 180

cagcattacg tttttgccaa 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

gagggcgcag caatgcgaac cgagcggcga acgggtgagt aacgcgtgaa caacctgccc 120

caaagtccgg gatagccctt ccaacggagg attaataccg gatggcgagg gtttccgcat 180

ggagacctat ccaaagtctt ggcgctatgg gaggggttcg cgtcc 225

<210> 1678
<211> 225
<212> DNA
<213> Unknown

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

<400> 1678
agagtttgat catggctcag gattaacgct ggcaccatgc ctaatacatg catgtcgagc 60

ggagtttaga gagcttgctt tctaaactta gcggcaaatg ggtgagtaac acgtaaggaa 120 cctgcctaag tgacgaggac aacggttgga aacgactgct aatactggat agtataagaa 180

accgcatgat ttcttattta aaggtccgtt tggaccacgc ttaga 225

<210> 1679
<211> 225
<212> DNA
<213> Unknown

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

<400> 1679
agagtttgat catggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac 60

gataaggttc cttcgggaat 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 cttcggcccc aagtagagtg gcgcacgggt gagtaacgcg tggataatct 120

gcccctgcaa ctggaatagc gactggaaac ggtcgataat accggatacg 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 cttcggccga 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

agagtttgat catggctcag agtgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60

gatgaagctt ttagcttgct agaagtggat tagtggcgca cgggtgagta atgcataggt 120

tatgtgccct ttagtctggg atagccactg gaaacggtga ttaatactag atactcccta 180

cgggggaaag tttttcgcta 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

ctcagggagc attttatgag gaacaaagac ttgtcgctat gggat 225

<210> 1684
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 tgtagcaata caatgccggc gaccggcgta agggtgagta acgcgtgagc 120

gacgtgcccg tcacaggggg acaagcgctg gaaacggcgt ctgatacccc ataggaatgc 180

tccctgcatg gggggtgttt gaaagattta tcggtgacgg atcgg 225

<210> 1686
<211> 225
<212> DNA
<213> Unknown

<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 ataagcgttg gaaacgacgt ctaataccgg atacgacctt   180

cggaggcatc tcctggaggt ggaaagaatt 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 agtaacgcgt gagcaacctg   120

ccctgcattg ggggataaca cagggaaact tgtgctaata cctcatgaca catacttacc   180

gcatgatagg tatgtcaaag agcaatcgat gcaggatggg ctcgc   225

<210> 1688
<211> 225
<212> DNA
<213> Unknown

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

<400> 1688
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcgt ggtagcaata ccatggcggc gaccggcgca cgggtgcgta acgcgtatgc   120

aacctgcctg taacaggggg ataacccgga gaaatttgga ctaataccgc atattgccga   180

gctgcagcat tgcaattcgg cgaaaggagc gatccggtta cagat   225

<210> 1689
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1689
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtacaga cgctgcgaga ggaagtgctt gcacggaatc aaacttgttt gtacttagtg   120

gcggacgggt gagtaacgcg tggaaaacct gcctcataca gggggataac aggaagaaat   180

tcctgctaat accgcatgag cgcacattac cgcatggtag agtgt   225

<210> 1690

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

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

<400> 1690
agagtttgat cctggctcag agttaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gaattcttac agagcatcgt aagagttagc ggcaaacggg tgagtaacac atgggaaacc 120

tcccttagaa tggggaatat ctccgtgaaa acggagctaa taccgcataa 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

gaaccaaact gaagattgat gcttgcatca tgattcagac cttggtgagt ggcggacggg 120

tgagtaacac gtgggtaacc tgcccaaaag tgggggataa catttggaaa caagtgctaa 180

taccgcataa 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 tttagatttc ttcggaatga taaatgatat gactgagtgg cggacgggtg 120

agtaacgcgt gagcaacctg cccttcggag ggggatagcg tttggaaacg aacggtaata 180

ccgcataatg ttaacggaag gcatcttctg ttaaccaaaa 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 ctcacctggg gagtcaggtg ggcgcgtgtc gtcttcagct 120

tagtggcgga cgggtgagta acgcgtgagc gacctgaccc atacaggggg acaacagctg 180 gaaacggctg ctaataccgc ataagaccac gtacctgagg gtatg 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

gagaaatatg gaaatgattc cttcggggag aatggaaata tggacagtgg cggacgggcg 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 tgcccaaaag tgggggataa catttggaaa caagtgctaa 180

taccgcataa 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

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 acggcccacc 60

gagccgacga tccttagggg ttctgagagg aaggtccccc acactggtac 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 cgacaggggg ataacggagg gaaacttcca ctaatatccc atggtgccgg 180

ggtctcgcat ggggccgcgg ctaaaggggc gacccggttg cggat 225

<210> 1701
<211> 225
<212> DNA
<213> Unknown

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

<400> 1701
agagtttgat cctggctcag gatgaacgct agcgacaggc ttaacacatg caagtcgagg   60

ggcagcgggg cgtggcaaca cgccgccggc gaccggcgca ctggtgagta acacgtatgc   120

aacctgccca tcggaggggg ataacccgtg gaaacgcggc ctaatacccc gtacgccttt   180

ggatcgcatg atttggaggt gaaaggaggc gactctgtcg atgga   225

<210> 1702
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1702
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagacgagg cataagcttc ccttcgggga 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 ctcgaaagtt agtggcggac gggtgagtaa cgcgtgagca   120

acctgccttt ttccgggggga 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 gggataacgt ttggaaacga acgctaatac cgcataatat   180

tatgatatcg catggtatta taatcaaagg agcaatccgc tgatg   225

<210> 1705
<211> 225
<212> DNA

<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 tccggatagc cggtggaaac 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 taccgcataa gaccacagtt   180

tggcatcaaa caggggtcaa agcagtaatg cgttttgaga tggtc   225

<210> 1707
<211> 225
<212> DNA
<213> Unknown

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

<400> 1707
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggggacataa ttggaaaggc ttcggcccgg aaggttatgt tccagcggcg gacgggtgag   120

taacgcgtga acaatctgtc ccagacaggg gaataacaga tggaaacatc tgctaatacc   180

gcataagacc acgacccgac atcgggatga ggtaaaagga gcaat   225

<210> 1708
<211> 225
<212> DNA
<213> Unknown

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

<400> 1708
agagtttgat cctggctcag aacgaacgct ggcagtatgc tttaaccatg caagtcgaac   60

gagaaagtgt agcaatatat gagtaaagtg gcaaacgggt gagtaacaca caggaatcta   120

cccagtagag aggaataagc actagaaatg gtgtctaata cctcataagc caatatagta   180

aaatatattg ggaaaggatt agtagtaata ttaattcact attgg   225

<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 ggttggtttc ggccgatcct gatggcgacc ggcggatggg tgagtaacgc   120

gtatccaacc tgcccctgtc ccgcggacag cccttagaaa tgaggattaa cccgcgatgt   180

tgcccctttg ccgcatggta 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 aacgtttgga   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 tacgccatgg 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 acttcctggt gagagtggcg gattggggag gaacacgtga   120 gcaacctgcc cttgagttgg ggaaaaccgt tggaaacgac ggctaatacc ggatgcggcg 180

ccccgtgaca tcgcgggagc 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 atgttgtacc 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 atgttgtcaa 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 tggaaacggt 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

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagcacctc aaccgaagaa gagaccagct tgctggtatt ggattcaccc gaggtgactt 120

agtggcgaac gggtgagtaa cgcgtgggta acctacctct tacaggggga taacaattag 180

aaatgattgc taataccgca taacacttta gagccgcatg 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 attttatctg acaaagagtg 120

gcgaacgggt gagtaacacg tgggtaacct acctcttagc aggggataac atttggaaac 180

aagtgctaat 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

ggtaaaatcc tcttcggggg attgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctcg ccgggatagc cggtggaaac 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 ccacagcgct gcatggcgca ggggtcaaag gagag 225

<210> 1720
<211> 225
<212> DNA
<213> Unknown

<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 gggtgcgtaa tgcgtgggaa   180

tctgccgaac agttcgggcc aaatcctgaa 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 tgcttgcaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg   120

caccccccgg acggggacag ccggcagaaa tgccgggtga taccggatga ggtcccccctt   180

gttggaggag ggggaggaaa 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 XlVa

<400> 1723
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagatatat cagcagaggc cttcgggcgg atgcagatat atacttagtg gcggacgggt   120

gagtaacgcg tggagaacct gccgtatgca gggggacaac acctggaaac gggtgctaat   180

accgcataag cgcacgtgat agcattatcg agtgtgaaaa gctta   225

<210> 1724

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

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

<400> 1724
agagtttgat catggctcag agcgaacgct agcggaatgc tttatacatg 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

ggaaacgaca gagagtgctt gcactttttg ggcgtcgacc ggcgaatggg tgagtaacgc   120

gtatccaacc tgcccttgac tgagggatag cccagtgaaa 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 ctttcggggg cacgagagtg gcggacgggt gcgtaacgcg tatgcaacca   120

acccccgtct tccggatagc cggtggaaac 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 ccttcggggg cgcgagagtg gcgcacgggt gcgtaacgcg tatgcaacca   120

gccccgtcca ggcggatagc cggtggaaac gccggataat acgccacggt cccggagggg   180 ggcatccctt tccgggtgaa gcggagacgc gggacgggac gggca 225

<210> 1728
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1728
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagaccccg aggcagagat ttcggtcgaa gccaagggag gactgagtgg cggacgggtg 120

agtaacgcgt ggataacctg ccccatacag ggggatagca gttggaaacg 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 gagtggcgaa cgggtgagta atgcgtgacc 120

gacctgcccc atacaccgga atagctcctg gaaacgggtg gtaatgccgg 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 ttcatcagat tctggatttc accgaaagtt 120

tttagtggcg gacgggtgag taatacgtag ataatctgcc ttctagaggg aaataacaga 180

gagaaatttc tgctaatgtc ccataagacc acactatggc 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

ggagtatagg agcttgcttt tatacttagt ggcggacggg tgagtaacac gtgagcaacc 120

tgcctttcgg agaggaataa tgattggaaa cggtcactaa tacctcataa aatatattta 180

tcgcatggtg agtatatcaa 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 acagcccccc gaaaggggga ttaataccgc atggctcttc 180

aggaccgcat ggtcttgaag gtaaacattc atgggtcccg gctgg 225

<210> 1733
<211> 225
<212> DNA
<213> Unknown

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

<400> 1733
agagtttgat cctggctcag aatgaacgtt ggcggcgtgg attaggcatg caagtcgagc 60

gggagtagca atactccagc ggcgaaaggg atagtaacgc gtagttacca acccccggga 120

ctgggatagc ttttggaaac 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 taccttcagg 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

<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 tggaataaag attgatcggt catgg   225

<210> 1736
<211> 225
<212> DNA
<213> Unknown

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

<400> 1736
agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgtac   60

ggtaagcgcc ccttcggggg tgcgagagtg gcggacgggt gcgtaacgcg tatgcaacca   120

acccccctcg ccgggatagc cggtggaaac gccggataat accggatgcg ccgcagggga   180

ggcatcttcc cggcggcaag gcggagacgc ggagggggac 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 cacttggaaa caggtgctaa taccgcataa 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

<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 gggaataaca 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 cccgcaggta gggaacagcc 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 ccgatgagc gggataacca atggaaacgt tggataatac cgcataggta   180

atccgaaggc atctttggat tattaaagtc gcgtttgcgg cactt   225

<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 cccataagag 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 gggtctaata ccggatacga ccgtttgagg   180

catctcatgg cggtggaaag 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

ggtaaatgtc ccttcgggga catgagagtg gcggacgggt gcgtaacgcg tatgcaacca   120

acccccctca ccgggatagc cggtggaaac 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 ttggatcagt ggcgaacggg tgagtaacac gtgagcaacc   120 tgcccttcac tctgggataa gccttggaaa cggggtctaa taccggatat gacgtcccta 180

cgcatgtggg ggtgtggaaa gatttatcgg tgggggatgg gctcg 225

<210> 1747
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1747
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

gaagcatgtt ggaaagagtc cttcgggacg atggaagaca tgacttagtg gcggacgggt 120

gagtaacgcg tgggcaacct gccgtacaca gggggacaac agctggaaac ggctgctaat 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

ggtaaacggt ccttcgggac cgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctcg ccgggatagc cggtggaaac gccggataat accggatgcg ccgcgtggga 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 cttaagcatg caagtcgagc 60

ggcaagttgg tgcttgcacc aacccagagc ggcggactgg tgagtaacgc gtgggtgacg 120

caccctccgg acggggacag cccgtggaaa 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

agagtttgat catggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc 60

ggcagcggga tgtagcaata cattgccggc gagcggcgga cgggtgagta acgcgtatgc 120

aacctgccca ccacacggag atagccgacc gaaaggacga ttaaactccg atggcattgg 180

gagccggcat cggcatccaa ttaaatattt 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 ggcgagggat agcttctgga aacggatggt aatacctcat aaatatagct 180

gaatcgcatg 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 tgagggagac 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 gggtaaccgg cgaacgggtg cgtaacacgt gagcaatctg ccgtacactg 120

ggggatagcc ggcccaacgg ccgggtaata ccgcatacgt tccctgtctg gcatcggatg 180

gggaggaaac ctccgggggt gtacgaggag ctcgcggcct atcag 225

<210> 1754
<211> 225
<212> DNA
<213> Unknown

<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 cggaccaaag 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 gttgttggaa agatttatcg gttggggatg gactc   225

<210> 1757
<211> 184
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1758
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc   60

gaagcgcctg cttctgatct ttcgggtgaa gaaacaggcg actgagcggc ggacgggtga   120

gtaacacgta gggaacctgc ctcacacagg 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

gattaaccca tcttcggatg gttatagagt ggcgaacggg tgagtaacac gtgatcaacc   120

tacctttcac tttgggataa ctacgggaaa ctgtagctaa taccaaatac tcctggggtt   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 ctgatgttgt   180

gagacgaggg catctgagtg tcaccaaaga ttcatcggtc 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 ccctcaggta gggaacagcc cggcgaaagt cggattaatg ccctatagtc   180 tgcgaattgc gcatgttgtt 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 tattaaaggt taaaaacact 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

gcccggcaac gggagcggca gacgggtgag taacgcgtgg ggatctaccc attggtacgg 120

aataacccag ggaaacttgg actaataccg tatgtgtcct tttggagaaa gatttatcgc 180

caatggatga acccgcgtcg gattagctag ttggtggggt 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 tctccggagc gctaaagggg 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

gcgaaagggg cttcggcccc gagtagagtg gcgcacgggt gagtaacgcg tggataatct 120

gcccctgtga ctggaatagc gactggaaac ggtcgataat accggatacg 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 aagcgctgga aacggcgtct aataccggat 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 ctcagagtgg gggacaacag ctggaaacgg ctgctaatac 180

cgcatgatac ttttggaagg 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 ggaaagcggc ttcggccaat ggatatctga tcttagtggc ggacgggtga 120

gtaacgcgtg ggaacctgc 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

<400> 1769
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggagttattt ccgacacgga gccactgagg aattagtggt tgcgtgttgg 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

ggcagcatga agtttgcttg caaactttga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccgacctt ccccctgccc aggtatagtc cgctgaaagg cggtttaatc cctggtgctg 180

tcctgcgggt gcatgccatc gggacgaaag gatttccggc agggg 225

<210> 1771
<211> 225
<212> DNA
<213> Unknown

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

<400> 1771
agagtttgat catggctcag aatgaacgct ggcggcatgg attaggcatg caagtcgaac 60

gccccgggct ttgcccgggg agtggcgaaa gggtgcgcaa cgcgtgggga acccgccccc 120

gggcccggga caagcgctgg aaacggcgtc tgatacggga tgtcgagccg ggccgcatgg 180

cccggcgtcg aaagattcat cgcccgggga gggccccgcg 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 cttcactttt agtttagtgg cggacgggtg agtaacacgt 120

gagtaacctg cccttatcag ggaatagcc tccggaaacg gagagtaata ccgcataaga 180

tgacgatgtg gcatcacata gtcataaaag attttatcgg ataag 225

<210> 1773
<211> 225
<212> DNA

<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

gcaacctttc ccagacaggg ggatagccca gggaaacttg gattaatacc ccgtaggcca   180

gaagagggca tcctcatctg gttaaagttc cggcggtctg 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 gggggatagc agctggaaac ggctggtaat   180

accgcataag cgcacagtgt cgcatgacac agtgtgaaaa gctcc   225

<210> 1775
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1775
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggaagttatt gggagcttgc tcttgatgac tttagtggcg gacgggtgag taacgcgtgg   120

gtaacctgcc tcatacaggg ggataacagt tagaaatgac tgctaaaacc gcataacatg   180

atggaaccgc atgatttcat catcaaatat 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 ggaagctgtt aacttagtgg cggacgggtg   120

agtaacgcgt gagtaacctg cctttcagag gggataacg ttcggaaacg aacgctaata   180

ccgcataaca tagcgatacc gcatggtaat gctatcaaag gagca   225

<210> 1777
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<400> 1777
agagtttgat catggctcag aacgaacgct ggtcgcgtgg attaggcatg caagtcgaac   60

gggatccatg aagtagcaat acggattggt gagagtggcg gaagggcgag gaacacgtgg   120

gcaacctgtc tttgaggtgg ggaaaacctc gggaaactga ggctaatacc gaatgtggcg   180

cggaagggca tccttcctgc gctaaagggg gcgaaagctc cccct   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 atttacatat 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 gcactgctgt gctgacgacc ggcgcacggg tgagtaacgc   120

gtatccaacc ttcccatgag tagtgcatag cccggcgaaa gtcggattaa ttcactatat   180

gtggcatttc ggcatcttta 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 gagggtacag tgagtccccg ctgacgagcg gcggacggct gagtaacgcg tgggaacata 180

ccccaaactg agggataact agtcgaaaga ttagctaata ccgca 225

<210> 1781
<211> 225
<212> DNA
<213> Unknown

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

<400> 1781
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

gagaagccaa tttgaagcgt 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 XlVa

<400> 1782
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggggtttaga tgaaacctag tgattctaaa cctagtggcg gacgggtgag taacgcgtgg 120

gtaacctgcc gtatgcaggg ggacaacagt tggaaacgac tgctaatacc gcataagcgc 180

acagcttcac 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 gcggcacgct taacacatgc aagtcgaacg 60

ggactaagag agaagcttgc ttcactttta gtttagtggc ggacgggtga gtaacacgtg 120

agtaacctgc ccttatcagg ggaatagcct ctggaaacgg agagtaatac cgcataagat 180

ggcaatgtgg catcacatag tcataaaaga ttttatcgga taagg 225

<210> 1784
<211> 225
<212> DNA
<213> Unknown

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

<400> 1784

agagtttgat catggctcag gattaacgct ggcggcgtgc ctaacacatg caagtcgagc 60

gagaaatagt gatatgaaac ttcggtagat tggatctatg gacagcggcg gacgggtgag 120

taacgcgtgg gcaacctgcc cctttctgga 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 Rhodomicrobium

<400> 1786
agagtttgat cctggctcag aacgaacgct ggcggcaggc ttaacacatg caagtcgaac 60

gcgtgcagca atgcacgagt ggcgcacggg tgagtaacgc gtggatatct gccttttggt 120

tcggaataac ccgggaaac tggggctaat accggatggt tcctacggga taaagattta 180

tcgccaaaag atgagtccgc gtccgattag ctagttggtg gggta 225

<210> 1787
<211> 225
<212> DNA
<213> Unknown

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

<400> 1787
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagaaccca 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

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

<400> 1788
agagtttgtc ctggctcagg atgaacgctg gcggcgtgct taacacatgc aagtcgaacg   60

gagatatatg tatgaagttt tcggatggaa tgtatatatc ttagtggcgg acgggtgagt   120

aacgcgtaaa caatctgcct tagagagggg gataacagat agaaatatct gctaataccg   180

cataagacca cgtacaggca tctagacggg gtaaaaggag caatc   225

<210> 1789
<211> 225
<212> DNA
<213> Unknown

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

<400> 1789
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgg gagttgcttg caattcccga tggcgaccgg cggatgggtg agtaacgcgt   120

atccaacctg tcccgcgcgc ggggacagcc cttggaaatg aggattaacc cccgataggc   180

catggggccg catggtttca tggtgaacct ttgcgcgggt tgggg   225

<210> 1790
<211> 225
<212> DNA
<213> Unknown

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

<400> 1790
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggggaatatt gcacaatggg ggaaaccctg 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
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac   60

gagacttttt atttgatgct tgcatctttt aaaaagttga gtggcgaacg ggtgagtaac   120

acgtgggtaa cctgccttaa agtgggggat aacacttgga aacaggtgct aataccgcat   180

aaccatcaaa accgcctggt tttgatgtta aagatggttc tgcta   225

<210> 1792

<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 gcggacgggt gagtaacacg   120

tgagcaacct gcctttaaga gggggataac attgagaaat cagtgctaat 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 agttagtggc ggacgggtga gtaacgcgtg   120

agcaacctgc ctttgcgagg gggataacac agagaaattt 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

tgccccccgc tccgggataa cccagggaaa cctgcgctaa taccggacga tgccgcaagg   180

gcgcatgccc 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 cattaaagat ggcctctact tgtaa 225

<210> 1796
<211> 225
<212> DNA
<213> Unknown

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

<400> 1796
agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgtac 60

gcgagggccc aatgaagaca ttgaaactga agaagcttgc ttctgatgtg gatttgttgg 120

atttggattt tccctcgagt 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 tcgctaatac 180

cacatgatat atgggtatcg catggtaacc atatcaaaga tttat 225

<210> 1798
<211> 225
<212> DNA
<213> Unknown

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

<400> 1798
agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgaac 60

gaggtggccc aatgaaggtg gagtgcttgc acaatactgg atttggattc ccgcctagtg 120

gcagacgggt gagtaacacg tgggttacct acctctttgt tggggataac agttggaaac 180

gattgctaat accgaataag atactcgtat tgaaaggagc 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

ggcagcgcgg ggtagcaata ctctggcggc gaccggcgga agggtgcgta acgcgtgagc 120

aacttgcccg tcactggggg ataggcactg gaaacggtgt gtaatactcc ataacatatg 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

aacctaccca tgacaggggg ataacggaga gaaatttcca ctaatacccc gtattgttca 180

ggaatcgcat ggtttttgga cgaaagcctt tgggcggtca tggac 225

<210> 1801
<211> 225
<212> DNA
<213> Unknown

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

<400> 1801
agagtttgat catggctcag agtgaacgct ggcgacgtgg ctaagacatg caagtcgagc 60

gagaaggtgc 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

cgtgaaggaa gacgtatttc ggtatgtaaa cttctatcag cggggaagaa gatgacggta 180

cccgactaag aagccccggc taattacgtg ccagcagccg cggta 225

<210> 1803
<211> 225
<212> DNA
<213> Unknown

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

<400> 1803
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gagacggatt gaaagcttgc ttttgaaatg tcgagtggca aacgggtgag taacgcgtag   120

acaacctgcc gcaaagatgg 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 ggcggtgtgc ctcatacatg caagtcgaac   60

gataaggttc cttcgggaat acataagtgg cggacgggtg agtacaacat aggaaatctg   120

ccctaaagcg gggggacaaca gagggaaact cctgctaata ccccatatga gcttggttga   180

aataccaatc ttgaaagatt tatcacttta 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 cccacggtcg gggacagccc ggcgaaagtc ggattaaccc ccgatggtcc   180

cgcaagacgg catcagattg cgggtaaagg ctcgtccgcc gtggg   225

<210> 1806
<211> 225
<212> DNA
<213> Unknown

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

<400> 1806
agagtttgat cctggctcag gataaacgct agcggcaggc ctaacacatg caagtcgagc   60

ggcaacggga gtagcaatac ttgccggcga gcggcggacg ggtgagtaac gcgtatgcaa   120

cctgcccatc acacggagat agccgaccga aaggacgatt aaactccgat ggcatcaaga   180

gggggcatcc ccatttgatt aaatattcat aggtgatgga tgggc   225

<210> 1807
<211> 225
<212> DNA

<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 atgattaaaa   180

cctcataacg ccaactcaac acatgttgag ctggccaaag attta   225

<210> 1808
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1808
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagttgttt ccatccgaca gaatatcttc ggatatgaag tcaccggaaa cgcttagtgg   120

cggacgggtg agtaacgcgt gggcaacctg ccctacacag ggggatagcg gttggaaacg   180

accggtaata 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 cttacactgg gggataacag atggaaacgc ctgttaatac cgcataagcg   180

cacggtgctg catggtaccg tgtgaaaaac 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 atcggccggt gagagtggcg gaagggcgag gagcacgtgg   120

acaacctgtc cagaggacgg ggaaaacctc gggaaactga ggctaatacc cgatgcgccg   180

ggagctgggc atccatcttc cggcaaaggg ggcgaaagct cccgc   225

<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 ctttgataga tggcgaccgg cgcacgggtg agtaacgcgt 120

atgcaacctg tccgtcatag tgggataatc ccgagaaatt gggtctaata 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 cgctaatgcc ggatacgaac 180

gcgaagccgc atggctttgc gttgaaaggc cgggacccgc aaggg 225

<210> 1813
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ccttgagcgt 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 tttttaggcg gaaagcggcg gacgggtgag 120 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 ccgtaggcca 180

cggatgggca tccgtctgtg gttaaagttc cggcggtctg 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 taccgcataa 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 cggcgaaagc 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

agagtttgat cctggctcag gatgaacgct agcggcaggc ctaacacatg caagtcgagg 60

ggcagcgcgg tgtggcaaca cactggcggc gaccggcgga tgggtgcgta acgcgtatgc 120

aacctgcctc cgagaggggg ataacccgtg gaaacgcgga ctaatacccc gtatgcgcac 180

gacgccgcat 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 ggcttgccct ggggatcagt ggcgaacggg tgagtaacac gtgggcaacc 120

tgccccagac 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 aagtgaggga 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 aagggaaact ttgaataata 180

ctccataaag catggacatc acatggtgac catgccaaag attta 225

<210> 1822
<211> 225
<212> DNA
<213> Unknown

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

<400> 1822
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgcgg gtagcaatac ctggcggcga ccggcggaag ggtgcgtaac gcgtgagcga   120

catacccgtg acagggggat aacagatgga aacgtctcct aataccccat aagatcatat   180

atcgcatggt atgtgattga aaggtgagaa ccggtcacgg 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

gcataatatg 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 cgaatgttaa 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 cttaagcatg caagtcgagc   60

gggagtaagg gagcttgctt ccttatgaga gcggcggact ggtgagtaac acgtgggtaa   120

cgcaccctcc tgacggggac agcctgtgga aacacagggt aataccggat gagatggact   180

tctggaaggg agttcatgaa aggagctacg gctccgcagg gggaa   225

<210> 1826

<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 agatatatgt 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

gaggaatgtt tgaaagcttg cttttggaca tttcgagtgg cggacgggtg agtaacgcgt   120

gaggaacctg tcttctacag gggataacg tcccgaaagg gacgctaata ccgcataaga   180

ccacagtgcc gcatggcaga ggggtcaaag gagagatccg gtaga   225

<210> 1828
<211> 225
<212> DNA
<213> Unknown

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

<400> 1828
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gaggggaggg gcttcggccc cgaaccgagc ggcggacggg tgagtaacgc gtgaatgatc   120

tgtcccttac aggggaataa cacttggaaa caggtgctaa taccgcataa gaccacggtg   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

gaagggaacc agtttactgg tgaacttagt ggcgaacggg tgagtaatac gtaagcaacc   120

tgcccacgga gaccgggata atccctggaa acggggacta agaccggata ggcagcggag   180 gggcatccca ctgctgttaa 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

gggaattaaa cgagaatttc ggttcatgtt taattttagt ggcggacggg tgagtaacgc 120

gtgagaatct gcctttaagt ggggaataac agttggaaac gactgctaat 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 atagggaatc 120

tgcccgtaag agggggacaa caaggggaaa cctttgctaa taccgcatat gagatattct 180

gaaatggata tcttgaaaga 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

ggagaaagtt 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 XlVa

<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 gtcaggtcaa tggaaagcgg cggacgggtg 120

agtaacgcgt aggcaacctg cccttagcag agggatagcc attggaaacg atgattaaaa 180

cctcataatg ccggaggagc acatgctcca tcggccaaag attta 225

<210> 1836
<211> 225
<212> DNA
<213> Unknown

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

<400> 1836
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60

ggtaagattg gtgcttgcac cgatcctaga gcggcggact ggtgagtaac gcgtgggtga 120

cctaccccgt ggatgggaat agccggtaga aataccgggt aatgccgaat acggtccctg 180

acgtcagagg tcagggagga aaggagctcc ggctccgcca cggga 225

<210> 1837
<211> 225
<212> DNA
<213> Unknown

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

<400> 1837
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgt cgtgtgcttg cacgcgatga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg cccatgaccc cgggatagcc cgctgaaaag cggattaaca ccggatgcgg   180

tcgaaagagg acatctgatt tcgaccaaag cttcggcggt catgg   225

<210> 1838
<211> 225
<212> DNA
<213> Unknown

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

<400> 1838
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc   60

gggattcggt 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 aacaaaaact gcgtacttgt acaaagttgg cgatggaatt tccacttagt   120

ggcagacggg 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 XlVa

<400> 1840
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagtaagcc accggatgaa gattcgtcgg attccaccgg tttacttagc ggcggatggg   120

tgagtaacgc gtggacaacc tgcccttcac tgggggataa caaccggaaa cgggtgctaa   180

taccgcatgg gcgcgacggg ccgcatgacc tgtagcgtaa agatt   225

<210> 1841
<211> 225
<212> DNA

<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 ccttactcgg gtatagccct gcgaaagtag gattaatccc cgatgttgtc   180

aagatggagc ctttttcttg 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 cttaagcatg caagtcgagc   60

gggaatgtgg tgcttgcacc acaggagagc ggcggactgg tgagtaacgc gtggatgacg   120

cacccccctg acggggacag cctgcagaaa tgcagggtga taccggatac gatcttgggt   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 gggaagggta tgaaagatgg cctctgaata tgcta   225

<210> 1844
<211> 225
<212> DNA
<213> Unknown

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

<400> 1844
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtaccct ctacggaagc ttcggccgaa gaagaggact acctagtggc ggacgggtga   120

gtaacgcgtg agcaacctgc ctttaagagg gggataacat accgaaaggt atgctaatac   180

cgcataagat attagtaccg catgatacag atatcaaaga tttca   225

<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 ggtttaaaag ttaaatattt ataggttaca gatgg   225

<210> 1846
<211> 225
<212> DNA
<213> Unknown

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

<400> 1846
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagccggat ggaaggagcc ttcgggtgac agaaatccat gcttagtggc ggacgggtga   120

gtaacgcgtg ggcaacctgc cctgtggagg gggatacctg 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 gggataaca cttggaaaca ggtgctaata   180

ccgcataaga ccacggggct gcatggcttt ggggtaaaag 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 gtaacgcgtg agcaaccttc 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 aaagggtgcg 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 agttaacgct ggcagcgtgc ataacacatg caagtcgaac 60

ggggattatt cgatgtagca atacattgga taattctagt ggcagacgag tgagtaatac 120

ataagaaatc tacccgaaag tggggaataa cgggccgaaa ggttcgctaa taccccataa 180

tatttgaaag cggcatcgct ttcttcttaa aggtttttcg ctttc 225

<210> 1851
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1851
agagtttgat catggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60

ggaatttata gcttcggttg taaattcagt ggcggacggg tgagtaacgc gtggataact 120

tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgcataa agtaatttat 180

tcgcatgaat agattaataa agatgaaaat cgctaaaaga taggt 225

<210> 1852
<211> 225
<212> DNA
<213> Unknown

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

<400> 1852

agagtttgat catggctcag aacgaacgct gtcgacatgc ttaacacatg caagtcggac 60

gggtataact tgttatacca gtggcaaacg ggtgagtaat acgtagaaat gtacccagta 120

gttccgaata acaactggaa acggttggta atacgggata agatagagat atgaaagatc 180

tgaaaggatc 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 ggttagcggc ggacgggtga 120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctggtaatac 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 cttcgggga gcgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120

ccccgcactg ggggacagcc ggtggaaacg ccgggtaata ccccatgccg 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

gagaatcttc agaaacaatt cttcggatgc gtttcaggag aggaaagcgg cggacgggtg 120

agtaacgcgt aggcaacctg cccctggcag agggatagcc attggaaacg atgattaaaa 180

cctcataacg cttcaagagc acatgctgtt gaagccaaag attta 225

<210> 1856
<211> 225
<212> DNA
<213> Unknown

<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 atcgaaagtt gaagtgcttg cactgatgct ggacttattt   120

agatttggat ttccctcta 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 tttaacaccc gagtctgcga ggcaggagct ttgcagattg ggggttaaga   120

atcaacttag tggcggacgg gtgagtaaca cgtgagcaac ctgcctttca gagggggata   180

acgtctggaa acggacgcta ataccgcatg 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 ctgggtggat gagtggcgaa cgggtgagta acacgtgagt   120

aacctgcccc tcactctggg ataagcgctg gaaacggcgt ctaatactgg atatgaccca   180

taccggcatc ggtagtgggt ggaaagattt atcggtgggg gatgg   225

<210> 1860

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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1860
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagaggctg cggagattca atagatgatc tgcatcttct tagcggcgga tgggtgagta   120

acacgtgggt aacctgccct gcactgggga 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 ggtagcaata ccctggcggc gaccggcgaa agggtgcgta 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

tgtccttttg cctgggatag cctctggaaa cggagggtaa aaccggatga 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 ccctgaaccc cgggatagcc ctctgaaagg aggattaata ccggatgtgg   180 ccgctggggg acatcccccg gcgtctaaag attcatcggt 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 tggaaacggg gactaatacc 180

gcatatagag tatttgttgc 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

ccctttagtg ggggatagca gttggaaacg actattaata ccccatatgc gcgtagttgg 180

gatactattc gtgaaagatt aatcgctaaa ggatgagtct gcatc 225

<210> 1866
<211> 225
<212> DNA
<213> Unknown

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

<400> 1866
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gagggtatta gtcagcttgc tgattgatac ccgagtggcg gacgggtgag taacgcgtga 120

ggaacctgtc ttcatcaggg ggataacttc ccgaaaggga tgctaatacc gcataagacc 180

acgataccgc atggtattga 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

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 ggcatcttga 180

gatcattaaa gttgggctgc aacactgcag 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 gggatagcc gatggaaacg tcgagtaata 180

ccccatgacg tatatatatc gcatggtata tatatcaaag attta 225

<210> 1871
<211> 225
<212> DNA
<213> Unknown

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

<400> 1871
agagtttgat catggctcag gatgaacgct ggcggcgtgc ataacacatt caagtcgaac   60

gaagcacttt ggacggatcc cttcggggtg aagactgatt tgacttagtg gcggacgggt   120

gagtaacgcg tgagcaacct gccttgaaga gggggataac acagggaaac ttgtgctaat   180

accgcataac atacgtgaat cgcatggttc 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 ggcgttgttc gcaacgccat gtcggcgacc ggcgcactgg tgagtaacac   120

gtatgcaacc tgccctttac cggggcataa cccttggaaa cgaggcctaa ttccccatat   180

acagcgcttg ggcatccggg tgctgtgaaa ggtttattcc ggtga   225

<210> 1873
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1873
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaagctcctt tgcggatctc ttcggagtga aggaaaggat gactgagtgg cggacgggtg   120

agtaacgcgt gggtaatctg 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

ggttaagccg acttcggtcg ggaatacagt ggcgaacggg tgagtaacac gtgaccaacc   120

tgccccccgc accgggacaa cctccggaaa cggaggctaa taccggatat gcccgggcgc   180

ccgcatgggc ggccggggaa agcccaggcg gcgggggatg gggtc   225

<210> 1875
<211> 225
<212> DNA

<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

cctacccact acacaaggat agccttccga aaggaggatt aatacttgat agtactctaa   180

gatggcatca aaacagagtt aaagatttat cggtagtgga tgggc   225

<210> 1876
<211> 225
<212> DNA
<213> Unknown

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

<400> 1876
agatttgatc atggctcagg acgaacgctg gcggcacgct taacacatgc aagtcgaacg   60

ggactaagag agaagcttgc ttcactttta gtttagtggc ggacgggtga gtaacacgtg   120

agtaacctgc ccttatcagg ggaatagcct ccggaaacgg 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 cccataagag 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 gtttgtacag tttagtggcg gacgggtgag   120

taacgcgtga gcaacctgcc tacgagaggg gaataacgtc tggaaacgga cgctaatacc   180

gcataaaccg cggggttcgc atggactccg gggcaaagat ttatc   225

<210> 1879
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1879
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagatgtcc aatgggctgc ttcggcagtc cgggcatctt agtggcggac gggtgagtaa   120

cgcgtggaga acctggccca tgcagggggga taacagcggg aaaccgctgc taataccgca   180

taagcgccga 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 tgtagcaata cactggtggc gaccggcgca cgggtgcgta acaggtatgc   120

aatctgtccc ataccggggc atagcccgct gaaaggcgga ttaattctcc atgtgtcatg   180

agagggcatc cttttatgat 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 atccgacctt cccccaggta gggaacagcc cggcgaaagt cggattaatg ccctatagtc   180

tgcgaattgc gcatgttgtt tgcagtaaag 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

ggcagcatgg gaggtggcaa caccacccga tggcgaccgg cgcactggtg agtaacacgt   120

atgcaacctg ccccctacag ggggataatc cagagaaatt tggtctaata ccccgtagtc   180

agcgagaggg catcctcttg ctgggagagc tccggcggta gggga   225

<210> 1884
<211> 225
<212> DNA
<213> Unknown

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

<400> 1884
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggatgcct cgccgttgaa gcttcggcag agacatgaga catcctagtg gcggacgggt   120

gagtaacgcg tgggcaacct gccctgtact gggggatagc agctggaaac ggctggtaat   180

accgcataag cgcgcggcat 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

ggcagcatga aggttgcttg caacctttga tggcgaccgg cggatgggtg cgtaacgcgt   120

atccaacctg cctgtgtccc gggcatagcc cgtggaaacg cggattaact cccgatggtg   180

cagcggtgcc gcatggcgtt gctgccaaat gtaaaggaca cagat   225

<210> 1886
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium III

<400> 1886

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 gttggaaacg gctgctaata tcccatggtc 180

aatttttcag 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 ccttcggggg attgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccctca ccgggatagc cggtggaaac 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

atccaaccta cccgtcactc agggatagcc ttgcgaaagt aagattaata cctgatggtc 180

tccttccggg gcatcccggt tggagtaaag attcatcggt ggcgg 225

<210> 1890
<211> 225
<212> DNA
<213> Unknown

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

<400> 1890
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcatcatgg gggttgttta caatccctga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctg ccttcgagtc agggataacc ttccgaaagg gagcctaata cctgatgcag   180

tgcgaagatg gcatcagatt tgcactaaag 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 cttcggaaaa gacagagaag tggaaagcgg cggacgggtg   120

agtaacgcgt aggcaacctg ccccttgcag agggatagcc tcgggaaacc gggattaaaa   180

cctcataatg catccacatg acatcttgag gatgccaaag attta   225

<210> 1892
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1892
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gaagcgccct gtacagattt cttcggaatg aagttttggg tgacttagtg gcggacgggt   120

gagtaacgcg tgggtaacct gcctcatgca gggggacaac agctggaaac ggctgctaat   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 attgcctttg acttagtggc ggacgggtga   120

gtaacgcgtg agcaaccttc ctggtagtga gggataacac agggaaactt gtgctaatac   180

cgcatgacgc actgaggtcg catggtttta gtgccaaaga tttat   225

<210> 1894

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

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1894
agagtttgat cctggctcag gatgaacgct ggcggcgcgc ttaacacatg caagtcgaac 60

ggaatgattg gcttcggtca tgaattcagt ggcgaacggg tgagtaacac gtggataact 120

tgccttttag tgggggatag ctgagagaaa tctcaattaa taccgcataa 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 cagaggggtc 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

aaccaacccg tcacaggggg acaagccagg gaaacttggt 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 cttcgggggga gtgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120

ccctcatccg gggacagcc ggtggaaacg ccgggtaata ccccatatcc actttgggag 180 gcatcttctg aggtggaaag gctttggtcg 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 cggactggtg agtaacacgt 120

gagcaacctg ccctttagag gggataaca 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 tggaaacgac tgctaatacc 180

gcataagccg gtagtgccgc atggcacatc cggaaaagat tgtat 225

<210> 1900
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ggcac 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

gggaaatatt gaaatgaaac ttcggtagat tttcgatatg gagagcggcg gacgggtgag 120

taacgcgtag gcaacctgcc cctggcagag ggatagccac tggaaacggt gattaaaacc 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 attaggcatg caagtcgaac 60

ggcagggcag cgatgcccga gagtggcgaa agggtgagca acgcgtgggg aacctgcccc 120

cgggaccgga acaagcctgt gaaaacgggt ctgaaaccgg atgaagcccc gcaccgcatg 180

gtgcggcggc gaaatattca tagcccgggg 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 gaggtggcaa caccacccga tggcgaccgg cgcactggtg agtaacacgt 120

atgcaacctg ccccctacag gggataatc cagagaaatt tggtctaata ccccgtagtc 180

agcgagaggg catcctcttg ctgggagagc tccggcggta gggga 225

<210> 1904
<211> 225
<212> DNA
<213> Unknown

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

<400> 1904
agagtttgat cctggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgagc 60

gggaataagg gagcttgctt ccttatgaga gcggcggact ggtgaggtaa cggcccacca 120

aacctacgat cggtagccga actgagaggt tgatcggcca 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

<400> 1905
agagtttgat cctggctcag gacgaacgct ggcggtgtgc ctcatacatg caagtcgaac   60

gagaagctga cttcggttag tggaaagtgg cggacgggtg agtacaacat aggaaatctg   120

ccccaaagcg ggggacaaca gagggaaact tctgctaata ccccatacga gcttagttga   180

aatactaatc ttgaaagatt tatcactttg 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 ggataaccca gagaaatttg gcctaatacc ccatagtccg   180

cgcggctgca 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 ctcaggatgg 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 ctttttgatc tagttagtgg cgaacgggtg agtaatacgt   120

aggcaaccta cctcaaagag gggg atagca gttggaaacg actattaata ccgcataggt   180

aatgaagggg catccctaca ttattaaagg tgcgtttgca ccgct   225

<210> 1909
<211> 225
<212> DNA

<213> Unknown

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

<400> 1909
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gatgaataaa ccgacaaggt ttcggccaag gaagtttatt cagagcggcg gatgggtgag   120

gaacgcgtgg ggaacctgcc tttcaccggg ggataccagc tggaaacggc tgttaatacc   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
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagtgttgc gctgaaattg agattagctt gctaaaggat atttcttgta acacttagtg   120

gcggacgggt gagtaacgcg tgagtaacct gccttacaga gggggacaac agttggaaac   180

gactgctaat accgcataaa gttttttgta ggcatctata 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 ataccggata attcgtaatc ggataactga ttatg   225

<210> 1912
<211> 225
<212> DNA
<213> Unknown

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

<400> 1912
agagtttgat catggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg   60

ggcagcgggg cgtagcaata cgccgccggc gaccggcgca cgggtgcgta acgcgtatgc   120

aacccacccg caacaggggt ataacggagt gaaaattcca ctaatccccc atatggtttg   180

gggaccgcat ggtttcctaa cgaaagctta tttgtggttg cggac   225

<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 ggtggaaacg 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

gagaaatatg acaatgaatc cttcgggatg atttggatta tggacagtgg cggacgggcg   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 gagtggcaaa cgggtgagta acgcgtagac   120

aacctgccgc aaagatgggg acaacagtcc gaaaggactg ctaataccga atgttgtatc   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 taccctacgg   120 aataacgcat ggaaacgtgt gctaataccg tatacgccct ttgggggaaa gatttatcgg 180

ggtatgatga gcccgcgttg gattagctag ttggtggggt 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 cggaagggtg aggaacgcgt gagtaatctg ccctcaagtt 120

gggaataaca actggaaacg gttgctaata ccgaatgtgg ctgcaagacc gcatgatttt 180

gcagttaaag atttattgct tgaggatgag ctcgcgtccc attag 225

<210> 1918
<211> 225
<212> DNA
<213> Unknown

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

<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 gagtggcaac acttgctgtc ggcgaccggc gcactggtga gtaacacgta 120

tgcaacctgc ccccttctgg gagataaccc atagaaatgt ggcctaatat cccatagtcg 180

gcccagccgc atggccgggc cgggaaaggc gagccggaag gggat 225

<210> 1920
<211> 225
<212> DNA
<213> Unknown

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

<400> 1920

agagtttgat catggctcag gatgaacgct agcggcaggc ctaatacatg caagtcgaac 60

ggtaaacggt ccttcgggac tgtgagagtg gcggacgggt gcgtaacgcg tatgcaacca 120

acccccgacg ggcggacagc cggtggaaac gccggataat acgccatggg gcccagggag 180

ggcatccttt ccgggccaaa 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 cctttccgga 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 acctgcccat 120

cggtgggggg tagcccgcgg aaacgcgggg taattccgca tacggtctcc tgggggtagc 180

tcaggagagg aaagggtctt 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 tttaagcatg 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

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1924
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

ggaagatatc gggagcttgc tcttgatatc tttagtggcg 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 XlVa

<400> 1925
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

gaggcgagga gtgcttgcac accgaaccta gtggcggacg ggtgcgtaac gcgtgggtaa   120

cctgccctaa acagggggat aacgtataga aatgtacgct aataccgcat aagctcacgg   180

aaccgcatgg ttttgaggga 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 ctcaggatgg 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 gagttgcttg caattcccga tggcgaccgg cggatgggtg agtaacgcgt   120

atccaacctg tcccgcgcgc ggggacagcc cttggaaatg aggattaacc cccgatacgc   180

catggggccg catggtcccc tggtgaacct ttgcgcgggt tgggg   225

<210> 1928

<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 gcaaagatgg ggacaacagt ccgaaaggac tgctaatacc gaatgttgta   180

tctcctccgc atggaagaga tattaaagat 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 gggataacaa 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 cctcttggag gggatagtg 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 gagtggcgca cgggtgcgta acgcgtatgc   120

aacctgccct caaccgggac ataacgtcga gaaattggcg ctaatatccc atgtgtatgc   180 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 attaggcatg caagtcgaac 60

gggatccggg agatagcaat atttcctggt gagagtggcg gaagggcgag gaacacgtga 120

acaacctgtc catcaggtgg ggaaaaccgt tggaaacgac ggctaatacc gaatgtggcg 180

tcgtgacaca tgtcatgaac gctaaagggg gcccgcaagg gctct 225

<210> 1933
<211> 225
<212> DNA
<213> Unknown

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

<400> 1933
agagtttgat cctggctcag aacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gcgaaagcgg cttcggtcgt gagtagagtg gcgcacgggt gagtaacgcg 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 gatgaacact agctacaggc ttaacacatg caagtcgagg 60

ggcagcatta agtcagcttg ctgatttaga tggcgaccgg cgcacgggtg agtaacgcgt 120

atccaacctg ccccctaccc ggggatagcc ttgcgaaagt aagattaata cccggtgcag 180

ttatgattcc gcatgggaat ataacgaaag attcatcggt ggggg 225

<210> 1935
<211> 225
<212> DNA
<213> Unknown

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

<400> 1935
agagtttgat catggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

gaatgacgag gagcttgctc ctctgattta gcggcggacg ggtgagtaac acgtgggtaa 120

cctgccctgt agactgggat aacttcggga aaccggagct aataccggat aattctttta 180

acctcatggt tttaagctga 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 gacgttagag 180

tgtgaataag caccggcaaa ctccgtgcca gcagccgcgg taat 224

<210> 1937
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1937
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagatttgg cgctgacgag tgaagtagct tgctatggaa caaatcttgc caaagcttag 120

tggcggacgg gtgagtaacg cgtggacaac ctggcccata caggggggaca 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 tttaagagcc tagtggcaaa cgggtgagta acgcgtaggc 120

aacctgcctc taagatgggg acaacagtcc gaaaggactg ctaataccga atgacgtaag 180

tatctcgcat gggaaactta ccaaagatgg cctctgcttg taagc 225

<210> 1939
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from unknown taxa

<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 gggtgtttga 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 tttaagcatg caagtcgagc   60

ggtaagccgg agcaatccgg tgtagagcgg cggacgggtg agtaacacgt ggataatctg   120

gcctttagtt cgggatagcc tggtgaaagt caggataata ccggatacga 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

taactcgcat 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 attgaaggtg gagtgcttgc acgaagctgg atatggattc ccacctagtg   120

gcagacgggt gagtaacacg tgggttacct acctctttgt tggggataac agttggaaac   180

gattgctaat accgaataag atactcgtat tgaaaggagc 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 atgcaaccca   120

cccctgtcag ccggatagcc ttgggaaacc gggggtaaca cggcatgttc ccgcgtgggg   180

gcatccccat acgggcaaag cggcgacgcg gacggggacg ggcat   225

<210> 1945
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1945
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gaagcacttt ccccggactt tttcggaacg aagggggttg tgacttagtg gcggacgggt   120

gagtaacgcg tggataacct gccccatgca gggggacaac agctggaaac ggctgctaat   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 gggatagca gttggaaacg actattaata ccccatatgc gcgtagttgc   180

gatactattc gtgaaagatt tatcgctata ggatgagtct gcatc   225

<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 gcttgcactc agcgttttaa gtgcgagtgg cgaacgggtg   120

agtaacacgt gggcaatctg cccaaaagag ggggataaca cttggaaaca ggtgctaata   180

ccgcataaac caactgatcg catgatcggt tgggcaaaga tggtg   225

<210> 1948
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<400> 1948
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggggtacaga cgctgtgcgg agaagtgctt gcacggaacc aaacttgttt gtacttagtg   120

gcggacgggt gagtaacgcg tggagaacct gcctcacaca gggggataac agggagaaat   180

tcctgctaat accgcataag cgcacgacat ggcatcatga agtgt   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

ggcagcatgt aggttgcttg caacctatga tggcgaccgg cgcacgggtg cgtaacgcgt   120

atccaacctt ccccgcagta gggtgcagcc 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 ctttctttga tgacgaccgg cgcacgggtg agtatcgcgt   120 atccaacctg cccataagta gggaatagcc ttgcgaaagt aagattaatg ccctatggtt 180

tccgccaaag acatctgaga tggaataaag 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 tgcgctattt gacgttagag tgtgaataag 120

caccggcaaa ctccgtgcca gcagccgcgg taat 154

<210> 1952
<211> 225
<212> DNA
<213> Unknown

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

<400> 1952
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcatcgcgg agtagcaata ctctggcggc gaccggcgga agggtgcgta acgcgtgagc 120

aacttgcccg tcactgtggg ataggcactg gaaacggtgt gtaataccac gtaacacagc 180

ggtccgcatg gacggttgtt 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

ggcagcgggg tagcaatacc gccggcgacc ggcgcacggg tgagtaacgc gtatgtaacc 120

tagttcacaa agagggatag 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

gggtggaagt tagtttactg atggaagcta gtggcggact ggtgagtata atacaggaat 120

atgcccttag gtatgggata gctttgggaa actggaggta ataccgtatg aggtcgagag 180

aggaaagcag gaatgcgcct 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 Butyricimonas

<400> 1956
agagtttgat cctggctcag gatgaacgct agcggcaggc ttaacacatg caagtcgagg 60

ggcagcgcgg agtagcaata ctctggcggc gaccggcgga agggtgcgta acgcgtgagc 120

aacttgcccg tcactgtggg ataggcactg gaaacggtgt gtaataccac gtaacacatt 180

tgctcgcatg ggtagatgtt gaaaggttta ccggtgacgg 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

<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 ggcggtgtgc ttaatacatg caagtcgagc   60

ggacttgcgg gggcttgctc ccgcaagtta gcggcggacg ggtgagtaac gcgcgagcaa   120

cctgcctata tctggggaat aacacagaga aatttgtgct aataccgcat 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 tgtttcgctg acgagtggcg gacgggtgag taatgtctgg   120

gaaactgcct gatggagggg gataactact ggaaacggta gctaataccg cataacgtcg   180

caagaccaaa gagggggacc ctcgggcctc ttgccatcgg atgtg   225

<210> 1961
<211> 225
<212> DNA
<213> Unknown

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

<400> 1961
agagtttgat catggctcag gataaacgct ggcggcgcac ataagacatg caagtcgaac   60

ggaagccgtg cgagagacaa ttgaagattt atctgattga gtctcacgca caatgacttt   120

agtggcggac tggtgagtaa cacgtaagca atctgcctat cagaggggaa taacagtgag   180

aaatcattgc taataccgca tatgctcaca gcatcgcatg atgca   225

<210> 1962
<211> 225
<212> DNA

<213> Unknown

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

<400> 1962
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcatgg ttgttgcttg caacaactga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt cccccaagta gggaatagcc cggcgaaagt cggattaatg ccctatgttt   180

tccttggatg gcatctgatg aggaacaaag acttgtcgct tgggg   225

<210> 1963
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea 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 acagctaggc atctagcagg ggtaaaagga ggaat   225

<210> 1964
<211> 225
<212> DNA
<213> Unknown

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

<400> 1964
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

gagaagcttc ggagtagatt cttcggatga cacactgaag tggacagcgg cggacgggtg   120

agtaacgcgt gggcaacctg cccctttccg gaggatagcc aagggaaact 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 tggcgcacgg gtgagtaacg cgtaggaacc   120

tgtcttttag cctgggatag cctctggaaa cggagggtaa aaccggatga gccctgaggg   180

ggaaatgagt aatcagctgg aagaggggcc tgcgttagat taggc   225

<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 tctacccctt agtctgggat accaatctga aaagattgct aataccggat   180

aggcaattct ggggcatctc ggaattatta aagatgggtt tccat   225

<210> 1967
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1967
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggacttttct cgctgaaaaa ggaaggtgct tgcaccggag agtttcttga gggaagttag   120

tggcggacgg gtgagtaacg cgtgggtaac ctgcctatca caggggggata acagttggaa   180

acgactgcta ataccgcata agcgcacggt atcgcatgat 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

ccccccttgac 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 XlVa

<400> 1969
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcactaa ggatgagacc ttcgggtgga attcttagtg acttagtggc ggacgggtga   120 gtaacgcgtg ggtaacctgc cccatacagg gggataacag ttggaaacga ctgctaagac 180

cgcataacaa gggagtaccg catgacactt ccttcaaaga tttat 225

<210> 1970
<211> 225
<212> DNA
<213> Unknown

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

<400> 1970
agagtttgat catggctcag gagaaacgct ggcggcgcac ataagacatg caagtcgaac 60

ggaatttagc cgaatgttta catgaggcga agatttagtg gcggacgggt gagtaacacg 120

tgagcaacct gcctttagga gggggataac attgagaaat cagtgctaat accgcataat 180

gcataagctt cgcatgaagc ctatgccaaa 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 ccttttgag 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 agcaaccttc ctggtagtga gggataacac agggaaactt gtgctaatac 180

cgcatgacgc atggatatcg catggtatat atgccaaaga cttgt 225

<210> 1973
<211> 225
<212> DNA
<213> Unknown

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

<400> 1973

agagtttgat catggctcag gatgaacgct ggcggcatgc ctaagacatg caagtcgtac 60

gaagcggccc actgacttat attgatacat tgagagcttg ctcgatttga ggatttataa 120

tgacgtggat tttccgctta gtggcaaacg ggtgagtaac acgtgggtta cctgcctcta 180

tgttggggat accaattgga aacgattgtt 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 atgttgtcat 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 tggaacaaca gtgagaaatc actgctaata ccgcatatgc 180

catagatgtc acatgacaac agtgggaaag gagcaatccg ctaac 225

<210> 1976
<211> 187
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1976
agagtttgat catggctcag gataaacgct ggcggcgtgc ttaattggac aatgggggaa 60

accctgatcc agcgacgccg cgtgaacgaa gaagtatctc ggtatgtaaa gttctatcag 120

cagggaagat aatgacggta cctgactaag aagcaccggc taaatacgtg ccagcagccg 180

cggtaat 187

<210> 1977
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium XlVa

<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 ctcagagtgt 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 cacttggaaa caggtgctaa taccgcataa gaccacgtga   180

ccgcatggtc gaggggtcaa aggagcaatc cggtgagggg 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 ctactggaaa ttcttgttta acttagtggc   120

ggacgggtga gtaacgcgtg agcaacctgc ctttcagagg gggataacgg ctggaaacgg   180

tcgctaatac cgcataacgt atatttaagg catcttagat atacc   225

<210> 1980
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea incertae sedis

<400> 1980
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac   60

gaagcatgtt gacggaatcc cctcggggag gaagatgaca tgacttagtg gcggacgggt   120

gagtaacgcg tgggcaatct gccctgtaca gggggacaac agttggaaac gactgctaat   180

accgcataag cgcacgatga ccgcatggtc aggtgtgaaa aggag   225

<210> 1981

<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 gcggacgggt gagtaacacg 120

tgagcaacct gcctttaaga gggggataac attgagaaat cagtgctaat accgcataac 180

gcatttctac cgcatgatag aaatagccaa aggagaaatc cgctt 225

<210> 1982
<211> 225
<212> DNA
<213> Unknown

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

tatcgcatgg tacagtgtga aaaactccgg tggtatgaga 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

gggaagggtc cttcggggcc ctgagagtgg cgcacgggtg cgtaacgcgt atgcaaccaa 120

cccctttccg gggacagcc ggtggaaacg ccgggtaata ccccatgtcg atccatttgg 180 gcatccaaga ggattgaaag atttcggtcg gagagggacg ggcat 225

<210> 1985
<211> 225
<212> DNA
<213> Unknown

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

<400> 1985
agagtttgat catggctcag gattaacgct ggcggcgtgc ctaatacatg caagtcgaat 60

ggttagcttg ctaaccatgg cgaacgggtg agtaacacgt aggcaacctg acgtaaagcc 120

gaggataacc attggaaacg atggataata ctggatagga catttggagg catctttgga 180

tgtttaaaga tttatcactt tacgaggggc ctgcggcgca ttagc 225

<210> 1986
<211> 225
<212> DNA
<213> Unknown

<220>
<223> Encodes 16S rRNA from Clostridium IV

<400> 1986
agagtttgat cctggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gagaatccgt ggaaagagat ttcggtcaat ggaagcggag gaaagtggcg gacgggtgag 120

taacgcgtga ggaacctgcc ttggagaggg 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 tgcttgcaca tgatgagagc ggcggactgg cgaggagcgc gtgggtgacg 120

cacccctcgg acggggacag ccggcagaaa tgccgggtga taccggatga ggtcccccctt 180

gtcggaggag ggggaggaaa ggggcttcgg ccccgccggg ggagc 225

<210> 1988
<211> 225
<212> DNA
<213> Unknown

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

<400> 1988
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgagc 60

gagatacttt caaatgagac ttcggtggat tttggaggtt gaaagcggcg gacgggtgag 120

taacgcgtag gcaacctgcc ctttgcacag ggatagccat tggaaacgat gattaatacc 180

tgataacgcg ggagcgatgc atatcgcttc cgtcaaagat tcatc 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

ccaaagaggt 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 aattttagaa gagcaaagca attccaagag 120

agaaacaacg ctcaaacaag tatactttgg gggataccc aaagtgcaat gtgcgttcaa 180

aaactgatga ttcacttctg caattcacaa gaaatatcgc gtttc 225

<210> 1991
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces sp AF CTS CHO

<400> 1991
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tatttttaaa ttaaattttc cttttaaatt aagcaacaat taatatttta atttttaccc 120

tttaaaactg aaaagtttat tcctttttac gggaaaattt tatccaattt tattagataa 180

aaaccaaaaa aaattggctt ttaaaaatca atttaaagtg aaaca 225

<210> 1992
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Candida catenulat

<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 cibariu

<400> 1993
tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc   60

tggttaaaaa 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 etchellsi

<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 tatttttaaa attgtctagg   120

ttattccttg gaaaaggaaa attttatcca attttaaaaa ttgaaatttt 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 cctttagcga atagtttcca   120

caacgcttag gggacagaag acccagccgg tcgatttgag gcacgcggcg gaccgcgttg   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 gaggtcgatt   60

tgatcaggtt gtttgccaaa aattggcagt tagaagcaat cactacaaat tactaaggcg   120

agattactct ctgactggtg atggatgtaa tccattataa cacacagtat taacccattc   180

ataaggtcat cactaatcat tttaaaggga gtcattatac atgac   225

<210> 1998
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces sp AF CTS CHO

<400> 1998
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttgaaat aaatttcctt ttgctattga atttttaatt tcagattaaa aaattgtcaa   120

gtttattcct tttttacggg aaaattttat ccaatttttt aaaaattgaa aataaaaaaa   180

caattttaaa attcaattta aagtgaaaca acttgtatcg ttgta   225

<210> 1999
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces sp AF CTS CHO

<400> 1999
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttaaaat aaatttcctt ttcttgaaaa atttattttc gctttttaaa actgtcaagg   120

ttattccttt ttacgggaaa attttatcca attttaaaaa attgaaaata aaattttaca   180

atttaaaaat tcaatttaaa gtgaaacaac ttgtatcgtt gtaaa   225

<210> 2000
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Kodamaea ohmer

<400> 2000
tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacttgattt gaggaaaaaa   60

aatgagtgta ctgacggtac cgttttgtag agtactgtcg tcattatttt cgtgcaaaca   120

caatacaatc cgtgaggatt agggaagtat tcgctcaaac aagcatacca ttgggaatac   180

ccaatggtgc aatgtgcgtt caaagattcg 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 gtggttgtca ctactaaatt agaaaataac aacacaagaa aaatactttt   120

cgaatggact gactaagagc tcgtgccatt caacgccaac ccgcgggggt tgagggagaa   180

atgacgctca aacaggcata ccttgtggaa 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 tgtttttttgg attttacttt tgtaaaatct ttctttttat   180

tttatattat tttttaaggg acgttgaaac ttatatacat cgatc   225

<210> 2003
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Anaeromyces sp FFEX

<400> 2003
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttgaaat aaatttcctt ttgctattgg attttattct ctttcaaaaa attgtcaagg   120 ttattccttt tttacgggaa aattttatcc aattttttaa aaattgaaaa taaaaaacaa 180

ttttaaaatt caatttaaag tgaaacaact 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 tgtccttgcg gacgattaga agcacgcttc aacacaatgg acccagtgaa 120

acttattaca ccagacatta atgtcaaact tgctaactct tttaaggcga gcgatcagag 180

atcgcagacg cccaaatcca atccattagg aaaccctagt ggttg 225

<210> 2005
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Rhizophydium sp MP 00

<400> 2005
tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcttttt 60

ttaacttttg aatttacttt tgattttact cttaataaat tctttttat aatcaattgt 120

tttaattgat 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 aloeicol

<400> 2006
tcctccgctt attgatatgc ttaagttaag agagtcatct tgaaaatttc aaatcttttt 60

taaatcgttt gaccttttca ttttttacgt gattagatca attcttattc aattaatcaa 120

ttgctttaat tgatttatta aatatgttat tttaaaattg ggatgttgaa actttcatat 180

ttaattgaag ttcaattaaa tactttcatg cattcaaata tttac 225

<210> 2007
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Rhizophydium sp MP 00

<400> 2007

tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcttttt 60

ttaacttttg aatttacttt tttgatttta ctcttaaaaa ataaattctt ttattttata 120

atcaattgtt ttaattgatt tattataatt tattttattt 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 ggttggaaaa cgtcggcagg cgccggccaa tcctacagag catgtgacaa 120

agccccatac gctcgaggat cggacgcggt gccgccgctg cctttcgggc ccgtcccccc 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 gtttgccaat ggcagttaga agcaatcact acaaattact aaggcgagat 120

tactctctga ctggtgatgg atgtaatcca ttataacaca cagtattaac ccattcataa 180

ggtcatcact aattatttta aagggagtca ttgtttatat gacaa 225

<210> 2010
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Vrystaatia aloeicol

<400> 2010
tcctccgctt attgatatgc tcctctacct tgacatccgc taccttgata attttgctgt 60

tgttgtcttc ttctatcttc ttcttgtcta cgtctatctt cttctcttct acgtctatct 120

tcttcttctc ttcttcgtct ttcatcctct tgtcttcttc tatcttgttc ttgtctacgt 180

ctatcttctt cttgatgtct tctatcttct tctcggtgtc ttcta 225

<210> 2011
<211> 225
<212> DNA
<213> Unknown

<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 ttcaaatgtc aatctaatga ttgac   225

<210> 2012
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Anaeromyces sp FFEX

<400> 2012
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttaaata aatttccttt taataattgg aattttttaa tttcaattaa tttaaaattg   120

tcaaggttat tcctttttac gggaaaattt tatccaattt taaaaattga attaaaaaaa   180

tacaatttaa aaattcaatt taaagtgaaa caacttgtat cgttg   225

<210> 2013
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Anaeromyces sp FFEX

<400> 2013
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tatttttaaa taaatttcct tttgctattg aattcttaat ttcagcttaa aaaattgtca   120

aggttattcc tttttacagg aaaattttat ccaatttttt aaaaattgaa aataaaaaaa   180

caattttaaa attcaattta aagtgaaaca acttgtatcg ttgta   225

<210> 2014
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Vrystaatia aloeicol

<400> 2014
tcctccgctt attgatatgc tcatgatatt cctctttgga aatgctgccg ttgcatggag   60

cgtaacataa gtcaatctgg ctgttcaagc atggaccatc cattcttttg caggttctta   120

ttctaaacaa ttgctttagg aacttaacgg tttggcgaac agcagtaaca tctgtaaaag   180

gaccatagta tgaacctttt ttgcctatat cccttgttac gactt   225

<210> 2015

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

<220>
<223> ITS sequence of Orpinomyces sp AF CTS CHO

<400> 2015
tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcaaatt   60

taaatatatt aagttaattt ttaaaaaatg ttattttaaa attaactcgt ttattattta   120

attaattgtt ttaattaatt aattatatat tttatttaat ttttaaattg atgttgaaat   180

ttttatattt aattcaagat gaattaaata ctttcatgca ttcaa   225

<210> 2016
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Candida glabrat

<400> 2016
tcctccgctt attgatatgc ttaagttcgg cgggtaatct tatctggctt gatgttttat   60

atattgttga tattgaaaat atgtttttct ttaatatcaa aatcgttaaa acccacaagt   120

gtatttgatg ggtcaagcaa caaacaatca 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

tatttaaata aatttccttt taaaatcgtt cccaaccgac gatttcaatt aaaatccatt   120

taaagtgaaa caacttgttt 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 tgtctaggtt   120

attccttgga 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 gttcaacccg ttcagcttcg ctgaccgggg 60

caagaatctc gatacttcgt atcttcgatt cttgaaggtt tccatcctga ccggtttccc 120

agtctctttg aaaacccaac agtataacat ctgagaggct gtcttgtgac aacccgcaag 180

aattcaaact ctgtttggat tcttgcttcg aagctctgct tcgaa 225

<210> 2020
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Candida glabrat

<400> 2020
tcctccgctt attgatatgc ttaagttcag cgggtagtct tacggggggg agaaacaaag 60

tagtcgagaa cgtgttttct gactgttgat tctaaggccc ggaggagaaa atgtatgctc 120

caccccgcat gcgccggagc gcgccatgtg cgttcaaaga ttaatgattc acgtttgcag 180

atcatgatac gtatcgcaat ttgctgcgtt cttcatcggt acgag 225

<210> 2021
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Candida glabrat

<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 ttcacagaat aatgcaattc acatt 225

<210> 2022
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Anaeromyces mucronatu

<400> 2022
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt 60

tgtttaaaaa atttcctttt tgttttgaat aagaaaacta tttttaaaat tgtctaggtt 120

attccttgct taaaggaaaa ttttatccaa ttttaaaaat tgaaattttc 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 aaggtctttt 180

cttttccctg ttcggagcac cgtttacgga gcagtgataa ttctt 225

<210> 2024
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Schizangiella serpenti

<400> 2024
tcctccgctt attgatattc atatatccta tttgatgaga tcaaagaact taataattac 60

ttattttttc tttctgtgat cttcttaata ttattttatt aaaaaataat acccaaatac 120

attatctagt tttcaaagaa ctatttctga gagaacaatc tctcaaaact aagcaaaacg 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 ctttaaggcg 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

<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 gagggtacaa atgac   225

<210> 2027
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Penicillium brevicompactu

<400> 2027
tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc   60

tggaaaaaag tttggttgat cggcaggcgc cggccagtcc tacaaagcgg gtgacaaagc   120

cccatacgct tgaggaccgg acgcggtgcc gccgctgcct ttcgggcccg tcccccggaa   180

ggaggacgga gcccaacaca caagccgtgc ttgagggcag caatg   225

<210> 2028
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Cryptococcus terrestri

<400> 2028
tcctccgctt attgatatgc ttaagttcag cgggtagccc tacctgattt caggtcaaag   60

tcaaaagtgc gcgatggcag gttctgagca gtcatcacca caaggagaga cgaaacttat   120

tacgtctaac actgatgtgg gatgttccac taagtcattt gaggcgagcc atcactggca   180

gacgcccaag tccaagtcta acatgttcag aaaacatatt agatt   225

<210> 2029
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Rhizophydium sp MP 00

<400> 2029
tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcaaaat   60

aacattttta ttgaattttt ttatttatta aattcaattt taaatttttt tcaattaatt   120

attttaatta atttattata atttgtgtta tttttttttt taattgatgt tgaaattttt   180

atatttaatt caagttgaat taaatacttt catgcattca aatat   225

<210> 2030
<211> 225
<212> DNA

<213> Unknown

<220>
<223> ITS sequence of Monascus purpureu

<400> 2030
tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcaacc   60

taaggaaaaa aaggttggag agggcaaagg ccccggcccg acctactgag cgggtgacaa   120

agccccatac gctcgaggac cggacgcggc gccgccactg cctttcgggc ccgtccccct   180

tgcccggagg cgcaggggac ggcggcccaa cacacaagcc gcgct   225

<210> 2031
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Saccharomycetales s

<400> 2031
tcctccgctt attgatatgc ttaagttcag cgggtattcc tacctgattt gaggtcgagc   60

ttatgtatta agttcggcgg ccaagcgtcc tactcatagt tcgcttcgcc cgcaacgttt   120

cttttcagag cggccccaat gccagggccc ccccatttct gctcgcaagc aagaaggaaa   180

cgacgctcaa acaggcatgc cctccggaat accagagggc gcaat   225

<210> 2032
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Cyllamyces aberensi

<400> 2032
tcctccgctt attgatatgc ttacgttcag cgggtactct tatctgattt gagatcaagt   60

taatttttac ttttttttcc tttgtaagta cttttaaaaa atcaaactaa ttcattctta   120

aaattgttta ggttattcct tttttacggg aaaattttat ccaattttaa aaaaaatcag   180

tttttaaatg attttttaca agacaaagaa tttaaagtga aacaa   225

<210> 2033
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Microascaceae s

<400> 2033
tcctccgctt attgatatgc ttaagttcag cgggtaaccc tacctgatcc gaggtcaaac   60

catcaggagt tgaggttcga cggctggcct tcgccgggac ccgatgcgag gtgagctaac   120

ttactacgca gggggcgccg cggcgggacc gccacttcat ttcagggcct gcgggcaacg   180

gtggcccgca gcgccccaac accgggcggc ggcgcggccc acggt   225

<210> 2034
<211> 198
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces 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 caggtactcc catccgattc gatatgaaat 60

atatttttcg atagagtcat aaattcataa gactcaatcc ttcctcattt cagatcaaca 120

ttacatgagt gatcaaagtt tggtcatact cgatcggatg tggaaagctt gcgctcccca 180

gcgtgtgcgt tcaaaaattg gatgattcac agtgtaattg tcatt 225

<210> 2036
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces sp AF CTS CHO

<400> 2036
tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcaaatt 60

taaatatatt aagttaattt ttaaaaatgt tattttaaaa ttaactcgtt tatttattta 120

attaattgtt ttaattaatt aattatattt atttttttta tttttaaatt gatgttgaaa 180

tttttatatt taattcaaga tgaattaaat actttcatgc attca 225

<210> 2037
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Rhizophydium sp MP 00

<400> 2037
tcctccgctt attgatatgc ttaagttaag agagtcatct taaaaatttc aaatcaaaaa 60

ttaaatattt atttgtttta aattaatttt ttaaataatt taaacaaatt catttatttc 120 aattaattat attaattaat ttattataat tttattttta attttttaat tgatgttgaa 180

attttatat ttaattctag tagaattaaa 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 aatctaatca aaaaattaaa attgtttagg 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 Paracoccidioides brasiliensi

<400> 2039
tcctccgctt attgatatgc ttaagttcag cgggtatccc tacctgatcc gaggtcgatt 60

tctagaatat gttaatattc aagtaaaaaa 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

cgagttggtt agacctaata cattgaagag tcaaacggca tttatctact gtaaatactc 180

atgccaatcc atttcaagca aatagatact gaatatctat atcgc 225

<210> 2041
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Trichoderma virid

<400> 2041

tcctccgctt attgatatgc ttaaattcag ctggttcaaa ttattggaat cagagtaaat 60

cgagactgtc gttgatctta attagattcc acgaaccgct tgcaccacaa gactatcttg 120

agtacttcat ttcatgtgta attaagacta ctgaaatcaa taacacgctc attgaggtgt 180

tttacatgtg 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 ataaacctaa tacattgaaa gtcatatagc actatccagt accactcatg 180

ccaatacatt tcaagcaaac gcctagttcg actaagagta tcact 225

<210> 2043
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Vrystaatia aloeicol

<400> 2043
tcctcgctta ttgatatgct taagttaaga gagtcatctt gaaaatttca aatctttttt 60

aaattctttt gaccttttca gtttttacgt gattagatca attcttattc aattaatcaa 120

ttgctttaat tgatttatta aatatgttat tttaaaattg tgatgttgaa actttcatat 180

ttaattgaag ttcaattaaa tactttcatg cattcaaata tttac 225

<210> 2044
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Cryptococcus albidu

<400> 2044
tcctccgctt attgatatgc ttaagttcag cgggtagtcc tacctgattt gaggccagat 60

gtcaagagta ttaatccgaa gatcaatgga ttagaaagcg gtctttagtc ctgcaacgcg 120

gccatccgaa gatgtcctta gcgaaatact tattacgcca agtcaaacca tgtcgcgaga 180

cagatccagc tattactttt aagacgagcc gacttatcat cggca 225

<210> 2045
<211> 225
<212> DNA
<213> Unknown

<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

ctgagggtga 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 aataccaaag 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 tgcccataac taagggataa tccgtagaaa tgcggtctaa taccttatgt   180

gttccgacga ggacatctga attggaataa agatttatcg gttat   225

<210> 2049

<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 ggaacctgc 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 gcgcccaaac gggat   225

<210> 2052
<211> 225
<212> DNA
<213> Unknown

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

<400> 2052
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcaattt tctacgatcc cttcggggtg 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

ttcaatgcgg 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

ggaaacgata ttgaaagctt gctttcttta ggcgtcgacc ggcgaatggg tgagtaacgc 120

gtatccaacc tgcccctgag taagggatag cccatcgaaa gatggattaa taccttatgg 180

tttcctttga aggcatcaga ttaggaataa agatttatcg ctgag 225

<210> 2057
<211> 225
<212> DNA
<213> Unknown

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

<400> 2057
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

gaagtcttct agacagattc cttcgggatg acgactagat gtacttagtg gcggacgggt 120

gagtaacgcg tgggtaacct gcctcataca gggggataac agttggaaac agctgctaat 180

accccataag cgcacaatgt cgcatgacaa 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 ttcctggctg acgagtggcg gacgggtgag taatacctgg 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

<400> 2060
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagaattta cgctgatgaa gcttcggcag attcttgtaa attcttagtg gcggacgggt   120

gagtaacgcg tgggcaacct gcctcatact gggggataac agctggaaac gactgttaat   180

accgcataag cgcacggtat cgcatgatac agtgtgaaaa actcc   225

<210> 2061
<211> 225
<212> DNA
<213> Unknown

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

<400> 2061
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcattta cttacgatct cttcggagtg acgagtttat gactgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccttgtacag gggataaca 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 ccccttagta 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 tgcccatcac ttgggaataa ccttgcgaaa gtaagactaa tgcccaatga   180

catttataga aggcatctga aatgaattaa agatttatcg gtgat   225

<210> 2064
<211> 225
<212> DNA

<213> Unknown

<220>
<223> Encodes 16S rRNA from Lachnospiracea_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 tgaaagtttc ggccggatat ataagttagt ggcggacggg tgagtaacgc   120

gtgggtaacc tgccttacac cgggggataa cagttggaaa cgactgctaa taccgcataa   180

gcccacagta ccgcatggta caggggggaaa agttgaggcg atgta   225

<210> 2066
<211> 225
<212> DNA
<213> Unknown

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

<400> 2066
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcaactt atcacgattc cttcgggatg acgatttgtt gactgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccttatacag gggggatagca 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

ggagtttaac gctgatgaag cttcggcaga ttcttgttaa acttagtggc ggacgggtga   120

gtaacgcgtg ggtaacctgc ctcatacagg gggatagcag ttggaaacga ctgataacac   180

cgcataagcg cacggtatcg catgatacag tgtgaaaata tttat   225

<210> 2068
<211> 225
<212> DNA
<213> Unknown

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

<400> 2068
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcagttt attacgatcc cttcggggtg acgatttact gactgagtgg cggacgggtg   120

agtaacgcgt gggtaacctg ccttgtacag 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 cctgccccta   120

agtctgggat acccagggga aaccttggct aataccggat agcggcggag ggacatccc   180

ttccgcacga aagtcgcgtt tgcgacgctt tcggatggac ctgcg   225

<210> 2070
<211> 225
<212> DNA
<213> Unknown

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

<400> 2070
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagatttac cacctgcttg caggaggtaa atcttagtgg cggacgggtg agtaacgcgt   120

gggtaacctg cctcacacag gggataaca gttggaaacg actgttaata ccgcataagc   180

gcacggtatc gcatgataca gtgtgaaaaa ctccggtggt gtgag   225

<210> 2071
<211> 225
<212> DNA
<213> Unknown

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

<400> 2071
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

gaagcaattt cttacgatcc cttcggggtg acgagttatt gactgagtgg cggacgggtg   120 agtaacgcgt gggtaaccta ccttgtacag ggggacaaca gttggaaacg actgctaata 180

ccgcataagc gcacggtgtt gcatgacaca gtgtgaaaag ttttt 225

<210> 2072
<211> 225
<212> DNA
<213> Unknown

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

<400> 2072
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcggac 60

ggcagtagca 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 Roseburia

<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 Propionibacterium

<400> 2074
agagtttgat catggctcag gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac 60

ggaaaggccc tgcttttgtg gggtgctcga gtggcgaacg ggtgagtaac acgtgagtaa 120

cctgcccttg actttgggat aacttcagga aactggggct aataccggat aggagctcct 180

gctgcatggt gggggttgga aagtttcggc ggttggggat ggact 225

<210> 2075
<211> 225
<212> DNA
<213> Unknown

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

<400> 2075

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 tgcataaagt ggcgaacggc tgagtaacac gtgggcaacc 120

tgcccctcgc accgggacag cctcgggaaa ccgtggataa taccggatac tccggcaccc 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 caagtggaac 60

gcagtagtga tcaccggagc ttgctccacc gattagtact gagtcgcgaa 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_XlVa

<400> 2078
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagattaga cgctgacgag acttcggtca aatcttgttt aatcttagtg gcggacgggt 120

gagtaacgcg tgggcaacct gcctcatact gggggatagc agttggaaac gactgataat 180

accgcataag cgcacgagat cgcatgatct agtgtgaaaa actcc 225

<210> 2079
<211> 225
<212> DNA
<213> Unknown

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

<400> 2079
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagatttaa cgctgatgaa gcttcggcag aatcttgtta aatcttagtg gcggacgggt   120

gagtaacgcg tgggcaacct gcctcatact gggggatagc agttggaaac gactgataat   180

accgcataag cgcacggagt cgcatgactc 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 attctagtgg cggacgggtg agtaacgcgt   120

gggtaacctg ccttataccg ggggacaaca gttggaaacg actgctaata ccgcataagc   180

gcacagtctc gcatgagacg gtgtgaaaaa ctccggtggt 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 tttcggttgg aatttgatat atcttagtgg cggacgggtg   120

agtaacgcgt gagtaacctg ccgatgagag tggaataacg ttctgaaaag aacgctaata   180

ccgcataacg tatcgaagcc gcatgacatt gataccaaag atttt   225

<210> 2082
<211> 225
<212> DNA
<213> Unknown

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

<400> 2082
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgagc   60

ggagagccgt aacggaagcc ttcgggtgga agatacggtt acttagcggc ggacgggtga   120

gtaacgcgtg gataacctgg ctcatacagg gggataacag agagaaattt ctgctaatac   180

cgcataagcg cacgtaaccg catggttatg tgtgaaaagc cgaga   225

<210> 2083

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

<220>
<223> Encodes 16S rRNA from Lachnospiracea_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 tcttccggat cagtggcgaa cgggtgagta acacgtaggt   120

aacctgccca tgtacccggg acaacggttg gaaacgactg ctaaaaccgg 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 gaggcgaacg 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 Lachnospiracea_incertae_sedis

<400> 2086
agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaacacatg caagtcgaac   60

ggagtatctc tcccgagacc aaagaagctt gcttctgagg aatcaattga gatacttagt   120

ggcggacggg tgagtaacgc gtgggtaacc tgcctcacac agggggataa cagttggaaa   180 cgactgttaa taccgcataa gcgcacagta ccgcatggta cagtg 225

<210> 2087
<211> 225
<212> DNA
<213> Unknown

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

<400> 2087
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggagatataa cgctgcagag acttcggtca aagcttgttg tatcttagtg gcggacgggt 120

gagtaacgcg tgggcaacct gcctcatact gggggataac agttggaaac ggctgttaat 180

accgcataag cgcacagagt cgcatgactc 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 gcgagtggcg aacgggtgag taatacatcg 120

gaacgtgccc tgtagtgggg gataactagt cgaaagatta gctaataccg catacgacct 180

gagggtgaaa gtgggggacc gcaaggcctc atgctatagg agcgg 225

<210> 2089
<211> 225
<212> DNA
<213> Unknown

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

<400> 2089
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60

ggaagcttaa cgctgacgag acttcggtca aatcttgtta agctttagtg gcggacgggt 120

gagtaacgcg tgggcaacct gcctcatact gggggataac agttggaaac gactgttaat 180

accgcataag cgcacagagt cgcatgactc 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

gggaagctca caaatgattc ttcggatgaa tgcgtgagtg aacagcggcg gacgggtgag 120

taacgcgtgg gcaacctgcc ccttactgaa 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 Acholeplasma

<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 agccgagtgg caaacgggtg agtaacgcgt 120

agacaacctg ccgtgaagat ggggacaaca gatcgaaagg tctgctaata ccgaatgttg 180

tagatcctcc gcatgaagga ttcactaaag gtgccctctg tatat 225

<210> 2094
<211> 225
<212> DNA
<213> Unknown

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

<400> 2094
agagtttgat catggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggcagcataa cgaaagcttg cttttgttga tggcgaccgg cgcacgggtg agtaacgcgt   120

atccaacctt ccctatagta gagaatagcc cggcgaaagt cggattaatg ctctatgttg   180

tatttagaag acatctgaag aataccaaag gtttaccgct atagg   225

<210> 2095
<211> 225
<212> DNA
<213> Unknown

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

<400> 2095
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac   60

ggagatttaa cgctgatgag gcttcggcgg aatcttgtta aatcttagtg gcggacgggt   120

gagtaacgcg tgggcaacct gcctcatact gggggataac agttggaaac gactgttaat   180

accgcataag cgcacagtgt cgcatgacac agtgtgaaaa actcc   225

<210> 2096
<211> 225
<212> DNA
<213> Unknown

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

<400> 2096
agagtttgat catggctcag attgaacgct ggcggcaggc ctaatacatg caagtcgaac   60

ggtaacatgg aagtagcaat acttttgatg acgagtggcg gacgggtgag taatatttgg   120

gaatctacct atcagagggg gatagcaact ggaaacggtt gataagaccg cgtacgctct   180

gaggaggaaa gtaatgggat cgcaagacca ttagctgata gatga   225

<210> 2097
<211> 225
<212> DNA
<213> Unknown

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

<400> 2097
agagtttgat catggctcag attgaacgct ggcggcaggc ttaatacatg caagtcgaac   60

ggtaacagca ggaagcttgc ttcctggctg acgagtggcg gacgggtgag taatacctgg   120

ggagctgcct gaatgagggg gacaacacct ggaaacgggt gctaataccg cgtaagccct   180

gagggggaaa ggctgggcaa ccagtcgcat tcagatgcgc ccagg   225

<210> 2098
<211> 225
<212> DNA

<213> Unknown

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

<400> 2098
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcggac   60

ggagcgcttc ggcgctcagt ggcgaacggg tgagtagcac atgggcaacc tgcccttcag   120

agggggacaa cagctggaaa cggctgctaa gaccgcatag gcgcggacgg 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
agagtttgat cctggctcag gatgaacgct agctacaggc ttaacacatg caagtcgagg   60

ggaaacggca ttttagcttg ctaagatgga cgtcgaccgg cgaatgggtg agtaacgcgt   120

atccaacctt ccgttaagta gggaatagcc ttgcgaaagt aagattaatg ccctatgtgg   180

tgttttgagg acatctgaag atcaccaaag gtttaccgct taacg   225

<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 ccttgcgaaa gtaagattaa tgccctatgt   180

gctgtgatga ggacatctga attgcagtaa aggttcaccg ctttg   225

<210> 2101
<211> 225
<212> DNA
<213> Unknown

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

<400> 2101
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> 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 cccttagta 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

tatttagaag acatctgaag aataccaaag gtttaccgct atagg   225

<210> 2104
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Orpinomyces

<400> 2104
tcctccgctt attgatatgc ttaagttcag cgggtactct tatctgattt gagatcaagt   60

tattttgtta aatttccttt taattaggct caactaaagt tttacctttt aaaactgaaa   120

agttattcct ttttacggga aaattttatc caattttatt agataaaacc aaaattggct   180

tttaaaaatc aatttaaagt gaaacaactt gtttatcgtt 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 aattttcctt ttagtttgga ttttctaatc aaaaattaaa attgtttagg   120 ttattccttt ttacgggaaa attttatcca attttatttt 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 aagaattcta atcaaaaatt aaaattgttt 120

aggttattcc ttttttacgg gaaaatttta tccaatttta ttttaaaatt agaaaaattc 180

aaattttaaa aaaaatttaa agtgaaacaa cttgtatcgt tgtaa 225

<210> 2107
<211> 225
<212> DNA
<213> Unknown

<220>
<223> ITS sequence of Piromyces

<400> 2107
tcctcgctta ttgatatgct taagttcagc gggtactctt atctgatttg agatcaagtt 60

atttattaaa ttttccttta taatgaaaaa ttctaatcaa aaaactaaaa ttgtttaggt 120

tattcctttt ttacgggaaa attttatcca attttatttt aaaattagaa aaattcaaat 180

tttaaaaaaa tttaaagtga aacaacttgt atcgttgtaa aacac 225