

Alignment search results for V1-V9 amplicon sequencing of the mock community.
The top three hits for 3,000 query sequences are shown. The values represent the bit score of alignment.

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735 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
733 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
733 *Shigella flexneri* 2a str. 301 GCA_000006925.2
720 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
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399 *Deinococcus radiodurans* R1 GCA_000008565.1
240 *Deinococcus hopiensis* KR-140 GCA_900176165.1
239 *Deinococcus deserti* VCD115 GCA_000020685.1
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823 *Clostridium beijerinckii* GCA_000833105.2
786 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
757 *Clostridium puniceum* GCA_002006345.1
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656 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
653 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
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474 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
448 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
386 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
386 *Staphylococcus warneri* SG1 GCA_000332735.1
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544 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
513 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
448 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
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721 *Clostridium puniceum* GCA_002006345.1
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609 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
446 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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701 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
499 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
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635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
594 *Clostridium puniceum* GCA_002006345.1
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462 *Clostridium beijerinckii* GCA_000833105.2
440 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
438 *Clostridium butyricum* GCA_001456065.2
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645 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
480 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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724 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
697 *Clostridium puniceum* GCA_002006345.1
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742 *Streptococcus mutans* UA159 GCA_000007465.2
546 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
490 *Streptococcus halotolerans* GCA_001598035.1
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384 *Enterococcus faecalis* V583 GCA_000007785.1
384 *Streptomyces cinnamomeus* GCA_001885705.1
351 *Enterococcus faecium* DO GCA_000174395.2
338 *Enterococcus casseliflavus* EC20 GCA_000157355.2
338 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
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338 *Enterococcus massiliensis* GCA_001050095.1
338 *Enterococcus mundtii* QU 25 GCA_000504125.1
338 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
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529 *Deinococcus deserti* VCD115 GCA_000020685.1
486 *Deinococcus hopiensis* KR-140 GCA_900176165.1

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787 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
776 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
704 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
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668 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
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564 *Enterococcus rivorum* GCA_001742285.1
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672 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
624 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
520 *Gemmobacter aquatilis* GCA_900110025.1
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717 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
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522 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
382 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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522 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
513 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
513 *Shigella flexneri* 2a str. 301 GCA_000006925.2
506 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
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833 *Clostridium beijerinckii* GCA_000833105.2
774 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
770 *Clostridium puniceum* GCA_002006345.1
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495 *Escherichia coli* UMN026 GCA_000026325.2
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383 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
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593 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
524 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
443 *Gemmobacter aquatilis* GCA_900110025.1
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788 *Deinococcus radiodurans* R1 GCA_000008565.1
518 *Deinococcus deserti* VCD115 GCA_000020685.1
489 *Deinococcus gobiensis* I-0 GCA_000252445.1
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1035 *Enterococcus faecalis* V583 GCA_000007785.1
989 *Streptomyces cinnamoneus* GCA_001885705.1
929 *Enterococcus rivorum* GCA_001742285.1
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519 *Enterococcus faecalis* V583 GCA_000007785.1
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472 *Streptomyces cinnamoneus* GCA_001885705.1
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518 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
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 450 *Staphylococcus warneri* SG1 GCA_000332735.1
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 478 *Escherichia coli* UMN026 GCA_000026325.2
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 800 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
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 434 *Deinococcus deserti* VCD115 GCA_000020685.1
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 571 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
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 554 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
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 709 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 615 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 544 *Gemmobacter aquatilis* GCA_900110025.1
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 513 *Clostridium puniceum* GCA_002006345.1
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 660 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
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 456 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
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 518 *Escherichia coli* UMN026 GCA_000026325.2
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 476 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
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 594 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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 674 *Escherichia coli* UMN026 GCA_000026325.2
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 481 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1

422 *Staphylococcus warneri* SG1 GCA_000332735.1
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 482 *Clostridium puniceum* GCA_002006345.1
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 488 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
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 712 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 550 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 539 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
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 777 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 747 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
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 547 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 540 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
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 357 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 353 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
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 421 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
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 916 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 853 *Staphylococcus warneri* SG1 GCA_000332735.1
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 785 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 753 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 675 *Gemmobacter aquatilis* GCA_900110025.1
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 688 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 629 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 459 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
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 742 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 732 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 679 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 679 *Staphylococcus warneri* SG1 GCA_000332735.1
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 608 *Bacillus anthracis* str. Ames GCA_000007845.1
 608 *Bacillus anthracis* str. Sterne GCA_000008165.1
 608 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 607 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 602 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
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 577 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 550 *Clostridium puniceum* GCA_002006345.1
 550 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
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 705 *Deinococcus radiodurans* R1 GCA_000008565.1
 399 *Deinococcus deserti* VCD115 GCA_000020685.1
 376 *Deinococcus gobiensis* I-0 GCA_000252445.1
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 526 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 461 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 399 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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 863 *Deinococcus radiodurans* R1 GCA_000008565.1
 561 *Deinococcus deserti* VCD115 GCA_000020685.1
 550 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 1p

696 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
692 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
628 *Staphylococcus warneri* SG1 GCA_000332735.1
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473 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
420 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
332 *Lactobacillus iners* DSM 13335 GCA_000160875.1
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776 *Deinococcus radiodurans* R1 GCA_000008565.1
461 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
457 *Deinococcus puniceus* GCA_001644565.1
1s
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768 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
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1t
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1u
620 *Enterococcus faecalis* V583 GCA_000007785.1
606 *Enterococcus massiliensis* GCA_001050095.1
596 *Enterococcus mundtii* QU 25 GCA_000504125.1
1v
708 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
677 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
645 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
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768 *Deinococcus radiodurans* R1 GCA_000008565.1
539 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
539 *Deinococcus swuensis* GCA_000800395.1
536 *Deinococcus deserti* VCD115 GCA_000020685.1
1x
742 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
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493 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
487 *Clostridium chromiireducens* GCA_002029255.1
1z
900 *Streptococcus mutans* UA159 GCA_000007465.2
679 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
645 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
1A
769 *Clostridium beijerinckii* GCA_000833105.2
735 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
688 *Clostridium puniceum* GCA_002006345.1
1B
695 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
596 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
555 *Gemmobacter aquatilis* GCA_900110025.1
1C
526 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
455 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
333 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
1D
625 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
575 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
475 *Lactobacillus iners* DSM 13335 GCA_000160875.1
1E
495 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
457 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
337 *Lactobacillus iners* DSM 13335 GCA_000160875.1
1F
784 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
761 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
752 *Shigella flexneri* 2a str. 301 GCA_000006925.2
1G
542 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
540 *Clostridium beijerinckii* GCA_000833105.2
513 *Clostridium butyricum* GCA_001456065.2
1H
648 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
608 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1

502 Gemmobacter aquatilis GCA_900110025.1
1I
745 Clostridium beijerinckii GCA_000833105.2
692 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
692 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
677 Clostridium puniceum GCA_002006345.1
1J
824 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
771 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
517 Lactobacillus iners DSM 13335 GCA_000160875.1
1K
818 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
773 Staphylococcus capitis subsp. capitis GCA_001028645.1
702 Staphylococcus warneri SG1 GCA_000332735.1
1L
777 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
739 Staphylococcus capitis subsp. capitis GCA_001028645.1
661 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
661 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
1M
380 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
380 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
358 Lactobacillus kimchicus JCM 15530 GCA_001433995.1
356 Enterococcus faecalis V583 GCA_000007785.1
1N
414 Deinococcus radiodurans R1 GCA_000008565.1
254 Deinococcus deserti VCD115 GCA_000020685.1
244 Deinococcus hopiensis KR-140 GCA_900176165.1
1O
592 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
457 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
450 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
450 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
1P
645 Enterococcus faecalis V583 GCA_000007785.1
598 Streptomyces cinnamoneus GCA_001885705.1
577 Enterococcus rivorum GCA_001742285.1
1Q
439 Enterococcus faecalis V583 GCA_000007785.1
399 Enterococcus haemoperoxidus ATCC BAA-382 GCA_000407165.1
393 Enterococcus rivorum GCA_001742285.1
1R
490 Clostridium beijerinckii GCA_000833105.2
487 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
482 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
1S
780 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
780 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
773 Shigella flexneri 2a str. 301 GCA_000006925.2
758 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
758 Escherichia coli UMN026 GCA_000026325.2
1T
417 Clostridium beijerinckii GCA_000833105.2
379 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
369 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
1U
780 Streptococcus mutans UA159 GCA_000007465.2
586 Streptococcus rattus FA-1 = DSM 20564 GCA_000286075.1
537 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
1V
720 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
659 Staphylococcus capitis subsp. capitis GCA_001028645.1
635 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
1W
485 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
451 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
440 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
1X
723 Enterococcus faecalis V583 GCA_000007785.1
676 Streptomyces cinnamoneus GCA_001885705.1
629 Enterococcus saccharolyticus subsp. saccharolyticus ATCC 43076 GCA_000407285.1
1Y
793 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
755 Staphylococcus capitis subsp. capitis GCA_001028645.1
708 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
1Z

736 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 673 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 637 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 20
 634 *Deinococcus radiodurans* R1 GCA_000008565.1
 393 *Deinococcus deserti* VCD115 GCA_000020685.1
 341 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 21
 445 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 432 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 334 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 22
 767 *Clostridium beijerinckii* GCA_000833105.2
 743 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 706 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 23
 778 *Bacillus anthracis* str. Ames GCA_000007845.1
 778 *Bacillus anthracis* str. Sterne GCA_000008165.1
 778 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 763 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 763 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 748 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 24
 616 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 605 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 551 *Staphylococcus warneri* SG1 GCA_000332735.1
 25
 710 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 660 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 605 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 26
 502 *Clostridium beijerinckii* GCA_000833105.2
 457 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 435 *Clostridium butyricum* GCA_001456065.2
 27
 996 *Streptococcus mutans* UA159 GCA_000007465.2
 768 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 732 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 28
 586 *Clostridium beijerinckii* GCA_000833105.2
 548 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 529 *Clostridium butyricum* GCA_001456065.2
 29
 865 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 794 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 633 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2a
 623 *Deinococcus radiodurans* R1 GCA_000008565.1
 402 *Deinococcus gobiensis* I-0 GCA_000252445.1
 367 *Deinococcus pimensis* DSM 21231 GCA_000519345.1
 2b
 676 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 659 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 629 *Staphylococcus warneri* SG1 GCA_000332735.1
 2c
 777 *Clostridium beijerinckii* GCA_000833105.2
 769 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 748 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 2d
 856 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 829 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 761 *Staphylococcus warneri* SG1 GCA_000332735.1
 2e
 890 *Streptococcus mutans* UA159 GCA_000007465.2
 683 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 642 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 2f
 812 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 757 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 548 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 2g
 421 *Enterococcus faecalis* V583 GCA_000007785.1
 374 *Streptomyces cinnamomeus* GCA_001885705.1
 338 *Enterococcus faecium* D0 GCA_000174395.2
 2h
 766 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2

712 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 556 *Defluviimonas alba* GCA_001620265.1
 556 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 2i
 745 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 701 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 457 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2j
 588 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 563 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 563 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 563 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 558 *Escherichia coli* UMN026 GCA_000026325.2
 2k
 857 *Streptococcus mutans* UA159 GCA_000007465.2
 630 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 591 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 2l
 780 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 757 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 703 *Staphylococcus warneri* SG1 GCA_000332735.1
 2m
 701 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 686 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 550 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2n
 713 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 611 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 472 *Gemmobacter aquatilis* GCA_900110025.1
 2o
 702 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 688 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 688 *Escherichia coli* UMN026 GCA_000026325.2
 684 *Escherichia coli* IAI39 GCA_000026345.1
 2p
 712 *Enterococcus faecalis* V583 GCA_000007785.1
 665 *Streptomyces cinnamomeus* GCA_001885705.1
 599 *Enterococcus rivorum* GCA_001742285.1
 2q
 541 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 514 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 514 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 499 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 499 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 499 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 2r
 826 *Clostridium beijerinckii* GCA_000833105.2
 767 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 755 *Clostridium butyricum* GCA_001456065.2
 2s
 845 *Clostridium beijerinckii* GCA_000833105.2
 803 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 775 *Clostridium butyricum* GCA_001456065.2
 775 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 2t
 921 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 865 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 780 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 2u
 916 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 813 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 593 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2v
 589 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 555 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 457 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2w
 408 *Clostridium beijerinckii* GCA_000833105.2
 388 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 375 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 2x
 584 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 549 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 503 *Gemmobacter aquatilis* GCA_900110025.1
 2y
 700 *Deinococcus radiodurans* R1 GCA_000008565.1

478 *Deinococcus gobiensis* I-0 GCA_000252445.1
 463 *Deinococcus deserti* VCD115 GCA_000020685.1
 2z
 903 *Clostridium beijerinckii* GCA_000833105.2
 895 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 888 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 2A
 578 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 501 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 426 *Gemmobacter aquatilis* GCA_900110025.1
 426 *Rhodovulum sulfidophilum* DSM 1374 GCA_001633165.1
 2B
 516 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 425 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 350 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 2C
 755 *Clostridium beijerinckii* GCA_000833105.2
 736 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 712 *Clostridium puniceum* GCA_002006345.1
 2D
 442 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 389 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 292 *Gemmobacter aquatilis* GCA_900110025.1
 2E
 859 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 801 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 617 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2F
 581 *Enterococcus faecalis* V583 GCA_000007785.1
 552 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 547 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 2G
 718 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 639 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 419 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2H
 740 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 623 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 594 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 2I
 544 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 465 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 348 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2J
 325 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 305 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 274 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 2K
 788 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 642 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 601 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 2L
 787 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 726 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 684 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 2M
 604 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 588 *Bacillus anthracis* str. Ames GCA_000007845.1
 588 *Bacillus anthracis* str. Sterne GCA_000008165.1
 588 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 588 *_5BBacillus thuringiensis_5D* serovar *konkukian* str. 97-27 GCA_000008505.1
 565 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 2N
 896 *Enterococcus faecalis* V583 GCA_000007785.1
 849 *Streptomyces cinnamomeus* GCA_001885705.1
 783 *Enterococcus rivorum* GCA_001742285.1
 2O
 680 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 600 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 407 *Lactobacillus jensenii* GCA_001936235.1
 407 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 2P
 923 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 860 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 627 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2Q

706 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 660 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 449 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2R
 591 *Clostridium beijerinckii* GCA_000833105.2
 578 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 574 *Clostridium puniceum* GCA_002006345.1
 2S
 776 *Enterococcus faecalis* V583 GCA_000007785.1
 729 *Streptomyces cinnamoneus* GCA_001885705.1
 653 *Enterococcus rivorum* GCA_001742285.1
 2T
 609 *Clostridium beijerinckii* GCA_000833105.2
 587 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 547 *Clostridium puniceum* GCA_002006345.1
 2U
 858 *Enterococcus faecalis* V583 GCA_000007785.1
 814 *Streptomyces cinnamoneus* GCA_001885705.1
 773 *Enterococcus rivorum* GCA_001742285.1
 2V
 1085 *Streptococcus mutans* UA159 GCA_000007465.2
 807 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 757 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 2W
 816 *Clostridium beijerinckii* GCA_000833105.2
 771 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 758 *Clostridium puniceum* GCA_002006345.1
 2X
 464 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 385 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 370 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 2Y
 376 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 332 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 253 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 2Z
 705 *Clostridium beijerinckii* GCA_000833105.2
 676 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 648 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 30
 792 *Enterococcus faecalis* V583 GCA_000007785.1
 748 *Streptomyces cinnamoneus* GCA_001885705.1
 710 *Enterococcus rivorum* GCA_001742285.1
 31
 839 *Enterococcus faecalis* V583 GCA_000007785.1
 792 *Streptomyces cinnamoneus* GCA_001885705.1
 712 *Enterococcus rivorum* GCA_001742285.1
 32
 841 *Enterococcus faecalis* V583 GCA_000007785.1
 794 *Streptomyces cinnamoneus* GCA_001885705.1
 735 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 33
 595 *Streptococcus mutans* UA159 GCA_000007465.2
 441 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 419 *Streptococcus equinus* GCA_000964315.1
 419 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 34
 830 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 759 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 525 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 35
 754 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 702 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 633 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 36
 777 *Streptococcus mutans* UA159 GCA_000007465.2
 581 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 532 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 37
 737 *Deinococcus radiodurans* R1 GCA_000008565.1
 423 *Deinococcus deserti* VCD115 GCA_000020685.1
 419 *Deinococcus puniceus* GCA_001644565.1
 38
 753 *Streptococcus mutans* UA159 GCA_000007465.2
 501 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 457 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1

39
 684 *Clostridium beijerinckii* GCA_000833105.2
 635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 628 *Clostridium puniceum* GCA_002006345.1
 3a
 527 *Clostridium beijerinckii* GCA_000833105.2
 482 *Clostridium puniceum* GCA_002006345.1
 482 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 463 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 3b
 648 *Streptococcus mutans* UA159 GCA_000007465.2
 446 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 433 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 3c
 366 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 358 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 343 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 343 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 3d
 711 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 561 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 542 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 3e
 722 *Deinococcus radiodurans* R1 GCA_000008565.1
 444 *Deinococcus deserti* VCD115 GCA_000020685.1
 403 *Deinococcus gobiensis* I-0 GCA_000252445.1
 3f
 570 *Clostridium beijerinckii* GCA_000833105.2
 570 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 549 *Clostridium puniceum* GCA_002006345.1
 527 *Clostridium butyricum* GCA_001456065.2
 3g
 643 *Deinococcus radiodurans* R1 GCA_000008565.1
 468 *Deinococcus gobiensis* I-0 GCA_000252445.1
 433 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 3h
 617 *Clostridium beijerinckii* GCA_000833105.2
 595 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 572 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 3i
 782 *Enterococcus faecalis* V583 GCA_000007785.1
 735 *Streptomyces cinnamoneus* GCA_001885705.1
 693 *Enterococcus rivorum* GCA_001742285.1
 3j
 716 *Clostridium beijerinckii* GCA_000833105.2
 691 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 672 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 3k
 711 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 615 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 565 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 3l
 893 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 826 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 653 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 3m
 729 *Streptococcus mutans* UA159 GCA_000007465.2
 503 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 498 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 3n
 732 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 732 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 724 *Escherichia coli* IAI39 GCA_000026345.1
 717 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 717 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 3o
 462 *Streptococcus mutans* UA159 GCA_000007465.2
 360 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 355 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 3p
 815 *Enterococcus faecalis* V583 GCA_000007785.1
 768 *Streptomyces cinnamoneus* GCA_001885705.1
 700 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 3q
 551 *Streptococcus mutans* UA159 GCA_000007465.2
 418 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1

361 *Streptococcus equinus* GCA_000964315.1
3r
724 *Streptococcus mutans* UA159 GCA_000007465.2
528 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
508 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
3s
644 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
582 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
447 *Lactobacillus iners* DSM 13335 GCA_000160875.1
3t
837 *Deinococcus radiodurans* R1 GCA_000008565.1
533 *Deinococcus deserti* VCD115 GCA_000020685.1
509 *Deinococcus gobiensis* I-0 GCA_000252445.1
3u
804 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
789 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
703 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
3v
670 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
659 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
644 *Shigella flexneri* 2a str. 301 GCA_000006925.2
3w
795 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
699 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
668 *Bifidobacterium longum* NCC2705 GCA_000007525.1
3x
708 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
633 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
631 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
3y
416 *Clostridium beijerinckii* GCA_000833105.2
398 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
374 *Clostridium butyricum* GCA_001456065.2
3z
752 *Clostridium beijerinckii* GCA_000833105.2
714 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
696 *Clostridium puniceum* GCA_002006345.1
3A
800 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
789 *Bacillus anthracis* str. Ames GCA_000007845.1
789 *Bacillus anthracis* str. Sterne GCA_000008165.1
789 *Bacillus cereus* ATCC 14579 GCA_000007825.1
789 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
784 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
3B
605 *Deinococcus radiodurans* R1 GCA_000008565.1
396 *Deinococcus deserti* VCD115 GCA_000020685.1
355 *Deinococcus proteolyticus* MRP GCA_000190555.1
3C
657 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
622 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
551 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
3D
720 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
633 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
578 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
3E
738 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
715 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
629 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
3F
793 *Deinococcus radiodurans* R1 GCA_000008565.1
494 *Deinococcus deserti* VCD115 GCA_000020685.1
449 *Deinococcus gobiensis* I-0 GCA_000252445.1
3G
662 *Clostridium beijerinckii* GCA_000833105.2
611 *Clostridium puniceum* GCA_002006345.1
611 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
611 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
582 *Clostridium butyricum* GCA_001456065.2
3H
669 *Enterococcus faecalis* V583 GCA_000007785.1
622 *Streptomyces cinnamomeus* GCA_001885705.1
600 *Enterococcus faecium* D0 GCA_000174395.2
3I
775 *Deinococcus radiodurans* R1 GCA_000008565.1

468 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 436 *Deinococcus deserti* VCD115 GCA_000020685.1
 3J
 586 *Streptococcus mutans* UA159 GCA_000007465.2
 440 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 424 *Streptococcus halotolerans* GCA_001598035.1
 3K
 761 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 747 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 672 *Staphylococcus warneri* SG1 GCA_000332735.1
 3L
 857 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 808 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 782 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 782 *Staphylococcus warneri* SG1 GCA_000332735.1
 3M
 548 *Streptococcus mutans* UA159 GCA_000007465.2
 347 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 330 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 3N
 503 *Escherichia coli* IAI39 GCA_000026345.1
 503 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 503 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 495 *Escherichia coli* UMN026 GCA_000026325.2
 477 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 3O
 438 *Clostridium beijerinckii* GCA_000833105.2
 406 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 385 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 3P
 654 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 605 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 552 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 552 *Staphylococcus warneri* SG1 GCA_000332735.1
 3Q
 642 *Bacillus anthracis* str. Ames GCA_000007845.1
 642 *Bacillus anthracis* str. Sterne GCA_000008165.1
 642 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 642 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 621 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 620 *Bacillus mycoides* GCA_000832605.1
 3R
 784 *Streptococcus mutans* UA159 GCA_000007465.2
 575 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 531 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 3S
 784 *Deinococcus radiodurans* R1 GCA_000008565.1
 531 *Deinococcus deserti* VCD115 GCA_000020685.1
 485 *Deinococcus gobiensis* I-0 GCA_000252445.1
 3T
 752 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 730 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 553 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 3U
 454 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 453 *Clostridium beijerinckii* GCA_000833105.2
 451 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 3V
 750 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 733 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 673 *Staphylococcus warneri* SG1 GCA_000332735.1
 3W
 598 *Clostridium beijerinckii* GCA_000833105.2
 588 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 559 *Clostridium puniceum* GCA_002006345.1
 3X
 723 *Enterococcus faecalis* V583 GCA_000007785.1
 677 *Streptomyces cinnamomeus* GCA_001885705.1
 622 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 3Y
 613 *Clostridium beijerinckii* GCA_000833105.2
 576 *Clostridium puniceum* GCA_002006345.1
 576 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 561 *Clostridium butyricum* GCA_001456065.2
 3Z
 768 *Deinococcus radiodurans* R1 GCA_000008565.1

507 *Deinococcus deserti* VCD115 GCA_000020685.1
 456 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 40
 683 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 626 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 518 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 41
 468 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 403 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 318 *Defluviimonas indica* GCA_900106675.1
 42
 738 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 738 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 719 *Escherichia coli* IAI39 GCA_000026345.1
 709 *Escherichia coli* UMN026 GCA_000026325.2
 43
 475 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 475 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 471 *Escherichia coli* IAI39 GCA_000026345.1
 470 *Escherichia coli* UMN026 GCA_000026325.2
 44
 690 *Enterococcus faecalis* V583 GCA_000007785.1
 643 *Streptomyces cinnamomeus* GCA_001885705.1
 620 *Enterococcus rivorum* GCA_001742285.1
 45
 851 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 851 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 849 *Bacillus anthracis* str. Ames GCA_000007845.1
 849 *Bacillus anthracis* str. Sterne GCA_000008165.1
 849 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 834 *Bacillus pseudomycoloides* DSM 12442 GCA_000161455.1
 46
 349 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 346 *Clostridium beijerinckii* GCA_000833105.2
 344 *Clostridium butyricum* GCA_001456065.2
 344 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 47
 794 *Streptococcus mutans* UA159 GCA_000007465.2
 550 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 510 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 48
 728 *Clostridium beijerinckii* GCA_000833105.2
 700 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 681 *Clostridium puniceum* GCA_002006345.1
 49
 494 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 389 *Gemmobacter aquatilis* GCA_900110025.1
 383 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 4a
 432 *Clostridium beijerinckii* GCA_000833105.2
 415 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 393 *Clostridium butyricum* GCA_001456065.2
 4b
 774 *Streptococcus mutans* UA159 GCA_000007465.2
 599 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 537 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 4c
 746 *Streptococcus mutans* UA159 GCA_000007465.2
 488 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 486 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 4d
 1002 *Streptococcus mutans* UA159 GCA_000007465.2
 762 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 666 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 4e
 780 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 719 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 554 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 4f
 708 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 661 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 655 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 4g
 702 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 621 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 500 *Defluviimonas alba* GCA_001620265.1

4h
 774 *Enterococcus faecalis* V583 GCA_000007785.1
 731 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 727 *Streptomyces cinnamomeus* GCA_001885705.1
 4i
 926 *Clostridium beijerinckii* GCA_000833105.2
 898 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 876 *Clostridium puniceum* GCA_002006345.1
 4j
 929 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 877 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 836 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 4k
 434 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 434 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 434 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 434 *Escherichia coli* UMN026 GCA_000026325.2
 434 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 434 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 409 *Escherichia coli* IAI39 GCA_000026345.1
 406 *Salmonella enterica* subsp. *enterica* serovar *Typhimurium* str. LT2 GCA_000006945.2
 4l
 598 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 559 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 527 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 4m
 591 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 515 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 513 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 513 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 4n
 613 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 576 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 475 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 4o
 681 *Streptococcus mutans* UA159 GCA_000007465.2
 501 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 469 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 4p
 488 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 480 *Bacillus anthracis* str. Ames GCA_000007845.1
 480 *Bacillus anthracis* str. Sterne GCA_000008165.1
 480 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
 480 *Bacillus thuringiensis* 5D serovar *konkukian* str. 97-27 GCA_000008505.1
 479 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 4q
 599 *Streptococcus mutans* UA159 GCA_000007465.2
 464 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 432 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 4r
 644 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 552 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 529 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 4s
 717 *Bacillus anthracis* str. Ames GCA_000007845.1
 717 *Bacillus anthracis* str. Sterne GCA_000008165.1
 717 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 717 *Bacillus thuringiensis* 5D serovar *konkukian* str. 97-27 GCA_000008505.1
 712 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 701 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
 4t
 807 *Clostridium beijerinckii* GCA_000833105.2
 755 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 747 *Clostridium puniceum* GCA_002006345.1
 4u
 750 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 739 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 739 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 739 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 735 *Escherichia coli* IAI39 GCA_000026345.1
 735 *Shigella dysenteriae* Sd197 GCA_000012005.1
 4v
 483 *Streptococcus mutans* UA159 GCA_000007465.2
 389 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 374 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 4w

765 *Deinococcus radiodurans* R1 GCA_000008565.1
 452 *Deinococcus deserti* VCD115 GCA_000020685.1
 413 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 4x
 799 *Clostridium beijerinckii* GCA_000833105.2
 775 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 743 *Clostridium puniceum* GCA_002006345.1
 4y
 509 *Streptococcus mutans* UA159 GCA_000007465.2
 415 *Streptococcus equinus* GCA_000964315.1
 402 *Streptococcus anginosus* C238 GCA_000463505.1
 4z
 758 *Deinococcus radiodurans* R1 GCA_000008565.1
 481 *Deinococcus deserti* VCD115 GCA_000020685.1
 477 *Deinococcus gobiensis* I-0 GCA_000252445.1
 4A
 899 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 858 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 788 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 4B
 733 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 688 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 654 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 4C
 737 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 737 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 731 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 723 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 4D
 825 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 780 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 594 *Gemmobacter aquatilis* GCA_900110025.1
 594 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 4E
 677 *Deinococcus radiodurans* R1 GCA_000008565.1
 419 *Deinococcus deserti* VCD115 GCA_000020685.1
 410 *Deinococcus puniceus* GCA_001644565.1
 4F
 801 *Streptococcus mutans* UA159 GCA_000007465.2
 606 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 589 *Streptococcus equinus* GCA_000964315.1
 4G
 652 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 623 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 593 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 4H
 686 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 558 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 541 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 4I
 614 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 556 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 526 *Staphylococcus warneri* SG1 GCA_000332735.1
 4J
 600 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 503 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 459 *Gemmobacter megaterium* GCA_900156815.1
 4K
 535 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 528 *Clostridium beijerinckii* GCA_000833105.2
 515 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 4L
 658 *Streptococcus mutans* UA159 GCA_000007465.2
 505 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 470 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 4M
 454 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 395 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 356 *Bifidobacterium stellenboschense* GCA_000741785.1
 4N
 662 *Clostridium beijerinckii* GCA_000833105.2
 618 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 590 *Clostridium puniceum* GCA_002006345.1
 590 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 4O
 703 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

698 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 659 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 4P
 578 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 519 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 432 *Gemmobacter aquatilis* GCA_900110025.1
 432 *Gemmobacter megaterium* GCA_900156815.1
 4Q
 835 *Bacillus anthracis* str. Ames GCA_000007845.1
 835 *Bacillus anthracis* str. Sterne GCA_000008165.1
 835 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 824 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 820 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 4R
 594 *Bacillus anthracis* str. Ames GCA_000007845.1
 594 *Bacillus anthracis* str. Sterne GCA_000008165.1
 594 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 586 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 576 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 4S
 627 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 561 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 475 *Lactobacillus crispatus* ST1 GCA_000091765.1
 4T
 453 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 426 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 325 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 4U
 647 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 561 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 438 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 4V
 353 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 316 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 281 *Rhodobacter vinaykumarii* GCA_900156695.1
 4W
 720 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 608 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 511 *Gemmobacter megaterium* GCA_900156815.1
 4X
 805 *Clostridium beijerinckii* GCA_000833105.2
 794 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 751 *Clostridium puniceum* GCA_002006345.1
 4Y
 768 *Streptococcus mutans* UA159 GCA_000007465.2
 579 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 565 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 4Z
 767 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 754 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 693 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 50
 870 *Enterococcus faecalis* V583 GCA_000007785.1
 823 *Streptomyces cinnamomeus* GCA_001885705.1
 783 *Enterococcus rivorium* GCA_001742285.1
 51
 818 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 750 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 710 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 52
 834 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 771 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 586 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 53
 884 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 840 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 812 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 54
 700 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 564 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 547 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 55
 655 *Streptococcus mutans* UA159 GCA_000007465.2
 432 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 415 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 56

721 *Deinococcus radiodurans* R1 GCA_000008565.1
 403 *Deinococcus deserti* VCD115 GCA_000020685.1
 394 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 57
 772 *Deinococcus radiodurans* R1 GCA_000008565.1
 441 *Deinococcus deserti* VCD115 GCA_000020685.1
 441 *Deinococcus gobiensis* I-0 GCA_000252445.1
 434 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 58
 640 *Deinococcus radiodurans* R1 GCA_000008565.1
 398 *Deinococcus deserti* VCD115 GCA_000020685.1
 390 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 59
 905 *Deinococcus radiodurans* R1 GCA_000008565.1
 586 *Deinococcus deserti* VCD115 GCA_000020685.1
 560 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 5a
 603 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 547 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 446 *DeFluviimonas alba* GCA_001620265.1
 5b
 435 *Streptococcus mutans* UA159 GCA_000007465.2
 302 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 285 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 5c
 606 *Deinococcus radiodurans* R1 GCA_000008565.1
 403 *Deinococcus deserti* VCD115 GCA_000020685.1
 391 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 5d
 764 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 679 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 523 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 5e
 462 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 462 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 462 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 461 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 454 *Escherichia coli* IAI39 GCA_000026345.1
 454 *Escherichia coli* UMN026 GCA_000026325.2
 5f
 626 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 507 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 485 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 5g
 832 *Deinococcus radiodurans* R1 GCA_000008565.1
 517 *Deinococcus gobiensis* I-0 GCA_000252445.1
 497 *Deinococcus deserti* VCD115 GCA_000020685.1
 5h
 1023 *Streptococcus mutans* UA159 GCA_000007465.2
 770 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 702 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 5i
 741 *Clostridium beijerinckii* GCA_000833105.2
 711 *Clostridium puniceum* GCA_002006345.1
 697 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 5j
 413 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 363 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 346 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 5k
 645 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 619 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 534 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 5l
 783 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 752 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 671 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 671 *Staphylococcus warneri* SG1 GCA_000332735.1
 5m
 566 *Enterococcus faecalis* V583 GCA_000007785.1
 539 *Enterococcus rivorum* GCA_001742285.1
 523 *Streptomyces cinnamomeus* GCA_001885705.1
 5n
 740 *Clostridium beijerinckii* GCA_000833105.2
 712 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 666 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1

5o
 737 Clostridium beijerinckii GCA_000833105.2
 686 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 666 Clostridium puniceum GCA_002006345.1
 5p
 923 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 852 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 656 Lactobacillus iners DSM 13335 GCA_000160875.1
 5q
 733 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 669 Staphylococcus capitis subsp. capitis GCA_001028645.1
 626 Staphylococcus warneri SG1 GCA_000332735.1
 5r
 532 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 511 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 416 DeFluviimonas alba GCA_001620265.1
 416 Thioclava indica GCA_000714545.1
 5s
 813 Streptococcus mutans UA159 GCA_000007465.2
 613 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 580 Streptococcus merionis DSM 19192 GCA_000380085.1
 5t
 709 Clostridium beijerinckii GCA_000833105.2
 660 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 643 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 5u
 818 Streptococcus mutans UA159 GCA_000007465.2
 621 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 589 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 5v
 681 Deinococcus radiodurans R1 GCA_000008565.1
 421 Deinococcus deserti VCD115 GCA_000020685.1
 417 Deinococcus puniceus GCA_001644565.1
 5w
 578 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 530 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 415 Lactobacillus jensenii GCA_001936235.1
 415 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 5x
 511 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 505 Streptomyces cinnamomeus GCA_001885705.1
 480 Staphylococcus capitis subsp. capitis GCA_001028645.1
 5y
 746 Streptococcus mutans UA159 GCA_000007465.2
 524 Streptococcus ferus DSM 20646 GCA_000372425.1
 513 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 5z
 664 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 658 Escherichia coli IAI39 GCA_000026345.1
 658 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 658 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 658 Escherichia coli UMN026 GCA_000026325.2
 658 Shigella flexneri 2a str. 301 GCA_000006925.2
 643 Shigella dysenteriae Sd197 GCA_000012005.1
 5A
 879 Bacillus anthracis str. Ames GCA_000007845.1
 879 Bacillus anthracis str. Sterne GCA_000008165.1
 879 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 853 Bacillus cereus ATCC 14579 GCA_000007825.1
 842 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 5B
 787 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 736 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 578 Lactobacillus iners DSM 13335 GCA_000160875.1
 5C
 1005_5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 995 Bacillus anthracis str. Ames GCA_000007845.1
 995 Bacillus anthracis str. Sterne GCA_000008165.1
 983 Bacillus cereus ATCC 14579 GCA_000007825.1
 5D
 735 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 702 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 512 Lactobacillus iners DSM 13335 GCA_000160875.1
 5E
 426 Streptococcus mutans UA159 GCA_000007465.2
 320 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1

309 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
5F
771 Enterococcus faecalis V583 GCA_000007785.1
724 Streptomyces cinnamoneus GCA_001885705.1
661 Enterococcus faecium D0 GCA_000174395.2
5G
694 Clostridium beijerinckii GCA_000833105.2
680 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
657 Clostridium puniceum GCA_002006345.1
5H
664 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
618 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
469 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
5I
599 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
516 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
475 Gemmobacter aquatilis GCA_900110025.1
5J
537 Deinococcus radiodurans R1 GCA_000008565.1
384 Deinococcus deserti VCD115 GCA_000020685.1
372 Deinococcus soli Cha et al. 2016 GCA_001007995.1
5K
681 Clostridium beijerinckii GCA_000833105.2
652 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
620 Clostridium puniceum GCA_002006345.1
5L
903 Clostridium beijerinckii GCA_000833105.2
873 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
838 Clostridium puniceum GCA_002006345.1
5M
763 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
634 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
618 Bifidobacterium asteroides PRL2011 GCA_000304215.1
5N
624 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
537 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
519 Bifidobacterium longum NCC2705 GCA_000007525.1
5O
840 Streptococcus mutans UA159 GCA_000007465.2
697 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
651 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
5P
473 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
420 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
379 Gemmobacter aquatilis GCA_900110025.1
5Q
845 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
764 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
635 Gemmobacter aquatilis GCA_900110025.1
5R
587 Enterococcus faecalis V583 GCA_000007785.1
546 Streptomyces cinnamoneus GCA_001885705.1
521 Enterococcus saccharolyticus subsp. saccharolyticus ATCC 43076 GCA_000407285.1
5S
853 Streptococcus mutans UA159 GCA_000007465.2
631 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
600 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
5T
601 Deinococcus radiodurans R1 GCA_000008565.1
431 Deinococcus deserti VCD115 GCA_000020685.1
404 Deinococcus gobiensis I-0 GCA_000252445.1
5U
659 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
622 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
474 Lactobacillus psittaci DSM 15354 GCA_000425905.1
5V
806 Bacillus anthracis str. Ames GCA_000007845.1
806 Bacillus anthracis str. Sterne GCA_000008165.1
806 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
793 Bacillus cereus ATCC 14579 GCA_000007825.1
793 Bacillus mycoides GCA_000832605.1
781 Bacillus thuringiensis YBT-1518 GCA_000497525.2
5W
746 Deinococcus radiodurans R1 GCA_000008565.1
448 Deinococcus deserti VCD115 GCA_000020685.1
445 Deinococcus hopiensis KR-140 GCA_900176165.1

5X
 784 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 721 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 586 *Gemmobacter megaterium* GCA_900156815.1
 5Y
 468 *Deinococcus radiodurans* R1 GCA_000008565.1
 348 *Deinococcus deserti* VCD115 GCA_000020685.1
 315 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 5Z
 772 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 732 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 558 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 60
 458 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 398 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 338 *Defluviimonas alba* GCA_001620265.1
 61
 630 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 592 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 463 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 62
 579 *Deinococcus radiodurans* R1 GCA_000008565.1
 419 *Deinococcus deserti* VCD115 GCA_000020685.1
 407 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 407 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 63
 798 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 718 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 530 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 64
 396 *Deinococcus radiodurans* R1 GCA_000008565.1
 228 *Deinococcus deserti* VCD115 GCA_000020685.1
 195 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 65
 741 *Escherichia coli* IAI39 GCA_000026345.1
 741 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 741 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 740 *Escherichia coli* UMN026 GCA_000026325.2
 729 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 66
 721 *Deinococcus radiodurans* R1 GCA_000008565.1
 459 *Deinococcus gobiensis* I-0 GCA_000252445.1
 448 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 67
 739 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 693 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 628 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 68
 875 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 828 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 771 *Staphylococcus warneri* SG1 GCA_000332735.1
 69
 730 *Deinococcus radiodurans* R1 GCA_000008565.1
 449 *Deinococcus deserti* VCD115 GCA_000020685.1
 422 *Deinococcus gobiensis* I-0 GCA_000252445.1
 422 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 6a
 878 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 805 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 762 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 6b
 679 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 567 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 542 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 6c
 692 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 596 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 523 *Gemmobacter aquatilis* GCA_900110025.1
 6d
 624 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 567 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 434 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 6e
 537 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 494 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 454 *Defluviimonas alba* GCA_001620265.1

6f
862 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
747 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
713 *Bifidobacterium stellenboschense* GCA_000741785.1
6g
586 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
508 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
495 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
6h
775 *Deinococcus radiodurans* R1 GCA_000008565.1
475 *Deinococcus deserti* VCD115 GCA_000020685.1
423 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
6i
801 *Streptococcus mutans* UA159 GCA_000007465.2
547 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
487 *Streptococcus criceti* HS-6 GCA_000187975.3
6j
526 *Enterococcus faecalis* V583 GCA_000007785.1
479 *Streptomyces cinnamomeus* GCA_001885705.1
472 *Enterococcus canis* NBRC 100695 GCA_001544375.1
6k
558 *Streptococcus mutans* UA159 GCA_000007465.2
370 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
348 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
6l
453 *Clostridium beijerinckii* GCA_000833105.2
440 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
439 *Clostridium chromiireducens* GCA_002029255.1
6m
755 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
674 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
573 *Gemmobacter megaterium* GCA_900156815.1
6n
386 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
321 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
239 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
6o
646 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
609 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
578 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
6p
555 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
555 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
436 *Lactobacillus iners* DSM 13335 GCA_000160875.1
383 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
6q
506 *Enterococcus faecalis* V583 GCA_000007785.1
462 *Streptomyces cinnamomeus* GCA_001885705.1
404 *Enterococcus asini* ATCC 700915 GCA_000407365.1
6r
633 *Clostridium beijerinckii* GCA_000833105.2
604 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
601 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
6s
916 *Clostridium beijerinckii* GCA_000833105.2
913 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
880 *Clostridium puniceum* GCA_002006345.1
880 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
6t
326 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
311 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
279 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
279 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
6u
673 *Clostridium beijerinckii* GCA_000833105.2
655 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
613 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
6v
523 *Clostridium beijerinckii* GCA_000833105.2
476 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
467 *Clostridium puniceum* GCA_002006345.1
6w
620 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
515 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
489 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
6x

730 *Enterococcus faecalis* V583 GCA_000007785.1
 683 *Streptomyces cinnamoneus* GCA_001885705.1
 639 *Enterococcus rivorum* GCA_001742285.1
 6y
 505 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 421 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 418 *Gemmobacter aquatilis* GCA_900110025.1
 6z
 776 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 766 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 708 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 6A
 883 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 827 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 781 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 6B
 959 *Enterococcus faecalis* V583 GCA_000007785.1
 912 *Streptomyces cinnamoneus* GCA_001885705.1
 884 *Enterococcus rivorum* GCA_001742285.1
 6C
 834 *Clostridium beijerinckii* GCA_000833105.2
 825 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 793 *Clostridium puniceum* GCA_002006345.1
 6D
 559 *Enterococcus faecalis* V583 GCA_000007785.1
 512 *Streptomyces cinnamoneus* GCA_001885705.1
 431 *Enterococcus rivorum* GCA_001742285.1
 6E
 608 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 573 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 540 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 6F
 864 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 864 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 849 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 810 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 6G
 881 *Bacillus anthracis* str. Ames GCA_000007845.1
 881 *Bacillus anthracis* str. Sterne GCA_000008165.1
 881 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 881_5BBacillus *thuringiensis*_5D serovar *konkukian* str. 97-27 GCA_000008505.1
 873 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 854 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 6H
 701 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 607 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 459 *Gemmobacter aquatilis* GCA_900110025.1
 6I
 802 *Clostridium beijerinckii* GCA_000833105.2
 779 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 758 *Clostridium puniceum* GCA_002006345.1
 6J
 602 *Clostridium beijerinckii* GCA_000833105.2
 602 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 569 *Clostridium puniceum* GCA_002006345.1
 562 *Clostridium butyricum* GCA_001456065.2
 6K
 828 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 719 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 625 *Bifidobacterium asteroides* PRL2011 GCA_000304215.1
 6L
 761 *Streptococcus mutans* UA159 GCA_000007465.2
 544 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 536 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 6M
 879 *Enterococcus faecalis* V583 GCA_000007785.1
 832 *Streptomyces cinnamoneus* GCA_001885705.1
 742 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 6N
 747 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 694 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 505 *Lactobacillus jensenii* GCA_001936235.1
 505 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 6O
 714 *Clostridium beijerinckii* GCA_000833105.2
 690 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1

680 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 6P
 956 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 878 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 642 Lactobacillus iners DSM 13335 GCA_000160875.1
 6Q
 684 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 640 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 597 Gemmobacter aquatilis GCA_900110025.1
 6R
 599 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 556 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 409 Lactobacillus iners DSM 13335 GCA_000160875.1
 6S
 523 Clostridium beijerinckii GCA_000833105.2
 508 Clostridium puniceum GCA_002006345.1
 508 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 508 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 484 Clostridium butyricum GCA_001456065.2
 6T
 849 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 723 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 631 Defluviimonas alba GCA_001620265.1
 6U
 817 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 797 Shigella flexneri 2a str. 301 GCA_000006925.2
 790 Escherichia coli UMN026 GCA_000026325.2
 6V
 808 Bacillus anthracis str. Ames GCA_000007845.1
 808 Bacillus anthracis str. Sterne GCA_000008165.1
 808 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 796 Bacillus cereus ATCC 14579 GCA_000007825.1
 783 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 6W
 450 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 351 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 346 Bifidobacterium longum NCC2705 GCA_000007525.1
 6X
 682 Streptococcus mutans UA159 GCA_000007465.2
 525 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 497 Streptococcus halotolerans GCA_001598035.1
 6Y
 568 Enterococcus faecalis V583 GCA_000007785.1
 525 Streptomyces cinnamoneus GCA_001885705.1
 451 Enterococcus massiliensis GCA_001050095.1
 6Z
 642 Streptococcus mutans UA159 GCA_000007465.2
 456 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 442 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 70
 602 Shigella flexneri 2a str. 301 GCA_000006925.2
 599 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 599 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 599 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 590 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 590 Escherichia coli UMN026 GCA_000026325.2
 71
 752 Enterococcus faecalis V583 GCA_000007785.1
 732 Enterococcus faecium DO GCA_000174395.2
 709 Enterococcus canis NBRC 100695 GCA_001544375.1
 72
 681 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 616 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 486 Lactobacillus iners DSM 13335 GCA_000160875.1
 73
 688 Enterococcus faecalis V583 GCA_000007785.1
 647 Streptomyces cinnamoneus GCA_001885705.1
 618 Enterococcus faecium DO GCA_000174395.2
 74
 380 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 330 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 304 Bifidobacterium tsurumiense GCA_000741765.1
 75
 636 Streptococcus mutans UA159 GCA_000007465.2
 469 Streptococcus equinus GCA_000964315.1
 467 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1

76
 673 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 662 *Staphylococcus warneri* SG1 GCA_000332735.1
 660 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 77
 878 *Enterococcus faecalis* V583 GCA_000007785.1
 832 *Streptomyces cinnamomeus* GCA_001885705.1
 770 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 78
 746 *Streptococcus mutans* UA159 GCA_000007465.2
 560 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 501 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 79
 816 *Clostridium beijerinckii* GCA_000833105.2
 760 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 739 *Clostridium butyricum* GCA_001456065.2
 7a
 603 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 566 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 474 *Gemmobacter aquatilis* GCA_900110025.1
 7b
 783 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 748 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 731 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 7c
 689 *Deinococcus radiodurans* R1 GCA_000008565.1
 383 *Deinococcus deserti* VCD115 GCA_000020685.1
 362 *Deinococcus gobiensis* I-0 GCA_000252445.1
 7d
 577 *Streptococcus mutans* UA159 GCA_000007465.2
 450 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 411 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 7e
 759 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 728 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 667 *Staphylococcus warneri* SG1 GCA_000332735.1
 7f
 731 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 652 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 500 *Lactobacillus jensenii* GCA_001936235.1
 7g
 675 *Deinococcus radiodurans* R1 GCA_000008565.1
 458 *Deinococcus gobiensis* I-0 GCA_000252445.1
 420 *Deinococcus deserti* VCD115 GCA_000020685.1
 7h
 716 *Deinococcus radiodurans* R1 GCA_000008565.1
 491 *Deinococcus deserti* VCD115 GCA_000020685.1
 475 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 7i
 422 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 392 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 287 *Pseudorhodobacter wandonensis* GCA_001202035.1
 7j
 805 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 743 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 543 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 7k
 739 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 724 *Bacillus anthracis* str. Ames GCA_000007845.1
 724 *Bacillus anthracis* str. Sterne GCA_000008165.1
 724 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 719 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 7l
 618 *Enterococcus faecalis* V583 GCA_000007785.1
 586 *Streptomyces cinnamomeus* GCA_001885705.1
 518 *Enterococcus rivorum* GCA_001742285.1
 7m
 763 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 681 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 552 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 7n
 783 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 733 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 588 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 7o
 541 *Enterococcus faecalis* V583 GCA_000007785.1

494 *Streptomyces cinnamoneus* GCA_001885705.1
 454 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 7p
 460 *Streptococcus mutans* UA159 GCA_000007465.2
 340 *Streptococcus equinus* GCA_000964315.1
 338 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 7q
 843 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 789 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 708 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 7r
 939 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 823 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 615 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 7s
 657 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 654 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 654 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 646 *Escherichia coli* UMN026 GCA_000026325.2
 7t
 878 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 835 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 743 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 743 *Staphylococcus warneri* SG1 GCA_000332735.1
 7u
 798 *Clostridium beijerinckii* GCA_000833105.2
 770 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 749 *Clostridium puniceum* GCA_002006345.1
 7v
 641 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 612 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 454 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 7w
 837 *Bacillus anthracis* str. Ames GCA_000007845.1
 837 *Bacillus anthracis* str. Sterne GCA_000008165.1
 837 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 822 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 802 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 7x
 638 *Deinococcus radiodurans* R1 GCA_000008565.1
 430 *Deinococcus deserti* VCD115 GCA_000020685.1
 430 *Deinococcus hapiensis* KR-140 GCA_900176165.1
 402 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 7y
 651 *Deinococcus radiodurans* R1 GCA_000008565.1
 406 *Deinococcus deserti* VCD115 GCA_000020685.1
 390 *Deinococcus puniceus* GCA_001644565.1
 7z
 857 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 763 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 593 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 7A
 519 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 514 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 514 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 488 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 7B
 668 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 637 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 562 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 7C
 609 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 565 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 513 *Staphylococcus warneri* SG1 GCA_000332735.1
 7D
 844 *Deinococcus radiodurans* R1 GCA_000008565.1
 591 *Deinococcus deserti* VCD115 GCA_000020685.1
 560 *Deinococcus proteolyticus* MRP GCA_000190555.1
 7E
 836 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 791 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 736 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 736 *Staphylococcus warneri* SG1 GCA_000332735.1
 7F
 539 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 432 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1

360 *Bifidobacterium asteroides* PRL2011 GCA_000304215.1
 7G
 713 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 704 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 688 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 7H
 707 *Deinococcus radiodurans* R1 GCA_000008565.1
 456 *Deinococcus deserti* VCD115 GCA_000020685.1
 440 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 7I
 678 *Clostridium beijerinckii* GCA_000833105.2
 642 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 616 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 7J
 480 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 403 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 388 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 7K
 721 *Streptococcus mutans* UA159 GCA_000007465.2
 490 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 481 *Streptococcus criceti* HS-6 GCA_000187975.3
 7L
 657 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 609 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 494 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 7M
 685 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 673 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 602 *Staphylococcus warneri* SG1 GCA_000332735.1
 7N
 618 *Escherichia coli* IAI39 GCA_000026345.1
 618 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 618 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 609 *Escherichia coli* UMN026 GCA_000026325.2
 606 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 7O
 738 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 707 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 664 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 7P
 876 *Streptococcus mutans* UA159 GCA_000007465.2
 612 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 606 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 7Q
 344 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 292 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 272 *DeFluviimonas alba* GCA_001620265.1
 7R
 483 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 440 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 401 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 401 *Staphylococcus warneri* SG1 GCA_000332735.1
 7S
 705 *Deinococcus radiodurans* R1 GCA_000008565.1
 395 *Deinococcus deserti* VCD115 GCA_000020685.1
 368 *Deinococcus proteolyticus* MRP GCA_000190555.1
 7T
 629 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 628 *Bacillus anthracis* str. Ames GCA_000007845.1
 628 *Bacillus anthracis* str. Sterne GCA_000008165.1
 628 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 628 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 628 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 618 *Bacillus mycoides* GCA_000832605.1
 7U
 824 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 798 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 724 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 7V
 756 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 729 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 696 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 7W
 581 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 454 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 453 *Bifidobacterium longum* NCC2705 GCA_000007525.1

7X
 593 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 523 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 379 *Lactobacillus jensenii* GCA_001936235.1
 379 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 7Y
 782 *Escherichia coli* IAI39 GCA_000026345.1
 782 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 782 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 771 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 759 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 7Z
 902 *Streptococcus mutans* UA159 GCA_000007465.2
 657 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 649 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 80
 777 *Clostridium beijerinckii* GCA_000833105.2
 752 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 721 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 81
 501 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 451 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 440 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 82
 949 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 866 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 711 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 83
 811 *Deinococcus radiodurans* R1 GCA_000008565.1
 494 *Deinococcus deserti* VCD115 GCA_000020685.1
 492 *Deinococcus gobiensis* I-0 GCA_000252445.1
 84
 524 *Clostridium beijerinckii* GCA_000833105.2
 495 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 485 *Clostridium puniceum* GCA_002006345.1
 485 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 85
 660 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 522 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 503 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 86
 736 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 662 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 552 *Gemmobacter aquatilis* GCA_900110025.1
 87
 775 *Deinococcus radiodurans* R1 GCA_000008565.1
 461 *Deinococcus proteolyticus* MRP GCA_000190555.1
 460 *Deinococcus deserti* VCD115 GCA_000020685.1
 88
 803 *Streptococcus mutans* UA159 GCA_000007465.2
 565 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 561 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 89
 635 *Deinococcus radiodurans* R1 GCA_000008565.1
 448 *Deinococcus deserti* VCD115 GCA_000020685.1
 408 *Deinococcus gobiensis* I-0 GCA_000252445.1
 8a
 419 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 348 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 326 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 8b
 448 *Clostridium beijerinckii* GCA_000833105.2
 427 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 415 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 8c
 696 *Clostridium beijerinckii* GCA_000833105.2
 680 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 651 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 8d
 690 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 589 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 482 *Gemmobacter aquatilis* GCA_900110025.1
 8e
 525 *Enterococcus faecalis* V583 GCA_000007785.1
 492 *Enterococcus thailandicus* GCA_001652875.1
 491 *Enterococcus canis* NBRC 100695 GCA_001544375.1

8f
 591 *Streptococcus mutans* UA159 GCA_000007465.2
 417 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 398 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 8g
 439 *Enterococcus faecalis* V583 GCA_000007785.1
 395 *Streptomyces cinnamomeus* GCA_001885705.1
 390 *Enterococcus faecium* D0 GCA_000174395.2
 8h
 773 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 692 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 577 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 8i
 697 *Deinococcus radiodurans* R1 GCA_000008565.1
 425 *Deinococcus deserti* VCD115 GCA_000020685.1
 406 *Deinococcus gobiensis* I-0 GCA_000252445.1
 406 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 8j
 332 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 253 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 250 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 8k
 607 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 521 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 509 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 509 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 8l
 611 *Deinococcus radiodurans* R1 GCA_000008565.1
 379 *Deinococcus deserti* VCD115 GCA_000020685.1
 365 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 8m
 769 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 768 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 768 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 765 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 8n
 466 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 462 *Clostridium beijerinckii* GCA_000833105.2
 451 *Clostridium puniceum* GCA_002006345.1
 451 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 8o
 1002 *Streptococcus mutans* UA159 GCA_000007465.2
 777 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 756 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 8p
 770 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 713 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 543 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 8q
 864 *Enterococcus faecalis* V583 GCA_000007785.1
 817 *Streptomyces cinnamomeus* GCA_001885705.1
 744 *Enterococcus rivorum* GCA_001742285.1
 8r
 615 *Enterococcus faecalis* V583 GCA_000007785.1
 568 *Streptomyces cinnamomeus* GCA_001885705.1
 509 *Enterococcus rivorum* GCA_001742285.1
 8s
 531 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 476 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 374 *Lactobacillus amylolyticus* GCA_002075105.1
 374 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 8t
 466 *Bacillus anthracis* str. Ames GCA_000007845.1
 466 *Bacillus anthracis* str. Sterne GCA_000008165.1
 466 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 466 *Bacillus mycoides* GCA_000832605.1
 466 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 466 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 451 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 391 *Bacillus cytotoxicus* NVH 391-98 GCA_000017425.1
 8u
 818 *Bacillus anthracis* str. Ames GCA_000007845.1
 818 *Bacillus anthracis* str. Sterne GCA_000008165.1
 818 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 818 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 818 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1

803 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
 778 *Bacillus mycolides* GCA_000832605.1
 8v
 350 *Enterococcus faecalis* V583 GCA_000007785.1
 312 *Enterococcus rivorum* GCA_001742285.1
 303 *Streptomyces cinnamomeus* GCA_001885705.1
 8w
 848 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 846 *Bacillus anthracis* str. Ames GCA_000007845.1
 846 *Bacillus anthracis* str. Sterne GCA_000008165.1
 846 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 811 *Bacillus mycolides* GCA_000832605.1
 811 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 8x
 648 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 574 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 543 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 8y
 620 *Clostridium beijerinckii* GCA_000833105.2
 577 *Clostridium puniceum* GCA_002006345.1
 577 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 565 *Clostridium butyricum* GCA_001456065.2
 8z
 819 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 731 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 607 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 8A
 749 *Deinococcus radiodurans* R1 GCA_000008565.1
 466 *Deinococcus deserti* VCD115 GCA_000020685.1
 444 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 8B
 731 *Clostridium beijerinckii* GCA_000833105.2
 690 *Clostridium puniceum* GCA_002006345.1
 690 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 682 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 8C
 861 *Deinococcus radiodurans* R1 GCA_000008565.1
 592 *Deinococcus gobiensis* I-0 GCA_000252445.1
 560 *Deinococcus deserti* VCD115 GCA_000020685.1
 8D
 737 *Clostridium beijerinckii* GCA_000833105.2
 676 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 661 *Clostridium puniceum* GCA_002006345.1
 8E
 928 *Enterococcus faecalis* V583 GCA_000007785.1
 881 *Streptomyces cinnamomeus* GCA_001885705.1
 795 *Enterococcus rivorum* GCA_001742285.1
 8F
 714 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 662 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 464 *Lactobacillus jensenii* GCA_001936235.1
 464 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 8G
 887 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 823 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 720 *Staphylococcus warneri* SG1 GCA_000332735.1
 8H
 510 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 405 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 403 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 8I
 526 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 439 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 372 *Gemmobacter megaterium* GCA_900156815.1
 8J
 683 *Clostridium beijerinckii* GCA_000833105.2
 655 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 642 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 8K
 579 *Clostridium beijerinckii* GCA_000833105.2
 529 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 524 *Clostridium butyricum* GCA_001456065.2
 524 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 8L
 715 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 678 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1

583 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
8M
737 *Streptococcus mutans* UA159 GCA_000007465.2
553 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
486 *Streptococcus halotolerans* GCA_001598035.1
8N
433 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
415 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
372 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
8O
568 *Enterococcus faecalis* V583 GCA_000007785.1
524 *Streptomyces cinnamomeus* GCA_001885705.1
480 *Enterococcus rivorum* GCA_001742285.1
8P
724 *Clostridium beijerinckii* GCA_000833105.2
680 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
674 *Clostridium butyricum* GCA_001456065.2
8Q
810 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
726 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
600 *Gemmobacter aquatilis* GCA_900110025.1
8R
681 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
595 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
512 *Gemmobacter aquatilis* GCA_900110025.1
8S
797 *Streptococcus mutans* UA159 GCA_000007465.2
593 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
542 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
8T
670 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
599 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
473 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
8U
724 *Deinococcus radiodurans* R1 GCA_000008565.1
373 *Deinococcus deserti* VCD115 GCA_000020685.1
373 *Deinococcus proteolyticus* MRP GCA_000190555.1
361 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
8V
683 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
645 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
527 *Defluviimonas alba* GCA_001620265.1
527 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
8W
886 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
846 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
688 *Gemmobacter aquatilis* GCA_900110025.1
8X
731 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
676 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
496 *Lactobacillus iners* DSM 13335 GCA_000160875.1
8Y
789 *Deinococcus radiodurans* R1 GCA_000008565.1
474 *Deinococcus deserti* VCD115 GCA_000020685.1
425 *Deinococcus gobiensis* I-0 GCA_000252445.1
8Z
654 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
574 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
503 *Gemmobacter megaterium* GCA_900156815.1
90
375 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
375 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
313 *Lactobacillus jensenii* GCA_001936235.1
313 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
296 *Lactobacillus mellis* GCA_000967245.1
91
391 *Deinococcus radiodurans* R1 GCA_000008565.1
222 *Deinococcus gobiensis* I-0 GCA_000252445.1
202 *Deinococcus maricopensis* DSM 21211 GCA_000186385.1
92
750 *Streptococcus mutans* UA159 GCA_000007465.2
478 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
478 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
467 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
93
682 *Streptococcus mutans* UA159 GCA_000007465.2

494 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 473 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 94
 777 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 683 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 641 *Bifidobacterium thermophilum* GCA_000741495.1
 95
 642 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 582 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 553 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 96
 350 *Deinococcus radiodurans* R1 GCA_000008565.1
 155 *Deinococcus deserti* VCD115 GCA_000020685.1
 155 *Deinococcus proteolyticus* MRP GCA_000190555.1
 141 *Deinococcus frigans* DSM 12807 GCA_000701425.1
 141 *Deinococcus puniceus* GCA_001644565.1
 97
 477 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 477 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 471 *Escherichia coli* IAI39 GCA_000026345.1
 471 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 464 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 464 *Shigella dysenteriae* Sd197 GCA_000012005.1
 98
 419 *Clostridium beijerinckii* GCA_000833105.2
 390 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 384 *Clostridium puniceum* GCA_002006345.1
 99
 886 *Clostridium beijerinckii* GCA_000833105.2
 847 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 788 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 9a
 641 *Enterococcus faecalis* V583 GCA_000007785.1
 594 *Streptomyces cinnamomeus* GCA_001885705.1
 552 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 9b
 628 *Enterococcus faecalis* V583 GCA_000007785.1
 581 *Streptomyces cinnamomeus* GCA_001885705.1
 555 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 9c
 639 *Streptococcus mutans* UA159 GCA_000007465.2
 462 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 441 *Streptococcus halotolerans* GCA_001598035.1
 9d
 720 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 686 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 640 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 9e
 829 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 695 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 562 *DeFluviimonas alba* GCA_001620265.1
 9f
 645 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 601 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 449 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 9g
 674 *Enterococcus faecalis* V583 GCA_000007785.1
 627 *Streptomyces cinnamomeus* GCA_001885705.1
 576 *Enterococcus faecium* D0 GCA_000174395.2
 9h
 726 *Streptococcus mutans* UA159 GCA_000007465.2
 523 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 494 *Streptococcus salivarius* GCA_000785515.1
 9i
 893 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 781 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 613 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 9j
 799 *Clostridium beijerinckii* GCA_000833105.2
 778 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 738 *Clostridium puniceum* GCA_002006345.1
 9k
 710 *Bacillus anthracis* str. Ames GCA_000007845.1
 710 *Bacillus anthracis* str. Sterne GCA_000008165.1
 710_5BB *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 697 *Bacillus cereus* ATCC 14579 GCA_000007825.1

689 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
9l
790 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
763 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
678 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
9m
752 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
681 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
523 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
9n
708 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
631 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
461 *Gemmobacter aquatilis* GCA_900110025.1
9o
666 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
626 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
590 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
590 *Staphylococcus warneri* SG1 GCA_000332735.1
9p
754 *Clostridium beijerinckii* GCA_000833105.2
745 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
728 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
9q
475 *Clostridium beijerinckii* GCA_000833105.2
468 *Clostridium puniceum* GCA_002006345.1
468 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
453 *Clostridium chromiireducens* GCA_002029255.1
9r
736 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
640 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
485 *Lactobacillus iners* DSM 13335 GCA_000160875.1
9s
274 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
237 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
236 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
9t
960 *Bacillus anthracis* str. Ames GCA_000007845.1
960 *Bacillus anthracis* str. Sterne GCA_000008165.1
952 *Bacillus cereus* ATCC 14579 GCA_000007825.1
952 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
937 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
9u
834 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
808 *Escherichia coli* UMN026 GCA_000026325.2
805 *Shigella flexneri* 2a str. 301 GCA_000006925.2
9v
884 *Streptococcus mutans* UA159 GCA_000007465.2
652 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
606 *Streptococcus ferus* DSM 20646 GCA_000372425.1
9w
559 *Deinococcus radiodurans* R1 GCA_000008565.1
313 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
306 *Deinococcus deserti* VCD115 GCA_000020685.1
9x
638 *Enterococcus faecalis* V583 GCA_000007785.1
591 *Streptomyces cinnamomeus* GCA_001885705.1
573 *Enterococcus rivorum* GCA_001742285.1
9y
585 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
522 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
428 *Defluviimonas alba* GCA_001620265.1
9z
896 *Streptococcus mutans* UA159 GCA_000007465.2
641 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
636 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
9A
448 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
443 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
323 *Lactobacillus kefirianofaciens* ZW3 GCA_000214785.1
9B
809 *Enterococcus faecalis* V583 GCA_000007785.1
769 *Streptomyces cinnamomeus* GCA_001885705.1
687 *Enterococcus rivorum* GCA_001742285.1
9C
455 *Enterococcus faecalis* V583 GCA_000007785.1
425 *Enterococcus dispar* ATCC 51266 GCA_000406945.1

424 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 9D
 568 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 545 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 474 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 9E
 396 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 360 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 310 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 9F
 935 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 935 *Escherichia coli* UMN026 GCA_000026325.2
 935 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 924 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 921 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 9G
 661 *Streptococcus mutans* UA159 GCA_000007465.2
 458 *Streptococcus agalactiae* 2603V_2FR GCA_000007265.1
 455 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 9H
 414 *Deinococcus radiodurans* R1 GCA_000008565.1
 177 *Deinococcus gobiensis* I-0 GCA_000252445.1
 167 *Deinococcus deserti* VCD115 GCA_000020685.1
 9I
 913 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 848 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 589 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 9J
 800 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 781 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 738 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 9K
 540 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 525 *Bacillus anthracis* str. Ames GCA_000007845.1
 525 *Bacillus anthracis* str. Sterne GCA_000008165.1
 525 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 500 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 9L
 823 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 764 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 596 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 9M
 775 *Clostridium beijerinckii* GCA_000833105.2
 710 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 709 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 9N
 687 *Enterococcus faecalis* V583 GCA_000007785.1
 640 *Streptomyces cinnamomeus* GCA_001885705.1
 555 *Enterococcus massiliensis* GCA_001050095.1
 9O
 731 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 713 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 643 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 9P
 580 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 557 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 441 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 9Q
 744 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 677 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 545 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 9R
 541 *Bacillus anthracis* str. Ames GCA_000007845.1
 541 *Bacillus anthracis* str. Sterne GCA_000008165.1
 541 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 525 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 525 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 516 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 9S
 793 *Clostridium beijerinckii* GCA_000833105.2
 748 *Clostridium puniceum* GCA_002006345.1
 748 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 719 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 9T
 985 *Deinococcus radiodurans* R1 GCA_000008565.1
 622 *Deinococcus deserti* VCD115 GCA_000020685.1

581 *Deinococcus gobiensis* I-0 GCA_000252445.1
 9U
 582 *Deinococcus radiodurans* R1 GCA_000008565.1
 372 *Deinococcus gobiensis* I-0 GCA_000252445.1
 363 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 363 *Deinococcus swuensis* GCA_000800395.1
 9V
 675 *Streptococcus mutans* UA159 GCA_000007465.2
 478 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 471 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 9W
 498 *Clostridium beijerinckii* GCA_000833105.2
 496 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 485 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 9X
 869 *Streptococcus mutans* UA159 GCA_000007465.2
 658 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 619 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 9Y
 330 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 287 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 286 *Bifidobacterium lemum* GCA_001895165.1
 286 *Bifidobacterium mongoliense* DSM 21395 GCA_000741285.1
 9Z
 598 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 551 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 439 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 a0
 822 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 783 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 567 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 567 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 a1
 833 *Enterococcus faecalis* V583 GCA_000007785.1
 786 *Streptomyces cinnamomeus* GCA_001885705.1
 748 *Enterococcus rivorum* GCA_001742285.1
 a2
 767 *Deinococcus radiodurans* R1 GCA_000008565.1
 495 *Deinococcus deserti* VCD115 GCA_000020685.1
 466 *Deinococcus hapiensis* KR-140 GCA_900176165.1
 a3
 768 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 709 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 533 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 a4
 553 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 454 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 432 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 a5
 569 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 539 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 a6
 623 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 561 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *DeFluviimonas alba* GCA_001620265.1
 a7
 520 *Clostridium beijerinckii* GCA_000833105.2
 507 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 500 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 a8
 754 *Clostridium beijerinckii* GCA_000833105.2
 753 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 719 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 a9
 734 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 688 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 598 *Gemmobacter aquatilis* GCA_900110025.1
 aa
 388 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 358 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 320 *Gemmobacter aquatilis* GCA_900110025.1
 ab
 393 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 320 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 269 *Gemmobacter megaterium* GCA_900156815.1

269 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 ac
 726 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 679 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 591 *Defluviimonas alba* GCA_001620265.1
 ad
 528 *Bacillus anthracis* str. Ames GCA_000007845.1
 528 *Bacillus anthracis* str. Sterne GCA_000008165.1
 528 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 528 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 528 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 528 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 521 *Bacillus mycoides* GCA_000832605.1
 472 *Bacillus cytotoxicus* NVH 391-98 GCA_000017425.1
 ae
 649 *Enterococcus faecalis* V583 GCA_000007785.1
 602 *Streptomyces cinnamomeus* GCA_001885705.1
 560 *Enterococcus rivorum* GCA_001742285.1
 af
 795 *Deinococcus radiodurans* R1 GCA_000008565.1
 522 *Deinococcus deserti* VCD115 GCA_000020685.1
 454 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 ag
 574 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 564 *Bacillus anthracis* str. Ames GCA_000007845.1
 564 *Bacillus anthracis* str. Sterne GCA_000008165.1
 564 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 564 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 549 *Bacillus mycoides* GCA_000832605.1
 ah
 802 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 745 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 613 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 ai
 851 *Streptococcus mutans* UA159 GCA_000007465.2
 603 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 564 *Streptococcus halotolerans* GCA_001598035.1
 aj
 832 *Streptococcus mutans* UA159 GCA_000007465.2
 592 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 537 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 ak
 660 *Streptococcus mutans* UA159 GCA_000007465.2
 466 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 451 *Streptococcus iniae* GCA_000831485.1
 al
 750 *Streptococcus mutans* UA159 GCA_000007465.2
 545 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 494 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 am
 863 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 802 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 562 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 an
 569 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 557 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 543 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 ao
 645 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 552 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 475 *Gemmobacter megaterium* GCA_900156815.1
 ap
 842 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 765 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 765 *Staphylococcus warneri* SG1 GCA_000332735.1
 754 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 aq
 742 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 700 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 631 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 631 *Staphylococcus warneri* SG1 GCA_000332735.1
 ar
 527 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 512 *Clostridium puniceum* GCA_002006345.1
 509 *Clostridium beijerinckii* GCA_000833105.2
 as

633 *Clostridium beijerinckii* GCA_000833105.2
 616 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 607 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 at
 215 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 203 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 108 *Lactobacillus delbrueckii* subsp. *bulgaricus* ATCC 11842 = JCM 1002 GCA_000056065.1
 au
 826 *Deinococcus radiodurans* R1 GCA_000008565.1
 497 *Deinococcus gobiensis* I-0 GCA_000252445.1
 485 *Deinococcus deserti* VCD115 GCA_000020685.1
 av
 641 *Enterococcus faecalis* V583 GCA_000007785.1
 594 *Streptomyces cinnamomeus* GCA_001885705.1
 559 *Enterococcus rivorum* GCA_001742285.1
 aw
 570 *Streptococcus mutans* UA159 GCA_000007465.2
 376 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 373 *Streptococcus equinus* GCA_000964315.1
 373 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 ax
 755 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 687 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 442 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ay
 796 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 781 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 742 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 az
 401 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 363 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 347 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 aA
 534 *Clostridium beijerinckii* GCA_000833105.2
 497 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 474 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 aB
 453 *Streptococcus mutans* UA159 GCA_000007465.2
 333 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 319 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 aC
 655 *Clostridium beijerinckii* GCA_000833105.2
 601 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 567 *Clostridium puniceum* GCA_002006345.1
 aD
 552 *Clostridium beijerinckii* GCA_000833105.2
 536 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 529 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 aE
 730 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 637 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 596 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 aF
 548 *Clostridium puniceum* GCA_002006345.1
 534 *Clostridium beijerinckii* GCA_000833105.2
 533 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 aG
 843 *Deinococcus radiodurans* R1 GCA_000008565.1
 519 *Deinococcus deserti* VCD115 GCA_000020685.1
 505 *Deinococcus hopiensis* KR-140 GCA_000176165.1
 aH
 510 *Streptococcus mutans* UA159 GCA_000007465.2
 375 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 365 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 aI
 712 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 612 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 553 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 aJ
 628 *Clostridium beijerinckii* GCA_000833105.2
 606 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 597 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 aK
 658 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 602 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 601 *Staphylococcus simulans* GCA_001559115.1

aL
746 Streptococcus mutans UA159 GCA_000007465.2
572 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
506 Streptococcus ferus DSM 20646 GCA_000372425.1
aM
608 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
553 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
460 Gemmobacter megaterium GCA_900156815.1
aN
612 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
582 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
507 Pseudorhodobacter psychrotolerans GCA_001294535.1
aO
707 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
684 Staphylococcus capitis subsp. capitis GCA_001028645.1
659 Staphylococcus warneri SG1 GCA_000332735.1
aP
362 Streptococcus mutans UA159 GCA_000007465.2
266 Streptococcus equinus GCA_000964315.1
262 Streptococcus galloyticus subsp. galloyticus DSM 16831 GCA_002000985.1
262 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
aQ
900 Clostridium beijerinckii GCA_000833105.2
868 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
838 Clostridium puniceum GCA_002006345.1
aR
741 Enterococcus faecalis V583 GCA_000007785.1
694 Streptomyces cinnamomeus GCA_001885705.1
621 Enterococcus massiliensis GCA_001050095.1
aS
736 Bacillus anthracis str. Ames GCA_000007845.1
736 Bacillus anthracis str. Sterne GCA_000008165.1
736 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
721 Bacillus cereus ATCC 14579 GCA_000007825.1
711 Bacillus thuringiensis YBT-1518 GCA_000497525.2
aT
863 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
820 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
656 Lactobacillus iners DSM 13335 GCA_000160875.1
aU
745 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
666 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
543 Gemmobacter aquatilis GCA_900110025.1
aV
692 Streptococcus mutans UA159 GCA_000007465.2
476 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
468 Streptococcus equinus GCA_000964315.1
aW
791 Clostridium beijerinckii GCA_000833105.2
715 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
681 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
aX
425 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
392 Staphylococcus capitis subsp. capitis GCA_001028645.1
388 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
388 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
aY
813 Bacillus cereus ATCC 14579 GCA_000007825.1
813 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
812 Bacillus anthracis str. Ames GCA_000007845.1
812 Bacillus anthracis str. Sterne GCA_000008165.1
807 Bacillus thuringiensis YBT-1518 GCA_000497525.2
aZ
649 Clostridium beijerinckii GCA_000833105.2
617 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
612 Clostridium puniceum GCA_002006345.1
bO
642 Deinococcus radiodurans R1 GCA_000008565.1
375 Deinococcus gobiensis I-0 GCA_000252445.1
332 Deinococcus deserti VCD115 GCA_000020685.1
332 Deinococcus hopiensis KR-140 GCA_900176165.1
b1
543 Deinococcus radiodurans R1 GCA_000008565.1
299 Deinococcus deserti VCD115 GCA_000020685.1
282 Deinococcus gobiensis I-0 GCA_000252445.1
b2

615 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 559 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 513 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 b3
 687 *Clostridium beijerinckii* GCA_000833105.2
 641 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 605 *Clostridium puniceum* GCA_002006345.1
 b4
 920 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 891 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 813 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 b5
 848 *Streptococcus mutans* UA159 GCA_000007465.2
 640 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 619 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 b6
 787 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 743 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 714 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 b7
 705 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 678 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 642 *Staphylococcus warneri* SG1 GCA_000332735.1
 b8
 607 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 549 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 520 *Staphylococcus warneri* SG1 GCA_000332735.1
 b9
 750 *Streptococcus mutans* UA159 GCA_000007465.2
 543 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 531 *Streptococcus equinus* GCA_000964315.1
 ba
 786 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 624 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 609 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 bb
 656 *Streptococcus mutans* UA159 GCA_000007465.2
 531 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 499 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 bc
 526 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 456 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 434 *Bifidobacterium thermophilum* GCA_000741495.1
 bd
 463 *Streptococcus mutans* UA159 GCA_000007465.2
 352 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 345 *Streptococcus equinus* GCA_000964315.1
 345 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 be
 533 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 533 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 524 *Escherichia coli* UMN026 GCA_000026325.2
 508 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 508 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 508 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 bf
 687 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 616 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 450 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 bg
 743 *Clostridium beijerinckii* GCA_000833105.2
 708 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 657 *Clostridium puniceum* GCA_002006345.1
 bh
 683 *Streptococcus mutans* UA159 GCA_000007465.2
 471 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 443 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 bi
 765 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 749 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 660 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 bj
 716 *Streptococcus mutans* UA159 GCA_000007465.2
 573 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 501 *Streptococcus merionis* DSM 19192 GCA_000380085.1
 bk

539 *Clostridium beijerinckii* GCA_000833105.2
 518 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 482 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bl
 831 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 743 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 563 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bm
 658 *Deinococcus radiodurans* R1 GCA_000008565.1
 413 *Deinococcus gobiensis* I-0 GCA_000252445.1
 373 *Deinococcus deserti* VCD115 GCA_000020685.1
 bn
 662 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 597 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 452 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bo
 622 *Streptococcus mutans* UA159 GCA_000007465.2
 506 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 485 *Streptococcus ovis* DSM 16829 GCA_000380125.1
 485 *Streptococcus pyogenes* M1 GAS GCA_000006785.2
 485 *Streptococcus uberis* 0140J GCA_000009545.1
 bp
 237 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 184 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 172 *Rhodobacter vinaykumarii* GCA_900156695.1
 bq
 536 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 491 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 408 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 br
 459 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 453 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 398 *Staphylococcus warneri* SG1 GCA_000332735.1
 bs
 728 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 706 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 704 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 bt
 748 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 698 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 532 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bu
 684 *Clostridium beijerinckii* GCA_000833105.2
 652 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 645 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bv
 878 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 816 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 765 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 bw
 529 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 498 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 405 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bx
 606 *Clostridium beijerinckii* GCA_000833105.2
 580 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 558 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 by
 796 *Clostridium beijerinckii* GCA_000833105.2
 768 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 755 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bz
 470 *Streptococcus mutans* UA159 GCA_000007465.2
 279 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 274 *Streptococcus anginosus* C238 GCA_000463505.1
 274 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 ba
 593 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 541 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 434 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bb
 752 *Clostridium beijerinckii* GCA_000833105.2
 711 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 710 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 bc
 772 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

747 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 652 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 bD
 607 *Deinococcus radiodurans* R1 GCA_000008565.1
 396 *Deinococcus deserti* VCD115 GCA_000020685.1
 372 *Deinococcus gobiensis* I-0 GCA_000252445.1
 bE
 683 *Deinococcus radiodurans* R1 GCA_000008565.1
 442 *Deinococcus gobiensis* I-0 GCA_000252445.1
 426 *Deinococcus deserti* VCD115 GCA_000020685.1
 bF
 721 *Streptococcus mutans* UA159 GCA_000007465.2
 575 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 567 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 bG
 510 *Clostridium beijerinckii* GCA_000833105.2
 510 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 495 *Clostridium puniceum* GCA_002006345.1
 483 *Clostridium taeniosporum* GCA_001735765.1
 bH
 789 *Clostridium beijerinckii* GCA_000833105.2
 789 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 773 *Clostridium puniceum* GCA_002006345.1
 748 *Clostridium butyricum* GCA_001456065.2
 bI
 741 *Clostridium beijerinckii* GCA_000833105.2
 692 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 672 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bJ
 538 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 443 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 406 *Bifidobacterium gallicum* DSM 20093 = LMG 11596 GCA_000741205.1
 bK
 616 *Deinococcus radiodurans* R1 GCA_000008565.1
 367 *Deinococcus deserti* VCD115 GCA_000020685.1
 366 *Deinococcus gobiensis* I-0 GCA_000252445.1
 bL
 683 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 683 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 678 *Escherichia coli* UMN026 GCA_000026325.2
 650 *Escherichia coli* IAI39 GCA_000026345.1
 650 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 bM
 833 *Streptococcus mutans* UA159 GCA_000007465.2
 608 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 568 *Streptococcus criceti* HS-6 GCA_000187975.3
 bN
 675 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 648 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 467 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bO
 784 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 706 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 579 *Gemmobacter aquatilis* GCA_900110025.1
 bP
 550 *Bacillus anthracis* str. Ames GCA_000007845.1
 550 *Bacillus anthracis* str. Sterne GCA_000008165.1
 550 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 533 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 533 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 508 *Bacillus mycoides* GCA_000832605.1
 bQ
 765 *Clostridium beijerinckii* GCA_000833105.2
 698 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 693 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bR
 640 *Clostridium beijerinckii* GCA_000833105.2
 635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 630 *Clostridium puniceum* GCA_002006345.1
 bS
 797 *Deinococcus radiodurans* R1 GCA_000008565.1
 530 *Deinococcus gobiensis* I-0 GCA_000252445.1
 517 *Deinococcus deserti* VCD115 GCA_000020685.1
 bT
 550 *Deinococcus radiodurans* R1 GCA_000008565.1
 351 *Deinococcus deserti* VCD115 GCA_000020685.1

351 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 323 *Deinococcus puniceus* GCA_001644565.1
 bU
 681 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 609 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 496 *Gemmobacter aquatilis* GCA_900110025.1
 bV
 893 *Clostridium beijerinckii* GCA_000833105.2
 865 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 817 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 bW
 658 *Deinococcus radiodurans* R1 GCA_000008565.1
 449 *Deinococcus deserti* VCD115 GCA_000020685.1
 422 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 bX
 677 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 622 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 497 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 bY
 624 *Streptococcus mutans* UA159 GCA_000007465.2
 474 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 445 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 bZ
 392 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 352 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 276 *Deinococcus alba* GCA_001620265.1
 c0
 851 *Streptococcus mutans* UA159 GCA_000007465.2
 636 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 617 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 c1
 668 *Deinococcus radiodurans* R1 GCA_000008565.1
 433 *Deinococcus deserti* VCD115 GCA_000020685.1
 427 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 c2
 714 *Enterococcus faecalis* V583 GCA_000007785.1
 674 *Streptomyces cinnamomeus* GCA_001885705.1
 632 *Enterococcus rivorum* GCA_001742285.1
 c3
 616 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 489 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 488 *Bifidobacterium thermophilum* GCA_000741495.1
 c4
 421 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 348 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 319 *Gemmobacter nectarophilus* DSM 15620 GCA_000429765.1
 319 *Rhodobacter vinaykumarii* GCA_900156695.1
 c5
 667 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 636 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 566 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 c6
 625 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 540 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 483 *Bifidobacterium stellenboschense* GCA_000741785.1
 c7
 460 *Streptococcus mutans* UA159 GCA_000007465.2
 345 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 338 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 c8
 737 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 705 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 656 *Staphylococcus warneri* SG1 GCA_000332735.1
 c9
 644 *Streptococcus mutans* UA159 GCA_000007465.2
 431 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 377 *Streptococcus halotolerans* GCA_001598035.1
 ca
 399 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 374 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 342 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 cb
 738 *Enterococcus faecalis* V583 GCA_000007785.1
 691 *Streptomyces cinnamomeus* GCA_001885705.1
 618 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 cc

755 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 709 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 609 Defluviimonas alba GCA_001620265.1
 cd
 583 Deinococcus radiodurans R1 GCA_000008565.1
 277 Deinococcus deserti VCD115 GCA_000020685.1
 266 Deinococcus marmoris DSM 12784 GCA_000701405.1
 266 Deinococcus proteolyticus MRP GCA_000190555.1
 ce
 618 Clostridium beijerinckii GCA_000833105.2
 589 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 579 Clostridium puniceum GCA_002006345.1
 cf
 306 Streptococcus mutans UA159 GCA_000007465.2
 256 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 245 Streptococcus sanguinis SK36 GCA_000014205.1
 cg
 479 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 426 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 339 Gemmobacter aquatilis GCA_900110025.1
 ch
 602 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 573 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 459 Defluviimonas indica GCA_900106675.1
 ci
 406 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 403 Clostridium beijerinckii GCA_000833105.2
 376 Clostridium puniceum GCA_002006345.1
 376 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 cj
 715 Clostridium beijerinckii GCA_000833105.2
 673 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 668 Clostridium butyricum GCA_001456065.2
 ck
 780 Streptococcus mutans UA159 GCA_000007465.2
 560 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 533 Streptococcus equinus GCA_000964315.1
 cl
 742 Clostridium beijerinckii GCA_000833105.2
 705 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 669 Clostridium puniceum GCA_002006345.1
 cm
 920 Clostridium beijerinckii GCA_000833105.2
 889 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 872 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 cn
 701 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 627 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 587 Gemmobacter aquatilis GCA_900110025.1
 co
 742 Bacillus anthracis str. Ames GCA_000007845.1
 742 Bacillus anthracis str. Sterne GCA_000008165.1
 742 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 740 Bacillus pseudomycoloides DSM 12442 GCA_000161455.1
 726 Bacillus cereus ATCC 14579 GCA_000007825.1
 cp
 700 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 653 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 495 Lactobacillus jensenii GCA_001936235.1
 cq
 701 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 629 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 473 Lactobacillus kalixensis DSM 16043 GCA_001434335.1
 cr
 523 Bacillus anthracis str. Ames GCA_000007845.1
 523 Bacillus anthracis str. Sterne GCA_000008165.1
 523 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 514 Bacillus cereus ATCC 14579 GCA_000007825.1
 499 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 cs
 701 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 655 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 471 Lactobacillus iners DSM 13335 GCA_000160875.1
 ct
 683 Streptococcus mutans UA159 GCA_000007465.2
 454 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1

429 Streptococcus equinus GCA_000964315.1
 cu
 487 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 450 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 379 Gemmobacter aquatilis GCA_900110025.1
 cv
 674 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 592 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 560 Gemmobacter aquatilis GCA_900110025.1
 cw
 683 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 623 Staphylococcus capitis subsp. capitis GCA_001028645.1
 542 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 cx
 677 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 653 Staphylococcus capitis subsp. capitis GCA_001028645.1
 634 Staphylococcus haemolyticus JCS1435 GCA_000009865.1
 cy
 785 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 784 Clostridium beijerinckii GCA_000833105.2
 760 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 cz
 574 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 548 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 457 Lactobacillus iners DSM 13335 GCA_000160875.1
 ca
 697 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 664 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 532 Lactobacillus iners DSM 13335 GCA_000160875.1
 cb
 770 Enterococcus faecalis V583 GCA_000007785.1
 724 Streptomyces cinnamomeus GCA_001885705.1
 672 Enterococcus rivorum GCA_001742285.1
 cc
 752 Streptococcus mutans UA159 GCA_000007465.2
 587 Streptococcus rattus FA-1 = DSM 20564 GCA_000286075.1
 510 Streptococcus equinus GCA_000964315.1
 cd
 598 Clostridium beijerinckii GCA_000833105.2
 583 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 570 Clostridium puniceum GCA_002006345.1
 ce
 506 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 506 Escherichia coli UMN026 GCA_000026325.2
 506 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 495 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 495 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 495 Shigella flexneri 2a str. 301 GCA_000006925.2
 475 Escherichia coli IAI39 GCA_000026345.1
 cf
 716 Bacillus cereus ATCC 14579 GCA_000007825.1
 702 Bacillus anthracis str. Ames GCA_000007845.1
 702 Bacillus anthracis str. Sterne GCA_000008165.1
 702_5BBacillus thuringiensis 5D serovar konkukian str. 97-27 GCA_000008505.1
 700 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 cg
 650 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 493 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 464 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 ch
 768 Clostridium beijerinckii GCA_000833105.2
 755 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 727 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 ci
 646 Streptococcus mutans UA159 GCA_000007465.2
 506 Streptococcus rattus FA-1 = DSM 20564 GCA_000286075.1
 471 Streptococcus equinus GCA_000964315.1
 cj
 453 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 433 Staphylococcus capitis subsp. capitis GCA_001028645.1
 420 Staphylococcus warneri SG1 GCA_000332735.1
 ck
 602 Enterococcus faecalis V583 GCA_000007785.1
 555 Streptomyces cinnamomeus GCA_001885705.1
 524 Enterococcus sulfureus ATCC 49903 GCA_000407605.1
 cl

675 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
624 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
490 *Pseudorhodobacter wandonensis* GCA_001202035.1
cM
701 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
657 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
639 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
cN
762 *Deinococcus radiodurans* R1 GCA_000008565.1
474 *Deinococcus gobiensis* I-0 GCA_000252445.1
465 *Deinococcus deserti* VCD115 GCA_000020685.1
cO
658 *Enterococcus faecalis* V583 GCA_000007785.1
611 *Streptomyces cinnamomeus* GCA_001885705.1
579 *Enterococcus hirae* ATCC 9790 GCA_000271405.2
cP
726 *Deinococcus radiodurans* R1 GCA_000008565.1
475 *Deinococcus deserti* VCD115 GCA_000020685.1
442 *Deinococcus gobiensis* I-0 GCA_000252445.1
442 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
cQ
617 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
601 *Clostridium beijerinckii* GCA_000833105.2
586 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
cR
612 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
581 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
473 *Pseudorhodobacter wandonensis* GCA_001202035.1
cS
569 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
432 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
391 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
cT
803 *Clostridium beijerinckii* GCA_000833105.2
787 *Clostridium puniceum* GCA_002006345.1
786 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
cU
621 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
586 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
455 *Lactobacillus iners* DSM 13335 GCA_000160875.1
cV
359 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
324 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
274 *Pseudorhodobacter wandonensis* GCA_001202035.1
cW
356 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
301 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
289 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
cX
848 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
777 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
610 *Lactobacillus iners* DSM 13335 GCA_000160875.1
cY
513 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
487 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
361 *Pseudorhodobacter wandonensis* GCA_001202035.1
cZ
700 *Deinococcus radiodurans* R1 GCA_000008565.1
393 *Deinococcus deserti* VCD115 GCA_000020685.1
386 *Deinococcus hopiensis* KR-140 GCA_900176165.1
d0
752 *Bacillus anthracis* str. Ames GCA_000007845.1
752 *Bacillus anthracis* str. Sterne GCA_000008165.1
752 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
735 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
733 *Bacillus cereus* ATCC 14579 GCA_000007825.1
d1
695 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
633 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
539 *Gemmobacter aquatilis* GCA_900110025.1
d2
601 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
567 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
536 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
d3
608 *Streptococcus mutans* UA159 GCA_000007465.2

431 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 387 *Streptococcus ovis* DSM 16829 GCA_000380125.1
 d4
 795 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 737 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 710 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 d5
 720 *Clostridium beijerinckii* GCA_000833105.2
 691 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 676 *Clostridium puniceum* GCA_002006345.1
 d6
 788 *Bacillus anthracis* str. Ames GCA_000007845.1
 788 *Bacillus anthracis* str. Sterne GCA_000008165.1
 788 _5BBacillus *thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 768 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 762 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 d7
 756 *Clostridium beijerinckii* GCA_000833105.2
 732 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 727 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 d8
 694 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 561 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 543 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 d9
 652 *Enterococcus faecalis* V583 GCA_000007785.1
 605 *Streptomyces cinnamoneus* GCA_001885705.1
 586 *Enterococcus faecium* D0 GCA_000174395.2
 da
 651 *Clostridium beijerinckii* GCA_000833105.2
 629 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 621 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 db
 591 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 513 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 375 *Defluviimonas alba* GCA_001620265.1
 dc
 667 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 575 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 487 *Defluviimonas alba* GCA_001620265.1
 dd
 746 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 666 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 591 *Gemmobacter aquatilis* GCA_900110025.1
 de
 624 *Deinococcus radiodurans* R1 GCA_000008565.1
 290 *Deinococcus deserti* VCD115 GCA_000020685.1
 289 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 df
 941 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 837 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 647 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 dg
 935 *Bacillus anthracis* str. Ames GCA_000007845.1
 935 *Bacillus anthracis* str. Sterne GCA_000008165.1
 935 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 935 _5BBacillus *thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 904 *Bacillus mycoides* GCA_000832605.1
 904 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 887 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 dh
 603 *Enterococcus faecalis* V583 GCA_000007785.1
 556 *Streptomyces cinnamoneus* GCA_001885705.1
 547 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 di
 411 *Deinococcus radiodurans* R1 GCA_000008565.1
 273 *Deinococcus gobiensis* I-0 GCA_000252445.1
 266 *Deinococcus frigens* DSM 12807 GCA_000701425.1
 dj
 407 *Clostridium beijerinckii* GCA_000833105.2
 389 *Clostridium puniceum* GCA_002006345.1
 367 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 dk
 697 *Deinococcus radiodurans* R1 GCA_000008565.1
 486 *Deinococcus deserti* VCD115 GCA_000020685.1
 466 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1

dl
 823 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 776 Staphylococcus capitis subsp. capitis GCA_001028645.1
 722 Staphylococcus warneri SG1 GCA_000332735.1
 dm
 621 Bacillus anthracis str. Ames GCA_000007845.1
 621 Bacillus anthracis str. Sterne GCA_000008165.1
 620 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 601 Bacillus cereus ATCC 14579 GCA_000007825.1
 dn
 249 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 201 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 188 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 do
 312 Clostridium beijerinckii GCA_000833105.2
 311 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 305 Clostridium puniceum GCA_002006345.1
 dp
 445 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 355 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 314 Bifidobacterium reuteri DSM 23975 GCA_000741695.1
 dq
 600 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 591 Clostridium beijerinckii GCA_000833105.2
 579 Clostridium puniceum GCA_002006345.1
 dr
 673 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 614 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 518 Gemmobacter megaterium GCA_900156815.1
 ds
 633 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 579 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 473 Thioclava atlantica GCA_000737065.1
 dt
 647 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 522 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 521 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 du
 632 Streptococcus mutans UA159 GCA_000007465.2
 465 Streptococcus macacae NCTC 11558 GCA_000187995.3
 460 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 dv
 589 Staphylococcus capitis subsp. capitis GCA_001028645.1
 587 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 579 Megaspheara cerevisiae DSM 20462 GCA_001045675.1
 579 Staphylococcus warneri SG1 GCA_000332735.1
 dw
 471 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 471 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 471 Shigella flexneri 2a str. 301 GCA_000006925.2
 469 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 469 Escherichia coli UMN026 GCA_000026325.2
 456 Shigella dysenteriae Sd197 GCA_000012005.1
 dx
 675 Escherichia coli IAI39 GCA_000026345.1
 675 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 675 Escherichia coli UMN026 GCA_000026325.2
 675 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 670 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 662 Shigella flexneri 2a str. 301 GCA_000006925.2
 dy
 640 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 586 Staphylococcus capitis subsp. capitis GCA_001028645.1
 546 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 dz
 878 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 761 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 625 Gemmobacter aquatilis GCA_900110025.1
 dA
 672 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 582 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 420 Lactobacillus hamsteri DSM 5661 = JCM 6256 GCA_000615445.1
 dB
 648 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 550 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 513 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1

dC
660 *Clostridium beijerinckii* GCA_000833105.2
634 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
600 *Clostridium butyricum* GCA_001456065.2
dD
817 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
686 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
646 *Bifidobacterium stellenboschense* GCA_000741785.1
dE
433 *Deinococcus radiodurans* R1 GCA_000008565.1
228 *Deinococcus gobiensis* I-0 GCA_000252445.1
218 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
dF
709 *Clostridium beijerinckii* GCA_000833105.2
636 *Clostridium puniceum* GCA_002006345.1
635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
dG
844 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
790 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
743 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
dH
799 *Streptococcus mutans* UA159 GCA_000007465.2
605 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
568 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
dI
729 *Clostridium beijerinckii* GCA_000833105.2
682 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
671 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
dJ
610 *Clostridium beijerinckii* GCA_000833105.2
573 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
571 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
dK
801 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
730 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
664 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
dL
809 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
713 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
566 *Lactobacillus iners* DSM 13335 GCA_000160875.1
dM
503 *Clostridium beijerinckii* GCA_000833105.2
501 *Clostridium puniceum* GCA_002006345.1
501 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
486 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
dN
776 *Clostridium beijerinckii* GCA_000833105.2
734 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
733 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
dO
768 *Deinococcus radiodurans* R1 GCA_000008565.1
431 *Deinococcus deserti* VCD115 GCA_000020685.1
427 *Deinococcus gobiensis* I-0 GCA_000252445.1
dP
674 *Bacillus anthracis* str. Ames GCA_000007845.1
674 *Bacillus anthracis* str. Sterne GCA_000008165.1
674 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
665 *Bacillus cereus* ATCC 14579 GCA_000007825.1
661 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
dQ
942 *Enterococcus faecalis* V583 GCA_000007785.1
895 *Streptomyces cinnamomeus* GCA_001885705.1
808 *Enterococcus rivorum* GCA_001742285.1
dR
858 *Clostridium beijerinckii* GCA_000833105.2
824 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
762 *Clostridium butyricum* GCA_001456065.2
762 *Clostridium puniceum* GCA_002006345.1
dS
756 *Bacillus cereus* ATCC 14579 GCA_000007825.1
754 *Bacillus anthracis* str. Ames GCA_000007845.1
754 *Bacillus anthracis* str. Sterne GCA_000008165.1
754 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
746 *Bacillus mycoides* GCA_000832605.1
dT
807 *Enterococcus faecalis* V583 GCA_000007785.1

764 *Streptomyces cinnamoneus* GCA_001885705.1
 705 *Enterococcus faecium* D0 GCA_000174395.2
 dU
 421 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 295 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 275 *Bifidobacterium asteroides* PRL2011 GCA_000304215.1
 dV
 698 *Clostridium beijerinckii* GCA_000833105.2
 664 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 657 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 dW
 602 *Clostridium beijerinckii* GCA_000833105.2
 587 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 587 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 555 *Clostridium chromiireducens* GCA_002029255.1
 dX
 577 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 540 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 420 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 dY
 705 *Clostridium beijerinckii* GCA_000833105.2
 682 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 652 *Clostridium puniceum* GCA_002006345.1
 dZ
 368 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 353 *Staphylococcus condimentii* GCA_001618885.1
 340 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 e0
 724 *Clostridium beijerinckii* GCA_000833105.2
 707 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 661 *Clostridium butyricum* GCA_001456065.2
 e1
 752 *Enterococcus faecalis* V583 GCA_000007785.1
 706 *Streptomyces cinnamoneus* GCA_001885705.1
 642 *Enterococcus faecium* D0 GCA_000174395.2
 e2
 550 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 475 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 448 *Bifidobacterium bifidum* PRL2010 GCA_000165905.1
 e3
 713 *Enterococcus faecalis* V583 GCA_000007785.1
 667 *Streptomyces cinnamoneus* GCA_001885705.1
 617 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 e4
 685 *Clostridium beijerinckii* GCA_000833105.2
 645 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 640 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 e5
 546 *Streptococcus mutans* UA159 GCA_000007465.2
 347 *Streptococcus equinus* GCA_000964315.1
 347 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 346 *Streptococcus galloyticus* subsp. galloyticus DSM 16831 GCA_002000985.1
 e6
 739 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 709 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 678 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
 e7
 570 *Enterococcus faecalis* V583 GCA_000007785.1
 524 *Enterococcus thailandicus* GCA_001652875.1
 523 *Enterococcus faecium* D0 GCA_000174395.2
 523 *Streptomyces cinnamoneus* GCA_001885705.1
 e8
 230 *Streptococcus mutans* UA159 GCA_000007465.2
 176 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 172 *Streptococcus urinalis* 2285-97 GCA_000188055.3
 e9
 876 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 828 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 806 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 ea
 669 *Deinococcus radiodurans* R1 GCA_000008565.1
 387 *Deinococcus deserti* VCD115 GCA_000020685.1
 369 *Deinococcus gobiensis* I-0 GCA_000252445.1
 eb
 702 *Enterococcus faecalis* V583 GCA_000007785.1
 656 *Streptomyces cinnamoneus* GCA_001885705.1

612 *Enterococcus faecium* DO GCA_000174395.2
 ec
 617 *Clostridium beijerinckii* GCA_000833105.2
 609 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 600 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 ed
 763 *Clostridium beijerinckii* GCA_000833105.2
 738 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 696 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 ee
 942 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 852 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 639 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 639 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ef
 706 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 706 *Escherichia coli* UMN026 GCA_000026325.2
 706 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 702 *Escherichia coli* IAI39 GCA_000026345.1
 702 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 701 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 eg
 402 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 342 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 295 *Defluviimonas alba* GCA_001620265.1
 eh
 682 *Deinococcus radiodurans* R1 GCA_000008565.1
 386 *Deinococcus deserti* VCD115 GCA_000020685.1
 356 *Deinococcus marmoris* DSM 12784 GCA_0000701405.1
 ei
 683 *Streptococcus mutans* UA159 GCA_000007465.2
 479 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 449 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 ej
 643 *Clostridium beijerinckii* GCA_000833105.2
 618 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 605 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 ek
 420 *Streptococcus mutans* UA159 GCA_000007465.2
 291 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 283 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 el
 797 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 734 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 711 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 em
 673 *Clostridium beijerinckii* GCA_000833105.2
 643 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 639 *Clostridium puniceum* GCA_002006345.1
 en
 586 *Clostridium beijerinckii* GCA_000833105.2
 551 *Clostridium puniceum* GCA_002006345.1
 551 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 529 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 eo
 907 *Enterococcus faecalis* V583 GCA_000007785.1
 860 *Streptomyces cinnamoneus* GCA_001885705.1
 836 *Enterococcus rivorum* GCA_001742285.1
 ep
 689 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 666 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 629 *Staphylococcus warneri* SG1 GCA_000332735.1
 eq
 695 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 665 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 603 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 er
 608 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 608 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 548 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 545 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 es
 668 *Clostridium beijerinckii* GCA_000833105.2
 658 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 635 *Clostridium puniceum* GCA_002006345.1
 et

704 *Deinococcus radiodurans* R1 GCA_000008565.1
 444 *Deinococcus deserti* VCD115 GCA_000020685.1
 404 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 eu
 759 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 662 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 478 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ev
 656 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 580 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 454 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 ew
 294 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 294 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 294 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 269 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 269 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 269 *Escherichia coli* UMN026 GCA_000026325.2
 233 *Pluralibacter gergoviae* GCA_000757785.1
 ex
 890 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 872 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 829 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 ey
 660 *Deinococcus radiodurans* R1 GCA_000008565.1
 420 *Deinococcus deserti* VCD115 GCA_000020685.1
 382 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 ez
 567 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 535 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 441 *Defluviimonas alba* GCA_001620265.1
 eA
 813 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 683 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 548 *Gemmobacter aquatilis* GCA_900110025.1
 eB
 736 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 652 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 462 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 eC
 637 *Bacillus anthracis* str. Ames GCA_000007845.1
 637 *Bacillus anthracis* str. Sterne GCA_000008165.1
 637 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 637 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 622 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 605 *Bacillus pseudomycoloides* DSM 12442 GCA_000161455.1
 eD
 785 *Escherichia coli* IAI39 GCA_000026345.1
 785 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 770 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 770 *Escherichia coli* UMN026 GCA_000026325.2
 770 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 754 *Shigella dysenteriae* Sd197 GCA_000012005.1
 eE
 587 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 564 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 485 *Gemmobacter megaterium* GCA_900156815.1
 eF
 419 *Clostridium beijerinckii* GCA_000833105.2
 398 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 385 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 eG
 734 *Deinococcus radiodurans* R1 GCA_000008565.1
 424 *Deinococcus deserti* VCD115 GCA_000020685.1
 420 *Deinococcus gobiensis* I-0 GCA_000252445.1
 eH
 703 *Clostridium beijerinckii* GCA_000833105.2
 676 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 654 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 eI
 540 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 459 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 393 *Defluviimonas alba* GCA_001620265.1
 eJ
 474 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 463 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1

384 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 eK
 480 *Deinococcus radiodurans* R1 GCA_000008565.1
 322 *Deinococcus proteolyticus* MRP GCA_000190555.1
 311 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 eL
 485 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 381 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 378 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 eM
 821 *Clostridium beijerinckii* GCA_000833105.2
 790 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 753 *Clostridium puniceum* GCA_002006345.1
 eN
 899 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 844 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 797 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 797 *Staphylococcus warneri* SG1 GCA_000332735.1
 eO
 698 *Clostridium beijerinckii* GCA_000833105.2
 655 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 644 *Clostridium puniceum* GCA_002006345.1
 eP
 703 *Clostridium beijerinckii* GCA_000833105.2
 678 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 677 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 eQ
 517 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 490 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 441 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 eR
 879 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 808 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 605 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 eS
 763 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 696 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 508 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 eT
 466 *Streptococcus mutans* UA159 GCA_000007465.2
 353 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 340 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 eU
 613 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 528 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 400 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 eV
 554 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 455 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 435 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 eW
 541 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 387 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 385 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 eX
 617 *Streptococcus mutans* UA159 GCA_000007465.2
 413 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 408 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 eY
 643 *Streptococcus mutans* UA159 GCA_000007465.2
 547 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 499 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 eZ
 596 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 523 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 408 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 f0
 833 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 765 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 558 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 558 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 f1
 849 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 818 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 795 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 f2

786 *Enterococcus faecalis* V583 GCA_000007785.1
 739 *Streptomyces cinnamomeus* GCA_001885705.1
 682 *Enterococcus rivorum* GCA_001742285.1
 f3
 760 *Clostridium beijerinckii* GCA_000833105.2
 708 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 671 *Clostridium puniceum* GCA_002006345.1
 f4
 610 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 599 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 590 *Escherichia coli* IAI39 GCA_000026345.1
 f5
 439 *Clostridium beijerinckii* GCA_000833105.2
 375 *Clostridium puniceum* GCA_002006345.1
 375 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 364 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 f6
 657 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 657 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 656 *Escherichia coli* UMN026 GCA_000026325.2
 642 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 f7
 665 *Clostridium beijerinckii* GCA_000833105.2
 640 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 636 *Clostridium chromiireducens* GCA_002029255.1
 f8
 936 *Streptococcus mutans* UA159 GCA_000007465.2
 673 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 655 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 f9
 823 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 802 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 791 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 fa
 518 *Deinococcus radiodurans* R1 GCA_000008565.1
 329 *Deinococcus deserti* VCD115 GCA_000020685.1
 325 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 fb
 804 *Clostridium beijerinckii* GCA_000833105.2
 772 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 714 *Clostridium puniceum* GCA_002006345.1
 fc
 705 *Bacillus anthracis* str. Ames GCA_000007845.1
 705 *Bacillus anthracis* str. Sterne GCA_000008165.1
 705 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 694 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 693 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 fd
 614 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 571 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 452 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 fe
 469 *Bacillus mycoides* GCA_000832605.1
 465 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 465 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 463 *Bacillus anthracis* str. Ames GCA_000007845.1
 463 *Bacillus anthracis* str. Sterne GCA_000008165.1
 463 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 ff
 739 *Bacillus anthracis* str. Ames GCA_000007845.1
 739 *Bacillus anthracis* str. Sterne GCA_000008165.1
 739 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 739 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 739 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 716 *Bacillus mycoides* GCA_000832605.1
 715 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 fg
 739 *Streptococcus mutans* UA159 GCA_000007465.2
 528 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 479 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 fh
 680 *Deinococcus radiodurans* R1 GCA_000008565.1
 403 *Deinococcus deserti* VCD115 GCA_000020685.1
 393 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 fi
 689 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1

603 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 426 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 fj
 563 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 511 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 394 *Defluviimonas alba* GCA_001620265.1
 394 *Pseudorhodobacter wandonensis* GCA_001202035.1
 fk
 693 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 620 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 448 *Defluviimonas alba* GCA_001620265.1
 fl
 841 *Enterococcus faecalis* V583 GCA_000007785.1
 794 *Streptomyces cinnamoneus* GCA_001885705.1
 725 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 fm
 540 *Deinococcus radiodurans* R1 GCA_000008565.1
 348 *Deinococcus deserti* VCD115 GCA_000020685.1
 317 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 fn
 758 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 724 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 677 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 fo
 815 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 765 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 702 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 fp
 625 *Streptococcus mutans* UA159 GCA_000007465.2
 469 *Streptococcus pseudoporcinus* LQ 940-04 GCA_000188035.3
 467 *Streptococcus iniae* GCA_000831485.1
 fq
 657 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 588 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 548 *Gemmobacter aquatilis* GCA_900110025.1
 fr
 528 *Clostridium beijerinckii* GCA_000833105.2
 511 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 475 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 fs
 825 *Deinococcus radiodurans* R1 GCA_000008565.1
 535 *Deinococcus deserti* VCD115 GCA_000020685.1
 505 *Deinococcus gobiensis* I-0 GCA_000252445.1
 ft
 691 *Streptococcus mutans* UA159 GCA_000007465.2
 541 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 525 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 fu
 527 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 523 *Clostridium beijerinckii* GCA_000833105.2
 502 *Clostridium puniceum* GCA_002006345.1
 fv
 576 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 561 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 546 *Staphylococcus condimentii* GCA_001618885.1
 fw
 962 *Enterococcus faecalis* V583 GCA_000007785.1
 915 *Streptomyces cinnamoneus* GCA_001885705.1
 853 *Enterococcus massiliensis* GCA_001050095.1
 fx
 736 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 672 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 462 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 fy
 862 *Streptococcus mutans* UA159 GCA_000007465.2
 582 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 566 *Streptococcus halotolerans* GCA_001598035.1
 fz
 925 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 842 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 771 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 fA
 443 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 385 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 355 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 fB

795 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 712 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 522 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 fC
 443 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 409 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 355 *Staphylococcus warneri* SG1 GCA_000332735.1
 fD
 715 *Bacillus anthracis* str. Ames GCA_000007845.1
 715 *Bacillus anthracis* str. Sterne GCA_000008165.1
 715 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 715 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 715 *_5BBacillus thuringiensis_5D* serovar *konkukian* str. 97-27 GCA_000008505.1
 699 *Bacillus pseudomycoloides* DSM 12442 GCA_000161455.1
 697 *Bacillus mycoloides* GCA_000832605.1
 fE
 635 *Streptococcus mutans* UA159 GCA_000007465.2
 444 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 422 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 422 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 fF
 620 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 566 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 527 *Gemmobacter megaterium* GCA_900156815.1
 fG
 858 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 856 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 847 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 847 *Escherichia coli* UMN026 GCA_000026325.2
 847 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 fH
 583 *Streptococcus mutans* UA159 GCA_000007465.2
 405 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 356 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 fI
 747 *Streptococcus mutans* UA159 GCA_000007465.2
 586 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 583 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 fJ
 676 *Enterococcus faecalis* V583 GCA_000007785.1
 629 *Streptomyces cinnamomeus* GCA_001885705.1
 556 *Enterococcus faecium* D0 GCA_000174395.2
 556 *Enterococcus rivorium* GCA_001742285.1
 fK
 673 *Deinococcus radiodurans* R1 GCA_000008565.1
 390 *Deinococcus gobiensis* I-0 GCA_000252445.1
 377 *Deinococcus deserti* VCD115 GCA_000020685.1
 fL
 766 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 658 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 645 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 fM
 581 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 559 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 542 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 fN
 499 *Clostridium beijerinckii* GCA_000833105.2
 498 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 489 *Clostridium puniceum* GCA_002006345.1
 489 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 fO
 562 *Clostridium beijerinckii* GCA_000833105.2
 544 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 534 *Clostridium puniceum* GCA_002006345.1
 fP
 901 *Deinococcus radiodurans* R1 GCA_000008565.1
 555 *Deinococcus deserti* VCD115 GCA_000020685.1
 513 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 fQ
 652 *Enterococcus faecalis* V583 GCA_000007785.1
 620 *Streptomyces cinnamomeus* GCA_001885705.1
 577 *Enterococcus rivorium* GCA_001742285.1
 fR
 771 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 748 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 703 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1

fS
 614 *Enterococcus faecalis* V583 GCA_000007785.1
 567 *Streptomyces cinnamoneus* GCA_001885705.1
 509 *Enterococcus rivorum* GCA_001742285.1
 fT
 712 *Enterococcus faecalis* V583 GCA_000007785.1
 666 *Streptomyces cinnamoneus* GCA_001885705.1
 641 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
 fU
 473 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 390 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 388 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 fV
 693 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 599 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 507 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 fW
 846 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 757 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 662 *DeFluviimonas alba* GCA_001620265.1
 fX
 810 *Streptococcus mutans* UA159 GCA_000007465.2
 625 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 621 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 fY
 647 *Enterococcus faecalis* V583 GCA_000007785.1
 600 *Streptomyces cinnamoneus* GCA_001885705.1
 545 *Enterococcus rivorum* GCA_001742285.1
 fZ
 615 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 513 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 428 *Gemmobacter megaterium* GCA_900156815.1
 g0
 723 *Streptococcus mutans* UA159 GCA_000007465.2
 576 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 549 *Streptococcus salivarius* GCA_000785515.1
 549 *Streptococcus thermophilus* JIM 8232 GCA_000253395.1
 g1
 668 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 635 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 470 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 g2
 494 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 446 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 355 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 g3
 513 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 393 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 342 *Bifidobacterium animalis* subsp. *lactis* DSM 10140 GCA_000022965.1
 342 *Bifidobacterium thermophilum* RBL67 GCA_000347695.1
 g4
 720 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 622 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 494 *Gemmobacter aquatilis* GCA_900110025.1
 g5
 666 *Clostridium beijerinckii* GCA_000833105.2
 646 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 640 *Clostridium puniceum* GCA_002006345.1
 g6
 566 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 545 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 466 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 g7
 449 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 400 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 358 *Staphylococcus lutrae* GCA_002101335.1
 g8
 796 *Deinococcus radiodurans* R1 GCA_000008565.1
 439 *Deinococcus gobiensis* I-0 GCA_000252445.1
 429 *Deinococcus deserti* VCD115 GCA_000020685.1
 g9
 528 *Clostridium beijerinckii* GCA_000833105.2
 495 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 481 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 ga
 493 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2

462 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 393 *Dinoroseobacter shibae* DFL 12 = DSM 16493 GCA_000018145.1
 gb
 689 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 659 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 513 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 gc
 731 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 701 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 651 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 gd
 694 *Streptococcus mutans* UA159 GCA_000007465.2
 522 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 510 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 ge
 609 *Deinococcus radiodurans* R1 GCA_000008565.1
 405 *Deinococcus deserti* VCD115 GCA_000020685.1
 375 *Deinococcus frigens* DSM 12807 GCA_000701425.1
 gf
 663 *Clostridium beijerinckii* GCA_000833105.2
 644 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 622 *Clostridium puniceum* GCA_002006345.1
 gg
 499 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 471 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 416 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 gh
 326 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 294 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 275 *Bifidobacterium subtile* GCA_000741775.1
 gi
 963 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 961 *Bacillus anthracis* str. Ames GCA_000007845.1
 961 *Bacillus anthracis* str. Sterne GCA_000008165.1
 961 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 935 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 gj
 916 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 906 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 681 *Lactobacillus jensenii* GCA_001936235.1
 gk
 736 *Enterococcus faecalis* V583 GCA_000007785.1
 689 *Streptomyces cinnamoneus* GCA_001885705.1
 649 *Enterococcus rivorum* GCA_001742285.1
 gl
 520 *Deinococcus radiodurans* R1 GCA_000008565.1
 274 *Deinococcus deserti* VCD115 GCA_000020685.1
 256 *Deinococcus gobiensis* I-0 GCA_000252445.1
 gm
 545 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 531 *Escherichia coli* O83_3AH1 str. NRG 857C GCA_000183345.1
 527 *Escherichia coli* O157_3AH7 str. Sakai GCA_000008865.1
 527 *Escherichia coli* UMN026 GCA_000026325.2
 527 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 gn
 639 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 609 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 429 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 go
 736 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 686 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 644 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 gp
 744 *Bacillus anthracis* str. Ames GCA_000007845.1
 744 *Bacillus anthracis* str. Sterne GCA_000008165.1
 744 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 728 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
 724 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 gq
 720 *Bacillus anthracis* str. Ames GCA_000007845.1
 720 *Bacillus anthracis* str. Sterne GCA_000008165.1
 720 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 720 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 702 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 699 *Bacillus mycolides* GCA_000832605.1
 gr

546 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 504 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 396 Gemmobacter megaterium GCA_900156815.1
 gs
 683 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 556 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 527 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 527 Bifidobacterium stollenboschense GCA_000741785.1
 gt
 680 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 612 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 532 Defluviimonas alba GCA_001620265.1
 gu
 504 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 504 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 496 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 496 Shigella flexneri 2a str. 301 GCA_000006925.2
 491 Escherichia coli UMN026 GCA_000026325.2
 gv
 952 Bacillus anthracis str. Ames GCA_000007845.1
 952 Bacillus anthracis str. Sterne GCA_000008165.1
 952 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 935 Bacillus cereus ATCC 14579 GCA_000007825.1
 935 Bacillus pseudomycolides DSM 12442 GCA_000161455.1
 909 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 gw
 608 Streptococcus mutans UA159 GCA_000007465.2
 455 Streptococcus rattus FA-1 = DSM 20564 GCA_000286075.1
 445 Streptococcus ferus DSM 20646 GCA_000372425.1
 gx
 839 Deinococcus radiodurans R1 GCA_000008565.1
 443 Deinococcus deserti VCD115 GCA_000020685.1
 439 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 gy
 492 Clostridium beijerinckii GCA_000833105.2
 465 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 435 Clostridium butyricum GCA_001456065.2
 gz
 540 Clostridium beijerinckii GCA_000833105.2
 522 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 504 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 gA
 852 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 715 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 695 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 gB
 604 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 565 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 380 Lactobacillus iners DSM 13335 GCA_000160875.1
 gC
 690 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 646 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 424 Lactobacillus iners DSM 13335 GCA_000160875.1
 gD
 478 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 458 Megaspheera cerevisiae DSM 20462 GCA_001045675.1
 458 Staphylococcus warneri SG1 GCA_000332735.1
 453 Staphylococcus capitis subsp. capitis GCA_001028645.1
 gE
 737 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 651 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 510 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 gF
 752 Deinococcus radiodurans R1 GCA_000008565.1
 449 Deinococcus deserti VCD115 GCA_000020685.1
 441 Deinococcus proteolyticus MRP GCA_000190555.1
 gG
 834 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 833 Escherichia coli IAI39 GCA_000026345.1
 833 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 817 Escherichia coli UMN026 GCA_000026325.2
 gH
 836 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 749 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 543 Lactobacillus iners DSM 13335 GCA_000160875.1
 gI

934 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 852 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 802 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 gJ
 845 *Bacillus anthracis* str. Ames GCA_000007845.1
 845 *Bacillus anthracis* str. Sterne GCA_000008165.1
 845 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 830 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 822 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 gK
 578 *Clostridium beijerinckii* GCA_000833105.2
 546 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 527 *Clostridium butyricum* GCA_001456065.2
 527 *Clostridium neonatale* GCA_001458595.1
 gL
 821 *Streptococcus mutans* UA159 GCA_000007465.2
 558 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 530 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 gM
 737 *Enterococcus faecalis* V583 GCA_000007785.1
 690 *Streptomyces cinnamomeus* GCA_001885705.1
 652 *Enterococcus massiliensis* GCA_001050095.1
 gN
 554 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 504 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 488 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 gO
 690 *Clostridium beijerinckii* GCA_000833105.2
 669 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 662 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 gP
 809 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 800 *Bacillus anthracis* str. Ames GCA_000007845.1
 800 *Bacillus anthracis* str. Sterne GCA_000008165.1
 800 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 800 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 785 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 gQ
 802 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 657 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 612 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 gR
 562 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 478 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 301 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 gS
 660 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 616 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 495 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 gT
 756 *Enterococcus faecalis* V583 GCA_000007785.1
 716 *Streptomyces cinnamomeus* GCA_001885705.1
 668 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 gU
 871 *Clostridium beijerinckii* GCA_000833105.2
 848 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 844 *Clostridium puniceum* GCA_002006345.1
 gV
 639 *Clostridium beijerinckii* GCA_000833105.2
 597 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 590 *Clostridium puniceum* GCA_002006345.1
 gW
 452 *Clostridium beijerinckii* GCA_000833105.2
 428 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 423 *Clostridium chromiireducens* GCA_002029255.1
 gX
 872 *Bacillus anthracis* str. Ames GCA_000007845.1
 872 *Bacillus anthracis* str. Sterne GCA_000008165.1
 872 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 871 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 871 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 843 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 gY
 721 *Streptococcus mutans* UA159 GCA_000007465.2
 545 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 489 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1

gZ
602 *Deinococcus radiodurans* R1 GCA_000008565.1
394 *Deinococcus deserti* VCD115 GCA_000020685.1
367 *Deinococcus hopiensis* KR-140 GCA_900176165.1
h0
475 *Streptococcus mutans* UA159 GCA_000007465.2
355 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
340 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
h1
542 *Streptococcus mutans* UA159 GCA_000007465.2
401 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
388 *Streptococcus salivarius* GCA_000785515.1
h2
502 *Deinococcus radiodurans* R1 GCA_000008565.1
341 *Deinococcus deserti* VCD115 GCA_000020685.1
341 *Deinococcus puniceus* GCA_001644565.1
339 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
339 *Deinococcus phoenicis* GCA_000599865.1
h3
845 *Bacillus anthracis* str. Ames GCA_000007845.1
845 *Bacillus anthracis* str. Sterne GCA_000008165.1
845 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
835 *Bacillus cereus* ATCC 14579 GCA_000007825.1
810 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
h4
739 *Deinococcus radiodurans* R1 GCA_000008565.1
535 *Deinococcus puniceus* GCA_001644565.1
528 *Deinococcus gobiensis* I-0 GCA_000252445.1
h5
540 *Streptococcus mutans* UA159 GCA_000007465.2
418 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
409 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
h6
979 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
963 *Bacillus anthracis* str. Ames GCA_000007845.1
963 *Bacillus anthracis* str. Sterne GCA_000008165.1
943 *Bacillus cereus* ATCC 14579 GCA_000007825.1
943 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
h7
797 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
761 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
579 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
h8
573 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
558 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
513 *Gemmobacter aquatilis* GCA_900110025.1
h9
562 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
542 *Bacillus anthracis* str. Ames GCA_000007845.1
542 *Bacillus anthracis* str. Sterne GCA_000008165.1
542 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
541 *Bacillus cereus* ATCC 14579 GCA_000007825.1
ha
401 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
308 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
293 *Bifidobacterium stellenboschense* GCA_000741785.1
hb
973 *Enterococcus faecalis* V583 GCA_000007785.1
926 *Streptomyces cinnamoneus* GCA_001885705.1
842 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
hc
714 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
714 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
707 *Shigella flexneri* 2a str. 301 GCA_000006925.2
685 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
hd
561 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
506 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
480 *Gemmobacter aquatilis* GCA_900110025.1
he
572 *Deinococcus radiodurans* R1 GCA_000008565.1
353 *Deinococcus gobiensis* I-0 GCA_000252445.1
329 *Deinococcus deserti* VCD115 GCA_000020685.1
hf
695 *Enterococcus faecalis* V583 GCA_000007785.1
648 *Streptomyces cinnamoneus* GCA_001885705.1

634 *Enterococcus rivorum* GCA_001742285.1
 hg
 615 *Clostridium beijerinckii* GCA_000833105.2
 578 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 564 *Clostridium puniceum* GCA_002006345.1
 hh
 631 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 611 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 432 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 hi
 828 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 753 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 713 *Staphylococcus warneri* SG1 GCA_000332735.1
 hj
 684 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 643 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 623 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 hk
 915 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 852 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 798 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 hl
 698 *Clostridium beijerinckii* GCA_000833105.2
 685 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 675 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 hm
 678 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 586 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 509 *Jannaschia donghaensis* GCA_001403795.1
 hn
 656 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 562 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 500 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 ho
 773 *Clostridium beijerinckii* GCA_000833105.2
 751 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 722 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 hp
 631 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 606 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 543 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 hq
 709 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 569 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 543 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 hr
 769 *Deinococcus radiodurans* R1 GCA_000008565.1
 490 *Deinococcus deserti* VCD115 GCA_000020685.1
 465 *Deinococcus gobiensis* I-0 GCA_000252445.1
 hs
 624 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 596 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 447 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 ht
 743 *Clostridium beijerinckii* GCA_000833105.2
 718 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 692 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 hu
 543 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 525 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 525 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 521 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 hv
 572 *Deinococcus radiodurans* R1 GCA_000008565.1
 374 *Deinococcus deserti* VCD115 GCA_000020685.1
 374 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 364 *Deinococcus puniceus* GCA_001644565.1
 hw
 892 *Streptococcus mutans* UA159 GCA_000007465.2
 660 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 592 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 hx
 659 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 609 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 590 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 hy

907 *Deinococcus radiodurans* R1 GCA_000008565.1
 541 *Deinococcus deserti* VCD115 GCA_000020685.1
 517 *Deinococcus gobiensis* I-0 GCA_000252445.1
 hz
 697 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 651 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 461 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 hA
 396 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 355 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 316 *Defluviimonas alba* GCA_001620265.1
 hB
 449 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 433 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 433 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 433 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 432 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 432 *Escherichia coli* UMN026 GCA_000026325.2
 hC
 508 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 442 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 428 *Gemmobacter aquatilis* GCA_900110025.1
 hD
 659 *Enterococcus faecalis* V583 GCA_000007785.1
 632 *Enterococcus rivorum* GCA_001742285.1
 620 *Enterococcus massiliensis* GCA_001050095.1
 hE
 691 *Clostridium beijerinckii* GCA_000833105.2
 681 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 664 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 hF
 644 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 621 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 621 *Staphylococcus warneri* SG1 GCA_000332735.1
 604 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 hG
 895 *Deinococcus radiodurans* R1 GCA_000008565.1
 605 *Deinococcus deserti* VCD115 GCA_000020685.1
 563 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 hH
 713 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 696 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 651 *Staphylococcus warneri* SG1 GCA_000332735.1
 hI
 747 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 712 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 654 *Staphylococcus warneri* SG1 GCA_000332735.1
 hJ
 642 *Clostridium beijerinckii* GCA_000833105.2
 605 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 592 *Clostridium puniceum* GCA_002006345.1
 hK
 633 *Deinococcus radiodurans* R1 GCA_000008565.1
 413 *Deinococcus deserti* VCD115 GCA_000020685.1
 409 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 hL
 728 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 676 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 462 *Lactobacillus acetotolerans* GCA_001042405.1
 462 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 hM
 297 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 286 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 210 *Gemmobacter aquatilis* GCA_900110025.1
 hN
 508 *Escherichia coli* IAI39 GCA_000026345.1
 508 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 508 *Escherichia coli* UMN026 GCA_000026325.2
 508 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 508 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 503 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 494 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 hO
 658 *Bacillus anthracis* str. Ames GCA_000007845.1
 658 *Bacillus anthracis* str. Sterne GCA_000008165.1
 658 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1

643 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 633 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 hP
 871 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 836 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 723 *Gemmobacter aquatilis* GCA_900110025.1
 hQ
 706 *Streptococcus mutans* UA159 GCA_000007465.2
 517 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 487 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 hR
 754 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 710 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 617 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 hS
 838 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 828 *Escherichia coli* O104_3AH4 str. 2011C-3493 GCA_000299455.1
 812 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 hT
 852 *Deinococcus radiodurans* R1 GCA_000008565.1
 531 *Deinococcus deserti* VCD115 GCA_000020685.1
 522 *Deinococcus gobiensis* I-0 GCA_000252445.1
 hU
 656 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 636 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 482 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 hV
 870 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 729 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 708 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 hW
 759 *Enterococcus faecalis* V583 GCA_000007785.1
 716 *Streptomyces cinnamomeus* GCA_001885705.1
 648 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 hX
 758 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 612 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 574 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 hY
 687 *Streptococcus mutans* UA159 GCA_000007465.2
 494 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 485 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 hZ
 664 *Deinococcus radiodurans* R1 GCA_000008565.1
 367 *Deinococcus deserti* VCD115 GCA_000020685.1
 310 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 i0
 513 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 462 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 369 *Defluviimonas alba* GCA_001620265.1
 i1
 598 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 493 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 438 *Gemmobacter megaterium* GCA_900156815.1
 i2
 881 *Deinococcus radiodurans* R1 GCA_000008565.1
 542 *Deinococcus deserti* VCD115 GCA_000020685.1
 537 *Deinococcus gobiensis* I-0 GCA_000252445.1
 i3
 750 *Clostridium beijerinckii* GCA_000833105.2
 685 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 664 *Clostridium puniceum* GCA_002006345.1
 i4
 619 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 543 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 447 *Pseudorhodobacter wandonensis* GCA_001202035.1
 i5
 466 *Streptococcus mutans* UA159 GCA_000007465.2
 324 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 313 *Streptococcus equinus* GCA_000964315.1
 i6
 656 *Clostridium beijerinckii* GCA_000833105.2
 655 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 634 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 i7
 902 *Streptococcus mutans* UA159 GCA_000007465.2

647 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
616 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
i8
595 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
540 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
511 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
i9
653 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
556 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
543 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
ia
466 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
442 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
384 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
ib
439 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
392 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
346 *Thioclava indica* GCA_000714545.1
ic
194 *Deinococcus radiodurans* R1 GCA_000008565.1
97 *Deinococcus gobiensis* I-0 GCA_000252445.1
85 *Deinococcus deserti* VCD115 GCA_000020685.1
85 *Deinococcus hopiensis* KR-140 GCA_900176165.1
85 *Deinococcus indicus* GCA_002198095.1
85 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
id
562 *Clostridium beijerinckii* GCA_000833105.2
556 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
534 *Bacillus anthracis* str. Ames GCA_000007845.1
534 *Bacillus anthracis* str. Sterne GCA_000008165.1
534 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
534 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
ie
422 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
360 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
333 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
if
607 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
607 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
607 *Shigella flexneri* 2a str. 301 GCA_000006925.2
606 *Escherichia coli* UMN026 GCA_000026325.2
599 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
ig
644 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
580 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
580 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
580 *Staphylococcus warneri* SG1 GCA_000332735.1
553 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
ih
846 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
794 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
737 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
737 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
ii
620 *Streptococcus mutans* UA159 GCA_000007465.2
471 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
432 *Streptococcus criceti* HS-6 GCA_000187975.3
ij
842 *Streptococcus mutans* UA159 GCA_000007465.2
653 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
609 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
ik
775 *Clostridium beijerinckii* GCA_000833105.2
725 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
718 *Clostridium puniceum* GCA_002006345.1
il
805 *Clostridium beijerinckii* GCA_000833105.2
775 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
749 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
im
613 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
597 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
549 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
in
739 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
665 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1

525 Rhodobacter capsulatus SB 1003 GCA_000021865.1
 io
 759 Streptococcus mutans UA159 GCA_000007465.2
 560 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 491 Streptococcus ferus DSM 20646 GCA_000372425.1
 ip
 570 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 513 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 379 Lactobacillus iners DSM 13335 GCA_000160875.1
 iq
 747 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 689 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 534 Pseudorhodobacter psychrotolerans GCA_001294535.1
 ir
 604 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 549 Staphylococcus capitis subsp. capitis GCA_001028645.1
 514 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 is
 680 Shigella flexneri 2a str. 301 GCA_000006925.2
 678 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 677 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 it
 764 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 717 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 584 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 iu
 596 Streptococcus mutans UA159 GCA_000007465.2
 482 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 465 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 iv
 607 Streptococcus mutans UA159 GCA_000007465.2
 462 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 425 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 iw
 787 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 779 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 773 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 773 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 773 Shigella flexneri 2a str. 301 GCA_000006925.2
 ix
 595 Clostridium beijerinckii GCA_000833105.2
 564 Clostridium butyricum GCA_001456065.2
 553 Clostridium puniceum GCA_002006345.1
 553 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 iy
 754 Enterococcus faecalis V583 GCA_000007785.1
 713 Streptomyces cinnamoneus GCA_001885705.1
 650 Enterococcus canis NBRC 100695 GCA_001544375.1
 650 Enterococcus rivorum GCA_001742285.1
 iz
 560 Clostridium beijerinckii GCA_000833105.2
 549 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 534 Clostridium puniceum GCA_002006345.1
 534 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 iA
 886 Enterococcus faecalis V583 GCA_000007785.1
 839 Streptomyces cinnamoneus GCA_001885705.1
 756 Enterococcus haemoperoxidus ATCC BAA-382 GCA_000407165.1
 iB
 847 Clostridium beijerinckii GCA_000833105.2
 792 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 784 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 iC
 694 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 661 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 465 Lactobacillus iners DSM 13335 GCA_000160875.1
 iD
 782 Deinococcus radiodurans R1 GCA_000008565.1
 552 Deinococcus deserti VCD115 GCA_000020685.1
 489 Deinococcus hopiensis KR-140 GCA_900176165.1
 iE
 891 Streptococcus mutans UA159 GCA_000007465.2
 667 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 641 Streptococcus anginosus C238 GCA_000463505.1
 iF
 800 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2

734 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 622 *Defluviimonas alba* GCA_001620265.1
 iG
 416 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 321 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 304 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 iH
 506 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 402 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 315 *Lactobacillus acetotolerans* GCA_001042405.1
 iI
 612 *Clostridium beijerinckii* GCA_000833105.2
 595 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 581 *Clostridium puniceum* GCA_002006345.1
 iJ
 516 *Clostridium beijerinckii* GCA_000833105.2
 495 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 479 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 iK
 558 *Deinococcus radiodurans* R1 GCA_000008565.1
 270 *Deinococcus deserti* VCD115 GCA_000020685.1
 263 *Deinococcus puniceus* GCA_001644565.1
 iL
 464 *Clostridium beijerinckii* GCA_000833105.2
 449 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 433 *Clostridium puniceum* GCA_002006345.1
 iM
 674 *Clostridium beijerinckii* GCA_000833105.2
 634 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 619 *Clostridium puniceum* GCA_002006345.1
 iN
 619 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 594 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 565 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 iO
 749 *Deinococcus radiodurans* R1 GCA_000008565.1
 555 *Deinococcus gobiensis* I-0 GCA_000252445.1
 529 *Deinococcus deserti* VCD115 GCA_000020685.1
 iP
 708 *_5BBacillus thuringiensis_5D* serovar *konkukian* str. 97-27 GCA_000008505.1
 707 *Bacillus anthracis* str. *Ames* GCA_000007845.1
 707 *Bacillus anthracis* str. *Sterne* GCA_000008165.1
 700 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 iQ
 510 *Deinococcus radiodurans* R1 GCA_000008565.1
 289 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 272 *Deinococcus deserti* VCD115 GCA_000020685.1
 272 *Deinococcus gobiensis* I-0 GCA_000252445.1
 iR
 609 *Bacillus anthracis* str. *Ames* GCA_000007845.1
 609 *Bacillus anthracis* str. *Sterne* GCA_000008165.1
 608 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 608 *_5BBacillus thuringiensis_5D* serovar *konkukian* str. 97-27 GCA_000008505.1
 593 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 593 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 iS
 689 *Enterococcus faecalis* V583 GCA_000007785.1
 651 *Enterococcus rivorum* GCA_001742285.1
 643 *Streptomyces cinnamomeus* GCA_001885705.1
 iT
 651 *Deinococcus radiodurans* R1 GCA_000008565.1
 399 *Deinococcus deserti* VCD115 GCA_000020685.1
 374 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 iU
 755 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 698 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 526 *Gemmobacter aquatilis* GCA_900110025.1
 iV
 552 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 510 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 489 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 iW
 623 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 544 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 489 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 iX

896 Streptococcus mutans UA159 GCA_000007465.2
 663 Streptococcus equinus GCA_000964315.1
 663 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 646 Streptococcus pseudoporcinus LQ 940-04 GCA_000188035.3
 iY
 622 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 561 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 382 Lactobacillus iners DSM 13335 GCA_000160875.1
 iZ
 821 Streptococcus mutans UA159 GCA_000007465.2
 647 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 573 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 j0
 795 Deinococcus radiodurans R1 GCA_000008565.1
 517 Deinococcus deserti VCD115 GCA_000020685.1
 488 Deinococcus hopiensis KR-140 GCA_900176165.1
 j1
 634 Clostridium beijerinckii GCA_000833105.2
 577 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 573 Clostridium puniceum GCA_002006345.1
 j2
 734 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 694 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 587 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
 j3
 651 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 631 Staphylococcus capitis subsp. capitis GCA_001028645.1
 576 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 576 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 j4
 549 Bacillus anthracis str. Ames GCA_000007845.1
 549 Bacillus anthracis str. Sterne GCA_000008165.1
 549 Bacillus cereus ATCC 14579 GCA_000007825.1
 549 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 549 5BBacillus thuringiensis 5D serovar konkukian str. 97-27 GCA_000008505.1
 534 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 517 Bacillus cytotoxicus NVH 391-98 GCA_000017425.1
 j5
 512 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 508 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 508 Escherichia coli UMN026 GCA_000026325.2
 508 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 508 Shigella flexneri 2a str. 301 GCA_000006925.2
 493 Escherichia coli IAI39 GCA_000026345.1
 j6
 796 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 765 Staphylococcus capitis subsp. capitis GCA_001028645.1
 686 Staphylococcus warneri SG1 GCA_000332735.1
 j7
 770 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 707 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 577 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
 j8
 671 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 619 Staphylococcus capitis subsp. capitis GCA_001028645.1
 568 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 j9
 528 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 470 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 446 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 ja
 607 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 568 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 500 Gemmobacter aquatilis GCA_900110025.1
 jb
 868 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 808 Staphylococcus capitis subsp. capitis GCA_001028645.1
 795 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
 jc
 667 Deinococcus radiodurans R1 GCA_000008565.1
 499 Deinococcus deserti VCD115 GCA_000020685.1
 440 Deinococcus gobiensis I-0 GCA_000252445.1
 jd
 727 Clostridium beijerinckii GCA_000833105.2
 695 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 688 Clostridium puniceum GCA_002006345.1

je
 771 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 618 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 608 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 jf
 834 *Streptococcus mutans* UA159 GCA_000007465.2
 644 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 563 *Streptococcus equinus* GCA_000964315.1
 jg
 484 *Deinococcus radiodurans* R1 GCA_000008565.1
 294 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 292 *Deinococcus deserti* VCD115 GCA_000020685.1
 jh
 558 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 486 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 397 *Gemmobacter aquatilis* GCA_900110025.1
 ji
 494 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 442 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 403 *Gemmobacter nectariphilus* DSM 15620 GCA_000429765.1
 jj
 627 *Clostridium beijerinckii* GCA_000833105.2
 555 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 551 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 jk
 964 *Deinococcus radiodurans* R1 GCA_000008565.1
 619 *Deinococcus deserti* VCD115 GCA_000020685.1
 577 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 jl
 863 *Enterococcus faecalis* V583 GCA_000007785.1
 816 *Streptomyces cinnamoneus* GCA_001885705.1
 727 *Enterococcus rivorum* GCA_001742285.1
 jm
 678 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 642 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 425 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 jn
 626 *Clostridium beijerinckii* GCA_000833105.2
 607 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 598 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 jo
 744 *Enterococcus faecalis* V583 GCA_000007785.1
 703 *Streptomyces cinnamoneus* GCA_001885705.1
 648 *Enterococcus rivorum* GCA_001742285.1
 jp
 728 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 636 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 541 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 jq
 555 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 545 *Clostridium beijerinckii* GCA_000833105.2
 538 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 jr
 723 *Clostridium beijerinckii* GCA_000833105.2
 696 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 672 *Clostridium puniceum* GCA_002006345.1
 js
 546 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 541 *Clostridium beijerinckii* GCA_000833105.2
 516 *Clostridium puniceum* GCA_002006345.1
 jt
 824 *Clostridium beijerinckii* GCA_000833105.2
 767 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 757 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 ju
 714 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 631 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 479 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 jv
 470 *Clostridium beijerinckii* GCA_000833105.2
 465 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 460 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 jw
 850 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 766 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 551 *Lactobacillus iners* DSM 13335 GCA_000160875.1

jx
 672 *Enterococcus faecalis* V583 GCA_000007785.1
 625 *Streptomyces cinnamoneus* GCA_001885705.1
 595 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 jy
 565 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 565 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 565 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 565 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 557 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 557 *Escherichia coli* UMN026 GCA_000026325.2
 520 *Escherichia coli* IAI39 GCA_000026345.1
 jz
 584 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 569 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 514 *Staphylococcus warneri* SG1 GCA_000332735.1
 jA
 584 *Enterococcus faecalis* V583 GCA_000007785.1
 538 *Enterococcus rivorum* GCA_001742285.1
 538 *Streptomyces cinnamoneus* GCA_001885705.1
 535 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 jB
 729 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 675 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 486 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 jC
 459 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 417 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 410 *Escherichia coli* UMN026 GCA_000026325.2
 jD
 675 *Clostridium beijerinckii* GCA_000833105.2
 639 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 632 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 jE
 752 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 700 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 630 *Gemmobacter aquatilis* GCA_900110025.1
 jF
 347 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 333 *Bacillus anthracis* str. Ames GCA_000007845.1
 333 *Bacillus anthracis* str. Sterne GCA_000008165.1
 333 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 333 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 320 *Bacillus mycoides* GCA_000832605.1
 320 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 jG
 768 *Clostridium beijerinckii* GCA_000833105.2
 753 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 708 *Clostridium puniceum* GCA_002006345.1
 jH
 678 *Clostridium beijerinckii* GCA_000833105.2
 643 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 600 *Clostridium puniceum* GCA_002006345.1
 jI
 676 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 613 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 499 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 jJ
 697 *Enterococcus faecalis* V583 GCA_000007785.1
 650 *Streptomyces cinnamoneus* GCA_001885705.1
 642 *Enterococcus rivorum* GCA_001742285.1
 jK
 822 *Enterococcus faecalis* V583 GCA_000007785.1
 775 *Streptomyces cinnamoneus* GCA_001885705.1
 669 *Enterococcus rivorum* GCA_001742285.1
 jL
 763 *Clostridium beijerinckii* GCA_000833105.2
 729 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 692 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 jM
 904 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 837 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 788 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 jN
 665 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 487 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1

478 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 j0
 720 *Clostridium beijerinckii* GCA_000833105.2
 715 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 686 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 jP
 815 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 737 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 593 *Gemmobacter aquatilis* GCA_900110025.1
 jQ
 553 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 508 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 498 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 jR
 679 *Clostridium beijerinckii* GCA_000833105.2
 654 *Clostridium puniceum* GCA_002006345.1
 652 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 jS
 715 *Bacillus anthracis* str. Ames GCA_000007845.1
 715 *Bacillus anthracis* str. Sterne GCA_000008165.1
 715 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 715 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 700 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 676 *Bacillus mycoides* GCA_000832605.1
 jT
 735 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 735 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 722 *Escherichia coli* IAI39 GCA_000026345.1
 718 *Escherichia coli* UMN026 GCA_000026325.2
 jU
 935 *Bacillus anthracis* str. Ames GCA_000007845.1
 935 *Bacillus anthracis* str. Sterne GCA_000008165.1
 935 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 935 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 909 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 904 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 jV
 931 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 794 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 668 *Gemmobacter aquatilis* GCA_900110025.1
 668 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
 jW
 622 *Streptococcus mutans* UA159 GCA_000007465.2
 455 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 436 *Streptococcus orisratti* DSM 15617 GCA_000380105.1
 jX
 828 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 813 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 765 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 jY
 576 *Bacillus anthracis* str. Ames GCA_000007845.1
 576 *Bacillus anthracis* str. Sterne GCA_000008165.1
 576 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 576 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 561 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 551 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 jZ
 721 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 629 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 551 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 k0
 795 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 753 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 739 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 k1
 615 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 615 *Escherichia coli* UMN026 GCA_000026325.2
 615 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 603 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 599 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 k2
 817 *Enterococcus faecalis* V583 GCA_000007785.1
 770 *Streptomyces cinnamomeus* GCA_001885705.1
 740 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 740 *Enterococcus rivorum* GCA_001742285.1
 k3

709 *Streptococcus mutans* UA159 GCA_000007465.2
504 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
485 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
k4
719 *Deinococcus radiodurans* R1 GCA_000008565.1
499 *Deinococcus gobiensis* I-0 GCA_000252445.1
494 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
k5
595 *Deinococcus radiodurans* R1 GCA_000008565.1
361 *Deinococcus gobiensis* I-0 GCA_000252445.1
359 *Deinococcus deserti* VCD115 GCA_000020685.1
k6
695 *Clostridium beijerinckii* GCA_000833105.2
648 *Clostridium butyricum* GCA_001456065.2
645 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
k7
782 *Bacillus cereus* ATCC 14579 GCA_000007825.1
775 *Bacillus anthracis* str. Ames GCA_000007845.1
775 *Bacillus anthracis* str. Sterne GCA_000008165.1
775 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
775 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
766 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
k8
636 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
636 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
628 *Escherichia coli* UMN026 GCA_000026325.2
614 *Escherichia coli* IAI39 GCA_000026345.1
k9
681 *Streptococcus mutans* UA159 GCA_000007465.2
547 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
506 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
ka
793 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
744 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
560 *Lactobacillus iners* DSM 13335 GCA_000160875.1
kb
595 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
595 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
595 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
595 *Shigella flexneri* 2a str. 301 GCA_000006925.2
590 *Escherichia coli* IAI39 GCA_000026345.1
587 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
587 *Escherichia coli* UMN026 GCA_000026325.2
kc
655 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
655 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
647 *Escherichia coli* UMN026 GCA_000026325.2
646 *Shigella flexneri* 2a str. 301 GCA_000006925.2
kd
533 *Shigella flexneri* 2a str. 301 GCA_000006925.2
528 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
528 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
528 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
524 *Escherichia coli* IAI39 GCA_000026345.1
ke
615 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
501 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
471 *Gemmobacter megaterium* GCA_900156815.1
kf
515 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
490 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
329 *Lactobacillus kefirianofaciens* ZW3 GCA_000214785.1
kg
837 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
837 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
836 *Escherichia coli* UMN026 GCA_000026325.2
828 *Shigella flexneri* 2a str. 301 GCA_000006925.2
kh
761 *Clostridium beijerinckii* GCA_000833105.2
752 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
724 *Clostridium puniceum* GCA_002006345.1
ki
757 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
685 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
545 *Defluviimonas alba* GCA_001620265.1
kj

746 *Deinococcus radiodurans* R1 GCA_000008565.1
 438 *Deinococcus deserti* VCD115 GCA_000020685.1
 422 *Deinococcus proteolyticus* MRP GCA_000190555.1
 kk
 491 *Streptococcus mutans* UA159 GCA_000007465.2
 337 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 323 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 kl
 437 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 425 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 421 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 421 *Staphylococcus warneri* SG1 GCA_000332735.1
 km
 522 *Streptococcus mutans* UA159 GCA_000007465.2
 410 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 390 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 kn
 609 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 525 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 477 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 ko
 761 *Streptococcus mutans* UA159 GCA_000007465.2
 615 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 614 *Streptococcus equinus* GCA_000964315.1
 kp
 527 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 521 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 391 *Deinococcus radiodurans* R1 GCA_000008565.1
 kq
 758 *Bacillus anthracis* str. Ames GCA_000007845.1
 758 *Bacillus anthracis* str. Sterne GCA_000008165.1
 758 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 733 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 727 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 kr
 710 *Clostridium beijerinckii* GCA_000833105.2
 692 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 686 *Clostridium puniceum* GCA_002006345.1
 ks
 755 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 754 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 753 *Bacillus anthracis* str. Ames GCA_000007845.1
 753 *Bacillus anthracis* str. Sterne GCA_000008165.1
 753 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 kt
 641 *Deinococcus radiodurans* R1 GCA_000008565.1
 432 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 428 *Deinococcus deserti* VCD115 GCA_000020685.1
 ku
 492 *Clostridium beijerinckii* GCA_000833105.2
 477 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 466 *Clostridium puniceum* GCA_002006345.1
 kv
 576 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 561 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 558 *Bacillus anthracis* str. Ames GCA_000007845.1
 558 *Bacillus anthracis* str. Sterne GCA_000008165.1
 558 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 kw
 802 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 658 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 625 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 kx
 694 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 605 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 511 *Gemmobacter aquatilis* GCA_900110025.1
 ky
 617 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 515 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 494 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 494 *Staphylococcus warneri* SG1 GCA_000332735.1
 kz
 730 *Deinococcus radiodurans* R1 GCA_000008565.1
 498 *Deinococcus deserti* VCD115 GCA_000020685.1
 484 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 KA

692 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 656 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 576 *Gemmobacter megaterium* GCA_900156815.1
 kB
 620 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 468 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 466 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 kC
 766 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 617 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 600 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 kD
 689 *Streptococcus mutans* UA159 GCA_000007465.2
 500 *Streptococcus equinus* GCA_000964315.1
 496 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 kE
 516 *Streptococcus mutans* UA159 GCA_000007465.2
 361 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 350 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 kF
 950 *Streptococcus mutans* UA159 GCA_000007465.2
 708 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 667 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 kG
 738 *Deinococcus radiodurans* R1 GCA_000008565.1
 493 *Deinococcus deserti* VCD115 GCA_000020685.1
 479 *Deinococcus gobiensis* I-0 GCA_000252445.1
 kH
 679 *Enterococcus faecalis* V583 GCA_000007785.1
 632 *Streptomyces cinnamoneus* GCA_001885705.1
 523 *Enterococcus faecium* D0 GCA_000174395.2
 kI
 768 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 721 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 604 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 kJ
 496 *Streptococcus mutans* UA159 GCA_000007465.2
 401 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 378 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 kK
 988 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 913 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 721 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 kL
 722 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 681 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 622 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 kM
 740 *Clostridium beijerinckii* GCA_000833105.2
 726 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 682 *Clostridium puniceum* GCA_002006345.1
 kN
 655 *Deinococcus radiodurans* R1 GCA_000008565.1
 439 *Deinococcus deserti* VCD115 GCA_000020685.1
 432 *Deinococcus gobiensis* I-0 GCA_000252445.1
 kO
 348 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 283 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 281 *Bifidobacterium lemorum* GCA_001895165.1
 kP
 749 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 727 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 664 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 kQ
 734 *Enterococcus faecalis* V583 GCA_000007785.1
 687 *Streptomyces cinnamoneus* GCA_001885705.1
 647 *Enterococcus rivorum* GCA_001742285.1
 kR
 657 *Clostridium beijerinckii* GCA_000833105.2
 643 *Clostridium puniceum* GCA_002006345.1
 632 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 kS
 533 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 493 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 493 *Staphylococcus warneri* SG1 GCA_000332735.1
 480 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1

kT
 780 *Bacillus anthracis* str. Ames GCA_000007845.1
 780 *Bacillus anthracis* str. Sterne GCA_000008165.1
 780 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 780 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 780 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 732 *Bacillus mycoides* GCA_000832605.1
 726 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 kU
 577 *Streptococcus mutans* UA159 GCA_000007465.2
 446 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 420 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 kV
 737 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 658 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 461 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 kW
 518 *Deinococcus radiodurans* R1 GCA_000008565.1
 310 *Deinococcus deserti* VCD115 GCA_000020685.1
 290 *Deinococcus maricopensis* DSM 21211 GCA_000186385.1
 kX
 950 *Enterococcus faecalis* V583 GCA_000007785.1
 903 *Streptomyces cinnamomeus* GCA_001885705.1
 831 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 kY
 492 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 364 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 358 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 kZ
 847 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 811 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 739 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 l0
 636 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 597 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 480 *Gemmobacter aquatilis* GCA_900110025.1
 l1
 644 *Deinococcus radiodurans* R1 GCA_000008565.1
 436 *Deinococcus deserti* VCD115 GCA_000020685.1
 404 *Deinococcus gobiensis* I-0 GCA_000252445.1
 l2
 628 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 564 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 507 *Gemmobacter megaterium* GCA_900156815.1
 l3
 633 *Bacillus anthracis* str. Ames GCA_000007845.1
 633 *Bacillus anthracis* str. Sterne GCA_000008165.1
 633 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 633 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 614 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 614 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 599 *Bacillus mycoides* GCA_000832605.1
 l4
 752 *Streptococcus mutans* UA159 GCA_000007465.2
 584 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 545 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 l5
 541 *Deinococcus radiodurans* R1 GCA_000008565.1
 341 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 341 *Deinococcus puniceus* GCA_001644565.1
 332 *Deinococcus phoenicis* GCA_000599865.1
 l6
 363 *Clostridium beijerinckii* GCA_000833105.2
 362 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 358 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 l7
 415 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 382 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 277 *Gemmobacter aquatilis* GCA_900110025.1
 l8
 522 *Clostridium beijerinckii* GCA_000833105.2
 486 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 442 *Clostridium butyricum* GCA_001456065.2
 l9
 745 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 574 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1

535 *Bifidobacterium bifidum* PRL2010 GCA_000165905.1
 la
441 *Deinococcus radiodurans* R1 GCA_000008565.1
278 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
266 *Deinococcus deserti* VCD115 GCA_000020685.1
 lb
814 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
791 *Escherichia coli* IAI39 GCA_000026345.1
780 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
780 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 lc
278 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
254 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
247 *Bifidobacterium gallicum* DSM 20093 = LMG 11596 GCA_000741205.1
 ld
679 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
632 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
631 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 le
735 *Enterococcus faecalis* V583 GCA_000007785.1
688 *Streptomyces cinnamomeus* GCA_001885705.1
632 *Enterococcus faecium* D0 GCA_000174395.2
 lf
671 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
613 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
538 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 lg
323 *Clostridium beijerinckii* GCA_000833105.2
299 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
283 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lh
738 *Clostridium beijerinckii* GCA_000833105.2
717 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
703 *Clostridium puniceum* GCA_002006345.1
 li
905 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
860 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
811 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 lj
488 *Deinococcus radiodurans* R1 GCA_000008565.1
281 *Deinococcus deserti* VCD115 GCA_000020685.1
278 *Deinococcus gobiensis* I-0 GCA_000252445.1
 lk
643 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
633 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
618 *Escherichia coli* UMN026 GCA_000026325.2
 ll
361 *Clostridium beijerinckii* GCA_000833105.2
346 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
339 *Clostridium puniceum* GCA_002006345.1
339 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lm
640 *Streptococcus mutans* UA159 GCA_000007465.2
476 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
443 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 ln
761 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
639 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
528 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 lo
504 *Clostridium beijerinckii* GCA_000833105.2
504 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
479 *Clostridium butyricum* GCA_001456065.2
471 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lp
901 *Streptococcus mutans* UA159 GCA_000007465.2
659 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
625 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 lq
664 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
638 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
444 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 lr
600 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
555 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
541 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1

541 *Staphylococcus vitulinus* F1028 GCA_000286335.1
ls
677 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
648 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
507 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
lt
387 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
379 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
295 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
lu
539 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
419 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
415 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
lv
924 *Enterococcus faecalis* V583 GCA_000007785.1
877 *Streptomyces cinnamomeus* GCA_001885705.1
815 *Enterococcus rivorum* GCA_001742285.1
lw
562 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
505 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
376 *Lactobacillus iners* DSM 13335 GCA_000160875.1
lx
888 *Deinococcus radiodurans* R1 GCA_000008565.1
535 *Deinococcus deserti* VCD115 GCA_000020685.1
498 *Deinococcus hapiensis* KR-140 GCA_900176165.1
ly
828 *Streptococcus mutans* UA159 GCA_000007465.2
597 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
554 *Streptococcus ferus* DSM 20646 GCA_000372425.1
554 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
lz
515 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
439 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
373 *Gemmobacter aquatilis* GCA_900110025.1
la
832 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
794 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
552 *Lactobacillus jensenii* GCA_001936235.1
lb
870 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
813 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
782 *Staphylococcus warneri* SG1 GCA_000332735.1
lc
699 *Streptococcus mutans* UA159 GCA_000007465.2
533 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
494 *Streptococcus ferus* DSM 20646 GCA_000372425.1
ld
826 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
732 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
650 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
le
657 *Streptococcus mutans* UA159 GCA_000007465.2
480 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
479 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
lf
742 *Streptococcus mutans* UA159 GCA_000007465.2
527 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
517 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
lg
661 *Deinococcus radiodurans* R1 GCA_000008565.1
394 *Deinococcus deserti* VCD115 GCA_000020685.1
381 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
lh
661 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
650 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
606 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
li
728 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
658 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
525 *Lactobacillus iners* DSM 13335 GCA_000160875.1
lj
873 *Bacillus anthracis* str. Ames GCA_000007845.1
873 *Bacillus anthracis* str. Sterne GCA_000008165.1
873 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
865 *Bacillus cereus* ATCC 14579 GCA_000007825.1
850 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2

lK
 643 *Clostridium beijerinckii* GCA_000833105.2
 617 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 602 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lL
 552 *Clostridium beijerinckii* GCA_000833105.2
 534 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 514 *Clostridium butyricum* GCA_001456065.2
 514 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lM
 343 *Clostridium beijerinckii* GCA_000833105.2
 328 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 323 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 lN
 714 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 638 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 463 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 lO
 391 *Streptococcus mutans* UA159 GCA_000007465.2
 286 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 279 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 lP
 710 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 676 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 659 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 lQ
 860 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 808 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 800 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 lR
 619 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 612 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 599 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 lS
 686 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 650 *Escherichia coli* UMN026 GCA_000026325.2
 638 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 lT
 653 *Deinococcus radiodurans* R1 GCA_000008565.1
 369 *Deinococcus deserti* VCD115 GCA_000020685.1
 349 *Deinococcus gobiensis* I-0 GCA_000252445.1
 lU
 515 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 501 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 470 *Staphylococcus simulans* GCA_001559115.1
 lV
 664 *Streptococcus mutans* UA159 GCA_000007465.2
 496 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 478 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 lW
 582 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 546 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 455 *Lactobacillus helveticus* GCA_001308285.1
 lX
 787 *Clostridium beijerinckii* GCA_000833105.2
 735 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 718 *Clostridium puniceum* GCA_002006345.1
 lY
 769 *Streptococcus mutans* UA159 GCA_000007465.2
 523 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 520 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 lZ
 536 *Deinococcus radiodurans* R1 GCA_000008565.1
 348 *Deinococcus gobiensis* I-0 GCA_000252445.1
 340 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 m0
 651 *Streptococcus mutans* UA159 GCA_000007465.2
 473 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 440 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 m1
 786 *Enterococcus faecalis* V583 GCA_000007785.1
 740 *Streptomyces cinnamomeus* GCA_001885705.1
 675 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 m2
 765 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 684 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1

593 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
m3
755 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
662 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
552 *Gemmobacter aquatilis* GCA_900110025.1
m4
388 *Deinococcus radiodurans* R1 GCA_000008565.1
292 *Deinococcus deserti* VCD115 GCA_000020685.1
274 *Deinococcus gobiensis* I-0 GCA_000252445.1
m5
854 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
819 *Shigella flexneri* 2a str. 301 GCA_000006925.2
813 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
m6
525 *Deinococcus radiodurans* R1 GCA_000008565.1
351 *Deinococcus deserti* VCD115 GCA_000020685.1
299 *Deinococcus hopiensis* KR-140 GCA_900176165.1
m7
955 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
909 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
832 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
m8
651 *Deinococcus radiodurans* R1 GCA_000008565.1
462 *Deinococcus deserti* VCD115 GCA_000020685.1
434 *Deinococcus gobiensis* I-0 GCA_000252445.1
m9
769 *Streptococcus mutans* UA159 GCA_000007465.2
598 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
564 *Streptococcus sanguinis* SK36 GCA_000014205.1
ma
506 *Deinococcus radiodurans* R1 GCA_000008565.1
300 *Deinococcus deserti* VCD115 GCA_000020685.1
296 *Deinococcus puniceus* GCA_001644565.1
mb
901 *Bacillus anthracis* str. Ames GCA_000007845.1
901 *Bacillus anthracis* str. Sterne GCA_000008165.1
893 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
880 *Bacillus cereus* ATCC 14579 GCA_000007825.1
880 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
mc
693 *Streptococcus mutans* UA159 GCA_000007465.2
476 *Streptococcus ferus* DSM 20646 GCA_000372425.1
476 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
468 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
md
627 *Clostridium beijerinckii* GCA_000833105.2
609 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
572 *Clostridium puniceum* GCA_002006345.1
me
840 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
684 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
643 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
mf
567 *Clostridium beijerinckii* GCA_000833105.2
542 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
529 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
mg
612 *Streptococcus mutans* UA159 GCA_000007465.2
457 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
420 *Streptococcus iniae* GCA_000831485.1
mh
864 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
782 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
544 *Lactobacillus iners* DSM 13335 GCA_000160875.1
mi
699 *Clostridium beijerinckii* GCA_000833105.2
645 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
629 *Clostridium puniceum* GCA_002006345.1
mj
749 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
711 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
508 *Lactobacillus iners* DSM 13335 GCA_000160875.1
mk
655 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
633 *Shigella flexneri* 2a str. 301 GCA_000006925.2
631 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1

631 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
ml
569 *Clostridium beijerinckii* GCA_000833105.2
549 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
541 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
mm
512 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
496 *Bacillus anthracis* str. Ames GCA_000007845.1
496 *Bacillus anthracis* str. Sterne GCA_000008165.1
496 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
493 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
mn
862 *Bacillus anthracis* str. Ames GCA_000007845.1
862 *Bacillus anthracis* str. Sterne GCA_000008165.1
862 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
851 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
836 *Bacillus cereus* ATCC 14579 GCA_000007825.1
836 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
mo
627 *Enterococcus faecalis* V583 GCA_000007785.1
587 *Streptomyces cinnamomeus* GCA_001885705.1
538 *Enterococcus massiliensis* GCA_001050095.1
mp
596 *Deinococcus radiodurans* R1 GCA_000008565.1
368 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
360 *Deinococcus deserti* VCD115 GCA_000020685.1
mq
305 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
276 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
255 *Rhodobacter vinaykumarii* GCA_900156695.1
mr
963 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
927 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
845 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
845 *Staphylococcus warneri* SG1 GCA_000332735.1
ms
714 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
599 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
483 *Defluviimonas alba* GCA_001620265.1
mt
543 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
495 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
477 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
477 *Staphylococcus warneri* SG1 GCA_000332735.1
mu
739 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
557 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
529 *Bifidobacterium longum* NCC2705 GCA_000007525.1
mv
866 *Streptococcus mutans* UA159 GCA_000007465.2
636 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
585 *Streptococcus sanguinis* SK36 GCA_000014205.1
mw
870 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
744 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
657 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
mx
598 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
531 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
468 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
my
815 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
762 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
683 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
mz
582 *Streptococcus mutans* UA159 GCA_000007465.2
444 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
401 *Streptococcus henryi* DSM 19005 GCA_000376985.1
mA
530 *Streptococcus mutans* UA159 GCA_000007465.2
378 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
345 *Streptococcus ferus* DSM 20646 GCA_000372425.1
mB
768 *Clostridium beijerinckii* GCA_000833105.2
738 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
673 *Clostridium puniceum* GCA_002006345.1

mC
 628 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 543 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 389 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 mD
 798 *Bacillus anthracis* str. Ames GCA_000007845.1
 798 *Bacillus anthracis* str. Sterne GCA_000008165.1
 798 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 778 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 762 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 mE
 731 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 609 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 537 *Gemmobacter megaterium* GCA_900156815.1
 mF
 725 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 725 *Escherichia coli* UMN026 GCA_000026325.2
 725 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 710 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 705 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 mG
 292 *Streptococcus mutans* UA159 GCA_000007465.2
 248 *Streptococcus salivarius* GCA_000785515.1
 248 *Streptococcus thermophilus* JIM 8232 GCA_000253395.1
 247 *Streptococcus criceti* HS-6 GCA_000187975.3
 247 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 mH
 785 *Deinococcus radiodurans* R1 GCA_000008565.1
 532 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 527 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 mI
 675 *Clostridium beijerinckii* GCA_000833105.2
 629 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 620 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 mJ
 705 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 666 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 642 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 mK
 587 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 572 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 414 *Lactobacillus jensenii* GCA_001936235.1
 414 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 mL
 743 *Clostridium beijerinckii* GCA_000833105.2
 724 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 693 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 mM
 576 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 526 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 408 *Gemmobacter aquatilis* GCA_900110025.1
 mN
 896 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 823 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 759 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 mO
 639 *Streptococcus mutans* UA159 GCA_000007465.2
 486 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 461 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 mP
 484 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 422 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 375 *Bifidobacterium stellenboschense* GCA_000741785.1
 mQ
 589 *Streptococcus mutans* UA159 GCA_000007465.2
 425 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 403 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 mR
 660 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 653 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 444 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 mS
 642 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 587 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 492 *Gemmobacter aquatilis* GCA_900110025.1
 mT

595 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 574 *Bacillus anthracis* str. Ames GCA_000007845.1
 574 *Bacillus anthracis* str. Sterne GCA_000008165.1
 574 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 574 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 558 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 mU
 616 *Clostridium beijerinckii* GCA_000833105.2
 562 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 540 *Clostridium butyricum* GCA_001456065.2
 mV
 613 *Clostridium beijerinckii* GCA_000833105.2
 595 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 580 *Clostridium puniceum* GCA_002006345.1
 mW
 585 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 558 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 394 *Lactobacillus gallinarum* GCA_001314245.2
 mX
 606 *Deinococcus radiodurans* R1 GCA_000008565.1
 414 *Deinococcus deserti* VCD115 GCA_000020685.1
 363 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 mY
 755 *Clostridium beijerinckii* GCA_000833105.2
 720 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 693 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 mZ
 411 *Deinococcus radiodurans* R1 GCA_000008565.1
 259 *Deinococcus deserti* VCD115 GCA_000020685.1
 236 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 n0
 429 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 393 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 273 *Deinococcus radiodurans* R1 GCA_000008565.1
 n1
 767 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 712 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 618 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 n2
 644 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 613 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 590 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 n3
 750 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 710 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 639 *Staphylococcus warneri* SG1 GCA_000332735.1
 n4
 908 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 826 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 633 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 n5
 487 *Enterococcus faecalis* V583 GCA_000007785.1
 455 *Streptomyces cinnamomeus* GCA_001885705.1
 404 *Enterococcus faecium* D0 GCA_000174395.2
 n6
 670 *Clostridium beijerinckii* GCA_000833105.2
 610 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 600 *Clostridium butyricum* GCA_001456065.2
 n7
 558 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 524 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 504 *Staphylococcus pettenkoferi* GCA_002208805.1
 n8
 649 *Clostridium beijerinckii* GCA_000833105.2
 617 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 592 *Clostridium puniceum* GCA_002006345.1
 n9
 949 *Streptococcus mutans* UA159 GCA_000007465.2
 707 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 655 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 na
 590 *Clostridium beijerinckii* GCA_000833105.2
 584 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 581 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nb
 678 *Deinococcus radiodurans* R1 GCA_000008565.1

423 *Deinococcus deserti* VCD115 GCA_000020685.1
 409 *Deinococcus hapiensis* KR-140 GCA_900176165.1
 nc
 357 *Streptococcus mutans* UA159 GCA_000007465.2
 214 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 199 *Streptococcus dysgalactiae* subsp. *equisimilis* AC-2713 GCA_000317855.1
 nd
 820 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 805 *Bacillus anthracis* str. Ames GCA_000007845.1
 805 *Bacillus anthracis* str. Sterne GCA_000008165.1
 805 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 805 *Bacillus thuringiensis* 5D serovar *konkukian* str. 97-27 GCA_000008505.1
 800 *Bacillus mycoides* GCA_000832605.1
 ne
 781 *Deinococcus radiodurans* R1 GCA_000008565.1
 455 *Deinococcus deserti* VCD115 GCA_000020685.1
 449 *Deinococcus hapiensis* KR-140 GCA_900176165.1
 nf
 481 *Deinococcus radiodurans* R1 GCA_000008565.1
 309 *Deinococcus deserti* VCD115 GCA_000020685.1
 305 *Deinococcus puniceus* GCA_001644565.1
 ng
 498 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 478 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 442 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 442 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 nh
 651 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 598 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 466 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ni
 730 *Clostridium beijerinckii* GCA_000833105.2
 720 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 702 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nj
 810 *Deinococcus radiodurans* R1 GCA_000008565.1
 508 *Deinococcus deserti* VCD115 GCA_000020685.1
 504 *Deinococcus puniceus* GCA_001644565.1
 nk
 648 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 610 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 430 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 nl
 603 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 555 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 416 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 nm
 919 *Streptococcus mutans* UA159 GCA_000007465.2
 673 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 619 *Streptococcus criceti* HS-6 GCA_000187975.3
 nn
 658 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 598 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 468 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 no
 641 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 523 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 450 *Gemmobacter aquatilis* GCA_900110025.1
 450 *Gemmobacter megaterium* GCA_900156815.1
 np
 642 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 601 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 463 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 nq
 782 *Clostridium beijerinckii* GCA_000833105.2
 738 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 735 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nr
 821 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 788 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 698 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 ns
 850 *Deinococcus radiodurans* R1 GCA_000008565.1
 507 *Deinococcus gobiensis* I-0 GCA_000252445.1
 488 *Deinococcus proteolyticus* MRP GCA_000190555.1
 nt

855 *Enterococcus faecalis* V583 GCA_000007785.1
 798 *Enterococcus rivorum* GCA_001742285.1
 793 *Streptomyces cinnamoneus* GCA_001885705.1
 nu
 701 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 597 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 476 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 nv
 606 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 559 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 533 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 nw
 777 *Streptococcus mutans* UA159 GCA_000007465.2
 511 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 480 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 nx
 541 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 435 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 397 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 ny
 518 *Enterococcus faecalis* V583 GCA_000007785.1
 472 *Streptomyces cinnamoneus* GCA_001885705.1
 458 *Enterococcus rivorum* GCA_001742285.1
 nz
 442 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 412 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 411 *Escherichia coli* UMN026 GCA_000026325.2
 nA
 821 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 755 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 574 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 nB
 818 *Clostridium beijerinckii* GCA_000833105.2
 757 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 748 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nC
 728 *Deinococcus radiodurans* R1 GCA_000008565.1
 440 *Deinococcus deserti* VCD115 GCA_000020685.1
 437 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 nD
 775 *Enterococcus faecalis* V583 GCA_000007785.1
 732 *Enterococcus rivorum* GCA_001742285.1
 728 *Streptomyces cinnamoneus* GCA_001885705.1
 nE
 733 *Streptococcus mutans* UA159 GCA_000007465.2
 556 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 555 *Streptococcus pseudoporcinus* LQ 940-04 GCA_000188035.3
 555 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 nF
 764 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 711 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 530 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 nG
 945 *Streptococcus mutans* UA159 GCA_000007465.2
 669 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 661 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 nH
 776 *Streptococcus mutans* UA159 GCA_000007465.2
 570 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 536 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 nI
 928 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 809 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 626 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 nJ
 596 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 542 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 484 *Gemmobacter aquatilis* GCA_900110025.1
 nK
 649 *Bacillus anthracis* str. Ames GCA_000007845.1
 649 *Bacillus anthracis* str. Sterne GCA_000008165.1
 649 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 641 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 639 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 nL
 788 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1

757 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 582 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 nM
 769 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 754 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 754 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 751 *Escherichia coli* UMN026 GCA_000026325.2
 nN
 619 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 619 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 604 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 602 *Escherichia coli* UMN026 GCA_000026325.2
 nO
 696 *Deinococcus radiodurans* R1 GCA_000008565.1
 492 *Deinococcus deserti* VCD115 GCA_000020685.1
 467 *Deinococcus gobiensis* I-0 GCA_000252445.1
 nP
 733 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 668 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 626 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 nQ
 613 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 590 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 402 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 nR
 718 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 670 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 479 *Lactobacillus jensenii* GCA_001936235.1
 479 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 nS
 481 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 449 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 424 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 nT
 859 *Clostridium beijerinckii* GCA_000833105.2
 848 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 817 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nU
 601 *Clostridium beijerinckii* GCA_000833105.2
 550 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 528 *Clostridium chromiireducens* GCA_002029255.1
 nV
 582 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 571 *Clostridium beijerinckii* GCA_000833105.2
 570 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nW
 641 *Clostridium beijerinckii* GCA_000833105.2
 639 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 622 *Clostridium puniceum* GCA_002006345.1
 622 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 nX
 779 *Deinococcus radiodurans* R1 GCA_000008565.1
 466 *Deinococcus deserti* VCD115 GCA_000020685.1
 412 *Deinococcus proteolyticus* MRP GCA_000190555.1
 nY
 711 *Deinococcus radiodurans* R1 GCA_000008565.1
 412 *Deinococcus deserti* VCD115 GCA_000020685.1
 393 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 nZ
 739 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 733 *Escherichia coli* IAI39 GCA_000026345.1
 733 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 717 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 717 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 o0
 863 *Clostridium beijerinckii* GCA_000833105.2
 859 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 846 *Clostridium puniceum* GCA_002006345.1
 o1
 516 *Clostridium beijerinckii* GCA_000833105.2
 515 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 496 *Clostridium butyricum* GCA_001456065.2
 o2
 518 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 488 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 488 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1

487 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 o3
 807 *Enterococcus faecalis* V583 GCA_000007785.1
 760 *Streptomyces cinnamomeus* GCA_001885705.1
 719 *Enterococcus massiliensis* GCA_001050095.1
 o4
 519 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 504 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 441 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 o5
 585 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 580 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 580 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 579 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 579 *Escherichia coli* UMN026 GCA_000026325.2
 o6
 742 *Deinococcus radiodurans* R1 GCA_000008565.1
 485 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 480 *Deinococcus deserti* VCD115 GCA_000020685.1
 o7
 615 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 564 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 556 *Staphylococcus sciuri* GCA_002209165.1
 556 *Staphylococcus warneri* SG1 GCA_000332735.1
 o8
 726 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 652 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 464 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 o9
 720 *Streptococcus mutans* UA159 GCA_000007465.2
 564 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 517 *Streptococcus equinus* GCA_000964315.1
 517 *Streptococcus galloyticus* subsp. *galloyticus* DSM 16831 GCA_002000985.1
 oa
 815 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 773 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 592 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 ob
 671 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 671 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 660 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 660 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 651 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 oc
 570 *Clostridium beijerinckii* GCA_000833105.2
 555 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 533 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 od
 725 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 660 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 478 *Lactobacillus acetotolerans* GCA_001042405.1
 oe
 769 *Enterococcus faecalis* V583 GCA_000007785.1
 722 *Streptomyces cinnamomeus* GCA_001885705.1
 703 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 of
 657 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 576 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 441 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 og
 792 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 698 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 538 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 oh
 626 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 554 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *Gemmobacter megaterium* GCA_900156815.1
 oi
 417 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 390 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 283 *Pseudorhodobacter wandonensis* GCA_001202035.1
 oj
 838 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 763 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 574 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ok

695 *Clostridium beijerinckii* GCA_000833105.2
664 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
621 *Clostridium puniceum* GCA_002006345.1
ol
541 *Streptococcus mutans* UA159 GCA_000007465.2
371 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
335 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
om
706 *Clostridium beijerinckii* GCA_000833105.2
668 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
665 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
on
775 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
710 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
542 *Lactobacillus iners* DSM 13335 GCA_000160875.1
oo
691 *Deinococcus radiodurans* R1 GCA_000008565.1
423 *Deinococcus deserti* VCD115 GCA_000020685.1
390 *Deinococcus hapiensis* KR-140 GCA_900176165.1
op
822 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
817 *Clostridium beijerinckii* GCA_000833105.2
789 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
oq
513 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
513 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
485 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
485 *Staphylococcus warneri* SG1 GCA_000332735.1
458 *Staphylococcus saprophyticus* subsp. *saprophyticus* ATCC 15305 GCA_000010125.1
458 *Staphylococcus xylosus* GCA_000706685.1
or
1047 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
930 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
692 *Lactobacillus iners* DSM 13335 GCA_000160875.1
os
717 *Streptococcus mutans* UA159 GCA_000007465.2
488 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
468 *Streptococcus ferus* DSM 20646 GCA_000372425.1
ot
527 *Streptococcus mutans* UA159 GCA_000007465.2
374 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
360 *Streptococcus ovis* DSM 16829 GCA_000380125.1
ou
706 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
598 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
482 *Gemmobacter aquatilis* GCA_900110025.1
ov
666 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
666 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
659 *Shigella flexneri* 2a str. 301 GCA_000006925.2
646 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
ow
621 *Streptococcus mutans* UA159 GCA_000007465.2
371 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
369 *Streptococcus equinus* GCA_000964315.1
ox
825 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
798 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
704 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
704 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
oy
609 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
568 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
524 *Staphylococcus lutrae* GCA_002101335.1
oz
705 *Enterococcus faecalis* V583 GCA_000007785.1
660 *Streptomyces cinnamomeus* GCA_001885705.1
623 *Enterococcus rivorum* GCA_001742285.1
oA
606 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
576 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
539 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
539 *Bifidobacterium longum* NCC2705 GCA_000007525.1
oB
644 *Streptococcus mutans* UA159 GCA_000007465.2
427 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1

390 Streptococcus equinus GCA_000964315.1
 oC
 604 Streptococcus mutans UA159 GCA_000007465.2
 500 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 481 Streptococcus macacae NCTC 11558 GCA_000187995.3
 oD
 687 Clostridium beijerinckii GCA_000833105.2
 630 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 622 Clostridium puniceum GCA_002006345.1
 oE
 566 Streptococcus mutans UA159 GCA_000007465.2
 386 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 371 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 oF
 732 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 666 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 486 Lactobacillus iners DSM 13335 GCA_000160875.1
 oG
 682 Deinococcus radiodurans R1 GCA_000008565.1
 441 Deinococcus gobiensis I-0 GCA_000252445.1
 440 Deinococcus deserti VCD115 GCA_000020685.1
 oH
 700 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 632 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 471 Lactobacillus iners DSM 13335 GCA_000160875.1
 oI
 508 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 490 Staphylococcus capitis subsp. capitis GCA_001028645.1
 435 Megaspheera cerevisiae DSM 20462 GCA_001045675.1
 435 Staphylococcus warneri SG1 GCA_000332735.1
 oJ
 889 Deinococcus radiodurans R1 GCA_000008565.1
 524 Deinococcus deserti VCD115 GCA_000020685.1
 513 Deinococcus gobiensis I-0 GCA_000252445.1
 oK
 777 Clostridium beijerinckii GCA_000833105.2
 768 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 744 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 oL
 730 Enterococcus faecalis V583 GCA_000007785.1
 683 Streptomyces cinnamomeus GCA_001885705.1
 645 Enterococcus massiliensis GCA_001050095.1
 oM
 805 Streptococcus mutans UA159 GCA_000007465.2
 575 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 527 Streptococcus halotolerans GCA_001598035.1
 oN
 724 Streptococcus mutans UA159 GCA_000007465.2
 554 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 507 Streptococcus equinus GCA_000964315.1
 oO
 609 Streptococcus mutans UA159 GCA_000007465.2
 464 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 422 Streptococcus macacae NCTC 11558 GCA_000187995.3
 oP
 798 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 766 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 766 Shigella flexneri 2a str. 301 GCA_000006925.2
 740 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 740 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 oQ
 456 Streptococcus mutans UA159 GCA_000007465.2
 269 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 237 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 oR
 416 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 377 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 372 Bifidobacterium gallicum DSM 20093 = LMG 11596 GCA_000741205.1
 oS
 570 Enterococcus faecalis V583 GCA_000007785.1
 527 Enterococcus haemoperoxidus ATCC BAA-382 GCA_000407165.1
 527 Enterococcus rivorium GCA_001742285.1
 524 Streptomyces cinnamomeus GCA_001885705.1
 oT
 777 Clostridium beijerinckii GCA_000833105.2
 758 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1

734 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 oU
 660 *Enterococcus faecalis* V583 GCA_000007785.1
 599 *Streptomyces cinnamoneus* GCA_001885705.1
 537 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 oV
 434 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 434 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 434 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 434 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 433 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 433 *Escherichia coli* UMN026 GCA_000026325.2
 411 *Escherichia coli* IAI39 GCA_000026345.1
 411 *Shigella dysenteriae* Sd197 GCA_000012005.1
 ow
 548 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 548 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 543 *Clostridium beijerinckii* GCA_000833105.2
 531 *Clostridium puniceum* GCA_002006345.1
 oX
 746 *Clostridium beijerinckii* GCA_000833105.2
 727 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 710 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 oY
 517 *Deinococcus radiodurans* R1 GCA_000008565.1
 332 *Deinococcus gobiensis* I-0 GCA_000252445.1
 323 *Deinococcus deserti* VCD115 GCA_000020685.1
 oZ
 589 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 523 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 450 *Bifidobacterium tsurumense* GCA_000741765.1
 p0
 674 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 654 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 619 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 619 *Staphylococcus warneri* SG1 GCA_000332735.1
 p1
 383 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 359 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 287 *Gemmobacter aquatilis* GCA_900110025.1
 p2
 650 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 624 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 606 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 p3
 653 *Enterococcus faecalis* V583 GCA_000007785.1
 648 *Streptomyces cinnamoneus* GCA_001885705.1
 596 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
 p4
 637 *Enterococcus faecalis* V583 GCA_000007785.1
 590 *Streptomyces cinnamoneus* GCA_001885705.1
 507 *Enterococcus rivorum* GCA_001742285.1
 p5
 725 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 689 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 554 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 p6
 601 *Clostridium beijerinckii* GCA_000833105.2
 555 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 541 *Clostridium chromiireducens* GCA_002029255.1
 p7
 417 *Enterococcus faecalis* V583 GCA_000007785.1
 387 *Streptomyces cinnamoneus* GCA_001885705.1
 386 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 p8
 493 *Streptococcus mutans* UA159 GCA_000007465.2
 352 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 350 *Streptococcus equinus* GCA_000964315.1
 p9
 619 *Streptococcus mutans* UA159 GCA_000007465.2
 418 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 384 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 pa
 815 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 814 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 806 *Escherichia coli* UMN026 GCA_000026325.2

pb
 442 *Deinococcus radiodurans* R1 GCA_000008565.1
 296 *Deinococcus deserti* VCD115 GCA_000020685.1
 260 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 pc
 884 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 825 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 749 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 749 *Staphylococcus warneri* SG1 GCA_000332735.1
 pd
 753 *Deinococcus radiodurans* R1 GCA_000008565.1
 438 *Deinococcus deserti* VCD115 GCA_000020685.1
 425 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 pe
 761 *Clostridium beijerinckii* GCA_000833105.2
 749 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 725 *Clostridium puniceum* GCA_002006345.1
 pf
 603 *Streptococcus mutans* UA159 GCA_000007465.2
 398 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 395 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 pg
 500 *Streptococcus mutans* UA159 GCA_000007465.2
 353 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 334 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 ph
 795 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 795 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 771 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 746 *Escherichia coli* UMN026 GCA_000026325.2
 pi
 748 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 647 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 529 *Gemmobacter aquatilis* GCA_900110025.1
 pj
 480 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 449 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 358 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 pk
 789 *Streptococcus mutans* UA159 GCA_000007465.2
 585 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 544 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 pl
 731 *Streptococcus mutans* UA159 GCA_000007465.2
 556 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 484 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 pm
 893 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 827 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 615 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 pn
 568 *Deinococcus radiodurans* R1 GCA_000008565.1
 426 *Deinococcus gobiensis* I-0 GCA_000252445.1
 416 *Deinococcus deserti* VCD115 GCA_000020685.1
 po
 448 *Streptococcus mutans* UA159 GCA_000007465.2
 406 *Streptomyces cinnamomeus* GCA_001885705.1
 388 *Enterococcus faecalis* V583 GCA_000007785.1
 pp
 688 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 652 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 592 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 pq
 720 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 633 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 457 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 pr
 664 *Deinococcus radiodurans* R1 GCA_000008565.1
 438 *Deinococcus deserti* VCD115 GCA_000020685.1
 399 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 ps
 619 *Clostridium beijerinckii* GCA_000833105.2
 603 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 594 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pt
 465 *Enterococcus faecalis* V583 GCA_000007785.1

419 *Enterococcus thailandicus* GCA_001652875.1
 419 *Streptomyces cinnamoneus* GCA_001885705.1
 412 *Enterococcus rivorum* GCA_001742285.1
 pu
 887 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 859 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 788 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 pv
 430 *Streptococcus mutans* UA159 GCA_000007465.2
 270 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 259 *Streptococcus equinus* GCA_000964315.1
 259 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 pw
 404 *Streptococcus mutans* UA159 GCA_000007465.2
 254 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 236 *Streptococcus orisrattii* DSM 15617 GCA_000380105.1
 px
 363 *Enterococcus faecalis* V583 GCA_000007785.1
 328 *Enterococcus rivorum* GCA_001742285.1
 320 *Streptomyces cinnamoneus* GCA_001885705.1
 py
 724 *Clostridium beijerinckii* GCA_000833105.2
 707 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 696 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pz
 735 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 681 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 673 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 pA
 720 *Clostridium beijerinckii* GCA_000833105.2
 684 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 661 *Clostridium butyricum* GCA_001456065.2
 pB
 751 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 733 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 688 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 pC
 495 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 457 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 350 *Gemmobacter aquatilis* GCA_900110025.1
 pD
 784 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 738 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 556 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 pE
 506 *Deinococcus radiodurans* R1 GCA_000008565.1
 280 *Deinococcus deserti* VCD115 GCA_000020685.1
 261 *Deinococcus gobiensis* I-0 GCA_000252445.1
 pF
 625 *Clostridium beijerinckii* GCA_000833105.2
 600 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 559 *Clostridium puniceum* GCA_002006345.1
 pG
 496 *Clostridium beijerinckii* GCA_000833105.2
 481 *Clostridium puniceum* GCA_002006345.1
 481 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 468 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pH
 647 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 564 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 468 *Defluviimonas alba* GCA_001620265.1
 pI
 801 *Bacillus anthracis* str. Ames GCA_000007845.1
 801 *Bacillus anthracis* str. Sterne GCA_000008165.1
 801 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 801 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 787 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 783 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 pJ
 495 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 484 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 469 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 pK
 740 *Enterococcus faecalis* V583 GCA_000007785.1
 693 *Streptomyces cinnamoneus* GCA_001885705.1
 616 *Enterococcus rivorum* GCA_001742285.1

pL
 660 *Enterococcus faecalis* V583 GCA_000007785.1
 613 *Streptomyces cinnamoneus* GCA_001885705.1
 538 *Enterococcus rivorum* GCA_001742285.1
 pM
 694 *Clostridium beijerinckii* GCA_000833105.2
 628 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 618 *Clostridium puniceum* GCA_002006345.1
 pN
 849 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 772 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 640 *Defluviimonas alba* GCA_001620265.1
 pO
 748 *Bacillus anthracis* str. Ames GCA_000007845.1
 748 *Bacillus anthracis* str. Sterne GCA_000008165.1
 740 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 740 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 722 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 pP
 705 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 698 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 698 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 658 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 pQ
 712 *Deinococcus radiodurans* R1 GCA_000008565.1
 497 *Deinococcus gobiensis* I-0 GCA_000252445.1
 491 *Deinococcus puniceus* GCA_001644565.1
 pR
 827 *Streptococcus mutans* UA159 GCA_000007465.2
 652 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 625 *Streptococcus cristatus* AS 1.3089 GCA_000385925.1
 pS
 703 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 699 *Clostridium beijerinckii* GCA_000833105.2
 675 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pT
 631 *Deinococcus radiodurans* R1 GCA_000008565.1
 445 *Deinococcus gobiensis* I-0 GCA_000252445.1
 435 *Deinococcus deserti* VCD115 GCA_000020685.1
 pU
 591 *Clostridium beijerinckii* GCA_000833105.2
 563 *Clostridium puniceum* GCA_002006345.1
 563 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 541 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pV
 674 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 570 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 533 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 pW
 760 *Bacillus anthracis* str. Ames GCA_000007845.1
 760 *Bacillus anthracis* str. Sterne GCA_000008165.1
 759 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 746 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 746 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 pX
 640 *Clostridium beijerinckii* GCA_000833105.2
 608 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 584 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 pY
 768 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 698 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 546 *Gemmobacter aquatilis* GCA_900110025.1
 pZ
 382 *Clostridium beijerinckii* GCA_000833105.2
 349 *Clostridium puniceum* GCA_002006345.1
 349 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 334 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 q0
 883 *Streptococcus mutans* UA159 GCA_000007465.2
 660 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 650 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 q1
 486 *Clostridium beijerinckii* GCA_000833105.2
 484 *Clostridium puniceum* GCA_002006345.1
 470 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 q2

610 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 560 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 548 *Staphylococcus condimentii* GCA_001618885.1
 q3
 537 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 507 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 466 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 466 *Staphylococcus pettenkoferi* GCA_002208805.1
 466 *Staphylococcus warneri* SG1 GCA_000332735.1
 q4
 785 *Clostridium beijerinckii* GCA_000833105.2
 747 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 739 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 q5
 519 *Clostridium beijerinckii* GCA_000833105.2
 470 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 464 *Clostridium puniceum* GCA_002006345.1
 q6
 723 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 696 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 675 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 q7
 614 *Streptococcus mutans* UA159 GCA_000007465.2
 400 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 384 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 q8
 754 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 729 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 621 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 q9
 678 *Enterococcus faecalis* V583 GCA_000007785.1
 631 *Streptomyces cinnamomeus* GCA_001885705.1
 606 *Enterococcus rivorum* GCA_001742285.1
 qa
 565 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 486 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 292 *Lactobacillus acidophilus* NCFM GCA_000011985.1
 292 *Lactobacillus gallinarum* GCA_001314245.2
 qb
 636 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 573 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 491 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 qc
 587 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 572 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 564 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 564 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 564 *Staphylococcus warneri* SG1 GCA_000332735.1
 qd
 660 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 601 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 479 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 qe
 774 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 708 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 673 *Staphylococcus warneri* SG1 GCA_000332735.1
 qf
 785 *Streptococcus mutans* UA159 GCA_000007465.2
 579 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 535 *Streptococcus criceti* HS-6 GCA_000187975.3
 qg
 803 *Bacillus anthracis* str. Ames GCA_000007845.1
 803 *Bacillus anthracis* str. Sterne GCA_000008165.1
 803 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 803 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 803 _5BBacillus thuringiensis 5D serovar konkukian str. 97-27 GCA_000008505.1
 776 *Bacillus mycoides* GCA_000832605.1
 771 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 qh
 756 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 620 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 508 *Defluviimonas alba* GCA_001620265.1
 qi
 558 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 531 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 505 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1

qj
 521 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 473 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 435 *Bifidobacterium stellenboschense* GCA_000741785.1
 qk
 705 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 594 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 525 *Bifidobacterium bifidum* PRL2010 GCA_000165905.1
 ql
 576 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 543 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 420 *Gemmobacter aquatilis* GCA_900110025.1
 qm
 532 *Streptococcus mutans* UA159 GCA_000007465.2
 350 *Streptococcus halotolerans* GCA_001598035.1
 337 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 qn
 485 *Clostridium beijerinckii* GCA_000833105.2
 470 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 465 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 qo
 521 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 520 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 520 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 520 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 503 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 503 *Escherichia coli* UMN026 GCA_000026325.2
 qp
 531 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 497 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 372 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 qq
 610 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 516 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 462 *Defluviimonas alba* GCA_001620265.1
 qr
 627 *Streptococcus mutans* UA159 GCA_000007465.2
 454 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 429 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 qs
 698 *Enterococcus faecalis* V583 GCA_000007785.1
 658 *Streptomyces cinnamomeus* GCA_001885705.1
 593 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 qt
 736 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 671 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 563 *Gemmobacter megaterium* GCA_900156815.1
 qu
 852 *Enterococcus faecalis* V583 GCA_000007785.1
 805 *Streptomyces cinnamomeus* GCA_001885705.1
 729 *Enterococcus rivorium* GCA_001742285.1
 qv
 657 *Deinococcus radiodurans* R1 GCA_000008565.1
 406 *Deinococcus deserti* VCD115 GCA_000020685.1
 378 *Deinococcus proteolyticus* MRP GCA_000190555.1
 qw
 722 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 695 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 564 *Defluviimonas alba* GCA_001620265.1
 qx
 793 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 783 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 743 *Staphylococcus warneri* SG1 GCA_000332735.1
 qy
 721 *Streptococcus mutans* UA159 GCA_000007465.2
 544 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 486 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 qz
 978 *Streptococcus mutans* UA159 GCA_000007465.2
 734 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 720 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 qa
 443 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 443 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 441 *Escherichia coli* UMN026 GCA_000026325.2
 428 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1

428 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 qB
 675 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 642 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 474 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 qC
 736 *Clostridium beijerinckii* GCA_000833105.2
 710 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 708 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 qD
 461 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 445 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 407 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 407 *Staphylococcus warneri* SG1 GCA_000332735.1
 qE
 627 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 627 *Escherichia coli* UMN026 GCA_000026325.2
 627 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 627 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 621 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 621 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 582 *Klebsiella oxytoca* GCA_001022195.1
 qF
 587 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 580 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 447 *Deinococcus radiodurans* R1 GCA_000008565.1
 434 *Deinococcus deserti* VCD115 GCA_000020685.1
 417 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 qH
 649 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 643 *Bacillus anthracis* str. Ames GCA_000007845.1
 643 *Bacillus anthracis* str. Sterne GCA_000008165.1
 643 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 634 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 qI
 649 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 590 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 545 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 545 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 qJ
 590 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 552 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 476 *Streptococcus mutans* UA159 GCA_000007465.2
 qK
 487 *Enterococcus faecalis* V583 GCA_000007785.1
 441 *Streptomyces cinnamomeus* GCA_001885705.1
 414 *Enterococcus rivorum* GCA_001742285.1
 qL
 697 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 644 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 569 *Gemmobacter aquatilis* GCA_900110025.1
 qM
 438 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 415 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 287 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 qN
 471 *Enterococcus faecalis* V583 GCA_000007785.1
 425 *Streptomyces cinnamomeus* GCA_001885705.1
 401 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 401 *Enterococcus massiliensis* GCA_001050095.1
 401 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
 qO
 617 *Escherichia coli* IAI39 GCA_000026345.1
 617 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 608 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 608 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 608 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 605 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 qP
 651 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 588 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 571 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 qQ
 693 *Enterococcus faecalis* V583 GCA_000007785.1

647 *Streptomyces cinnamoneus* GCA_001885705.1
 589 *Vagococcus lutrae* LBD1 GCA_000498295.1
 qR
 794 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 694 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 571 *Gemmobacter aquatilis* GCA_900110025.1
 qS
 791 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 752 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 748 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 qT
 751 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 693 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 547 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 qU
 737 *Streptococcus mutans* UA159 GCA_000007465.2
 561 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 517 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 qV
 573 *Streptococcus mutans* UA159 GCA_000007465.2
 430 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 396 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 qW
 560 *Streptococcus mutans* UA159 GCA_000007465.2
 350 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 344 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 qX
 820 *Clostridium beijerinckii* GCA_000833105.2
 812 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 806 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 qY
 797 *Enterococcus faecalis* V583 GCA_000007785.1
 750 *Streptomyces cinnamoneus* GCA_001885705.1
 729 *Enterococcus rivorum* GCA_001742285.1
 qZ
 690 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 667 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 488 *Lactobacillus jensenii* GCA_001936235.1
 488 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 r0
 678 *Enterococcus faecalis* V583 GCA_000007785.1
 631 *Streptomyces cinnamoneus* GCA_001885705.1
 624 *Enterococcus rivorum* GCA_001742285.1
 r1
 630 *Bacillus anthracis* str. Ames GCA_000007845.1
 630 *Bacillus anthracis* str. Sterne GCA_000008165.1
 630 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 630 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 623 *Bacillus mycoides* GCA_000832605.1
 618 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 r2
 729 *Streptococcus mutans* UA159 GCA_000007465.2
 573 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 528 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 r3
 815 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 732 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 617 *Gemmobacter aquatilis* GCA_900110025.1
 r4
 857 *Clostridium beijerinckii* GCA_000833105.2
 842 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 832 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 r5
 661 *Bacillus anthracis* str. Ames GCA_000007845.1
 661 *Bacillus anthracis* str. Sterne GCA_000008165.1
 661 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 657 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 644 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 r6
 981 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 899 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 671 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 r7
 760 *Deinococcus radiodurans* R1 GCA_000008565.1
 511 *Deinococcus deserti* VCD115 GCA_000020685.1
 494 *Deinococcus murrayi* DSM 11303 GCA_000482805.1

r8
 801 Clostridium beijerinckii GCA_000833105.2
 759 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 730 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 r9
 696 Deinococcus radiodurans R1 GCA_000008565.1
 472 Deinococcus gobiensis I-0 GCA_000252445.1
 457 Deinococcus deserti VCD115 GCA_000020685.1
 ra
 766 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 704 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 590 Lactobacillus iners DSM 13335 GCA_000160875.1
 rb
 426 Clostridium beijerinckii GCA_000833105.2
 396 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 374 Clostridium puniceum GCA_002006345.1
 rc
 759 Clostridium beijerinckii GCA_000833105.2
 709 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 680 Clostridium puniceum GCA_002006345.1
 rd
 627 Deinococcus radiodurans R1 GCA_000008565.1
 312 Deinococcus deserti VCD115 GCA_000020685.1
 302 Deinococcus gobiensis I-0 GCA_000252445.1
 re
 670 Clostridium beijerinckii GCA_000833105.2
 651 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 614 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 rf
 641 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 585 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 451 Rhodobacter aestuarii GCA_900156655.1
 rg
 779 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 714 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 503 Lactobacillus iners DSM 13335 GCA_000160875.1
 rh
 641 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 600 Staphylococcus capitis subsp. capitis GCA_001028645.1
 591 Megasphaera cerevisiae DSM 20462 GCA_001045675.1
 591 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 591 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 591 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 591 Staphylococcus warneri SG1 GCA_000332735.1
 ri
 719 Clostridium beijerinckii GCA_000833105.2
 691 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 666 Clostridium puniceum GCA_002006345.1
 rj
 769 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 630 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 576 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 rk
 942 Bacillus anthracis str. Ames GCA_000007845.1
 942 Bacillus anthracis str. Sterne GCA_000008165.1
 935 _5BBacillus thuringiensis 5D serovar konkukian str. 97-27 GCA_000008505.1
 930 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 rl
 675 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 644 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 644 Shigella flexneri 2a str. 301 GCA_000006925.2
 616 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 rm
 711 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 608 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 580 Bifidobacterium thermophilum GCA_000741495.1
 580 Bifidobacterium thermophilum RBL67 GCA_000347695.1
 rn
 613 Clostridium beijerinckii GCA_000833105.2
 552 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 536 Clostridium butyricum GCA_001456065.2
 ro
 850 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 803 Staphylococcus capitis subsp. capitis GCA_001028645.1
 731 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 rp

751 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 642 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 558 Gemmobacter aquatilis GCA_900110025.1
 rq
 979 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 909 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 730 Lactobacillus iners DSM 13335 GCA_000160875.1
 rr
 778 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 767 Clostridium beijerinckii GCA_000833105.2
 757 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 rs
 775 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 659 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 653 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 rt
 460 Clostridium beijerinckii GCA_000833105.2
 456 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 440 Clostridium puniceum GCA_002006345.1
 ru
 663 Clostridium beijerinckii GCA_000833105.2
 640 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 613 Clostridium puniceum GCA_002006345.1
 rv
 661 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 655 Staphylococcus capitis subsp. capitis GCA_001028645.1
 614 Staphylococcus haemolyticus JCS1435 GCA_000009865.1
 614 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 rw
 613 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 555 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 486 Gemmobacter aquatilis GCA_900110025.1
 rx
 535 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 533 Staphylococcus capitis subsp. capitis GCA_001028645.1
 481 Staphylococcus pettenkoferi GCA_002208805.1
 ry
 637 Clostridium beijerinckii GCA_000833105.2
 630 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 623 Clostridium puniceum GCA_002006345.1
 rz
 401 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 386 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 386 Shigella flexneri 2a str. 301 GCA_000006925.2
 378 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 378 Escherichia coli UMN026 GCA_000026325.2
 rA
 818 Clostridium beijerinckii GCA_000833105.2
 793 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 763 Clostridium puniceum GCA_002006345.1
 rB
 764 Deinococcus radiodurans R1 GCA_000008565.1
 510 Deinococcus deserti VCD115 GCA_000020685.1
 486 Deinococcus gobiensis I-0 GCA_000252445.1
 rC
 802 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 802 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 800 Shigella flexneri 2a str. 301 GCA_000006925.2
 799 Escherichia coli UMN026 GCA_000026325.2
 rD
 638 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 564 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 459 Lactobacillus iners DSM 13335 GCA_000160875.1
 rE
 840 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 799 Staphylococcus capitis subsp. capitis GCA_001028645.1
 762 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 rF
 784 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 728 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 538 Lactobacillus iners DSM 13335 GCA_000160875.1
 rG
 537 Clostridium beijerinckii GCA_000833105.2
 510 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 495 Clostridium puniceum GCA_002006345.1
 rH

664 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
664 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
664 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
664 *Escherichia coli* UMN026 GCA_000026325.2
664 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
664 *Shigella flexneri* 2a str. 301 GCA_000006925.2
649 *Escherichia coli* IAI39 GCA_000026345.1
634 *Kosakonia sacchari* SP1 GCA_000300455.4
634 *Shigella dysenteriae* Sd197 GCA_000012005.1
rI
618 *Bacillus anthracis* str. Ames GCA_000007845.1
618 *Bacillus anthracis* str. Sterne GCA_000008165.1
618 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
608 *Bacillus cereus* ATCC 14579 GCA_000007825.1
594 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
rJ
617 *Streptococcus mutans* UA159 GCA_000007465.2
437 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
429 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
rK
576 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
549 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
459 *DeFluviimonas alba* GCA_001620265.1
rL
793 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
793 *Shigella flexneri* 2a str. 301 GCA_000006925.2
792 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
792 *Escherichia coli* UMN026 GCA_000026325.2
778 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
rM
740 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
709 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
703 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
rN
627 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
593 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
561 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
rO
747 *Enterococcus faecalis* V583 GCA_000007785.1
704 *Streptomyces cinnamomeus* GCA_001885705.1
620 *Enterococcus faecium* D0 GCA_000174395.2
rP
710 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
687 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
501 *Lactobacillus iners* DSM 13335 GCA_000160875.1
rQ
613 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
551 *Staphylococcus warneri* SG1 GCA_000332735.1
537 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
rR
518 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
464 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
376 *Gemmobacter megaterium* GCA_900156815.1
rS
452 *Deinococcus radiodurans* R1 GCA_000008565.1
292 *Deinococcus deserti* VCD115 GCA_000020685.1
270 *Deinococcus gobiensis* I-0 GCA_000252445.1
rT
752 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
695 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
540 *Lactobacillus iners* DSM 13335 GCA_000160875.1
rU
762 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
650 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
584 *Gemmobacter megaterium* GCA_900156815.1
rV
760 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
760 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
760 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
760 *Escherichia coli* UMN026 GCA_000026325.2
760 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
760 *Shigella flexneri* 2a str. 301 GCA_000006925.2
719 *Escherichia coli* IAI39 GCA_000026345.1
707 *Shigella dysenteriae* Sd197 GCA_000012005.1
rW
790 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

728 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 693 *Staphylococcus warneri* SG1 GCA_000332735.1
 rX
 717 *Deinococcus radiodurans* R1 GCA_000008565.1
 436 *Deinococcus deserti* VCD115 GCA_000020685.1
 410 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 rY
 650 *Streptococcus mutans* UA159 GCA_000007465.2
 437 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 384 *Streptococcus salivarius* GCA_000785515.1
 384 *Streptococcus thermophilus* JIM 8232 GCA_000253395.1
 rZ
 678 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 643 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 543 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 s0
 750 *Streptococcus mutans* UA159 GCA_000007465.2
 579 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 534 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 s1
 386 *Enterococcus faecalis* V583 GCA_000007785.1
 354 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 354 *Enterococcus massiliensis* GCA_001050095.1
 354 *Enterococcus rivorum* GCA_001742285.1
 347 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 347 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
 s2
 528 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 491 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 442 *Gemmobacter megaterium* GCA_900156815.1
 s3
 805 *Enterococcus faecalis* V583 GCA_000007785.1
 758 *Streptomyces cinnamomeus* GCA_001885705.1
 712 *Enterococcus rivorum* GCA_001742285.1
 s4
 824 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 735 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 567 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 s5
 794 *Streptococcus mutans* UA159 GCA_000007465.2
 578 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 507 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 s6
 720 *Enterococcus faecalis* V583 GCA_000007785.1
 684 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 677 *Enterococcus rivorum* GCA_001742285.1
 s7
 414 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 414 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 414 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 410 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 399 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 399 *Escherichia coli* UMN026 GCA_000026325.2
 s8
 882 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 817 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 602 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 s9
 473 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 447 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 428 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 sa
 374 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 355 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 330 *Staphylococcus pseudintermedius* HKU10-03 GCA_000185885.1
 sb
 822 *Enterococcus faecalis* V583 GCA_000007785.1
 776 *Streptomyces cinnamomeus* GCA_001885705.1
 707 *Enterococcus rivorum* GCA_001742285.1
 sc
 328 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 310 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 276 *Defluviimonas alba* GCA_001620265.1
 sd
 429 *Deinococcus radiodurans* R1 GCA_000008565.1
 289 *Deinococcus deserti* VCD115 GCA_000020685.1

282 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 se
 439 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 403 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 345 *Gemmobacter aquatilis* GCA_900110025.1
 sf
 580 *Enterococcus faecalis* V583 GCA_000007785.1
 533 *Streptomyces cinnamoneus* GCA_001885705.1
 459 *Enterococcus hirae* ATCC 9790 GCA_000271405.2
 459 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 sg
 462 *Streptomyces cinnamoneus* GCA_001885705.1
 460 *Bacillus anthracis* str. Ames GCA_000007845.1
 460 *Bacillus anthracis* str. Sterne GCA_000008165.1
 460 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 460 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 460 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 448 *Enterococcus faecalis* V583 GCA_000007785.1
 sh
 542 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 438 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 348 *Pseudorhodobacter wandonensis* GCA_001202035.1
 si
 699 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 642 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 628 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 sj
 379 *Clostridium beijerinckii* GCA_000833105.2
 354 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 353 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 sk
 763 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 744 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 531 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 sl
 541 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 446 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 432 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 sm
 844 *Deinococcus radiodurans* R1 GCA_000008565.1
 556 *Deinococcus deserti* VCD115 GCA_000020685.1
 552 *Deinococcus gobiensis* I-0 GCA_000252445.1
 sn
 716 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 660 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 456 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 so
 678 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 626 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 416 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 sp
 788 *Enterococcus faecalis* V583 GCA_000007785.1
 741 *Streptomyces cinnamoneus* GCA_001885705.1
 706 *Enterococcus rivorum* GCA_001742285.1
 sq
 706 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 691 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 547 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 sr
 742 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 650 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 590 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 ss
 657 *Enterococcus faecalis* V583 GCA_000007785.1
 610 *Streptomyces cinnamoneus* GCA_001885705.1
 535 *Enterococcus faecium* D0 GCA_000174395.2
 st
 796 *Deinococcus radiodurans* R1 GCA_000008565.1
 568 *Deinococcus deserti* VCD115 GCA_000020685.1
 541 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 su
 880 *Bacillus anthracis* str. Ames GCA_000007845.1
 880 *Bacillus anthracis* str. Sterne GCA_000008165.1
 880 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 864 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 834 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1

sv
429 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
423 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
396 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1

sw
796 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
770 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
560 Lactobacillus iners DSM 13335 GCA_000160875.1

sx
713 Streptococcus mutans UA159 GCA_000007465.2
496 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
471 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1

sy
713 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
653 Staphylococcus capitis subsp. capitis GCA_001028645.1
610 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1

sz
589 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
546 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
542 Staphylococcus capitis subsp. capitis GCA_001028645.1

sa
680 Clostridium beijerinckii GCA_000833105.2
644 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
621 Clostridium puniceum GCA_002006345.1

sb
600 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
561 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
430 Lactobacillus iners DSM 13335 GCA_000160875.1

sc
425 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
390 Staphylococcus capitis subsp. capitis GCA_001028645.1
389 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1

sd
412 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
359 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
281 Gemmobacter aquatilis GCA_900110025.1

se
762 Streptococcus mutans UA159 GCA_000007465.2
609 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
513 Streptococcus halotolerans GCA_001598035.1

sf
601 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
573 Staphylococcus capitis subsp. capitis GCA_001028645.1
502 Staphylococcus pettenkoferi GCA_002208805.1

sg
721 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
693 Staphylococcus capitis subsp. capitis GCA_001028645.1
629 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1

sh
683 Bacillus anthracis str. Ames GCA_000007845.1
683 Bacillus anthracis str. Sterne GCA_000008165.1
683 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
663 Bacillus cereus ATCC 14579 GCA_000007825.1
663 Bacillus thuringiensis YBT-1518 GCA_000497525.2
659 Bacillus pseudomycoides DSM 12442 GCA_000161455.1

si
693 Deinococcus radiodurans R1 GCA_000008565.1
416 Deinococcus proteolyticus MRP GCA_000190555.1
402 Deinococcus gobiensis I-0 GCA_000252445.1

sj
505 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
505 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
497 Escherichia coli UMN026 GCA_000026325.2
493 Escherichia coli IAI39 GCA_000026345.1
493 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
493 Shigella flexneri 2a str. 301 GCA_000006925.2

sk
531 Clostridium beijerinckii GCA_000833105.2
493 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
483 Clostridium puniceum GCA_002006345.1

sl
851 Enterococcus faecalis V583 GCA_000007785.1
809 Streptomyces cinnamomeus GCA_001885705.1
749 Enterococcus asini ATCC 700915 GCA_000407365.1

sm
762 Clostridium beijerinckii GCA_000833105.2

733 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 706 *Clostridium puniceum* GCA_002006345.1
 sN
 644 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 618 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 497 *Defluviimonas alba* GCA_001620265.1
 sO
 935 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 825 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 596 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 sP
 754 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 680 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 597 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 sQ
 798 *Clostridium beijerinckii* GCA_000833105.2
 725 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 695 *Clostridium puniceum* GCA_002006345.1
 sR
 658 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 600 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 492 *Gemmobacter aquatilis* GCA_900110025.1
 sS
 542 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 515 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 450 *Gemmobacter aquatilis* GCA_900110025.1
 sT
 415 *Clostridium beijerinckii* GCA_000833105.2
 395 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 392 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 sU
 662 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 658 *Clostridium beijerinckii* GCA_000833105.2
 641 *Clostridium puniceum* GCA_002006345.1
 sV
 498 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 424 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 318 *Lactobacillus acetotolerans* GCA_001042405.1
 sW
 510 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 456 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 381 *Gemmobacter aquatilis* GCA_900110025.1
 sX
 697 *Clostridium beijerinckii* GCA_000833105.2
 643 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 601 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 sY
 699 *Deinococcus radiodurans* R1 GCA_000008565.1
 448 *Deinococcus deserti* VCD115 GCA_000020685.1
 419 *Deinococcus proteolyticus* MRP GCA_000190555.1
 sZ
 822 *Streptococcus mutans* UA159 GCA_000007465.2
 601 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 599 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 t0
 820 *Clostridium beijerinckii* GCA_000833105.2
 797 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 793 *Clostridium puniceum* GCA_002006345.1
 t1
 615 *Clostridium beijerinckii* GCA_000833105.2
 608 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 582 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 t2
 526 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 505 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 381 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 t3
 533 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 460 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 423 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 t4
 658 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 561 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 434 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 t5
 654 *Clostridium beijerinckii* GCA_000833105.2

637 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
600 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
t6
261 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
208 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
200 *Gemmobacter aquatilis* GCA_900110025.1
t7
699 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
597 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
522 *Defluviimonas alba* GCA_001620265.1
t8
735 *Enterococcus faecalis* V583 GCA_000007785.1
688 *Streptomyces cinnamoneus* GCA_001885705.1
603 *Enterococcus rivorum* GCA_001742285.1
t9
584 *Streptococcus mutans* UA159 GCA_000007465.2
390 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
348 *Streptococcus ferus* DSM 20646 GCA_000372425.1
348 *Streptococcus henryi* DSM 19005 GCA_000376985.1
ta
887 *Bacillus anthracis* str. Ames GCA_000007845.1
887 *Bacillus anthracis* str. Sterne GCA_000008165.1
887 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
871 *Bacillus cereus* ATCC 14579 GCA_000007825.1
867 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
tb
761 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
695 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
487 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
tc
733 *Clostridium beijerinckii* GCA_000833105.2
709 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
661 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
td
357 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
296 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
217 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
te
757 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
742 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
737 *Escherichia coli* UMN026 GCA_000026325.2
tf
891 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
786 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
625 *Gemmobacter megaterium* GCA_900156815.1
tg
672 *Deinococcus radiodurans* R1 GCA_000008565.1
349 *Deinococcus deserti* VCD115 GCA_000020685.1
333 *Deinococcus gobiensis* I-0 GCA_000252445.1
th
718 *Clostridium beijerinckii* GCA_000833105.2
689 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
659 *Clostridium puniceum* GCA_002006345.1
ti
700 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
655 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
611 *Bifidobacterium animalis* subsp. lactis DSM 10140 GCA_000022965.1
tj
804 *Clostridium beijerinckii* GCA_000833105.2
770 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
729 *Clostridium puniceum* GCA_002006345.1
tk
579 *Enterococcus faecalis* V583 GCA_000007785.1
532 *Streptomyces cinnamoneus* GCA_001885705.1
506 *Enterococcus faecium* D0 GCA_000174395.2
tl
426 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
354 *Gemmobacter megaterium* GCA_900156815.1
354 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
351 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
tm
589 *Deinococcus radiodurans* R1 GCA_000008565.1
380 *Deinococcus deserti* VCD115 GCA_000020685.1
372 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
tn
658 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

637 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
636 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
to
519 *Clostridium beijerinckii* GCA_000833105.2
493 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
454 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
tp
558 *Deinococcus radiodurans* R1 GCA_000008565.1
323 *Deinococcus deserti* VCD115 GCA_000020685.1
313 *Deinococcus gobiensis* I-0 GCA_000252445.1
tq
823 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
729 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
583 *Rhodobacter vinaykumarii* GCA_900156695.1
tr
537 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
506 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
455 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
455 *Staphylococcus warneri* SG1 GCA_000332735.1
ts
752 *Bacillus anthracis* str. Ames GCA_000007845.1
752 *Bacillus anthracis* str. Sterne GCA_000008165.1
752 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
737 *Bacillus cereus* ATCC 14579 GCA_000007825.1
727 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
tt
617 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
570 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
415 *Lactobacillus iners* DSM 13335 GCA_000160875.1
tu
647 *Clostridium beijerinckii* GCA_000833105.2
616 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
590 *Clostridium puniceum* GCA_002006345.1
tv
393 *Enterococcus faecalis* V583 GCA_000007785.1
370 *Enterococcus canis* NBRC 100695 GCA_001544375.1
355 *Enterococcus thailandicus* GCA_001652875.1
tw
840 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
790 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
620 *Lactobacillus iners* DSM 13335 GCA_000160875.1
tx
613 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
589 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
537 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
ty
735 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
707 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
666 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
tz
777 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
715 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
679 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
tA
563 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
545 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
545 *Shigella flexneri* 2a str. 301 GCA_000006925.2
544 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
544 *Escherichia coli* UMN026 GCA_000026325.2
tB
384 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
384 *Escherichia coli* UMN026 GCA_000026325.2
384 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
377 *Escherichia coli* IAI39 GCA_000026345.1
377 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
377 *Shigella flexneri* 2a str. 301 GCA_000006925.2
376 *Enterobacter hormaechei* subsp. *steigerwaltii* GCA_001729725.1
tC
566 *Clostridium beijerinckii* GCA_000833105.2
560 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
548 *Clostridium neonatale* GCA_001458595.1
tD
775 *Bacillus anthracis* str. Ames GCA_000007845.1
775 *Bacillus anthracis* str. Sterne GCA_000008165.1
775 *Bacillus cereus* ATCC 14579 GCA_000007825.1
775 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2

775 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 734 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
 731 *Bacillus mycolides* GCA_000832605.1
 tE
 694 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 681 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 633 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 633 *Staphylococcus warneri* SG1 GCA_000332735.1
 tF
 896 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 856 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 799 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 tG
 798 *Deinococcus radiodurans* R1 GCA_000008565.1
 493 *Deinococcus deserti* VCD115 GCA_000020685.1
 480 *Deinococcus gobiensis* I-0 GCA_000252445.1
 tH
 793 *Streptococcus mutans* UA159 GCA_000007465.2
 612 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 558 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 tI
 700 *Clostridium beijerinckii* GCA_000833105.2
 668 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 630 *Clostridium puniceum* GCA_002006345.1
 tJ
 934 *Clostridium beijerinckii* GCA_000833105.2
 921 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 885 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 tK
 806 *Streptococcus mutans* UA159 GCA_000007465.2
 618 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 584 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 tL
 694 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 624 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 534 *Gemmobacter aquatilis* GCA_900110025.1
 tM
 704 *Enterococcus faecalis* V583 GCA_000007785.1
 657 *Streptomyces cinnamomeus* GCA_001885705.1
 607 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
 tN
 616 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 557 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 398 *Lactobacillus acetotolerans* GCA_001042405.1
 398 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 tO
 593 *Bacillus mycolides* GCA_000832605.1
 592 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 591 *Bacillus anthracis* str. Ames GCA_000007845.1
 591 *Bacillus anthracis* str. Sterne GCA_000008165.1
 591 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 tP
 673 *Streptococcus mutans* UA159 GCA_000007465.2
 497 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 439 *Streptococcus halotolerans* GCA_001598035.1
 tQ
 665 *Streptococcus mutans* UA159 GCA_000007465.2
 468 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 422 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 tR
 454 *Enterococcus faecalis* V583 GCA_000007785.1
 412 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 407 *Enterococcus aquimarinus* GCA_001885765.1
 407 *Enterococcus rivorum* GCA_001742285.1
 407 *Streptomyces cinnamomeus* GCA_001885705.1
 tS
 641 *Clostridium beijerinckii* GCA_000833105.2
 593 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 572 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 tT
 918 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 917 *Escherichia coli* UMN026 GCA_000026325.2
 910 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 tU
 277 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 262 *Bifidobacterium asteroides* PRL2011 GCA_000304215.1

244 *Bifidobacterium coryneforme* GCA_000737865.1
 tv
 606 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 572 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 567 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 tw
 707 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 657 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 527 *Gemmobacter megaterium* GCA_900156815.1
 tX
 560 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 560 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 552 *Escherichia coli* UMN026 GCA_000026325.2
 532 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 tY
 688 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 623 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 590 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 590 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 tZ
 821 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 718 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 588 *Defluviimonas alba* GCA_001620265.1
 u0
 712 *Clostridium beijerinckii* GCA_000833105.2
 695 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 674 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 u1
 627 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 554 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 439 *Defluviimonas alba* GCA_001620265.1
 439 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 u2
 501 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 501 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 500 *Bacillus anthracis* str. Ames GCA_000007845.1
 500 *Bacillus anthracis* str. Sterne GCA_000008165.1
 500 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 479 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 u3
 827 *Streptococcus mutans* UA159 GCA_000007465.2
 645 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 605 *Streptococcus halotolerans* GCA_001598035.1
 u4
 561 *Deinococcus radiodurans* R1 GCA_000008565.1
 380 *Deinococcus gobiensis* I-0 GCA_000252445.1
 368 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 u5
 935 *Streptococcus mutans* UA159 GCA_000007465.2
 670 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 648 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 u6
 640 *Enterococcus faecalis* V583 GCA_000007785.1
 595 *Streptomyces cinnamomeus* GCA_001885705.1
 589 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 u7
 672 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 604 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 542 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 u8
 704 *Bacillus anthracis* str. Ames GCA_000007845.1
 704 *Bacillus anthracis* str. Sterne GCA_000008165.1
 690 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 686 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 u9
 758 *Deinococcus radiodurans* R1 GCA_000008565.1
 510 *Deinococcus puniceus* GCA_001644565.1
 498 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 ua
 908 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 846 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 785 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 ub
 661 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 593 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 526 *Defluviimonas alba* GCA_001620265.1

uc
823 *Deinococcus radiodurans* R1 GCA_000008565.1
567 *Deinococcus deserti* VCD115 GCA_000020685.1
537 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
ud
809 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
720 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
594 *Gemmobacter aquatilis* GCA_900110025.1
ue
568 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
522 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
502 *Lactobacillus iners* DSM 13335 GCA_000160875.1
uf
616 *Shigella flexneri* 2a str. 301 GCA_000006925.2
615 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
615 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
615 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
614 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
614 *Escherichia coli* UMN026 GCA_000026325.2
ug
784 *Bacillus cereus* ATCC 14579 GCA_000007825.1
784 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
784 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
783 *Bacillus anthracis* str. Ames GCA_000007845.1
783 *Bacillus anthracis* str. Sterne GCA_000008165.1
739 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
uh
901 *Clostridium beijerinckii* GCA_000833105.2
873 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
869 *Clostridium puniceum* GCA_002006345.1
ui
440 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
406 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
390 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
uj
774 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
709 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
661 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
uk
674 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
576 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
574 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
ul
568 *Streptococcus mutans* UA159 GCA_000007465.2
449 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
429 *Streptococcus ovis* DSM 16829 GCA_000380125.1
um
639 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
525 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
455 *Gemmobacter aquatilis* GCA_900110025.1
un
920 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
831 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
617 *Lactobacillus iners* DSM 13335 GCA_000160875.1
uo
844 *Clostridium beijerinckii* GCA_000833105.2
802 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
776 *Clostridium puniceum* GCA_002006345.1
up
455 *Streptococcus mutans* UA159 GCA_000007465.2
313 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
303 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
uq
594 *Deinococcus radiodurans* R1 GCA_000008565.1
405 *Deinococcus deserti* VCD115 GCA_000020685.1
385 *Deinococcus hopiensis* KR-140 GCA_900176165.1
ur
904 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
861 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
811 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
811 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
us
696 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
647 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
487 *Gemmobacter aquatilis* GCA_900110025.1
ut

765 *Deinococcus radiodurans* R1 GCA_000008565.1
 472 *Deinococcus deserti* VCD115 GCA_000020685.1
 459 *Deinococcus gobiensis* I-0 GCA_000252445.1
 uu
 562 *Streptococcus mutans* UA159 GCA_000007465.2
 414 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 392 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 uv
 436 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 414 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 308 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 uw
 645 *Streptococcus mutans* UA159 GCA_000007465.2
 495 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 437 *Streptococcus merionis* DSM 19192 GCA_000380085.1
 ux
 725 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 694 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 528 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 uy
 503 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 433 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 387 *Gemmobacter megaterium* GCA_900156815.1
 uz
 818 *Clostridium beijerinckii* GCA_000833105.2
 778 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 763 *Clostridium puniceum* GCA_002006345.1
 uA
 639 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 598 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 538 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 538 *Staphylococcus simulans* GCA_001559115.1
 uB
 447 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 381 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 375 *Bifidobacterium subtile* GCA_000741775.1
 uC
 628 *Streptococcus mutans* UA159 GCA_000007465.2
 460 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 460 *Streptococcus sanguinis* SK36 GCA_000014205.1
 456 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 uD
 851 *Clostridium beijerinckii* GCA_000833105.2
 821 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 810 *Clostridium puniceum* GCA_002006345.1
 uE
 764 *Clostridium beijerinckii* GCA_000833105.2
 732 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 711 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 uF
 701 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 685 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 546 *Lactobacillus jensenii* GCA_001936235.1
 uG
 688 *Clostridium beijerinckii* GCA_000833105.2
 656 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 654 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 uH
 644 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 617 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 460 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 uI
 707 *Clostridium beijerinckii* GCA_000833105.2
 666 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 624 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 uJ
 513 *Clostridium beijerinckii* GCA_000833105.2
 513 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 476 *Clostridium puniceum* GCA_002006345.1
 454 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 uK
 850 *Bacillus thuringiensis* 5D serovar *konkukian* str. 97-27 GCA_000008505.1
 849 *Bacillus anthracis* str. *Ames* GCA_000007845.1
 849 *Bacillus anthracis* str. *Sterne* GCA_000008165.1
 834 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 uL

558 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
541 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
537 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
537 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
537 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
uM
656 *Enterococcus faecalis* V583 GCA_000007785.1
609 *Streptomyces cinnamomeus* GCA_001885705.1
600 *Enterococcus rivorum* GCA_001742285.1
uN
458 *Clostridium beijerinckii* GCA_000833105.2
439 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
425 *Clostridium puniceum* GCA_002006345.1
uO
331 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
331 *Escherichia coli* UMN026 GCA_000026325.2
331 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
331 *Shigella flexneri* 2a str. 301 GCA_000006925.2
325 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
315 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
uP
701 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
638 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
501 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
uQ
697 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
676 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
648 *Staphylococcus warneri* SG1 GCA_000332735.1
uR
767 *Deinococcus radiodurans* R1 GCA_000008565.1
445 *Deinococcus deserti* VCD115 GCA_000020685.1
423 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
uS
1022 *Enterococcus faecalis* V583 GCA_000007785.1
977 *Streptomyces cinnamomeus* GCA_001885705.1
896 *Enterococcus rivorum* GCA_001742285.1
uT
546 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
494 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
434 *Thioclava atlantica* GCA_000737065.1
uU
508 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
495 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
444 *Pseudorhodobacter wandonensis* GCA_001202035.1
uV
637 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
587 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
558 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
558 *Staphylococcus warneri* SG1 GCA_000332735.1
uW
913 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
891 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
888 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
uX
774 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
682 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
554 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
uY
679 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
620 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
553 *Gemmobacter aquatilis* GCA_900110025.1
uZ
562 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
466 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
269 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
v0
527 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
433 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
412 *Gemmobacter megaterium* GCA_900156815.1
v1
990 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
912 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
804 *Gemmobacter aquatilis* GCA_900110025.1
v2
536 *Streptococcus mutans* UA159 GCA_000007465.2
342 *Streptococcus criceti* HS-6 GCA_000187975.3

341 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
v3
616 *Clostridium beijerinckii* GCA_000833105.2
584 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
584 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
569 *Clostridium puniceum* GCA_002006345.1
v4
595 *Deinococcus radiodurans* R1 GCA_000008565.1
393 *Deinococcus deserti* VCD115 GCA_000020685.1
382 *Deinococcus gobiensis* I-0 GCA_000252445.1
v5
763 *Clostridium beijerinckii* GCA_000833105.2
735 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
714 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
v6
670 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
622 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
507 *Gemmobacter aquatilis* GCA_900110025.1
v7
566 *Bacillus anthracis* str. Ames GCA_000007845.1
566 *Bacillus anthracis* str. Sterne GCA_000008165.1
566 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
562 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
547 *Bacillus cereus* ATCC 14579 GCA_000007825.1
v8
815 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
758 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
745 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
v9
790 *Clostridium beijerinckii* GCA_000833105.2
725 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
706 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
va
888 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
835 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
759 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
vb
699 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
648 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
593 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
593 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
vc
623 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
533 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
426 *Lactobacillus apis* GCA_000970735.1
vd
540 *Enterococcus faecalis* V583 GCA_000007785.1
499 *Streptomyces cinnamoneus* GCA_001885705.1
478 *Enterococcus canis* NBRC 100695 GCA_001544375.1
ve
437 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
416 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
380 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
vf
558 *Streptococcus mutans* UA159 GCA_000007465.2
423 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
404 *Streptococcus henryi* DSM 19005 GCA_000376985.1
vg
626 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
552 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
469 *Lactobacillus iners* DSM 13335 GCA_000160875.1
vh
750 *Enterococcus faecalis* V583 GCA_000007785.1
703 *Streptomyces cinnamoneus* GCA_001885705.1
636 *Enterococcus rivorium* GCA_001742285.1
vi
573 *Deinococcus radiodurans* R1 GCA_000008565.1
329 *Deinococcus gobiensis* I-0 GCA_000252445.1
290 *Deinococcus deserti* VCD115 GCA_000020685.1
vj
659 *Enterococcus faecalis* V583 GCA_000007785.1
627 *Streptomyces cinnamoneus* GCA_001885705.1
620 *Enterococcus faecium* D0 GCA_000174395.2
vk
626 *Streptococcus mutans* UA159 GCA_000007465.2
442 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1

393 *Streptococcus iniae* GCA_000831485.1
 vl
 516 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 501 *Bacillus anthracis* str. Ames GCA_000007845.1
 501 *Bacillus anthracis* str. Sterne GCA_000008165.1
 501 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 501 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 475 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 vm
 481 *Streptococcus mutans* UA159 GCA_000007465.2
 408 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 372 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 vn
 525 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 406 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 391 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 vo
 679 *Clostridium beijerinckii* GCA_000833105.2
 671 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 648 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 vp
 729 *Streptococcus mutans* UA159 GCA_000007465.2
 538 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 518 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 vq
 678 *Deinococcus radiodurans* R1 GCA_000008565.1
 469 *Deinococcus gobiensis* I-0 GCA_000252445.1
 459 *Deinococcus deserti* VCD115 GCA_000020685.1
 vr
 297 *Streptococcus mutans* UA159 GCA_000007465.2
 185 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 181 *Streptococcus equinus* GCA_000964315.1
 181 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 181 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 181 *Streptococcus salivarius* GCA_000785515.1
 181 *Streptococcus sanguinis* SK36 GCA_000014205.1
 181 *Streptococcus thermophilus* JIM 8232 GCA_000253395.1
 vs
 641 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 553 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 543 *Bifidobacterium tsurumiense* GCA_000741765.1
 vt
 879 *Enterococcus faecalis* V583 GCA_000007785.1
 832 *Streptomyces cinnamomeus* GCA_001885705.1
 747 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 vu
 574 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 510 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 464 *Gemmobacter aquatilis* GCA_900110025.1
 vv
 781 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 737 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 609 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 vw
 612 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 538 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 450 *Gemmobacter aquatilis* GCA_900110025.1
 vx
 698 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 685 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 685 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 685 *Escherichia coli* UMN026 GCA_000026325.2
 685 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 670 *Escherichia coli* IAI39 GCA_000026345.1
 vy
 591 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 556 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 505 *Staphylococcus warneri* SG1 GCA_000332735.1
 vz
 539 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 520 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 514 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 vA
 267 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 266 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 218 *Rhodobacter aestuarii* GCA_900156655.1

vB
 634 *Escherichia coli* UMN026 GCA_000026325.2
 634 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 621 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 619 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 vC
 943 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 902 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 678 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 vD
 614 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 609 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 568 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 vE
 418 *Streptococcus mutans* UA159 GCA_000007465.2
 327 *Streptococcus merionis* DSM 19192 GCA_000380085.1
 321 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 vF
 763 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 729 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 518 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 vG
 628 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 623 *Escherichia coli* IAI39 GCA_000026345.1
 617 *Escherichia coli* UMN026 GCA_000026325.2
 vH
 747 *Clostridium beijerinckii* GCA_000833105.2
 703 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 675 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 vI
 580 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 520 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 374 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 vJ
 837 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 832 *Escherichia coli* UMN026 GCA_000026325.2
 830 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 830 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 vK
 838 *Streptococcus mutans* UA159 GCA_000007465.2
 600 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 559 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 vL
 762 *Clostridium beijerinckii* GCA_000833105.2
 725 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 703 *Clostridium puniceum* GCA_002006345.1
 vM
 863 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 743 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 668 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 vN
 694 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 693 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 671 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 vO
 646 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 601 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 595 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 vP
 886 *Clostridium beijerinckii* GCA_000833105.2
 872 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 851 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 vQ
 471 *Streptococcus mutans* UA159 GCA_000007465.2
 375 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 358 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 vR
 420 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 382 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 316 *DeFluviimonas alba* GCA_001620265.1
 vS
 642 *Deinococcus radiodurans* R1 GCA_000008565.1
 437 *Deinococcus deserti* VCD115 GCA_000020685.1
 414 *Deinococcus puniceus* GCA_001644565.1
 vT
 845 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2

821 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 821 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 796 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 796 *Escherichia coli* UMN026 GCA_000026325.2
 vU
 638 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 581 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 524 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 vV
 487 *Clostridium beijerinckii* GCA_000833105.2
 463 *Clostridium puniceum* GCA_002006345.1
 463 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 445 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 vW
 329 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 291 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 274 *Paracoccus solventivorans* GCA_900142875.1
 vX
 662 *Enterococcus faecalis* V583 GCA_000007785.1
 615 *Streptomyces cinnamoneus* GCA_001885705.1
 610 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 vY
 508 *Streptococcus mutans* UA159 GCA_000007465.2
 362 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 352 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 vZ
 489 *Clostridium beijerinckii* GCA_000833105.2
 474 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 453 *Clostridium puniceum* GCA_002006345.1
 w0
 656 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 595 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 519 *Gemmobacter aquatilis* GCA_900110025.1
 w1
 642 *Enterococcus faecalis* V583 GCA_000007785.1
 602 *Enterococcus rivorum* GCA_001742285.1
 595 *Streptomyces cinnamoneus* GCA_001885705.1
 w2
 855 *Deinococcus radiodurans* R1 GCA_000008565.1
 535 *Deinococcus deserti* VCD115 GCA_000020685.1
 511 *Deinococcus gobiensis* I-0 GCA_000252445.1
 w3
 589 *Deinococcus radiodurans* R1 GCA_000008565.1
 400 *Deinococcus deserti* VCD115 GCA_000020685.1
 391 *Deinococcus gobiensis* I-0 GCA_000252445.1
 w4
 699 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 679 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 492 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 w5
 768 *Enterococcus faecalis* V583 GCA_000007785.1
 722 *Streptomyces cinnamoneus* GCA_001885705.1
 674 *Enterococcus rivorum* GCA_001742285.1
 w6
 859 *Enterococcus faecalis* V583 GCA_000007785.1
 812 *Streptomyces cinnamoneus* GCA_001885705.1
 736 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 w7
 801 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 708 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 591 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 w8
 710 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 710 *Escherichia coli* UMN026 GCA_000026325.2
 710 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 706 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 706 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 706 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 676 *Escherichia coli* IAI39 GCA_000026345.1
 676 *Shigella dysenteriae* Sd197 GCA_000012005.1
 w9
 839 *Enterococcus faecalis* V583 GCA_000007785.1
 792 *Streptomyces cinnamoneus* GCA_001885705.1
 672 *Enterococcus rivorum* GCA_001742285.1
 wa
 915 *Clostridium beijerinckii* GCA_000833105.2

842 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 841 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 wb
 566 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 566 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 559 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 557 *Escherichia coli* UMN026 GCA_000026325.2
 wc
 420 *Enterococcus faecalis* V583 GCA_000007785.1
 373 *Streptomyces cinnamomeus* GCA_001885705.1
 356 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 wd
 766 *Bacillus anthracis* str. Ames GCA_000007845.1
 766 *Bacillus anthracis* str. Sterne GCA_000008165.1
 766 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 740 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 734 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 we
 685 *Deinococcus radiodurans* R1 GCA_000008565.1
 390 *Deinococcus deserti* VCD115 GCA_000020685.1
 382 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 wf
 747 *Deinococcus radiodurans* R1 GCA_000008565.1
 436 *Deinococcus deserti* VCD115 GCA_000020685.1
 421 *Deinococcus gobiensis* I-0 GCA_000252445.1
 wg
 700 *Streptococcus mutans* UA159 GCA_000007465.2
 526 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 518 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 wh
 808 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 720 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 673 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 wi
 698 *Streptococcus mutans* UA159 GCA_000007465.2
 479 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 449 *Streptococcus equinus* GCA_000964315.1
 wj
 772 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 772 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 758 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 741 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 wk
 705 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 645 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 472 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 wl
 761 *Deinococcus radiodurans* R1 GCA_000008565.1
 445 *Deinococcus deserti* VCD115 GCA_000020685.1
 436 *Deinococcus puniceus* GCA_001644565.1
 wm
 767 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 682 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 546 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 wn
 577 *Clostridium beijerinckii* GCA_000833105.2
 534 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 517 *Clostridium puniceum* GCA_002006345.1
 wo
 503 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 455 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 309 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 wp
 850 *Deinococcus radiodurans* R1 GCA_000008565.1
 562 *Deinococcus deserti* VCD115 GCA_000020685.1
 542 *Deinococcus puniceus* GCA_001644565.1
 wq
 711 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 638 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 585 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 wr
 842 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 797 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 736 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
 ws
 565 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

536 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
518 *Staphylococcus warneri* SG1 GCA_000332735.1
wt
667 *Deinococcus radiodurans* R1 GCA_000008565.1
442 *Deinococcus deserti* VCD115 GCA_000020685.1
396 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
wu
615 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
504 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
451 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
wv
806 *Deinococcus radiodurans* R1 GCA_000008565.1
584 *Deinococcus deserti* VCD115 GCA_000020685.1
550 *Deinococcus gobiensis* I-0 GCA_000252445.1
ww
580 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
534 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
483 *Staphylococcus warneri* SG1 GCA_000332735.1
wx
770 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
724 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
696 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
wy
548 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
487 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
419 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
wz
474 *Streptococcus mutans* UA159 GCA_000007465.2
344 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
296 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
wA
970 *Deinococcus radiodurans* R1 GCA_000008565.1
612 *Deinococcus deserti* VCD115 GCA_000020685.1
582 *Deinococcus gobiensis* I-0 GCA_000252445.1
wB
765 *Enterococcus faecalis* V583 GCA_000007785.1
718 *Streptomyces cinnamomeus* GCA_001885705.1
652 *Enterococcus thailandicus* GCA_001652875.1
wC
473 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
458 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
458 *Shigella flexneri* 2a str. 301 GCA_000006925.2
455 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
455 *Escherichia coli* UMN026 GCA_000026325.2
wD
381 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
316 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
276 *Lactobacillus iners* DSM 13335 GCA_000160875.1
wE
525 *Clostridium beijerinckii* GCA_000833105.2
473 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
467 *Clostridium puniceum* GCA_002006345.1
wF
688 *Clostridium beijerinckii* GCA_000833105.2
648 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
624 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
wG
817 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
779 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
746 *Staphylococcus pettenkoferi* GCA_002208805.1
wH
711 *Deinococcus radiodurans* R1 GCA_000008565.1
514 *Deinococcus deserti* VCD115 GCA_000020685.1
498 *Deinococcus gobiensis* I-0 GCA_000252445.1
wI
760 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
693 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
552 *Lactobacillus iners* DSM 13335 GCA_000160875.1
wJ
850 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
766 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
666 *DeFluviimonas alba* GCA_001620265.1
wK
735 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
686 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
656 *Staphylococcus warneri* SG1 GCA_000332735.1

wL
 611 *Clostridium beijerinckii* GCA_000833105.2
 584 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 554 *Clostridium puniceum* GCA_002006345.1
 wM
 826 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 825 Bacillus anthracis str. Ames GCA_000007845.1
 825 Bacillus anthracis str. Sterne GCA_000008165.1
 825 Bacillus cereus ATCC 14579 GCA_000007825.1
 825 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 809 Bacillus mycoides GCA_000832605.1
 809 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 wN
 638 Streptococcus mutans UA159 GCA_000007465.2
 454 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 421 Streptococcus dysgalactiae subsp. equisimilis AC-2713 GCA_000317855.1
 wO
 743 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 619 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 534 Thioclava indica GCA_000714545.1
 wP
 791 Streptococcus mutans UA159 GCA_000007465.2
 554 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 522 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 wQ
 694 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 683 Bacillus anthracis str. Ames GCA_000007845.1
 683 Bacillus anthracis str. Sterne GCA_000008165.1
 653 Bacillus cereus ATCC 14579 GCA_000007825.1
 653 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 wR
 458 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 403 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 300 Lactobacillus amylolyticus GCA_002075105.1
 300 Lactobacillus hamsteri DSM 5661 = JCM 6256 GCA_000615445.1
 wS
 784 Enterococcus faecalis V583 GCA_000007785.1
 737 Streptomyces cinnamomeus GCA_001885705.1
 659 Enterococcus asini ATCC 700915 GCA_000407365.1
 wT
 473 *Clostridium beijerinckii* GCA_000833105.2
 437 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 423 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 wU
 652 Streptococcus mutans UA159 GCA_000007465.2
 486 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 462 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 wV
 729 *Clostridium beijerinckii* GCA_000833105.2
 695 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 679 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 wW
 916 Streptococcus mutans UA159 GCA_000007465.2
 769 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 667 Streptococcus ferus DSM 20646 GCA_000372425.1
 wX
 823 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 772 Staphylococcus capitis subsp. capitis GCA_001028645.1
 700 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
 wY
 805 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 698 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 585 Gemmobacter megaterium GCA_900156815.1
 wZ
 562 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 551 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 536 Escherichia coli IAI39 GCA_000026345.1
 536 Escherichia coli UMN026 GCA_000026325.2
 x0
 571 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 548 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 399 Gemmobacter megaterium GCA_900156815.1
 x1
 705 Deinococcus radiodurans R1 GCA_000008565.1
 511 Deinococcus deserti VCD115 GCA_000020685.1
 493 Deinococcus gobiensis I-0 GCA_000252445.1

x2
 623 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 561 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 515 Gemmobacter aquatilis GCA_900110025.1
 x3
 486 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 411 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 377 Pseudorhodobacter psychrotolerans GCA_001294535.1
 x4
 652 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 602 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 497 Gemmobacter aquatilis GCA_900110025.1
 x5
 380 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 364 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 331 Defluviimonas alba GCA_001620265.1
 x6
 461 Clostridium beijerinckii GCA_000833105.2
 460 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 436 Clostridium puniceum GCA_002006345.1
 x7
 676 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 565 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 529 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 x8
 756 Clostridium beijerinckii GCA_000833105.2
 738 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 722 Clostridium puniceum GCA_002006345.1
 x9
 768 Clostridium beijerinckii GCA_000833105.2
 725 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 712 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 xa
 743 Clostridium beijerinckii GCA_000833105.2
 691 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 663 Clostridium puniceum GCA_002006345.1
 xb
 697 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 651 Staphylococcus capitis subsp. capitis GCA_001028645.1
 605 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 xc
 554 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 540 Staphylococcus capitis subsp. capitis GCA_001028645.1
 479 Staphylococcus warneri SG1 GCA_000332735.1
 xd
 798 Clostridium beijerinckii GCA_000833105.2
 783 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 768 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 xe
 696 Clostridium beijerinckii GCA_000833105.2
 676 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 647 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 xf
 475 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 415 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 351 Gemmobacter aquatilis GCA_900110025.1
 xg
 660 Deinococcus radiodurans R1 GCA_000008565.1
 463 Deinococcus deserti VCD115 GCA_000020685.1
 427 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 xh
 902 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 815 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 536 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 xi
 449 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 379 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 281 Thioclava indica GCA_000714545.1
 xj
 913 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 860 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 739 Gemmobacter aquatilis GCA_900110025.1
 xk
 836 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 836 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 830 Escherichia coli UMN026 GCA_000026325.2

821 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 xl
 839 *Streptococcus mutans* UA159 GCA_000007465.2
 655 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 629 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 xm
 532 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 492 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 380 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 xn
 705 *Bacillus anthracis* str. Ames GCA_000007845.1
 705 *Bacillus anthracis* str. Sterne GCA_000008165.1
 705 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 705 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 695 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 671 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 xo
 854 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 831 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 788 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 xp
 738 *Deinococcus radiodurans* R1 GCA_000008565.1
 518 *Deinococcus gobiensis* I-0 GCA_000252445.1
 475 *Deinococcus deserti* VCD115 GCA_000020685.1
 xq
 617 *Deinococcus radiodurans* R1 GCA_000008565.1
 384 *Deinococcus gobiensis* I-0 GCA_000252445.1
 372 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 xr
 807 *Clostridium beijerinckii* GCA_000833105.2
 743 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 738 *Clostridium puniceum* GCA_002006345.1
 xs
 683 *Enterococcus faecalis* V583 GCA_000007785.1
 636 *Streptomyces cinnamomeus* GCA_001885705.1
 565 *Enterococcus faecium* D0 GCA_000174395.2
 xt
 698 *Clostridium beijerinckii* GCA_000833105.2
 621 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 607 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 xu
 538 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 478 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 367 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 xv
 514 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 493 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 481 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 481 *Staphylococcus warneri* SG1 GCA_000332735.1
 xw
 661 *Bacillus anthracis* str. Ames GCA_000007845.1
 661 *Bacillus anthracis* str. Sterne GCA_000008165.1
 661 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 651 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 645 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 xx
 414 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 327 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 313 *Defluviimonas alba* GCA_001620265.1
 xy
 645 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 623 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 483 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 xz
 744 *Streptococcus mutans* UA159 GCA_000007465.2
 582 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 526 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 xA
 823 *Streptococcus mutans* UA159 GCA_000007465.2
 647 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 619 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 xB
 814 *Enterococcus faecalis* V583 GCA_000007785.1
 767 *Streptomyces cinnamomeus* GCA_001885705.1
 728 *Enterococcus rivorum* GCA_001742285.1
 xC

506 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 490 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 391 Gemmobacter megaterium GCA_900156815.1
 xD
 443 Deinococcus radiodurans R1 GCA_000008565.1
 305 Deinococcus gobiensis I-0 GCA_000252445.1
 287 Deinococcus proteolyticus MRP GCA_000190555.1
 xE
 505 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 491 Bacillus anthracis str. Ames GCA_000007845.1
 491 Bacillus anthracis str. Sterne GCA_000008165.1
 491 Bacillus cereus ATCC 14579 GCA_000007825.1
 491 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 476 Bacillus mycoides GCA_000832605.1
 xF
 336 Deinococcus radiodurans R1 GCA_000008565.1
 239 Deinococcus gobiensis I-0 GCA_000252445.1
 215 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 xG
 738 Streptococcus mutans UA159 GCA_000007465.2
 576 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 557 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 xH
 652 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 584 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 465 Gemmobacter megaterium GCA_900156815.1
 xI
 274 Deinococcus radiodurans R1 GCA_000008565.1
 145 Deinococcus deserti VCD115 GCA_000020685.1
 138 Deinococcus hopiensis KR-140 GCA_900176165.1
 xJ
 711 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 680 Staphylococcus capitis subsp. capitis GCA_001028645.1
 642 Staphylococcus warneri SG1 GCA_000332735.1
 xK
 516 Deinococcus radiodurans R1 GCA_000008565.1
 326 Deinococcus deserti VCD115 GCA_000020685.1
 301 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 xL
 753 Deinococcus radiodurans R1 GCA_000008565.1
 508 Deinococcus deserti VCD115 GCA_000020685.1
 482 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 xM
 613 Clostridium beijerinckii GCA_000833105.2
 600 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 584 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 xN
 773 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 753 Staphylococcus capitis subsp. capitis GCA_001028645.1
 717 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 xO
 430 Clostridium beijerinckii GCA_000833105.2
 391 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 386 Clostridium neonatale GCA_001458595.1
 xP
 695 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 621 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 486 Lactobacillus jensenii GCA_001936235.1
 486 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 xQ
 627 Clostridium beijerinckii GCA_000833105.2
 579 Clostridium puniceum GCA_002006345.1
 579 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 576 Clostridium butyricum GCA_001456065.2
 xR
 678 Clostridium beijerinckii GCA_000833105.2
 671 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 655 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 xS
 938 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 800 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 782 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 xT
 800 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 737 Staphylococcus capitis subsp. capitis GCA_001028645.1
 723 Staphylococcus warneri SG1 GCA_000332735.1

xU
 837 *Bacillus anthracis* str. Ames GCA_000007845.1
 837 *Bacillus anthracis* str. Sterne GCA_000008165.1
 837 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 812 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 797 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 xV
 730 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 682 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 634 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 xW
 533 *Clostridium beijerinckii* GCA_000833105.2
 508 *Clostridium puniceum* GCA_002006345.1
 508 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 495 *Clostridium butyricum* GCA_001456065.2
 xX
 690 *Clostridium beijerinckii* GCA_000833105.2
 644 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 632 *Clostridium butyricum* GCA_001456065.2
 xY
 703 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 643 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 571 *Gemmobacter aquatilis* GCA_900110025.1
 xZ
 737 *Clostridium beijerinckii* GCA_000833105.2
 729 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 726 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 y0
 400 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 346 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 337 *DeFluviimonas alba* GCA_001620265.1
 y1
 460 *Enterococcus faecalis* V583 GCA_000007785.1
 413 *Streptomyces cinnamoneus* GCA_001885705.1
 392 *Enterococcus haemoperoxidus* ATCC BAA-382 GCA_000407165.1
 y2
 805 *Clostridium beijerinckii* GCA_000833105.2
 799 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 743 *Clostridium puniceum* GCA_002006345.1
 y3
 679 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 640 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 627 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 627 *Staphylococcus warneri* SG1 GCA_000332735.1
 y4
 895 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 818 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 558 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 y5
 234 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 226 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 214 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 214 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 214 *Staphylococcus warneri* SG1 GCA_000332735.1
 y6
 574 *Clostridium beijerinckii* GCA_000833105.2
 527 *Clostridium puniceum* GCA_002006345.1
 525 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 y7
 564 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 518 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 445 *DeFluviimonas alba* GCA_001620265.1
 y8
 427 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 389 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 335 *Gemmobacter aquatilis* GCA_900110025.1
 y9
 672 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 651 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 497 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 ya
 747 *Enterococcus faecalis* V583 GCA_000007785.1
 701 *Streptomyces cinnamoneus* GCA_001885705.1
 627 *Enterococcus hirae* ATCC 9790 GCA_000271405.2
 yb
 670 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2

609 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
487 Pseudorhodobacter psychrotolerans GCA_001294535.1
yc
411 Clostridium beijerinckii GCA_000833105.2
402 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
388 Clostridium puniceum GCA_002006345.1
yd
642 Clostridium beijerinckii GCA_000833105.2
619 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
600 Clostridium puniceum GCA_002006345.1
ye
654 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
601 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
411 Lactobacillus psittaci DSM 15354 GCA_000425905.1
yf
923 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
864 Staphylococcus capitis subsp. capitis GCA_001028645.1
821 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
yg
784 Enterococcus faecalis V583 GCA_000007785.1
737 Streptomyces cinnamomeus GCA_001885705.1
656 Enterococcus haemoperoxidus ATCC BAA-382 GCA_000407165.1
656 Enterococcus rivorium GCA_001742285.1
yh
755 Streptococcus mutans UA159 GCA_000007465.2
593 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
575 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
yi
752 Clostridium beijerinckii GCA_000833105.2
748 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
727 Clostridium puniceum GCA_002006345.1
727 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
yj
465 Deinococcus radiodurans R1 GCA_000008565.1
280 Deinococcus marmoris DSM 12784 GCA_000701405.1
271 Deinococcus deserti VCD115 GCA_000020685.1
271 Deinococcus hopiensis KR-140 GCA_000176165.1
yk
788 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
721 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
569 Lactobacillus iners DSM 13335 GCA_000160875.1
yl
651 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
562 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
437 Lactobacillus iners DSM 13335 GCA_000160875.1
ym
839 Streptococcus mutans UA159 GCA_000007465.2
557 Streptococcus halotolerans GCA_001598035.1
542 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
yn
466 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
466 Escherichia coli UMN026 GCA_000026325.2
466 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
442 Shigella flexneri 2a str. 301 GCA_000006925.2
439 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
yo
512 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
421 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
411 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
yp
869 Clostridium beijerinckii GCA_000833105.2
817 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
780 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
yq
714 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
662 Staphylococcus capitis subsp. capitis GCA_001028645.1
630 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
yr
723 Clostridium beijerinckii GCA_000833105.2
698 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
692 Clostridium puniceum GCA_002006345.1
ys
730 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
685 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
558 Pseudorhodobacter psychrotolerans GCA_001294535.1
yt

637 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 610 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 587 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 yu
 640 *Streptococcus mutans* UA159 GCA_000007465.2
 447 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 423 *Streptococcus ovis* DSM 16829 GCA_000380125.1
 yv
 542 *Deinococcus radiodurans* R1 GCA_000008565.1
 308 *Deinococcus deserti* VCD115 GCA_000020685.1
 303 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 yw
 625 *Clostridium beijerinckii* GCA_000833105.2
 578 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 571 *Clostridium puniceum* GCA_002006345.1
 yx
 574 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 573 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 573 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 548 *Escherichia coli* UMN026 GCA_000026325.2
 yy
 724 *Bacillus anthracis* str. Ames GCA_000007845.1
 724 *Bacillus anthracis* str. Sterne GCA_000008165.1
 724 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 715 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 703 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 yz
 742 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 689 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 625 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 yA
 533 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 516 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 508 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 yB
 495 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 431 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 389 *Gemmobacter megaterium* GCA_900156815.1
 yC
 717 *Clostridium beijerinckii* GCA_000833105.2
 701 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 692 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 yD
 608 *Streptococcus mutans* UA159 GCA_000007465.2
 428 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 399 *Streptococcus equinus* GCA_000964315.1
 399 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 yE
 905 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 861 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 778 *Staphylococcus warneri* SG1 GCA_000332735.1
 yF
 742 *Deinococcus radiodurans* R1 GCA_000008565.1
 489 *Deinococcus deserti* VCD115 GCA_000020685.1
 487 *Deinococcus gobiensis* I-0 GCA_000252445.1
 yG
 652 *Streptococcus mutans* UA159 GCA_000007465.2
 492 *Streptococcus halotolerans* GCA_001598035.1
 487 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 yH
 592 *Streptococcus mutans* UA159 GCA_000007465.2
 471 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 453 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 yI
 414 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 399 *Escherichia coli* IAI39 GCA_000026345.1
 391 *Escherichia coli* UMN026 GCA_000026325.2
 yJ
 671 *Clostridium beijerinckii* GCA_000833105.2
 668 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 632 *Clostridium puniceum* GCA_002006345.1
 yK
 554 *Clostridium beijerinckii* GCA_000833105.2
 497 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 470 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 yL

842 *Clostridium beijerinckii* GCA_000833105.2
 801 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 760 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 yM
 573 *Clostridium beijerinckii* GCA_000833105.2
 559 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 555 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 yN
 468 *Clostridium beijerinckii* GCA_000833105.2
 444 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 435 *Clostridium butyricum* GCA_001456065.2
 yO
 550 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 535 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 535 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 520 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 520 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 520 *Escherichia coli* UMN026 GCA_000026325.2
 yP
 404 *Deinococcus radiodurans* R1 GCA_000008565.1
 252 *Deinococcus gobiensis* I-0 GCA_000252445.1
 251 *Deinococcus proteolyticus* MRP GCA_000190555.1
 yQ
 657 *Streptococcus mutans* UA159 GCA_000007465.2
 454 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 450 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 yR
 733 *Deinococcus radiodurans* R1 GCA_000008565.1
 488 *Deinococcus deserti* VCD115 GCA_000020685.1
 479 *Deinococcus puniceus* GCA_001644565.1
 yS
 819 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 819_5B *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 818 *Bacillus anthracis* str. Ames GCA_000007845.1
 818 *Bacillus anthracis* str. Sterne GCA_000008165.1
 803 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 yT
 667 *Streptococcus mutans* UA159 GCA_000007465.2
 472 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 426 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 yU
 447 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 420 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 419 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 yV
 594 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 503 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 408 *Bifidobacterium stellenboschense* GCA_000741785.1
 yW
 765 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 707 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 527 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 yX
 697 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 625 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 474 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 yY
 562 *Deinococcus radiodurans* R1 GCA_000008565.1
 342 *Deinococcus deserti* VCD115 GCA_000020685.1
 335 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 yZ
 795 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 739 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 547 *Gemmobacter aquatilis* GCA_900110025.1
 z0
 584 *Deinococcus radiodurans* R1 GCA_000008565.1
 395 *Deinococcus proteolyticus* MRP GCA_000190555.1
 386 *Deinococcus deserti* VCD115 GCA_000020685.1
 z1
 556 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 490 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 443 *Rhodobacter vinaykumarii* GCA_900156695.1
 z2
 607 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 601 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 519 *Staphylococcus warneri* SG1 GCA_000332735.1

z3
 730 *Enterococcus faecalis* V583 GCA_000007785.1
 683 *Streptomyces cinnamoneus* GCA_001885705.1
 632 *Enterococcus massiliensis* GCA_001050095.1
 632 *Enterococcus rivorum* GCA_001742285.1
 z4
 750 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 724 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 712 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 z5
 808 *Deinococcus radiodurans* R1 GCA_000008565.1
 478 *Deinococcus deserti* VCD115 GCA_000020685.1
 465 *Deinococcus gobiensis* I-0 GCA_000252445.1
 z6
 866 *Streptococcus mutans* UA159 GCA_000007465.2
 590 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 572 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 z7
 553 *Clostridium beijerinckii* GCA_000833105.2
 524 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 521 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 z8
 915 *Clostridium beijerinckii* GCA_000833105.2
 898 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 878 *Clostridium puniceum* GCA_002006345.1
 z9
 674 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 668 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 612 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 za
 635 *Streptococcus mutans* UA159 GCA_000007465.2
 444 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 422 *Streptococcus halotolerans* GCA_001598035.1
 zb
 625 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 547 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 490 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 zc
 545 *Enterococcus faecalis* V583 GCA_000007785.1
 504 *Streptomyces cinnamoneus* GCA_001885705.1
 478 *Enterococcus rivorum* GCA_001742285.1
 zd
 488 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 477 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 317 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 ze
 596 *Clostridium beijerinckii* GCA_000833105.2
 586 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 571 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 zf
 515 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 465 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 418 *Gemmobacter aquatilis* GCA_900110025.1
 zg
 570 *Streptococcus mutans* UA159 GCA_000007465.2
 421 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 367 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 367 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 zh
 725 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 664 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 593 *Gemmobacter aquatilis* GCA_900110025.1
 zi
 782 *Clostridium beijerinckii* GCA_000833105.2
 772 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 760 *Clostridium puniceum* GCA_002006345.1
 zj
 527 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 451 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 397 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
 zk
 815 *Clostridium beijerinckii* GCA_000833105.2
 776 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 766 *Clostridium puniceum* GCA_002006345.1
 zl
 724 *Deinococcus radiodurans* R1 GCA_000008565.1

428 *Deinococcus deserti* VCD115 GCA_000020685.1
 417 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 zm
 791 *Streptococcus mutans* UA159 GCA_000007465.2
 581 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 524 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 zn
 776 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 776 *Escherichia coli* UMN026 GCA_000026325.2
 776 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 748 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 743 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 zo
 586 *Clostridium beijerinckii* GCA_000833105.2
 557 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 523 *Clostridium puniceum* GCA_002006345.1
 zp
 935 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 822 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 717 *Gemmobacter megaterium* GCA_900156815.1
 zq
 748 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 618 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 598 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 zr
 628 *Enterococcus faecalis* V583 GCA_000007785.1
 581 *Streptomyces cinnamoneus* GCA_001885705.1
 576 *Enterococcus thailandicus* GCA_001652875.1
 zs
 632 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 542 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 400 *Gemmobacter megaterium* GCA_900156815.1
 zt
 825 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 784 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 521 *Lactobacillus helveticus* GCA_001308285.1
 zu
 548 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 507 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 498 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 zv
 849 *Enterococcus faecalis* V583 GCA_000007785.1
 806 *Streptomyces cinnamoneus* GCA_001885705.1
 718 *Enterococcus rivorium* GCA_001742285.1
 zw
 884 *Clostridium beijerinckii* GCA_000833105.2
 836 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 822 *Clostridium puniceum* GCA_002006345.1
 zx
 647 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 591 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 542 *Staphylococcus lentus* F1142 GCA_000286395.1
 zy
 717 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 708 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 530 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 zz
 632 *Clostridium beijerinckii* GCA_000833105.2
 596 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 580 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 za
 544 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 529 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 504 *Staphylococcus pettenkoferi* GCA_002208805.1
 zb
 977 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 936 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 844 *Staphylococcus warneri* SG1 GCA_000332735.1
 zc
 777 *Clostridium beijerinckii* GCA_000833105.2
 744 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 719 *Clostridium puniceum* GCA_002006345.1
 zd
 483 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 446 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 335 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1

zE
 534 *Clostridium beijerinckii* GCA_000833105.2
 514 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 493 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 zF
 928 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 871 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 640 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 zG
 709 *Deinococcus radiodurans* R1 GCA_000008565.1
 483 *Deinococcus deserti* VCD115 GCA_000020685.1
 436 *Deinococcus gobiensis* I-0 GCA_000252445.1
 zH
 357 *Enterococcus faecalis* V583 GCA_000007785.1
 338 *Streptomyces cinnamomeus* GCA_001885705.1
 335 *Enterococcus rivorum* GCA_001742285.1
 zI
 677 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 633 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 513 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
 zJ
 711 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 630 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 575 *Gemmobacter aquatilis* GCA_900110025.1
 zK
 828 *Clostridium beijerinckii* GCA_000833105.2
 780 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 747 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 zL
 737 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 683 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 531 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 zM
 884 *Streptococcus mutans* UA159 GCA_000007465.2
 668 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 628 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 zN
 579 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 517 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *Gemmobacter aquatilis* GCA_900110025.1
 zO
 826 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 720 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 618 *Gemmobacter aquatilis* GCA_900110025.1
 zP
 642 *Clostridium beijerinckii* GCA_000833105.2
 602 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 602 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 575 *Clostridium butyricum* GCA_001456065.2
 zQ
 847 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 754 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 662 *Gemmobacter aquatilis* GCA_900110025.1
 zR
 336 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 313 *Staphylococcus warneri* SG1 GCA_000332735.1
 303 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 zS
 726 *Clostridium beijerinckii* GCA_000833105.2
 677 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 676 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 zT
 637 *Clostridium beijerinckii* GCA_000833105.2
 604 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 573 *Clostridium puniceum* GCA_002006345.1
 zU
 789 *Clostridium beijerinckii* GCA_000833105.2
 752 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 733 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 zV
 717 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 699 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 622 *Staphylococcus warneri* SG1 GCA_000332735.1
 zW
 700 *Streptococcus mutans* UA159 GCA_000007465.2
 516 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1

487 *Streptococcus iniae* GCA_000831485.1
 zX
 887 *Clostridium beijerinckii* GCA_000833105.2
 831 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 797 *Clostridium puniceum* GCA_002006345.1
 zY
 485 *Streptococcus mutans* UA159 GCA_000007465.2
 409 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 377 *Streptococcus halotolerans* GCA_001598035.1
 377 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 zZ
 588 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 554 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 440 *Gemmobacter aquatilis* GCA_900110025.1
 440 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 A0
 801 *Deinococcus radiodurans* R1 GCA_000008565.1
 573 *Deinococcus deserti* VCD115 GCA_000020685.1
 529 *Deinococcus gobiensis* I-0 GCA_000252445.1
 A1
 783 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 719 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 609 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 A2
 752 *Streptococcus mutans* UA159 GCA_000007465.2
 522 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 518 *Streptococcus sanguinis* SK36 GCA_000014205.1
 A3
 803 *Enterococcus faecalis* V583 GCA_000007785.1
 756 *Streptomyces cinnamoneus* GCA_001885705.1
 719 *Enterococcus rivorum* GCA_001742285.1
 A4
 540 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 503 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 445 *Pseudorhodobacter wandonensis* GCA_001202035.1
 A5
 842 *Bacillus anthracis* str. Ames GCA_000007845.1
 842 *Bacillus anthracis* str. Sterne GCA_000008165.1
 842 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 842 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 817 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 802 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 A6
 675 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 624 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 513 *Gemmobacter aquatilis* GCA_900110025.1
 A7
 809 *Enterococcus faecalis* V583 GCA_000007785.1
 762 *Streptomyces cinnamoneus* GCA_001885705.1
 716 *Enterococcus rivorum* GCA_001742285.1
 A8
 754 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 681 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 630 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 A9
 774 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 715 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 672 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
 Aa
 764 *Streptococcus mutans* UA159 GCA_000007465.2
 584 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 567 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Ab
 910 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 810 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 635 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Ac
 753 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 687 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 585 *Lactobacillus jensenii* GCA_001936235.1
 Ad
 419 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 405 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 401 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 Ae
 890 *Bacillus anthracis* str. Ames GCA_000007845.1

890 *Bacillus anthracis* str. Sterne GCA_000008165.1
 890 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 879 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 874 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 Af
 740 *Enterococcus faecalis* V583 GCA_000007785.1
 693 *Streptomyces cinnamomeus* GCA_001885705.1
 643 *Enterococcus rivorum* GCA_001742285.1
 Ag
 683 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 657 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 503 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 503 *Lactobacillus jensenii* GCA_001936235.1
 503 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 Ah
 619 *Deinococcus radiodurans* R1 GCA_000008565.1
 388 *Deinococcus deserti* VCD115 GCA_000020685.1
 350 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 Ai
 792 *Streptococcus mutans* UA159 GCA_000007465.2
 595 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 561 *Streptococcus criceti* HS-6 GCA_000187975.3
 Aj
 727 *Deinococcus radiodurans* R1 GCA_000008565.1
 389 *Deinococcus gobiensis* I-0 GCA_000252445.1
 359 *Deinococcus proteolyticus* MRP GCA_000190555.1
 Ak
 680 *Streptococcus mutans* UA159 GCA_000007465.2
 474 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 451 *Streptococcus pyogenes* M1 GAS GCA_000006785.2
 Al
 738 *Deinococcus radiodurans* R1 GCA_000008565.1
 468 *Deinococcus deserti* VCD115 GCA_000020685.1
 429 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Am
 699 *Streptococcus mutans* UA159 GCA_000007465.2
 464 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 456 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 An
 623 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 623 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 623 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 615 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 615 *Escherichia coli* UMN026 GCA_000026325.2
 609 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 Ao
 651 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 646 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 646 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 643 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 643 *Escherichia coli* UMN026 GCA_000026325.2
 Ap
 440 *Enterococcus faecalis* V583 GCA_000007785.1
 407 *Enterococcus hirae* ATCC 9790 GCA_000271405.2
 393 *Enterococcus faecium* D0 GCA_000174395.2
 393 *Streptomyces cinnamomeus* GCA_001885705.1
 Aq
 551 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 493 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 458 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Ar
 757 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 751 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 719 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 As
 979 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 903 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 830 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 At
 692 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 599 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 345 *Lactobacillus amylovorus* GCA_000191545.1
 Au
 699 *Deinococcus radiodurans* R1 GCA_000008565.1
 381 *Deinococcus deserti* VCD115 GCA_000020685.1
 377 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1

Av
 822 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 733 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 579 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 Aw
 587 *Streptococcus mutans* UA159 GCA_000007465.2
 439 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 395 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 Ax
 513 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 491 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 453 *Staphylococcus warneri* SG1 GCA_000332735.1
 Ay
 695 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 687 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 686 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 Az
 782 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 782 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 781 *Escherichia coli* UMN026 GCA_000026325.2
 767 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 767 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 AA
 399 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 387 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 305 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 AB
 814 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 786 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 709 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 AC
 704 *Deinococcus radiodurans* R1 GCA_000008565.1
 479 *Deinococcus deserti* VCD115 GCA_000020685.1
 464 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 AD
 403 *Deinococcus radiodurans* R1 GCA_000008565.1
 294 *Deinococcus deserti* VCD115 GCA_000020685.1
 264 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 AE
 688 *Clostridium beijerinckii* GCA_000833105.2
 658 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 626 *Clostridium puniceum* GCA_002006345.1
 AF
 868 *Clostridium beijerinckii* GCA_000833105.2
 824 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 818 *Clostridium butyricum* GCA_001456065.2
 AG
 948 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 874 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 687 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 AH
 570 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 516 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 377 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 AI
 733 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 720 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 715 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 AJ
 782 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 713 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 638 *Gemmobacter aquatilis* GCA_900110025.1
 AK
 424 *Streptococcus mutans* UA159 GCA_000007465.2
 297 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 287 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 AL
 431 *Enterococcus faecalis* V583 GCA_000007785.1
 384 *Streptomyces cinnamomeus* GCA_001885705.1
 353 *Enterococcus rivorum* GCA_001742285.1
 AM
 514 *Streptococcus mutans* UA159 GCA_000007465.2
 346 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 333 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 AN
 636 *Streptococcus mutans* UA159 GCA_000007465.2

425 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 417 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 A0
 903 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 903 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 895 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 857 *Escherichia coli* IAI39 GCA_000026345.1
 AP
 533 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 496 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 355 *Lactobacillus kalixensis* DSM 16043 GCA_001434335.1
 AQ
 702 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 648 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 541 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 AR
 782 *Clostridium beijerinckii* GCA_000833105.2
 748 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 707 *Clostridium puniceum* GCA_002006345.1
 AS
 706 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 670 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 660 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 AT
 751 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 714 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 638 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 AU
 795 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 756 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 730 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 AV
 570 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 528 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 431 *Pseudorhodobacter wandonensis* GCA_001202035.1
 AW
 769 *Deinococcus radiodurans* R1 GCA_000008565.1
 486 *Deinococcus deserti* VCD115 GCA_000020685.1
 467 *Deinococcus gobiensis* I-0 GCA_000252445.1
 AX
 864 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 770 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 685 *DeFluviimonas alba* GCA_001620265.1
 AY
 743 *Streptococcus mutans* UA159 GCA_000007465.2
 547 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 515 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 AZ
 512 *Clostridium beijerinckii* GCA_000833105.2
 508 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 494 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 B0
 733 *Streptococcus mutans* UA159 GCA_000007465.2
 528 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 528 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 509 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 B1
 639 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 616 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 578 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 B2
 680 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 622 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 472 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 B3
 712 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 616 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 526 *DeFluviimonas alba* GCA_001620265.1
 B4
 767 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 710 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 574 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 B5
 611 *Deinococcus radiodurans* R1 GCA_000008565.1
 412 *Deinococcus deserti* VCD115 GCA_000020685.1
 390 *Deinococcus gobiensis* I-0 GCA_000252445.1

B6
 699 *Streptococcus mutans* UA159 GCA_000007465.2
 556 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 529 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 B7
 721 *Deinococcus radiodurans* R1 GCA_000008565.1
 481 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 473 *Deinococcus deserti* VCD115 GCA_000020685.1
 B8
 752 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 748 *Escherichia coli* IAI39 GCA_000026345.1
 748 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 727 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 B9
 590 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 517 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 459 *Paracoccus solventivorans* GCA_900142875.1
 Ba
 580 *Clostridium beijerinckii* GCA_000833105.2
 577 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 573 *Clostridium puniceum* GCA_002006345.1
 Bb
 710 *Enterococcus faecalis* V583 GCA_000007785.1
 663 *Streptomyces cinnamomeus* GCA_001885705.1
 619 *Enterococcus faecium* D0 GCA_000174395.2
 Bc
 610 *Escherichia coli* IAI39 GCA_000026345.1
 610 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 610 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 610 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 609 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 609 *Escherichia coli* UMN026 GCA_000026325.2
 585 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 Bd
 631 *Clostridium beijerinckii* GCA_000833105.2
 604 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 563 *Clostridium puniceum* GCA_002006345.1
 563 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Be
 571 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 517 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 385 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Bf
 803 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 774 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 766 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 Bg
 575 *Enterococcus faecalis* V583 GCA_000007785.1
 529 *Streptomyces cinnamomeus* GCA_001885705.1
 515 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 Bh
 749 *Enterococcus faecalis* V583 GCA_000007785.1
 705 *Streptomyces cinnamomeus* GCA_001885705.1
 689 *Enterococcus rivorum* GCA_001742285.1
 Bi
 833 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 799 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 744 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 Bj
 802 *Deinococcus radiodurans* R1 GCA_000008565.1
 492 *Deinococcus deserti* VCD115 GCA_000020685.1
 463 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 Bk
 789 *Deinococcus radiodurans* R1 GCA_000008565.1
 503 *Deinococcus deserti* VCD115 GCA_000020685.1
 475 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 Bl
 616 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 571 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 496 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 Bm
 637 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 596 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 554 *Staphylococcus simulans* GCA_001559115.1
 Bn
 550 *Deinococcus radiodurans* R1 GCA_000008565.1

303 *Deinococcus deserti* VCD115 GCA_000020685.1
 297 *Deinococcus gobiensis* I-0 GCA_000252445.1
 Bo
 694 *Bacillus anthracis* str. Ames GCA_000007845.1
 694 *Bacillus anthracis* str. Sterne GCA_000008165.1
 694 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 694 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 673 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 667 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 Bp
 674 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 626 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 515 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Bq
 605 *Enterococcus faecalis* V583 GCA_000007785.1
 558 *Streptomyces cinnamomeus* GCA_001885705.1
 500 *Enterococcus faecium* D0 GCA_000174395.2
 500 *Enterococcus rivorum* GCA_001742285.1
 Br
 436 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 434 *Bacillus anthracis* str. Ames GCA_000007845.1
 434 *Bacillus anthracis* str. Sterne GCA_000008165.1
 434 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 425 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 425 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 Bs
 808 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 764 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 744 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 Bt
 843 *Clostridium beijerinckii* GCA_000833105.2
 837 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 836 *Clostridium butyricum* GCA_001456065.2
 Bu
 595 *Deinococcus radiodurans* R1 GCA_000008565.1
 399 *Deinococcus deserti* VCD115 GCA_000020685.1
 398 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Bv
 562 *Streptococcus mutans* UA159 GCA_000007465.2
 418 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 402 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Bw
 696 *Streptococcus mutans* UA159 GCA_000007465.2
 520 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 490 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 Bx
 556 *Clostridium beijerinckii* GCA_000833105.2
 531 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 517 *Clostridium butyricum* GCA_001456065.2
 By
 630 *Enterococcus faecalis* V583 GCA_000007785.1
 583 *Streptomyces cinnamomeus* GCA_001885705.1
 500 *Enterococcus rivorum* GCA_001742285.1
 Bz
 780 *Enterococcus faecalis* V583 GCA_000007785.1
 739 *Streptomyces cinnamomeus* GCA_001885705.1
 653 *Enterococcus rivorum* GCA_001742285.1
 BA
 459 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 416 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 338 *Defluviimonas alba* GCA_001620265.1
 BB
 811 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 756 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 509 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 BC
 531 *Clostridium beijerinckii* GCA_000833105.2
 473 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 448 *Clostridium butyricum* GCA_001456065.2
 BD
 331 *Clostridium beijerinckii* GCA_000833105.2
 272 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 267 *Clostridium sartagoforme* AAU1 GCA_000401215.1
 BE
 712 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 653 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1

566 Gemmobacter nectarophilus DSM 15620 GCA_000429765.1
 BF
 846 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 757 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 610 Gemmobacter megaterium GCA_900156815.1
 BG
 731 Deinococcus radiodurans R1 GCA_000008565.1
 498 Deinococcus deserti VCD115 GCA_000020685.1
 484 Deinococcus gobiensis I-0 GCA_000252445.1
 BH
 578 Streptococcus mutans UA159 GCA_000007465.2
 398 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 380 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 BI
 911 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 878 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 608 Lactobacillus hamsteri DSM 5661 = JCM 6256 GCA_000615445.1
 BJ
 508 Clostridium beijerinckii GCA_000833105.2
 464 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 453 Clostridium puniceum GCA_002006345.1
 BK
 776 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 640 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 460 Lactobacillus delbrueckii subsp. bulgaricus ATCC 11842 = JCM 1002 GCA_000056065.1
 BL
 543 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 419 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 415 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 BM
 732 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 699 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 458 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 BN
 662 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 654 Staphylococcus capitis subsp. capitis GCA_001028645.1
 634 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 BO
 809 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 751 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 604 Defluviimonas alba GCA_001620265.1
 BP
 639 Clostridium beijerinckii GCA_000833105.2
 585 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 580 Clostridium puniceum GCA_002006345.1
 BQ
 828 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 759 Staphylococcus capitis subsp. capitis GCA_001028645.1
 745 Staphylococcus warneri SG1 GCA_000332735.1
 BR
 862 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 808 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 547 Lactobacillus amylovorus GCA_000191545.1
 BS
 542 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 499 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 369 Lactobacillus iners DSM 13335 GCA_000160875.1
 BT
 582 Clostridium beijerinckii GCA_000833105.2
 548 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 543 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 BU
 778 Deinococcus radiodurans R1 GCA_000008565.1
 467 Deinococcus deserti VCD115 GCA_000020685.1
 463 Deinococcus soli Cha et al. 2016 GCA_001007995.1
 BV
 429 Streptococcus mutans UA159 GCA_000007465.2
 337 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 303 Streptococcus ferus DSM 20646 GCA_000372425.1
 BW
 741 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 635 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 625 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 BX
 814 Clostridium beijerinckii GCA_000833105.2
 802 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1

772 *Clostridium butyricum* GCA_001456065.2
 BY
 728 *Deinococcus radiodurans* R1 GCA_000008565.1
 466 *Deinococcus gobiensis* I-0 GCA_000252445.1
 443 *Deinococcus deserti* VCD115 GCA_000020685.1
 BZ
 483 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 397 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 392 *Bifidobacterium gallicum* DSM 20093 = LMG 11596 GCA_000741205.1
 C0
 756 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 697 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 482 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 C1
 629 *Streptococcus mutans* UA159 GCA_000007465.2
 512 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 467 *Streptococcus criceti* HS-6 GCA_000187975.3
 467 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 C2
 716 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 543 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 534 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 C3
 769 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 735 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 683 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 C4
 652 *Clostridium beijerinckii* GCA_000833105.2
 628 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 613 *Clostridium puniceum* GCA_002006345.1
 C5
 586 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 552 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 455 *Gemmobacter aquatilis* GCA_900110025.1
 C6
 502 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 419 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 356 *Gemmobacter megaterium* GCA_900156815.1
 C7
 766 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 642 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 615 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 C8
 592 *Streptococcus mutans* UA159 GCA_000007465.2
 467 *Clostridium beijerinckii* GCA_000833105.2
 464 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 C9
 432 *Clostridium beijerinckii* GCA_000833105.2
 421 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 403 *Clostridium puniceum* GCA_002006345.1
 Ca
 698 *Clostridium beijerinckii* GCA_000833105.2
 647 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 621 *Clostridium puniceum* GCA_002006345.1
 621 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 Cb
 810 *Streptococcus mutans* UA159 GCA_000007465.2
 602 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 543 *Streptococcus equinus* GCA_000964315.1
 Cc
 631 *Clostridium beijerinckii* GCA_000833105.2
 550 *Clostridium butyricum* GCA_001456065.2
 550 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 542 *Clostridium chromiireducens* GCA_002029255.1
 542 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Cd
 745 *Streptococcus mutans* UA159 GCA_000007465.2
 529 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 525 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
 Ce
 794 *Bacillus anthracis* str. Ames GCA_000007845.1
 794 *Bacillus anthracis* str. Sterne GCA_000008165.1
 794 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 779 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 767 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 Cf

723 *Deinococcus radiodurans* R1 GCA_000008565.1
 413 *Deinococcus deserti* VCD115 GCA_000020685.1
 390 *Deinococcus gobiensis* I-0 GCA_000252445.1
 Cg
 725 *Clostridium beijerinckii* GCA_000833105.2
 699 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 679 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Ch
 808 *Streptococcus mutans* UA159 GCA_000007465.2
 574 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 546 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 Ci
 767 *Enterococcus faecalis* V583 GCA_000007785.1
 726 *Streptomyces cinnamomeus* GCA_001885705.1
 654 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 Cj
 677 *Deinococcus radiodurans* R1 GCA_000008565.1
 439 *Deinococcus gobiensis* I-0 GCA_000252445.1
 430 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 Ck
 820 *Clostridium beijerinckii* GCA_000833105.2
 795 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 761 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Cl
 485 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 428 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 406 *Deinofibrobacter alba* GCA_001620265.1
 Cm
 613 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 598 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 563 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 563 *Staphylococcus warneri* SG1 GCA_000332735.1
 Cn
 681 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 561 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 522 *Gemmobacter megaterium* GCA_900156815.1
 Co
 742 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 722 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 722 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 716 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 Cp
 588 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 480 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 467 *Gemmobacter aquatilis* GCA_900110025.1
 Cq
 345 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 331 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 240 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Cr
 814 *Streptococcus mutans* UA159 GCA_000007465.2
 646 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 612 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 Cs
 574 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 471 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 437 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Ct
 620 *Streptococcus mutans* UA159 GCA_000007465.2
 465 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 407 *Streptococcus sanguinis* SK36 GCA_000014205.1
 Cu
 712 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 711 *Bacillus anthracis* str. Ames GCA_000007845.1
 711 *Bacillus anthracis* str. Sterne GCA_000008165.1
 703 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 Cv
 548 *Clostridium beijerinckii* GCA_000833105.2
 515 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 492 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Cw
 941 *Clostridium beijerinckii* GCA_000833105.2
 898 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 878 *Clostridium puniceum* GCA_002006345.1
 Cx
 665 *Clostridium beijerinckii* GCA_000833105.2

637 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 587 *Clostridium puniceum* GCA_002006345.1
 Cy
 800 *Deinococcus radiodurans* R1 GCA_000008565.1
 508 *Deinococcus deserti* VCD115 GCA_000020685.1
 495 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Cz
 474 *Clostridium beijerinckii* GCA_000833105.2
 473 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 459 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 CA
 698 *Streptococcus mutans* UA159 GCA_000007465.2
 505 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 472 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 CB
 518 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 472 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 457 *Bifidobacterium coryneforme* GCA_000737865.1
 CC
 674 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 543 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 530 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 CD
 594 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 563 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 510 *Bifidobacterium stellenboschense* GCA_000741785.1
 CE
 884 *Streptococcus mutans* UA159 GCA_000007465.2
 710 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 658 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 658 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 CF
 640 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 630 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 628 *Bacillus anthracis* str. Ames GCA_000007845.1
 628 *Bacillus anthracis* str. Sterne GCA_000008165.1
 628 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 CG
 641 *Clostridium beijerinckii* GCA_000833105.2
 604 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 592 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 CH
 685 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 642 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 594 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 CI
 657 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 641 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 461 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 CJ
 784 *Clostridium beijerinckii* GCA_000833105.2
 737 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 705 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 CK
 639 *Clostridium beijerinckii* GCA_000833105.2
 605 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 598 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 CL
 421 *Bacillus anthracis* str. Ames GCA_000007845.1
 421 *Bacillus anthracis* str. Sterne GCA_000008165.1
 421 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 413 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 406 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 406 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 CM
 798 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 749 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 726 *Staphylococcus hominis* subsp. hominis C80 GCA_000183685.1
 CN
 741 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 729 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 675 *Staphylococcus aureus* subsp. aureus NCTC 8325 GCA_000013425.1
 CO
 405 *Clostridium beijerinckii* GCA_000833105.2
 404 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 360 *Clostridium puniceum* GCA_002006345.1

CP
 611 *Clostridium puniceum* GCA_002006345.1
 605 *Clostridium beijerinckii* GCA_000833105.2
 603 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 CQ
 604 *Deinococcus radiodurans* R1 GCA_000008565.1
 351 *Deinococcus deserti* VCD115 GCA_000020685.1
 307 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 307 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 CR
 684 *Deinococcus radiodurans* R1 GCA_000008565.1
 373 *Deinococcus deserti* VCD115 GCA_000020685.1
 370 *Deinococcus gobiensis* I-0 GCA_000252445.1
 CS
 529 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 521 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 485 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 CT
 502 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 459 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 457 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 CU
 669 *Deinococcus radiodurans* R1 GCA_000008565.1
 388 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 380 *Deinococcus gobiensis* I-0 GCA_000252445.1
 CV
 733 *Clostridium beijerinckii* GCA_000833105.2
 689 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 664 *Clostridium puniceum* GCA_002006345.1
 CW
 627 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 530 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *Gemmobacter aquatilis* GCA_900110025.1
 CX
 436 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 422 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 323 *Lactobacillus jensenii* GCA_001936235.1
 323 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 CY
 739 *Clostridium beijerinckii* GCA_000833105.2
 709 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 670 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 CZ
 770 *Deinococcus radiodurans* R1 GCA_000008565.1
 473 *Deinococcus gobiensis* I-0 GCA_000252445.1
 450 *Deinococcus deserti* VCD115 GCA_000020685.1
 D0
 709 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 698 *Escherichia coli* UMN026 GCA_000026325.2
 698 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 693 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 D1
 802 *Deinococcus radiodurans* R1 GCA_000008565.1
 591 *Deinococcus deserti* VCD115 GCA_000020685.1
 556 *Deinococcus puniceus* GCA_001644565.1
 D2
 698 *Enterococcus faecalis* V583 GCA_000007785.1
 651 *Streptomyces cinnamomeus* GCA_001885705.1
 603 *Enterococcus faecium* D0 GCA_000174395.2
 D3
 542 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 485 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 328 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 D4
 585 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 514 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 469 *Gemmobacter aquatilis* GCA_900110025.1
 D5
 620 *Clostridium beijerinckii* GCA_000833105.2
 597 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 586 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 D6
 471 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 441 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 363 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 D7

635 *Clostridium beijerinckii* GCA_000833105.2
 600 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 580 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 D8
 681 *Deinococcus radiodurans* R1 GCA_000008565.1
 441 *Deinococcus deserti* VCD115 GCA_000020685.1
 389 *Deinococcus gobiensis* I-0 GCA_000252445.1
 D9
 627 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 578 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 546 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 Da
 825 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 754 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 679 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 Db
 661 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 623 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 565 *Staphylococcus warneri* SG1 GCA_000332735.1
 Dc
 782 *Deinococcus radiodurans* R1 GCA_000008565.1
 463 *Deinococcus deserti* VCD115 GCA_000020685.1
 447 *Deinococcus gobiensis* I-0 GCA_000252445.1
 Dd
 697 *Clostridium beijerinckii* GCA_000833105.2
 657 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 622 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 De
 591 *Deinococcus radiodurans* R1 GCA_000008565.1
 375 *Deinococcus puniceus* GCA_001644565.1
 362 *Deinococcus deserti* VCD115 GCA_000020685.1
 Df
 705 *Bacillus anthracis* str. Ames GCA_000007845.1
 705 *Bacillus anthracis* str. Sterne GCA_000008165.1
 705 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 690 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 672 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 Dg
 787 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 775 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 706 *Staphylococcus warneri* SG1 GCA_000332735.1
 Dh
 412 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 397 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 328 *Gemmobacter megaterium* GCA_900156815.1
 Di
 823 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 728 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 665 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Dj
 744 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 662 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 498 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Dk
 715 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 645 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 546 *Thioclava indica* GCA_000714545.1
 Dl
 848 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 814 *Clostridium beijerinckii* GCA_000833105.2
 779 *Clostridium puniceum* GCA_002006345.1
 Dm
 626 *Clostridium beijerinckii* GCA_000833105.2
 571 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 566 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Dn
 662 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 609 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 506 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 506 *Pseudorhodobacter wandonensis* GCA_001202035.1
 Do
 764 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 764 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 764 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 761 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 759 *Escherichia coli* UMN026 GCA_000026325.2

Dp
 754 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 706 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 499 Lactobacillus hamsteri DSM 5661 = JCM 6256 GCA_000615445.1
 Dq
 687 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 639 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 489 Lactobacillus iners DSM 13335 GCA_000160875.1
 Dr
 642 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 612 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 458 Pseudorhodobacter psychrotolerans GCA_001294535.1
 Ds
 772 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 735 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 609 Gemmobacter aquatilis GCA_900110025.1
 Dt
 632 Enterococcus faecalis V583 GCA_000007785.1
 585 Streptomyces cinnamoneus GCA_001885705.1
 559 Enterococcus thailandicus GCA_001652875.1
 Du
 621 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 621 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 611 Shigella flexneri 2a str. 301 GCA_000006925.2
 600 Escherichia coli IAI39 GCA_000026345.1
 600 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 Dv
 812 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 734 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 613 Gemmobacter megaterium GCA_900156815.1
 Dw
 605 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 479 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 475 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 Dx
 730 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 689 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 568 Lactobacillus iners DSM 13335 GCA_000160875.1
 Dy
 736 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 643 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 603 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 Dz
 649 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 597 Staphylococcus capitis subsp. capitis GCA_001028645.1
 595 Staphylococcus warneri SG1 GCA_000332735.1
 DA
 758 Deinococcus radiodurans R1 GCA_000008565.1
 463 Deinococcus deserti VCD115 GCA_000020685.1
 430 Deinococcus gobiensis I-0 GCA_000252445.1
 DB
 694 Staphylococcus capitis subsp. capitis GCA_001028645.1
 694 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 637 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 626 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 DC
 975 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 895 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 737 Lactobacillus hamsteri DSM 5661 = JCM 6256 GCA_000615445.1
 DD
 744 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 603 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 562 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 DE
 644 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 507 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 492 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 DF
 594 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 494 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 469 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 DG
 496 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 455 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 441 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
 DH

608 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
574 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
501 *Gemmobacter aquatilis* GCA_900110025.1
DI
674 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
593 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
452 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
DJ
687 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
670 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
470 *Lactobacillus iners* DSM 13335 GCA_000160875.1
DK
745 *Enterococcus faecalis* V583 GCA_000007785.1
698 *Streptomyces cinnamomeus* GCA_001885705.1
637 *Enterococcus rivorium* GCA_001742285.1
DL
526 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
510 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
494 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
DM
590 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
475 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
470 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
DN
795 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
795 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
787 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
787 *Escherichia coli* UMN026 GCA_000026325.2
786 *Escherichia coli* IAI39 GCA_000026345.1
DO
614 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
608 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
596 *Escherichia coli* UMN026 GCA_000026325.2
DP
652 *Clostridium beijerinckii* GCA_000833105.2
652 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
631 *Clostridium puniceum* GCA_002006345.1
628 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
DQ
639 *Enterococcus faecalis* V583 GCA_000007785.1
593 *Streptomyces cinnamomeus* GCA_001885705.1
553 *Enterococcus faecium* D0 GCA_000174395.2
DR
654 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
592 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
491 *Defluviimonas alba* GCA_001620265.1
DS
809 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
809 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
809 *Shigella flexneri* 2a str. 301 GCA_000006925.2
782 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
770 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
DT
769 *Deinococcus radiodurans* R1 GCA_000008565.1
489 *Deinococcus puniceus* GCA_001644565.1
485 *Deinococcus hopiensis* KR-140 GCA_900176165.1
DU
534 *Bacillus anthracis* str. Ames GCA_000007845.1
534 *Bacillus anthracis* str. Sterne GCA_000008165.1
534 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
521 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
518 *Bacillus cereus* ATCC 14579 GCA_000007825.1
518 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
DV
554 *Clostridium beijerinckii* GCA_000833105.2
506 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
503 *Clostridium butyricum* GCA_001456065.2
503 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
DW
680 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
650 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
584 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
DX
744 *Streptococcus mutans* UA159 GCA_000007465.2
564 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
519 *Streptococcus macacae* NCTC 11558 GCA_000187995.3

DY
390 *Clostridium beijerinckii* GCA_000833105.2
351 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
350 *Clostridium butyricum* GCA_001456065.2
DZ
790 *Bacillus anthracis* str. Ames GCA_000007845.1
790 *Bacillus anthracis* str. Sterne GCA_000008165.1
790 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
788 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
775 *Bacillus cereus* ATCC 14579 GCA_000007825.1
E0
371 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
313 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
307 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
E1
790 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
656 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
630 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
E2
836 *Enterococcus faecalis* V583 GCA_000007785.1
804 *Streptomyces cinnamomeus* GCA_001885705.1
719 *Enterococcus rivorum* GCA_001742285.1
E3
702 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
673 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
633 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
E4
628 *Deinococcus radiodurans* R1 GCA_000008565.1
405 *Deinococcus deserti* VCD115 GCA_000020685.1
383 *Deinococcus gobiensis* I-0 GCA_000252445.1
E5
855 *Streptococcus mutans* UA159 GCA_000007465.2
633 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
603 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
E6
726 *Deinococcus radiodurans* R1 GCA_000008565.1
400 *Deinococcus hopiensis* KR-140 GCA_900176165.1
392 *Deinococcus deserti* VCD115 GCA_000020685.1
E7
907 *Clostridium beijerinckii* GCA_000833105.2
883 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
869 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
E8
311 *Clostridium beijerinckii* GCA_000833105.2
296 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
287 *Clostridium butyricum* GCA_001456065.2
E9
684 *Streptococcus mutans* UA159 GCA_000007465.2
482 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
445 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
Ea
532 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
528 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
473 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
Eb
725 *Clostridium beijerinckii* GCA_000833105.2
689 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
670 *Clostridium puniceum* GCA_002006345.1
Ec
505 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
505 *Escherichia coli* UMN026 GCA_000026325.2
505 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
486 *Escherichia coli* IAI39 GCA_000026345.1
486 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
486 *Shigella dysenteriae* Sd197 GCA_000012005.1
486 *Shigella flexneri* 2a str. 301 GCA_000006925.2
465 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
Ed
581 *Clostridium beijerinckii* GCA_000833105.2
556 *Clostridium puniceum* GCA_002006345.1
550 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
Ee
757 *Deinococcus radiodurans* R1 GCA_000008565.1
531 *Deinococcus gobiensis* I-0 GCA_000252445.1
527 *Deinococcus hopiensis* KR-140 GCA_900176165.1
Ef

828 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 757 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 514 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 Eg
 671 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 639 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 582 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 582 *Staphylococcus warneri* SG1 GCA_000332735.1
 Eh
 858 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 801 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 756 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 Ei
 465 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 334 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 316 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Ej
 653 *Deinococcus radiodurans* R1 GCA_000008565.1
 427 *Deinococcus deserti* VCD115 GCA_000020685.1
 404 *Deinococcus frigidus* DSM 12807 GCA_000701425.1
 404 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Ek
 660 *Bacillus anthracis* str. Ames GCA_000007845.1
 660 *Bacillus anthracis* str. Sterne GCA_000008165.1
 660 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 651 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 639 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 El
 478 *Clostridium beijerinckii* GCA_000833105.2
 475 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 471 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 Em
 518 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 467 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 317 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 En
 805 *Streptococcus mutans* UA159 GCA_000007465.2
 586 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 576 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 Eo
 367 *Deinococcus radiodurans* R1 GCA_000008565.1
 259 *Deinococcus gobiensis* I-0 GCA_000252445.1
 211 *Deinococcus deserti* VCD115 GCA_000020685.1
 Ep
 896 *Bacillus anthracis* str. Ames GCA_000007845.1
 896 *Bacillus anthracis* str. Sterne GCA_000008165.1
 890 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 890 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 881 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 Eq
 661 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 585 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 503 *Gemmobacter aquatilis* GCA_900110025.1
 Er
 919 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 855 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 711 *Gemmobacter aquatilis* GCA_900110025.1
 Es
 683 *Clostridium beijerinckii* GCA_000833105.2
 673 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 631 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Et
 874 *Streptococcus mutans* UA159 GCA_000007465.2
 655 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 611 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Eu
 804 *Clostridium beijerinckii* GCA_000833105.2
 768 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 742 *Clostridium puniceum* GCA_002006345.1
 Ev
 679 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 615 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 451 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 Ew
 727 *Streptococcus mutans* UA159 GCA_000007465.2
 569 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1

560 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
Ex
537 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
503 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
391 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
Ey
605 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
540 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
437 Thioclava nitratireducens GCA_001940525.2
Ez
514 Streptococcus mutans UA159 GCA_000007465.2
362 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
338 Streptococcus iniae GCA_000831485.1
EA
901 Streptococcus mutans UA159 GCA_000007465.2
654 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
600 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
EB
719 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
615 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
521 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
EC
680 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
613 Staphylococcus capitis subsp. capitis GCA_001028645.1
595 Staphylococcus warneri SG1 GCA_000332735.1
ED
700 Streptococcus mutans UA159 GCA_000007465.2
468 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
446 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
EE
946 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
922 Staphylococcus capitis subsp. capitis GCA_001028645.1
857 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
EF
700 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
668 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
525 Lactobacillus psittaci DSM 15354 GCA_000425905.1
EG
812 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
723 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
603 Gemmobacter megaterium GCA_900156815.1
EH
655 Streptococcus mutans UA159 GCA_000007465.2
448 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
426 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
EI
568 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
542 Staphylococcus capitis subsp. capitis GCA_001028645.1
518 Staphylococcus simulans GCA_001559115.1
EJ
715 Clostridium beijerinckii GCA_000833105.2
707 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
696 Clostridium butyricum GCA_001456065.2
EK
719 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
544 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
537 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
EL
610 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
540 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
376 Lactobacillus iners DSM 13335 GCA_000160875.1
EM
473 Enterococcus faecalis V583 GCA_000007785.1
438 Enterococcus haemoperoxidus ATCC BAA-382 GCA_000407165.1
435 Enterococcus rivorium GCA_001742285.1
EN
724 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
688 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
677 Staphylococcus capitis subsp. capitis GCA_001028645.1
EO
821 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
819 Bacillus anthracis str. Ames GCA_000007845.1
819 Bacillus anthracis str. Sterne GCA_000008165.1
819 Bacillus cereus ATCC 14579 GCA_000007825.1
819 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
797 Bacillus mycoides GCA_000832605.1

EP
 879 Streptococcus mutans UA159 GCA_000007465.2
 659 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 609 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 EQ
 662 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 634 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 503 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 ER
 564 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 509 Staphylococcus capitis subsp. capitis GCA_001028645.1
 459 Staphylococcus simulans GCA_001559115.1
 ES
 608 Clostridium beijerinckii GCA_000833105.2
 584 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 583 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 ET
 504 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 498 Staphylococcus capitis subsp. capitis GCA_001028645.1
 467 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 467 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 467 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 EU
 634 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 503 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 496 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 EV
 561 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 507 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 506 Staphylococcus capitis subsp. capitis GCA_001028645.1
 EW
 734 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 651 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 547 Gemmobacter aquatilis GCA_900110025.1
 EX
 519 Streptococcus mutans UA159 GCA_000007465.2
 412 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 367 Streptococcus criceti HS-6 GCA_000187975.3
 EY
 729 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 631 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 563 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 EZ
 609 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 531 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 529 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 F0
 834 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 726 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 540 Lactobacillus iners DSM 13335 GCA_000160875.1
 F1
 216 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 215 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 194 Bifidobacterium breve DSM 20213 = JCM 1192 GCA_001025175.1
 194 Bifidobacterium lemum GCA_001895165.1
 F2
 495 Clostridium beijerinckii GCA_000833105.2
 455 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 417 Clostridium butyricum GCA_001456065.2
 F3
 506 Clostridium beijerinckii GCA_000833105.2
 462 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 460 Clostridium puniceum GCA_002006345.1
 F4
 602 Clostridium beijerinckii GCA_000833105.2
 593 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 591 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 F5
 278 Escherichia coli IAI39 GCA_000026345.1
 278 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 278 Escherichia coli 0157_3AH7 str. Sakai GCA_000008865.1
 278 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 278 Shigella dysenteriae Sd197 GCA_000012005.1
 278 Shigella flexneri 2a str. 301 GCA_000006925.2
 270 Escherichia coli 083_3AH1 str. NRG 857C GCA_000183345.1
 270 Escherichia coli UMN026 GCA_000026325.2

246 *Tumebacillus flagellatus* GCA_000714935.1
 F6
 721 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 679 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 626 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 F7
 807 *Streptococcus mutans* UA159 GCA_000007465.2
 577 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 560 *Streptococcus equinus* GCA_000964315.1
 F8
 691 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 620 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 515 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 F9
 365 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 286 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 269 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 Fa
 308 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 294 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 241 *Gemmobacter aquatilis* GCA_900110025.1
 Fb
 722 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 664 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 601 *Megasphaera cerevisiae* DSM 20462 GCA_001045675.1
 601 *Staphylococcus warneri* SG1 GCA_000332735.1
 Fc
 868 *Streptococcus mutans* UA159 GCA_000007465.2
 640 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 625 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Fd
 512 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 451 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 386 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Fe
 716 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 594 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 520 *Gemmobacter aquatilis* GCA_900110025.1
 Ff
 423 *Deinococcus radiodurans* R1 GCA_000008565.1
 262 *Deinococcus proteolyticus* MRP GCA_000190555.1
 245 *Deinococcus frigans* DSM 12807 GCA_000701425.1
 Fg
 597 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 505 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 406 *Gemmobacter aquatilis* GCA_900110025.1
 Fh
 713 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 684 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 623 *Staphylococcus simulans* GCA_001559115.1
 Fi
 752 *Streptococcus mutans* UA159 GCA_000007465.2
 536 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 529 *Streptococcus equinus* GCA_000964315.1
 529 *Streptococcus henryi* DSM 19005 GCA_000376985.1
 Fj
 438 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 425 *Clostridium beijerinckii* GCA_000833105.2
 404 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Fk
 433 *Deinococcus radiodurans* R1 GCA_000008565.1
 298 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 295 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Fl
 980 *Bacillus anthracis* str. Ames GCA_000007845.1
 980 *Bacillus anthracis* str. Sterne GCA_000008165.1
 980 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 971 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 956 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 Fm
 886 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 757 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 730 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Fn
 840 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 740 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1

553 *Lactobacillus gallinarum* GCA_001314245.2
 Fo
 397 *Deinococcus radiodurans* R1 GCA_000008565.1
 273 *Deinococcus gobiensis* I-0 GCA_000252445.1
 265 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Fp
 620 *Clostridium beijerinckii* GCA_000833105.2
 607 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 602 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 Fq
 645 *Clostridium beijerinckii* GCA_000833105.2
 633 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 604 *Clostridium puniceum* GCA_002006345.1
 Fr
 794 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 720 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 515 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Fs
 374 *Streptococcus mutans* UA159 GCA_000007465.2
 267 *Streptococcus iniae* GCA_000831485.1
 267 *Streptococcus uberis* 0140J GCA_000009545.1
 266 *Streptococcus dysgalactiae* subsp. *equisimilis* AC-2713 GCA_000317855.1
 Ft
 663 *Clostridium beijerinckii* GCA_000833105.2
 654 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 645 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Fu
 695 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 654 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 613 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 Fv
 835 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 807 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 632 *Lactobacillus jensenii* GCA_001936235.1
 Fw
 588 *Bacillus anthracis* str. Ames GCA_000007845.1
 588 *Bacillus anthracis* str. Sterne GCA_000008165.1
 588 *_5BBacillus thuringiensis_5D* serovar *konkukian* str. 97-27 GCA_000008505.1
 578 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 578 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 577 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 Fx
 736 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 682 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 665 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 Fy
 746 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 608 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 589 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 Fz
 475 *Clostridium beijerinckii* GCA_000833105.2
 445 *Clostridium butyricum* GCA_001456065.2
 441 *Clostridium neonatale* GCA_001458595.1
 FA
 709 *Clostridium beijerinckii* GCA_000833105.2
 667 *Clostridium puniceum* GCA_002006345.1
 667 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 634 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 FB
 531 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 530 *Escherichia coli* IAI39 GCA_000026345.1
 530 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 522 *Kosakonia cowanii* GCA_001975225.1
 FC
 638 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 586 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 489 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 FD
 685 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 656 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 639 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 FE
 838 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 727 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 606 *Gemmobacter megaterium* GCA_900156815.1
 FF

938 *Bacillus anthracis* str. Ames GCA_000007845.1
 938 *Bacillus anthracis* str. Sterne GCA_000008165.1
 938 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 930 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 925 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 FG
 542 *Bacillus anthracis* str. Ames GCA_000007845.1
 542 *Bacillus anthracis* str. Sterne GCA_000008165.1
 542 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 542 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 542 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 527 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 523 *Bacillus mycoides* GCA_000832605.1
 FH
 687 *Deinococcus radiodurans* R1 GCA_000008565.1
 397 *Deinococcus puniceus* GCA_001644565.1
 395 *Deinococcus deserti* VCD115 GCA_000020685.1
 FI
 493 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 420 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 408 *DeFluviimonas alba* GCA_001620265.1
 FJ
 630 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 556 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 440 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 FK
 962 *Streptococcus mutans* UA159 GCA_000007465.2
 720 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 689 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 FL
 742 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 655 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 512 *Lactobacillus jensenii* GCA_001936235.1
 FM
 819 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 786 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 718 *Staphylococcus warneri* SG1 GCA_000332735.1
 FN
 661 *Deinococcus radiodurans* R1 GCA_000008565.1
 352 *Deinococcus gobiensis* I-0 GCA_000252445.1
 344 *Deinococcus deserti* VCD115 GCA_000020685.1
 FO
 485 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 468 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 406 *DeFluviimonas alba* GCA_001620265.1
 FP
 736 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 667 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 626 *Staphylococcus simulans* GCA_001559115.1
 FQ
 661 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 607 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 524 *Gemmobacter aquatilis* GCA_900110025.1
 FR
 678 *Deinococcus radiodurans* R1 GCA_000008565.1
 421 *Deinococcus gobiensis* I-0 GCA_000252445.1
 408 *Deinococcus deserti* VCD115 GCA_000020685.1
 FS
 894 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 829 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 656 *Lactobacillus jensenii* GCA_001936235.1
 FT
 323 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 299 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 234 *Rhodobacter capsulatus* SB 1003 GCA_000021865.1
 FU
 460 *Clostridium beijerinckii* GCA_000833105.2
 437 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 412 *Clostridium butyricum* GCA_001456065.2
 FV
 629 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 629 *Escherichia coli* UMN026 GCA_000026325.2
 629 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 628 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 624 *Escherichia coli* IAI39 GCA_000026345.1
 FW

426 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 295 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 293 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 FX
 674 *Streptococcus mutans* UA159 GCA_000007465.2
 478 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 397 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 FY
 765 *Clostridium beijerinckii* GCA_000833105.2
 737 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 708 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 FZ
 822 *Streptococcus mutans* UA159 GCA_000007465.2
 640 *Streptococcus equinus* GCA_000964315.1
 637 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 G0
 800 *Enterococcus faecalis* V583 GCA_000007785.1
 753 *Streptomyces cinnamomeus* GCA_001885705.1
 712 *Enterococcus rivorum* GCA_001742285.1
 G1
 715 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 704 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 672 *Staphylococcus warneri* SG1 GCA_000332735.1
 G2
 661 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 656 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 463 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 G3
 611 *Clostridium beijerinckii* GCA_000833105.2
 598 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 585 *Clostridium puniceum* GCA_002006345.1
 G4
 724 *Clostridium beijerinckii* GCA_000833105.2
 669 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 657 *Clostridium puniceum* GCA_002006345.1
 G5
 443 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 360 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 349 *Gemmobacter aquatilis* GCA_900110025.1
 G6
 678 *Clostridium beijerinckii* GCA_000833105.2
 619 *Clostridium puniceum* GCA_002006345.1
 615 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 G7
 780 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 765 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 706 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 G8
 727 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 712 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 641 *Staphylococcus warneri* SG1 GCA_000332735.1
 G9
 762 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 676 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 487 *Lactobacillus helveticus* GCA_001308285.1
 Ga
 674 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 520 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 484 *Bifidobacterium longum* NCC2705 GCA_000007525.1
 Gb
 683 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 606 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 462 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 Gc
 719 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 633 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 567 *Gemmobacter aquatilis* GCA_900110025.1
 Gd
 853 *Clostridium beijerinckii* GCA_000833105.2
 843 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 781 *Clostridium puniceum* GCA_002006345.1
 Ge
 689 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 646 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 508 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Gf

714 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 655 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 560 *Gemmobacter aquatilis* GCA_900110025.1
 Gg
 819 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 743 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 566 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 Gh
 589 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 540 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 431 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Gi
 677 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 586 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 453 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 Gj
 652 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 638 *Bacillus anthracis* str. Ames GCA_000007845.1
 638 *Bacillus anthracis* str. Sterne GCA_000008165.1
 638 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 638 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 611 *Bacillus pseudomycoloides* DSM 12442 GCA_000161455.1
 Gk
 630 *Streptococcus mutans* UA159 GCA_000007465.2
 476 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 451 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 451 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 Gl
 422 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 407 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 317 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Gm
 325 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 277 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 269 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 269 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 Gn
 343 *Deinococcus radiodurans* R1 GCA_000008565.1
 189 *Deinococcus gobiensis* I-0 GCA_000252445.1
 187 *Deinococcus deserti* VCD115 GCA_000020685.1
 Go
 596 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 552 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 509 *Staphylococcus pettenkoferi* GCA_002208805.1
 Gp
 709 *Clostridium beijerinckii* GCA_000833105.2
 667 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 652 *Clostridium puniceum* GCA_002006345.1
 Gq
 672 *Streptococcus mutans* UA159 GCA_000007465.2
 427 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 406 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Gr
 491 *Deinococcus radiodurans* R1 GCA_000008565.1
 306 *Deinococcus deserti* VCD115 GCA_000020685.1
 296 *Deinococcus puniceus* GCA_001644565.1
 Gs
 755 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 687 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 557 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Gt
 875 *Enterococcus faecalis* V583 GCA_000007785.1
 828 *Streptomyces cinnamomeus* GCA_001885705.1
 737 *Enterococcus rivorum* GCA_001742285.1
 Gu
 723 *Deinococcus radiodurans* R1 GCA_000008565.1
 454 *Deinococcus gobiensis* I-0 GCA_000252445.1
 429 *Deinococcus deserti* VCD115 GCA_000020685.1
 Gv
 804 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 804 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 804 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 797 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 794 *Escherichia coli* UMN026 GCA_000026325.2
 Gw
 628 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2

552 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 532 *Gemmobacter aquatilis* GCA_900110025.1
 Gx
 766 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 677 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 659 *Gemmobacter megaterium* GCA_900156815.1
 Gy
 552 *Clostridium beijerinckii* GCA_000833105.2
 528 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 501 *Clostridium puniceum* GCA_002006345.1
 Gz
 926 *Streptococcus mutans* UA159 GCA_000007465.2
 674 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 666 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 GA
 751 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 695 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 581 *Gemmobacter aquatilis* GCA_900110025.1
 GB
 914 *Enterococcus faecalis* V583 GCA_000007785.1
 867 *Streptomyces cinnamomeus* GCA_001885705.1
 770 *Enterococcus rivorum* GCA_001742285.1
 GC
 923 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 875 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 809 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 GD
 734 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 668 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 645 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 GE
 856 *Deinococcus radiodurans* R1 GCA_000008565.1
 566 *Deinococcus deserti* VCD115 GCA_000020685.1
 553 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 GF
 504 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 417 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 318 *Lactobacillus kalixensis* DSM 16043 GCA_001434335.1
 GG
 633 *Streptococcus mutans* UA159 GCA_000007465.2
 440 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 378 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 GH
 786 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 737 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 561 *Gemmobacter aquatilis* GCA_900110025.1
 561 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 GI
 738 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 672 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 528 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 GJ
 834 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 807 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 763 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 GK
 658 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 582 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 534 *Gemmobacter megaterium* GCA_900156815.1
 GL
 459 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 401 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 332 *Gemmobacter aquatilis* GCA_900110025.1
 GM
 915 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 911 *Escherichia coli* IAI39 GCA_000026345.1
 911 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 908 *Escherichia coli* UMN026 GCA_000026325.2
 GN
 713 *Deinococcus radiodurans* R1 GCA_000008565.1
 500 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 474 *Deinococcus deserti* VCD115 GCA_000020685.1
 GO
 522 *Enterococcus faecalis* V583 GCA_000007785.1
 475 *Streptomyces cinnamomeus* GCA_001885705.1
 446 *Enterococcus faecium* D0 GCA_000174395.2

GP
732 *Deinococcus radiodurans* R1 GCA_000008565.1
451 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
444 *Deinococcus deserti* VCD115 GCA_000020685.1
GQ
526 *Streptococcus mutans* UA159 GCA_000007465.2
406 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
397 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
GR
354 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
290 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
241 *Bifidobacterium thermophilum* GCA_000741495.1
GS
504 *Clostridium beijerinckii* GCA_000833105.2
471 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
439 *Clostridium butyricum* GCA_001456065.2
GT
773 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
733 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
635 *Gemmobacter aquatilis* GCA_900110025.1
GU
844 *Streptococcus mutans* UA159 GCA_000007465.2
643 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
623 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
GV
372 *Streptococcus mutans* UA159 GCA_000007465.2
304 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
251 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
GW
739 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
682 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
641 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
641 *Staphylococcus warneri* SG1 GCA_000332735.1
GX
676 *Enterococcus faecalis* V583 GCA_000007785.1
629 *Streptomyces cinnamomeus* GCA_001885705.1
620 *Enterococcus asini* ATCC 700915 GCA_000407365.1
GY
677 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
549 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
543 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
GZ
644 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
635 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
589 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
H0
633 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
575 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
428 *Lactobacillus iners* DSM 13335 GCA_000160875.1
H1
852 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
775 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
616 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
H2
733 *Clostridium beijerinckii* GCA_000833105.2
733 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
702 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
674 *Clostridium puniceum* GCA_002006345.1
H3
588 *Deinococcus radiodurans* R1 GCA_000008565.1
391 *Deinococcus deserti* VCD115 GCA_000020685.1
385 *Deinococcus hopiensis* KR-140 GCA_900176165.1
H4
790 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
777 *Bacillus anthracis* str. Ames GCA_000007845.1
777 *Bacillus anthracis* str. Sterne GCA_000008165.1
777 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
776 *Bacillus cereus* ATCC 14579 GCA_000007825.1
H5
717 *Streptococcus mutans* UA159 GCA_000007465.2
428 *Streptococcus rattii* FA-1 = DSM 20564 GCA_000286075.1
415 *Streptococcus equinus* GCA_000964315.1
H6
545 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
538 *Clostridium beijerinckii* GCA_000833105.2
516 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1

H7
 665 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 636 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 485 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 H8
 408 *Clostridium beijerinckii* GCA_000833105.2
 404 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 393 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 H9
 798 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 749 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 717 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 Ha
 781 *Streptococcus mutans* UA159 GCA_000007465.2
 579 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 563 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Hb
 774 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 717 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 555 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Hc
 561 *Streptococcus mutans* UA159 GCA_000007465.2
 495 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 461 *Streptococcus salivarius* GCA_000785515.1
 461 *Streptococcus thermophilus* JIM 8232 GCA_000253395.1
 Hd
 688 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 595 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 510 *Defluviimonas alba* GCA_001620265.1
 He
 747 *Bacillus anthracis* str. Ames GCA_000007845.1
 747 *Bacillus anthracis* str. Sterne GCA_000008165.1
 747 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 732 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 722 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 722 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 Hf
 749 *Streptococcus mutans* UA159 GCA_000007465.2
 583 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 571 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Hg
 619 *Streptococcus mutans* UA159 GCA_000007465.2
 398 *Streptococcus halotolerans* GCA_001598035.1
 392 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 Hh
 716 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 614 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 589 *Bifidobacterium stellenboschense* GCA_000741785.1
 Hi
 821 *Enterococcus faecalis* V583 GCA_000007785.1
 774 *Streptomyces cinnamoneus* GCA_001885705.1
 733 *Enterococcus phoeniculicola* ATCC BAA-412 GCA_000407505.1
 Hj
 466 *Enterococcus faecalis* V583 GCA_000007785.1
 434 *Streptomyces cinnamoneus* GCA_001885705.1
 386 *Enterococcus faecium* D0 GCA_000174395.2
 Hk
 502 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 476 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 437 *Thioclava dalianensis* GCA_000715505.1
 437 *Thioclava indica* GCA_000714545.1
 Hl
 786 *_5BBacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 785 *Bacillus anthracis* str. Ames GCA_000007845.1
 785 *Bacillus anthracis* str. Sterne GCA_000008165.1
 769 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 Hm
 698 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 633 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 524 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Hn
 673 *Clostridium beijerinckii* GCA_000833105.2
 635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 609 *Clostridium puniceum* GCA_002006345.1
 Ho
 882 *Deinococcus radiodurans* R1 GCA_000008565.1

609 *Deinococcus deserti* VCD115 GCA_000020685.1
591 *Deinococcus gobiensis* I-0 GCA_000252445.1
Hp
697 *Clostridium beijerinckii* GCA_000833105.2
676 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
661 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
Hq
621 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
568 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
567 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
Hr
731 *Escherichia coli* IAI39 GCA_000026345.1
724 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
724 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
722 *Shigella dysenteriae* Sd197 GCA_000012005.1
Hs
806 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
711 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
574 *Pseudorhodobacter wandonensis* GCA_001202035.1
Ht
601 *Streptococcus mutans* UA159 GCA_000007465.2
459 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
412 *Streptococcus equinus* GCA_000964315.1
Hu
777 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
706 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
557 *Lactobacillus iners* DSM 13335 GCA_000160875.1
Hv
620 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
592 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
437 *Lactobacillus iners* DSM 13335 GCA_000160875.1
Hw
716 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
704 *Shigella flexneri* 2a str. 301 GCA_000006925.2
698 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
Hx
825 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
825 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
791 *Shigella flexneri* 2a str. 301 GCA_000006925.2
784 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
Hy
571 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
526 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
506 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
Hz
468 *Enterococcus faecalis* V583 GCA_000007785.1
422 *Streptomyces cinnamomeus* GCA_001885705.1
374 *Enterococcus rivorum* GCA_001742285.1
HA
674 *Deinococcus radiodurans* R1 GCA_000008565.1
461 *Deinococcus gobiensis* I-0 GCA_000252445.1
455 *Deinococcus deserti* VCD115 GCA_000020685.1
HB
897 *Clostridium beijerinckii* GCA_000833105.2
841 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
804 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
HC
431 *Enterococcus faecalis* V583 GCA_000007785.1
428 *Enterococcus rivorum* GCA_001742285.1
414 *Enterococcus canis* NBRC 100695 GCA_001544375.1
414 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
HD
592 *Deinococcus radiodurans* R1 GCA_000008565.1
359 *Deinococcus deserti* VCD115 GCA_000020685.1
345 *Deinococcus gobiensis* I-0 GCA_000252445.1
HE
897 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
782 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
737 *Bifidobacterium stellenboschense* GCA_000741785.1
HF
720 *Bacillus anthracis* str. Ames GCA_000007845.1
720 *Bacillus anthracis* str. Sterne GCA_000008165.1
720 *Bacillus cereus* ATCC 14579 GCA_000007825.1
720 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
706 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
701 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2

HG
 555 *Deinococcus radiodurans* R1 GCA_000008565.1
 309 *Deinococcus deserti* VCD115 GCA_000020685.1
 305 *Deinococcus gobiensis* I-0 GCA_000252445.1
 HH
 611 *Deinococcus radiodurans* R1 GCA_000008565.1
 366 *Deinococcus deserti* VCD115 GCA_000020685.1
 329 *Deinococcus frigans* DSM 12807 GCA_000701425.1
 HI
 636 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 573 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 352 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 HJ
 675 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 634 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 478 *Gemmobacter aquatilis* GCA_900110025.1
 HK
 858 *Clostridium beijerinckii* GCA_000833105.2
 846 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 835 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 HL
 834 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 781 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 573 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
 HM
 484 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 424 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 313 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 HN
 586 *Streptococcus mutans* UA159 GCA_000007465.2
 460 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 417 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 HO
 465 *Clostridium beijerinckii* GCA_000833105.2
 450 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 447 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 HP
 864 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 784 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 607 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 HQ
 588 *Clostridium beijerinckii* GCA_000833105.2
 559 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 554 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 HR
 875 *Streptococcus mutans* UA159 GCA_000007465.2
 689 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 640 *Streptococcus equi* subsp. zooepidemicus GCA_000026605.1
 640 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 HS
 624 *Deinococcus radiodurans* R1 GCA_000008565.1
 376 *Deinococcus deserti* VCD115 GCA_000020685.1
 335 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 HT
 756 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 718 *Staphylococcus capitis* subsp. capitis GCA_001028645.1
 645 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 HU
 545 *Clostridium beijerinckii* GCA_000833105.2
 540 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 523 *Clostridium puniceum* GCA_002006345.1
 HV
 693 *Clostridium beijerinckii* GCA_000833105.2
 671 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 655 *Clostridium puniceum* GCA_002006345.1
 HW
 794 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 734 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 646 *Gemmobacter aquatilis* GCA_900110025.1
 HX
 582 *Clostridium beijerinckii* GCA_000833105.2
 553 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 534 *Clostridium puniceum* GCA_002006345.1
 HY
 841 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 824 *Bacillus cereus* ATCC 14579 GCA_000007825.1

822 *Bacillus anthracis* str. Ames GCA_000007845.1
 822 *Bacillus anthracis* str. Sterne GCA_000008165.1
 822 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 HZ
 671 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 665 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 631 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 631 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 I0
 807 *Streptococcus mutans* UA159 GCA_000007465.2
 569 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 520 *Streptococcus equinus* GCA_000964315.1
 520 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 I1
 766 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 610 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 575 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 I2
 990 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 955 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 864 *Staphylococcus warneri* SG1 GCA_000332735.1
 I3
 732 *Deinococcus radiodurans* R1 GCA_000008565.1
 438 *Deinococcus gobiensis* I-0 GCA_000252445.1
 425 *Deinococcus deserti* VCD115 GCA_000020685.1
 I4
 890 *Clostridium beijerinckii* GCA_000833105.2
 867 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 846 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 I5
 729 *Bacillus anthracis* str. Ames GCA_000007845.1
 729 *Bacillus anthracis* str. Sterne GCA_000008165.1
 729 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 729 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 718 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 716 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 I6
 758 *Clostridium beijerinckii* GCA_000833105.2
 742 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 735 *Clostridium puniceum* GCA_002006345.1
 I7
 892 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 829 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 616 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 I8
 666 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 597 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 464 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 I9
 539 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 494 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 404 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Ia
 786 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 745 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 699 *Staphylococcus warneri* SG1 GCA_000332735.1
 Ib
 443 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 297 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 296 *Bifidobacterium pseudolongum* PV8-2 GCA_000800475.2
 Ic
 668 *Clostridium beijerinckii* GCA_000833105.2
 618 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 603 *Clostridium puniceum* GCA_002006345.1
 Id
 651 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 651 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 648 *Escherichia coli* UMN026 GCA_000026325.2
 620 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 Ie
 592 *Streptococcus mutans* UA159 GCA_000007465.2
 455 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 428 *Streptococcus equinus* GCA_000964315.1
 If
 630 *Deinococcus radiodurans* R1 GCA_000008565.1
 415 *Deinococcus deserti* VCD115 GCA_000020685.1

392 *Deinococcus proteolyticus* MRP GCA_000190555.1
 Ig
 744 *Streptococcus mutans* UA159 GCA_000007465.2
 528 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 527 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 Ih
 725 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 725 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 714 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 711 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 Ii
 749 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 673 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 548 *Gemmobacter aquatilis* GCA_900110025.1
 Ij
 602 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 595 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 587 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 Ik
 534 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 462 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 395 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Il
 399 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 361 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 320 *Gemmobacter aquatilis* GCA_900110025.1
 Im
 588 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 535 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 425 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 In
 873 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 872 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 862 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 Io
 753 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 753 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 577 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 573 *Lactobacillus hamsteri* DSM 5661 = JCM 6256 GCA_000615445.1
 Ip
 593 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 534 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 434 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Iq
 436 *Enterococcus faecalis* V583 GCA_000007785.1
 389 *Streptomyces cinnamomeus* GCA_001885705.1
 347 *Enterococcus faecium* D0 GCA_000174395.2
 Ir
 599 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 528 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 460 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 Is
 511 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 511 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 505 *Escherichia coli* IAI39 GCA_000026345.1
 505 *Escherichia coli* UMN026 GCA_000026325.2
 504 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 It
 403 *Clostridium beijerinckii* GCA_000833105.2
 378 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 378 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 374 *Clostridium puniceum* GCA_002006345.1
 Iu
 861 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 792 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 577 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Iv
 781 *Streptococcus mutans* UA159 GCA_000007465.2
 576 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 533 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Iw
 729 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 647 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 617 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Ix
 651 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1

593 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 564 *Staphylococcus warneri* SG1 GCA_000332735.1
 Iy
 801 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 795 *Clostridium beijerinckii* GCA_000833105.2
 780 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Iz
 753 *Clostridium beijerinckii* GCA_000833105.2
 734 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 715 *Clostridium puniceum* GCA_002006345.1
 IA
 673 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 640 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 630 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 IB
 382 *Enterococcus faecalis* V583 GCA_000007785.1
 382 *Streptomyces cinnamomeus* GCA_001885705.1
 367 *Enterococcus canis* NBRC 100695 GCA_001544375.1
 367 *Enterococcus hirae* ATCC 9790 GCA_000271405.2
 367 *Enterococcus rivorum* GCA_001742285.1
 367 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
 366 *Enterococcus casseliflavus* EC20 GCA_000157355.2
 366 *Enterococcus dispar* ATCC 51266 GCA_000406945.1
 366 *Enterococcus gilvus* ATCC BAA-350 GCA_000407545.1
 366 *Enterococcus malodoratus* ATCC 43197 GCA_000407185.1
 366 *Enterococcus pallens* ATCC BAA-351 GCA_000407485.1
 IC
 770 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 700 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 577 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 ID
 529 *Clostridium beijerinckii* GCA_000833105.2
 525 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 489 *Clostridium puniceum* GCA_002006345.1
 IE
 533 *Clostridium beijerinckii* GCA_000833105.2
 502 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 500 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 IF
 466 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 442 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 340 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 IG
 657 *Enterococcus faecalis* V583 GCA_000007785.1
 611 *Streptomyces cinnamomeus* GCA_001885705.1
 543 *Enterococcus thailandicus* GCA_001652875.1
 IH
 699 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 699 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 689 *Escherichia coli* 083_3AH1 str. NRG 857C GCA_000183345.1
 688 *Escherichia coli* UMN026 GCA_000026325.2
 II
 434 *Streptococcus mutans* UA159 GCA_000007465.2
 273 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 272 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 IJ
 869 *Streptococcus mutans* UA159 GCA_000007465.2
 602 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 596 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 IK
 560 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 551 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 520 *Staphylococcus simulans* GCA_001559115.1
 IL
 830 *Deinococcus radiodurans* R1 GCA_000008565.1
 469 *Deinococcus gobiensis* I-0 GCA_000252445.1
 439 *Deinococcus deserti* VCD115 GCA_000020685.1
 IM
 839 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 834 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 833 *Bacillus anthracis* str. Ames GCA_000007845.1
 833 *Bacillus anthracis* str. Sterne GCA_000008165.1
 833_5BB *Bacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 IN
 728 *Clostridium beijerinckii* GCA_000833105.2
 716 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1

682 *Clostridium butyricum* GCA_001456065.2
IO
672 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
628 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
528 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
528 *Pseudorhodobacter wandonensis* GCA_001202035.1
IP
949 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
903 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
846 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
IQ
830 *Streptococcus mutans* UA159 GCA_000007465.2
628 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
613 *Streptococcus ferus* DSM 20646 GCA_000372425.1
IR
821 *Clostridium beijerinckii* GCA_000833105.2
800 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
796 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
IS
672 *Clostridium beijerinckii* GCA_000833105.2
642 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
633 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
IT
410 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
374 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
293 *Gemmobacter aquatilis* GCA_900110025.1
293 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
IU
607 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
541 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
396 *Lactobacillus iners* DSM 13335 GCA_000160875.1
IV
765 *Enterococcus faecalis* V583 GCA_000007785.1
724 *Streptomyces cinnamomeus* GCA_001885705.1
704 *Enterococcus rivorum* GCA_001742285.1
IW
724 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
713 *Bacillus anthracis* str. Ames GCA_000007845.1
713 *Bacillus anthracis* str. Sterne GCA_000008165.1
713 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
707 *Bacillus cereus* ATCC 14579 GCA_000007825.1
IX
701 *Deinococcus radiodurans* R1 GCA_000008565.1
397 *Deinococcus deserti* VCD115 GCA_000020685.1
372 *Deinococcus hopiensis* KR-140 GCA_900176165.1
IY
548 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
525 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
451 *Lactobacillus iners* DSM 13335 GCA_000160875.1
IZ
135 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
119 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
85 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
85 *Pseudorhodobacter wandonensis* GCA_001202035.1
J0
830 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
829 *Bacillus anthracis* str. Ames GCA_000007845.1
829 *Bacillus anthracis* str. Sterne GCA_000008165.1
821 *Bacillus cereus* ATCC 14579 GCA_000007825.1
J1
802 *Streptococcus mutans* UA159 GCA_000007465.2
573 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
561 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
J2
779 *Deinococcus radiodurans* R1 GCA_000008565.1
527 *Deinococcus deserti* VCD115 GCA_000020685.1
479 *Deinococcus gobiensis* I-0 GCA_000252445.1
J3
772 *Clostridium beijerinckii* GCA_000833105.2
735 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
726 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
J4
818 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
737 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
544 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
J5

614 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 564 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 534 *Staphylococcus lugdunensis* HKU09-01 GCA_000025085.1
 J6
 699 *Clostridium beijerinckii* GCA_000833105.2
 655 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 640 *Clostridium puniceum* GCA_002006345.1
 J7
 525 *Deinococcus radiodurans* R1 GCA_000008565.1
 281 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 277 *Deinococcus gobiensis* I-0 GCA_000252445.1
 J8
 683 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 635 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 487 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 J9
 519 *Streptococcus mutans* UA159 GCA_000007465.2
 355 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 353 *Streptococcus iniae* GCA_000831485.1
 Ja
 596 *Clostridium beijerinckii* GCA_000833105.2
 562 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 530 *Clostridium puniceum* GCA_002006345.1
 Jb
 871 *Streptococcus mutans* UA159 GCA_000007465.2
 654 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 653 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Jc
 776 *Deinococcus radiodurans* R1 GCA_000008565.1
 478 *Deinococcus deserti* VCD115 GCA_000020685.1
 416 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 Jd
 330 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 309 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 227 *Gemmobacter aquatilis* GCA_900110025.1
 Je
 582 *Streptococcus mutans* UA159 GCA_000007465.2
 431 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 372 *Streptococcus sobrinus* DSM 20742 = ATCC 33478 GCA_000686605.1
 Jf
 673 *Deinococcus radiodurans* R1 GCA_000008565.1
 415 *Deinococcus deserti* VCD115 GCA_000020685.1
 398 *Deinococcus gobiensis* I-0 GCA_000252445.1
 Jg
 698 *Clostridium beijerinckii* GCA_000833105.2
 698 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 678 *Clostridium puniceum* GCA_002006345.1
 675 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Jh
 639 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 612 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 587 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 Ji
 542 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 471 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 312 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Jj
 428 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 412 *Bacillus anthracis* str. Ames GCA_000007845.1
 412 *Bacillus anthracis* str. Sterne GCA_000008165.1
 412 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 412 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 403 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 Jk
 800 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 772 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 647 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Jl
 631 *Bacillus anthracis* str. Ames GCA_000007845.1
 631 *Bacillus anthracis* str. Sterne GCA_000008165.1
 631 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 611 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 611 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 590 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 Jm
 653 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1

516 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 504 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 Jn
 720 Clostridium beijerinckii GCA_000833105.2
 702 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 691 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 Jo
 578 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 490 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 445 Defluviimonas alba GCA_001620265.1
 Jp
 694 Enterococcus faecalis V583 GCA_000007785.1
 648 Streptomyces cinnamoneus GCA_001885705.1
 643 Enterococcus faecium D0 GCA_000174395.2
 Jq
 534 Clostridium beijerinckii GCA_000833105.2
 483 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 461 Clostridium puniceum GCA_002006345.1
 Jr
 809 Bacillus anthracis str. Ames GCA_000007845.1
 809 Bacillus anthracis str. Sterne GCA_000008165.1
 809 Bacillus cereus ATCC 14579 GCA_000007825.1
 809 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 794 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 794 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 756 Bacillus mycoides GCA_000832605.1
 Js
 590 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 573 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 448 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 Jt
 626 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 494 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 473 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 Ju
 556 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 513 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 401 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
 Jv
 476 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 461 Bacillus anthracis str. Ames GCA_000007845.1
 461 Bacillus anthracis str. Sterne GCA_000008165.1
 461 Bacillus cereus ATCC 14579 GCA_000007825.1
 461 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 431 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 Jw
 788 Streptococcus mutans UA159 GCA_000007465.2
 570 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 555 Streptococcus equinus GCA_000964315.1
 Jx
 583 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 570 Bacillus anthracis str. Ames GCA_000007845.1
 570 Bacillus anthracis str. Sterne GCA_000008165.1
 570 Bacillus cereus ATCC 14579 GCA_000007825.1
 570 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 570 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 523 Bacillus cytotoxicus NVH 391-98 GCA_000017425.1
 Jy
 827 Enterococcus faecalis V583 GCA_000007785.1
 784 Streptomyces cinnamoneus GCA_001885705.1
 744 Enterococcus rivorium GCA_001742285.1
 Jz
 690 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 572 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 535 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 JA
 699 Clostridium beijerinckii GCA_000833105.2
 669 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 644 Clostridium puniceum GCA_002006345.1
 JB
 588 Clostridium beijerinckii GCA_000833105.2
 569 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 569 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 543 Clostridium puniceum GCA_002006345.1
 JC
 372 Clostridium beijerinckii GCA_000833105.2

338 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 336 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 JD
 647 *Streptococcus mutans* UA159 GCA_000007465.2
 450 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 440 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 JE
 672 *Deinococcus radiodurans* R1 GCA_000008565.1
 425 *Deinococcus deserti* VCD115 GCA_000020685.1
 379 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 JF
 701 *Bacillus anthracis* str. Ames GCA_000007845.1
 701 *Bacillus anthracis* str. Sterne GCA_000008165.1
 701 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 691 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 691 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 643 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 JG
 806 *Deinococcus radiodurans* R1 GCA_000008565.1
 520 *Deinococcus deserti* VCD115 GCA_000020685.1
 501 *Deinococcus hopiensis* KR-140 GCA_900176165.1
 JH
 541 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 541 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 433 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 354 *Lactobacillus farraginis* DSM 18382 = JCM 14108 GCA_000583655.1
 JI
 502 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 493 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 457 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 JJ
 672 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 671 *Clostridium beijerinckii* GCA_000833105.2
 665 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 JK
 798 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 766 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 595 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 JL
 524 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 466 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 381 *Defluviimonas alba* GCA_001620265.1
 JM
 355 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 295 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 274 *Gemmobacter megaterium* GCA_900156815.1
 JN
 663 *Clostridium beijerinckii* GCA_000833105.2
 638 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 630 *Clostridium puniceum* GCA_002006345.1
 JO
 611 *Enterococcus faecalis* V583 GCA_000007785.1
 564 *Streptomyces cinnamoneus* GCA_001885705.1
 537 *Enterococcus rivorum* GCA_001742285.1
 JP
 805 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 714 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 623 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 JO
 530 *Clostridium beijerinckii* GCA_000833105.2
 485 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 478 *Clostridium puniceum* GCA_002006345.1
 JR
 872 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 796 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 598 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 JS
 549 *Clostridium beijerinckii* GCA_000833105.2
 519 *Clostridium butyricum* GCA_001456065.2
 519 *Clostridium puniceum* GCA_002006345.1
 519 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 492 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 JT
 535 *Enterococcus faecalis* V583 GCA_000007785.1
 488 *Streptomyces cinnamoneus* GCA_001885705.1
 472 *Enterococcus asini* ATCC 700915 GCA_000407365.1

JU
 530 *Bacillus anthracis* str. Ames GCA_000007845.1
 530 *Bacillus anthracis* str. Sterne GCA_000008165.1
 530 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 509 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 504 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 JV
 771 *Clostridium beijerinckii* GCA_000833105.2
 707 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 679 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 JW
 640 *Clostridium beijerinckii* GCA_000833105.2
 626 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 601 *Clostridium puniceum* GCA_002006345.1
 JX
 805 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 777 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 600 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 JY
 539 *Deinococcus radiodurans* R1 GCA_000008565.1
 308 *Deinococcus deserti* VCD115 GCA_000020685.1
 280 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 JZ
 589 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 497 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 435 *Gemmobacter aquatilis* GCA_900110025.1
 K0
 888 *Bacillus anthracis* str. Ames GCA_000007845.1
 888 *Bacillus anthracis* str. Sterne GCA_000008165.1
 888 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 877 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 863 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 K1
 359 *Clostridium beijerinckii* GCA_000833105.2
 359 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 352 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 302 *Clostridium butyricum* GCA_001456065.2
 K2
 675 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 527 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 507 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 507 *Bifidobacterium reuteri* DSM 23975 GCA_000741695.1
 K3
 794 *Lactobacillus gasserii* ATCC 33323 = JCM 1131 GCA_000014425.1
 736 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 499 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 K4
 717 *Clostridium beijerinckii* GCA_000833105.2
 696 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 646 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 K5
 419 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 376 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 364 *Gemmobacter megaterium* GCA_900156815.1
 K6
 472 *Bacillus anthracis* str. Ames GCA_000007845.1
 472 *Bacillus anthracis* str. Sterne GCA_000008165.1
 472 *Bacillus pseudomyoides* DSM 12442 GCA_000161455.1
 472 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 456 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 456 *Bacillus mycoides* GCA_000832605.1
 442 *Bacillus cytotoxicus* NVH 391-98 GCA_000017425.1
 K7
 922 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 872 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 713 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 K8
 460 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 457 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 418 *Staphylococcus warneri* SG1 GCA_000332735.1
 K9
 830 *Clostridium beijerinckii* GCA_000833105.2
 796 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 758 *Clostridium puniceum* GCA_002006345.1
 Ka
 793 *Deinococcus radiodurans* R1 GCA_000008565.1

517 *Deinococcus deserti* VCD115 GCA_000020685.1
 487 *Deinococcus murrayi* DSM 11303 GCA_000482805.1
 Kb
 760 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 713 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 616 *Gemmobacter aquatilis* GCA_900110025.1
 Kc
 741 *Deinococcus radiodurans* R1 GCA_000008565.1
 523 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 505 *Deinococcus deserti* VCD115 GCA_000020685.1
 Kd
 648 *Streptococcus mutans* UA159 GCA_000007465.2
 448 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 446 *Streptococcus equinus* GCA_000964315.1
 Ke
 722 *Streptococcus mutans* UA159 GCA_000007465.2
 497 *Streptococcus equinus* GCA_000964315.1
 497 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 496 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 496 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Kf
 537 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 490 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 469 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 Kg
 809 *Streptococcus mutans* UA159 GCA_000007465.2
 612 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 569 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 Kh
 715 *Deinococcus radiodurans* R1 GCA_000008565.1
 492 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 483 *Deinococcus deserti* VCD115 GCA_000020685.1
 Ki
 809 *Enterococcus faecalis* V583 GCA_000007785.1
 768 *Streptomyces cinnamomeus* GCA_001885705.1
 708 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
 Kj
 577 *Deinococcus radiodurans* R1 GCA_000008565.1
 377 *Deinococcus deserti* VCD115 GCA_000020685.1
 368 *Deinococcus proteolyticus* MRP GCA_000190555.1
 Kk
 467 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 403 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 383 *Bifidobacterium bifidum* PRL2010 GCA_000165905.1
 Kl
 693 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 685 *Bacillus anthracis* str. Ames GCA_000007845.1
 685 *Bacillus anthracis* str. Sterne GCA_000008165.1
 685 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 679 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 Km
 635 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 605 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 450 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Kn
 592 *Deinococcus radiodurans* R1 GCA_000008565.1
 347 *Deinococcus deserti* VCD115 GCA_000020685.1
 321 *Deinococcus gobiensis* I-0 GCA_000252445.1
 Ko
 868 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 773 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 633 *Gemmobacter megaterium* GCA_900156815.1
 Kp
 826 *Clostridium beijerinckii* GCA_000833105.2
 796 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 758 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Kq
 642 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 544 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 490 *Bifidobacterium stellenboschense* GCA_000741785.1
 Kr
 575 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 476 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 322 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 Ks
 742 *Streptococcus mutans* UA159 GCA_000007465.2

555 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
524 *Streptococcus ferus* DSM 20646 GCA_000372425.1
Kt
735 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
703 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
577 *Lactobacillus psittaci* DSM 15354 GCA_000425905.1
Ku
702 *Bacillus anthracis* str. Ames GCA_000007845.1
702 *Bacillus anthracis* str. Sterne GCA_000008165.1
702 *_5B**Bacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
689 *Bacillus cereus* ATCC 14579 GCA_000007825.1
689 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
676 *Bacillus pseudomycolides* DSM 12442 GCA_000161455.1
Kv
760 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
760 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
677 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
667 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
Kw
509 *Clostridium beijerinckii* GCA_000833105.2
490 *Clostridium butyricum* GCA_001456065.2
481 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
Kx
645 *Clostridium beijerinckii* GCA_000833105.2
609 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
582 *Clostridium puniceum* GCA_002006345.1
Ky
805 *Clostridium beijerinckii* GCA_000833105.2
764 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
744 *Clostridium puniceum* GCA_002006345.1
Kz
638 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
560 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
481 *Lactobacillus iners* DSM 13335 GCA_000160875.1
KA
753 *Clostridium beijerinckii* GCA_000833105.2
693 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
663 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
KB
361 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
356 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
352 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
KC
547 *Clostridium beijerinckii* GCA_000833105.2
532 *Clostridium butyricum* GCA_001456065.2
528 *Clostridium puniceum* GCA_002006345.1
528 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
KD
907 *Enterococcus faecalis* V583 GCA_000007785.1
861 *Streptomyces cinnamomeus* GCA_001885705.1
799 *Enterococcus rivorium* GCA_001742285.1
KE
768 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
675 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
595 *Deinococcus radiodurans* GCA_001620265.1
KF
736 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
694 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
641 *Staphylococcus warneri* SG1 GCA_000332735.1
KG
509 *Enterococcus faecalis* V583 GCA_000007785.1
490 *Enterococcus saccharolyticus* subsp. *saccharolyticus* ATCC 43076 GCA_000407285.1
477 *Enterococcus sulfureus* ATCC 49903 GCA_000407605.1
KH
843 *Deinococcus radiodurans* R1 GCA_000008565.1
507 *Deinococcus gobiensis* I-0 GCA_000252445.1
485 *Deinococcus deserti* VCD115 GCA_000020685.1
KI
692 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
692 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
691 *Escherichia coli* UMN026 GCA_000026325.2
677 *Shigella flexneri* 2a str. 301 GCA_000006925.2
KJ
638 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
580 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
490 *Deinococcus radiodurans* GCA_001620265.1

KK
 689 *Clostridium beijerinckii* GCA_000833105.2
 621 *Clostridium chromiireducens* GCA_002029255.1
 611 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 KL
 269 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 240 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 166 *Lactobacillus acetotolerans* GCA_001042405.1
 KM
 700 *Deinococcus radiodurans* R1 GCA_000008565.1
 464 *Deinococcus deserti* VCD115 GCA_000020685.1
 425 *Deinococcus soli* Cha et al. 2016 GCA_001007995.1
 KN
 801 *Streptococcus mutans* UA159 GCA_000007465.2
 661 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 616 *Streptococcus criceti* HS-6 GCA_000187975.3
 616 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 KO
 584 *Enterococcus faecalis* V583 GCA_000007785.1
 555 *Streptomyces cinnamomeus* GCA_001885705.1
 523 *Enterococcus rivorum* GCA_001742285.1
 KP
 828 *Enterococcus faecalis* V583 GCA_000007785.1
 781 *Streptomyces cinnamomeus* GCA_001885705.1
 768 *Enterococcus faecium* D0 GCA_000174395.2
 KQ
 409 *Streptococcus mutans* UA159 GCA_000007465.2
 266 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 255 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 KR
 751 *Bacillus thuringiensis* 5D serovar konkukian str. 97-27 GCA_000008505.1
 749 *Bacillus anthracis* str. Ames GCA_000007845.1
 749 *Bacillus anthracis* str. Sterne GCA_000008165.1
 737 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 KS
 465 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 407 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 350 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 KT
 445 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 371 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 317 *Gemmobacter megaterium* GCA_900156815.1
 KU
 427 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 408 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 317 *Gemmobacter nectarophilus* DSM 15620 GCA_000429765.1
 317 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 KV
 638 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 587 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 433 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 KW
 596 *Streptococcus mutans* UA159 GCA_000007465.2
 447 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 402 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 KX
 647 *Clostridium beijerinckii* GCA_000833105.2
 632 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 619 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 KY
 948 *Streptococcus mutans* UA159 GCA_000007465.2
 620 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 614 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 KZ
 813 *Deinococcus radiodurans* R1 GCA_000008565.1
 472 *Deinococcus deserti* VCD115 GCA_000020685.1
 456 *Deinococcus gobiensis* I-0 GCA_000252445.1
 L0
 981 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 923 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 728 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 L1
 512 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 434 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 367 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 L2

660 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 571 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 461 Gemmobacter aquatilis GCA_900110025.1
 L3
 479 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 468 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 360 Pseudorhodobacter wandonensis GCA_001202035.1
 L4
 835 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 833 Staphylococcus capitis subsp. capitis GCA_001028645.1
 775 Staphylococcus aureus subsp. aureus NCTC 8325 GCA_000013425.1
 L5
 614 Bacillus anthracis str. Ames GCA_000007845.1
 614 Bacillus anthracis str. Sterne GCA_000008165.1
 614 Bacillus cereus ATCC 14579 GCA_000007825.1
 614 _5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 608 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 607 Bacillus mycoides GCA_000832605.1
 L6
 656 Deinococcus radiodurans R1 GCA_000008565.1
 439 Deinococcus puniceus GCA_001644565.1
 428 Deinococcus hopiensis KR-140 GCA_900176165.1
 L7
 804 Enterococcus faecalis V583 GCA_000007785.1
 757 Streptomyces cinnamoneus GCA_001885705.1
 714 Enterococcus asini ATCC 700915 GCA_000407365.1
 714 Enterococcus malodoratus ATCC 43197 GCA_000407185.1
 L8
 513 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 495 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 449 Gemmobacter aquatilis GCA_900110025.1
 L9
 365 Enterococcus faecalis V583 GCA_000007785.1
 318 Streptomyces cinnamoneus GCA_001885705.1
 305 Enterococcus dispar ATCC 51266 GCA_000406945.1
 305 Enterococcus phoeniculicola ATCC BAA-412 GCA_000407505.1
 La
 558 Escherichia coli str. K-12 substr. MG1655 GCA_000005845.2
 547 Escherichia coli IAI39 GCA_000026345.1
 547 Escherichia coli 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 547 Shigella flexneri 2a str. 301 GCA_000006925.2
 546 Escherichia coli UMN026 GCA_000026325.2
 Lb
 576 Streptococcus mutans UA159 GCA_000007465.2
 434 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 433 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 Lc
 835 Enterococcus faecalis V583 GCA_000007785.1
 789 Streptomyces cinnamoneus GCA_001885705.1
 700 Enterococcus rivorum GCA_001742285.1
 Ld
 664 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 525 Bifidobacterium dentium JCM 1195 = DSM 20436 GCA_001042595.1
 496 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 Le
 690 Enterococcus faecalis V583 GCA_000007785.1
 643 Streptomyces cinnamoneus GCA_001885705.1
 641 Enterococcus rivorum GCA_001742285.1
 Lf
 632 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 605 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 451 Lactobacillus psittaci DSM 15354 GCA_000425905.1
 Lg
 658 Streptococcus mutans UA159 GCA_000007465.2
 481 Streptococcus rattii FA-1 = DSM 20564 GCA_000286075.1
 481 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 467 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 Lh
 765 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 713 Staphylococcus capitis subsp. capitis GCA_001028645.1
 695 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 Li
 758 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 727 Staphylococcus capitis subsp. capitis GCA_001028645.1
 642 Staphylococcus lugdunensis HKU09-01 GCA_000025085.1
 Lj

548 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 483 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 374 Pseudorhodobacter ferrugineus DSM 5888 GCA_000420745.1
 374 Pseudorhodobacter psychrotolerans GCA_001294535.1
 Lk
 863 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 774 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 669 Gemmobacter megaterium GCA_900156815.1
 Ll
 737 Clostridium beijerinckii GCA_000833105.2
 720 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 675 Clostridium saccharobutylicum DSM 13864 GCA_000473995.1
 Lm
 506 Bacillus cereus ATCC 14579 GCA_000007825.1
 506 Bacillus mycoides GCA_000832605.1
 506 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 504 Bacillus anthracis str. Ames GCA_000007845.1
 504 Bacillus anthracis str. Sterne GCA_000008165.1
 504_5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 486 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 Ln
 462 Bifidobacterium adolescentis ATCC 15703 GCA_000010425.1
 385 Bifidobacterium angulatum DSM 20098 = JCM 7096 GCA_001025155.1
 324 Bifidobacterium callitrichos DSM 23973 GCA_000741175.1
 Lo
 681 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 606 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 547 Defluviimonas alba GCA_001620265.1
 Lp
 779 Streptococcus mutans UA159 GCA_000007465.2
 587 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 547 Streptococcus gordonii str. Challis substr. CH1 GCA_000017005.1
 Lq
 491 Lactobacillus gasseri ATCC 33323 = JCM 1131 GCA_000014425.1
 431 Lactobacillus hominis DSM 23910 = CRBIP 24.179 GCA_000296835.1
 330 Lactobacillus iners DSM 13335 GCA_000160875.1
 Lr
 796 Enterococcus faecalis V583 GCA_000007785.1
 749 Streptomyces cinnamomeus GCA_001885705.1
 667 Enterococcus mundtii QU 25 GCA_000504125.1
 Ls
 506 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 482 Staphylococcus capitis subsp. capitis GCA_001028645.1
 445 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 445 Staphylococcus hominis subsp. hominis C80 GCA_000183685.1
 Lt
 753 Rhodobacter sphaeroides 2.4.1 GCA_000012905.2
 679 Rhodobacter sphaeroides ATCC 17025 GCA_000016405.1
 597 Defluviimonas alba GCA_001620265.1
 Lu
 836 Streptococcus mutans UA159 GCA_000007465.2
 575 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 562 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 Lv
 709 Streptococcus mutans UA159 GCA_000007465.2
 549 Streptococcus ratti FA-1 = DSM 20564 GCA_000286075.1
 473 Streptococcus sobrinus DSM 20742 = ATCC 33478 GCA_000686605.1
 Lw
 844 Bacillus anthracis str. Ames GCA_000007845.1
 844 Bacillus anthracis str. Sterne GCA_000008165.1
 844 Bacillus cereus ATCC 14579 GCA_000007825.1
 844 Bacillus pseudomycoides DSM 12442 GCA_000161455.1
 844_5BBacillus thuringiensis_5D serovar konkukian str. 97-27 GCA_000008505.1
 833 Bacillus mycoides GCA_000832605.1
 821 Bacillus thuringiensis YBT-1518 GCA_000497525.2
 Lx
 861 Staphylococcus epidermidis ATCC 12228 GCA_000007645.1
 801 Staphylococcus capitis subsp. capitis GCA_001028645.1
 751 Staphylococcus haemolyticus JCSC1435 GCA_000009865.1
 Ly
 401 Clostridium beijerinckii GCA_000833105.2
 365 Clostridium puniceum GCA_002006345.1
 365 Clostridium saccharoperbutylacetonicum N1-4_28HMT_29 GCA_000340885.1
 358 Clostridium butyricum GCA_001456065.2
 Lz
 855 Streptococcus mutans UA159 GCA_000007465.2

630 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 575 *Streptococcus merionis* DSM 19192 GCA_000380085.1
 LA
 593 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 572 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 470 *Gemmobacter aquatilis* GCA_900110025.1
 LB
 500 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 460 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 423 *Bifidobacterium callitrichos* DSM 23973 GCA_000741175.1
 LC
 676 *Clostridium beijerinckii* GCA_000833105.2
 635 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 610 *Clostridium butyricum* GCA_001456065.2
 LD
 661 *Bacillus anthracis* str. Ames GCA_000007845.1
 661 *Bacillus anthracis* str. Sterne GCA_000008165.1
 661 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 661 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 661 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 661 *_5BBacillus thuringiensis_5D* serovar konkukian str. 97-27 GCA_000008505.1
 645 *Bacillus mycoides* GCA_000832605.1
 624 *Bacillus cytotoxicus* NVH 391-98 GCA_000017425.1
 LE
 768 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 654 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 593 *Defluviimonas alba* GCA_001620265.1
 LF
 540 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 498 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 397 *Lactobacillus jensenii* GCA_001936235.1
 LG
 764 *Streptococcus mutans* UA159 GCA_000007465.2
 552 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 525 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 LH
 618 *Clostridium beijerinckii* GCA_000833105.2
 610 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 591 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 LI
 733 *Clostridium beijerinckii* GCA_000833105.2
 730 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 702 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 LJ
 540 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 525 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 525 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 510 *Escherichia coli* IAI39 GCA_000026345.1
 LK
 620 *Streptococcus mutans* UA159 GCA_000007465.2
 369 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 355 *Streptococcus equinus* GCA_000964315.1
 355 *Streptococcus gallolyticus* subsp. *gallolyticus* DSM 16831 GCA_002000985.1
 LL
 707 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 691 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 691 *Escherichia coli* UMN026 GCA_000026325.2
 691 *Shigella flexneri* 2a str. 301 GCA_000006925.2
 690 *Escherichia coli* 0104_3AH4 str. 2011C-3493 GCA_000299455.1
 LM
 692 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 647 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 512 *Gemmobacter megaterium* GCA_900156815.1
 LN
 884 *Enterococcus faecalis* V583 GCA_000007785.1
 838 *Streptomyces cinnamomeus* GCA_001885705.1
 759 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 LO
 283 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 283 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 241 *Staphylococcus warneri* SG1 GCA_000332735.1
 240 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 LP
 439 *Clostridium puniceum* GCA_002006345.1
 439 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 434 *Clostridium beijerinckii* GCA_000833105.2

430 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 LQ
 538 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 533 *Clostridium beijerinckii* GCA_000833105.2
 495 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 LR
 776 *Deinococcus radiodurans* R1 GCA_000008565.1
 491 *Deinococcus deserti* VCD115 GCA_000020685.1
 464 *Deinococcus gobiensis* I-0 GCA_000252445.1
 LS
 479 *Clostridium beijerinckii* GCA_000833105.2
 470 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 463 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 LT
 488 *Deinococcus radiodurans* R1 GCA_000008565.1
 272 *Deinococcus deserti* VCD115 GCA_000020685.1
 266 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 266 *Deinococcus swuensis* GCA_000800395.1
 LU
 454 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 439 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 319 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 LV
 609 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 547 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 458 *Gemmobacter aquatilis* GCA_900110025.1
 LW
 799 *Enterococcus faecalis* V583 GCA_000007785.1
 752 *Streptomyces cinnamoneus* GCA_001885705.1
 701 *Enterococcus rivorum* GCA_001742285.1
 LX
 765 *Enterococcus faecalis* V583 GCA_000007785.1
 718 *Streptomyces cinnamoneus* GCA_001885705.1
 698 *Enterococcus rivorum* GCA_001742285.1
 LY
 521 *Lactobacillus gasseri* ATCC 33323 = JCM 1131 GCA_000014425.1
 488 *Lactobacillus hominis* DSM 23910 = CRBIP 24.179 GCA_000296835.1
 388 *Lactobacillus iners* DSM 13335 GCA_000160875.1
 LZ
 786 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 784 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 779 *Escherichia coli* UMN026 GCA_000026325.2
 M0
 946 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 761 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 738 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 M1
 620 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 543 *Bifidobacterium breve* DSM 20213 = JCM 1192 GCA_001025175.1
 535 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 M2
 800 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 759 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 684 *Staphylococcus hominis* subsp. *hominis* C80 GCA_000183685.1
 M3
 754 *Streptococcus mutans* UA159 GCA_000007465.2
 646 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 630 *Streptococcus gordonii* str. Challis substr. CH1 GCA_000017005.1
 M4
 761 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 651 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 613 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 M5
 686 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 657 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 593 *Staphylococcus aureus* subsp. *aureus* NCTC 8325 GCA_000013425.1
 M6
 811 *Streptococcus mutans* UA159 GCA_000007465.2
 610 *Streptococcus ratti* FA-1 = DSM 20564 GCA_000286075.1
 546 *Streptococcus macacae* NCTC 11558 GCA_000187995.3
 M7
 638 *Enterococcus faecalis* V583 GCA_000007785.1
 591 *Streptomyces cinnamoneus* GCA_001885705.1
 538 *Enterococcus rivorum* GCA_001742285.1
 M8
 271 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2

260 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 209 *Gemmobacter aquatilis* GCA_900110025.1
 M9
 652 *Enterococcus faecalis* V583 GCA_000007785.1
 605 *Streptomyces cinnamoneus* GCA_001885705.1
 564 *Enterococcus faecium* D0 GCA_000174395.2
 Ma
 717 *Clostridium beijerinckii* GCA_000833105.2
 688 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 673 *Clostridium saccharobutylicum* DSM 13864 GCA_000473995.1
 Mb
 546 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 502 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 429 *Pseudorhodobacter ferrugineus* DSM 5888 GCA_000420745.1
 429 *Pseudorhodobacter psychrotolerans* GCA_001294535.1
 429 *Pseudorhodobacter wandonensis* GCA_001202035.1
 Mc
 619 *Rhodobacter sphaeroides* 2.4.1 GCA_000012905.2
 550 *Rhodobacter sphaeroides* ATCC 17025 GCA_000016405.1
 454 *Gemmobacter aquatilis* GCA_900110025.1
 Md
 443 *Streptococcus mutans* UA159 GCA_000007465.2
 367 *Streptococcus anginosus* C238 GCA_000463505.1
 361 *Streptococcus merionis* DSM 19192 GCA_000380085.1
 Me
 543 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 420 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 419 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Mf
 507 *Staphylococcus epidermidis* ATCC 12228 GCA_000007645.1
 486 *Staphylococcus haemolyticus* JCSC1435 GCA_000009865.1
 481 *Staphylococcus capitis* subsp. *capitis* GCA_001028645.1
 Mg
 517 *Bifidobacterium adolescentis* ATCC 15703 GCA_000010425.1
 364 *Bifidobacterium dentium* JCM 1195 = DSM 20436 GCA_001042595.1
 353 *Bifidobacterium angulatum* DSM 20098 = JCM 7096 GCA_001025155.1
 Mh
 783 *Enterococcus faecalis* V583 GCA_000007785.1
 783 *Streptomyces cinnamoneus* GCA_001885705.1
 736 *Enterococcus asini* ATCC 700915 GCA_000407365.1
 723 *Enterococcus italicus* DSM 15952 GCA_000185365.1
 Mi
 757 *Escherichia coli* 0157_3AH7 str. Sakai GCA_000008865.1
 757 *Escherichia coli* str. K-12 substr. MG1655 GCA_000005845.2
 748 *Escherichia coli* IAI39 GCA_000026345.1
 737 *Escherichia coli* UMN026 GCA_000026325.2
 Mj
 732 *Clostridium beijerinckii* GCA_000833105.2
 698 *Clostridium saccharoperbutylacetonicum* N1-4_28HMT_29 GCA_000340885.1
 664 *Clostridium puniceum* GCA_002006345.1
 Mk
 668 *Enterococcus faecalis* V583 GCA_000007785.1
 622 *Streptomyces cinnamoneus* GCA_001885705.1
 565 *Enterococcus faecium* D0 GCA_000174395.2
 Ml
 645 *Bacillus anthracis* str. Ames GCA_000007845.1
 645 *Bacillus anthracis* str. Sterne GCA_000008165.1
 645 *Bacillus cereus* ATCC 14579 GCA_000007825.1
 645 *Bacillus mycoides* GCA_000832605.1
 645 *Bacillus pseudomycoides* DSM 12442 GCA_000161455.1
 645 *_5BBacillus thuringiensis*_5D serovar konkukian str. 97-27 GCA_000008505.1
 632 *Bacillus thuringiensis* YBT-1518 GCA_000497525.2
 558 *Bacillus cytotoxicus* NVH 391-98 GCA_000017425.1
 Mm
 735 *Streptococcus mutans* UA159 GCA_000007465.2
 498 *Streptococcus rattus* FA-1 = DSM 20564 GCA_000286075.1
 460 *Streptococcus ferus* DSM 20646 GCA_000372425.1
 Mn
 845 *Enterococcus faecalis* V583 GCA_000007785.1
 804 *Streptomyces cinnamoneus* GCA_001885705.1
 749 *Enterococcus rivorum* GCA_001742285.1
 Mo
 819 *Deinococcus radiodurans* R1 GCA_000008565.1
 513 *Deinococcus marmoris* DSM 12784 GCA_000701405.1
 502 *Deinococcus deserti* VCD115 GCA_000020685.1