

Additional File 7

PRAC-like sequences (2,530) retrieved from NR NCBI databank included in Figure 5A

GI	Access number	Organism			
152113098	Q4DA80.2	Trypanosoma cruzi strain CL Brener	446782330	WP_000859586.1	Acinetobacter baumannii
74812220	Q868H8.1	Trypanosoma cruzi strain CL Brener	446782333	WP_000859589.1	Acinetobacter baumannii
50513779	1TM0	Brucella Melitensis	446782329	WP_000859585.1	Acinetobacter baumannii
90108457	1W61	Trypanosoma cruzi	490979914	WP_004841677.1	Acinetobacter baumannii
459359065	4JD7	Pseudomonas putida F1	446782323	WP_000859579.1	Acinetobacter baumannii
460417677	4J9W	Pseudomonas Fluorescens Pf-5	496867101	WP_009391071.1	Acinetobacter baumannii
460417683	4JCI	Chromohalobacter salexigens DSM 3043	545154991	WP_021510279.1	Acinetobacter baumannii
480312348	4JUJ	Xanthomonas campestris ATCC 33913	488061761	WP_002133158.1	Acinetobacter baumannii
485602245	4K7G	Agrobacterium vitis S4	497201168	WP_009515430.1	Acinetobacter baumannii
524935068	4LB0	Agrobacterium vitis S4	489248699	WP_003156842.1	Acinetobacter baumannii
470395539	XP_004335083.1	Acanthamoeba castellanii str. Neff	589430595	EXH14489.1	1245593 Acinetobacter baumannii
493607961	WP_006560430.1	Acetobacter tropicalis	589465914	EXH47895.1	1412924 Acinetobacter baumannii
490197903	WP_004096428.1	Acetonema longum	588244136	EXF15912.1	1417041 Acinetobacter baumannii
490194189	WP_004092757.1	Acetonema longum	588189366	EXE63037.1	1542444 Acinetobacter baumannii
493269141	WP_006227860.1	Achromobacter piechaudii	593952228	EXU05546.1	25253_5 Acinetobacter baumannii
493253520	WP_006220994.1	Achromobacter piechaudii	610950633	EZI57820.1	25442_7 Acinetobacter baumannii
493250286	WP_006218157.1	Achromobacter piechaudii	595126418	EXV52128.1	25935_8 Acinetobacter baumannii
493251632	WP_006219497.1	Achromobacter piechaudii	595120483	EXV46359.1	25935_9 Acinetobacter baumannii
493435119	WP_006390651.1	Achromobacter xylosoxidans	587910944	EXB98807.1	342950 Acinetobacter baumannii
311108024	YP_003980877.1	Achromobacter xylosoxidans A8	610979460	EZI85605.1	44298_4 Acinetobacter baumannii
568129811	YP_008926458.1	Achromobacter xylosoxidans NBRC 15126 = ATCC 27061	598506093	EYC59740.1	44437_9 Acinetobacter baumannii
528985416	YP_008030733.1	Achromobacter xylosoxidans NH44784-1996	587903092	EXB91321.1	466760 Acinetobacter baumannii
522203526	WP_020710993.1	Acidobacteriaceae bacterium KBS 83	593644695	EXS24779.1	573719 Acinetobacter baumannii
522208073	WP_020715540.1	Acidobacteriaceae bacterium KBS 89	588085619	EXD65791.1	58452 Acinetobacter baumannii
522213307	WP_020720419.1	Acidobacteriaceae bacterium KBS 96	587920665	EXC08096.1	625974 Acinetobacter baumannii
225874816	YP_002756275.1	Acidobacterium capsulatum ATCC 51196	587953068	EXC38809.1	951631 Acinetobacter baumannii
498144400	WP_010458556.1	Acidovorax radialis	184157646	YP_001845985.1	ACICU Acinetobacter baumannii
495136647	WP_007861455.1	Acidovorax sp. CF316	126641371	YP_001084355.1	Acinetobacter baumannii ATCC 17978
407938907	YP_006854548.1	Acidovorax sp. KKS102	169796424	YP_001714217.1	Acinetobacter baumannii AYE
496181775	WP_008906282.1	Acidovorax sp. NO-1	523530630	YP_008216657.1	Acinetobacter baumannii BJB0715
446355158	WP_000433013.1	Acinetobacter baumannii	469821514	YP_007595884.1	Acinetobacter baumannii D1279779
491252537	WP_005110721.1	Acinetobacter baumannii	571614495	ETQ06698.1	Acinetobacter baumannii UH12208
447189907	WP_001267163.1	Acinetobacter baumannii	571667851	ETQ58310.1	Acinetobacter baumannii UH22908
446782327	WP_000859583.1	Acinetobacter baumannii	491173225	WP_005031591.1	Acinetobacter bereziniae
446782335	WP_000859591.1	Acinetobacter baumannii	375134290	YP_004994940.1	Acinetobacter calcoaceticus PHEA-2
446782326	WP_000859582.1	Acinetobacter baumannii	446782324	WP_000859580.1	Acinetobacter calcoaceticus/baumannii complex
446782336	WP_000859592.1	Acinetobacter baumannii	490847449	WP_004709512.1	Acinetobacter nosocomialis
490885674	WP_004747643.1	Acinetobacter baumannii	549993313	WP_022574849.1	Acinetobacter nosocomialis
446782331	WP_000859587.1	Acinetobacter baumannii			

299770655	YP_003732681.1	Acinetobacter oleivorans DR1			LBA4213 (Ach5)
507070111	WP_016140889.1	Acinetobacter pittii			Agrobacterium tumefaciens
507070094	WP_016140872.1	Acinetobacter pittii	586952651	AHK04439.1	LBA4213 (Ach5)
446782334	WP_000859590.1	Acinetobacter sp. NCTC 10304	222102601	YP_002539640.1	Agrobacterium vitis S4
491399781	WP_005257627.1	Acinetobacter sp. NIPH 2168	222147413	YP_002548370.1	Agrobacterium vitis S4
491427671	WP_005285466.1	Acinetobacter sp. NIPH 3623	222102428	YP_002539467.1	Agrobacterium vitis S4
491446300	WP_005304087.1	Acinetobacter sp. NIPH 542	551267657	WP_022887826.1	Agromyces italicus
490931294	WP_004793147.1	Acinetobacter sp. NIPH 817	551267659	WP_022887828.1	Agromyces italicus
490918705	WP_004780582.1	Acinetobacter sp. NIPH 899	551273816	WP_022893964.1	Agromyces subbeticus
497272648	WP_009586865.1	Acinetobacter sp. WC-743	551271315	WP_022891474.1	Agromyces subbeticus
		actinobacterium SCGC	517518279	WP_018688487.1	Ahrensia kiensis
518690062	WP_019851755.1	AAA027-J17	517518274	WP_018688482.1	Ahrensia kiensis
		actinobacterium SCGC	301754455	XP_002913068.1	Ailuropoda melanoleuca
497297737	WP_009611954.1	AAA027-L06	517522927	WP_018693135.1	Algicola sagamiensis
		actinobacterium SCGC			Algoriphagus
517037801	WP_018226619.1	AAA028-A23	495473773	WP_008198461.1	machipongonensis
		actinobacterium SCGC	114321207	YP_742890.1	Alkalilimnicola ehrlichii MLHE-1
517034897	WP_018224252.1	AAA278-I18			Alkaliphilus metalliredigens
		actinobacterium SCGC			QYMF
516580466	WP_017955505.1	AAA278-O22	150388506	YP_001318555.1	
522003040	WP_020514311.1	Actinoplanes globisporus	158319092	YP_001511599.1	Alkaliphilus oremlandii OhLAs
383779571	YP_005464137.1	Actinoplanes missouriensis 431	564263013	XP_006270376.1	Alligator mississippiensis
522068339	WP_020579548.1	Actinopolymorpha alba	494946795	WP_007672823.1	alpha proteobacterium BAL199
		Actinosynnema mirum DSM	495875061	WP_008599640.1	alpha proteobacterium JLT2015
		43827	516071880	WP_017502463.1	alpha proteobacterium LLX12A
256378738	YP_003102398.1				alpha proteobacterium SCGC
566133066	WP_024003682.1	Advenella kashmirensis	518900848	WP_020056723.1	AAA076-C03
389873672	YP_006381091.1	Advenella kashmirensis WT001			alpha proteobacterium SCGC
489615574	WP_003520015.1	Agrobacterium	518888039	WP_020043914.1	AAA298-K06
493779563	WP_006727991.1	Agrobacterium albertimagni			alpha proteobacterium SCGC
15891016	NP_356688.1	Agrobacterium fabrum str. C58	516678596	WP_018037164.1	AB-629-F11
15887747	NP_353428.1	Agrobacterium fabrum str. C58	493845969	WP_006793008.1	Alteromonadales bacterium
15890309	NP_355981.1	Agrobacterium fabrum str. C58			TW-7
222081720	YP_002541085.1	Agrobacterium radiobacter K84	519105454	WP_020261329.1	Aminicenantes bacterium
222084751	YP_002543280.1	Agrobacterium radiobacter K84	493343267	WP_006300097.1	SCGC AAA252-J15
518396501	WP_019566708.1	Agrobacterium sp. 10MFCol1.1	493345122	WP_006301915.1	Aminomonas paucivorans
		Agrobacterium sp.	340370310	XP_003383689.1	Aminomonas paucivorans
518853958	WP_020009848.1	224MFTsu3.1	522125145	WP_020636354.1	Amphimedon queenslandica
		Agrobacterium sp. ATCC	522124337	WP_020635546.1	Amycolatopsis alba
493357094	WP_006313644.1	31749	491295884	WP_005153899.1	Amycolatopsis alba
		Agrobacterium sp. ATCC	522135538	WP_020646747.1	Amycolatopsis azurea
493354009	WP_006310648.1	31749	522147561	WP_020658769.1	Amycolatopsis balhimycina
		Agrobacterium sp. ATCC	522147569	WP_020658777.1	Amycolatopsis benzoatilytica
493355785	WP_006312377.1	31749	494088240	WP_007029075.1	Amycolatopsis benzoatilytica
325291831	YP_004277695.1	Agrobacterium sp. H13-3			Amycolatopsis decaplanina
332715521	YP_004442987.1	Agrobacterium sp. H13-3			Amycolatopsis mediterranei
489600029	WP_003504471.1	Agrobacterium tumefaciens	300785137	YP_003765428.1	U32
489589193	WP_003493637.1	Agrobacterium tumefaciens	522157060	WP_020668268.1	Amycolatopsis nigrescens
489610428	WP_003514869.1	Agrobacterium tumefaciens			Amycolatopsis orientalis
489599183	WP_003503625.1	Agrobacterium tumefaciens	506932171	YP_008012609.1	HCCB10007
489597382	WP_003501825.1	Agrobacterium tumefaciens	490695345	WP_004559062.1	Amycolatopsis vancouverensis
489595070	WP_003499513.1	Agrobacterium tumefaciens			Anaerobaculum mobile DSM
523692947	WP_020811661.1	Agrobacterium tumefaciens	392408252	YP_006444860.1	13181
489617263	WP_003521703.1	Agrobacterium tumefaciens	493842604	WP_006789705.1	Anaeroglobus geminatus
489601220	WP_003505661.1	Agrobacterium tumefaciens	327280055	XP_003224770.1	Anolis carolinensis
490566295	WP_004431315.1	Agrobacterium tumefaciens	524892045	XP_005102554.1	Aplysia californica
523692088	WP_020810900.1	Agrobacterium tumefaciens	590079118	EXL05434.1	Aquamicrobium defluvii
586948507	AHK00296.1	Agrobacterium tumefaciens	590074976	EXL01344.1	Aquamicrobium defluvii

590076045	EXL02385.1	Aquamicrobium defluvii	30261035	NP_843412.1	Bacillus anthracis str. Ames
610625252	EZH71389.1	Aquimarina sp. 22II-S11-z7	30262802	NP_845179.1	Bacillus anthracis str. Ames
610626765	EZH72848.1	Aquimarina sp. 22II-S11-z7	386734730	YP_006207911.1	Bacillus anthracis str. H9401
296272750	YP_003655381.1	Arcobacter nitrofigilis DSM 7299	612488478	AHX17146.1	Bacillus bombysepticus str. Wang
518215928	WP_019386136.1	Arenitalea lutea	612490200	AHX18868.1	Bacillus bombysepticus str. Wang
517546462	WP_018716670.1	Arhodomonas aquaeolei	447180287	WP_001257543.1	Bacillus cereus
517547599	WP_018717807.1	Arhodomonas aquaeolei	506990671	WP_016081265.1	Bacillus cereus
403529650	YP_006664389.1	Arthrobacter sp. Rue61a	487983235	WP_002055853.1	Bacillus cereus
403529639	YP_006664378.1	Arthrobacter sp. Rue61a	447180263	WP_001257519.1	Bacillus cereus
238506185	XP_002384294.1	Aspergillus flavus NRRL3357	507044065	WP_016115119.1	Bacillus cereus
238506299	XP_002384351.1	Aspergillus flavus NRRL3357	447180265	WP_001257521.1	Bacillus cereus
238485578	XP_002374027.1	Aspergillus flavus NRRL3357	507033398	WP_016105097.1	Bacillus cereus
159125934	EDP51050.1	Aspergillus fumigatus A1163	507062085	WP_016132924.1	Bacillus cereus
70985272	XP_748142.1	Aspergillus fumigatus Af293	446764795	WP_000842051.1	Bacillus cereus
358371851	GAA88457.1	Aspergillus kawachii IFO 4308	513823126	WP_016512683.1	Bacillus cereus
358372441	GAA89044.1	Aspergillus kawachii IFO 4308	488065364	WP_002136761.1	Bacillus cereus
259487495	CBF86218.1	Aspergillus nidulans FGSC A4	507051687	WP_016122676.1	Bacillus cereus
134077107	CAK45448.1	Aspergillus niger	447180261	WP_001257517.1	Bacillus cereus
350634127	EHA22490.1	Aspergillus niger ATCC 1015	488090091	WP_002161488.1	Bacillus cereus
350637288	EHA25645.1	Aspergillus niger ATCC 1015	507029534	WP_016101254.1	Bacillus cereus
350629705	EHA18078.1	Aspergillus niger ATCC 1015	447180300	WP_001257556.1	Bacillus cereus
317030994	XP_001392593.2	Aspergillus niger CBS 513.88	446764792	WP_000842048.1	Bacillus cereus
145236282	XP_001390789.1	Aspergillus niger CBS 513.88	488114254	WP_002185651.1	Bacillus cereus
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317158606	XP_001827113.2	Aspergillus oryzae RIB40	447180278	WP_001257534.1	Bacillus cereus
317158247	XP_001826937.2	Aspergillus oryzae RIB40	447180279	WP_001257535.1	Bacillus cereus
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599156408	EYE95556.1	Aspergillus ruber CBS 135680	488100913	WP_002172310.1	Bacillus cereus
516751608	WP_018083033.1	Asticcacaulis benevestitus	507036894	WP_016108577.1	Bacillus cereus
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315500377	YP_004089180.1	Asticcacaulis excentricus CB 48	447180291	WP_001257547.1	Bacillus cereus
557824517	WP_023452780.1	Asticcacaulis sp. AC460	488070697	WP_002142094.1	Bacillus cereus
557833189	WP_023457987.1	Asticcacaulis sp. AC466	447180274	WP_001257530.1	Bacillus cereus
597753967	XP_007238803.1	Astyanax mexicanus	447180276	WP_001257532.1	Bacillus cereus
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518838793	WP_019994683.1	Aureimonas ureilytica	447180273	WP_001257529.1	Bacillus cereus
518838795	WP_019994685.1	Aureimonas ureilytica	447180264	WP_001257520.1	Bacillus cereus
323454288	EGB10158.1	Aureococcus anophagefferens	447180290	WP_001257546.1	Bacillus cereus
490397605	WP_004273902.1	Azospirillum amazonense	447180292	WP_001257548.1	Bacillus cereus
565411963	BAO21621.1	Azospirillum brasilense	447183018	WP_001260274.1	Bacillus cereus
612166716	EZQ03357.1	Azospirillum brasilense	487986469	WP_002058932.1	Bacillus cereus
531034622	BAN78527.1	Azospirillum brasilense	446791405	WP_000868661.1	Bacillus cereus
392379308	YP_004986467.1	Azospirillum brasilense Sp245	446626045	WP_000703391.1	Bacillus cereus
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30262803	NP_845180.1	Bacillus anthracis str. Ames	513831477	WP_016513827.1	Bacillus cereus

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487952463	WP_002025929.1	Bacillus cereus	488097660	WP_002169057.1	Bacillus cereus
487978345	WP_002051129.1	Bacillus cereus	487924190	WP_001997656.1	Bacillus cereus
487931755	WP_002005221.1	Bacillus cereus	487970888	WP_002043811.1	Bacillus cereus
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446791512	WP_000868768.1	Bacillus cereus	488094893	WP_002166290.1	Bacillus cereus
446791502	WP_000868758.1	Bacillus cereus	487965708	WP_002038840.1	Bacillus cereus
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488023312	WP_002094711.1	Bacillus cereus	446948273	WP_001025529.1	Bacillus cereus

507044064	WP_016115118.1	Bacillus cereus	507063902	WP_016134712.1	Bacillus cereus
446948274	WP_001025530.1	Bacillus cereus	487902231	WP_001975697.1	Bacillus cereus
488129019	WP_002200227.1	Bacillus cereus	487989269	WP_002061585.1	Bacillus cereus
488038928	WP_002110325.1	Bacillus cereus	446948317	WP_001025573.1	Bacillus cereus
488075935	WP_002147332.1	Bacillus cereus	446948297	WP_001025553.1	Bacillus cereus
446948277	WP_001025533.1	Bacillus cereus	446948318	WP_001025574.1	Bacillus cereus
446948288	WP_001025544.1	Bacillus cereus	487934371	WP_002007837.1	Bacillus cereus
446948272	WP_001025528.1	Bacillus cereus	487948171	WP_002021637.1	Bacillus cereus
446948291	WP_001025547.1	Bacillus cereus	487926494	WP_001999960.1	Bacillus cereus
507058750	WP_016129656.1	Bacillus cereus	225864808	YP_002750186.1	Bacillus cereus 03BB102
506990672	WP_016081266.1	Bacillus cereus	225862863	YP_002748241.1	Bacillus cereus 03BB102
507029535	WP_016101255.1	Bacillus cereus	225864807	YP_002750185.1	Bacillus cereus 03BB102
507049343	WP_016120361.1	Bacillus cereus	217960275	YP_002338835.1	Bacillus cereus AH187
507026610	WP_016098628.1	Bacillus cereus	217958504	YP_002337052.1	Bacillus cereus AH187
446948313	WP_001025569.1	Bacillus cereus	217960274	YP_002338834.1	Bacillus cereus AH187
515088378	WP_016717711.1	Bacillus cereus	218903956	YP_002451790.1	Bacillus cereus AH820
446948308	WP_001025564.1	Bacillus cereus	218902107	YP_002449941.1	Bacillus cereus AH820
488048602	WP_002119999.1	Bacillus cereus	218903955	YP_002451789.1	Bacillus cereus AH820
487980664	WP_002053393.1	Bacillus cereus	42780070	NP_977317.1	Bacillus cereus ATCC 10987
487975465	WP_002048310.1	Bacillus cereus	42781920	NP_979167.1	Bacillus cereus ATCC 10987
513823128	WP_016512684.1	Bacillus cereus	42781919	NP_979166.1	Bacillus cereus ATCC 10987
487970890	WP_002043813.1	Bacillus cereus	30020954	NP_832585.1	Bacillus cereus ATCC 14579
488070696	WP_002142093.1	Bacillus cereus	30019060	NP_830691.1	Bacillus cereus ATCC 14579
488090092	WP_002161489.1	Bacillus cereus	30020953	NP_832584.1	Bacillus cereus ATCC 14579
487965709	WP_002038841.1	Bacillus cereus	218232893	YP_002367554.1	Bacillus cereus B4264
446948320	WP_001025576.1	Bacillus cereus	218232621	YP_002365676.1	Bacillus cereus B4264
487945008	WP_002018474.1	Bacillus cereus	218233634	YP_002367553.1	Bacillus cereus B4264
488004555	WP_002076248.1	Bacillus cereus			Bacillus cereus biovar anthracis str. CI
488013656	WP_002085055.1	Bacillus cereus	301054356	YP_003792567.1	Bacillus cereus biovar anthracis str. CI
507023518	WP_016095600.1	Bacillus cereus	301052550	YP_003790761.1	Bacillus cereus biovar anthracis str. CI
446948326	WP_001025582.1	Bacillus cereus			
487929474	WP_002002940.1	Bacillus cereus	301054355	YP_003792566.1	
487924191	WP_001997657.1	Bacillus cereus	52142682	YP_084148.1	Bacillus cereus E33L
446948298	WP_001025554.1	Bacillus cereus	52144422	YP_082406.1	Bacillus cereus E33L
446948306	WP_001025562.1	Bacillus cereus	52142681	YP_084147.1	Bacillus cereus E33L
488000164	WP_002072040.1	Bacillus cereus	376266697	YP_005119409.1	Bacillus cereus F837/76
507019431	WP_016091544.1	Bacillus cereus	402556956	YP_006598227.1	Bacillus cereus FRI-35
446948314	WP_001025570.1	Bacillus cereus	402553581	YP_006594852.1	Bacillus cereus FRI-35
446948325	WP_001025581.1	Bacillus cereus	402556957	YP_006598228.1	Bacillus cereus FRI-35
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487959252	WP_002032612.1	Bacillus cereus	487963172	WP_002036436.1	Bacillus cereus group
446948315	WP_001025571.1	Bacillus cereus	487968250	WP_002041290.1	Bacillus cereus group
487950824	WP_002024290.1	Bacillus cereus	446791511	WP_000868767.1	Bacillus cereus group
488065362	WP_002136759.1	Bacillus cereus	446791417	WP_000868673.1	Bacillus cereus group
487952462	WP_002025928.1	Bacillus cereus	487929472	WP_002002938.1	Bacillus cereus group
446948327	WP_001025583.1	Bacillus cereus	488004556	WP_002076249.1	Bacillus cereus group
507012010	WP_016087522.1	Bacillus cereus	487963173	WP_002036437.1	Bacillus cereus group
487954387	WP_002027845.1	Bacillus cereus	222094650	YP_002528710.1	Bacillus cereus Q1
487993635	WP_002065760.1	Bacillus cereus	222096333	YP_002530390.1	Bacillus cereus Q1
488126658	WP_002197866.1	Bacillus cereus	518223348	WP_019393556.1	Bacillus endophyticus
507038458	WP_016110140.1	Bacillus cereus	518223347	WP_019393555.1	Bacillus endophyticus

517536735	WP_018706943.1	Bacillus fordii	489390280	WP_003296845.1	Bacillus thuringiensis
517536736	WP_018706944.1	Bacillus fordii	489395032	WP_003301541.1	Bacillus thuringiensis
518071528	WP_019241736.1	Bacillus massilioanorexius	489360017	WP_003266965.1	Bacillus thuringiensis
518071534	WP_019241742.1	Bacillus massilioanorexius	489393647	WP_003300170.1	Bacillus thuringiensis
489288018	WP_003195581.1	Bacillus mycoides	516373224	WP_017763257.1	Bacillus thuringiensis
489302805	WP_003210262.1	Bacillus mycoides	489387713	WP_003294312.1	Bacillus thuringiensis
489290531	WP_003198076.1	Bacillus mycoides	489400801	WP_003307201.1	Bacillus thuringiensis
489299872	WP_003207346.1	Bacillus mycoides	489398639	WP_003305093.1	Bacillus thuringiensis
489279973	WP_003187619.1	Bacillus mycoides	489403253	WP_003309588.1	Bacillus thuringiensis
489299874	WP_003207348.1	Bacillus mycoides	489363914	WP_003270793.1	Bacillus thuringiensis
489290533	WP_003198078.1	Bacillus mycoides	489371854	WP_003278636.1	Bacillus thuringiensis
489282158	WP_003189780.1	Bacillus mycoides	489395034	WP_003301543.1	Bacillus thuringiensis
518213100	WP_019383308.1	Bacillus oceanisediminis	489360018	WP_003266966.1	Bacillus thuringiensis
518213099	WP_019383307.1	Bacillus oceanisediminis	490540502	WP_004405638.1	Bacillus thuringiensis
493016099	WP_006093712.1	Bacillus pseudomycoides	489377808	WP_003284524.1	Bacillus thuringiensis
493019249	WP_006095057.1	Bacillus pseudomycoides	296503369	YP_003665069.1	Bacillus thuringiensis BMB171
493019247	WP_006095056.1	Bacillus pseudomycoides	296501621	YP_003663321.1	Bacillus thuringiensis BMB171
517595458	WP_018765666.1	Bacillus sp. 105MF	296503368	YP_003665068.1	Bacillus thuringiensis BMB171
517596888	WP_018767096.1	Bacillus sp. 105MF	410675203	YP_006927574.1	Bacillus thuringiensis Bt407
517595457	WP_018765665.1	Bacillus sp. 105MF	589236709	CDN36294.1	Bacillus thuringiensis DB27
518904221	WP_020060096.1	Bacillus sp. 123MFChir2	589238100	CDN34292.1	Bacillus thuringiensis DB27
518906322	WP_020062197.1	Bacillus sp. 123MFChir2	402559839	YP_006602563.1	Bacillus thuringiensis HD-771
518904222	WP_020060097.1	Bacillus sp. 123MFChir2	402562100	YP_006604824.1	Bacillus thuringiensis HD-771
496690290	WP_009331833.1	Bacillus sp. 2_A_57_CT2	402559840	YP_006602564.1	Bacillus thuringiensis HD-771
496690289	WP_009331832.1	Bacillus sp. 2_A_57_CT2	434375812	YP_006610456.1	Bacillus thuringiensis HD-789
446764794	WP_000842050.1	Bacillus sp. 7_6_55CFAA_CT2	434373917	YP_006608561.1	Bacillus thuringiensis HD-789
446791412	WP_000868668.1	Bacillus sp. 7_6_55CFAA_CT2	434375811	YP_006610455.1	Bacillus thuringiensis HD-789
446948310	WP_001025566.1	Bacillus sp. 7_6_55CFAA_CT2	407705259	YP_006828844.1	Bacillus thuringiensis MC28
517610430	WP_018780638.1	Bacillus sp. 95MFCvi2.1	407703397	YP_006826982.1	Bacillus thuringiensis MC28
517612732	WP_018782940.1	Bacillus sp. 95MFCvi2.1	407705258	YP_006828843.1	Bacillus thuringiensis MC28
517610429	WP_018780637.1	Bacillus sp. 95MFCvi2.1			Bacillus thuringiensis serovar chinensis CT-43
495452331	WP_008177025.1	Bacillus sp. B14905	384184946	YP_005570842.1	Bacillus thuringiensis serovar chinensis CT-43
493977600	WP_006920611.1	Bacillus sp. GeD10	384186897	YP_005572793.1	Bacillus thuringiensis serovar chinensis CT-43
493977601	WP_006920612.1	Bacillus sp. GeD10	384186896	YP_005572792.1	Bacillus thuringiensis serovar chinensis CT-43
516338807	WP_017728840.1	Bacillus sp. L1(2012)	384180721	YP_005566483.1	Bacillus thuringiensis serovar finitimus YBT-020
516129580	WP_017560160.1	Bacillus sp. WBUNB001	384178858	YP_005564620.1	Bacillus thuringiensis serovar finitimus YBT-020
516129894	WP_017560474.1	Bacillus sp. WBUNB001	384180720	YP_005566482.1	Bacillus thuringiensis serovar finitimus YBT-020
516269298	WP_017673261.1	Bacillus sp. WBUNB004	49476772	YP_036919.1	Bacillus thuringiensis serovar konkukian str. 97-27
516270516	WP_017674479.1	Bacillus sp. WBUNB004	49480213	YP_035142.1	Bacillus thuringiensis serovar konkukian str. 97-27
516269299	WP_017673262.1	Bacillus sp. WBUNB004	49479615	YP_036918.1	Bacillus thuringiensis serovar konkukian str. 97-27
516252935	WP_017656898.1	Bacillus sp. WBUNB009	449087682	YP_007420123.1	Bacillus thuringiensis serovar kurstaki str. HD73
446948311	WP_001025567.1	Bacillus sp. WBUNB009	449089802	YP_007422243.1	Bacillus thuringiensis serovar kurstaki str. HD73
489333269	WP_003240511.1	Bacillus subtilis	118478186	YP_895337.1	Bacillus thuringiensis str. Al Hakam
489400802	WP_003307202.1	Bacillus thuringiensis	118476542	YP_893693.1	Bacillus thuringiensis str. Al Hakam
489402787	WP_003309134.1	Bacillus thuringiensis	118478185	YP_895336.1	Bacillus thuringiensis str. Al Hakam
446791506	WP_000868762.1	Bacillus thuringiensis	558681348	YP_008819477.1	Bacillus thuringiensis YBT-1518
489367635	WP_003274464.1	Bacillus thuringiensis			
516372802	WP_017762835.1	Bacillus thuringiensis			
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489371853	WP_003278635.1	Bacillus thuringiensis			
490540505	WP_004405641.1	Bacillus thuringiensis			
489399984	WP_003306403.1	Bacillus thuringiensis			
489376625	WP_003283354.1	Bacillus thuringiensis			

558679366	YP_008817495.1	Bacillus thuringiensis YBT-1518	492406589	WP_005834650.1	Brevibacillus agri
558681347	YP_008819476.1	Bacillus thuringiensis YBT-1518	492406579	WP_005834644.1	Brevibacillus agri
557619685	YP_008780816.1	Bacillus toyonensis BCT-7112	515112335	WP_016741395.1	Brevibacillus brevis
557619684	YP_008780815.1	Bacillus toyonensis BCT-7112	515821443	WP_017252196.1	Brevibacillus brevis
		Bacillus weihenstephanensis	515821440	WP_017252193.1	Brevibacillus brevis
573585083	ETT83354.1	FSL H7-687	515112332	WP_016741392.1	Brevibacillus brevis
		Bacillus weihenstephanensis			Brevibacillus brevis NBRC
573584489	ETT82766.1	FSL R5-860			100599
		Bacillus weihenstephanensis	226314148	YP_002774044.1	Brevibacillus brevis NBRC
163940583	YP_001645467.1	KBAB4			100599
		Bacillus weihenstephanensis	226314145	YP_002774041.1	
163938804	YP_001643688.1	KBAB4	494989837	WP_007715857.1	Brevibacillus sp. BC25
		Bacillus weihenstephanensis	494989834	WP_007715854.1	Brevibacillus sp. BC25
163940582	YP_001645466.1	KBAB4	495062684	WP_007787514.1	Brevibacillus sp. CF112
		Bacillus weihenstephanensis	495062680	WP_007787510.1	Brevibacillus sp. CF112
569022459	GAE41889.1	NBRC 101238 = DSM 11821	496830742	WP_009377281.1	Brevibacterium casei
		Balaenoptera acutorostrata	496829089	WP_009376699.1	Brevibacterium casei
594691318	XP_007192998.1	scammoni	497568374	WP_009882558.1	Brevibacterium linens
		Beauveria bassiana ARSEF	497570303	WP_009884487.1	Brevibacterium linens
400593642	EJP61568.1	2860	489256635	WP_003164570.1	Brevundimonas diminuta
390942363	YP_006406124.1	Belliella baltica DSM 15883	489262002	WP_003169865.1	Brevundimonas diminuta
516078634	WP_017509217.1	beta proteobacterium L13	489257294	WP_003165218.1	Brevundimonas diminuta
495573414	WP_008297993.1	Bhargavaea cecembensis	493169055	WP_006172804.1	Brucella
495573413	WP_008297992.1	Bhargavaea cecembensis	496221300	WP_008935335.1	Brucella
		Bifidobacterium thermophilum	493009457	WP_006088903.1	Brucella abortus
470203393	YP_007594105.1	RBL67	493088738	WP_006129376.1	Brucella abortus
496774940	WP_009368752.1	Bilophila sp. 4_1_30	514962411	WP_016650778.1	Brucella abortus
491165907	WP_005024278.1	Bilophila wadsworthia	489053312	WP_002963502.1	Brucella abortus
491169193	WP_005027563.1	Bilophila wadsworthia	493015257	WP_006093304.1	Brucella abortus
452000198	EMD92660.1	Bipolaris maydis C5			Brucella abortus bv. 1 str. 9-941
576935531	EUC49034.1	Bipolaris oryzae ATCC 44560	62290658	YP_222451.1	Brucella canis ATCC 23365
451854282	EMD67575.1	Bipolaris sorokiniana ND90Pr	161618320	YP_001592207.1	Brucella ceti TE10759-12
578485147	EUN22650.1	Bipolaris victoriae FI3	560147661	YP_008840477.1	Brucella inopinata
576914960	EUC29284.1	Bipolaris zeicola 26-R-13	495782910	WP_008507489.1	Brucella inopinata
516268367	WP_017672330.1	Blastomonas sp. AAP53	495783426	WP_008508005.1	Brucella melitensis
564012750	WP_023838164.1	Blastomonas sp. CACIA14H2	490823760	WP_004685850.1	Brucella melitensis
488730604	WP_002654021.1	Blastopirellula marina	490823344	WP_004685434.1	Brucella melitensis
492750836	WP_005948987.1	Blautia hydrogenotrophica	493306368	WP_006263910.1	Brucella melitensis
		Blautia hydrogenotrophica	493107164	WP_006139538.1	Brucella melitensis
546357443	WP_021844514.1	CAG:147	493104394	WP_006137744.1	Brucella melitensis
163855568	YP_001629866.1	Bordetella petrii DSM 12804	493130658	WP_006151420.1	Brucella melitensis
518780848	WP_019938137.1	Bordetella sp. FB-8	225853238	YP_002733471.1	Brucella melitensis ATCC 23457
440900862	ELR51903.1	Bos mutus			Brucella melitensis bv. 1 str. 16M
555980135	XP_005901995.1	Bos mutus	17986541	NP_539175.1	Brucella melitensis bv. 1 str. 16M
77735719	NP_001029558.1	Bos taurus	17987869	NP_540503.1	Brucella microti CCM 4915
		Brachy bacterium faecium DSM 4810	256368795	YP_003106301.1	Brucella neotomae
257070253	YP_003156508.1	Brachy bacterium faecium DSM 4810	490826627	WP_004688717.1	Brucella neotomae
		Brachy bacterium phenoliresistens	490825904	WP_004687994.1	Brucella ovis ATCC 25840
586886103	EWS80354.1	Bradyrhizobium sp. DOA9	148560609	YP_001258374.1	Brucella pinnipedialis
608609907	GAJ37780.1	Bradyrhizobium sp. WSM1253	493691256	WP_006641268.1	Brucella sp. 63/311
494874324	WP_007600419.1	Branchiostoma floridae	493153062	WP_006163367.1	Brucella sp. BO2
261289669	XP_002604811.1	Branchiostoma floridae	496764367	WP_009364131.1	Brucella sp. BO2
261289665	XP_002604809.1	Branchiostoma floridae	496765822	WP_009364714.1	Brucella sp. NVSL 07-0026
261289667	XP_002604810.1	Branchiostoma floridae	496219733	WP_008933770.1	
261289671	XP_002604812.1	Branchiostoma floridae			
261289663	XP_002604808.1	Branchiostoma floridae			

493209501	WP_006195325.1	<i>Brucella suis</i>	493448462	WP_006403784.1	<i>Burkholderia multivorans</i>
23502646	NP_698773.1	<i>Brucella suis</i> 1330	493444474	WP_006399858.1	<i>Burkholderia multivorans</i>
23501244	NP_697371.1	<i>Brucella suis</i> 1330	493456522	WP_006411786.1	<i>Burkholderia multivorans</i>
163845368	YP_001623023.1	<i>Brucella suis</i> ATCC 23445			<i>Burkholderia multivorans</i> ATCC 17616
594092748	XP_006069721.1	<i>Bubalus bubalis</i>	161520806	YP_001584233.1	<i>Burkholderia multivorans</i> ATCC 17616
493807600	WP_006755369.1	<i>Burkholderia ambifaria</i>	161521800	YP_001585227.1	<i>Burkholderia multivorans</i> ATCC 17616
493814447	WP_006762086.1	<i>Burkholderia ambifaria</i>			<i>Burkholderia multivorans</i> ATCC 17616
493814222	WP_006761867.1	<i>Burkholderia ambifaria</i>	161521803	YP_001585230.1	<i>Burkholderia multivorans</i> ATCC 17616
493807101	WP_006754886.1	<i>Burkholderia ambifaria</i>			<i>Burkholderia multivorans</i> ATCC 17616
115358519	YP_775657.1	<i>Burkholderia ambifaria</i> AMMD	189352828	YP_001948455.1	<i>Burkholderia multivorans</i> ATCC 17616
115358300	YP_775438.1	<i>Burkholderia ambifaria</i> AMMD			
172063272	YP_001810923.1	<i>Burkholderia ambifaria</i> MC40-6	161520992	YP_001584419.1	
172062266	YP_001809917.1	<i>Burkholderia ambifaria</i> MC40-6	497796801	WP_010110985.1	<i>Burkholderia oklahomensis</i>
172062263	YP_001809914.1	<i>Burkholderia ambifaria</i> MC40-6			<i>Burkholderia phenoliruptrix</i> BR3459a
172063061	YP_001810712.1	<i>Burkholderia ambifaria</i> MC40-6	407711417	YP_006836190.1	<i>Burkholderia phenoliruptrix</i> BR3459a
518910341	WP_020066216.1	<i>Burkholderia bryophila</i>	407709279	YP_006793143.1	<i>Burkholderia phymatum</i> STM815
575856661	ETY75950.1	<i>Burkholderia caribensis</i> MBA4			<i>Burkholderia phymatum</i> STM815
575857956	ETY77206.1	<i>Burkholderia caribensis</i> MBA4	186472203	YP_001859545.1	<i>Burkholderia phytofirmans</i> PsJN
575860652	ETY79866.1	<i>Burkholderia caribensis</i> MBA4	186473481	YP_001860823.1	<i>Burkholderia phytofirmans</i> PsJN
493541013	WP_006494886.1	<i>Burkholderia cenocepacia</i>			<i>Burkholderia pseudomallei</i> 1710b
493525007	WP_006479059.1	<i>Burkholderia cenocepacia</i>	187920379	YP_001889410.1	<i>Burkholderia pseudomallei</i> K96243
493541184	WP_006495057.1	<i>Burkholderia cenocepacia</i>			
		<i>Burkholderia cenocepacia</i> AU 1054	187919272	YP_001888303.1	
107026358	YP_623869.1	<i>Burkholderia cenocepacia</i> AU 1054	497618643	WP_009932827.1	
107026574	YP_624085.1	<i>Burkholderia cenocepacia</i> J2315			
206563338	YP_002234101.1	<i>Burkholderia cenocepacia</i> J2315	53721367	YP_110352.1	
		<i>Burkholderia cenocepacia</i> J2315	515898935	WP_017329518.1	<i>Burkholderia pyrrocinia</i>
206563118	YP_002233881.1	<i>Burkholderia cenocepacia</i> MC0-3	515899147	WP_017329730.1	<i>Burkholderia sp.</i> BT03
		<i>Burkholderia cenocepacia</i> MC0-3	495024721	WP_007750493.1	<i>Burkholderia sp.</i> BT03
170738345	YP_001779605.1	<i>Burkholderia cepacia</i> GG4	495008421	WP_007734433.1	<i>Burkholderia sp.</i> BT03
		<i>Burkholderia cepacia</i> GG4	495004183	WP_007730197.1	<i>Burkholderia sp.</i> BT03
170735763	YP_001777023.1	<i>Burkholderia cepacia</i> GG4	495019364	WP_007745261.1	<i>Burkholderia sp.</i> CCGE1001
402569012	YP_006618356.1	<i>Burkholderia cepacia</i> GG4	323528430	YP_004230582.1	<i>Burkholderia sp.</i> CCGE1002
402569453	YP_006618797.1	<i>Burkholderia cepacia</i> GG4	295699712	YP_003607605.1	<i>Burkholderia sp.</i> CCGE1002
402569397	YP_006618741.1	<i>Burkholderia cepacia</i> GG4	295699990	YP_003607883.1	<i>Burkholderia sp.</i> CCGE1003
402569217	YP_006618561.1	<i>Burkholderia cepacia</i> GG4			
571036043	ETP62334.1	<i>Burkholderia dolosa</i> PC543	307727295	YP_003910508.1	
330819785	YP_004348647.1	<i>Burkholderia gladioli</i> BSR3	494317733	WP_007177657.1	<i>Burkholderia sp.</i> Ch1-1
330819676	YP_004348538.1	<i>Burkholderia gladioli</i> BSR3	494316885	WP_007177278.1	<i>Burkholderia sp.</i> Ch1-1
238023840	YP_002908072.1	<i>Burkholderia glumae</i> BGR1	494318228	WP_007177867.1	<i>Burkholderia sp.</i> H160
492939797	WP_006052729.1	<i>Burkholderia graminis</i>	496200934	WP_008920771.1	<i>Burkholderia sp.</i> H160
516385758	WP_017775434.1	<i>Burkholderia kururiensis</i>	496204248	WP_008924083.1	
78062510	YP_372418.1	<i>Burkholderia lata</i>	517249407	WP_018438225.1	<i>Burkholderia sp.</i> JPY251
78062744	YP_372652.1	<i>Burkholderia mallei</i> ATCC 23344	517245407	WP_018434225.1	<i>Burkholderia sp.</i> JPY251
		<i>Burkholderia mallei</i> NCTC 10247	522054830	WP_020566039.1	<i>Burkholderia sp.</i> RPE64
53716979	YP_106025.1	<i>Burkholderia multivorans</i>	387905272	YP_006335610.1	<i>Burkholderia sp.</i> RPE64
		<i>Burkholderia multivorans</i>	507518235	YP_008039851.1	<i>Burkholderia sp.</i> RPE64
126446932	YP_001078080.1	<i>Burkholderia multivorans</i>	507518401	YP_008040016.1	<i>Burkholderia sp.</i> SJ98
493460017	WP_006415254.1	<i>Burkholderia multivorans</i>	507526191	YP_008047814.1	<i>Burkholderia sp.</i> SJ98
493441664	WP_006397095.1	<i>Burkholderia multivorans</i>	495622730	WP_008347309.1	<i>Burkholderia sp.</i> TJ149
493449232	WP_006404539.1	<i>Burkholderia multivorans</i>	495622724	WP_008347303.1	<i>Burkholderia sp.</i> TJ149
493449235	WP_006404542.1	<i>Burkholderia multivorans</i>	495628986	WP_008353565.1	
493451508	WP_006406785.1	<i>Burkholderia multivorans</i>			
493461493	WP_006416713.1	<i>Burkholderia multivorans</i>	325520013	EGC99246.1	
			325519646	EGC98985.1	

517229036	WP_018417854.1	Burkholderia sp. WSM4176			606.96
517236508	WP_018425326.1	Burkholderia sp. WSM4176			Capronia epimyces CBS
517234606	WP_018423424.1	Burkholderia sp. WSM4176	590009418	EXJ84624.1	606.96
377811535	YP_005043975.1	Burkholderia sp. YI23	589267939	CDM25875.1	Castellaniella defragrans
377811886	YP_005044326.1	Burkholderia sp. YI23	522008485	WP_020519756.1	65Phen
377807950	YP_004979142.1	Burkholderia sp. YI23			Catelliglobospora koreensis
377807952	YP_004979144.1	Burkholderia sp. YI23	256395050	YP_003116614.1	Catenulispora acidiphila DSM
377807727	YP_004978919.1	Burkholderia sp. YI23	516719023	WP_018062604.1	44928
377808695	YP_004979887.1	Burkholderia sp. YI23	348573264	XP_003472411.1	Caulobacter
377808233	YP_004979425.1	Burkholderia sp. YI23	496477013	WP_009185774.1	Cavia porcellus
377813016	YP_005042265.1	Burkholderia sp. YI23			Cecembia lonarensis
494851793	WP_007577893.1	Burkholderia terrae	319955709	YP_004166976.1	Cellulophaga algicola DSM
494862312	WP_007588412.1	Burkholderia terrae	584428683	EWI13359.1	14237
494861424	WP_007587524.1	Burkholderia terrae	325288132	YP_004263922.1	Cellulophaga geojensis KL-A
497593870	WP_009908054.1	Burkholderia thailandensis	478503920	XP_004426262.1	Cellulophaga lytica DSM 7489
497587058	WP_009901242.1	Burkholderia thailandensis	449546484	EMD37453.1	Ceratotherium simum simum
492898578	WP_006028984.1	Burkholderia thailandensis	110633939	YP_674147.1	Ceriporiopsis subvermispora B
		Burkholderia thailandensis	518232762	WP_019402970.1	Chelativorans sp. BNC1
83718189	YP_440255.1	E264	533171622	XP_005399284.1	Chelatococcus sp. GW1
		Burkholderia thailandensis			Chinchilla lanigera
488605793	YP_007920850.1	MSMB121	256424547	YP_003125200.1	Chitinophaga pinensis DSM
497784460	WP_010098644.1	Burkholderia ubonensis	163848508	YP_001636552.1	2588
497775870	WP_010090054.1	Burkholderia ubonensis			Chloroflexus aurantiacus J-10-fl
544729350	WP_021159162.1	Burkholderia vietnamiensis	34498281	NP_902496.1	Chromobacterium violaceum
544726804	WP_021156666.1	Burkholderia vietnamiensis			ATCC 12472
134293388	YP_001117124.1	Burkholderia vietnamiensis G4	92114823	YP_574751.1	Chromohalobacter salexigens
		Burkholderia xenovorans	92114460	YP_574388.1	DSM 3043
91779072	YP_554280.1	LB400	530584374	XP_005285995.1	Chromohalobacter salexigens
		Burkholderia xenovorans	489069390	WP_002979369.1	DSM 3043
91778687	YP_553895.1	LB400			Chrysemys picta bellii
		Burkholderia xenovorans	573452204	GAE65221.1	Chryseobacterium gleum
91779222	YP_554430.1	LB400	515973427	WP_017404010.1	Chryseobacterium indologenes
557726988	GAD94392.1	Byssochlamys spectabilis No. 5	586468102	XP_006864657.1	NBRC 14944
557726188	GAD95183.1	Byssochlamys spectabilis No. 5	494037191	WP_006979317.1	Chryseobacterium taeanense
296215168	XP_002807287.1	Callithrix jacchus	198422372	XP_002129543.1	Chrysochloris asiatica
560919099	XP_006185773.1	Camelus ferus	198412596	XP_002124652.1	Chthoniobacter flavus
354545171	CCE41897.1	Candida parapsilosis	489926777	WP_003830113.1	Ciona intestinalis
		Candidatus Aquiluna sp.	575565961	ETX65600.1	Ciona intestinalis
494804704	WP_007540112.1	IMCC13023	283786214	YP_003366079.1	Citrobacter freundii
494056614	WP_006998705.1	Candidatus Burkholderia kirkii	496061569	WP_008786076.1	Citrobacter freundii UCI 32
		Candidatus Entotheonella sp.			Citrobacter rodentium ICC168
575412461	ETW98196.1	TSY1			Citrobacter sp. 30_2
		Candidatus Entotheonella sp.	565935309	ETI24538.1	Cladophialophora carrionii CBS
575417260	ETX02176.1	TSY2			160.54
		Candidatus Korarchaeum	589992107	EXJ74689.1	Cladophialophora psammophila
170290417	YP_001737233.1	cryptofilum OPF8			CBS 110553
		Candidatus Puniceispirillum	589975512	EXJ58813.1	Cladophialophora yegresii CBS
294083884	YP_003550641.1	marinum IMCC1322			114405
		Candidatus Puniceispirillum	589977331	EXJ60615.1	Cladophialophora yegresii CBS
294083883	YP_003550640.1	marinum IMCC1322			114405
		Candidatus Solibacter usitatus			Clavibacter michiganensis
116625630	YP_827786.1	Ellin6076	148271990	YP_001221551.1	subsp. michiganensis NCPPB
57090613	XP_547837.1	Canis lupus familiaris			382
443731097	ELU16335.1	Capitella teleta			Clavibacter michiganensis
548483764	XP_005685977.1	Capra hircus	473832772	YP_007685070.1	subsp. nebraskensis NCPPB
590018467	EXJ93666.1	Capronia coronata CBS 617.96			2581
590006647	EXJ81856.1	Capronia coronata CBS 617.96	170780526	YP_001708858.1	Clavibacter michiganensis
590016467	EXJ91667.1	Capronia epimyces CBS	544699021	WP_021130144.1	subsp. sepedonicus
			545061010	WP_021434104.1	Clostridium
					Clostridium

545057010	WP_021430157.1	Clostridium	71280867	YP_268192.1	Colwellia psychrerythraea 34H
517421282	WP_018592765.1	Clostridium	71277747	YP_268195.1	Colwellia psychrerythraea 34H
493484901	WP_006439715.1	Clostridium	507945413	XP_004681880.1	Condylura cristata
310659532	YP_003937253.1	Clostridium			Coniosporium apollinis CBS
544695260	WP_021126550.1	Clostridium	494825404	EON62590.1	100218
6900003	CAB71312.1	Clostridium	495647913	WP_008372492.1	Coprococcus comes
490751284	WP_004613592.1	Clostridium	547811030	WP_022220198.1	Coprococcus comes CAG:19
490576384	WP_004441404.1	Clostridium botulinum	517108380	WP_018297198.1	Corynebacterium lubricantis
544705636	WP_021136255.1	Clostridium botulinum	405958634	EKC24743.1	Crassostrea gigas
		Clostridium botulinum A str.	405950622	EKC18597.1	Crassostrea gigas
148380430	YP_001254971.1	ATCC 3502	354501541	XP_003512849.1	Cricetulus griseus
		Clostridium botulinum B str.	344249669	EGW05773.1	Cricetulus griseus
559781388	GAE02922.1	Osaka05	493146288	WP_006159973.1	Cupriavidus basilensis
		Clostridium botulinum Ba4 str.	493142280	WP_006157872.1	Cupriavidus basilensis
237795912	YP_002863464.1	657	601455033	EYT01341.1	Cupriavidus sp. SK-3
494122896	WP_007062673.1	Clostridium carboxidivorans			Cyphellophora europaea CBS
494122905	WP_007062682.1	Clostridium carboxidivorans	568122136	ETN44731.1	101466
495138414	WP_007863221.1	Clostridium citroniae	551205267	WP_022833317.1	Cytophagales str. B6
488671168	WP_002599959.1	Clostridium hathewayi	68391886	XP_694147.1	Danio rerio
493490252	WP_006444975.1	Clostridium hylemonae	488521224	XP_004452534.1	Dasypus novemcinctus
490745003	WP_004607311.1	Clostridium scindens			Deferribacter desulfuricans
497980698	WP_010294854.1	Clostridium senegalense	291280010	YP_003496845.1	SSM1
547958439	WP_022358812.1	Clostridium sp. CAG:43	226357446	YP_002787185.1	Deinococcus deserti VCD115
496289811	WP_009001849.1	Clostridium sp. D5	516904165	WP_018157906.1	Demetria terragena
496460564	WP_009169409.1	Clostridium sp. DL-VIII			Desulfobacterium
545398543	WP_021638234.1	Clostridium sp. KLE 1755	224371801	YP_002605965.1	autotrophicum HRM2
516361638	WP_017751671.1	Clostridium tyrobutyricum	224370569	YP_002604733.1	Desulfobacterium
588898121	EXF79245.1	Colletotrichum fioriniae PJ7	550912207	WP_022665217.1	autotrophicum HRM2
588902099	EXF82477.1	Colletotrichum fioriniae PJ7	550913254	WP_022666252.1	Desulfospira joergensenii
588905783	EXF85472.1	Colletotrichum fioriniae PJ7			Desulfospira joergensenii
588904662	EXF84549.1	Colletotrichum fioriniae PJ7	392424548	YP_006465542.1	Desulfosporosinus acidiphilus
		Colletotrichum gloeosporioides	497309999	WP_009624216.1	SJ4
530479791	EQB58914.1	Cg-14	494023180	WP_006965434.1	Desulfosporosinus sp. OT
		Colletotrichum gloeosporioides	494025489	WP_006967703.1	Desulfotignum phosphitoxidans
530479669	EQB58816.1	Cg-14			Desulfotignum phosphitoxidans
		Colletotrichum gloeosporioides			Desulfovibrio desulfuricans
530474688	EQB54879.1	Cg-14	220904954	YP_002480266.1	subsp. desulfuricans str. ATCC
		Colletotrichum gloeosporioides	550908369	WP_022661474.1	27774
530462298	EQB45234.1	Cg-14			Desulfovibrio longus
		Colletotrichum gloeosporioides	597974293	XP_007361675.1	Dichomitus squalens LYAD-421
596666583	XP_007276135.1	Nara gc5	494903361	WP_007629406.1	SS1
		Colletotrichum gloeosporioides			Dietzia cinnamomea
596678444	XP_007278372.1	Nara gc5	85818225	EAQ39385.1	Dokdonia donghaensis
		Colletotrichum gloeosporioides	493472321	WP_006427363.1	MED134
596718578	XP_007285769.1	Nara gc5	548195963	WP_022416476.1	Dorea longicatena
		Colletotrichum gloeosporioides	510885559	WP_016220098.1	Dorea longicatena CAG:42
596710356	XP_007284291.1	Nara gc5	546428562	WP_021859784.1	Dorea sp. 5-2
		Colletotrichum graminicola	547916271	WP_022319005.1	Dorea sp. CAG:105
310800425	EFQ35318.1	M1.001			Dorea sp. CAG:317
380491410	CCF35343.1	Colletotrichum higginsianum	452843265	EME45200.1	Dothistroma septosporum
		Colletotrichum orbiculare MAFF	518767344	WP_019924633.1	NZE10
477535076	ENH86604.1	240422	518784378	WP_019941667.1	Duganella zoogloeoides
		Colletotrichum orbiculare MAFF			Dyadobacter beijingsensis
477533226	ENH84816.1	240422			Dyadobacter fermentans DSM
340788726	YP_004754191.1	Collimonas fungivorans Ter331	255038019	YP_003088640.1	18053
543730802	XP_005506452.1	Columba livia	518297193	WP_019467401.1	Dyella japonica
449278496	EMC86318.1	Columba livia	518294007	WP_019464215.1	Dyella japonica
517856755	WP_019026963.1	Colwellia piezophila	612504296	AHX14134.1	Dyella jiangningensis
517856758	WP_019026966.1	Colwellia piezophila			

517285757	WP_018474575.1	Echinicola pacifica	518652147	YP_008141667.1	Ferroplasma acidarmanus fer1
431799267	YP_007226171.1	Echinicola vietnamensis DSM 17526	546145506	WP_021788041.1	Ferroplasma sp. Type II
507629322	XP_004698679.1	Echinops telfairi	436837795	YP_007323011.1	Fibrella aestuarina BUZ 2
585680807	XP_006891834.1	Elephantulus edwardii	496584909	WP_009284748.1	Fibrisoma limi
496379655	WP_009088645.1	Elizabethkingia anophelis	525000291	XP_005047884.1	Ficedula albicollis
609710570	CDN80243.1	Elizabethkingia anophelis	578020649	AHI08971.1	Fimbriimonas ginsengisoli Gsoil 348
544940425	WP_021348755.1	Elizabethkingia meningoseptica	496092930	WP_008817437.1	Firmicutes
551555851	XP_005765085.1	Emiliana huxleyi CCMP1516	547779839	WP_022190796.1	Firmicutes bacterium CAG:240
408674880	YP_006874628.1	Emticicia oligotrophica DSM 17448	546420484	WP_021858850.1	Firmicutes bacterium CAG:83
589089477	AHK46232.1	Ensifer adhaerens OV14	496141426	WP_008865933.1	Flavobacteria bacterium MS024-2A
589090302	AHK47055.1	Ensifer adhaerens OV14	496143301	WP_008867808.1	Flavobacteria bacterium MS024-3C
589088852	AHK45607.1	Ensifer adhaerens OV14	495545846	WP_008270425.1	Flavobacteriales bacterium ALC-1
518923817	WP_020079692.1	Enterobacter aerogenes	365961180	YP_004942747.1	Flavobacterium columnare ATCC 49512
444353313	YP_007389457.1	Enterobacter aerogenes EA1509E	495086140	WP_007810963.1	Flavobacterium sp. CF136
336248562	YP_004592272.1	Enterobacter aerogenes KCTC 2190	495744549	WP_008469128.1	Flavobacterium sp. F52
345297720	YP_004827078.1	Enterobacter asburiae LF7a	495743241	WP_008467820.1	Flavobacterium sp. F52
311281085	YP_003943316.1	Enterobacter lignolyticus SCF1	518925659	WP_020081534.1	Flavobacterium sp. SCGC AAA160-P02
510804130	WP_016178899.1	Enterococcus avium	516064262	WP_017494845.1	Flavobacterium sp. WG21
537093523	ERE50372.1	Enterococcus gallinarum EGD-AAK12	516065750	WP_017496333.1	Flavobacterium sp. WG21
498474540	WP_010778865.1	Enterococcus gilvus	522016241	WP_020527512.1	Flexithrix dorotheae
498476948	WP_010781267.1	Enterococcus gilvus	550978757	WP_022726868.1	Fodinicurvata sediminis
392989503	YP_006488096.1	Enterococcus hirae ATCC 9790	550978816	WP_022726927.1	Fodinicurvata sediminis
498435912	WP_010741592.1	Enterococcus malodoratus	527299018	EPS99821.1	Fomitopsis pinicola FP-58527 SS1
498434013	WP_010739705.1	Enterococcus malodoratus	494923654	WP_007649689.1	Formosa sp. AK20
498436385	WP_010742063.1	Enterococcus malodoratus	494923650	WP_007649685.1	Formosa sp. AK20
498452247	WP_010757752.1	Enterococcus pallens	551294047	WP_022914137.1	Frankia sp. Iso899
498452150	WP_010757655.1	Enterococcus pallens	383316637	YP_005377479.1	Frateuria aurantia DSM 6220
498438345	WP_010744008.1	Enterococcus raffinosus	479198794	YP_007828020.1	Fretibacterium fastidiosum
545203003	XP_005605579.1	Equus caballus	494125569	WP_007065344.1	Fulvimarina pelagi
490272062	WP_004168187.1	Erwinia amylovora	497268441	WP_009582658.1	Fulvivirga imtechensis
312173214	CBX81469.1	Erwinia amylovora ATCC BAA-2158	497268435	WP_009582652.1	Fulvivirga imtechensis
292489059	YP_003531946.1	Erwinia amylovora CFBP1430	517319564	CCT70383.1	Fusarium fujikuroi IMI 58289
387870478	YP_005801848.1	Erwinia pyrifoliae DSM 12163	517310095	CCT61554.1	Fusarium fujikuroi IMI 58289
259907707	YP_002648063.1	Erwinia pyrifoliae Ep1/96	517315603	CCT67602.1	Fusarium fujikuroi IMI 58289
385785513	YP_005816622.1	Erwinia sp. Ejp617	596544210	EYB24406.1	Fusarium graminearum
446480551	WP_000558405.1	Escherichia coli	596550858	EYB30358.1	Fusarium graminearum
446480550	WP_000558404.1	Escherichia coli	46109694	XP_381905.1	Fusarium graminearum PH-1
486168698	WP_001531993.1	Escherichia coli	46127015	XP_388061.1	Fusarium graminearum PH-1
485733760	WP_001361167.1	Escherichia coli	477520607	ENH72733.1	Fusarium oxysporum f. sp. cubense race 1
310825669	YP_003958026.1	Eubacterium limosum KIST612	477512615	ENH65152.1	Fusarium oxysporum f. sp. cubense race 1
518500342	WP_019670549.1	Eudoraea adriatica	477519149	ENH71330.1	Fusarium oxysporum f. sp. cubense race 1
378728459	EHY54918.1	Exophiala dermatitidis NIH/UT8656	475667008	EMT64798.1	Fusarium oxysporum f. sp. cubense race 4
378728343	EHY54802.1	Exophiala dermatitidis NIH/UT8656	475669214	EMT66976.1	Fusarium oxysporum f. sp. cubense race 4
529419229	XP_005229480.1	Falco peregrinus	475676863	EMT73885.1	Fusarium oxysporum f. sp. cubense race 4
410962375	XP_003987746.1	Felis catus	591477778	EXM08899.1	Fusarium oxysporum f. sp. cubense tropical race 4 54006
308050111	YP_003913677.1	Ferrimonas balearica DSM 9799			
308050109	YP_003913675.1	Ferrimonas balearica DSM 9799			

587710634	EWZ81971.1	Fusarium oxysporum f. sp. lycopersici MN25	518871156	WP_020027031.1	gamma proteobacterium SCGC AAA076-E13
587716092	EWZ87429.1	Fusarium oxysporum f. sp. lycopersici MN25	518871866	WP_020027741.1	gamma proteobacterium SCGC AAA076-F14
587721159	EWZ92496.1	Fusarium oxysporum f. sp. lycopersici MN25	516059526	WP_017490109.1	gamma proteobacterium WG36
590031789	EXK33647.1	Fusarium oxysporum f. sp. melonis 26406	545645245	WP_021752997.1	Gemella bergeri
590044621	EXK46479.1	Fusarium oxysporum f. sp. melonis 26406	489239550	WP_003147788.1	Gemella haemolysans
590031966	EXK33824.1	Fusarium oxysporum f. sp. melonis 26406	490771798	WP_004634022.1	Gemella morbillorum
590042915	EXK44773.1	Fusarium oxysporum f. sp. melonis 26406	493407964	WP_006363981.1	Gemella sanguinis
587743721	EXA41437.1	Fusarium oxysporum f. sp. pisi HDV247	497728191	WP_010042375.1	Gemmata obscuriglobus
587743542	EXA41258.1	Fusarium oxysporum f. sp. pisi HDV247	575461365	AHG92417.1	Gemmatimonadetes bacterium KBS708
587745254	EXA42970.1	Fusarium oxysporum f. sp. pisi HDV247	575461360	AHG92412.1	Gemmatimonadetes bacterium KBS708
591409470	EXL44607.1	Fusarium oxysporum f. sp. radidis-lycopersici 26381	284990813	YP_003409367.1	Geodermatophilus obscurus DSM 43160
591405824	EXL40961.1	Fusarium oxysporum f. sp. radidis-lycopersici 26381	522163861	WP_020675069.1	Geopsychrobacter electrophilus
590071856	EXK99380.1	Fusarium oxysporum f. sp. raphani 54005	494893050	WP_007619095.1	Glaciecola arctica
590070437	EXK97961.1	Fusarium oxysporum f. sp. raphani 54005	551264342	WP_022884550.1	Glaciibacter superstes
591505127	EXM34430.1	Fusarium oxysporum f. sp. vasinfectum 25433	551264371	WP_022884579.1	Glaciibacter superstes
591491454	EXM21082.1	Fusarium oxysporum f. sp. vasinfectum 25433	551264373	WP_022884581.1	Glaciibacter superstes
587702633	EWZ49238.1	Fusarium oxysporum Fo47	496128168	WP_008852675.1	Gluconobacter morbifer
587693872	EWZ40477.1	Fusarium oxysporum Fo47	491325498	WP_005183461.1	Gordonia amarae
587700849	EWZ47454.1	Fusarium oxysporum Fo47	491325481	WP_005183444.1	Gordonia amarae
342880654	EGU81692.1	Fusarium oxysporum Fo5176	519014209	WP_020170084.1	Gordonia polyisoprenivorans
342884446	EGU84661.1	Fusarium oxysporum Fo5176	378716377	YP_005281266.1	Gordonia polyisoprenivorans VH2
342885186	EGU85285.1	Fusarium oxysporum Fo5176	493374214	WP_006330517.1	Gordonia rhizosphaera
587665692	EWY88033.1	Fusarium oxysporum FOSC 3-a	479173712	YP_007801695.1	Gordonibacter pamelaeeae 7-10-1-b
587658278	EWY80669.1	Fusarium oxysporum FOSC 3-a	426377053	XP_004055291.1	Gorilla gorilla gorilla
587679094	EWZ01412.1	Fusarium pseudograminearum CS3096	374313636	YP_005060066.1	Granulicella mallensis MP5ACTX8
408388741	EKJ68420.1	Fusarium pseudograminearum CS3096	322433091	YP_004210340.1	Granulicella tundricola MP5ACTX9
408389309	EKJ68770.1	Fusarium verticillioides 7600	551261240	WP_022881474.1	Gryllotalpicola ginsengisoli
584129239	EWG38644.1	Fusarium verticillioides 7600	83645920	YP_434355.1	Hahella chejuensis KCTC 2396
584141350	EWG50681.1	Fusarium verticillioides 7600	521079502	WP_020410409.1	Hahella ganghwensis
584144390	EWG53679.1	Fusarium verticillioides 7600	521076068	WP_020406975.1	Hahella ganghwensis
496279890	WP_008991928.1	Galbibacter marinus	332663198	YP_004445986.1	Haliscomenobacter hydrossis DSM 1100
513189796	XP_421428.4	Gallus gallus gamma proteobacterium HIMB30	495582862	WP_008307441.1	Haloarcula amylyolytica
498233252	WP_010547408.1	gamma proteobacterium HIMB30	491680942	WP_005537083.1	Haloarcula argentinensis
498233249	WP_010547405.1	gamma proteobacterium HIMB30	494347286	WP_007189434.1	Haloarcula californiae
497104266	WP_009471456.1	gamma proteobacterium HIMB55	344213146	YP_004797466.1	Haloarcula hispanica ATCC 33960
518868573	WP_020024463.1	gamma proteobacterium SCGC AAA076-D02	490728202	WP_004590607.1	Haloarcula japonica
518870748	WP_020026623.1	gamma proteobacterium SCGC AAA076-D13	55379132	YP_136982.1	Haloarcula marismortui ATCC 43049
518871157	WP_020027032.1	gamma proteobacterium SCGC AAA076-E13	491097603	WP_004959204.1	Haloarcula sinaiensis
			490651098	WP_004516092.1	Haloarcula vallismortis
			494232992	WP_007140037.1	Halobiforma lacisalsi
			493725064	WP_006674436.1	Halobiforma nitratireducens
			492979562	WP_006076636.1	Halococcus saccharolyticus
			491180600	WP_005038962.1	Halococcus salifodinae
			495847922	WP_008572501.1	Haloferax
			495600043	WP_008324622.1	Haloferax elongans

491119548	WP_004977990.1	Haloferax gibbonsii	512855306	XP_004888295.1	Heterocephalus glaber
495369461	WP_008094174.1	Haloferax prahovense	512950155	XP_004837517.1	Heterocephalus glaber
495882984	WP_008607563.1	Haloferax sp. BAB2207	494372180	WP_007198955.1	Hoeflea phototrophica
494486947	WP_007276420.1	Haloferax sulfurifontis	494373738	WP_007199816.1	Hoeflea phototrophica
292653723	YP_003533621.1	Haloferax volcanii DS2	517241432	WP_018430250.1	Hoeflea sp. 108
496829151	WP_009376761.1	Halogranum salarium	517241430	WP_018430248.1	Hoeflea sp. 108
496591115	WP_009288221.1	Halomonas	15082426	AAH12131.1	Homo sapiens
512440296	WP_016416105.1	Halomonas anticariensis	21389361	NP_653182.1	Homo sapiens
512443155	WP_016418809.1	Halomonas anticariensis	578825445	XP_006720079.1	Homo sapiens
512443206	WP_016418860.1	Halomonas anticariensis	551279435	WP_022899549.1	Humibacter albus
512440788	WP_016416575.1	Halomonas anticariensis	221105094	XP_002160119.1	Hydra vulgaris
512438904	WP_016414724.1	Halomonas anticariensis	495512835	WP_008237480.1	Imtechella halotolerans
494173862	WP_007113589.1	Halomonas boliviensis	496326402	WP_009035580.1	Indibacter alkaliphilus
494173752	WP_007113479.1	Halomonas boliviensis	317126279	YP_004100391.1	Intrasporangium calvum DSM 43043
307544144	YP_003896623.1	Halomonas elongata DSM 2581	317126273	YP_004100385.1	Intrasporangium calvum DSM 43043
307545477	YP_003897956.1	Halomonas elongata DSM 2581	586971661	EWT07023.1	Intrasporangium chromatireducens Q5-1
307546897	YP_003899376.1	Halomonas elongata DSM 2581	586971667	EWT07029.1	Intrasporangium chromatireducens Q5-1
517848713	WP_019018921.1	Halomonas lutea	507530406	XP_004649287.1	Jaculus jaculus
517848711	WP_019018919.1	Halomonas lutea	89054020	YP_509471.1	Jannaschia sp. CCS1
515330573	WP_016855316.1	Halomonas smyrnensis	516490051	WP_017878495.1	Janthinobacterium sp. CG3
548433789	WP_022523626.1	Halomonas sp. A3H3	495727362	WP_008451941.1	Janthinobacterium sp. HH01
548420109	WP_022520341.1	Halomonas sp. A3H3	491684031	WP_005540169.1	Johnsonella ignava
584381297	EWG98416.1	Halomonas sp. BC04	495886875	WP_008611454.1	Joostella marina
584386312	EWH03082.1	Halomonas sp. BC04	516951438	WP_018181128.1	Kaistia granuli
584386634	EWH03384.1	Halomonas sp. BC04	310830249	YP_003965349.1	Ketogulonicigenium vulgare Y25
546177901	WP_021818656.1	Halomonas sp. BJGMM-B45	522083138	WP_020594347.1	Kiloniella laminariae
546180177	WP_021820908.1	Halomonas sp. BJGMM-B45	522081177	WP_020592386.1	Kiloniella laminariae
496391437	WP_009100427.1	Halomonas sp. GFAJ-1	357393553	YP_004908394.1	Kitasatospora setae KM-6054
496244391	WP_008957776.1	Halomonas sp. HAL1	357393555	YP_004908396.1	Kitasatospora setae KM-6054
496243984	WP_008957369.1	Halomonas sp. HAL1	507089527	WP_016160240.1	Klebsiella
498315795	WP_010629951.1	Halomonas sp. KM-1	556470290	WP_023322031.1	Klebsiella pneumoniae
498312555	WP_010626711.1	Halomonas sp. KM-1	556335582	WP_023297019.1	Klebsiella pneumoniae
552545866	WP_023004224.1	Halomonas sp. PBN3	490309392	WP_004204193.1	Klebsiella pneumoniae
497407390	WP_009721588.1	Halomonas sp. TD01	556267326	WP_023288208.1	Klebsiella pneumoniae
515483193	WP_016916461.1	Halomonas stevensii	556467911	WP_023319670.1	Klebsiella pneumoniae
496588255	WP_009286883.1	Halomonas titanicae	206576988	YP_002240611.1	Klebsiella pneumoniae 342
517746371	WP_018916579.1	Halomonas zhanjiangensis	583546968	EWE10358.1	Klebsiella pneumoniae BIDMC 46b
495664170	WP_008388749.1	Halosarcina pallida	550447455	YP_008663303.1	Klebsiella pneumoniae CG43
573481958	AHG00369.1	Halostagnicola larsenii XH-48	583704215	EWF66363.1	Klebsiella pneumoniae MGH 35
496171357	WP_008895864.1	Haloterrigena salina	583698999	EWF61185.1	Klebsiella pneumoniae MGH 43
554807179	XP_005914513.1	Haplochromis burtoni	583478151	EWD42050.1	Klebsiella pneumoniae UCI 26
555704675	ESO07908.1	Helobdella robusta	496083060	WP_008807567.1	Klebsiella sp. 1_1_55
493510522	WP_006464873.1	Herbaspirillum frisingense	591283029	CDN04099.1	Klebsiella sp. 18A069
515269373	WP_016832043.1	Herbaspirillum lusitanum	288937307	YP_003441366.1	Klebsiella variicola At-22
516022478	WP_017453061.1	Herbaspirillum seropedicae	489715758	WP_003619882.1	Komagataeibacter hansenii
300309517	YP_003773609.1	Herbaspirillum seropedicae SmR1	494154142	WP_007093885.1	Kordia algicida
495150327	WP_007875133.1	Herbaspirillum sp. CF444	521053509	WP_020385460.1	Kribbella catacumbae
495609653	WP_008334232.1	Herbaspirillum sp. GW103	521057645	WP_020389596.1	Kribbella catacumbae
495388378	WP_008113081.1	Herbaspirillum sp. YR522	284034417	YP_003384348.1	Kribbella flavida DSM 17836
159899018	YP_001545265.1	Herpetosiphon aurantiacus DSM 785			

332291525	YP_004430134.1	Krokinobacter sp. 4H-3-7-5	497459635	WP_009773833.1	marine actinobacterium PHSC20C1
495181795	WP_007906585.1	Ktedonobacter racemifer	516700916	WP_018052109.1	Marinimicrobia bacterium SCGC AB-629-J13
495182323	WP_007907113.1	Ktedonobacter racemifer	495899420	WP_008623999.1	Mariniradius saccharolyticus
495179900	WP_007904690.1	Ktedonobacter racemifer	385330663	YP_005884614.1	Marinobacter adhaerens HP15
518793270	WP_019950559.1	Kushneria aurantia	494259899	WP_007151900.1	Marinobacter algicola
578005346	AHH93604.1	Kutzneria albida DSM 43870	120555056	YP_959407.1	Marinobacter aquaeolei VT8
585092721	EWM14662.1	Kutzneria sp. 744			Marinobacter
552541681	WP_023000145.1	Labrenzia			hydrocarbonoclasticus ATCC 49840
552541677	WP_023000141.1	Labrenzia	387813506	YP_005428988.1	Marinobacter lipolyticus
493994423	WP_006937102.1	Labrenzia aggregata	501088391	WP_012138648.1	Marinobacter manganoxydans
493994427	WP_006937106.1	Labrenzia aggregata	495451233	WP_008175927.1	Marinobacter nanhaiticus
495468829	WP_008193519.1	Labrenzia alexandrii	490720553	WP_004583115.1	Marinobacter santoriniensis
495463964	WP_008188656.1	Labrenzia alexandrii	496223508	WP_008937543.1	Marinobacter sp. A3d10
496557251	WP_009263326.1	Lachnospiraceae	582025531	AHI28867.1	Marinobacter sp. BSs20148
496263625	WP_008977010.1	Lachnospiraceae	399546107	YP_006559415.1	Marinobacter sp. C1S70
497077691	WP_009461342.1	Lachnospiraceae bacterium	552528590	WP_022993488.1	Marinobacter sp. ELB17
510890479	WP_016223794.1	Lachnospiraceae bacterium 3-2	494591022	WP_007349615.1	Marinobacter sp. EN3
510889445	WP_016222783.1	Lachnospiraceae bacterium 3-2	552559757	WP_023012155.1	Marinobacter sp. ES-1
496542038	WP_009248186.1	Lachnospiraceae bacterium	552204363	WP_022989454.1	Marinobacter sp. EVN1
494200202	WP_007124906.1	2_1_46FAA	552554043	WP_023009383.1	Marinobacterium stanieri
489810161	WP_003714017.1	Lactobacillus antri	498009412	WP_010323568.1	Marinomonas mediterranea MMB-1
489811188	WP_003715042.1	Lactobacillus oris	326793361	YP_004311181.1	Marinomonas posidonica IVIA- Po-181
489798985	WP_003702876.1	Lactobacillus oris	333906444	YP_004480030.1	Marinomonas sp. D104
574961650	CDK35962.1	Lactobacillus salivarius	567432457	WP_024024331.1	Marinomonas sp. MED121
498310803	WP_010624959.1	Lactobacillus salivarius cp400	497518434	WP_009832632.1	Marinomonas sp. MWYL1
556946625	XP_005986491.1	Lactobacillus versmoldensis	152994094	YP_001338929.1	Martelella mediterranea
312130496	YP_003997836.1	Latimeria chalumnae	516721842	WP_018064680.1	Maylandia zebra
516893905	WP_018152247.1	Leadbetterella byssophila DSM 17132	498939595	XP_004541895.1	Maylandia zebra
516892601	WP_018151492.1	Leeia oryzae	498939591	XP_004541894.1	Meganema perideroedes
497464642	WP_009778840.1	Leeia oryzae	517463199	WP_018633932.1	Megasphaera
568284937	YP_008973076.1	Leeuwenhoekiella blandensis	520879191	WP_020310842.1	Megasphaera elsdenii DSM 20460
568284935	YP_008973074.1	Leisingera methylohalidivorans DSM 14336	348025670	YP_004765474.1	Megasphaera micronuciformis
573888883	XP_006632209.1	Leisingera methylohalidivorans DSM 14336	494000017	WP_006942606.1	Melissococcus plutonius ATCC 35311
585155525	XP_006730098.1	Lepisosteus oculatus	332685776	YP_004455550.1	Melissococcus plutonius DAT561
602711731	XP_007466101.1	Leptonychotes weddellii	379726838	YP_005319023.1	Melopsittacus undulatus
517161861	WP_018350679.1	Lipotes vexillifer	527263017	XP_005149740.1	Mesocricetus auratus
517163469	WP_018352287.1	Longispora albida	524943394	XP_005072835.1	Mesoflavibacter zeaxanthinifaciens
556105508	ESO94160.1	Longispora albida	498202842	WP_010516998.1	Mesorhizobium
556105489	ESO94141.1	Lottia gigantea	563472306	WP_023697251.1	Mesorhizobium
344273853	XP_003408733.1	Lottia gigantea	563546721	WP_023752640.1	Mesorhizobium
490337899	WP_004224302.1	Loxodonta africana	563549669	WP_023755542.1	Mesorhizobium
169825719	YP_001695877.1	Lysinibacillus fusiformis	563468131	WP_023693148.1	Mesorhizobium
601088271	EYR66081.1	Lysinibacillus sphaericus C3-41	563493281	WP_023712006.1	Mesorhizobium
544447586	XP_005561443.1	Lysobacter capsici AZ78	563459019	WP_023684136.1	Mesorhizobium
355693320	EHH27923.1	Macaca fascicularis	563481289	WP_023704920.1	Mesorhizobium
109083793	XP_001094065.1	Macaca mulatta	563531699	WP_023737892.1	Mesorhizobium
407918904	EKG12165.1	Macaca mulatta	563560515	WP_023766090.1	Mesorhizobium
305666708	YP_003862995.1	Macrophomina phaseolina MS6	563460014	WP_023685122.1	Mesorhizobium
305665980	YP_003862267.1	Maribacter sp. HTCC2170	563479906	WP_023703542.1	Mesorhizobium
114568849	YP_755529.1	Maribacter sp. HTCC2170			
		Maricaulis maris MCS10			

563540585	WP_023746646.1	Mesorhizobium	563892309	WP_023806582.1	Mesorhizobium sp. L2C089B000
563537057	WP_023743199.1	Mesorhizobium	563830210	WP_023800039.1	Mesorhizobium sp. L48C026A00
563549798	WP_023755668.1	Mesorhizobium	563857230	WP_023803746.1	Mesorhizobium sp. L48C026A00
563467631	WP_023692651.1	Mesorhizobium	563791880	WP_023794841.1	Mesorhizobium sp. LNHC209A00
563493903	WP_023712622.1	Mesorhizobium	563781309	WP_023792706.1	Mesorhizobium sp. LNHC209A00
496110246	WP_008834753.1	Mesorhizobium alhagi	563579101	WP_023784249.1	Mesorhizobium sp. LNHC220B00
496109807	WP_008834314.1	Mesorhizobium alhagi	563578179	WP_023783332.1	Mesorhizobium sp. LNHC220B00
493226774	WP_006204845.1	Mesorhizobium amorphae	563573205	WP_023778423.1	Mesorhizobium sp. LNHC221B00
493229838	WP_006206599.1	Mesorhizobium amorphae	563566225	WP_023771723.1	Mesorhizobium sp. LNHC229A00
493229785	WP_006206582.1	Mesorhizobium amorphae	563567037	WP_023772534.1	Mesorhizobium sp. LNHC229A00
493217297	WP_006199511.1	Mesorhizobium amorphae	563560114	WP_023765690.1	Mesorhizobium sp. LNHC232B00
433772654	YP_007303121.1	Mesorhizobium australicum WSM2073	563552827	WP_023758598.1	Mesorhizobium sp. LNHC252B00
433771588	YP_007302055.1	Mesorhizobium australicum WSM2073	563552919	WP_023758689.1	Mesorhizobium sp. LNHC252B00
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518698585	WP_019860078.1	Mesorhizobium loti	563536075	WP_023742231.1	Mesorhizobium sp. LNJC395A00
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13475682	NP_107249.1	Mesorhizobium loti MAFF303099	563526711	WP_023732988.1	Mesorhizobium sp. LNJC403B00
563516076	ETA71432.1	Mesorhizobium loti R7A	563526227	WP_023732505.1	Mesorhizobium sp. LNJC403B00
496149215	WP_008873722.1	Mesorhizobium metallidurans	563522309	WP_023728653.1	Mesorhizobium sp. LNJC405B00
496147906	WP_008872413.1	Mesorhizobium metallidurans	563519435	WP_023725827.1	Mesorhizobium sp. LSHC412B00
496151591	WP_008876098.1	Mesorhizobium metallidurans	563501759	WP_023719661.1	Mesorhizobium sp. LSHC420B00
496153980	WP_008878487.1	Mesorhizobium metallidurans	563500014	WP_023717924.1	Mesorhizobium sp. LSHC420B00
337265784	YP_004609839.1	Mesorhizobium opportunistum WSM2075	563475392	WP_023700251.1	Mesorhizobium sp. LSJC264A00
337267309	YP_004611364.1	Mesorhizobium opportunistum WSM2075	563478741	WP_023702636.1	Mesorhizobium sp. LSJC264A00
337266589	YP_004610644.1	Mesorhizobium opportunistum WSM2075	563474694	WP_023699558.1	Mesorhizobium sp. LSJC264A00
564008206	WP_023834357.1	Mesorhizobium sp. L103C105A0	563473487	WP_023698416.1	Mesorhizobium sp. LSJC265A00
564006398	WP_023832612.1	Mesorhizobium sp. L103C119B0	563474043	WP_023698957.1	Mesorhizobium sp. LSJC265A00
564003028	WP_023829296.1	Mesorhizobium sp. L103C120A0	563463859	WP_023688921.1	Mesorhizobium sp. LSJC269B00
564002293	WP_023828568.1	Mesorhizobium sp. L103C120A0	563464983	WP_023690037.1	Mesorhizobium sp. LSJC269B00
564000701	WP_023827032.1	Mesorhizobium sp. L103C131B0	563452679	WP_023678053.1	Mesorhizobium sp. LSJC280B00
563996039	WP_023822440.1	Mesorhizobium sp. L2C054A000			
563989234	WP_023818228.1	Mesorhizobium sp. L2C066B000			
563993067	WP_023819533.1	Mesorhizobium sp. L2C066B000			
563983400	WP_023816971.1	Mesorhizobium sp. L2C067A000			
563939675	WP_023811801.1	Mesorhizobium sp. L2C084A000			
563938637	WP_023811648.1	Mesorhizobium sp. L2C084A000			
563925257	WP_023809519.1	Mesorhizobium sp. L2C084A000			

563455655	WP_023680949.1	Mesorhizobium sp. LSJC280B00	344201938	YP_004787081.1	Muricauda ruestringensis DSM 13258
563449907	WP_023676374.1	Mesorhizobium sp. LSJC280B00	21313074	NP_080314.1	Mus musculus
		Mesorhizobium sp. LSJC285A00	13435795	AAH04753.1	Mus musculus
563441848	WP_023668714.1	Mesorhizobium sp. LSJC285A00	148704596	EDL36543.1	Mus musculus
563446050	WP_023672875.1		511828384	XP_004738925.1	Mustela putorius furo
493371271	WP_006327593.1	Mesorhizobium sp. STM 4661	367030697	XP_003664632.1	Myceliophthora thermophila ATCC 42464
493368816	WP_006325154.1	Mesorhizobium sp. STM 4661	597305095	CDO06720.1	Mycobacterium cosmeticum
493373514	WP_006329825.1	Mesorhizobium sp. STM 4661	518814339	WP_019970293.1	Mycobacterium sp. 141
517269468	WP_018458286.1	Mesorhizobium sp. WSM4349	518814362	WP_019970316.1	Mycobacterium sp. 141
		Metarhizium acridum CQMa 102	517431494	WP_018602439.1	Mycobacterium sp. 155
322694231	EFY86066.1	Metarhizium anisopliae ARSEF 23	517431467	WP_018602413.1	Mycobacterium sp. 155
322711542	EFZ03115.1	Metarhizium anisopliae ARSEF 23	558173685	XP_006099650.1	Myotis lucifugus
322706529	EFY98109.1		442317802	YP_007357823.1	Myxococcus stipitatus DSM 14675
220923857	YP_002499159.1	Methylobacterium nodulans ORS 2060	108758190	YP_634330.1	Myxococcus xanthus DK 1622
220923865	YP_002499167.1	Methylobacterium nodulans ORS 2060	493717294	WP_006666828.1	Natrialba aegyptia
170741627	YP_001770282.1	Methylobacterium sp. 4-46	493042320	WP_006106937.1	Natrialba asiatica
170741990	YP_001770645.1	Methylobacterium sp. 4-46	493877956	WP_006824303.1	Natrialba taiwanensis
494838461	WP_007564561.1	Methylobacterium sp. GXF4	493478044	WP_006432982.1	Natrinema versiforme
		Methylobacterium sp. WSM2598	491715365	WP_005559587.1	Natronococcus amylolyticus
517071436	WP_018260254.1	Methylobacterium sp. WSM2598	302882811	XP_003040311.1	Nectria haematococca mpVI 77-13-4
517075275	WP_018264093.1		302886928	XP_003042353.1	Nectria haematococca mpVI 77-13-4
565872386	WP_023953736.1	Microbacterium sp. TS-1	302919683	XP_003052914.1	Nectria haematococca mpVI 77-13-4
518011541	WP_019181749.1	Microbacterium yannicii	302889982	XP_003043876.1	Nectria haematococca mpVI 77-13-4
488944428	WP_002855503.1	Micrococcus luteus	302891297	XP_003044531.1	Nectria haematococca mpVI 77-13-4
516058028	WP_017488611.1	Micrococcus luteus	302886826	XP_003042302.1	Nectria haematococca mpVI 77-13-4
336118089	YP_004572857.1	Microlunatus phosphovorus NM-1	302907276	XP_003049610.1	Nectria haematococca mpVI 77-13-4
336118060	YP_004572828.1	Microlunatus phosphovorus NM-1	302888363	XP_003043068.1	Nectria haematococca mpVI 77-13-4
336118063	YP_004572831.1	Microlunatus phosphovorus NM-1	302882051	XP_003039936.1	Nectria haematococca mpVI 77-13-4
336115874	YP_004570640.1		489852739	WP_003756414.1	Neisseria sicca
315505122	YP_004084009.1	Micromonospora sp. L5	515029511	WP_016686765.1	Neisseria sicca
585245434	EWM64966.1	Micromonospora sp. M42	496406917	WP_009115781.1	Neisseria wadsworthii
488792410	WP_002704816.1	Microscilla marina	156368785	XP_001627872.1	Nematostella vectensis
488783161	WP_002695568.1	Microscilla marina	156352977	XP_001622857.1	Nematostella vectensis
531997348	XP_005343233.1	Microtus ochrogaster	156317921	XP_001618064.1	Nematostella vectensis
497163564	WP_009492975.1	Microvirga lotononidis			Neofusicoccum parvum UCRNP2
557623002	YP_008784134.1	missing catalytic residues	485922238	EOD47793.1	Neofusicoccum parvum UCRNP2
493976736	WP_006919769.1	missing catalytic residues	485929380	EOD52796.1	
491636508	WP_005494037.1	missing catalytic residues	584004362	XP_006797184.1	Neolamprologus brichardi
497329749	WP_009643962.1	Mogibacterium sp. CM50	584004360	XP_006797183.1	Neolamprologus brichardi
497329448	WP_009643661.1	Mogibacterium sp. CM50	119499151	XP_001266333.1	Neosartorya fischeri NRRL 181
576980661	EUC53405.1	Mogibacterium timidum ATCC 33093	551253652	WP_022873897.1	Nesterenkonia alba
554906233	ESK88189.1	Moniliophthora roreri MCA 2997	375145878	YP_005008319.1	Niastella koreensis GR20-10
554908909	ESK90533.1	Moniliophthora roreri MCA 2997	494068819	WP_007010886.1	Nitrateductor aquibiodomus
126282889	XP_001377162.1	Monodelphis domestica	497054508	WP_009449384.1	Nitrateductor indicus
495787942	WP_008512521.1	Mucilaginibacter paludis	497054502	WP_009449382.1	Nitrateductor indicus
			495871608	WP_008596187.1	Nitrateductor pacificus

495870406	WP_008594985.1	Nitratireductor pacificus	551302456	WP_022922413.1	Ornithinimicrobium pekingense
496344882	WP_009054060.1	Nitritalea halalkaliphila	291413628	XP_002723072.1	Oryctolagus cuniculus
407644053	YP_006807812.1	Nocardia brasiliensis ATCC 700358	432946180	XP_004083807.1	Oryzias latipes
516219984	WP_017623947.1	Nocardiosis chromatogenes	518645209	WP_019815228.1	Osedax symbiont Rs1
516216555	WP_017620518.1	Nocardiosis gilva	518645096	WP_019815118.1	Osedax symbiont Rs1
516172914	WP_017593035.1	Nocardiosis potens	520768530	WP_020286306.1	Osedax symbiont Rs2
441595505	XP_003267893.2	Nomascus leucogenys	520772717	WP_020287583.1	Osedax symbiont Rs2
522033582	WP_020544791.1	Nonomuraea coxensis	395843389	XP_003794468.1	Otolemur garnettii
522033583	WP_020544792.1	Nonomuraea coxensis	426233466	XP_004010738.1	Ovis aries
518476182	WP_019646389.1	Novospirillum itersonii	522193766	WP_020701233.1	Oxalobacteraceae bacterium AB_14
518476180	WP_019646387.1	Novospirillum itersonii	498033334	WP_010347490.1	Paenibacillus peoriae
544817850	WP_021234184.1	Novosphingobium lindaniclasticum	498032362	WP_010346518.1	Paenibacillus peoriae
495340851	WP_008065585.1	Novosphingobium nitrogenifigens	515239020	WP_016821425.1	Paenibacillus polymyxa
550929918	WP_022678380.1	Novosphingobium sp. B-7	565990887	YP_008910479.1	Paenibacillus polymyxa CR1
496229331	WP_008943366.1	Oceanibaculum indicum	595632423	AHM64681.1	Paenibacillus polymyxa SQR-21
496229333	WP_008943368.1	Oceanibaculum indicum	517582363	WP_018752571.1	Paenibacillus sanguinis
494189467	WP_007120758.1	Oceanibulbus indolifex	517582364	WP_018752572.1	Paenibacillus sanguinis
494189463	WP_007120756.1	Oceanibulbus indolifex	494673993	WP_007431933.1	Paenibacillus sp. Aloe-11
494465405	WP_007254929.1	Oceanicola granulosus	515995749	WP_017426332.1	Paenibacillus sp. ICGBE2008
494465404	WP_007254928.1	Oceanicola granulosus	374322435	YP_005075564.1	Paenibacillus terrae HPL-003
374334335	YP_005091022.1	Oceanimonas sp. GK1	397523351	XP_003831698.1	Pan paniscus
504176989	XP_004597715.1	Ochotona princeps	556759230	XP_005974943.1	Pantholops hodgsonii
498347303	WP_010661459.1	Ochrobactrum anthropi	556775862	XP_005983043.1	Pantholops hodgsonii
498344106	WP_010658262.1	Ochrobactrum anthropi	556731356	XP_005961363.1	Pantholops hodgsonii
590080915	EXL07224.1	Ochrobactrum anthropi	556766714	XP_005985887.1	Pantholops hodgsonii
153008445	YP_001369660.1	Ochrobactrum anthropi ATCC 49188	556748029	XP_005969462.1	Pantholops hodgsonii
153007784	YP_001368999.1	Ochrobactrum anthropi ATCC 49188	556756027	XP_005973366.1	Pantholops hodgsonii
493513502	WP_006467803.1	Ochrobactrum intermedium	556759228	XP_005974942.1	Pantholops hodgsonii
549933018	WP_022568915.1	Ochrobactrum intermedium	515918328	WP_017348911.1	Pantoea sp. A4
493516798	WP_006471041.1	Ochrobactrum intermedium	515918480	WP_017349063.1	Pantoea sp. A4
493511771	WP_006466095.1	Ochrobactrum intermedium	515918338	WP_017348921.1	Pantoea sp. A4
495151999	WP_007876805.1	Ochrobactrum sp. CDB2	544759644	WP_021186478.1	Pantoea sp. AS-PWVM4
495148742	WP_007873549.1	Ochrobactrum sp. CDB2	317053035	YP_004119389.1	Pantoea sp. At-9b
545308835	WP_021588058.1	Ochrobactrum sp. EGD-AQ16	402876332	XP_003901927.1	Papio anubis
545306953	WP_021586216.1	Ochrobactrum sp. EGD-AQ16	530320680	YP_008406641.1	Paracoccus aminophilus JCM 7686
478181358	YP_007702428.1	Octadecabacter antarcticus 307	530320682	YP_008406643.1	Paracoccus aminophilus JCM 7686
478177906	YP_007698979.1	Octadecabacter arcticus 238	119387581	YP_918615.1	Paracoccus denitrificans PD1222
507619803	XP_004624997.1	Octodon degus	119383796	YP_914852.1	Paracoccus denitrificans PD1222
472392975	XP_004415760.1	Odobenus rosmarus divergens	119386179	YP_917234.1	Paracoccus denitrificans PD1222
562974169	ESW99897.1	Ogataea parapolyomorpha DL-1	119383929	YP_914985.1	Paracoccus denitrificans PD1222
565322866	ETE73509.1	Ophiophagus hannah	498082960	WP_010397116.1	Paracoccus sp. TRP
466055919	XP_004279343.1	Orcinus orca	498082962	WP_010397118.1	Paracoccus sp. TRP
542232935	XP_005454800.1	Oreochromis niloticus	576322395	ETZ22079.1	Pedobacter sp. V48
348524917	XP_003449969.1	Oreochromis niloticus	357383252	YP_004897976.1	Pelagibacterium halotolerans B2
497220727	WP_009534989.1	Oribacterium	357384257	YP_004898981.1	Pelagibacterium halotolerans B2
494273400	WP_007158106.1	Oribacterium sinus	255930749	XP_002556931.1	Penicillium chrysogenum Wisconsin 54-1255
497223232	WP_009537494.1	Oribacterium sp. ACB7			
545668688	WP_021775011.1	Oribacterium sp. oral taxon 078			
496505691	WP_009213974.1	Oribacterium sp. oral taxon 078			
496992334	WP_009429838.1	Oribacterium sp. oral taxon 108			

255935273	XP_002558663.1	Penicillium chrysogenum Wisconsin 54-1255	493710333	WP_006659977.1	Providencia alcalifaciens
525581534	EPS27784.1	Penicillium oxalicum 114-2	493712240	WP_006661854.1	Providencia alcalifaciens
584406114	CDM38205.1	Penicillium roqueforti	577074818	EUD11000.1	Providencia alcalifaciens 205/92
544988145	WP_021386243.1	Peptoclostridium difficile			Providencia alcalifaciens F90- 2004
545031873	WP_021412177.1	Peptoclostridium difficile	573504964	ETT05246.1	
544970884	WP_021373750.1	Peptoclostridium difficile	577057148	EUC94566.1	Providencia alcalifaciens PAL-2
545034084	WP_021413071.1	Peptoclostridium difficile	573498639	ETS99164.1	Providencia alcalifaciens PAL-3
126700857	YP_001089754.1	Peptoclostridium difficile 630	491048988	WP_004910640.1	Providencia rettgeri
488932400	WP_002843475.1	Peptostreptococcus	490375514	WP_004255115.1	Providencia rettgeri
589956348	XP_006990785.1	Peromyscus maniculatus bairdii	493866528	WP_006813168.1	Providencia rustigianii
573054782	ETS74717.1	Pestalotiopsis fici W106-1	491057770	WP_004919407.1	Providencia stuartii
573067515	ETS87043.1	Pestalotiopsis fici W106-1	386745323	YP_006218502.1	Providencia stuartii MRSN 2154
573066728	ETS86256.1	Pestalotiopsis fici W106-1			Pseudaminobacter salicylatoxidans
573059576	ETS79374.1	Pestalotiopsis fici W106-1	518002176	WP_019172384.1	Pseudaminobacter salicylatoxidans
573054166	ETS74125.1	Pestalotiopsis fici W106-1	518001859	WP_019172067.1	Pseudaminobacter salicylatoxidans
518128286	WP_019298494.1	Phaeobacter gallaeciensis	517999945	WP_019170153.1	Pseudoalteromonas citrea
518128283	WP_019298491.1	Phaeobacter gallaeciensis	498049713	WP_010363869.1	Pseudoalteromonas flavipulchra
400760014	YP_006589617.1	Phaeobacter gallaeciensis 2.10	498290502	WP_010604658.1	Pseudoalteromonas flavipulchra
400753363	YP_006561731.1	Phaeobacter gallaeciensis 2.10	498290523	WP_010604679.1	Pseudoalteromonas haloplanktis
568305411	YP_008977695.1	Phaeobacter gallaeciensis DSM 26640	515077247	WP_016707040.1	Pseudoalteromonas haloplanktis
568304675	YP_008976960.1	Phaeobacter gallaeciensis DSM 26640	515077232	WP_016707025.1	Pseudoalteromonas lipolytica SCSIO 04301
399994797	YP_006575029.1	Phaeobacter inhibens DSM 17395	584418748	EW04345.1	Pseudoalteromonas luteoviolacea
399991723	YP_006571963.1	Phaeobacter inhibens DSM 17395	491636498	WP_005494027.1	Pseudoalteromonas luteoviolacea
169598914	XP_001792880.1	Phaeosphaeria nodorum SN15	557381667	WP_023402095.1	Pseudoalteromonas marina
253989628	YP_003040984.1	Photorhabdus asymbiotica	498243688	WP_010557844.1	Pseudoalteromonas marina
604177701	EYU14422.1	Photorhabdus luminescens BA1	498243684	WP_010557840.1	Pseudoalteromonas piscicida
37526156	NP_929500.1	Photorhabdus luminescens subsp. laumondii T101	498057282	WP_010371438.1	Pseudoalteromonas piscicida
544915404	WP_021325140.1	Photorhabdus temperata	498058404	WP_010372560.1	Pseudoalteromonas rubra
572732832	ETS31018.1	Photorhabdus temperata subsp. kharii NC19	498071369	WP_010385525.1	Pseudoalteromonas rubra
495397180	WP_008121880.1	Phyllobacterium sp. YR531	498067953	WP_010382109.1	Pseudoalteromonas sp. NJ631
495403038	WP_008127737.1	Phyllobacterium sp. YR531	515784840	WP_017217281.1	Pseudoalteromonas sp. NJ631
593753998	XP_007115895.1	Physeter catodon	515785039	WP_017217480.1	Pseudoalteromonas sp. SCSIO_11900
593753996	XP_007115894.1	Physeter catodon	586922275	EWS99345.1	Pseudoalteromonas sp. SCSIO_11900
283779040	YP_003369795.1	Pirellula staleyi DSM 6068	586922271	EWS99341.1	Pseudoalteromonas spongiae
325109793	YP_004270861.1	Planctomyces brasiliensis DSM 5305	498247509	WP_010561665.1	Pseudoalteromonas spongiae
296122957	YP_003630735.1	Planctomyces limnophilus DSM 3776	498247385	WP_010561541.1	Pseudoalteromonas tunicata
571138016	ETP67359.1	Planomicrobium glaciei CHR43	497524302	WP_009838500.1	Pseudocercospora fijiensis CIRAD86
494031068	WP_006973205.1	Plesiocystis pacifica	452985388	EME85145.1	Pseudochrobactrum sp. AO18b
494031073	WP_006973210.1	Plesiocystis pacifica	550961593	WP_022709904.1	Pseudoclavibacter faecalis
495138853	WP_007863660.1	Polaromonas sp. CF318	518449570	WP_019619777.1	Pseudogulbenkiania ferrooxidans
197101771	NP_001125373.1	Pongo abelii	496239583	WP_008952968.1	Pseudogulbenkiania ferrooxidans
517289662	WP_018478480.1	Pontibacter roseus	496239605	WP_008952990.1	Pseudogulbenkiania ferrooxidans
494933487	WP_007659520.1	Pontibacter sp. BAB1700	496239610	WP_008952995.1	Pseudogulbenkiania ferrooxidans
518862376	WP_020018266.1	Promicromonospora sukumoe			
518859059	WP_020014949.1	Promicromonospora sukumoe			
410866962	YP_006981573.1	Propionibacterium acidipropionici ATCC 4875			

545112876	WP_021475786.1	Pseudogulbenkiania ferrooxidans	574049483	ETV26111.1	Pseudomonas aeruginosa BWHPSA042
347540320	YP_004847745.1	Pseudogulbenkiania sp. NH8B	574029053	ETV05776.1	Pseudomonas aeruginosa BWHPSA046
347539259	YP_004846684.1	Pseudogulbenkiania sp. NH8B	574029067	ETV05790.1	Pseudomonas aeruginosa BWHPSA046
347539264	YP_004846689.1	Pseudogulbenkiania sp. NH8B	574029067	ETV05790.1	Pseudomonas aeruginosa BWHPSA046
495191264	WP_007916054.1	Pseudomonas	392985263	YP_006483850.1	Pseudomonas aeruginosa DK2
517758087	WP_018928295.1	Pseudomonas	218892758	YP_002441627.1	Pseudomonas aeruginosa LESB58
497896123	WP_010210279.1	Pseudomonas	218892771	YP_002441640.1	Pseudomonas aeruginosa LESB58
517758097	WP_018928305.1	Pseudomonas	386059822	YP_005976344.1	Pseudomonas aeruginosa M18
553796692	WP_023127317.1	Pseudomonas aeruginosa	386059837	YP_005976359.1	Pseudomonas aeruginosa M18
489252434	WP_003160463.1	Pseudomonas aeruginosa	571152673	CDH72181.1	Pseudomonas aeruginosa MH38
187939704	ACD38846.1	Pseudomonas aeruginosa	571152658	CDH72193.1	Pseudomonas aeruginosa MH38
553752523	WP_023085326.1	Pseudomonas aeruginosa	564953776	YP_008886346.1	Pseudomonas aeruginosa MTB-1
553765165	WP_023097486.1	Pseudomonas aeruginosa	386066631	YP_005981935.1	Pseudomonas aeruginosa NCGM2.S1
553774594	WP_023106432.1	Pseudomonas aeruginosa	386066634	YP_005981938.1	Pseudomonas aeruginosa NCGM2.S1
553752526	WP_023085329.1	Pseudomonas aeruginosa	386065091	YP_005980395.1	Pseudomonas aeruginosa NCGM2.S1
553765163	WP_023097484.1	Pseudomonas aeruginosa	386065077	YP_005980381.1	Pseudomonas aeruginosa NCGM2.S1
553756265	WP_023088954.1	Pseudomonas aeruginosa	575872237	CDI89416.1	Pseudomonas aeruginosa PA38182
518201790	WP_019371998.1	Pseudomonas aeruginosa	575872221	CDI89400.1	Pseudomonas aeruginosa PA38182
553765546	WP_023097860.1	Pseudomonas aeruginosa	152983543	YP_001349476.1	Pseudomonas aeruginosa PA7
489225108	WP_003133510.1	Pseudomonas aeruginosa	152986562	YP_001349491.1	Pseudomonas aeruginosa PA7
489211730	WP_003120521.1	Pseudomonas aeruginosa	602743287	EYU03944.1	Pseudomonas aeruginosa PA99
515716254	WP_017148854.1	Pseudomonas aeruginosa	15596465	NP_249959.1	Pseudomonas aeruginosa PAO1
553780562	WP_023112188.1	Pseudomonas aeruginosa	15596452	NP_249946.1	Pseudomonas aeruginosa PAO1
553767582	WP_023099819.1	Pseudomonas aeruginosa	514408753	YP_008131812.1	Pseudomonas aeruginosa RP73
489254292	WP_003162279.1	Pseudomonas aeruginosa	568310880	YP_008983149.1	Pseudomonas aeruginosa SCV20265
489237084	WP_003145351.1	Pseudomonas aeruginosa	568310894	YP_008983163.1	Pseudomonas aeruginosa SCV20265
550048135	WP_022580868.1	Pseudomonas aeruginosa	116049220	YP_791977.1	Pseudomonas aeruginosa UCBPP-PA14
510946054	WP_016263761.1	Pseudomonas aeruginosa	116049207	YP_791990.1	Pseudomonas aeruginosa UCBPP-PA14
553780567	WP_023112193.1	Pseudomonas aeruginosa	582070297	EVT86711.1	Pseudomonas aeruginosa VRFPA09
489195738	WP_003105050.1	Pseudomonas aeruginosa	576905555	AHH50045.1	Pseudomonas aeruginosa YL84
490478401	WP_004348758.1	Pseudomonas aeruginosa	515700924	WP_017133524.1	Pseudomonas agarici
557682525	WP_023436523.1	Pseudomonas aeruginosa	515700935	WP_017133535.1	Pseudomonas agarici
565828678	WP_023912528.1	Pseudomonas aeruginosa	544803569	WP_021220726.1	Pseudomonas alcaligenes
489201659	WP_003110832.1	Pseudomonas aeruginosa	545465497	WP_021702091.1	Pseudomonas alcaligenes
553765549	WP_023097863.1	Pseudomonas aeruginosa	545465485	WP_021702079.1	Pseudomonas alcaligenes
553775103	WP_023106936.1	Pseudomonas aeruginosa	591393066	AHL33959.1	Pseudomonas brassicacearum
553777263	WP_023109048.1	Pseudomonas aeruginosa	591393057	AHL33950.1	Pseudomonas brassicacearum
489214407	WP_003123108.1	Pseudomonas aeruginosa	330810048	YP_004354510.1	Pseudomonas brassicacearum subsp. brassicacearum NFM421
489211740	WP_003120530.1	Pseudomonas aeruginosa			
553795702	WP_023126360.1	Pseudomonas aeruginosa			
611851105	EZO27480.1	Pseudomonas aeruginosa 3575			
478479954	YP_007710605.1	Pseudomonas aeruginosa B136-33			
478479968	YP_007710619.1	Pseudomonas aeruginosa B136-33			
611946975	EZP22915.1	Pseudomonas aeruginosa BWH049			
611929777	EZP05781.1	Pseudomonas aeruginosa BWH054			
611917580	EZO93637.1	Pseudomonas aeruginosa BWH054			
574085650	ETV62105.1	Pseudomonas aeruginosa BWHPSA037			
574077502	ETV54001.1	Pseudomonas aeruginosa BWHPSA038			

330810500	YP_004354962.1	Pseudomonas brassicacearum subsp. brassicacearum NFM421	568183496	YP_008956166.1	Pseudomonas monteilii SB3078
		Pseudomonas brassicacearum subsp. brassicacearum NFM421	568183487	YP_008956156.1	Pseudomonas monteilii SB3078
330810058	YP_004354520.1		566143709	WP_024012524.1	Pseudomonas moraviensis
496340366	WP_009049544.1	Pseudomonas chlororaphis	516091145	WP_017521725.1	Pseudomonas nitroreducens
515073197	WP_016703035.1	Pseudomonas chlororaphis	516091155	WP_017521735.1	Pseudomonas nitroreducens
496333375	WP_009042553.1	Pseudomonas chlororaphis	551345216	WP_022964628.1	Pseudomonas pelagia
565886961	WP_023968128.1	Pseudomonas chlororaphis	511758402	WP_016391646.1	Pseudomonas plecoglossicida
515072265	WP_016702110.1	Pseudomonas chlororaphis	447916626	YP_007397194.1	Pseudomonas poae RE*1-1-14
496338282	WP_009047460.1	Pseudomonas chlororaphis	610525409	BAO60813.1	Pseudomonas protegens Cab57
472323930	YP_007656176.1	Pseudomonas denitrificans ATCC 13867	501678917	YP_007998743.1	Pseudomonas protegens CHAO
		Pseudomonas denitrificans ATCC 13867	70728792	YP_258541.1	Pseudomonas protegens Pf-5
472323918	YP_007656164.1		489547451	WP_003452093.1	Pseudomonas pseudoalcaligenes
104783032	YP_609530.1	Pseudomonas entomophila L48	494277901	WP_007160066.1	Pseudomonas psychrotolerans
498248596	WP_010562752.1	Pseudomonas extremaustralis	545906582	WP_021783359.1	Pseudomonas putida
489317022	WP_003224386.1	Pseudomonas fluorescens	552950071	WP_023047730.1	Pseudomonas putida
489266360	WP_003174162.1	Pseudomonas fluorescens	519037212	WP_020193087.1	Pseudomonas putida
489283948	WP_003191554.1	Pseudomonas fluorescens	489349373	WP_003256469.1	Pseudomonas putida
515545021	WP_016978039.1	Pseudomonas fluorescens	490712896	WP_004575725.1	Pseudomonas putida
515554799	WP_016987711.1	Pseudomonas fluorescens	489347586	WP_003254707.1	Pseudomonas putida
515706272	WP_017138872.1	Pseudomonas fluorescens	496902298	WP_009403640.1	Pseudomonas putida
489274710	WP_003182410.1	Pseudomonas fluorescens	518266595	WP_019436803.1	Pseudomonas putida
489322856	WP_003230172.1	Pseudomonas fluorescens	518580460	WP_019750667.1	Pseudomonas putida
517924613	WP_019094821.1	Pseudomonas fluorescens	386010902	YP_005929179.1	Pseudomonas putida BIRD-1
516099961	WP_017530541.1	Pseudomonas fluorescens	397695896	YP_006533779.1	Pseudomonas putida DOT-T1E
489312607	WP_003220004.1	Pseudomonas fluorescens	148546528	YP_001266630.1	Pseudomonas putida F1
489274728	WP_003182428.1	Pseudomonas fluorescens	167035128	YP_001670359.1	Pseudomonas putida GB-1
489295047	WP_003202563.1	Pseudomonas fluorescens	515082271	WP_016711959.1	Pseudomonas putida group
387893998	YP_006324295.1	Pseudomonas fluorescens A506	512579100	YP_008096779.1	Pseudomonas putida H8234
		Pseudomonas fluorescens F113	431803882	YP_007230785.1	Pseudomonas putida HB3267
378951638	YP_005209126.1	Pseudomonas fluorescens F113	431803873	YP_007230776.1	Pseudomonas putida HB3267
378951628	YP_005209116.1		26987993	NP_743418.1	Pseudomonas putida KT2440
77458535	YP_348040.1	Pseudomonas fluorescens Pf0-1	512684254	YP_008112234.1	Pseudomonas putida NBRC 14164
		Pseudomonas fluorescens SBW25	395447792	YP_006388045.1	Pseudomonas putida ND6
229590776	YP_002872895.1		339488866	YP_004703394.1	Pseudomonas putida S16
515151476	WP_016780118.1	Pseudomonas fragi	339488857	YP_004703385.1	Pseudomonas putida S16
498342793	WP_010656949.1	Pseudomonas fragi	170722486	YP_001750174.1	Pseudomonas putida W619
498342450	WP_010656606.1	Pseudomonas fragi	516238075	WP_017642038.1	Pseudomonas sp. 313
515152443	WP_016781079.1	Pseudomonas fragi	516235245	WP_017639208.1	Pseudomonas sp. 313
333902591	YP_004476464.1	Pseudomonas fulva 12-X	518479335	WP_019649542.1	Pseudomonas sp. 45MFCol3.1
516515561	WP_017903999.1	Pseudomonas fuscovaginae	518479342	WP_019649549.1	Pseudomonas sp. 45MFCol3.1
498136641	WP_010450797.1	Pseudomonas fuscovaginae	495714153	WP_008438732.1	Pseudomonas sp. Ag1
518191714	WP_019361922.1	Pseudomonas fuscovaginae	516346064	WP_017736097.1	Pseudomonas sp. CBZ-4
516518076	WP_017906442.1	Pseudomonas fuscovaginae	518665882	WP_019827589.1	Pseudomonas sp. CF149
498136659	WP_010450815.1	Pseudomonas fuscovaginae	518665547	WP_019827258.1	Pseudomonas sp. CF149
518191706	WP_019361914.1	Pseudomonas fuscovaginae	520825317	WP_020302724.1	Pseudomonas sp. CF150
516518086	WP_017906452.1	Pseudomonas fuscovaginae	520814343	WP_020300439.1	Pseudomonas sp. CF161
518194078	WP_019364286.1	Pseudomonas luteola	520803643	WP_020296190.1	Pseudomonas sp. CF161
498146125	WP_010460281.1	Pseudomonas mandelii	520784119	WP_020289105.1	Pseudomonas sp. CFII64
518411751	WP_019581958.1	Pseudomonas mandelii	520784099	WP_020289095.1	Pseudomonas sp. CFII64
518411742	WP_019581949.1	Pseudomonas mandelii	517438727	WP_018609601.1	Pseudomonas sp. CFII68

518653739	WP_019817118.1	<i>Pseudomonas</i> sp. CFT9	497909715	WP_010223871.1	<i>Pseudomonas</i> sp. HYS
550709408	WP_022643720.1	<i>Pseudomonas</i> sp. CMAA1215	497909730	WP_010223886.1	<i>Pseudomonas</i> sp. HYS
550707986	WP_022642835.1	<i>Pseudomonas</i> sp. CMAA1215	489534754	WP_003439482.1	<i>Pseudomonas</i> sp. Lz4W
568241179	AHD15901.1	<i>Pseudomonas</i> sp. FGI182	489540491	WP_003445199.1	<i>Pseudomonas</i> sp. Lz4W
567638748	ETK14293.1	<i>Pseudomonas</i> sp. FH1	497308366	WP_009622583.1	<i>Pseudomonas</i> sp. M1
567645198	ETK20539.1	<i>Pseudomonas</i> sp. FH4	497305531	WP_009619748.1	<i>Pseudomonas</i> sp. M1
523666450	WP_020797790.1	<i>Pseudomonas</i> sp. G5(2012)	497308372	WP_009622589.1	<i>Pseudomonas</i> sp. M1
523666440	WP_020797780.1	<i>Pseudomonas</i> sp. G5(2012)	497305337	WP_009619554.1	<i>Pseudomonas</i> sp. M1
495171122	WP_007895918.1	<i>Pseudomonas</i> sp. GM102	495644857	WP_008369436.1	<i>Pseudomonas</i> sp. M47T1
495176108	WP_007900902.1	<i>Pseudomonas</i> sp. GM102	498493189	WP_010793943.1	<i>Pseudomonas</i> sp. P179
495178924	WP_007903714.1	<i>Pseudomonas</i> sp. GM102			<i>Pseudomonas</i> sp. PAMC
495197950	WP_007922739.1	<i>Pseudomonas</i> sp. GM17	497856764	WP_010170920.1	25886
495210725	WP_007935505.1	<i>Pseudomonas</i> sp. GM18			<i>Pseudomonas</i> sp. PAMC
495209002	WP_007933782.1	<i>Pseudomonas</i> sp. GM18	497861533	WP_010175689.1	25886
495210712	WP_007935492.1	<i>Pseudomonas</i> sp. GM18			<i>Pseudomonas</i> sp. PAMC
495222158	WP_007946932.1	<i>Pseudomonas</i> sp. GM21	516048232	WP_017478815.1	26793
495217836	WP_007942613.1	<i>Pseudomonas</i> sp. GM21	612067553	EZP26587.1	<i>Pseudomonas</i> sp. RIT288
495219535	WP_007944310.1	<i>Pseudomonas</i> sp. GM21	612066672	EZP25710.1	<i>Pseudomonas</i> sp. RIT288
495233351	WP_007958122.1	<i>Pseudomonas</i> sp. GM25	518301868	WP_019472076.1	<i>Pseudomonas</i> sp. S13.1.2
495244496	WP_007969259.1	<i>Pseudomonas</i> sp. GM30	497369102	WP_009683315.1	<i>Pseudomonas</i> sp. TJI-51
495254740	WP_007979495.1	<i>Pseudomonas</i> sp. GM33	568140473	YP_008933058.1	<i>Pseudomonas</i> sp. TKP
495255775	WP_007980530.1	<i>Pseudomonas</i> sp. GM33	426409928	YP_007030027.1	<i>Pseudomonas</i> sp. UW4
495254758	WP_007979513.1	<i>Pseudomonas</i> sp. GM33	557224393	YP_008764608.1	<i>Pseudomonas</i> sp. VLB120
495432514	WP_008157209.1	<i>Pseudomonas</i> sp. GM41(2012)	594026361	AHL74364.1	<i>Pseudomonas</i> stutzeri
495432504	WP_008157199.1	<i>Pseudomonas</i> sp. GM41(2012)	594025756	AHL73759.1	<i>Pseudomonas</i> stutzeri
495265783	WP_007990538.1	<i>Pseudomonas</i> sp. GM48	594025746	AHL73749.1	<i>Pseudomonas</i> stutzeri
495269559	WP_007994314.1	<i>Pseudomonas</i> sp. GM49	492246215	WP_005788088.1	<i>Pseudomonas</i> synxantha
495272975	WP_007997730.1	<i>Pseudomonas</i> sp. GM49	520893460	WP_020319541.1	<i>Pseudomonas</i> syringae
495287037	WP_008011791.1	<i>Pseudomonas</i> sp. GM50	516297816	WP_017701123.1	<i>Pseudomonas</i> syringae
495288297	WP_008013051.1	<i>Pseudomonas</i> sp. GM50	515540463	WP_016973516.1	<i>Pseudomonas</i> tolaasii
495282534	WP_008007288.1	<i>Pseudomonas</i> sp. GM50	515538792	WP_016971845.1	<i>Pseudomonas</i> tolaasii
495296792	WP_008021545.1	<i>Pseudomonas</i> sp. GM55	516457507	WP_017846347.1	<i>Pseudomonas</i> veronii
495293903	WP_008018656.1	<i>Pseudomonas</i> sp. GM55	543350687	XP_005520425.1	<i>Pseudopodoces</i> humilis
495293892	WP_008018645.1	<i>Pseudomonas</i> sp. GM55	493645849	WP_006597464.1	<i>Pseudoramibacter</i> alactolyticus
495308642	WP_008033391.1	<i>Pseudomonas</i> sp. GM60	374332973	YP_005083157.1	<i>Pseudovibrio</i> sp. FO-BEG1
495304883	WP_008029633.1	<i>Pseudomonas</i> sp. GM60	374329157	YP_005079341.1	<i>Pseudovibrio</i> sp. FO-BEG1
495299893	WP_008024643.1	<i>Pseudomonas</i> sp. GM60	374330175	YP_005080359.1	<i>Pseudovibrio</i> sp. FO-BEG1
495314052	WP_008038800.1	<i>Pseudomonas</i> sp. GM67	495827076	WP_008551655.1	<i>Pseudovibrio</i> sp. JE062
495317870	WP_008042617.1	<i>Pseudomonas</i> sp. GM67	495823869	WP_008548448.1	<i>Pseudovibrio</i> sp. JE062
495317881	WP_008042628.1	<i>Pseudomonas</i> sp. GM67	495823995	WP_008548574.1	<i>Pseudovibrio</i> sp. JE062
495328004	WP_008052746.1	<i>Pseudomonas</i> sp. GM74	495823762	WP_008548341.1	<i>Pseudovibrio</i> sp. JE062
495328650	WP_008053391.1	<i>Pseudomonas</i> sp. GM74			<i>Psychrobacter</i> cryohalolentis
495339731	WP_008064465.1	<i>Pseudomonas</i> sp. GM78	93006047	YP_580484.1	K5
495335014	WP_008059751.1	<i>Pseudomonas</i> sp. GM78	518501632	WP_019671839.1	<i>Psychrobacter</i> lutiphocae
495335033	WP_008059770.1	<i>Pseudomonas</i> sp. GM78	521179403	YP_008163148.1	<i>Psychrobacter</i> sp. G
495350657	WP_008075382.1	<i>Pseudomonas</i> sp. GM79	589899391	GAF53322.1	<i>Psychrobacter</i> sp. JCM 18900
495350660	WP_008075385.1	<i>Pseudomonas</i> sp. GM79	589904241	GAF62729.1	<i>Psychrobacter</i> sp. JCM 18903
495348428	WP_008073155.1	<i>Pseudomonas</i> sp. GM79			<i>Psychroflexus</i> torquis ATCC
495349966	WP_008074692.1	<i>Pseudomonas</i> sp. GM79	408491963	YP_006868332.1	700755
495347003	WP_008071733.1	<i>Pseudomonas</i> sp. GM79	119945781	YP_943461.1	<i>Psychromonas</i> ingrahamii 37
495363981	WP_008088699.1	<i>Pseudomonas</i> sp. GM80	586530569	XP_006920194.1	<i>Pteropus</i> alecto
495375929	WP_008100641.1	<i>Pseudomonas</i> sp. GM84			<i>Punctularia</i> strigosozonata
498494741	WP_010795476.1	<i>Pseudomonas</i> sp. HPB0071	599100244	XP_007380862.1	HHB-11173 SS5
			548381775	XP_005734442.1	<i>Pundamilia</i> nyererei
			602643426	XP_007444944.1	<i>Python</i> bivittatus

344175960	CCA87108.1	Ralstonia syzygii R24	517305430	WP_018494248.1	Rhizobium leguminosarum
344171589	CCA84206.1	Ralstonia syzygii R24	489664448	WP_003568744.1	Rhizobium leguminosarum
344171603	CCA84221.1	Ralstonia syzygii R24	489688054	WP_003592261.1	Rhizobium leguminosarum
344171595	CCA84212.1	Ralstonia syzygii R24	489671364	WP_003575620.1	Rhizobium leguminosarum
481850892	YP_007875332.1	Raoultella ornithinolytica B6	489684644	WP_003588866.1	Rhizobium leguminosarum
157820257	NP_001101501.1	Rattus norvegicus	489679699	WP_003583924.1	Rhizobium leguminosarum
495320085	WP_008044831.1	Reinekea blandensis	489666410	WP_003570696.1	Rhizobium leguminosarum
163840560	YP_001624965.1	Renibacterium salmoninarum	516582115	WP_017957154.1	Rhizobium leguminosarum
569426516	ETO31383.1	ATCC 33209	489676699	WP_003580937.1	Rhizobium leguminosarum
496173083	WP_008897590.1	Reticulomyxa filosa	489689093	WP_003593293.1	Rhizobium leguminosarum
528827297	YP_008363253.1	Rheinheimera sp. A13L	489660817	WP_003565142.1	Rhizobium leguminosarum
528834336	YP_008367990.1	Rhizobium etli bv. mimosae str. Mim1	574594220	AHG49378.1	Rhizobium leguminosarum bv. trifolii CB782
528834315	YP_008367969.1	Rhizobium etli bv. mimosae str. Mim1	574588713	AHG43872.1	Rhizobium leguminosarum bv. trifolii CB782
86361121	YP_473008.1	Rhizobium etli CFN 42	241202872	YP_002973968.1	Rhizobium leguminosarum bv. trifolii WSM1325
86356108	YP_468000.1	Rhizobium etli CFN 42	241113196	YP_002973031.1	Rhizobium leguminosarum bv. trifolii WSM1325
190894907	YP_001985200.1	Rhizobium etli CIAT 652	573465350	AHF82232.1	Rhizobium leguminosarum bv. trifolii WSM1689
190894973	YP_001985266.1	Rhizobium etli CIAT 652	209547289	YP_002279207.1	Rhizobium leguminosarum bv. trifolii WSM2304
190894981	YP_001985274.1	Rhizobium etli CIAT 652	209546906	YP_002278824.1	Rhizobium leguminosarum bv. trifolii WSM2304
190894978	YP_001985271.1	Rhizobium etli CIAT 652	209547718	YP_002279635.1	Rhizobium leguminosarum bv. trifolii WSM2304
190890148	YP_001976690.1	Rhizobium etli CIAT 652	209550221	YP_002282138.1	Rhizobium leguminosarum bv. trifolii WSM2304
327193267	EGE60173.1	Rhizobium etli CNPAF512	116250250	YP_766088.1	Rhizobium leguminosarum bv. viciae 3841
327192642	EGE59582.1	Rhizobium etli CNPAF512	116249199	YP_765040.1	Rhizobium leguminosarum bv. viciae 3841
490222574	WP_004120939.1	Rhizobium freirei	490574680	WP_004439700.1	Rhizobium lupini
490220906	WP_004119278.1	Rhizobium freirei	494803496	WP_007538904.1	Rhizobium mesoamericanum
490211825	WP_004110222.1	Rhizobium freirei	494794269	WP_007529677.1	Rhizobium mesoamericanum
517258896	WP_018447714.1	Rhizobium gallicum	494793428	WP_007528836.1	Rhizobium mesoamericanum
517256302	WP_018445120.1	Rhizobium gallicum	550964796	WP_022713107.1	Rhizobium mongolense
517135168	WP_018323986.1	Rhizobium giardinii	550965228	WP_022713538.1	Rhizobium mongolense
517138767	WP_018327585.1	Rhizobium giardinii	515105800	WP_016734918.1	Rhizobium phaseoli
517136591	WP_018325409.1	Rhizobium giardinii	430002682	CCF18463.1	Rhizobium sp.
517137376	WP_018326194.1	Rhizobium giardinii	430005201	CCF21002.1	Rhizobium sp.
514391678	WP_016552564.1	Rhizobium grahamii	517728049	WP_018898257.1	Rhizobium sp. 2MFCol3.1
514391281	WP_016552169.1	Rhizobium grahamii	517727654	WP_018897862.1	Rhizobium sp. 2MFCol3.1
516581806	WP_017956845.1	Rhizobium leguminosarum	517687486	WP_018857694.1	Rhizobium sp. 42MFCr.1
489686888	WP_003591100.1	Rhizobium leguminosarum	517689533	WP_018859741.1	Rhizobium sp. 42MFCr.1
518891458	WP_020047333.1	Rhizobium leguminosarum	494974325	WP_007700350.1	Rhizobium sp. AP16
517057204	WP_018246022.1	Rhizobium leguminosarum	494969481	WP_007695507.1	Rhizobium sp. AP16
516731280	WP_018071459.1	Rhizobium leguminosarum	517048650	WP_018237468.1	Rhizobium sp. BR816
489646615	WP_003551055.1	Rhizobium leguminosarum	517047472	WP_018236290.1	Rhizobium sp. BR816
516616728	WP_017991571.1	Rhizobium leguminosarum	517046152	WP_018234970.1	Rhizobium sp. BR816
516621122	WP_017995909.1	Rhizobium leguminosarum	517050650	WP_018239468.1	Rhizobium sp. BR816
489640602	WP_003545042.1	Rhizobium leguminosarum	517048647	WP_018237465.1	Rhizobium sp. BR816
516615292	WP_017990135.1	Rhizobium leguminosarum	517047469	WP_018236287.1	Rhizobium sp. BR816
516621196	WP_017995983.1	Rhizobium leguminosarum	517047859	WP_018236677.1	Rhizobium sp. BR816
517055759	WP_018244577.1	Rhizobium leguminosarum	494907625	WP_007633666.1	Rhizobium sp. CCGE 510
516583740	WP_017958779.1	Rhizobium leguminosarum	494909683	WP_007635724.1	Rhizobium sp. CCGE 510
517306812	WP_018495630.1	Rhizobium leguminosarum			
517292512	WP_018481330.1	Rhizobium leguminosarum			
516591771	WP_017966810.1	Rhizobium leguminosarum			
518892392	WP_020048267.1	Rhizobium leguminosarum			
516727622	WP_018068756.1	Rhizobium leguminosarum			

494909686	WP_007635727.1	Rhizobium sp. CCGE 510	494535280	WP_007324728.1	Rhodopirellula baltica
495041305	WP_007766157.1	Rhizobium sp. CF080	32471735	NP_864728.1	Rhodopirellula baltica SH 1
495031625	WP_007757171.1	Rhizobium sp. CF080	495943052	WP_008667631.1	Rhodopirellula europaea
495076538	WP_007801363.1	Rhizobium sp. CF122	495932001	WP_008656580.1	Rhodopirellula europaea
495077159	WP_007801984.1	Rhizobium sp. CF122	495966206	WP_008690785.1	Rhodopirellula maiorica
495074260	WP_007799085.1	Rhizobium sp. CF122	495979803	WP_008704382.1	Rhodopirellula maiorica
495094707	WP_007819530.1	Rhizobium sp. CF142	496384760	WP_009093750.1	Rhodopirellula sp. SWK7
495096595	WP_007821418.1	Rhizobium sp. CF142			Rhodospirillum rubrum ATCC 11170
549704805	YP_008631347.1	Rhizobium sp. IRBG74	83593400	YP_427152.1	Rhodothermus marinus DSM 4252
584451312	CDM56216.1	Rhizobium sp. LPU83	268316069	YP_003289788.1	Robiginitalea biformata HTCC2501
584452558	CDM57462.1	Rhizobium sp. LPU83	260063309	YP_003196389.1	Roseibacterium elongatum DSM 19469
584450862	CDM55766.1	Rhizobium sp. LPU83	594548830	AHM03849.1	Roseibium sp. TrichSKD4
494871321	WP_007597417.1	Rhizobium sp. PDO1-076	497445520	WP_009759718.1	Roseibium sp. TrichSKD4
494880862	WP_007606912.1	Rhizobium sp. PDO1-076	497098346	WP_009468953.1	Roseiflexus castenholzii DSM 13941
494881694	WP_007607744.1	Rhizobium sp. PDO1-076			Roseiflexus sp. RS-1
495807607	WP_008532186.1	Rhizobium sp. Pop5	156740256	YP_001430385.1	Roseobacter sp. AzwK-3b
495807509	WP_008532088.1	Rhizobium sp. Pop5	148654807	YP_001275012.1	Roseobacter sp. MED193
495799823	WP_008524402.1	Rhizobium sp. Pop5	495089301	WP_007814124.1	Roseobacter sp. MED193
440225406	YP_007332497.1	Rhizobium tropici CIAT 899	497495015	WP_009809213.1	Roseobacter sp. SK209-2-6
		Rhizophagus irregularis DAOM 181602	497495242	WP_009809440.1	Roseobacter sp. SK209-2-6
552930421	ESA14159.1		495481394	WP_008206081.1	Roseomonas sp. B5
495491279	WP_008215961.1	Rhodanobacter sp. 115	495482789	WP_008207476.1	Roseovarius nubinihibens
495083463	WP_007808287.1	Rhodanobacter spathiphylli	518293134	WP_019463342.1	Roseovarius sp. 217
488811975	WP_002724381.1	Rhodobacter	497499475	WP_009813673.1	Roseovarius sp. 217
563378295	WP_023663921.1	Rhodobacter sp. CACIA14H1	497503929	WP_009818127.1	Roseovarius sp. TM1035
563384607	WP_023666870.1	Rhodobacter sp. CACIA14H1	497503931	WP_009818129.1	Roseovarius sp. TM1035
77465520	YP_355023.1	Rhodobacter sphaeroides 2.4.1	495557419	WP_008281998.1	Rubellimicrobium mesophilum DSM 19309
		Rhodobacter sphaeroides ATCC 17029	495557424	WP_008282003.1	Rubellimicrobium mesophilum DSM 19309
126463923	YP_001045036.1	Rhodobacteriaceae bacterium HIMB11			Rubellimicrobium thermophilum
549985409	WP_022574205.1	Rhodobacteriaceae bacterium HTCC2150	598664302	EYD76914.1	Rubrobacter xylanophilus DSM 9941
495459172	WP_008183864.1	Rhodobacteriaceae bacterium KLH11	598664516	EYD77094.1	Rubrobacter xylanophilus DSM 9941
496033893	WP_008758400.1	Rhodobacteriaceae bacterium KLH11	544663070	WP_021096441.1	Rudaea cellulositytica
496034388	WP_008758895.1	Rhodobacteriales bacterium HTCC2255	108805064	YP_645001.1	Rudanella lutea
495309255	WP_008034003.1	Rhodobacteriales bacterium Y41	108805058	YP_644995.1	Ruegeria conchae
495830385	WP_008554964.1	Rhodococcus imtechensis	517803453	WP_018973661.1	Ruegeria conchae
494511356	WP_007300814.1	Rhodococcus jostii RHA1	518830807	WP_019986752.1	Ruegeria lacuscaerulensis
111022255	YP_705227.1	Rhodococcus jostii RHA1	498127361	WP_010441517.1	Ruegeria lacuscaerulensis
111021538	YP_704510.1	Rhodococcus jostii RHA1	498127482	WP_010441638.1	Ruegeria mobilis
491385683	WP_005243564.1	Rhodococcus opacus	492822357	WP_005977104.1	Ruegeria mobilis
491386864	WP_005244742.1	Rhodococcus opacus	492822349	WP_005977100.1	Ruegeria pomeroyi DSS-3
491396575	WP_005254426.1	Rhodococcus opacus	491814983	WP_005614887.1	Ruegeria pomeroyi DSS-3
589064187	AHK29046.1	Rhodococcus opacus PD630	491814989	WP_005614891.1	Ruegeria sp. R11
589063393	AHK28252.1	Rhodococcus opacus PD630	56695519	YP_165867.1	Ruegeria sp. R11
515394752	WP_016884067.1	Rhodococcus sp. DK17	56709050	YP_165095.1	Ruegeria sp. TM1040
497119656	WP_009477627.1	Rhodococcus sp. JVH1	495838534	WP_008563113.1	Ruegeria sp. TM1040
491740765	WP_005573898.1	Rhodococcus wratislaviensis	495836129	WP_008560708.1	Runella slithyformis DSM 19594
		Rhodococcus wratislaviensis NBRC 100605	99078179	YP_611437.1	Runella slithyformis DSM
589256081	GAF49764.1	Rhodonellum psychrophilum	99078177	YP_611435.1	
518426522	WP_019596729.1	Rhodopirellula baltica	338212056	YP_004656111.1	
494561256	WP_007336000.1	Rhodopirellula baltica	338213242	YP_004657297.1	
494554619	WP_007333096.1	Rhodopirellula baltica			

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491597206	WP_005454768.1	Saccharomonospora cyanea	157961530	YP_001501564.1	Shewanella pealeana ATCC 700345
493279385	WP_006237162.1	Saccharomonospora xinjiangensis	212634802	YP_002311327.1	Shewanella piezotolerans WP3
134099791	YP_001105452.1	Saccharopolyspora erythraea NRRL 2338	212634804	YP_002311329.1	Shewanella piezotolerans WP3
498382961	WP_010697117.1	Saccharopolyspora spinosa	157374900	YP_001473500.1	Shewanella sediminis HAW-EB3
498000918	WP_010315074.1	Saccharopolyspora spinosa	157374902	YP_001473502.1	Shewanella sediminis HAW-EB3
291228440	XP_002734190.1	Saccoglossus kowalevskii	294140480	YP_003556458.1	Shewanella violacea DSS12
585657116	XP_002734182.2	Saccoglossus kowalevskii	294140482	YP_003556460.1	Shewanella violacea DSS12
585657177	XP_002734189.2	Saccoglossus kowalevskii	170727167	YP_001761193.1	Shewanella woodyi ATCC 51908
585657120	XP_006815791.1	Saccoglossus kowalevskii	170727165	YP_001761191.1	Shewanella woodyi ATCC 51908
291238478	XP_002739157.1	Saccoglossus kowalevskii	558646103	WP_023516362.1	Shinella zoogloeoides
403264330	XP_003924439.1	Saimiri boliviensis boliviensis	558640804	WP_023512445.1	Shinella zoogloeoides
518850425	WP_020006315.1	Salinicoccus albus	558641826	WP_023513074.1	Shinella zoogloeoides
516119230	WP_017549810.1	Salinicoccus carniancri	496466775	WP_009175620.1	Silicibacter sp. TrichCH4B
493968979	WP_006912223.1	Salinisphaera shabanensis	496466892	WP_009175737.1	Silicibacter sp. TrichCH4B
517752843	WP_018923051.1	Salsuginibacillus kocurii	410663331	YP_006915702.1	Simiduia agarivorans SA1 = DSM 21679
517752849	WP_018923057.1	Salsuginibacillus kocurii	410663325	YP_006915696.1	Simiduia agarivorans SA1 = DSM 21679
395510205	XP_003759371.1	Sarcophilus harrisii	378824695	YP_005187427.1	Sinorhizobium fredii HH103
518373066	WP_019543273.1	Selenomonas bovis	378763080	YP_005191696.1	Sinorhizobium fredii HH103
546164529	WP_021806387.1	Serratia fonticola	378827610	YP_005190342.1	Sinorhizobium fredii HH103
544751053	WP_021177968.1	Serratia fonticola	227820687	YP_002824657.1	Sinorhizobium fredii NGR234
573927192	AHG18489.1	Serratia fonticola RB-25	227823541	YP_002827514.1	Sinorhizobium fredii NGR234
525691776	YP_008229666.1	Serratia liquefaciens ATCC 27592	227823538	YP_002827511.1	Sinorhizobium fredii NGR234
518286249	WP_019456457.1	Serratia marcescens	398352454	YP_006397918.1	Sinorhizobium fredii USDA 257
515494995	WP_016928249.1	Serratia marcescens	398349992	YP_006395456.1	Sinorhizobium fredii USDA 257
491066341	WP_004927972.1	Serratia marcescens	398352457	YP_006397921.1	Sinorhizobium fredii USDA 257
575538069	ETX38514.1	Serratia marcescens BIDMC 44	516638836	WP_018011067.1	Sinorhizobium medicae
575548630	ETX49034.1	Serratia marcescens BIDMC 50	150376012	YP_001312608.1	Sinorhizobium medicae WSM419
612279760	EZQ73149.1	Serratia marcescens BIDMC 80	150376010	YP_001312606.1	Sinorhizobium medicae WSM419
440230439	YP_007344232.1	Serratia marcescens FG194	489624145	WP_003528585.1	Sinorhizobium meliloti
573010003	BAO33355.1	Serratia marcescens SM39	516780375	WP_018097992.1	Sinorhizobium meliloti
560172935	CDG11664.1	Serratia marcescens subsp. marcescens Db11	515842959	WP_017273712.1	Sinorhizobium meliloti
448241558	YP_007405611.1	Serratia marcescens WW4	515835789	WP_017266542.1	Sinorhizobium meliloti
493365285	WP_006321706.1	Serratia plymuthica	516780371	WP_018097990.1	Sinorhizobium meliloti
518648315	YP_008137855.1	Serratia plymuthica 4Rx13	489624136	WP_003528576.1	Sinorhizobium meliloti
157370082	YP_001478071.1	Serratia proteamaculans 568	515840220	WP_017270973.1	Sinorhizobium meliloti
333926646	YP_004500225.1	Serratia sp. AS12	515838837	WP_017269590.1	Sinorhizobium meliloti
558558053	WP_023489100.1	Serratia sp. DD3	515846088	WP_017276841.1	Sinorhizobium meliloti
516503932	WP_017892370.1	Serratia sp. S4	16264006	NP_436798.1	Sinorhizobium meliloti 1021
482812460	EOA89179.1	Setosphaeria turcica Et28A	16264008	NP_436800.1	Sinorhizobium meliloti 1021
119774667	YP_927407.1	Shewanella amazonensis SB2B	334319856	YP_004556485.1	Sinorhizobium meliloti AK83
119774669	YP_927409.1	Shewanella amazonensis SB2B	334319854	YP_004556483.1	Sinorhizobium meliloti AK83
491646029	WP_005503555.1	Shewanella benthica	384533839	YP_005716503.1	Sinorhizobium meliloti BL225C
167624477	YP_001674771.1	Shewanella halifaxensis HAW-EB4	433611570	YP_007195031.1	Sinorhizobium meliloti GR4
167624475	YP_001674769.1	Shewanella halifaxensis HAW-EB4	433611568	YP_007195029.1	Sinorhizobium meliloti GR4
127513291	YP_001094488.1	Shewanella loihica PV-4	407690360	YP_006813944.1	Sinorhizobium meliloti Rm41
127513289	YP_001094486.1	Shewanella loihica PV-4	407724017	YP_006843678.1	Sinorhizobium meliloti Rm41
157961528	YP_001501562.1	Shewanella pealeana ATCC 700345	384540222	YP_005724305.1	Sinorhizobium meliloti SM11
			521466385	YP_008153690.1	Sorangium cellulosum So0157-

505774137	XP_004601842.1	Sorex araneus	497728802	WP_010042986.1	Streptomyces chartreusis
269929404	YP_003321725.1	Sphaerobacter thermophilus	494709670	WP_007445570.1	Streptomyces coelicoflavus
326798411	YP_004316230.1	DSM 20745	21224612	NP_630391.1	Streptomyces coelicolor A3(2)
494984829	WP_007710852.1	Sphingobacterium sp. 21	529229036	YP_008389857.1	Streptomyces collinus Tu 365
347528197	YP_004834944.1	Sphingobium sp. AP49	471321237	YP_007520267.1	Streptomyces davawensis JCM 4913
347528215	YP_004834962.1	Sphingobium sp. SYK-6	493086432	WP_006128210.1	Streptomyces filamentosus
490323009	WP_004212494.1	Sphingobium yanoikuyae	497758253	WP_010072437.1	Streptomyces filamentosus
498024975	WP_010339131.1	Sphingobium yanoikuyae	488613282	YP_007934618.1	Streptomyces fulvissimus DSM 40593
498088119	WP_010402275.1	Sphingomonas echinoides	497745372	WP_010059556.1	Streptomyces globisporus
498230343	WP_010544499.1	Sphingomonas elodea	491060520	WP_004922154.1	Streptomyces griseoflavus
550938503	WP_022686908.1	Sphingomonas phyllosphaerae	490063443	WP_003965665.1	Streptomyces griseus
569543856	AHE55473.1	Sphingomonas sanxanigenens	490063442	WP_003965664.1	Streptomyces griseus
518197947	WP_019368155.1	DSM 19645 = NX02	182435418	YP_001823137.1	Streptomyces griseus subsp. griseus NBRC 13350
518671918	WP_019833611.1	Sphingomonas sp. ATCC 31555	182435417	YP_001823136.1	Streptomyces griseus subsp. griseus NBRC 13350
612091387	EZP49906.1	Sphingomonas sp. PR090111-T3T-6A	497406122	WP_009720320.1	Streptomyces himastatinicus
494648114	WP_007406058.1	Sphingomonas sp. RIT328	497398125	WP_009712338.1	Streptomyces himastatinicus
507525032	YP_008046645.1	Sphingomonas sp. S17	386843821	YP_006248879.1	Streptomyces hygroscopicus subsp. jinggangensis 5008
556585926	YP_008753497.1	Spiribacter salinus M19-40	496681190	WP_009323388.1	Streptomyces ipomoeae
556585923	YP_008753494.1	Spiribacter sp. UAH-SP71	490070457	WP_003972632.1	Streptomyces lividans
556586897	YP_008754493.1	Spiribacter sp. UAH-SP71	491077338	WP_004938960.1	Streptomyces mobaraensis
563693667	YP_008868650.1	Spiroplasma apis B31	558882160	WP_023537187.1	Streptomyces niveus
284036397	YP_003386327.1	Spirosoma linguale DSM 74	491451488	WP_005309272.1	Streptomyces pristinaespiralis
517447570	WP_018618395.1	Spirosoma luteum	517888759	WP_019058967.1	Streptomyces prunicolor
522085653	WP_020596862.1	Spirosoma panaciterrae	518731293	WP_019891275.1	Streptomyces purpureus
522091451	WP_020602660.1	Spirosoma spitsbergense	557687802	YP_008791329.1	Streptomyces rapamycinicus NRRL 5491
497711481	WP_010025665.1	Sporolactobacillus inulinus	490085238	WP_003987223.1	Streptomyces rimosus
291301577	YP_003512855.1	Stackebrandtia nassauensis	558890515	WP_023545204.1	Streptomyces roseochromogenes
515567843	WP_017000674.1	DSM 44728	290955809	YP_003486991.1	Streptomyces scabiei 87.22
545089756	WP_021459396.1	Staphylococcus lentus	290963204	YP_003494386.1	Streptomyces scabiei 87.22
298290173	YP_003692112.1	Staphylococcus sp. EGD-HP3	522039975	WP_020551184.1	Streptomyces scabrisporus
298293153	YP_003695092.1	Starkeya novella DSM 506	522040284	WP_020551493.1	Streptomyces scabrisporus
298290171	YP_003692110.1	Starkeya novella DSM 506	518969802	WP_020125677.1	Streptomyces sp. 303MFCol5.2
517673060	WP_018843268.1	Streptomyces	518977087	WP_020132962.1	Streptomyces sp. 303MFCol5.2
493086431	WP_006128209.1	Streptomyces	518977727	WP_020133602.1	Streptomyces sp. 351MFTsu5.1
517348261	WP_018523753.1	Streptomyces	518188288	WP_019358496.1	Streptomyces sp. AA1529
516785475	WP_018100590.1	Streptomyces	517380511	WP_018554707.1	Streptomyces sp. ATexAB-D23
498043940	WP_010358096.1	Streptomyces acidiscabies	517382965	WP_018556988.1	Streptomyces sp. BoleA5
519334462	WP_020273487.1	Streptomyces afghaniensis	494477675	WP_007267152.1	Streptomyces sp. C
514437397	WP_016576245.1	Streptomyces albulus	494477676	WP_007267153.1	Streptomyces sp. C
514923904	WP_016644995.1	Streptomyces aurantiacus	517302968	WP_018491786.1	Streptomyces sp. CcalMP-8W
514921553	WP_016643239.1	Streptomyces aurantiacus	517786827	WP_018957035.1	Streptomyces sp. CNB091
493655227	WP_006606673.1	Streptomyces auratus	517786826	WP_018957034.1	Streptomyces sp. CNB091
493656664	WP_006608087.1	Streptomyces auratus	517669348	WP_018839556.1	Streptomyces sp. CNQ766
29828272	NP_822906.1	Streptomyces avermitilis MA-4680 = NBRC 14893	517667266	WP_018837474.1	Streptomyces sp. CNQ766
374985906	YP_004961401.1	Streptomyces bingchenggensis BCW-1	517674172	WP_018844380.1	Streptomyces sp. CNS335
491627009	WP_005484548.1	Streptomyces bottropensis	517679906	WP_018850114.1	Streptomyces sp. CNT372
518963077	WP_020118952.1	Streptomyces canus	517683004	WP_018853212.1	Streptomyces sp. CNY243
357408815	YP_004920738.1	Streptomyces cattleya NRRL			

516768732	WP_018091455.1	Streptomyces sp. FxanaC1			18224
518354821	WP_019525028.1	Streptomyces sp. FxanaD5			Talaromyces stipitatus ATCC 10500
512490516	WP_016431508.1	Streptomyces sp. HGB0020	242820552	XP_002487532.1	
512662528	WP_016468371.1	Streptomyces sp. HPH0547	47224622	CAG03606.1	Tetraodon nigroviridis
517367992	WP_018543025.1	Streptomyces sp. MspMP-M5	496449839	WP_009158684.1	Thalassobium sp. R2A62
606234199	EYU70218.1	Streptomyces sp. PCS3-D2	550984117	WP_022732214.1	Thalassospira lucentensis
606234200	EYU70219.1	Streptomyces sp. PCS3-D2	550984120	WP_022732217.1	Thalassospira lucentensis
594131223	EXU66480.1	Streptomyces sp. PRh5	496165586	WP_008890093.1	Thalassospira profundimaris
517392285	WP_018565796.1	Streptomyces sp. PsTaAH-124	496165584	WP_008890091.1	Thalassospira profundimaris
517392279	WP_018565791.1	Streptomyces sp. PsTaAH-124	494151768	WP_007091512.1	Thalassospira xiamenensis
517899630	WP_019069838.1	Streptomyces sp. R1-NS-10	494151766	WP_007091510.1	Thalassospira xiamenensis
517338886	WP_018514378.1	Streptomyces sp. ScaeMP-e10			Thermacetogenium phaeum DSM 12270
515807133	WP_017237886.1	Streptomyces sp. SS	410668354	YP_006920725.1	Thermanaerovibrio
515807125	WP_017237878.1	Streptomyces sp. SS	269792074	YP_003316978.1	acidaminovorans DSM 6589
602255307	EYT81321.1	Streptomyces sp. Tu 6176	493632082	WP_006583961.1	Thermanaerovibrio velox
494718702	WP_007454568.1	Streptomyces sp. W007	517493005	WP_018663582.1	Thermobrachium celere
494718704	WP_007454570.1	Streptomyces sp. W007			Thermococcus litoralis DSM 5473
518593056	WP_019763263.1	Streptomyces sp. Wigar10	530547731	YP_008428263.1	Thermococcus litoralis DSM 5473
494627648	WP_007385592.1	Streptomyces sviceps	530547727	YP_008428259.1	Thermococcus sibiricus MM 739
559793776	WP_023590492.1	Streptomyces thermophilicinus			Thermococcus sibiricus MM 739
493425299	WP_006381023.1	Streptomyces turgidiscabies	242398620	YP_002994044.1	Thermococcus sp. ES1
		Streptomyces venezuelae ATCC 10712	242398623	YP_002994047.1	Thermomicrobium roseum DSM 5159
408682862	YP_006882689.1	Streptomyces venezuelae ATCC 10712	573024906	AHF80440.1	Thermosediminibacter oceani DSM 16646
408682851	YP_006882678.1	Streptomyces violaceusniger Tu 4113			Thermovirga lienii DSM 17291
345008090	YP_004810444.1	Streptomyces viridochromogenes	302390215	YP_003826036.1	Tistrella mobilis KA081020-065
490094445	WP_003996365.1	Streptomyces viridochromogenes	357420410	YP_004933402.1	Trametes versicolor FP-101664 SS1
490092364	WP_003994285.1	Streptomyces viridochromogenes	389879517	YP_006381747.1	Trichechus manatus latirostris
490101518	WP_004003397.1	Streptomyces viridochromogenes	392569653	EIW62826.1	Trichoderma atroviride IMI 206040
490101517	WP_004003396.1	Streptomyces viridochromogenes	471360799	XP_004370968.1	Trichosporon asahii var. asahii CBS 2479
494760226	WP_007495634.1	Streptomyces zinciresistens	358393051	EHK42452.1	Trichosporon asahii var. asahii CBS 8904
271964986	YP_003339182.1	Streptosporangium roseum DSM 43021	401886828	EJT50845.1	Truepera radiovictrix DSM 17093
271967285	YP_003341481.1	Streptosporangium roseum DSM 43021	406698779	EKD02006.1	Trypanosoma cruzi
271967278	YP_003341474.1	Streptosporangium roseum DSM 43021	297623084	YP_003704518.1	Trypanosoma cruzi Dm28c
72084055	XP_790644.1	Strongylocentrotus purpuratus	407832562	EKF98492.1	Trypanosoma cruzi marinkellei
115749038	XP_787917.2	Strongylocentrotus purpuratus	557861670	ESS65020.1	Trypanosoma cruzi strain CL Brener
512682141	WP_016474624.1	Sutterella wadsworthensis	407396786	EKF27546.1	Trypanosoma cruzi strain CL Brener
495984971	WP_008709550.1	Synergistes sp. 3_1_syn1			Trypanosoma vivax
495988575	WP_008713154.1	Synergistes sp. 3_1_syn1	71419827	XP_811287.1	Tupaia chinensis
495984871	WP_008709450.1	Synergistes sp. 3_1_syn1			Tupaia chinensis
495988506	WP_008713085.1	Synergistes sp. 3_1_syn1	71400794	XP_803162.1	Tursiops truncatus
495984881	WP_008709460.1	Synergistes sp. 3_1_syn1	142933105	ABO92935.1	unclassified Aminicenantes unclassified
		Synergistetes bacterium JGI 0000079-D21	562830761	XP_006144887.1	Erysipelotrichaceae
551314574	WP_022934434.1	synthetic construct	444728574	ELW69024.1	uncultured bacterium
49087102	AAT51417.1	Taeniopygia guttata	470631638	XP_004322013.1	uncultured Rhodospirillales
224051879	XP_002200408.1	Takifugu rubripes	519105615	WP_020261490.1	bacterium HF0200_01O14
410926475	XP_003976704.1	Talaromyces marneffeii ATCC 18224	488681165	WP_002608780.1	
212545827	XP_002153067.1	Talaromyces marneffeii ATCC 18224	406922004	EKD59665.1	
212537321	XP_002148816.1	Talaromyces marneffeii ATCC 18224	297181675	ADI17858.1	

297181678	ADI17861.1	uncultured Rhodospirillales bacterium HF0200_01O14			V493
518483572	WP_019653779.1	Variovorax paradoxus	582092769	EVU08416.1	Vibrio parahaemolyticus VP2007-007
517733268	WP_018903476.1	Variovorax paradoxus			Vibrio parahaemolyticus VPTS-2010_2
538397581	YP_008519154.1	Variovorax paradoxus B4	589871373	EXJ47096.1	
319796572	YP_004158212.1	Variovorax paradoxus EPS	545467482	WP_021703983.1	Vibrio proteolyticus
239818178	YP_002947088.1	Variovorax paradoxus S110	495354569	WP_008079290.1	Vibrio sinaloensis
495103808	WP_007828631.1	Variovorax sp. CF313	491612308	WP_005469865.1	Vibrio sp. 16
		Verminephrobacter	516229990	WP_017633953.1	Vibrio sp. 712i1
497788560	WP_010102744.1	aporrectodeae	262394444	YP_003286298.1	Vibrio sp. Ex25
		Verminephrobacter	497383184	WP_009697397.1	Vibrio sp. HENC-01
497786348	WP_010100532.1	aporrectodeae	408889958	EKM28222.1	Vibrio sp. HENC-02
		Verminephrobacter eiseniae	497391725	WP_009705938.1	Vibrio sp. HENC-03
121608031	YP_995838.1	EF01-2	490884170	WP_004746139.1	Vibrio tubiashii
		Verrucomicrobia bacterium	560954576	XP_006199784.1	Vicugna pacos
518992821	WP_020148696.1	SCGC AAA164-E04	518207255	WP_019377463.1	Virgibacillus halodenitrificans
		Verrucomicrobia bacterium			Viridibacillus arenosi FSL R5-213
518994481	WP_020150356.1	SCGC AAA164-M04			Viridibacillus arenosi FSL R5-213
497650275	WP_009964459.1	Verrucomicrobium spinosum	573589845	ETT88049.1	Viridibacillus arenosi FSL R5-213
491532141	WP_005389764.1	Vibrio	573583844	ETT82128.1	
515634320	WP_017066920.1	Vibrio			Viridibacillus arenosi FSL R5-213
491535889	WP_005393509.1	Vibrio alginolyticus	573589844	ETT88048.1	
516431836	WP_017820891.1	Vibrio alginolyticus	518801679	WP_019957633.1	Vitreoscilla stercoraria
491520228	WP_005377859.1	Vibrio alginolyticus	518804175	WP_019960129.1	Woodsholea maritima
		Vibrio alginolyticus NBRC 15630 = ATCC 17749	517200399	WP_018389217.1	Xanthobacteraceae
543942278	YP_008534734.1		517202031	WP_018390849.1	Xanthobacteraceae
493934733	WP_006879133.1	Vibrio brasiliensis	517200077	WP_018388895.1	Xanthobacteraceae
494017926	WP_006960253.1	Vibrio coralliilyticus	517201424	WP_018390242.1	Xanthobacteraceae
545088859	WP_021458590.1	Vibrio coralliilyticus	517201428	WP_018390246.1	Xanthobacteraceae
518104195	WP_019274403.1	Vibrio coralliilyticus	517200397	WP_018389215.1	Xanthobacteraceae
515140283	WP_016769030.1	Vibrio cyclitrophicus	517202028	WP_018390846.1	Xanthobacteraceae
491582333	WP_005439903.1	Vibrio harveyi			Xanthobacteraceae
516428661	WP_017818023.1	Vibrio harveyi	285018733	YP_003376444.1	Xanthomonas albilineans GPE PC73
491587938	WP_005445505.1	Vibrio harveyi	515413019	WP_016902003.1	Xanthomonas arboricola
515757698	WP_017190298.1	Vibrio harveyi			Xanthomonas arboricola pv. pruni MAFF 301420
520914485	WP_020333877.1	Vibrio natriegens	573458424	GAE54544.1	Xanthomonas axonopodis
490547290	WP_004412414.1	Vibrio orientalis	515724482	WP_017157082.1	Xanthomonas axonopodis pv. citri str. 306
545083753	WP_021453658.1	Vibrio parahaemolyticus	21242966	NP_642548.1	Xanthomonas axonopodis pv. citri str. 306
491629120	WP_005486659.1	Vibrio parahaemolyticus	21243283	NP_642865.1	Xanthomonas axonopodis pv. citrumelo F1
559776505	WP_023584276.1	Vibrio parahaemolyticus	346725420	YP_004852089.1	Xanthomonas campestris
545079194	WP_021449179.1	Vibrio parahaemolyticus	498064049	WP_010378205.1	Xanthomonas campestris pv. campestris str. ATCC 33913
491637933	WP_005495462.1	Vibrio parahaemolyticus	21231852	NP_637769.1	Xanthomonas campestris pv. raphani 756C
546181669	WP_021822372.1	Vibrio parahaemolyticus	384428348	YP_005637707.1	Xanthomonas campestris pv. vesicatoria str. 85-10
491597497	WP_005455059.1	Vibrio parahaemolyticus	78048304	YP_364479.1	Xanthomonas citri
545081610	WP_021451525.1	Vibrio parahaemolyticus	489580469	WP_003484915.1	Xanthomonas fragariae
545077647	WP_021447644.1	Vibrio parahaemolyticus	488899872	WP_002810965.1	Xanthomonas fuscans
573516901	ETT16681.1	Vibrio parahaemolyticus 50	495241192	WP_007965955.1	Xanthomonas fuscans
		Vibrio parahaemolyticus 970107	495249926	WP_007974684.1	Xanthomonas fuscans subsp. fuscans
567327501	ETJ88327.1	Vibrio parahaemolyticus BB22OP	549715415	YP_008639278.1	Xanthomonas gardneri
		Vibrio parahaemolyticus O1:K33 str. CDC_K4557	493497261	WP_006451837.1	Xanthomonas hortorum
433657537	YP_007274916.1	Vibrio parahaemolyticus O1:Kuk str. FDA_R31	565807160	WP_023904362.1	Xanthomonas oryzae
525958546	YP_008316377.1	Vibrio parahaemolyticus RIMD 2210633	518133094	WP_019303302.1	
525951248	YP_008313589.1	Vibrio parahaemolyticus UCM-			
28898104	NP_797709.1				
584470631	AHI99851.1				

518135087	WP_019305295.1	Xanthomonas oryzae
58582764	YP_201780.1	Xanthomonas oryzae pv. oryzae KACC 10331
84624640	YP_452012.1	Xanthomonas oryzae pv. oryzae MAFF 311018
384418867	YP_005628227.1	Xanthomonas oryzae pv. oryzicola BLS256
498029257	WP_010343413.1	Xanthomonas sacchari
551355086	WP_022974447.1	Xanthomonas sp. M97
516522679	WP_017911045.1	Xanthomonas sp. SHU199
516529816	WP_017917622.1	Xanthomonas sp. SHU308
489570959	WP_003475412.1	Xanthomonas translucens
497277059	WP_009591276.1	Xanthomonas translucens
489561440	WP_003465971.1	Xanthomonas translucens
515683850	WP_017116450.1	Xanthomonas vasicola
498049300	WP_010363456.1	Xanthomonas vasicola
492836570	WP_005990524.1	Xanthomonas vesicatoria
56118398	NP_001008128.1	Xenopus (Silurana) tropicalis
551497550	XP_005800329.1	Xiphophorus maculatus
521958606	WP_020470211.1	Zavarzinella formosa
568804852	ETN96316.1	Zhouia amylytica AD3
340619974	YP_004738427.1	Zobellia galactanivorans
295133239	YP_003583915.1	Zunongwangia profunda SM- A87
578048861	CDH15775.1	Zygosaccharomyces bailii ISA1307
408407815	P0DKB4.1	Saccoglossus kowalevskii
85544193	2AZP	Pseudomonas aeruginosa
215275650	A0AZQ0.2	Burkholderia cenocepacia HI2424
485602247	4K7X	Burkholderia multivorans ATCC 17616
485602254	4K8L	Ochrobactrum anthropi ATCC 49188