

## Appendix 1. Strains for which high quality surrogate 16S sequences are available.

At the time of publication, we were unable to verify that the following 16S rRNA sequences were derived from the type strains of the following species.

*Acetobacter estunensis*, N4Lid 10.1601/nm.866, RDPid S000469291, Genbank AB032349.

*Acetobacter lovaniensis*, N4Lid 10.1601/nm.872, RDPid S000469293, Genbank AB032351.

*Acetobacter pasteurianus estunensis*, N4Lid 10.1601/nm.880, RDPid S000469291, Genbank AB032349.

*Acetobacter pasteurianus lovaniensis*, N4Lid 10.1601/nm.881, RDPid S000469293, Genbank AB032351.

*Acetobacter syzygii*, N4Lid 10.1601/nm.885, RDPid S000469312, Genbank AB052714.

*Acholeplasma brassicae*, N4Lid 10.1601/nm.4816, RDPid S000412305, Genbank AY538163.

*Acholeplasma cavigenitalium*, N4Lid 10.1601/nm.4817, RDPid S000412306, Genbank AY538164.

*Acholeplasma equifetale*, N4Lid 10.1601/nm.4819, RDPid S000412307, Genbank AY538165.

*Acholeplasma granularum*, N4Lid 10.1601/nm.4821, RDPid S000412308, Genbank AY538166.

*Acholeplasma hippikon*, N4Lid 10.1601/nm.4822, RDPid S000412309, Genbank AY538167.

*Acholeplasma morum*, N4Lid 10.1601/nm.4824, RDPid S000412310, Genbank AY538168.

*Acholeplasma multilocale*, N4Lid 10.1601/nm.4825, RDPid S000412311, Genbank AY538169.

*Acholeplasma parvum*, N4Lid 10.1601/nm.4828, RDPid S000412312, Genbank AY538170.

*Acholeplasma seiffertii*, N4Lid 10.1601/nm.4829, RDPid S000407970, Genbank AY351331.

*Acidithiobacillus ferrooxidans*, N4Lid 10.1601/nm.2202, RDPid S000648036, Genbank DQ355183.

*Actinobacillus arthritidis*, N4Lid 10.1601/nm.3399, RDPid S000434605, Genbank AY029174.

*Actinobacillus delphinicola*, N4Lid 10.1601/nm.3401, RDPid S000006110, Genbank X89377.

*Actinobacillus equuli haemolyticus*, N4Lid 10.1601/nm.3403, RDPid S000595574, Genbank AY749140.

*Actinobacillus pleuropneumoniae*, N4Lid 10.1601/nm.3408, RDPid S000701485, Genbank DQ229005.

*Actinobacillus rossii*, N4Lid 10.1601/nm.3410, RDPid S000473852, Genbank AY431031.

*Actinokineospora auranticolor*, N4Lid 10.1601/nm.6781, RDPid S000014838, Genbank AB058396.

*Actinokineospora enzanensis*, N4Lid 10.1601/nm.6783, RDPid S000003748, Genbank AB058395.

*Actinokineospora inagensis*, N4Lid 10.1601/nm.6785, RDPid S000429088, Genbank AF114799.

*Actinomadura flava*, N4Lid 10.1601/nm.7589, RDPid S000429097, Genbank AF114808.

*Actinomadura helvata*, N4Lid 10.1601/nm.7595, RDPid S000437700, Genbank U48975.

*Actinomadura rubrobrunea*, N4Lid 10.1601/nm.7618, RDPid S000387871, Genbank AF134069.

*Actinomyces neuui anitratus*, N4Lid 10.1601/nm.5796, RDPid S000608085, Genbank AM084229.

*Actinomyces turicensis*, N4Lid 10.1601/nm.5805, RDPid S000001934, Genbank X78721.

*Actinoplanes deccanensis*, N4Lid 10.1601/nm.6550, RDPid S000383148, Genbank AB036998.

*Actinosporangium violaceum*, N4Lid 10.1601/nm.9004, RDPid S000021846, Genbank AJ276570.

*Actinosporangium vitaminophilum*, N4Lid 10.1601/nm.9104, RDPid S000652313, Genbank AB184589.

*Actinosynnema pretiosum auranticum*, N4Lid 10.1601/nm.6778, RDPid S000654082, Genbank DQ464900.

*Advenella incenata*, N4Lid 10.1601/nm.8437, RDPid S000475233, Genbank AY569458.

*Aeriscardovia aeriphila*, N4Lid 10.1601/nm.7716, RDPid S000399880, Genbank AY174104.

*Aeromonas salmonicida masoucida*, N4Lid 10.1601/nm.3065, RDPid S000559172, Genbank DQ099332.

*Afipia clevelandensis*, N4Lid 10.1601/nm.1468, RDPid S000436639, Genbank M69186.

*Afipia felis*, N4Lid 10.1601/nm.1465, RDPid S000390739, Genbank AF288310.

*Agrobacterium atlanticum*, N4Lid 10.1601/nm.1312, RDPid S000414218, Genbank D88526.

- Agrobacterium ferrugineum*, N4Lid  
10.1601/nm.1313, RDPid S000414214, Genbank D88522.
- Agrobacterium gelatinovorum*, N4Lid  
10.1601/nm.1314, RDPid S000414215, Genbank D88523.
- Agrobacterium stellulatum*, N4Lid 10.1601/nm.1320,  
RDPid S000414217, Genbank D88525.
- Akkermansia muciniphila*, N4Lid 10.1601/nm.8446,  
RDPid S000460661, Genbank AY271254.
- Alcaligenes aquamarinus*, N4Lid 10.1601/nm.1724,  
RDPid S000649802, Genbank DQ372908.
- Alcaligenes cupidus*, N4Lid 10.1601/nm.1725, RDPid  
S000434702, Genbank AY035894.
- Alcaligenes eutrophus*, N4Lid 10.1601/nm.1728,  
RDPid S000001628, Genbank Y10825.
- Alcaligenes venustus*, N4Lid 10.1601/nm.1736,  
RDPid S000006799, Genbank AJ306894.
- Alicyclobacillus acidoterrestris*, N4Lid  
10.1601/nm.5075, RDPid S000503722, Genbank  
AY573797.
- Alkalibacillus haloalkaliphilus*, N4Lid  
10.1601/nm.9272, RDPid S000006374, Genbank  
AJ238041.
- Allochromatium vinosum*, N4Lid 10.1601/nm.2086,  
RDPid S000537516, Genbank DQ062160.
- Alteromonas cobwelliana*, N4Lid 10.1601/nm.2812,  
RDPid S000442137, Genbank AY653177.
- Alteromonas communis*, N4Lid 10.1601/nm.2813,  
RDPid S000365773, Genbank AF173967.
- Alysiella crassa*, N4Lid 10.1601/nm.9266, RDPid  
S000391655, Genbank AF328141.
- Ancalomicrobium adetum*, N4Lid 10.1601/nm.1528,  
RDPid S000264160, Genbank AB095950.
- Anoxybacillus pushchinoensis*, N4Lid  
10.1601/nm.5013, RDPid S000435574, Genbank  
AY248715.
- Aquaspirillum anulus*, N4Lid 10.1601/nm.1939,  
RDPid S000384597, Genbank AB074527.
- Aquaspirillum arcticum*, N4Lid 10.1601/nm.1941,  
RDPid S000384595, Genbank AB074523.
- Aquaspirillum autotrophicum*, N4Lid  
10.1601/nm.1942, RDPid S000384596, Genbank  
AB074524.
- Aquaspirillum giesbergeri*, N4Lid 10.1601/nm.1946,  
RDPid S000384594, Genbank AB074522.
- Aquaspirillum itersonii nipponicum*, N4Lid  
10.1601/nm.1949, RDPid S000384592, Genbank  
AB074520.
- Aquaspirillum peregrinum integrum*, N4Lid  
10.1601/nm.1953, RDPid S000384593, Genbank  
AB074521.
- Aquaspirillum polymorphum*, N4Lid  
10.1601/nm.1954, RDPid S000469139, Genbank  
AB000481.
- Aquaspirillum putridiconchylium*, N4Lid  
10.1601/nm.1956, RDPid S000020486, Genbank  
AB076000.
- Arcanobacterium phocae*, N4Lid 10.1601/nm.5817,  
RDPid S000007275, Genbank X97049.
- Arcobacter butzleri*, N4Lid 10.1601/nm.3819, RDPid  
S000654056, Genbank DQ464341.
- Arthrobacter cumminsii*, N4Lid 10.1601/nm.5849,  
RDPid S000009364, Genbank X93354.
- Arthrobacter woluwensis*, N4Lid 10.1601/nm.5883,  
RDPid S000012840, Genbank X93353.
- Arthrospira maxima*, N4Lid 10.1601/nm.684, RDPid  
S000390227, Genbank AF260509.
- Arthrospira platensis*, N4Lid 10.1601/nm.685, RDPid  
S000443339, Genbank AY672713.
- Avibacterium avium*, N4Lid 10.1601/nm.8486,  
RDPid S000368480, Genbank AY362916.
- Azotobacter beijerinckii*, N4Lid 10.1601/nm.2716,  
RDPid S000007501, Genbank AJ308319.
- Azotobacter chroococcum*, N4Lid 10.1601/nm.2714,  
RDPid S000358130, Genbank AY353708.
- Azotobacter vinelandii*, N4Lid 10.1601/nm.2722,  
RDPid S000358047, Genbank AY336565.
- Bacillus acidoterrestris*, N4Lid 10.1601/nm.4861,  
RDPid S000503722, Genbank AY573797.
- Bacillus anthracis*, N4Lid 10.1601/nm.4871, RDPid  
S000397336, Genbank AY138345.
- Bacillus cereus*, N4Lid 10.1601/nm.4885, RDPid  
S000388275, Genbank AF155952.
- Bacillus haloalkaliphilus*, N4Lid 10.1601/nm.4917,  
RDPid S000006374, Genbank AJ238041.
- Bacillus methanolicus*, N4Lid 10.1601/nm.4943,  
RDPid S000003875, Genbank X64465.
- Bacillus pseudomycoloides*, N4Lid 10.1601/nm.4966,  
RDPid S000387116, Genbank AF013121.
- Bacillus subterraneus*, N4Lid 10.1601/nm.4988,  
RDPid S000374638, Genbank AY672638.
- Bacteroides coagulans*, N4Lid 10.1601/nm.7943,  
RDPid S000701700, Genbank DQ497990.
- Bacteroides galacturonicus*, N4Lid 10.1601/nm.7952,  
RDPid S000701704, Genbank DQ497994.
- Bacteroides helcogenes*, N4Lid 10.1601/nm.7955,  
RDPid S000530405, Genbank AB200227.
- Bacteroides nodosus*, N4Lid 10.1601/nm.7968,  
RDPid S000436251, Genbank M35016.
- Bacteroides pectinophilus*, N4Lid 10.1601/nm.7974,  
RDPid S000701703, Genbank DQ497993.
- Bacteroides pyogenes*, N4Lid 10.1601/nm.7980,  
RDPid S000530407, Genbank AB200229.

- Bacteroides ruminicola brevis*, N4Lid 10.1601/nm.7982, RDPid S000021675, Genbank AJ011682.
- Bacteroides suis*, N4Lid 10.1601/nm.7987, RDPid S000701701, Genbank DQ497991.
- Bacteroides tectus*, N4Lid 10.1601/nm.7988, RDPid S000530406, Genbank AB200228.
- Bacteroides xyloxyticus*, N4Lid 10.1601/nm.7995, RDPid S000701702, Genbank DQ497992.
- Bartonella clarridgeiae*, N4Lid 10.1601/nm.1364, RDPid S000128286, Genbank AJ299444.
- Bartonella henselae*, N4Lid 10.1601/nm.1368, RDPid S000369296, Genbank AY513504.
- Bartonella quintana*, N4Lid 10.1601/nm.1371, RDPid S000450437, Genbank AY484592.
- Bartonella vinsonii berkhoffii*, N4Lid 10.1601/nm.1378, RDPid S000615279, Genbank DQ228134.
- Beggiatoa alba*, N4Lid 10.1601/nm.2289, RDPid S000429044, Genbank AF110274.
- Beijerinckia derxii derxii*, N4Lid 10.1601/nm.1446, RDPid S000352295, Genbank AJ563933.
- Beijerinckia derxii venezuelae*, N4Lid 10.1601/nm.1447, RDPid S000352296, Genbank AJ563934.
- Beijerinckia indica lacticogenes*, N4Lid 10.1601/nm.1445, RDPid S000352293, Genbank AJ563931.
- Beijerinckia mobilis*, N4Lid 10.1601/nm.1449, RDPid S000319636, Genbank AB119200.
- Bilophila wadsworthia*, N4Lid 10.1601/nm.3512, RDPid S000469520, Genbank AB117562.
- Borrelia afzelii*, N4Lid 10.1601/nm.7815, RDPid S000381312, Genbank X85190.
- Borrelia anserina*, N4Lid 10.1601/nm.7814, RDPid S000436650, Genbank M72397.
- Borrelia crocidurae*, N4Lid 10.1601/nm.7821, RDPid S000594575, Genbank AY604977.
- Borrelia duttonii*, N4Lid 10.1601/nm.7823, RDPid S000429019, Genbank AF107363.
- Borrelia garinii*, N4Lid 10.1601/nm.7824, RDPid S000413901, Genbank D67018.
- Borrelia hermsii*, N4Lid 10.1601/nm.7827, RDPid S000594555, Genbank AY597671.
- Borrelia hispanica*, N4Lid 10.1601/nm.7828, RDPid S000437619, Genbank U42294.
- Borrelia lusitanae*, N4Lid 10.1601/nm.7831, RDPid S000141613, Genbank AB091819.
- Borrelia parkeri*, N4Lid 10.1601/nm.7834, RDPid S000391030, Genbank AF307099.
- Borrelia persica*, N4Lid 10.1601/nm.7835, RDPid S000437622, Genbank U42297.
- Borrelia recurrentis*, N4Lid 10.1601/nm.7836, RDPid S000594576, Genbank AY604978.
- Borrelia turicatae*, N4Lid 10.1601/nm.7842, RDPid S000594572, Genbank AY604974.
- Borrelia valaisiana*, N4Lid 10.1601/nm.7843, RDPid S000382583, Genbank AB022141.
- Brachybacterium conglomeratum*, N4Lid 10.1601/nm.5982, RDPid S000008838, Genbank X91030.
- Brachyspira alvinipulli*, N4Lid 10.1601/nm.7888, RDPid S000487813, Genbank AY745552.
- Brevibacterium luteolum*, N4Lid 10.1601/nm.5938, RDPid S000497546, Genbank AB210988.
- Brevibacterium oxydans*, N4Lid 10.1601/nm.5943, RDPid S000261906, Genbank AY509222.
- Brevibacterium vitarumen*, N4Lid 10.1601/nm.5950, RDPid S000260583, Genbank X84680.
- Brevinema andersonii*, N4Lid 10.1601/nm.7846, RDPid S000414561, Genbank L31543.
- Brevundimonas alba*, N4Lid 10.1601/nm.1268, RDPid S000390898, Genbank AF296678.
- Brevundimonas mediterranea*, N4Lid 10.1601/nm.8524, RDPid S000470972, Genbank AJ244709.
- Burkholderia ambifaria*, N4Lid 10.1601/nm.1621, RDPid S000434597, Genbank AY028444.
- Burkholderia anthina*, N4Lid 10.1601/nm.1623, RDPid S000358794, Genbank AY486373.
- Burkholderia mallei*, N4Lid 10.1601/nm.1636, RDPid S000406471, Genbank AY305760.
- Burkholderia pickettii*, N4Lid 10.1601/nm.1641, RDPid S000405126, Genbank AY268180.
- Burkholderia ubonensis*, N4Lid 10.1601/nm.1652, RDPid S000007457, Genbank AB030584.
- Butyrivibrio crossotus*, N4Lid 10.1601/nm.4131, RDPid S000008840, Genbank X89981.
- Caedibacter taeniospiralis*, N4Lid 10.1601/nm.1018, RDPid S000396093, Genbank AY102612.
- Caldicellulosiruptor saccharolyticus*, N4Lid 10.1601/nm.4484, RDPid S000004674, Genbank AF130258.
- Caldilinea aerophila*, N4Lid 10.1601/nm.580, RDPid S000384427, Genbank AB067647.
- Campylobacter butzleri*, N4Lid 10.1601/nm.3788, RDPid S000654056, Genbank DQ464341.
- Campylobacter fetus venerealis*, N4Lid 10.1601/nm.3795, RDPid S000550619, Genbank AY864915.
- Campylobacter jejuni doylei*, N4Lid 10.1601/nm.3803, RDPid S000645686, Genbank DQ174144.
- Campylobacter mucosalis*, N4Lid 10.1601/nm.3806, RDPid S000645715, Genbank DQ174173.

- Campylobacter sputorum mucosalis*, N4Lid 10.1601/nm.3815, RDPid S000645715, Genbank DQ174173.
- Carnobacterium alterfunditum*, N4Lid 10.1601/nm.5490, RDPid S000414332, Genbank L08623.
- Catenuloplanes atrovinosus*, N4Lid 10.1601/nm.6578, RDPid S000245824, Genbank AJ294716.
- Catenuloplanes indicus*, N4Lid 10.1601/nm.6581, RDPid S000244836, Genbank AJ294717.
- Cedecea neteri*, N4Lid 10.1601/nm.3129, RDPid S000021104, Genbank AB086230.
- Cellvibrio mixtus mixtus*, N4Lid 10.1601/nm.2724, RDPid S000394291, Genbank AF448515.
- Chainia flava*, N4Lid 10.1601/nm.9024, RDPid S000581635, Genbank AY999835.
- Chainia fumigata*, N4Lid 10.1601/nm.9028, RDPid S000651972, Genbank AB184248.
- Chainia kunmingensis*, N4Lid 10.1601/nm.9131, RDPid S000652321, Genbank AB184597.
- Chainia minutisclerotica*, N4Lid 10.1601/nm.9027, RDPid S000581635, Genbank AY999835.
- Chainia ochracea*, N4Lid 10.1601/nm.9013, RDPid S000651818, Genbank AB184094.
- Chainia poonensis*, N4Lid 10.1601/nm.9000, RDPid S000651827, Genbank AB184103.
- Chainia rosea*, N4Lid 10.1601/nm.9029, RDPid S000581693, Genbank AY999893.
- Chainia rubra*, N4Lid 10.1601/nm.8998, RDPid S000652328, Genbank AB184604.
- Chloroherpeton thalassium*, N4Lid 10.1601/nm.799, RDPid S000011521, Genbank AF170103.
- Chloronema giganteum*, N4Lid 10.1601/nm.557, RDPid S000392038, Genbank AF345825.
- Chondromyces crocatus*, N4Lid 10.1601/nm.3750, RDPid S000436918, Genbank M94275.
- Chondromyces pediculatus*, N4Lid 10.1601/nm.3754, RDPid S000539317, Genbank AJ233940.
- Chromatium vinosum*, N4Lid 10.1601/nm.2081, RDPid S000537516, Genbank DQ062160.
- Citrobacter amalonaticus*, N4Lid 10.1601/nm.3132, RDPid S000427776, Genbank AF025370.
- Citrobacter gillenii*, N4Lid 10.1601/nm.3136, RDPid S000427773, Genbank AF025367.
- Clavibacter iranicus*, N4Lid 10.1601/nm.6110, RDPid S000438894, Genbank U96184.
- Clavibacter michiganensis nebraskensis*, N4Lid 10.1601/nm.6107, RDPid S000438892, Genbank U96182.
- Clavibacter xyli cynodontis*, N4Lid 10.1601/nm.6115, RDPid S000615550, Genbank DQ232615.
- Clostridium bryantii*, N4Lid 10.1601/nm.3903, RDPid S000436139, Genbank M26491.
- Clostridium cellulosi*, N4Lid 10.1601/nm.3912, RDPid S000414355, Genbank L09177.
- Clostridium coccooides*, N4Lid 10.1601/nm.3917, RDPid S000436455, Genbank M59090.
- Clostridium estertheticum laramiense*, N4Lid 10.1601/nm.3929, RDPid S000137876, Genbank AJ506115.
- Clostridium ghonii*, N4Lid 10.1601/nm.3938, RDPid S000260730, Genbank X73451.
- Clostridium laramiense*, N4Lid 10.1601/nm.3961, RDPid S000137876, Genbank AJ506115.
- Clostridium limosum*, N4Lid 10.1601/nm.3965, RDPid S000436461, Genbank M59096.
- Clostridium mayombeii*, N4Lid 10.1601/nm.3973, RDPid S000436588, Genbank M62421.
- Clostridium phytofermentans*, N4Lid 10.1601/nm.3993, RDPid S000387174, Genbank AF020431.
- Clostridium sticklandii*, N4Lid 10.1601/nm.4026, RDPid S000414262, Genbank L04167.
- Clostridium termitidis*, N4Lid 10.1601/nm.4029, RDPid S000003488, Genbank X71854.
- Clostridium tetanomorphum*, N4Lid 10.1601/nm.4032, RDPid S000620000, Genbank DQ241819.
- Clostridium thermaceticum*, N4Lid 10.1601/nm.4033, RDPid S000550678, Genbank AY884087.
- Clostridium thermobutyricum*, N4Lid 10.1601/nm.4036, RDPid S000007751, Genbank X72868.
- Corynebacterium freneyi*, N4Lid 10.1601/nm.6223, RDPid S000401736, Genbank AY210513.
- Corynebacterium iranicum*, N4Lid 10.1601/nm.6231, RDPid S000438894, Genbank U96184.
- Corynebacterium michiganense nebraskense*, N4Lid 10.1601/nm.6242, RDPid S000438892, Genbank U96182.
- Corynebacterium nebraskense*, N4Lid 10.1601/nm.6249, RDPid S000438892, Genbank U96182.
- Corynebacterium vitaeruminis*, N4Lid 10.1601/nm.6279, RDPid S000260583, Genbank X84680.
- Coxiella burnetii*, N4Lid 10.1601/nm.2391, RDPid S000380818, Genbank D89792.
- Crenothrix polyspora*, N4Lid 10.1601/nm.8333, RDPid S000635373, Genbank DQ295896.
- Crocinitomix catalasitica*, N4Lid 10.1601/nm.8219, RDPid S000384736, Genbank AB078042.
- Cyanobium gracile*, N4Lid 10.1601/nm.636, RDPid S000386876, Genbank AF001477.

*Cyanothece*, N4Lid 10.1601/nm.638, RDPid S000386876, Genbank AF001477.

*Cylindrospermopsis raciborskii*, N4Lid 10.1601/nm.741, RDPid S000431022, Genbank AF516741.

*Cystobacter violaceus*, N4Lid 10.1601/nm.3703, RDPid S000539282, Genbank AJ233905.

*Cytophaga heparina*, N4Lid 10.1601/nm.8281, RDPid S000008354, Genbank AJ438172.

*Dehalospirillum multivorans*, N4Lid 10.1601/nm.3823, RDPid S000014625, Genbank X82931.

*Deleya aquamarina*, N4Lid 10.1601/nm.2535, RDPid S000649802, Genbank DQ372908.

*Deleya cupida*, N4Lid 10.1601/nm.2536, RDPid S000434702, Genbank AY035894.

*Deleya venusta*, N4Lid 10.1601/nm.2541, RDPid S000006799, Genbank AJ306894.

*Dermacoccus nishinomiyaensis*, N4Lid 10.1601/nm.5998, RDPid S000003132, Genbank X87757.

*Derxia gummosa*, N4Lid 10.1601/nm.1758, RDPid S000415016, Genbank AB089482.

*Desulfotomaculum gibsoniae*, N4Lid 10.1601/nm.4338, RDPid S000014626, Genbank AJ294432.

*Desulfovibrio carbinolicus*, N4Lid 10.1601/nm.3479, RDPid S000487070, Genbank AY626035.

*Desulfovibrio giganteus*, N4Lid 10.1601/nm.3485, RDPid S000393849, Genbank AF418170.

*Desulfovibrio gracilis*, N4Lid 10.1601/nm.8956, RDPid S000469107, Genbank U53464.

*Desulfuromonas acetexigens*, N4Lid 10.1601/nm.3622, RDPid S000437296, Genbank U23140.

*Dichelobacter nodosus*, N4Lid 10.1601/nm.2273, RDPid S000436251, Genbank M35016.

*Dysgonomonas capnocytophagoides*, N4Lid 10.1601/nm.8037, RDPid S000437598, Genbank U41355.

*Ectothiorhodospira halophila*, N4Lid 10.1601/nm.2160, RDPid S000436145, Genbank M26630.

*Elytrosporangium carpinense*, N4Lid 10.1601/nm.9058, RDPid S000581708, Genbank AY999908.

*Elytrosporangium spirale*, N4Lid 10.1601/nm.9046, RDPid S000652299, Genbank AB184575.

*Ensifer arboris*, N4Lid 10.1601/nm.1330, RDPid S000711276, Genbank AM181752.

*Ensifer kostiensis*, N4Lid 10.1601/nm.1332, RDPid S000711274, Genbank AM181750.

*Ensifer medicae*, N4Lid 10.1601/nm.1334, RDPid S000711270, Genbank AM181746.

*Enterobacter cancerogenus*, N4Lid 10.1601/nm.3154, RDPid S000131263, Genbank Z96078.

*Enterobacter cloacae dissolvens*, N4Lid 10.1601/nm.9254, RDPid S000129485, Genbank Z96079.

*Enterobacter dissolvens*, N4Lid 10.1601/nm.3156, RDPid S000129485, Genbank Z96079.

*Enterobacter nimipressuralis*, N4Lid 10.1601/nm.3161, RDPid S000128849, Genbank Z96077.

*Enterococcus canis*, N4Lid 10.1601/nm.5529, RDPid S000398536, Genbank AY156090.

*Enterococcus faecalis*, N4Lid 10.1601/nm.5526, RDPid S000617875, Genbank AM157433.

*Enterococcus gallinarum*, N4Lid 10.1601/nm.5537, RDPid S000001505, Genbank AF039898.

*Enterococcus saccharolyticus*, N4Lid 10.1601/nm.5550, RDPid S000651467, Genbank DQ411816.

*Erwinia cancerogena*, N4Lid 10.1601/nm.3172, RDPid S000131263, Genbank Z96078.

*Erwinia dissolvens*, N4Lid 10.1601/nm.3181, RDPid S000129485, Genbank Z96079.

*Erwinia nimipressuralis*, N4Lid 10.1601/nm.3186, RDPid S000128849, Genbank Z96077.

*Erwinia psidii*, N4Lid 10.1601/nm.3189, RDPid S000128851, Genbank Z96085.

*Erwinia pyrifoliae*, N4Lid 10.1601/nm.3190, RDPid S000629149, Genbank AM055715.

*Erysipelothrix tonsillarum*, N4Lid 10.1601/nm.4847, RDPid S000106168, Genbank AB055906.

*Escherichia adecarboxylata*, N4Lid 10.1601/nm.3094, RDPid S000145633, Genbank AJ276393.

*Escherichia hermannii*, N4Lid 10.1601/nm.3098, RDPid S000006606, Genbank X80675.

*Eubacterium oxidoreducens*, N4Lid 10.1601/nm.4261, RDPid S000389018, Genbank AF202258.

*Eubacterium plautii*, N4Lid 10.1601/nm.4262, RDPid S000424696, Genbank AY724678.

*Eubacterium plexicaudatum*, N4Lid 10.1601/nm.4263, RDPid S000388320, Genbank AF157054.

*Eubacterium yurii margaretae*, N4Lid 10.1601/nm.4282, RDPid S000273131, Genbank AY533381.

*Eubacterium yurii schtiitka*, N4Lid 10.1601/nm.4283, RDPid S000273132, Genbank AY533382.

*Ewingella americana*, N4Lid 10.1601/nm.3199, RDPid S000362341, Genbank AY581130.

*Filibacter limicola*, N4Lid 10.1601/nm.5200, RDPid S000014342, Genbank AJ292316.

- Flavobacterium heparinum*, N4Lid 10.1601/nm.8092, RDPid S000008354, Genbank AJ438172.
- Flavobacterium psychrophilum*, N4Lid 10.1601/nm.8109, RDPid S000540753, Genbank AY662493.
- Flexibacter filiformis*, N4Lid 10.1601/nm.8255, RDPid S000384743, Genbank AB078049.
- Flexibacter ovolyticus*, N4Lid 10.1601/nm.8259, RDPid S000382986, Genbank AB032506.
- Francisella novicida*, N4Lid 10.1601/nm.2309, RDPid S000551104, Genbank AY968237.
- Francisella tularensis holarctica*, N4Lid 10.1601/nm.2306, RDPid S000551097, Genbank AY968230.
- Francisella tularensis mediasiatica*, N4Lid 10.1601/nm.2307, RDPid S000551100, Genbank AY968233.
- Francisella tularensis novicida*, N4Lid 10.1601/nm.2308, RDPid S000551104, Genbank AY968237.
- Fusobacterium naviforme*, N4Lid 10.1601/nm.8357, RDPid S000129151, Genbank AJ006965.
- Fusobacterium plautii*, N4Lid 10.1601/nm.8363, RDPid S000424696, Genbank AY724678.
- Giesbergeria anulus*, N4Lid 10.1601/nm.9770, RDPid S000384597, Genbank AB074527.
- Giesbergeria giesbergeri*, N4Lid 10.1601/nm.9771, RDPid S000384594, Genbank AB074522.
- Globicatella sanguinis*, N4Lid 10.1601/nm.5483, RDPid S000380970, Genbank S50214.
- Haemophilus avium*, N4Lid 10.1601/nm.3423, RDPid S000368480, Genbank AY362916.
- Haemophilus piscium*, N4Lid 10.1601/nm.3436, RDPid S000009636, Genbank AJ009860.
- Haemophilus pleuropneumoniae*, N4Lid 10.1601/nm.3437, RDPid S000701485, Genbank DQ229005.
- Halobacillus halophilus*, N4Lid 10.1601/nm.5038, RDPid S000133782, Genbank X62174.
- Halobacteroides elegans*, N4Lid 10.1601/nm.4591, RDPid S000130652, Genbank AJ238119.
- Halomonas aquamarina*, N4Lid 10.1601/nm.2496, RDPid S000649802, Genbank DQ372908.
- Halomonas cupida*, N4Lid 10.1601/nm.2500, RDPid S000434702, Genbank AY035894.
- Halomonas maura*, N4Lid 10.1601/nm.2513, RDPid S000004885, Genbank AJ271864.
- Halomonas ventosae*, N4Lid 10.1601/nm.8608, RDPid S000357236, Genbank AY268080.
- Halomonas venusta*, N4Lid 10.1601/nm.2523, RDPid S000006799, Genbank AJ306894.
- Halorhodospira halophila*, N4Lid 10.1601/nm.2172, RDPid S000436145, Genbank M26630.
- Heliobacillus mobilis*, N4Lid 10.1601/nm.4366, RDPid S000469501, Genbank AB100835.
- Herbaspirillum autotrophicum*, N4Lid 10.1601/nm.8613, RDPid S000384596, Genbank AB074524.
- Hyphomicrobium aestuarii*, N4Lid 10.1601/nm.1514, RDPid S000014264, Genbank Y14304.
- Hyphomicrobium vulgare*, N4Lid 10.1601/nm.1513, RDPid S000000623, Genbank Y14302.
- Ketogulonicigenium robustum*, N4Lid 10.1601/nm.1075, RDPid S000387916, Genbank AF136850.
- Ketogulonicigenium vulgare*, N4Lid 10.1601/nm.1074, RDPid S000387912, Genbank AF136846.
- Kitasatospora arboriphila*, N4Lid 10.1601/nm.8638, RDPid S000462002, Genbank AY442267.
- Klebsiella pneumoniae rhinoscleromatis*, N4Lid 10.1601/nm.3205, RDPid S000387415, Genbank AF130983.
- Klebsiella rhinoscleromatis*, N4Lid 10.1601/nm.3212, RDPid S000387415, Genbank AF130983.
- Kribbella flavida*, N4Lid 10.1601/nm.6663, RDPid S000368130, Genbank AY253863.
- Kutzneria kofuensis*, N4Lid 10.1601/nm.6741, RDPid S000429090, Genbank AF114801.
- Lactobacillus casei rhamnosus*, N4Lid 10.1601/nm.5346, RDPid S000444213, Genbank AY773958.
- Lactobacillus casei tolerans*, N4Lid 10.1601/nm.5347, RDPid S000319968, Genbank AB181950.
- Lactobacillus iners*, N4Lid 10.1601/nm.5380, RDPid S000412018, Genbank AY526083.
- Lactobacillus nagelii*, N4Lid 10.1601/nm.5406, RDPid S000386268, Genbank AB162131.
- Lactobacillus paracasei tolerans*, N4Lid 10.1601/nm.5412, RDPid S000319968, Genbank AB181950.
- Lactobacillus psittaci*, N4Lid 10.1601/nm.5422, RDPid S000130780, Genbank AJ272391.
- Lactobacillus rhamnosus*, N4Lid 10.1601/nm.5424, RDPid S000444213, Genbank AY773958.
- Lactobacillus salivarius salicinius*, N4Lid 10.1601/nm.5431, RDPid S000397246, Genbank AY137584.
- Lactobacillus suntoryeus*, N4Lid 10.1601/nm.8664, RDPid S000422099, Genbank AY675248.
- Lactobacillus ultunensis*, N4Lid 10.1601/nm.8665, RDPid S000473523, Genbank AY253660.

- Lactococcus lactis hordniae*, N4Lid 10.1601/nm.5699, RDPid S000439500, Genbank AB100804.
- Lactococcus lactis lactis*, N4Lid 10.1601/nm.5696, RDPid S000607266, Genbank AB239446.
- Lampropedia hyalina*, N4Lid 10.1601/nm.1816, RDPid S000418437, Genbank AY291120.
- Lechevalieria flava*, N4Lid 10.1601/nm.6789, RDPid S000429097, Genbank AF114808.
- Leclercia adecarboxylata*, N4Lid 10.1601/nm.3221, RDPid S000145633, Genbank AJ276393.
- Legionella adelaidensis*, N4Lid 10.1601/nm.2341, RDPid S000005503, Genbank Z49716.
- Legionella birminghamensis*, N4Lid 10.1601/nm.2344, RDPid S000007780, Genbank Z49717.
- Legionella fairfieldensis*, N4Lid 10.1601/nm.2353, RDPid S000012370, Genbank Z49722.
- Legionella geestiana*, N4Lid 10.1601/nm.2356, RDPid S000016424, Genbank Z49723.
- Legionella gratiana*, N4Lid 10.1601/nm.2358, RDPid S000004339, Genbank Z49725.
- Legionella lansingensis*, N4Lid 10.1601/nm.2364, RDPid S000006622, Genbank Z49727.
- Legionella londiniensis*, N4Lid 10.1601/nm.2365, RDPid S000016062, Genbank Z49728.
- Legionella moravica*, N4Lid 10.1601/nm.2370, RDPid S000005505, Genbank Z49729.
- Legionella nautarum*, N4Lid 10.1601/nm.2371, RDPid S000006983, Genbank Z49730.
- Legionella parisiensis*, N4Lid 10.1601/nm.2373, RDPid S000437956, Genbank U59697.
- Legionella pneumophila pascullei*, N4Lid 10.1601/nm.2340, RDPid S000387193, Genbank AF122885.
- Legionella quateirensis*, N4Lid 10.1601/nm.2375, RDPid S000016426, Genbank Z49732.
- Legionella quinlivanii*, N4Lid 10.1601/nm.2376, RDPid S000003124, Genbank Z49733.
- Legionella santicrucis*, N4Lid 10.1601/nm.2380, RDPid S000011220, Genbank Z49735.
- Legionella shakespearei*, N4Lid 10.1601/nm.2381, RDPid S000013448, Genbank Z49736.
- Legionella worsleiensis*, N4Lid 10.1601/nm.2388, RDPid S000006246, Genbank Z49739.
- Leifsonia cynodontis*, N4Lid 10.1601/nm.9206, RDPid S000615550, Genbank DQ232615.
- Leifsonia nagoensis*, N4Lid 10.1601/nm.6133, RDPid S000615547, Genbank DQ232612.
- Leifsonia shinshuensis*, N4Lid 10.1601/nm.6136, RDPid S000615549, Genbank DQ232614.
- Leifsonia xyli cynodontis*, N4Lid 10.1601/nm.6138, RDPid S000615550, Genbank DQ232615.
- Leptospira fainei*, N4Lid 10.1601/nm.7898, RDPid S000437998, Genbank U60594.
- Leptospira inadai*, N4Lid 10.1601/nm.7899, RDPid S000008892, Genbank Z21634.
- Leptospira santarosai*, N4Lid 10.1601/nm.7904, RDPid S000437127, Genbank U12672.
- Leptothrix cholodnii*, N4Lid 10.1601/nm.1845, RDPid S000009647, Genbank X97070.
- Leuconostoc citreum*, N4Lid 10.1601/nm.5576, RDPid S000388942, Genbank AF195784.
- Levinea amalomatica*, N4Lid 10.1601/nm.9060, RDPid S000427776, Genbank AF025370.
- Lysobacter brunescens*, N4Lid 10.1601/nm.2244, RDPid S000539073, Genbank AB161360.
- Lysobacter gummosus*, N4Lid 10.1601/nm.2245, RDPid S000539074, Genbank AB161361.
- Macrococcus bovicus*, N4Lid 10.1601/nm.5295, RDPid S000008515, Genbank Y15714.
- Macrococcus carouzelicus*, N4Lid 10.1601/nm.5297, RDPid S000009655, Genbank Y15713.
- Macrococcus equipercicus*, N4Lid 10.1601/nm.5294, RDPid S000140728, Genbank AJ576067.
- Macromonas bipunctata*, N4Lid 10.1601/nm.1819, RDPid S000106516, Genbank AB077037.
- Marinomonas communis*, N4Lid 10.1601/nm.2461, RDPid S000365773, Genbank AF173967.
- Marinomonas pontica*, N4Lid 10.1601/nm.8691, RDPid S000474908, Genbank AY539835.
- Marinospirillum megaterium*, N4Lid 10.1601/nm.2469, RDPid S000427373, Genbank AB006770.
- Megasphaera cerevisiae*, N4Lid 10.1601/nm.4400, RDPid S000414683, Genbank L37040.
- Mesoplasma seiffertii*, N4Lid 10.1601/nm.4772, RDPid S000407970, Genbank AY351331.
- Methylobacter pelagicus*, N4Lid 10.1601/nm.2416, RDPid S000009267, Genbank X72775.
- Methylobacterium aminovorans*, N4Lid 10.1601/nm.1583, RDPid S000544283, Genbank AJ851086.
- Methylobacterium mesophilicum*, N4Lid 10.1601/nm.1589, RDPid S000642032, Genbank AB175636.
- Methylobacterium thiocyanatum*, N4Lid 10.1601/nm.1594, RDPid S000334547, Genbank U58018.
- Methylomicrobium pelagicum*, N4Lid 10.1601/nm.2427, RDPid S000009267, Genbank X72775.
- Methylomonas methanica*, N4Lid 10.1601/nm.2429, RDPid S000436938, Genbank M95660.
- Methylomonas pelagica*, N4Lid 10.1601/nm.2432, RDPid S000009267, Genbank X72775.

- Methylovorus mays*, N4Lid 10.1601/nm.1906, RDPid S000502276, Genbank AY486132.
- Microbacterium oxydans*, N4Lid 10.1601/nm.6058, RDPid S000261906, Genbank AY509222.
- Micrococcus nishinomiyensis*, N4Lid 10.1601/nm.5835, RDPid S000003132, Genbank X87757.
- Microellobosporia cinerea*, N4Lid 10.1601/nm.9017, RDPid S000581605, Genbank AY999805.
- Microellobosporia flavea*, N4Lid 10.1601/nm.9018, RDPid S000651789, Genbank AB184065.
- Microellobosporia grisea*, N4Lid 10.1601/nm.9049, RDPid S000651824, Genbank AB184100.
- Microellobosporia violacea*, N4Lid 10.1601/nm.9071, RDPid S000651823, Genbank AB184099.
- Microtetraspora helvata*, N4Lid 10.1601/nm.7479, RDPid S000437700, Genbank U48975.
- Moorella thermoacetica*, N4Lid 10.1601/nm.4534, RDPid S000550678, Genbank AY884087.
- Moraxella (Moraxella) atlantae*, N4Lid 10.1601/nm.9082, RDPid S000130329, Genbank AJ312378.
- Moraxella (Moraxella) nonliquefaciens*, N4Lid 10.1601/nm.9085, RDPid S000386968, Genbank AF005175.
- Moraxella (Moraxella) osloensis*, N4Lid 10.1601/nm.9086, RDPid S000014282, Genbank Y15855.
- Moraxella atlantae*, N4Lid 10.1601/nm.2749, RDPid S000130329, Genbank AJ312378.
- Moraxella cuniculi*, N4Lid 10.1601/nm.2756, RDPid S000386981, Genbank AF005188.
- Moraxella equi*, N4Lid 10.1601/nm.2757, RDPid S000386977, Genbank AF005184.
- Moraxella lincolni*, N4Lid 10.1601/nm.2758, RDPid S000020563, Genbank AJ417490.
- Moraxella nonliquefaciens*, N4Lid 10.1601/nm.2759, RDPid S000386968, Genbank AF005175.
- Moraxella osloensis*, N4Lid 10.1601/nm.2760, RDPid S000014282, Genbank Y15855.
- Mycobacterium branderi*, N4Lid 10.1601/nm.6328, RDPid S000429475, Genbank AF480574.
- Mycobacterium haemophilum*, N4Lid 10.1601/nm.6356, RDPid S000014279, Genbank X88923.
- Mycobacterium immunogenum*, N4Lid 10.1601/nm.6363, RDPid S000441332, Genbank AY457080.
- Mycobacterium interjectum*, N4Lid 10.1601/nm.6364, RDPid S000002089, Genbank AJ272088.
- Mycobacterium intermedium*, N4Lid 10.1601/nm.6365, RDPid S000004763, Genbank X67847.
- Mycobacterium lentiflavum*, N4Lid 10.1601/nm.6371, RDPid S000429484, Genbank AF480583.
- Mycobacterium mucogenicum*, N4Lid 10.1601/nm.6381, RDPid S000429486, Genbank AF480585.
- Mycobacterium murale*, N4Lid 10.1601/nm.6382, RDPid S000623755, Genbank AM056053.
- Mycobacterium porcinum*, N4Lid 10.1601/nm.6393, RDPid S000429489, Genbank AF480588.
- Mycobacterium saskatchewanense*, N4Lid 10.1601/nm.8724, RDPid S000356593, Genbank AY208856.
- Mycobacterium sphagni*, N4Lid 10.1601/nm.6404, RDPid S000131254, Genbank X55590.
- Mycobacterium triplex*, N4Lid 10.1601/nm.6409, RDPid S000437884, Genbank U57632.
- Mycobacterium ulcerans*, N4Lid 10.1601/nm.6412, RDPid S000014290, Genbank X88926.
- Mycoplana dimorpha*, N4Lid 10.1601/nm.1388, RDPid S000468980, Genbank D12786.
- Mycoplana ramosa*, N4Lid 10.1601/nm.1390, RDPid S000413470, Genbank D13944.
- Mycoplasma alligatoris*, N4Lid 10.1601/nm.4622, RDPid S000393495, Genbank AF412969.
- Mycoplasma conjunctivae*, N4Lid 10.1601/nm.4648, RDPid S000437642, Genbank U44770.
- Mycoplasma edwardii*, N4Lid 10.1601/nm.4655, RDPid S000438417, Genbank U73903.
- Mycoplasma gallinarum*, N4Lid 10.1601/nm.4669, RDPid S000414532, Genbank L24105.
- Mycoplasma gallisepticum*, N4Lid 10.1601/nm.4670, RDPid S000414334, Genbank L08897.
- Mycoplasma hyopneumoniae*, N4Lid 10.1601/nm.4681, RDPid S000004349, Genbank Y00149.
- Mycoplasma molare*, N4Lid 10.1601/nm.4702, RDPid S000432124, Genbank AF538683.
- Mycoplasma mycoides capri*, N4Lid 10.1601/nm.4617, RDPid S000437369, Genbank U26036.
- Mycoplasma mycoides mycoides*, N4Lid 10.1601/nm.4616, RDPid S000437382, Genbank U26049.
- Mycoplasma synoviae*, N4Lid 10.1601/nm.4730, RDPid S000011604, Genbank X52083.
- Mycoplasma verecundum*, N4Lid 10.1601/nm.4732, RDPid S000393515, Genbank AF412989.
- Myxococcus flavescens*, N4Lid 10.1601/nm.3723, RDPid S000539293, Genbank AJ233916.
- Myxococcus fulvus*, N4Lid 10.1601/nm.3720, RDPid S000394594, Genbank AF466191.

- Myxococcus macrosporus*, N4Lid 10.1601/nm.3724, RDPid S000435040, Genbank AY072740.
- Myxococcus stipitatus*, N4Lid 10.1601/nm.3725, RDPid S000539299, Genbank AJ233922.
- Myxococcus virescens*, N4Lid 10.1601/nm.3726, RDPid S000539304, Genbank AJ233927.
- Myxococcus xanthus*, N4Lid 10.1601/nm.3727, RDPid S000651449, Genbank DQ411299.
- Neisseria cinerea*, N4Lid 10.1601/nm.1914, RDPid S000009272, Genbank AJ239299.
- Neisseria cuniculi*, N4Lid 10.1601/nm.1915, RDPid S000386981, Genbank AF005188.
- Neisseria elongata glycolytica*, N4Lid 10.1601/nm.1919, RDPid S000019642, Genbank AJ239278.
- Neisseria flava*, N4Lid 10.1601/nm.1921, RDPid S000000631, Genbank AJ239301.
- Neisseria meningitidis*, N4Lid 10.1601/nm.1926, RDPid S000391275, Genbank AF310559.
- Neisseria mucosa*, N4Lid 10.1601/nm.1927, RDPid S000005125, Genbank AJ239282.
- Neisseria perflava*, N4Lid 10.1601/nm.1929, RDPid S000011616, Genbank AJ239295.
- Neisseria sicca*, N4Lid 10.1601/nm.1931, RDPid S000021342, Genbank AJ239292.
- Neisseria subflava*, N4Lid 10.1601/nm.1932, RDPid S000395208, Genbank AF479577.
- Nitrobacter winogradskyi*, N4Lid 10.1601/nm.1485, RDPid S000434954, Genbank AY055796.
- Nitrospira briensis*, N4Lid 10.1601/nm.2006, RDPid S000414630, Genbank L35505.
- Nitrospira marina*, N4Lid 10.1601/nm.593, RDPid S000011242, Genbank X82559.
- Nocardia corynebacterioides*, N4Lid 10.1601/nm.6434, RDPid S000009693, Genbank Y07813.
- Nocardia globerula*, N4Lid 10.1601/nm.6441, RDPid S000394064, Genbank AF430065.
- Nocardiopsis flava*, N4Lid 10.1601/nm.7540, RDPid S000429097, Genbank AF114808.
- Nocardiopsis syringae*, N4Lid 10.1601/nm.7551, RDPid S000429101, Genbank AF114812.
- Nodularia harveyana*, N4Lid 10.1601/nm.746, RDPid S000539612, Genbank AJ781145.
- Nonomuraea helvata*, N4Lid 10.1601/nm.7501, RDPid S000437700, Genbank U48975.
- Nostoc commune*, N4Lid 10.1601/nm.750, RDPid S000134354, Genbank AB088375.
- Oceanospirillum commune*, N4Lid 10.1601/nm.2445, RDPid S000365773, Genbank AF173967.
- Oceanospirillum linum*, N4Lid 10.1601/nm.2442, RDPid S000436060, Genbank M22365.
- Oligella ureolytica*, N4Lid 10.1601/nm.1763, RDPid S000389522, Genbank AF227164.
- Oligotropha carboxidovorans*, N4Lid 10.1601/nm.1490, RDPid S000385783, Genbank AB099659.
- Oscillochloris chrysea*, N4Lid 10.1601/nm.564, RDPid S000587182, Genbank DQ139400.
- Oscillochloris trichoides*, N4Lid 10.1601/nm.565, RDPid S000587182, Genbank DQ139400.
- Oscillospira guilliermondii*, N4Lid 10.1601/nm.5708, RDPid S000145577, Genbank AB040495.
- Paenibacillus dendritiformis*, N4Lid 10.1601/nm.5127, RDPid S000377972, Genbank AY359885.
- Paenibacillus terrae*, N4Lid 10.1601/nm.5155, RDPid S000543874, Genbank AJ318910.
- Pantoea dispersa*, N4Lid 10.1601/nm.3236, RDPid S000691510, Genbank DQ504305.
- Paracoccus marcusii*, N4Lid 10.1601/nm.1104, RDPid S000388002, Genbank AF139992.
- Pasteurella avium*, N4Lid 10.1601/nm.3377, RDPid S000368480, Genbank AY362916.
- Pasteurella caballi*, N4Lid 10.1601/nm.3379, RDPid S000368482, Genbank AY362918.
- Pasteurella trehalosi*, N4Lid 10.1601/nm.3393, RDPid S000368491, Genbank AY362927.
- Pasteuria nishizawae*, N4Lid 10.1601/nm.5083, RDPid S000570009, Genbank AF134868.
- Pasteuria penetrans*, N4Lid 10.1601/nm.5084, RDPid S000396499, Genbank AY123969.
- Pectobacterium atrosepticum*, N4Lid 10.1601/nm.3247, RDPid S000007556, Genbank AF373178.
- Pedobacter heparinus*, N4Lid 10.1601/nm.8233, RDPid S000008354, Genbank AJ438172.
- Pedomicrobium americanum*, N4Lid 10.1601/nm.1556, RDPid S000000254, Genbank X97692.
- Pedomicrobium ferrugineum*, N4Lid 10.1601/nm.1555, RDPid S000008181, Genbank X97690.
- Pedomicrobium manganicum*, N4Lid 10.1601/nm.1558, RDPid S000003549, Genbank X97691.
- Pelodictyon phaenum*, N4Lid 10.1601/nm.804, RDPid S000001062, Genbank AJ291828.
- Photobacterium damsela piscicida*, N4Lid 10.1601/nm.3032, RDPid S000397914, Genbank AY147856.
- Photobacterium logei*, N4Lid 10.1601/nm.3037, RDPid S000406042, Genbank AY292932.
- Photobacterium profundum*, N4Lid 10.1601/nm.3038, RDPid S000556648, Genbank DQ027055.

- Polaribacter irgensii*, N4Lid 10.1601/nm.8181, RDPid S000436547, Genbank M61002.
- Polyangium celluloseum*, N4Lid 10.1601/nm.3739, RDPid S000013201, Genbank AF387627.
- Polyangium vitellinum*, N4Lid 10.1601/nm.3737, RDPid S000539321, Genbank AJ233944.
- Porphyromonas canoris*, N4Lid 10.1601/nm.8023, RDPid S000000633, Genbank X76261.
- Porphyromonas crevioricanis*, N4Lid 10.1601/nm.8027, RDPid S000712863, Genbank DQ677836.
- Porphyromonas gingivicanis*, N4Lid 10.1601/nm.8030, RDPid S000712862, Genbank DQ677835.
- Prevotella brevis*, N4Lid 10.1601/nm.8046, RDPid S000021675, Genbank AJ011682.
- Prevotella ruminicola brevis*, N4Lid 10.1601/nm.8064, RDPid S000021675, Genbank AJ011682.
- Prochlorothrix hollandica*, N4Lid 10.1601/nm.714, RDPid S000009278, Genbank AJ007907.
- Prosthecomicrobium pneumaticum*, N4Lid 10.1601/nm.1560, RDPid S000382389, Genbank AB017203.
- Proteus penneri*, N4Lid 10.1601/nm.3274, RDPid S000366960, Genbank AJ634474.
- Providencia alcalifaciens*, N4Lid 10.1601/nm.3277, RDPid S000127327, Genbank AJ301684.
- Pseudoalteromonas prydzensis*, N4Lid 10.1601/nm.2899, RDPid S000438571, Genbank U85855.
- Pseudomonas aurantiaca*, N4Lid 10.1601/nm.2565, RDPid S000011823, Genbank AB021412.
- Pseudomonas avellanae*, N4Lid 10.1601/nm.2567, RDPid S000539898, Genbank AJ889838.
- Pseudomonas boreopolis*, N4Lid 10.1601/nm.2575, RDPid S000008025, Genbank AB021391.
- Pseudomonas cremoricolorata*, N4Lid 10.1601/nm.2594, RDPid S000383942, Genbank AB060137.
- Pseudomonas fuscovaginae*, N4Lid 10.1601/nm.2610, RDPid S000014513, Genbank AB021381.
- Pseudomonas mallei*, N4Lid 10.1601/nm.2635, RDPid S000406471, Genbank AY305760.
- Pseudomonas meliae*, N4Lid 10.1601/nm.2641, RDPid S000002235, Genbank AB021382.
- Pseudomonas mephitica*, N4Lid 10.1601/nm.2643, RDPid S000011061, Genbank AB021388.
- Pseudomonas mesophilica*, N4Lid 10.1601/nm.2644, RDPid S000642032, Genbank AB175636.
- Pseudomonas mucidolens*, N4Lid 10.1601/nm.2649, RDPid S000001334, Genbank D84017.
- Pseudomonas parafulva*, N4Lid 10.1601/nm.2658, RDPid S000383937, Genbank AB060132.
- Pseudomonas pertucinogena*, N4Lid 10.1601/nm.2661, RDPid S000001098, Genbank AB021380.
- Pseudomonas pickettii*, N4Lid 10.1601/nm.2663, RDPid S000405126, Genbank AY268180.
- Pseudomonas synxantha*, N4Lid 10.1601/nm.2691, RDPid S000617894, Genbank AM157452.
- Pseudonocardia nitrificans*, N4Lid 10.1601/nm.6687, RDPid S000128872, Genbank X55609.
- Pseudorhodobacter ferrugineus*, N4Lid 10.1601/nm.1114, RDPid S000414214, Genbank D88522.
- Ralstonia eutropha*, N4Lid 10.1601/nm.1675, RDPid S000001628, Genbank Y10825.
- Ralstonia pickettii*, N4Lid 10.1601/nm.1672, RDPid S000405126, Genbank AY268180.
- Rathayibacter iranicus*, N4Lid 10.1601/nm.6153, RDPid S000438894, Genbank U96184.
- Rhizomonas suberifaciens*, N4Lid 10.1601/nm.1231, RDPid S000413468, Genbank D13737.
- Rhodoblastus acidophilus*, N4Lid 10.1601/nm.1492, RDPid S000436222, Genbank M34128.
- Rhodococcus corynebacterioides*, N4Lid 10.1601/nm.9261, RDPid S000009693, Genbank Y07813.
- Rhodomicrobium vannieli*, N4Lid 10.1601/nm.1565, RDPid S000642537, Genbank AB250621.
- Rhodopseudomonas acidophila*, N4Lid 10.1601/nm.1495, RDPid S000436222, Genbank M34128.
- Rhodospira trueperi*, N4Lid 10.1601/nm.842, RDPid S000628698, Genbank AJ001276.
- Rickettsia africae*, N4Lid 10.1601/nm.955, RDPid S000414650, Genbank L36098.
- Rickettsia conorii*, N4Lid 10.1601/nm.960, RDPid S000414659, Genbank L36107.
- Rickettsia felis*, N4Lid 10.1601/nm.961, RDPid S000583648, Genbank DQ102712.
- Rickettsia helvetica*, N4Lid 10.1601/nm.962, RDPid S000414662, Genbank L36212.
- Rickettsia japonica*, N4Lid 10.1601/nm.964, RDPid S000414663, Genbank L36213.
- Rickettsia peacockii*, N4Lid 10.1601/nm.968, RDPid S000633233, Genbank DQ062433.
- Rickettsia prowazekii*, N4Lid 10.1601/nm.953, RDPid S000539329, Genbank AJ235272.
- Rickettsia slovacica*, N4Lid 10.1601/nm.973, RDPid S000414674, Genbank L36224.
- Rochalimaea henselae*, N4Lid 10.1601/nm.9173, RDPid S000369296, Genbank AY513504.

- Rochalimaea quintana*, N4Lid 10.1601/nm.9010, RDPid S000450437, Genbank AY484592.
- Ruegeria atlantica*, N4Lid 10.1601/nm.1145, RDPid S000414218, Genbank D88526.
- Ruegeria gelatinovorans*, N4Lid 10.1601/nm.1147, RDPid S000414215, Genbank D88523.
- Saccharothrix flava*, N4Lid 10.1601/nm.6806, RDPid S000429097, Genbank AF114808.
- Saccharothrix syringae*, N4Lid 10.1601/nm.6810, RDPid S000429101, Genbank AF114812.
- Salinibacterium amurskyense*, N4Lid 10.1601/nm.6159, RDPid S000432202, Genbank AF539698.
- Salmonella arizonae*, N4Lid 10.1601/nm.3307, RDPid S000006115, Genbank AF008580.
- Salmonella bongori*, N4Lid 10.1601/nm.3299, RDPid S000427858, Genbank AF029227.
- Salmonella choleraesuis arizonae*, N4Lid 10.1601/nm.3301, RDPid S000006115, Genbank AF008580.
- Salmonella choleraesuis bongori*, N4Lid 10.1601/nm.3302, RDPid S000427858, Genbank AF029227.
- Salmonella enterica arizonae*, N4Lid 10.1601/nm.3293, RDPid S000006115, Genbank AF008580.
- Salmonella enterica bongori*, N4Lid 10.1601/nm.3294, RDPid S000427858, Genbank AF029227.
- Salmonella enteritidis*, N4Lid 10.1601/nm.3308, RDPid S000438769, Genbank U90318.
- Salmonella paratyphi*, N4Lid 10.1601/nm.3309, RDPid S000428192, Genbank AF057361.
- Serpulina alvinipulli*, N4Lid 10.1601/nm.7881, RDPid S000487813, Genbank AY745552.
- Serratia proteamaculans quinovora*, N4Lid 10.1601/nm.3326, RDPid S000105570, Genbank AJ279044.
- Serratia quinivorans*, N4Lid 10.1601/nm.3327, RDPid S000105570, Genbank AJ279044.
- Shewanella colwelliana*, N4Lid 10.1601/nm.2920, RDPid S000442137, Genbank AY653177.
- Shewanella oneidensis*, N4Lid 10.1601/nm.2931, RDPid S000392860, Genbank AF387347.
- Shigella boydii*, N4Lid 10.1601/nm.3331, RDPid S000465033, Genbank AY696676.
- Shigella sonnei*, N4Lid 10.1601/nm.3333, RDPid S000003976, Genbank X80726.
- Simonsiella crassa*, N4Lid 10.1601/nm.1981, RDPid S000391655, Genbank AF328141.
- Sinorhizobium arboris*, N4Lid 10.1601/nm.1342, RDPid S000711276, Genbank AM181752.
- Sinorhizobium kostiense*, N4Lid 10.1601/nm.1343, RDPid S000711274, Genbank AM181750.
- Sinorhizobium medicae*, N4Lid 10.1601/nm.1345, RDPid S000711270, Genbank AM181746.
- Sodalis glossinidius*, N4Lid 10.1601/nm.3335, RDPid S000550616, Genbank AY861702.
- Sorangium cellulosum*, N4Lid 10.1601/nm.3762, RDPid S000013201, Genbank AF387627.
- Sphaerotilus natans*, N4Lid 10.1601/nm.1856, RDPid S000021157, Genbank Z18534.
- Sphingobacterium antarcticum*, N4Lid 10.1601/nm.8225, RDPid S000484013, Genbank AJ576248.
- Sphingobacterium heparinum*, N4Lid 10.1601/nm.8227, RDPid S000008354, Genbank AJ438172.
- Sphingomonas aerolata*, N4Lid 10.1601/nm.1169, RDPid S000146770, Genbank AJ429240.
- Sphingomonas alaskensis*, N4Lid 10.1601/nm.1170, RDPid S000392687, Genbank AF378796.
- Sphingomonas macrogoltabidus*, N4Lid 10.1601/nm.1183, RDPid S000482859, Genbank D84530.
- Sphingomonas suberifaciens*, N4Lid 10.1601/nm.1195, RDPid S000413468, Genbank D13737.
- Sphingopyxis alaskensis*, N4Lid 10.1601/nm.1240, RDPid S000392687, Genbank AF378796.
- Sphingopyxis macrogoltabida*, N4Lid 10.1601/nm.1239, RDPid S000482859, Genbank D84530.
- Spirillospora rubra*, N4Lid 10.1601/nm.7632, RDPid S000388394, Genbank AF163123.
- Spirochaeta thermophila*, N4Lid 10.1601/nm.7811, RDPid S000010877, Genbank X62809.
- Spiroplasma kunkelii*, N4Lid 10.1601/nm.4793, RDPid S000636484, Genbank DQ319068.
- Spiroplasma phoeniceum*, N4Lid 10.1601/nm.4802, RDPid S000444151, Genbank AY772395.
- Sporomusa paucivorans*, N4Lid 10.1601/nm.4438, RDPid S000436480, Genbank M59117.
- Sporosarcina halophila*, N4Lid 10.1601/nm.5213, RDPid S000133782, Genbank X62174.
- Staphylococcus equorum linens*, N4Lid 10.1601/nm.5248, RDPid S000652916, Genbank AM237374.
- Stappia stellulata*, N4Lid 10.1601/nm.1156, RDPid S000414217, Genbank D88525.
- Streptoalloteichus hindustanus*, N4Lid 10.1601/nm.6768, RDPid S000691007, Genbank DQ487017.
- Streptococcus constellatus pharyngis*, N4Lid 10.1601/nm.5619, RDPid S000406601, Genbank AY309095.

- Streptococcus difficilis*, N4Lid 10.1601/nm.5625, RDPid S000496329, Genbank AB175036.
- Streptococcus dysgalactiae equisimilis*, N4Lid 10.1601/nm.5629, RDPid S000128347, Genbank AJ314611.
- Streptococcus faecalis*, N4Lid 10.1601/nm.5634, RDPid S000617875, Genbank AM157433.
- Streptococcus gallinarum*, N4Lid 10.1601/nm.5638, RDPid S000001505, Genbank AF039898.
- Streptococcus lactis lactis*, N4Lid 10.1601/nm.5654, RDPid S000607266, Genbank AB239446.
- Streptococcus oralis*, N4Lid 10.1601/nm.5665, RDPid S000386904, Genbank AF003932.
- Streptococcus parauberis*, N4Lid 10.1601/nm.5669, RDPid S000514060, Genbank AY942572.
- Streptococcus pluranimalium*, N4Lid 10.1601/nm.5675, RDPid S000004386, Genbank Y18026.
- Streptococcus saccharolyticus*, N4Lid 10.1601/nm.5681, RDPid S000651467, Genbank DQ411816.
- Streptococcus urinalis*, N4Lid 10.1601/nm.5692, RDPid S000711882, Genbank DQ303194.
- Streptomyces aburaviensis*, N4Lid 10.1601/nm.6821, RDPid S000581686, Genbank AY999886.
- Streptomyces achromogenes achromogenes*, N4Lid 10.1601/nm.6822, RDPid S000651833, Genbank AB184109.
- Streptomyces achromogenes rubradiris*, N4Lid 10.1601/nm.6823, RDPid S000581646, Genbank AY999846.
- Streptomyces acrimycini*, N4Lid 10.1601/nm.6825, RDPid S000581689, Genbank AY999889.
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- Streptomyces alanosinicus*, N4Lid 10.1601/nm.6828, RDPid S000652166, Genbank AB184442.
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- Streptomyces albolongus*, N4Lid 10.1601/nm.6837, RDPid S000581556, Genbank AY999756.
- Streptomyces alboniger*, N4Lid 10.1601/nm.6838, RDPid S000468053, Genbank AY845349.
- Streptomyces albospinus*, N4Lid 10.1601/nm.6839, RDPid S000581553, Genbank AY999753.
- Streptomyces albosporeus labilomyceticus*, N4Lid 10.1601/nm.6841, RDPid S000652362, Genbank AB184638.
- Streptomyces alboverticillatus*, N4Lid 10.1601/nm.6842, RDPid S000581566, Genbank AY999766.
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- Streptomyces albus pathocidicus*, N4Lid 10.1601/nm.6819, RDPid S000581606, Genbank AY999806.
- Streptomyces almquistii*, N4Lid 10.1601/nm.6846, RDPid S000581582, Genbank AY999782.
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- Streptomyces amakusaensis*, N4Lid 10.1601/nm.6848, RDPid S000581581, Genbank AY999781.
- Streptomyces anandii*, N4Lid 10.1601/nm.6851, RDPid S000581603, Genbank AY999803.
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- Streptomyces arduus*, N4Lid 10.1601/nm.6857, RDPid S000581643, Genbank AY999843.
- Streptomyces asterosporus*, N4Lid 10.1601/nm.6862, RDPid S000581702, Genbank AY999902.
- Streptomyces atratus*, N4Lid 10.1601/nm.6863, RDPid S000652535, Genbank AB184811.
- Streptomyces atroaurantiacus*, N4Lid 10.1601/nm.6864, RDPid S000652317, Genbank AB184593.
- Streptomyces atrovirens*, N4Lid 10.1601/nm.6866, RDPid S000652363, Genbank AB184639.
- Streptomyces aurantiogriseus*, N4Lid 10.1601/nm.6868, RDPid S000581573, Genbank AY999773.
- Streptomyces aureocirculatus*, N4Lid 10.1601/nm.6869, RDPid S000581661, Genbank AY999861.
- Streptomyces aureorectus*, N4Lid 10.1601/nm.6871, RDPid S000652434, Genbank AB184710.

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*Streptomyces azureus*, N4Lid 10.1601/nm.6880, RDPid S000652561, Genbank AB184837.

*Streptomyces baarnensis*, N4Lid 10.1601/nm.6881, RDPid S000652339, Genbank AB184615.

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*Streptomyces bambergiensis*, N4Lid 10.1601/nm.6885, RDPid S000581601, Genbank AY999801.

*Streptomyces bellus*, N4Lid 10.1601/nm.6887, RDPid S000003566, Genbank AJ399476.

*Streptomyces blastmyceticus*, N4Lid 10.1601/nm.6890, RDPid S000581602, Genbank AY999802.

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*Streptomyces californicus*, N4Lid 10.1601/nm.6900, RDPid S000690815, Genbank DQ462663.

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*Streptomyces cellostaticus*, N4Lid 10.1601/nm.6916, RDPid S000581542, Genbank AY999742.

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- Streptomyces cirratus*, N4Lid 10.1601/nm.6941, RDPid S000581594, Genbank AY999794.
- Streptomyces clavifer*, N4Lid 10.1601/nm.6944, RDPid S000652373, Genbank AB184649.
- Streptomyces coelicoflavus*, N4Lid 10.1601/nm.6948, RDPid S000581552, Genbank AY999752.
- Streptomyces coeruleoprunus*, N4Lid 10.1601/nm.6952, RDPid S000581567, Genbank AY999767.
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- Streptomyces colombiensis*, N4Lid 10.1601/nm.6956, RDPid S000711650, Genbank DQ026646.
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- Streptomyces vitaminophilus*, N4Lid 10.1601/nm.7341, RDPid S000652313, Genbank AB184589.
- Streptomyces wedmorensis*, N4Lid 10.1601/nm.7342, RDPid S000652296, Genbank AB184572.
- Streptomyces werraensis*, N4Lid 10.1601/nm.7343, RDPid S000652105, Genbank AB184381.
- Streptomyces xanthochromogenes*, N4Lid 10.1601/nm.7345, RDPid S000651900, Genbank AB184176.
- Streptomyces xanthocidicus*, N4Lid 10.1601/nm.7346, RDPid S000581658, Genbank AY999858.
- Streptomyces xantholiticus*, N4Lid 10.1601/nm.7347, RDPid S000652073, Genbank AB184349.
- Streptomyces xanthophaeus*, N4Lid 10.1601/nm.7348, RDPid S000651901, Genbank AB184177.
- Streptomyces yerevanensis*, N4Lid 10.1601/nm.7351, RDPid S000651823, Genbank AB184099.
- Streptomyces yokosukanensis*, N4Lid 10.1601/nm.7353, RDPid S000652043, Genbank AB184319.
- Streptomyces zaomyceticus*, N4Lid 10.1601/nm.7355, RDPid S000652070, Genbank AB184346.
- Streptosporangium viridogriseum kofuense*, N4Lid 10.1601/nm.7446, RDPid S000429090, Genbank AF114801.
- Streptoverticillium albireticuli*, N4Lid 10.1601/nm.7377, RDPid S000581548, Genbank AY999748.
- Streptoverticillium alboverticillatum*, N4Lid 10.1601/nm.7378, RDPid S000581566, Genbank AY999766.
- Streptoverticillium album*, N4Lid 10.1601/nm.7379, RDPid S000652331, Genbank AB184607.
- Streptoverticillium arduum*, N4Lid 10.1601/nm.7380, RDPid S000581643, Genbank AY999843.
- Streptoverticillium aureoversile*, N4Lid 10.1601/nm.7381, RDPid S000581649, Genbank AY999849.
- Streptoverticillium blastmyceticum*, N4Lid 10.1601/nm.7383, RDPid S000581602, Genbank AY999802.
- Streptoverticillium cinnamoneum albosporum*, N4Lid 10.1601/nm.7385, RDPid S000581563, Genbank AY999763.
- Streptoverticillium cinnamoneum lanosum*, N4Lid 10.1601/nm.7386, RDPid S000581547, Genbank AY999747.
- Streptoverticillium cinnamoneum sparsum*, N4Lid 10.1601/nm.7387, RDPid S000581554, Genbank AY999754.
- Streptoverticillium chimense*, N4Lid 10.1601/nm.7389, RDPid S000581634, Genbank AY999834.
- Streptoverticillium eurocidicum*, N4Lid 10.1601/nm.7390, RDPid S000581590, Genbank AY999790.
- Streptoverticillium griseoverticillatum*, N4Lid 10.1601/nm.7395, RDPid S000581692, Genbank AY999892.

*Streptovorticillium hachijoense*, N4Lid  
10.1601/nm.7396, RDPid S000651809, Genbank  
AB184085.

*Streptovorticillium hirosimense*, N4Lid  
10.1601/nm.7397, RDPid S000651868, Genbank  
AB184144.

*Streptovorticillium lavenduligriseum*, N4Lid  
10.1601/nm.7402, RDPid S000652106, Genbank  
AB184382.

*Streptovorticillium luteovorticillatum*, N4Lid  
10.1601/nm.7404, RDPid S000652515, Genbank  
AB184791.

*Streptovorticillium netropsis*, N4Lid  
10.1601/nm.7408, RDPid S000711019, Genbank  
AB249911.

*Streptovorticillium olivovorticillatum*, N4Lid  
10.1601/nm.7412, RDPid S000652360, Genbank  
AB184636.

*Streptovorticillium orinoci*, N4Lid 10.1601/nm.7413,  
RDPid S000652590, Genbank AB184866.

*Streptovorticillium rectivorticillatum*, N4Lid  
10.1601/nm.7415, RDPid S000652020, Genbank  
AB184296.

*Streptovorticillium septatum*, N4Lid  
10.1601/nm.7420, RDPid S000652607, Genbank  
AB184883.

*Sulfurospirillum multivorans*, N4Lid  
10.1601/nm.3830, RDPid S000014625, Genbank  
X82931.

*Sutterella wadsworthensis*, N4Lid 10.1601/nm.1769,  
RDPid S000414720, Genbank L37785.

*Syntrophobotulus glycolicus*, N4Lid  
10.1601/nm.4355, RDPid S000381436, Genbank  
X99706.

*Syntrophomonas wolfei saponavida*, N4Lid  
10.1601/nm.4465, RDPid S000712649, Genbank  
DQ666175.

*Syntrophospora bryantii*, N4Lid 10.1601/nm.4495,  
RDPid S000436139, Genbank M26491.

*Telluria chitinolytica*, N4Lid 10.1601/nm.1719,  
RDPid S000005555, Genbank X65590.

*Tenacibaculum ovolyticum*, N4Lid 10.1601/nm.8196,  
RDPid S000382986, Genbank AB032506.

*Thalassobius gelatinovorius*, N4Lid 10.1601/nm.9800,  
RDPid S000414215, Genbank D88523.

*Thermithiobacillus tepidarius*, N4Lid  
10.1601/nm.2205, RDPid S000016954, Genbank  
AJ459801.

*Thermonema lapsus*, N4Lid 10.1601/nm.8329,  
RDPid S000013692, Genbank L11703.

*Thermothrix thiopara*, N4Lid 10.1601/nm.1687,  
RDPid S000363166, Genbank L77876.

*Thermus brockianus*, N4Lid 10.1601/nm.522, RDPid  
S000000644, Genbank Y18409.

*Thiobacillus aquaesulis*, N4Lid 10.1601/nm.1878,  
RDPid S000437890, Genbank U58019.

*Thiobacillus delicatus*, N4Lid 10.1601/nm.1881,  
RDPid S000627949, Genbank AB245481.

*Thiobacillus ferrooxidans*, N4Lid 10.1601/nm.1883, RDPid S000648036, Genbank DQ355183.

*Thiobacillus perometabolis*, N4Lid 10.1601/nm.1889, RDPid S000485440, Genbank AY455808.

*Thiobacillus tepidarius*, N4Lid 10.1601/nm.1891, RDPid S000016954, Genbank AJ459801.

*Thiomonas delicata*, N4Lid 10.1601/nm.9789, RDPid S000627949, Genbank AB245481.

*Thiomonas perometabolis*, N4Lid 10.1601/nm.1863, RDPid S000485440, Genbank AY455808.

*Thiothrix fructosivorans*, N4Lid 10.1601/nm.2284, RDPid S000436025, Genbank L79962.

*Thiothrix unzüi*, N4Lid 10.1601/nm.2285, RDPid S000436024, Genbank L79961.

*Trabulsiella guamensis*, N4Lid 10.1601/nm.3339, RDPid S000358339, Genbank AY373830.

*Treponema pallidum*, N4Lid 10.1601/nm.7858, RDPid S000436877, Genbank M88726.

*Tsakamurella pseudospumae*, N4Lid 10.1601/nm.8896, RDPid S000368345, Genbank AY333425.

*Veillonella parvula rodentium*, N4Lid 10.1601/nm.4448, RDPid S000369361, Genbank AY514996.

*Veillonella rodentium*, N4Lid 10.1601/nm.4458, RDPid S000369361, Genbank AY514996.

*Vibrio albensis*, N4Lid 10.1601/nm.2951, RDPid S000376019, Genbank AB166875.

*Vibrio ichthyoenteri*, N4Lid 10.1601/nm.2976, RDPid S000014057, Genbank AJ421445.

*Vibrio logei*, N4Lid 10.1601/nm.2980, RDPid S000406042, Genbank AY292932.

*Vibrio mytili*, N4Lid 10.1601/nm.2985, RDPid S000129606, Genbank X99761.

*Vibrio penaeicida*, N4Lid 10.1601/nm.2997, RDPid S000003703, Genbank AJ421444.

*Wautersia eutropha*, N4Lid 10.1601/nm.1690, RDPid S000001628, Genbank Y10825.

*Williamsia muralis*, N4Lid 10.1601/nm.6515, RDPid S000577395, Genbank AY986734.

*Xanthomonas translucens*, N4Lid 10.1601/nm.2231, RDPid S000653043, Genbank AY994101.

*Xylella fastidiosa*, N4Lid 10.1601/nm.2267, RDPid S000432068, Genbank AF536770.

*Zymophilus raffinovorans*, N4Lid 10.1601/nm.4460, RDPid S000614426, Genbank DQ217599.

**Appendix 2. Strains for which high quality 16S sequences are not yet publicly available.**

*Acetivibrio ethanolgignens*, N4Lid 10.1601/nm.4058.  
*Acetivibrio multivorans*, N4Lid 10.1601/nm.4059.  
*Acetoanaerobium noterae*, N4Lid 10.1601/nm.5706.  
*Acetobacter acetii liquefaciens*, N4Lid 10.1601/nm.860.  
*Acetobacter acetii xylinus*, N4Lid 10.1601/nm.862.  
*Acetobacter pasteurianus ascendens*, N4Lid 10.1601/nm.879.  
*Acetobacter pasteurianus paradoxus*, N4Lid 10.1601/nm.882.  
*Acetobacter xylinus sucrofermentans*, N4Lid 10.1601/nm.888.  
*Acetofilamentum rigidum*, N4Lid 10.1601/nm.7998.  
*Acetomicrobium faecale*, N4Lid 10.1601/nm.8001.  
*Acetomicrobium flavidum*, N4Lid 10.1601/nm.8000.  
*Acetothermus paucivorans*, N4Lid 10.1601/nm.8003.  
*Acidianus ambivalens*, N4Lid 10.1601/nm.77.  
*Acidianus brierleyi*, N4Lid 10.1601/nm.78.  
*Acidianus infernus*, N4Lid 10.1601/nm.76.  
*Acidilobus aceticus*, N4Lid 10.1601/nm.37.  
*Actinomadura carminata*, N4Lid 10.1601/nm.7577.  
*Actinomadura coeruleoviolacea*, N4Lid 10.1601/nm.7582.  
*Actinomadura cremea rifamycini*, N4Lid 10.1601/nm.7584.  
*Actinomadura malachitica*, N4Lid 10.1601/nm.7605.  
*Actinoplanes friuliensis*, N4Lid 10.1601/nm.6555.  
*Actinoplanes liguriensis*, N4Lid 10.1601/nm.10272.  
*Actinopolyspora iraqiensis*, N4Lid 10.1601/nm.6700.  
*Aegyptianella pullorum*, N4Lid 10.1601/nm.988.  
*Aeromonas caviae*, N4Lid 10.1601/nm.3052.  
*Aeromonas hydrophila anaerogenes*, N4Lid 10.1601/nm.3046.  
*Aeromonas punctata caviae*, N4Lid 10.1601/nm.3062.  
*Aeromonas salmonicida achromogenes*, N4Lid 10.1601/nm.3064.  
*Aeropyrum camini*, N4Lid 10.1601/nm.40.  
*Aeropyrum pernix*, N4Lid 10.1601/nm.39.  
*Agitococcus lubricus*, N4Lid 10.1601/nm.5499.  
*Agrobacterium meteorii*, N4Lid 10.1601/nm.1316.  
*Agrobacterium radiobacter*, N4Lid 10.1601/nm.1317.  
*Agromyces fucosus hippuratus*, N4Lid 10.1601/nm.6085.  
*Agromyces hippuratus*, N4Lid 10.1601/nm.8441.  
*Agromyces rhizosphaerae*, N4Lid 10.1601/nm.6088.  
*Alcaligenes aestus*, N4Lid 10.1601/nm.1723.  
*Alcaligenes faecalis homari*, N4Lid 10.1601/nm.1729.  
*Alcaligenes faecalis phenolicus*, N4Lid 10.1601/nm.9809.  
*Alicyclobacillus acidocaldarius*, N4Lid 10.1601/nm.9175.  
*Amycolatopsis eurytherma*, N4Lid 10.1601/nm.6710.  
*Amycolatopsis keratiniphila*, N4Lid 10.1601/nm.6715.  
*Amycolatopsis keratiniphila keratiniphila*, N4Lid 10.1601/nm.6716.  
*Anabaena sphaerica*, N4Lid 10.1601/nm.733.  
*Anaerobaculum thermoterrenum*, N4Lid 10.1601/nm.4475.  
*Anaeroplasma intermedium*, N4Lid 10.1601/nm.4838.  
*Anaerorhabdus furcosa*, N4Lid 10.1601/nm.8007.  
*Ancalochloris perfilievii*, N4Lid 10.1601/nm.791.  
*Angiococcus disciformis*, N4Lid 10.1601/nm.9089.  
*Angulomicrobium tetraedrale*, N4Lid 10.1601/nm.1533.  
*Aquabacter spiritensis*, N4Lid 10.1601/nm.1535.  
*Aquaspirillum bengal*, N4Lid 10.1601/nm.9068.  
*Aquaspirillum dispar*, N4Lid 10.1601/nm.1944.  
*Aquaspirillum fasciculus*, N4Lid 10.1601/nm.1945.  
*Aquaspirillum peregrinum peregrinum*, N4Lid 10.1601/nm.1952.  
*Aquaspirillum serpens*, N4Lid 10.1601/nm.9063.  
*Aquaspirillum serpens bengal*, N4Lid 10.1601/nm.1938.  
*Aquaspirillum serpens serpens*, N4Lid 10.1601/nm.1937.  
*Archaeoglobus fulgidus*, N4Lid 10.1601/nm.407.  
*Archaeoglobus profundus*, N4Lid 10.1601/nm.408.  
*Archaeoglobus veneficus*, N4Lid 10.1601/nm.409.  
*Arthrobacter creatinolyticus*, N4Lid 10.1601/nm.5847.  
*Arthrobacter picolinophilus*, N4Lid 10.1601/nm.5865.  
*Arthrobacter siderocapsulatus*, N4Lid 10.1601/nm.5873.  
*Arthrobacter simplex*, N4Lid 10.1601/nm.5874.  
*Arthrobacter tumescens*, N4Lid 10.1601/nm.5878.  
*Arthrospira jenneri*, N4Lid 10.1601/nm.683.  
*Azoarcus toluvorans*, N4Lid 10.1601/nm.2029.  
*Azomonas agilis*, N4Lid 10.1601/nm.2710.  
*Azomonas insignis*, N4Lid 10.1601/nm.2711.  
*Azomonas macrocytogenes*, N4Lid 10.1601/nm.2712.

- Azomonotrichon macrocytogenes*, N4Lid 10.1601/nm.9098.
- Azorhizophilus paspali*, N4Lid 10.1601/nm.9100.
- Azotobacter armeniacus*, N4Lid 10.1601/nm.2715.
- Azotobacter macrocytogenes*, N4Lid 10.1601/nm.2717.
- Azotobacter nigricans achromogenes*, N4Lid 10.1601/nm.2719.
- Azotobacter nigricans nigricans*, N4Lid 10.1601/nm.2718.
- Azotobacter paspali*, N4Lid 10.1601/nm.2720.
- Azotobacter salinestrus*, N4Lid 10.1601/nm.2721.
- Bacillus galactophilus*, N4Lid 10.1601/nm.4910.
- Bacillus thermantarcticus*, N4Lid 10.1601/nm.4989.
- Bacillus thermocloacae*, N4Lid 10.1601/nm.4993.
- Bacteroides furcosus*, N4Lid 10.1601/nm.7951.
- Bacteroides pentosaceus*, N4Lid 10.1601/nm.7975.
- Bacteroides polypragmatus*, N4Lid 10.1601/nm.7977.
- Bacteroides ruminicola ruminicola*, N4Lid 10.1601/nm.7981.
- Bacteroides salivosus*, N4Lid 10.1601/nm.7983.
- Bartonella peromysci*, N4Lid 10.1601/nm.1370.
- Bartonella talpae*, N4Lid 10.1601/nm.1373.
- Bartonella vinsonii arupensis*, N4Lid 10.1601/nm.1377.
- Beijerinckia fluminensis*, N4Lid 10.1601/nm.1448.
- Bifidobacterium infantis*, N4Lid 10.1601/nm.7695.
- Bifidobacterium suis*, N4Lid 10.1601/nm.7711.
- Bifidobacterium thermacidophilum thermacidophilum*, N4Lid 10.1601/nm.7712.
- Blastobacter henricii*, N4Lid 10.1601/nm.1473.
- Blattabacterium cuenoti*, N4Lid 10.1601/nm.8210.
- Bogoriella caseilytica*, N4Lid 10.1601/nm.5910.
- Borrelia baltazardii*, N4Lid 10.1601/nm.7816.
- Borrelia brasiliensis*, N4Lid 10.1601/nm.7817.
- Borrelia caucasica*, N4Lid 10.1601/nm.7819.
- Borrelia dugesii*, N4Lid 10.1601/nm.7822.
- Borrelia graingeri*, N4Lid 10.1601/nm.7825.
- Borrelia harveyi*, N4Lid 10.1601/nm.7826.
- Borrelia latyschewii*, N4Lid 10.1601/nm.7830.
- Borrelia mazzottii*, N4Lid 10.1601/nm.7832.
- Borrelia theileri*, N4Lid 10.1601/nm.7839.
- Borrelia tillae*, N4Lid 10.1601/nm.7840.
- Borrelia venezuelensis*, N4Lid 10.1601/nm.7844.
- Borzia sp.*, N4Lid 10.1601/nm.687.
- Brevibacterium divaricatum*, N4Lid 10.1601/nm.5929.
- Brevibacterium fermentans*, N4Lid 10.1601/nm.5931.
- Brevibacterium frigoritolerans*, N4Lid 10.1601/nm.5932.
- Brevibacterium lyticum*, N4Lid 10.1601/nm.5940.
- Brucella canis*, N4Lid 10.1601/nm.1383.
- Brucella neotomae*, N4Lid 10.1601/nm.1384.
- Brucella ovis*, N4Lid 10.1601/nm.1385.
- Burkholderia cocovenenans*, N4Lid 10.1601/nm.1628.
- Burkholderia dolosa*, N4Lid 10.1601/nm.8526.
- Caedibacter paraconjugatus*, N4Lid 10.1601/nm.1020.
- Caedibacter pseudomutans*, N4Lid 10.1601/nm.1021.
- Caedibacter varicaedens*, N4Lid 10.1601/nm.1022.
- Caldisphaera lagunensis*, N4Lid 10.1601/nm.29.
- Caldivirga maquilingensis*, N4Lid 10.1601/nm.11.
- Calothrix*, N4Lid 10.1601/nm.757.
- Campylobacter hyoilei*, N4Lid 10.1601/nm.3799.
- Campylobacter sputorum bubulus*, N4Lid 10.1601/nm.3814.
- Carbophilus carboxidus*, N4Lid 10.1601/nm.1325.
- Carboxydotherrmus hydrogenoformans*, N4Lid 10.1601/nm.4314.
- Carnobacterium inhibens*, N4Lid 10.1601/nm.5493.
- Catellatospora ferruginea*, N4Lid 10.1601/nm.6572.
- Catenococcus thiocycli*, N4Lid 10.1601/nm.3019.
- Catenuloplanes castaneus*, N4Lid 10.1601/nm.6579.
- Catenuloplanes nepalensis*, N4Lid 10.1601/nm.6582.
- Catenuloplanes niger*, N4Lid 10.1601/nm.6583.
- Caulobacter crescentus*, N4Lid 10.1601/nm.1253.
- Cedecea lapagei*, N4Lid 10.1601/nm.3128.
- Cellulomonas cartae*, N4Lid 10.1601/nm.5955.
- Cellvibrio mixtus dextranolyticus*, N4Lid 10.1601/nm.2725.
- Chamaesiphon minutus*, N4Lid 10.1601/nm.629.
- Chamaesiphon subglobosus*, N4Lid 10.1601/nm.630.
- Chelatobacter heintzii*, N4Lid 10.1601/nm.1327.
- Chimaereicella alkaliphila*, N4Lid 10.1601/nm.10069.
- Chlorobaculum chlorovibrioides*, N4Lid 10.1601/nm.794.
- Chlorobium chlorovibrioides*, N4Lid 10.1601/nm.784.
- Chondromyces catenulatus*, N4Lid 10.1601/nm.3752.
- Chromatium glycolicum*, N4Lid 10.1601/nm.2074.
- Chromatium gracile*, N4Lid 10.1601/nm.2075.
- Chromatium weissei*, N4Lid 10.1601/nm.2084.

- Chromohalobacter salexigens*, N4Lid 10.1601/nm.2530.
- Chroococcidiopsis*, N4Lid 10.1601/nm.673.
- Chroococcus sp.*, N4Lid 10.1601/nm.632.
- Chryseobacterium miricola*, N4Lid 10.1601/nm.8155.
- Chryseomonas polytricha*, N4Lid 10.1601/nm.2733.
- Citrobacter diversus*, N4Lid 10.1601/nm.3134.
- Citrobacter youngae*, N4Lid 10.1601/nm.3142.
- Clavibacter michiganensis insidiosum*, N4Lid 10.1601/nm.6106.
- Clavibacter michiganensis sepedonicus*, N4Lid 10.1601/nm.6108.
- Clevelandina reticulitermitidis*, N4Lid 10.1601/nm.7848.
- Clostridium arcticum*, N4Lid 10.1601/nm.3893.
- Clostridium cellulofermentans*, N4Lid 10.1601/nm.3910.
- Clostridium estertheticum*, N4Lid 10.1601/nm.9229.
- Clostridium hastiforme*, N4Lid 10.1601/nm.3943.
- Clostridium lentoputrescens*, N4Lid 10.1601/nm.3963.
- Clostridium paraperfringens*, N4Lid 10.1601/nm.3985.
- Clostridium perenne*, N4Lid 10.1601/nm.3990.
- Clostridium putrificum*, N4Lid 10.1601/nm.4004.
- Clostridium thermopapyrolyticum*, N4Lid 10.1601/nm.4042.
- Colwellia hadaliensis*, N4Lid 10.1601/nm.2837.
- Coprococcus comes*, N4Lid 10.1601/nm.4140.
- Corallococcus macrosporus*, N4Lid 10.1601/nm.3731.
- Corynebacterium afermentans lipophilum*, N4Lid 10.1601/nm.6192.
- Corynebacterium betae*, N4Lid 10.1601/nm.6202.
- Corynebacterium beticola*, N4Lid 10.1601/nm.6203.
- Corynebacterium flaccumfaciens betae*, N4Lid 10.1601/nm.6219.
- Corynebacterium flaccumfaciens oortii*, N4Lid 10.1601/nm.6220.
- Corynebacterium flaccumfaciens poinsettiae*, N4Lid 10.1601/nm.6221.
- Corynebacterium hoagii*, N4Lid 10.1601/nm.6227.
- Corynebacterium insidiosum*, N4Lid 10.1601/nm.6230.
- Corynebacterium lilium*, N4Lid 10.1601/nm.6235.
- Corynebacterium michiganense insidiosum*, N4Lid 10.1601/nm.6241.
- Corynebacterium michiganense sepedonicum*, N4Lid 10.1601/nm.6243.
- Corynebacterium mooreparkense*, N4Lid 10.1601/nm.6246.
- Corynebacterium oortii*, N4Lid 10.1601/nm.6251.
- Corynebacterium poinsettiae*, N4Lid 10.1601/nm.6255.
- Corynebacterium seminale*, N4Lid 10.1601/nm.6263.
- Corynebacterium sepedonicum*, N4Lid 10.1601/nm.6264.
- Couchioplanes caeruleus azureus*, N4Lid 10.1601/nm.6586.
- Crinalium epipsammum*, N4Lid 10.1601/nm.689.
- Cristispira pectinis*, N4Lid 10.1601/nm.7850.
- Cupriavidus oxalaticus*, N4Lid 10.1601/nm.8561.
- Curtobacterium plantarum*, N4Lid 10.1601/nm.6124.
- Curtobacterium saperdae*, N4Lid 10.1601/nm.6126.
- Curtobacterium testaceum*, N4Lid 10.1601/nm.6127.
- Cyanobacterium sp.*, N4Lid 10.1601/nm.634.
- Cyanocystis sp.*, N4Lid 10.1601/nm.664.
- Cyanospira sp.*, N4Lid 10.1601/nm.739.
- Cyanothece sp.*, N4Lid 10.1601/nm.639.
- Cylindrospermum majus*, N4Lid 10.1601/nm.743.
- Cystobacter armeniaca*, N4Lid 10.1601/nm.3695.
- Cystobacter badius*, N4Lid 10.1601/nm.3696.
- Cystobacter disciformis*, N4Lid 10.1601/nm.3697.
- Cystobacter gracilis*, N4Lid 10.1601/nm.3699.
- Cystobacter miniatus*, N4Lid 10.1601/nm.3700.
- Cystobacter minor*, N4Lid 10.1601/nm.3701.
- Cystobacter velatus*, N4Lid 10.1601/nm.3702.
- Cytophaga agarovorans*, N4Lid 10.1601/nm.8272.
- Cytophaga columnaris*, N4Lid 10.1601/nm.8277.
- Cytophaga psychrophila*, N4Lid 10.1601/nm.8288.
- Cytophaga xylanolytica*, N4Lid 10.1601/nm.8293.
- Dactylococcopsis (Myxobaktron) salina*, N4Lid 10.1601/nm.641.
- Dechlorosoma suillum*, N4Lid 10.1601/nm.2039.
- Deinococcus erythromyxa*, N4Lid 10.1601/nm.509.
- Deleya aesta*, N4Lid 10.1601/nm.2534.
- Desulfobacter giganteus*, N4Lid 10.1601/nm.3543.
- Desulfobacterium niacini*, N4Lid 10.1601/nm.3557.
- Desulfosarcina ovata*, N4Lid 10.1601/nm.3588.
- Desulfotomaculum antarctica*, N4Lid 10.1601/nm.4334.
- Desulfotomaculum antarcticum*, N4Lid 10.1601/nm.9147.
- Desulfovibrio cuneatus*, N4Lid 10.1601/nm.3480.
- Desulfovibrio desulfuricans aestuarii*, N4Lid 10.1601/nm.3470.

- Desulfovibrio fructosivorans*, N4Lid 10.1601/nm.3482.
- Desulfovibrio furfuralis*, N4Lid 10.1601/nm.3483.
- Desulfovibrio litoralis*, N4Lid 10.1601/nm.3492.
- Desulfovibrio oxyclinae*, N4Lid 10.1601/nm.3497.
- Desulfovibrio simplex*, N4Lid 10.1601/nm.3503.
- Desulfovirga adipica*, N4Lid 10.1601/nm.3662.
- Desulfurococcus amylolyticus*, N4Lid 10.1601/nm.34.
- Desulfurococcus fermentans*, N4Lid 10.1601/nm.9405.
- Desulfurococcus mobilis*, N4Lid 10.1601/nm.35.
- Desulfurococcus mucosus*, N4Lid 10.1601/nm.33.
- Desulfurolobus ambivalens*, N4Lid 10.1601/nm.9145.
- Dichotomicrobium thermohalophilum*, N4Lid 10.1601/nm.1545.
- Dictyoglomus turgidum*, N4Lid 10.1601/nm.8425.
- Diplocalyx calotermütidis*, N4Lid 10.1601/nm.7852.
- Dyadobacter hamtensis*, N4Lid 10.1601/nm.9634.
- Ectothiorhodospira abdelmalekii*, N4Lid 10.1601/nm.2157.
- Ectothiorhodospira haloalkaliphila*, N4Lid 10.1601/nm.2158.
- Ectothiorhodospira vacuolata*, N4Lid 10.1601/nm.2164.
- Ehrlichia equi*, N4Lid 10.1601/nm.994.
- Elizabethkingia miricola*, N4Lid 10.1601/nm.9278.
- Enterobacter cloacae cloacae*, N4Lid 10.1601/nm.9002.
- Enterobacter ludwigii*, N4Lid 10.1601/nm.9683.
- Enterobacter taylorae*, N4Lid 10.1601/nm.3164.
- Enterovibrio norvegicus*, N4Lid 10.1601/nm.3021.
- Eperythrozoon ovis*, N4Lid 10.1601/nm.4737.
- Eperythrozoon parvum*, N4Lid 10.1601/nm.4738.
- Erwinia aphidicola*, N4Lid 10.1601/nm.3169.
- Erwinia carnegieana*, N4Lid 10.1601/nm.3173.
- Erwinia carotovora atroseptica*, N4Lid 10.1601/nm.3175.
- Erwinia milletiae*, N4Lid 10.1601/nm.3184.
- Erythrobacter citreus*, N4Lid 10.1601/nm.1209.
- Escherichia blattae*, N4Lid 10.1601/nm.3096.
- Eubacterium coprostanoligenes*, N4Lid 10.1601/nm.4243.
- Eubacterium fissicatena*, N4Lid 10.1601/nm.4249.
- Eubacterium hadrum*, N4Lid 10.1601/nm.4252.
- Eubacterium saburreum*, N4Lid 10.1601/nm.4268.
- Eubacterium tardum*, N4Lid 10.1601/nm.4274.
- Eubacterium yurii yurii*, N4Lid 10.1601/nm.4281.
- Exiguobacterium artemiae*, N4Lid 10.1601/nm.10192.
- Falcivibrio grandis*, N4Lid 10.1601/nm.7718.
- Falcivibrio vaginalis*, N4Lid 10.1601/nm.7719.
- Ferroglobus placidus*, N4Lid 10.1601/nm.411.
- Ferroplasma acidiphilum*, N4Lid 10.1601/nm.370.
- Fervidobacterium pennivorans*, N4Lid 10.1601/nm.473.
- Fibrobacter succinogenes elongatus*, N4Lid 10.1601/nm.7915.
- Fischerella thermalis*, N4Lid 10.1601/nm.768.
- Flavobacterium acidificum*, N4Lid 10.1601/nm.8073.
- Flavobacterium acidurans*, N4Lid 10.1601/nm.8074.
- Flavobacterium devorans*, N4Lid 10.1601/nm.8080.
- Flavobacterium gillisiae*, N4Lid 10.1601/nm.8088.
- Flavobacterium oceanosedimentum*, N4Lid 10.1601/nm.8104.
- Flavobacterium resinovorum*, N4Lid 10.1601/nm.8110.
- Flavobacterium suncheonense*, N4Lid 10.1601/nm.10178.
- Flavobacterium tegetincola*, N4Lid 10.1601/nm.8116.
- Flavobacterium thermophilum*, N4Lid 10.1601/nm.8118.
- Flavobacterium yabuuchiae*, N4Lid 10.1601/nm.8122.
- Flexibacter aurantiacus*, N4Lid 10.1601/nm.8251.
- Flexibacter psychrophilus*, N4Lid 10.1601/nm.8261.
- Frankia alni*, N4Lid 10.1601/nm.7636.
- Fundibacter jadensis*, N4Lid 10.1601/nm.2486.
- Fusobacterium necrophorum funduliforme*, N4Lid 10.1601/nm.8360.
- Fusobacterium pseudonecrophorum*, N4Lid 10.1601/nm.8366.
- Geitleria*, N4Lid 10.1601/nm.770.
- Geitlerinema*, N4Lid 10.1601/nm.691.
- Gemella cuniculi*, N4Lid 10.1601/nm.5285.
- Gemmiger formicilis*, N4Lid 10.1601/nm.1549.
- Gemmobacter aquatilis*, N4Lid 10.1601/nm.1059.
- Geoglobus ahangari*, N4Lid 10.1601/nm.413.
- Gloeobacter violaceus*, N4Lid 10.1601/nm.643.
- Gloeocapsa*, N4Lid 10.1601/nm.645.
- Gloeotheca*, N4Lid 10.1601/nm.647.
- Gluconobacter oxydans industrius*, N4Lid 10.1601/nm.924.
- Gluconobacter oxydans melanogenes*, N4Lid 10.1601/nm.925.
- Gluconobacter oxydans sphaericus*, N4Lid 10.1601/nm.926.

- Gluconobacter oxydans suboxydans*, N4Lid 10.1601/nm.927.
- Grahamella peromysci*, N4Lid 10.1601/nm.9126.
- Grahamella talpae*, N4Lid 10.1601/nm.9127.
- Haloarcula argentinensis*, N4Lid 10.1601/nm.288.
- Haloarcula hispanica*, N4Lid 10.1601/nm.289.
- Haloarcula japonica*, N4Lid 10.1601/nm.290.
- Haloarcula marismortui*, N4Lid 10.1601/nm.291.
- Haloarcula mukohataei*, N4Lid 10.1601/nm.292.
- Haloarcula quadrata*, N4Lid 10.1601/nm.293.
- Haloarcula vallismortis*, N4Lid 10.1601/nm.287.
- Halobacterium cutirubrum*, N4Lid 10.1601/nm.274.
- Halobacterium denitrificans*, N4Lid 10.1601/nm.275.
- Halobacterium distributum*, N4Lid 10.1601/nm.276.
- Halobacterium halobium*, N4Lid 10.1601/nm.277.
- Halobacterium lacusprofundi*, N4Lid 10.1601/nm.278.
- Halobacterium mediterranei*, N4Lid 10.1601/nm.279.
- Halobacterium noricense*, N4Lid 10.1601/nm.9396.
- Halobacterium pharaonis*, N4Lid 10.1601/nm.280.
- Halobacterium saccharovororum*, N4Lid 10.1601/nm.281.
- Halobacterium salinarum*, N4Lid 10.1601/nm.273.
- Halobacterium sodomense*, N4Lid 10.1601/nm.282.
- Halobacterium trapanicum*, N4Lid 10.1601/nm.283.
- Halobacterium vallismortis*, N4Lid 10.1601/nm.284.
- Halobacterium volcanii*, N4Lid 10.1601/nm.285.
- Halobaculum gomorense*, N4Lid 10.1601/nm.295.
- Halobiforma haloterrestriis*, N4Lid 10.1601/nm.297.
- Halobiforma lacisalsi*, N4Lid 10.1601/nm.9565.
- Halobiforma nitratireducens*, N4Lid 10.1601/nm.298.
- Halocella cellulositytica*, N4Lid 10.1601/nm.4584.
- Halochromatium glycolicum*, N4Lid 10.1601/nm.2096.
- Halococcus dombrowskii*, N4Lid 10.1601/nm.301.
- Halococcus hamelinensis*, N4Lid 10.1601/nm.10084.
- Halococcus morrhuae*, N4Lid 10.1601/nm.300.
- Halococcus saccharolyticus*, N4Lid 10.1601/nm.302.
- Halococcus salifodinae*, N4Lid 10.1601/nm.303.
- Halococcus turkmenicus*, N4Lid 10.1601/nm.304.
- Haloferax alexandrinus*, N4Lid 10.1601/nm.307.
- Haloferax denitrificans*, N4Lid 10.1601/nm.308.
- Haloferax gibbonsii*, N4Lid 10.1601/nm.309.
- Haloferax lucentense*, N4Lid 10.1601/nm.310.
- Haloferax mediterranei*, N4Lid 10.1601/nm.311.
- Haloferax sulfurifontis*, N4Lid 10.1601/nm.8603.
- Haloferax volcanii*, N4Lid 10.1601/nm.306.
- Halogeometricum borinquense*, N4Lid 10.1601/nm.313.
- Halomicrobium mukohataei*, N4Lid 10.1601/nm.315.
- Halomonas magadiensis*, N4Lid 10.1601/nm.2510.
- Halorhabdus utahensis*, N4Lid 10.1601/nm.317.
- Halorhodospira abdelmalekii*, N4Lid 10.1601/nm.2173.
- Halorubrobacterium coriense*, N4Lid 10.1601/nm.9194.
- Halorubrobacterium distributum*, N4Lid 10.1601/nm.9193.
- Halorubrobacterium lacusprofundi*, N4Lid 10.1601/nm.9191.
- Halorubrobacterium saccharovororum*, N4Lid 10.1601/nm.9190.
- Halorubrobacterium sodomense*, N4Lid 10.1601/nm.9192.
- Halorubrum aidingense*, N4Lid 10.1601/nm.10140.
- Halorubrum alkaliphilum*, N4Lid 10.1601/nm.8609.
- Halorubrum coriense*, N4Lid 10.1601/nm.320.
- Halorubrum distributum*, N4Lid 10.1601/nm.321.
- Halorubrum ezzemoulense*, N4Lid 10.1601/nm.10138.
- Halorubrum lacusprofundi*, N4Lid 10.1601/nm.322.
- Halorubrum lipolyticum*, N4Lid 10.1601/nm.10139.
- Halorubrum saccharovororum*, N4Lid 10.1601/nm.319.
- Halorubrum sodomense*, N4Lid 10.1601/nm.323.
- Halorubrum tebenquichense*, N4Lid 10.1601/nm.324.
- Halorubrum terrestre*, N4Lid 10.1601/nm.325.
- Halorubrum tibetense*, N4Lid 10.1601/nm.8610.
- Halorubrum trapanicum*, N4Lid 10.1601/nm.326.
- Halorubrum vacuolatum*, N4Lid 10.1601/nm.327.
- Halorubrum xinjiangense*, N4Lid 10.1601/nm.8611.
- Halosimplex carlsbadense*, N4Lid 10.1601/nm.329.
- Haloterrigena limicola*, N4Lid 10.1601/nm.10205.
- Haloterrigena longa*, N4Lid 10.1601/nm.10204.
- Haloterrigena saccharevitans*, N4Lid 10.1601/nm.9694.
- Haloterrigena thermotolerans*, N4Lid 10.1601/nm.332.
- Haloterrigena turkmenica*, N4Lid 10.1601/nm.331.
- Haploangium minus*, N4Lid 10.1601/nm.3758.
- Haploangium rugiseptum*, N4Lid 10.1601/nm.3757.
- Helicobacter nemestrinae*, N4Lid 10.1601/nm.3849.

- Heliothrix oregonensis*, N4Lid 10.1601/nm.559.  
*Hollandina pterotermitidis*, N4Lid 10.1601/nm.7854.  
*Holospora caryophila*, N4Lid 10.1601/nm.1014.  
*Holospora elegans*, N4Lid 10.1601/nm.1015.  
*Holospora undulata*, N4Lid 10.1601/nm.1013.  
*Hyalangium minutum*, N4Lid 10.1601/nm.3709.  
*Hydrogenothermus marinus*, N4Lid 10.1601/nm.436.  
*Hyperthermus butylicus*, N4Lid 10.1601/nm.61.  
*Hyphomicrobium coagulans*, N4Lid 10.1601/nm.1516.  
*Ignicoccus islandicus*, N4Lid 10.1601/nm.42.  
*Ignicoccus pacificus*, N4Lid 10.1601/nm.43.  
*Ilyobacter delafieldii*, N4Lid 10.1601/nm.8374.  
*Iyengariella sp.*, N4Lid 10.1601/nm.772.  
*Jahnia thaxteri*, N4Lid 10.1601/nm.3760.  
*Kineosporia mikuniensis*, N4Lid 10.1601/nm.7657.  
*Klebsiella trevisanii*, N4Lid 10.1601/nm.3214.  
*Kocuria erythromyxa*, N4Lid 10.1601/nm.5888.  
*Kofleria flava*, N4Lid 10.1601/nm.3782.  
*Koserella trabulsii*, N4Lid 10.1601/nm.9133.  
*Kutzneria albida*, N4Lid 10.1601/nm.6740.  
*Lachnospira multipara*, N4Lid 10.1601/nm.4120.  
*Lactobacillus aviarius araffinosus*, N4Lid 10.1601/nm.5336.  
*Lactobacillus bavaricus*, N4Lid 10.1601/nm.5337.  
*Lactobacillus carnis*, N4Lid 10.1601/nm.5342.  
*Lactobacillus cellobiosus*, N4Lid 10.1601/nm.5349.  
*Lactobacillus coryniformis torquens*, N4Lid 10.1601/nm.5354.  
*Lactobacillus diolivorans*, N4Lid 10.1601/nm.5359.  
*Lactobacillus heterohiochii*, N4Lid 10.1601/nm.5377.  
*Lactobacillus leichmannii*, N4Lid 10.1601/nm.5395.  
*Lactobacillus maltaromicus*, N4Lid 10.1601/nm.5399.  
*Lactobacillus rogosae*, N4Lid 10.1601/nm.5426.  
*Lactobacillus trichodes*, N4Lid 10.1601/nm.5436.  
*Lactobacillus xylosus*, N4Lid 10.1601/nm.5443.  
*Lactobacillus yamanashiensis mali*, N4Lid 10.1601/nm.5445.  
*Lactobacillus yamanashiensis yamanashiensis*, N4Lid 10.1601/nm.5444.  
*Lamprobacter modestohalophilus*, N4Lid 10.1601/nm.2100.  
*Lautropia mirabilis*, N4Lid 10.1601/nm.1658.  
*Leeuwenhoekiiella aequorea*, N4Lid 10.1601/nm.9455.  
*Legionella drozanskii*, N4Lid 10.1601/nm.2351.  
*Legionella fallonii*, N4Lid 10.1601/nm.2354.  
*Legionella pneumophila fraseri*, N4Lid 10.1601/nm.2339.  
*Legionella rowbothamii*, N4Lid 10.1601/nm.2377.  
*Leminorella richardii*, N4Lid 10.1601/nm.3224.  
*Leptolyngbya*, N4Lid 10.1601/nm.695.  
*Leptospira alexanderi*, N4Lid 10.1601/nm.7895.  
*Leptospirillum thermoferrooxidans*, N4Lid 10.1601/nm.598.  
*Leptothrix lopholea*, N4Lid 10.1601/nm.1847.  
*Leptothrix ochracea*, N4Lid 10.1601/nm.1844.  
*Leptotrichia wadei*, N4Lid 10.1601/nm.8383.  
*Leuconostoc amelibiosum*, N4Lid 10.1601/nm.5573.  
*Leuconostoc dextranicum*, N4Lid 10.1601/nm.5578.  
*Leuconostoc mesenteroides dextranicum*, N4Lid 10.1601/nm.5572.  
*Liberibacter africanus africanus*, N4Lid 10.1601/nm.1412.  
*Liberibacter africanus capensis*, N4Lid 10.1601/nm.1413.  
*Limnothrix sp.*, N4Lid 10.1601/nm.697.  
*Listeria ivanovii londoniensis*, N4Lid 10.1601/nm.5101.  
*Listeria murrayi*, N4Lid 10.1601/nm.5102.  
*Lyngbya confervoides*, N4Lid 10.1601/nm.699.  
*Lysobacter enzymogenes cookii*, N4Lid 10.1601/nm.2242.  
*Lysobacter enzymogenes enzymogenes*, N4Lid 10.1601/nm.2241.  
*Lysobacter yangpyeongensis*, N4Lid 10.1601/nm.10041.  
*Lyticum flagellatum*, N4Lid 10.1601/nm.1024.  
*Lyticum sinuosum*, N4Lid 10.1601/nm.1025.  
*Macrococcus brunensis*, N4Lid 10.1601/nm.5296.  
*Macromonas mobilis*, N4Lid 10.1601/nm.1818.  
*Marichromatium gracile*, N4Lid 10.1601/nm.2105.  
*Marinilabilia agarovorans*, N4Lid 10.1601/nm.8018.  
*Melittangium alboraceum*, N4Lid 10.1601/nm.3712.  
*Meniscus glaucopsis*, N4Lid 10.1601/nm.8309.  
*Mesophilobacter marinus*, N4Lid 10.1601/nm.2738.  
*Mesoplasma coleopterae*, N4Lid 10.1601/nm.4765.  
*Metallosphaera hakonensis*, N4Lid 10.1601/nm.81.  
*Metallosphaera prunae*, N4Lid 10.1601/nm.82.  
*Metallosphaera sedula*, N4Lid 10.1601/nm.80.  
*Methanimicrococcus blatticola*, N4Lid 10.1601/nm.261.  
*Methanobacterium aarhusense*, N4Lid 10.1601/nm.8695.

- Methanobacterium alcaliphilum*, N4Lid 10.1601/nm.96.
- Methanobacterium arbophilicum*, N4Lid 10.1601/nm.97.
- Methanobacterium beijingense*, N4Lid 10.1601/nm.8696.
- Methanobacterium bryantii*, N4Lid 10.1601/nm.98.
- Methanobacterium congolense*, N4Lid 10.1601/nm.99.
- Methanobacterium defluvii*, N4Lid 10.1601/nm.100.
- Methanobacterium espanolae*, N4Lid 10.1601/nm.101.
- Methanobacterium formicicum*, N4Lid 10.1601/nm.95.
- Methanobacterium ivanovii*, N4Lid 10.1601/nm.102.
- Methanobacterium mobile*, N4Lid 10.1601/nm.103.
- Methanobacterium oryzae*, N4Lid 10.1601/nm.104.
- Methanobacterium palustre*, N4Lid 10.1601/nm.105.
- Methanobacterium ruminantium*, N4Lid 10.1601/nm.106.
- Methanobacterium subterraneum*, N4Lid 10.1601/nm.107.
- Methanobacterium thermaggregans*, N4Lid 10.1601/nm.108.
- Methanobacterium thermalcaliphilum*, N4Lid 10.1601/nm.109.
- Methanobacterium thermautotrophicum*, N4Lid 10.1601/nm.110.
- Methanobacterium thermoflexum*, N4Lid 10.1601/nm.111.
- Methanobacterium thermoformicicum*, N4Lid 10.1601/nm.112.
- Methanobacterium thermophilum*, N4Lid 10.1601/nm.113.
- Methanobacterium uliginosum*, N4Lid 10.1601/nm.114.
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- Methanobrevibacter acididurans*, N4Lid 10.1601/nm.119.
- Methanobrevibacter arboriphilus*, N4Lid 10.1601/nm.118.
- Methanobrevibacter curvatus*, N4Lid 10.1601/nm.120.
- Methanobrevibacter cuticularis*, N4Lid 10.1601/nm.121.
- Methanobrevibacter filiformis*, N4Lid 10.1601/nm.122.
- Methanobrevibacter gottschalkii*, N4Lid 10.1601/nm.123.
- Methanobrevibacter oralis*, N4Lid 10.1601/nm.124.
- Methanobrevibacter ruminantium*, N4Lid 10.1601/nm.117.
- Methanobrevibacter smithii*, N4Lid 10.1601/nm.125.
- Methanobrevibacter thaueri*, N4Lid 10.1601/nm.126.
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- Methanocalculus chunghsingensis*, N4Lid 10.1601/nm.223.
- Methanocalculus halotolerans*, N4Lid 10.1601/nm.222.
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- Methanocaldococcus fervens*, N4Lid 10.1601/nm.165.
- Methanocaldococcus indicus*, N4Lid 10.1601/nm.166.
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- Methanococcoides burtonii*, N4Lid 10.1601/nm.242.
- Methanococcoides methylutens*, N4Lid 10.1601/nm.241.
- Methanococcus aeolicus*, N4Lid 10.1601/nm.10137.
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- Methanococcus jannaschii*, N4Lid 10.1601/nm.154.
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- Methanococcus thermolithotrophicus*, N4Lid 10.1601/nm.157.
- Methanococcus vannieli*, N4Lid 10.1601/nm.147.
- Methanococcus voltae*, N4Lid 10.1601/nm.158.
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- Methanocorpusculum aggregans*, N4Lid 10.1601/nm.213.
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- Methanocorpusculum parvum*, N4Lid 10.1601/nm.212.
- Methanocorpusculum sinense*, N4Lid 10.1601/nm.216.
- Methanoculleus bourgensis*, N4Lid 10.1601/nm.179.
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- Methanoculleus marisnigri*, N4Lid 10.1601/nm.181.
- Methanoculleus oldenburgensis*, N4Lid 10.1601/nm.182.
- Methanoculleus olentangyi*, N4Lid 10.1601/nm.183.
- Methanoculleus palmolei*, N4Lid 10.1601/nm.184.
- Methanoculleus submarinus*, N4Lid 10.1601/nm.185.
- Methanoculleus thermophilus*, N4Lid 10.1601/nm.186.
- Methanofollis aquaemaris*, N4Lid 10.1601/nm.189.
- Methanofollis formosanus*, N4Lid 10.1601/nm.9303.
- Methanofollis liminatans*, N4Lid 10.1601/nm.190.
- Methanofollis tationis*, N4Lid 10.1601/nm.188.
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*Spiroplasma atrichopogonis*, N4Lid 10.1601/nm.8855.  
*Spiroplasma cantharicola*, N4Lid 10.1601/nm.4780.  
*Spiroplasma lineolae*, N4Lid 10.1601/nm.4796.  
*Spiroplasma platyhelix*, N4Lid 10.1601/nm.4803.  
*Spiroplasma tabanidicola*, N4Lid 10.1601/nm.4807.  
*Spirulina major*, N4Lid 10.1601/nm.718.  
*Sporolactobacillus lactosus*, N4Lid 10.1601/nm.5221.  
*Stanieria*, N4Lid 10.1601/nm.668.  
*Staphylococcus aureus anaerobius*, N4Lid 10.1601/nm.5232.  
*Staphylococcus capitis urealyticus*, N4Lid 10.1601/nm.5236.  
*Staphylococcus carnosus utilis*, N4Lid 10.1601/nm.5239.  
*Staphylococcus cohnii urealyticus*, N4Lid 10.1601/nm.5243.  
*Staphylococcus fleurettii*, N4Lid 10.1601/nm.5250.  
*Staphylococcus hominis novobiosepticus*, N4Lid 10.1601/nm.5254.  
*Staphylococcus lutrae*, N4Lid 10.1601/nm.5261.  
*Staphylococcus saprophyticus bovis*, N4Lid 10.1601/nm.5269.  
*Staphylococcus schleiferi coagulans*, N4Lid 10.1601/nm.5271.  
*Staphylococcus sciuri carnaticus*, N4Lid 10.1601/nm.5273.  
*Staphylococcus sciuri rodentium*, N4Lid 10.1601/nm.5275.  
*Staphylococcus succinus*, N4Lid 10.1601/nm.5277.  
*Staphylococcus succinus casei*, N4Lid 10.1601/nm.5279.  
*Staphylothermus hellenicus*, N4Lid 10.1601/nm.46.  
*Staphylothermus marinus*, N4Lid 10.1601/nm.45.  
*Starria zimbabweensis*, N4Lid 10.1601/nm.720.  
*Stenotrophomonas africana*, N4Lid 10.1601/nm.2258.  
*Stetteria hydrogenophila*, N4Lid 10.1601/nm.48.  
*Stigmatella hybrida*, N4Lid 10.1601/nm.3717.  
*Stigonema minutum*, N4Lid 10.1601/nm.776.  
*Streptococcus caprinus*, N4Lid 10.1601/nm.5615.

- Streptococcus gallolyticus macedonicus*, N4Lid 10.1601/nm.5641.  
*Streptococcus gallolyticus pasteurianus*, N4Lid 10.1601/nm.5642.  
*Streptococcus hyovaginalis*, N4Lid 10.1601/nm.5647.  
*Streptococcus lactis diacetilactis*, N4Lid 10.1601/nm.5656.  
*Streptococcus pasteurianus*, N4Lid 10.1601/nm.5671.  
*Streptococcus salivarius salivarius*, N4Lid 10.1601/nm.5682.  
*Streptococcus shiloi*, N4Lid 10.1601/nm.5685.  
*Streptomyces albosporeus albosporeus*, N4Lid 10.1601/nm.6840.  
*Streptomyces aminophilus*, N4Lid 10.1601/nm.6850.  
*Streptomyces arabis*, N4Lid 10.1601/nm.6856.  
*Streptomyces baldaccii*, N4Lid 10.1601/nm.6884.  
*Streptomyces biverticillatus*, N4Lid 10.1601/nm.6889.  
*Streptomyces cellulolyticus*, N4Lid 10.1601/nm.6918.  
*Streptomyces chibaensis*, N4Lid 10.1601/nm.6923.  
*Streptomyces chrysomallus chrysomallus*, N4Lid 10.1601/nm.6927.  
*Streptomyces cinnamoneus cinnamoneus*, N4Lid 10.1601/nm.6937.  
*Streptomyces citreofluorescens*, N4Lid 10.1601/nm.6943.  
*Streptomyces coeruleoflavus*, N4Lid 10.1601/nm.6950.  
*Streptomyces curacoi*, N4Lid 10.1601/nm.6961.  
*Streptomyces daghestanicus*, N4Lid 10.1601/nm.6967.  
*Streptomyces distallicus*, N4Lid 10.1601/nm.6971.  
*Streptomyces echinoruber*, N4Lid 10.1601/nm.6975.  
*Streptomyces fervens fervens*, N4Lid 10.1601/nm.6988.  
*Streptomyces fervens melrosporus*, N4Lid 10.1601/nm.6989.  
*Streptomyces flavopersicus*, N4Lid 10.1601/nm.7003.  
*Streptomyces fluorescens*, N4Lid 10.1601/nm.7010.  
*Streptomyces griseus alpha*, N4Lid 10.1601/nm.7061.  
*Streptomyces griseus cretosus*, N4Lid 10.1601/nm.7062.  
*Streptomyces griseus solvifaciens*, N4Lid 10.1601/nm.7063.  
*Streptomyces hydrogenans*, N4Lid 10.1601/nm.7074.  
*Streptomyces kentuckensis*, N4Lid 10.1601/nm.7093.  
*Streptomyces ladakanum*, N4Lid 10.1601/nm.7100.  
*Streptomyces morookaense*, N4Lid 10.1601/nm.7154.  
*Streptomyces nigrifaciens*, N4Lid 10.1601/nm.7165.  
*Streptomyces niveiscabiei*, N4Lid 10.1601/nm.7167.  
*Streptomyces niveiscabiei*, N4Lid 10.1601/nm.9243.  
*Streptomyces niveus*, N4Lid 10.1601/nm.7169.  
*Streptomyces olivomycini*, N4Lid 10.1601/nm.7182.  
*Streptomyces olivoreticuli cellulophilus*, N4Lid 10.1601/nm.7184.  
*Streptomyces phaeoviridis*, N4Lid 10.1601/nm.7199.  
*Streptomyces roseodiatstaticus*, N4Lid 10.1601/nm.7239.  
*Streptomyces roseosporus*, N4Lid 10.1601/nm.7244.  
*Streptomyces speleomycini*, N4Lid 10.1601/nm.7274.  
*Streptomyces spheroides*, N4Lid 10.1601/nm.7275.  
*Streptomyces spitsbergensis*, N4Lid 10.1601/nm.7279.  
*Streptomyces thermoautotrophicus*, N4Lid 10.1601/nm.7295.  
*Streptomyces violatus*, N4Lid 10.1601/nm.7331.  
*Streptomyces viridosporus*, N4Lid 10.1601/nm.7340.  
*Streptomyces willmorei*, N4Lid 10.1601/nm.7344.  
*Streptomyces yanii*, N4Lid 10.1601/nm.9499.  
*Streptosporangium albidum*, N4Lid 10.1601/nm.7430.  
*Streptosporangium amethystogenes amethystogenes*, N4Lid 10.1601/nm.7432.  
*Streptosporangium amethystogenes fukuense*, N4Lid 10.1601/nm.7433.  
*Streptoverticillium baldaccii*, N4Lid 10.1601/nm.7375.  
*Streptoverticillium biverticillatum*, N4Lid 10.1601/nm.7382.  
*Streptoverticillium cinnamoneum cinnamoneum*, N4Lid 10.1601/nm.7384.  
*Streptoverticillium distallicum*, N4Lid 10.1601/nm.7388.  
*Streptoverticillium fervens fervens*, N4Lid 10.1601/nm.7391.  
*Streptoverticillium fervens melrosporus*, N4Lid 10.1601/nm.7392.  
*Streptoverticillium flavopersicum*, N4Lid 10.1601/nm.7393.  
*Streptoverticillium kentuckense*, N4Lid 10.1601/nm.7399.  
*Streptoverticillium ladakanum*, N4Lid 10.1601/nm.7401.  
*Streptoverticillium morookaense*, N4Lid 10.1601/nm.7407.  
*Streptoverticillium olivomycini*, N4Lid 10.1601/nm.7409.  
*Streptoverticillium olivoreticuli cellulophilum*, N4Lid 10.1601/nm.7411.  
*Streptoverticillium reticulum protomycicum*, N4Lid 10.1601/nm.7416.

- Streptovorticillium verticillium quintum*, N4Lid 10.1601/nm.7423.
- Streptovorticillium verticillium tsukushiense*, N4Lid 10.1601/nm.7424.
- Stygiolobus azoricus*, N4Lid 10.1601/nm.84.
- Sulfolobus acidocaldarius*, N4Lid 10.1601/nm.67.
- Sulfolobus brierleyi*, N4Lid 10.1601/nm.68.
- Sulfolobus hakonensis*, N4Lid 10.1601/nm.69.
- Sulfolobus metallicus*, N4Lid 10.1601/nm.70.
- Sulfolobus shibatae*, N4Lid 10.1601/nm.71.
- Sulfolobus solfataricus*, N4Lid 10.1601/nm.72.
- Sulfolobus tokodaii*, N4Lid 10.1601/nm.73.
- Sulfolobus yangmingensis*, N4Lid 10.1601/nm.74.
- Sulfobobococcus zilligii*, N4Lid 10.1601/nm.50.
- Sulfurisphaera ohwakuensis*, N4Lid 10.1601/nm.86.
- Sulfurococcus mirabilis*, N4Lid 10.1601/nm.88.
- Sulfurococcus yellowstonensis*, N4Lid 10.1601/nm.89.
- Symbiotes lectularius*, N4Lid 10.1601/nm.1033.
- Symploca*, N4Lid 10.1601/nm.722.
- Synechococcus*, N4Lid 10.1601/nm.656.
- Synechococcus cedrorum*, N4Lid 10.1601/nm.657.
- Synechococcus lividus*, N4Lid 10.1601/nm.658.
- Synechocystis*, N4Lid 10.1601/nm.660.
- Syntrophomonas wolfei wolfei*, N4Lid 10.1601/nm.4464.
- Tectibacter vulgaris*, N4Lid 10.1601/nm.1035.
- Terrimonas lutea*, N4Lid 10.1601/nm.10066.
- Thermoactinomyces candidus*, N4Lid 10.1601/nm.5308.
- Thermoactinomyces thalophilus*, N4Lid 10.1601/nm.5314.
- Thermocladium modestius*, N4Lid 10.1601/nm.19.
- Thermococcus acidaminovorans*, N4Lid 10.1601/nm.376.
- Thermococcus aegaeus*, N4Lid 10.1601/nm.377.
- Thermococcus aggregans*, N4Lid 10.1601/nm.378.
- Thermococcus alcaliphilus*, N4Lid 10.1601/nm.379.
- Thermococcus atlanticus*, N4Lid 10.1601/nm.8883.
- Thermococcus barophilus*, N4Lid 10.1601/nm.380.
- Thermococcus barossii*, N4Lid 10.1601/nm.9301.
- Thermococcus celer*, N4Lid 10.1601/nm.375.
- Thermococcus chitonophagus*, N4Lid 10.1601/nm.381.
- Thermococcus coalescens*, N4Lid 10.1601/nm.9692.
- Thermococcus fumicolans*, N4Lid 10.1601/nm.382.
- Thermococcus gammatolerans*, N4Lid 10.1601/nm.383.
- Thermococcus gorgonarius*, N4Lid 10.1601/nm.384.
- Thermococcus guaymasensis*, N4Lid 10.1601/nm.385.
- Thermococcus hydrothermalis*, N4Lid 10.1601/nm.386.
- Thermococcus kodakarensis*, N4Lid 10.1601/nm.9404.
- Thermococcus litoralis*, N4Lid 10.1601/nm.387.
- Thermococcus pacificus*, N4Lid 10.1601/nm.388.
- Thermococcus peptonophilus*, N4Lid 10.1601/nm.389.
- Thermococcus profundus*, N4Lid 10.1601/nm.390.
- Thermococcus sibiricus*, N4Lid 10.1601/nm.391.
- Thermococcus siculi*, N4Lid 10.1601/nm.392.
- Thermococcus stetteri*, N4Lid 10.1601/nm.393.
- Thermococcus waiotapuensis*, N4Lid 10.1601/nm.394.
- Thermococcus zilligii*, N4Lid 10.1601/nm.395.
- Thermodiscus maritimus*, N4Lid 10.1601/nm.52.
- Thermofilum pendens*, N4Lid 10.1601/nm.25.
- Thermohydrogenium kirishiense*, N4Lid 10.1601/nm.4506.
- Thermoleophilum minutum*, N4Lid 10.1601/nm.5732.
- Thermomicrobium fosteri*, N4Lid 10.1601/nm.587.
- Thermoplasma acidophilum*, N4Lid 10.1601/nm.362.
- Thermoplasma volcanium*, N4Lid 10.1601/nm.363.
- Thermoproteus neutrophilus*, N4Lid 10.1601/nm.8.
- Thermoproteus tenax*, N4Lid 10.1601/nm.7.
- Thermoproteus uzoniensis*, N4Lid 10.1601/nm.9.
- Thermosinus carboxydvorans*, N4Lid 10.1601/nm.8887.
- Thermosphaera aggregans*, N4Lid 10.1601/nm.54.
- Thermothrix azorensis*, N4Lid 10.1601/nm.1688.
- Thiobacillus concretivorus*, N4Lid 10.1601/nm.1880.
- Thiobacillus rapidicrescens*, N4Lid 10.1601/nm.1890.
- Thiobacterium bovistum*, N4Lid 10.1601/nm.2293.
- Thiodictyon bacillosum*, N4Lid 10.1601/nm.2139.
- Thiodictyon elegans*, N4Lid 10.1601/nm.2138.
- Thiomargarita namibiensis*, N4Lid 10.1601/nm.2295.
- Thiopedia rosea*, N4Lid 10.1601/nm.2147.
- Thioploca araucae*, N4Lid 10.1601/nm.2298.
- Thioploca chileae*, N4Lid 10.1601/nm.2299.
- Thioploca schmidlei*, N4Lid 10.1601/nm.2297.
- Thiospira winogradskyi*, N4Lid 10.1601/nm.2302.

*Thiospirillum jenense*, N4Lid 10.1601/nm.2153.  
*Thiothrix defluvii*, N4Lid 10.1601/nm.2280.  
*Tissierella creatinini*, N4Lid 10.1601/nm.4225.  
*Tissierella creatinophila*, N4Lid 10.1601/nm.4226.  
*Tolypothrix*, N4Lid 10.1601/nm.761.  
*Tolypothrix tenuis*, N4Lid 10.1601/nm.762.  
*Toxothrix trichogenes*, N4Lid 10.1601/nm.8342.  
*Treponema hydysenteriae*, N4Lid 10.1601/nm.7863.  
*Treponema minutum*, N4Lid 10.1601/nm.7868.  
*Treponema paraluisuniculi*, N4Lid  
10.1601/nm.7869.  
*Treponema pertenue*, N4Lid 10.1601/nm.7872.  
*Trichodesmium*, N4Lid 10.1601/nm.724.  
*Tychonema sp.*, N4Lid 10.1601/nm.726.  
*Vampirovibrio chlorellavorus*, N4Lid  
10.1601/nm.3689.  
*Veillonella alcalescens alcalescens*, N4Lid  
10.1601/nm.4449.  
*Vibrio carchariae*, N4Lid 10.1601/nm.2957.  
*Vibrio neonatus*, N4Lid 10.1601/nm.8902.  
*Vibrio trachuri*, N4Lid 10.1601/nm.3010.  
*Virgibacillus koreensis*, N4Lid 10.1601/nm.9831.  
*Vitreoscilla beggiatoides*, N4Lid 10.1601/nm.1985.  
*Vitreoscilla filiformis*, N4Lid 10.1601/nm.1986.  
*Vulcanisaeta distributa*, N4Lid 10.1601/nm.22.  
*Vulcanisaeta souniana*, N4Lid 10.1601/nm.21.  
*Xanthomonas citri*, N4Lid 10.1601/nm.2216.  
*Xanthomonas euvesicatoria*, N4Lid  
10.1601/nm.10081.  
*Xanthomonas gardneri*, N4Lid 10.1601/nm.10083.  
*Xanthomonas perforans*, N4Lid 10.1601/nm.10082.  
*Xanthomonas phaseoli*, N4Lid 10.1601/nm.2226.  
*Xenococcus schousboei*, N4Lid 10.1601/nm.670.  
*Yersinia enterocolitica palearctica*, N4Lid  
10.1601/nm.3357.  
*Yokenella regensburgei*, N4Lid 10.1601/nm.3368.