

Table S-4. Unique regions found in the four new genomes, but missing in the classic *Brucella*.

Region	Strain	Contig	Coordinates	Size	PATRIC Locus Tag	RefSeq	Name	Size (aa)			
B-1	BO1	NZ_ADEZ01000009	(77608..78132)	524	VBIBruSp109945_0942	BIBO1_0906	hypothetical protein	22643			
					VBIBruSp109945_0943		hypothetical protein				
					NZ_ADEZ01000010	(212..22331)	22119		VBIBruSp109945_0944		hypothetical protein
					VBIBruSp109945_0945		hypothetical protein				
					VBIBruSp109945_0946		Conserved protein				
					VBIBruSp109945_0947	BIBO1_0907	Replicative DNA helicase				
					VBIBruSp109945_0948	BIBO1_0908	hypothetical protein				
					VBIBruSp109945_0949		Chromosomal replication initiator protein DnaA				
					VBIBruSp109945_0950		hypothetical protein				
					VBIBruSp109945_0951	BIBO1_0909	hypothetical protein				
					VBIBruSp109945_0952		hypothetical protein				
					VBIBruSp109945_0953		repressor protein C				
					VBIBruSp109945_0954		hypothetical protein				
					VBIBruSp109945_0955		hypothetical protein				
					VBIBruSp109945_0956		hypothetical protein				
					VBIBruSp109945_0957		hypothetical protein				
					VBIBruSp109945_0958		hypothetical protein				
					VBIBruSp109945_0959		hypothetical protein				
					VBIBruSp109945_0960	BIBO1_0911	hypothetical protein				
					VBIBruSp109945_0961	BIBO1_0912	hypothetical protein				
					VBIBruSp109945_0962		Recombinational DNA repair protein RecT (prophage associated)				
					VBIBruSp109945_0963		hypothetical protein				
					VBIBruSp109945_0964		hypothetical protein				
					VBIBruSp109945_0965		hypothetical protein				
					VBIBruSp109945_0966		hypothetical protein				
					VBIBruSp109945_0967		hypothetical protein				
					VBIBruSp109945_0968		hypothetical protein				
VBIBruSp109945_0969		hypothetical protein									
VBIBruSp109945_0970		hypothetical protein									
VBIBruSp109945_0971		hypothetical protein									
VBIBruSp109945_0972		Integrase									
B-1	BO2	NZ_ADFA01000015	(4215..26948)	22733	VBIBruSp146994_0229		hypothetical protein				
					VBIBruSp146994_0230		hypothetical protein				
					VBIBruSp146994_0231		hypothetical protein				
					VBIBruSp146994_0232		hypothetical protein				
					VBIBruSp146994_0233		Recombinational DNA repair protein RecT (prophage associated)				
					VBIBruSp146994_0234		hypothetical protein				
					VBIBruSp146994_0235	BIBO2_0219	hypothetical protein				
					VBIBruSp146994_0236		hypothetical protein				
					VBIBruSp146994_0237		hypothetical protein				
					VBIBruSp146994_0238		elements of external origin; phage-related functions and prophages				
					VBIBruSp146994_0239		hypothetical protein				
					VBIBruSp146994_0240		hypothetical protein				
					VBIBruSp146994_0241		hypothetical protein				
					VBIBruSp146994_0242		hypothetical protein				
					VBIBruSp146994_0243		Chromosomal replication initiator protein DnaA				
					VBIBruSp146994_0244		Replicative DNA helicase				
					VBIBruSp146994_0245		hypothetical protein				
					VBIBruSp146994_0246		Conserved protein				
					VBIBruSp146994_0247		hypothetical protein				
					VBIBruSp146994_0248		hypothetical protein				
					VBIBruSp146994_0249		hypothetical protein				
					VBIBruSp146994_0250		hypothetical protein				
VBIBruSp146994_0251	BIBO2_0222	Phage terminase large subunit									
VBIBruSp146994_0252	BIBO2_0223	hypothetical protein									
NZ_ADFA01000016	(1865..10506)	8641	VBIBruSp146994_0256		putative major head protein/prohead protease						

					VBIBruSp146994_0257	BIBO2_0224	HNH endonuclease	49763
					VBIBruSp146994_0258		hypothetical protein	
					VBIBruSp146994_0259		hypothetical protein	
					VBIBruSp146994_0260		hypothetical protein	
					VBIBruSp146994_0261		hypothetical protein	
					VBIBruSp146994_0262		hypothetical protein	
					VBIBruSp146994_0263		hypothetical protein	
					VBIBruSp146994_0264		hypothetical protein	
					VBIBruSp146994_0265		hypothetical protein	
					VBIBruSp146994_0266		hypothetical protein	
					VBIBruSp146994_0267	BIBO2_0225	putative integrase for prophage CP-933R	
NZ_ADEZ01000017	(105..18494)	18389			VBIBruSp146994_0268		Phage capsid and scaffold	
					VBIBruSp146994_0269		hypothetical protein	
					VBIBruSp146994_0270	BIBO2_0226	Phage portal protein	
					VBIBruSp146994_0271	BIBO2_0227	Phage portal protein	
					VBIBruSp146994_0272	BIBO2_0228	hypothetical protein	
					VBIBruSp146994_0273	BIBO2_0229	hypothetical protein	
					VBIBruSp146994_0274		hypothetical protein	
					VBIBruSp146994_0275	BIBO2_0230	gene transfer agent-like protein	
					VBIBruSp146994_0276	BIBO2_0231	Gene Transfer Agent (GTA) ORFG09	
					VBIBruSp146994_0277		hypothetical protein	
					VBIBruSp146994_0278		partial putative tail component of prophage CP- 933R	
					VBIBruSp146994_0279		hypothetical protein	
					VBIBruSp146994_0280		hypothetical protein	
					VBIBruSp146994_0281		hypothetical protein	
					VBIBruSp146994_0282		hypothetical protein	
					VBIBruSp146994_0283		hypothetical protein	
					VBIBruSp146994_0284		phage related lysozyme	
					VBIBruSp146994_0285		hypothetical protein	
					VBIBruSp146994_0286	BIBO2_0233	hypothetical protein	

B-2	BO1	NZ_ADEZ01000013	(1847..12703)	10856	VBIBruSp109945_1226		hypothetical protein	10856
					VBIBruSp109945_1227		Virulence-associated protein	
					VBIBruSp109945_1228		hypothetical protein	
					VBIBruSp109945_1229		hypothetical protein	
					VBIBruSp109945_1230		hypothetical protein	
					VBIBruSp109945_1231	BIBO1_1151	phage tail sheath protein	
					VBIBruSp109945_1232	BIBO1_1152	hypothetical protein	
					VBIBruSp109945_1233	BIBO1_1153	hypothetical protein	
					VBIBruSp109945_1234		hypothetical protein	
					VBIBruSp109945_1235		hypothetical protein	
					VBIBruSp109945_1236	BIBO1_1154	Site-specific DNA methylase	
					VBIBruSp109945_r025		tRNA-Met-CAT	

B-2	BO2	NZ_ADEZ01000151	(12581..20945)	8364	VBIBruSp146994_3030	BIBO2_2798	phage tail sheath protein	8364
					VBIBruSp146994_3031	BIBO2_2799	hypothetical protein	
					VBIBruSp146994_3032	BIBO2_2800	hypothetical protein	
					VBIBruSp146994_3033	BIBO2_2801	hypothetical protein	
					VBIBruSp146994_3034	BIBO2_2802	Phage-related tail protein	
					VBIBruSp146994_3035	BIBO2_2803	hypothetical protein	
					VBIBruSp146994_3036	BIBO2_2804	hypothetical protein	
					VBIBruSp146994_3037		COG0477: Permeases of the major facilitator superfamily	
					VBIBruSp146994_3038		hypothetical protein	
					VBIBruSp146994_3039	BIBO2_2805	Site-specific DNA methylase	
					VBIBruSp146994_r052		tRNA-Met-CAT	

B-3	BO1	NZ_ADEZ01000020	(39415..44446)	5031	VBIBruSp109945_r031		tRNA-Thr-GGT	5031
					VBIBruSp109945_1683		site-specific recombinase, phage integrase family	
					VBIBruSp109945_1684		hypothetical protein	
					VBIBruSp109945_1685		hypothetical protein	
					VBIBruSp109945_1686	BIBO1_1588	probable transcription regulator protein	
					VBIBruSp109945_1687		hypothetical protein	
					VBIBruSp109945_1688		hypothetical protein	

B-3	BO2	NZ_ADEFA01000126	(41971..46752)	4781	VBIBruSp146994_2421	BIBO2_2240	hypothetical protein	4781
					VBIBruSp146994_2422	BIBO2_2241	probable transcription regulator protein	
					VBIBruSp146994_2423		hypothetical protein	
					VBIBruSp146994_2424		yecA family protein	
					VBIBruSp146994_2425		site-specific recombinase, phage integrase family	
					VBIBruSp146994_r043		tRNA-Thr-GGT	

B-4	BO1	NZ_ADEZ01000027	(43637..48726)	5089	VBIBruSp109945_2126		hypothetical protein	5089
					VBIBruSp109945_2127	BIBO1_2016	Acyl-CoA dehydrogenase, short-chain specific	
					VBIBruSp109945_2128	BIBO1_2017	CAIB/BAIF family protein	
					VBIBruSp109945_2129		hypothetical protein	
					VBIBruSp109945_2130		hypothetical protein	
					VBIBruSp109945_2131	BIBO1_2018	hypothetical protein	
					VBIBruSp109945_2132	BIBO1_2019	Biosynthetic Aromatic amino acid aminotransferase beta	

B-4	BO2	NZ_ADEFA01000061	(43714..48959)	5245	VBIBruSp146994_1061	BIBO2_0955	Acyl-CoA dehydrogenase, short-chain specific	5245
					VBIBruSp146994_1062	BIBO2_0956	CAIB/BAIF family protein	
					VBIBruSp146994_1063		hypothetical protein	
					VBIBruSp146994_1064		hypothetical protein	
					VBIBruSp146994_1065	BIBO2_0957	hypothetical protein	
					VBIBruSp146994_1066	BIBO2_0958	Biosynthetic Aromatic amino acid aminotransferase beta	
					VBIBruSp146994_1067		ISBml, transposase orfB	

B-5	BO1	NZ_ADEZ01000035	(155594..230205)	74611	VBIBruSp109945_2908		Site-specific DNA methylase	
					VBIBruSp109945_2909		hypothetical protein	
					VBIBruSp109945_2910		hypothetical protein	
					VBIBruSp109945_2911		hypothetical protein	
					VBIBruSp109945_2912		hypothetical protein	
					VBIBruSp109945_2913		Phage-related baseplate assembly protein	
					VBIBruSp109945_2914		hypothetical protein	
					VBIBruSp109945_2915		Baseplate	
					VBIBruSp109945_2916		hypothetical protein	
					VBIBruSp109945_2917		hypothetical protein	
					VBIBruSp109945_2918		hypothetical protein	
					VBIBruSp109945_2919		hypothetical protein	
					VBIBruSp109945_2920		hypothetical protein	
					VBIBruSp109945_2921		hypothetical protein	
					VBIBruSp109945_2922		hypothetical protein	
					VBIBruSp109945_2923		Putative phage tail core protein	
					VBIBruSp109945_2924		Major tail sheath protein	
					VBIBruSp109945_2925		hypothetical protein	
					VBIBruSp109945_2926		hypothetical protein	
					VBIBruSp109945_2927		hypothetical protein	
					VBIBruSp109945_2928		hypothetical protein	
					VBIBruSp109945_2929		hypothetical protein	
					VBIBruSp109945_2930		hypothetical protein	
					VBIBruSp109945_2931		prophage MuMc02, virion morphogenesis protein	
					VBIBruSp109945_2932		Phage (Mu-like) virion morphogenesis protein	
					VBIBruSp109945_2933		Mu-like prophage FluMu protein gp29	
					VBIBruSp109945_2934		Phage protein	
					VBIBruSp109945_2935		hypothetical protein	
					VBIBruSp109945_2936		hypothetical protein	
					VBIBruSp109945_2937		hypothetical protein	
					VBIBruSp109945_2938		hypothetical protein	
					VBIBruSp109945_2939		hypothetical protein	
					VBIBruSp109945_2940		hypothetical protein	
VBIBruSp109945_2941		hypothetical protein						
VBIBruSp109945_2942		hypothetical protein						
VBIBruSp109945_2943		hypothetical protein						
VBIBruSp109945_2944		putative host-nuclease inhibitor protein						
VBIBruSp109945_2945		hypothetical protein						
VBIBruSp109945_2946		hypothetical protein						

VBIBruSp109945_2947		regulatory protein, LacI
VBIBruSp109945_2948		hypothetical protein
VBIBruSp109945_2949		prophage MuSo1, DNA transposition protein, putative
VBIBruSp109945_2950		hypothetical protein
VBIBruSp109945_2951		hypothetical protein
VBIBruSp109945_2952		ParB-like nuclease domain protein
VBIBruSp109945_2953		hypothetical protein
VBIBruSp109945_2954		hypothetical protein
VBIBruSp109945_2955		hypothetical protein
VBIBruSp109945_2956		hypothetical protein
VBIBruSp109945_2957		hypothetical protein
VBIBruSp109945_2958		hypothetical protein
VBIBruSp109945_2959		ParB-like nuclease domain protein
VBIBruSp109945_2960		hypothetical protein
VBIBruSp109945_2961		hypothetical protein
VBIBruSp109945_2962		hypothetical protein
VBIBruSp109945_2963		hypothetical protein
VBIBruSp109945_2964		Site-specific DNA methylase
VBIBruSp109945_2965		hypothetical protein
VBIBruSp109945_2966		hypothetical protein
VBIBruSp109945_2967		hypothetical protein
VBIBruSp109945_2968		hypothetical protein
VBIBruSp109945_2969		hypothetical protein
VBIBruSp109945_2970		hypothetical protein
VBIBruSp109945_2971		hypothetical protein
VBIBruSp109945_2972		IroE protein
VBIBruSp109945_2973		TonB-dependent siderophore receptor
VBIBruSp109945_2974		transcriptional regulator, AraC family
VBIBruSp109945_2975		Ferric vibriobactin, enterobactin transport system, substrate-binding protein ViuP (TC 3.A.1.14.6)
VBIBruSp109945_2976		transport system permease protein
VBIBruSp109945_2977		COG4779: ABC-type enterobactin transport system, permease component
VBIBruSp109945_2978		ABC-type Fe3+-siderophore transport system, ATPase component
VBIBruSp109945_2979		transposase IS3/IS911 family protein
VBIBruSp109945_2980		hypothetical protein
VBIBruSp109945_2981		hypothetical protein
VBIBruSp109945_2982		Probable two-component sensor, near polyamine transporter
VBIBruSp109945_2983		two component transcriptional regulator, LuxR family
VBIBruSp109945_2984		putative transposase
VBIBruSp109945_2985		hypothetical protein

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B-5	BO2	NZ_ADFa01000151	(3460..12249)	8789	VBIBruSp146994_r051		tRNA-His-GTG
					VBIBruSp146994_3021	BIBO2_2791	hypothetical protein
					VBIBruSp146994_3022		hypothetical protein
					VBIBruSp146994_3023	BIBO2_2792	hypothetical protein
					VBIBruSp146994_3024	BIBO2_2793	hypothetical protein
					VBIBruSp146994_3025	BIBO2_2794	hypothetical protein
					VBIBruSp146994_3026	BIBO2_2795	hypothetical protein
					VBIBruSp146994_3027	BIBO2_2796	hypothetical protein
					VBIBruSp146994_3028	BIBO2_2797	hypothetical protein
					VBIBruSp146994_3029		Glycosyltransferase
		NZ_ADFa01000086	(134..27115)	26981	VBIBruSp146994_1558		transposase, mutator type
					VBIBruSp146994_1559	BIBO2_1419	putative transposase
					VBIBruSp146994_1560	BIBO2_1420	two component transcriptional regulator, LuxR family
					VBIBruSp146994_1561	BIBO2_1421	Probable two-component sensor, near polyamine transporter
					VBIBruSp146994_1562		hypothetical protein
					VBIBruSp146994_1563		hypothetical protein
					VBIBruSp146994_1564		transposase IS3/IS911 family protein
					VBIBruSp146994_1565	BIBO2_1422	component
					VBIBruSp146994_1566	BIBO2_1423	COG4779: ABC-type enterobactin transport system, permease component

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					VBIBruSp146994_1567	BIBO2_1424	transport system permease protein
					VBIBruSp146994_1568	BIBO2_1425	Ferric vibriobactin, enterobactin transport system, substrate-binding protein ViuP (TC 3.A.1.14.6)
					VBIBruSp146994_1569		transcriptional regulator, AraC family
					VBIBruSp146994_1570		TonB-dependent siderophore receptor
					VBIBruSp146994_1571		IroE protein
					VBIBruSp146994_r030		tRNA-Thr-CGT

B-6	BO1	NZ_ADEZ01000038	(1269..10178)	8909	VBIBruSp109945_3026		hypothetical protein
					VBIBruSp109945_3027	BIBO1_2787	putative IS116/IS110/IS902-family transposase
					VBIBruSp109945_3028		hypothetical protein
					VBIBruSp109945_3029		hypothetical protein
					VBIBruSp109945_3030		hypothetical protein
					VBIBruSp109945_3031		ISBma2, transposase
					VBIBruSp109945_3032		Transposase
		NZ_ADEZ01000039	(68..3521)	3453	VBIBruSp109945_3033	BIBO1_3107	Phage lysozyme
					VBIBruSp109945_3034	BIBO1_3108	probable acyltransferase
					VBIBruSp109945_3035	BIBO1_3109	hypothetical protein
		NZ_ADEZ01000040	(2..190)	188	VBIBruSp109945_3036		TRANSPOSASE

B-6	BO2	NZ_ADFA01000148	(608..8040)	7432	VBIBruSp146994_2984	BIBO2_3120	Transposase
					VBIBruSp146994_2985	BIBO2_3121	Transposase
					VBIBruSp146994_2986	BIBO2_3122	hypothetical protein
					VBIBruSp146994_2987		hypothetical protein
					VBIBruSp146994_2988	BIBO2_3126	hypothetical protein
					VBIBruSp146994_2989	BIBO2_3127	hypothetical protein

B-7	BO1	NZ_ADEZ01000041	(6087..16883)	10796	VBIBruSp109945_3257	BIBO1_2985	Predicted L-rhamnose isomerase Rhal
					VBIBruSp109945_3258	BIBO1_2986	lactaldehyde dehydrogenase
					VBIBruSp109945_3259	BIBO1_2987	Transcriptional regulator of rhamnose utilization, DeoR family
					VBIBruSp109945_3260		Predicted L-rhamnose ABC transporter, substrate-binding component
					VBIBruSp109945_3261		Predicted L-rhamnose ABC transporter, substrate-binding component
					VBIBruSp109945_3262	BIBO1_2988	Predicted L-rhamnose ABC transporter, ATP-binding component
					VBIBruSp109945_3263	BIBO1_2989	Predicted L-rhamnose ABC transporter, transmembrane component 2
					VBIBruSp109945_3264	BIBO1_2990	Predicted L-rhamnose ABC transporter, transmembrane component 1
					VBIBruSp109945_3265	BIBO1_2991	L-rhamnose mutarotase
					VBIBruSp109945_3266	BIBO1_2992	Rhamnulokinase RhaK in alpha-proteobacteria

B-7	BO2	NZ_ADFA01000053	(3329..15135)	11806	VBIBruSp146994_0899	BIBO2_0816	Transcriptional regulators, LysR family
					VBIBruSp146994_0900	BIBO2_0817	Predicted L-rhamnose isomerase Rhal
					VBIBruSp146994_0901	BIBO2_0818	Predicted rhamnulose-1-phosphate aldolase / Predicted lactaldehyde dehydrogenase
					VBIBruSp146994_0902	BIBO2_0819	Transcriptional regulator of rhamnose utilization, DeoR family
					VBIBruSp146994_0903	BIBO2_0820	Predicted L-rhamnose ABC transporter, substrate-binding component
					VBIBruSp146994_0904	BIBO2_0821	Predicted L-rhamnose ABC transporter, ATP-binding component
					VBIBruSp146994_0905	BIBO2_0822	Predicted L-rhamnose ABC transporter, transmembrane component 2
					VBIBruSp146994_0906	BIBO2_0823	Predicted L-rhamnose ABC transporter, transmembrane component 1
					VBIBruSp146994_0907	BIBO2_0824	L-rhamnose mutarotase
					VBIBruSp146994_0908	BIBO2_0825	Rhamnulokinase RhaK in alpha-proteobacteria

B-8	BO1	NZ_ADEZ01000055	(124..6919)	6795	VBIBruSp109945_3397	BIBO1_3097	N-acetyl-L,L-diaminopimelate deacetylase
					VBIBruSp109945_3398		aminotransferase, class III

					VBIBruSp109945_3399	BIBO1_3098	cell processes; transport of small molecules; amino acids, amines, peptides	6795
					VBIBruSp109945_3400	BIBO1_3099	Glycine/D-amino acid oxidases (deaminating)	
					VBIBruSp109945_3401	BIBO1_3100	PUTATIVE AMINO ACID-BINDING PERIPLASMIC ABC TRANSPORTER PROTEIN	

B-8	BO2	NZ_ADFa01000153	(14..7696)	7682	VBIBruSp146994_3048		ABC-type polar amino acid transport system, ATPase component	7682
					VBIBruSp146994_3049	BIBO2_2815	PUTATIVE AMINO ACID-BINDING PERIPLASMIC ABC TRANSPORTER PROTEIN	
					VBIBruSp146994_3050	BIBO2_2816	Glycine/D-amino acid oxidases (deaminating)	
					VBIBruSp146994_3051	BIBO2_2817	cell processes; transport of small molecules; amino acids, amines, peptides	
					VBIBruSp146994_3052	BIBO2_2820	aminotransferase, class III	
					VBIBruSp146994_3053	BIBO2_2821	N-acetyl-L,L-diaminopimelate deacetylase	

B-9	BO1	NZ_ADEZ01000028	(35851..45124)	9273	VBIBruSp109945_2242	BIBO1_2122	Choline dehydrogenase	9273
					VBIBruSp109945_2243	BIBO1_2123	leucine-, isoleucine-, valine-, threonine-, and alanine-binding protein precursor BMEI10122	
					VBIBruSp109945_2244	BIBO1_2124	ABC transporter, permease protein	
					VBIBruSp109945_2245	BIBO1_2125	hypothetical protein	
					VBIBruSp109945_2246	BIBO1_2126	Branched-chain amino acid transport ATP-binding protein LivG (TC 3.A.1.4.1)	
					VBIBruSp109945_2247	BIBO1_2127	Branched-chain amino acid transport ATP-binding protein livF (TC 3.A.1.4.1)	
					VBIBruSp109945_2248		transcriptional regulator, AraC family	
					VBIBruSp109945_2249	BIBO1_2128	Ketosteroid isomerase-related protein	
					VBIBruSp109945_2250		MoaF protein precursor	
					VBIBruSp109945_2251	BIBO1_2129	Oxidoreductase, short-chain dehydrogenase/reductase family	

B-9	BO2	NZ_ADFa01000065	(515..2097)	1582	VBIBruSp146994_1156	BIBO2_1038	Oxidoreductase, short-chain dehydrogenase/reductase family	9121			
					VBIBruSp146994_1157	BIBO2_1039	MoaF protein precursor				
					NZ_ADFa01000066	(1..7540)	7539		VBIBruSp146994_1158		Ketosteroid isomerase-related protein
					VBIBruSp146994_1159		putative transcriptional regulatory protein, AraC/XylS family				
					VBIBruSp146994_1160	BIBO2_1040	Branched-chain amino acid transport ATP-binding protein livF (TC 3.A.1.4.1)				
					VBIBruSp146994_1161	BIBO2_1041	Branched-chain amino acid transport ATP-binding protein LivG (TC 3.A.1.4.1)				
					VBIBruSp146994_1162	BIBO2_1042	hypothetical protein				
					VBIBruSp146994_1163	BIBO2_1043	ABC transporter, permease protein				
					VBIBruSp146994_1164	BIBO2_1044	leucine-, isoleucine-, valine-, threonine-, and alanine-binding protein precursor BMEI10122				
					VBIBruSp146994_1165	BIBO2_1045	Choline dehydrogenase				

B-10	BO1	NZ_ADEZ01000036	(1728..11491)	9763	VBIBruSp109945_2990	BIBO1_2757	Malate dehydrogenase	9763
					VBIBruSp109945_2991	BIBO1_2758	Oxidoreductase, FMN-binding/pyridine nucleotide-disulfide oxidoreductase	
					VBIBruSp109945_2992	BIBO1_2759	L-proline glycine betaine ABC transport system permease protein ProV (TC 3.A.1.12.1)	
					VBIBruSp109945_2993	BIBO1_2760	L-proline glycine betaine ABC transport system permease protein ProW (TC 3.A.1.12.1)	
					VBIBruSp109945_2994	BIBO1_2761	L-proline glycine betaine binding ABC transporter protein ProX (TC 3.A.1.12.1)	
					VBIBruSp109945_2995	BIBO1_2762	Pyrraline-5-carboxylate reductase	
					VBIBruSp109945_2996	BIBO1_2763	Transcriptional regulator, TetR family	
					VBIBruSp109945_2997	BIBO1_2764	2,4-dienoyl-CoA reductase [NADPH]	

B-10	BO2	NZ_ADFa01000120	(18901..28664)	9763	VBIBruSp146994_2320	BIBO2_2147	2,4-dienoyl-CoA reductase [NADPH]	
					VBIBruSp146994_2321	BIBO2_2148	Transcriptional regulator, TetR family	
					VBIBruSp146994_2322	BIBO2_2149	Pyrraline-5-carboxylate reductase	
					VBIBruSp146994_2323	BIBO2_2150	L-proline glycine betaine binding ABC transporter protein ProX (TC 3.A.1.12.1)	

					VBIBruSp146994_2324	BIBO2_2151	L-proline glycine betaine ABC transport system permease protein ProW (TC 3.A.1.12.1)	9763
					VBIBruSp146994_2325	BIBO2_2152	L-proline glycine betaine ABC transport system permease protein ProV (TC 3.A.1.12.1)	
					VBIBruSp146994_2326	BIBO2_2153	Oxidoreductase, FMN-binding/pyridine nucleotide-disulfide oxidoreductase	
					VBIBruSp146994_2327	BIBO2_2154	Malate dehydrogenase	
B-11	BO1	NZ_ADEZ01000027	(99893..111774)	11881	VBIBruSp109945_2184		Outer membrane autotransporter barrel	11881
					VBIBruSp109945_2185	BIBO1_2070	hypothetical protein	
					VBIBruSp109945_2186	BIBO1_2071	INVASION PROTEIN B	
B-11	BO2	NZ_ADEZ01000062	(26139..38020)	11881	VBIBruSp146994_1119		Outer membrane autotransporter barrel	11881
					VBIBruSp146994_1120	BIBO2_1008	hypothetical protein	
					VBIBruSp146994_1121	BIBO2_1009	INVASION PROTEIN B	
BO1-1	BO1	NZ_ADEZ01000006	(2098..3261)	1163	VBIBruSp109945_0526		hypothetical protein	1163
					VBIBruSp109945_0527		hypothetical protein	
					VBIBruSp109945_0528	BIBO1_0505	hypothetical protein	
BO1-2	BO1	NZ_ADEZ01000008	(35213..37194)	1981	VBIBruSp109945_0810		hypothetical protein	1981
					VBIBruSp109945_0811	BIBO1_0771	hypothetical protein	
					VBIBruSp109945_0812	BIBO1_0772	probable addiction module antidote protein	
					VBIBruSp109945_0813		hypothetical protein	
BO1-3	BO1	NZ_ADEZ01000035	(35737..37398)	1661	VBIBruSp109945_r041		tRNA-Cys-GCA	1661
					VBIBruSp109945_2796		hypothetical protein	
					VBIBruSp109945_2797	BIBO1_2646	plasmid maintenance system killer	
					VBIBruSp109945_2798	BIBO1_2647	HigA protein (antitoxin to HigB)	
					VBIBruSp109945_2799		hypothetical protein	
BO1-4	BO1	NZ_ADEZ01000035	(100441..113828)	13387	VBIBruSp109945_2866	BIBO1_2712	unknown protein	13387
					VBIBruSp109945_2867	BIBO1_2713	hypothetical protein	
					VBIBruSp109945_2868		hypothetical protein	
					VBIBruSp109945_2869		hypothetical protein	
					VBIBruSp109945_2870		hypothetical protein	
					VBIBruSp109945_2871		hypothetical protein	
					VBIBruSp109945_2872		Cell division protein FtsH	
					VBIBruSp109945_2873		hypothetical protein	
					VBIBruSp109945_2874		hypothetical protein	
BO1-5	BO1	NZ_ADEZ01000042	(284..8950)	8666	VBIBruSp109945_3315		hypothetical protein	21597
					VBIBruSp109945_3316	BIBO1_3040	Shufflon-specific DNA recombinase	
					VBIBruSp109945_3317		hypothetical protein	
					VBIBruSp109945_3318		hypothetical protein	
					VBIBruSp109945_3319		hypothetical protein	
					VBIBruSp109945_3320		TRANSPOSASE	
					VBIBruSp109945_3321		hypothetical protein	
		NZ_ADEZ01000043	(16..12609)	12593	VBIBruSp109945_3322	BIBO1_3041	hypothetical protein	
					VBIBruSp109945_3323	BIBO1_3042	hypothetical protein	
					VBIBruSp109945_3324		hypothetical protein	
					VBIBruSp109945_3325		hypothetical protein	
					VBIBruSp109945_3326	BIBO1_3043	hypothetical protein	
					VBIBruSp109945_3327		hypothetical protein	
					VBIBruSp109945_3328		hypothetical protein	
					VBIBruSp109945_3329	BIBO1_3044	hypothetical protein	
					VBIBruSp109945_3330	BIBO1_3045	phage protein, HK97 gp10 family	
					VBIBruSp109945_3331	BIBO1_3046	hypothetical protein	
					VBIBruSp109945_3332		Phage conserved hypothetical protein, phiE125 gp8	
					VBIBruSp109945_3333		hypothetical protein	

					VBIBruSp109945_3334		Gene Transfer Agent capsid protein; Phage major capsid protein	
					VBIBruSp109945_3335		Prophage Clp protease-like protein	
					VBIBruSp109945_3336		Phage portal protein	
					VBIBruSp109945_3337		Phage terminase large subunit	
					VBIBruSp109945_3338		hypothetical protein	
		NZ_ADEZ01000045	(2..340)	338	VBIBruSp109945_3339		TRANSPOSASE	
BO2-1	BO2	NZ_ADFA01000030	(43890..55487)	11597	VBIBruSp146994_0660	BIBO2_0598	hypothetical protein	11597
					VBIBruSp146994_0661		hypothetical protein	
					VBIBruSp146994_0662		Prevent host death protein, Phd antitoxin	
					VBIBruSp146994_0663		Helix-turn-helix motif	
					VBIBruSp146994_0664	BIBO2_0599	TraJ protein	
					VBIBruSp146994_0665		hypothetical protein	
					VBIBruSp146994_0666	BIBO2_0600	hypothetical protein	
					VBIBruSp146994_0667		Conjugative transfer protein TrbL	
					VBIBruSp146994_0668	BIBO2_0601	Conjugative transfer protein TrbJ	
					VBIBruSp146994_0669		Plasmid stability protein stbB	
					VBIBruSp146994_0670	BIBO2_0602	putative plasmid stabilization protein	
					VBIBruSp146994_0671	BIBO2_0603	hypothetical protein	
					VBIBruSp146994_0672		hypothetical protein	
					VBIBruSp146994_0673	BIBO2_0604	RecA-family ATPase	
					VBIBruSp146994_0674	BIBO2_0605	phage transcriptional regulator, AlpA	
					VBIBruSp146994_0675	BIBO2_0606	hypothetical protein	
BO2-2	BO2	NZ_ADFA01000108	(68439..73792)	5353	VBIBruSp146994_2141	BIBO2_1972	dTDP-4-dehydrorhamnose reductase	5353
					VBIBruSp146994_2142	BIBO2_1973	dTDP-glucose 4,6-dehydratase	
					VBIBruSp146994_2143	BIBO2_1974	dTDP-4-dehydrorhamnose 3,5-epimerase	
					VBIBruSp146994_2144	BIBO2_1975	Glucose-1-phosphate thymidyltransferase	
					VBIBruSp146994_2145		DNA for TA region of Ti plasmid	
BO2-3	BO2	NZ_ADFA01000110	(58..3383)	3325	VBIBruSp146994_2150	BIBO2_3116	hypothetical protein	8030
					VBIBruSp146994_2151	BIBO2_3118	hypothetical protein	
					VBIBruSp146994_2152	BIBO2_3119	iSSpo6, transposase OrfB	
		NZ_ADFA01000111	(847..5552)	4705	VBIBruSp146994_2153		putative acetyl transferase by domain	
					VBIBruSp146994_2154	BIBO2_1979	Glycosyl transferase, group 2 family protein	
					VBIBruSp146994_2155	BIBO2_1980	hypothetical protein	
BO2-4	BO2	NZ_ADFA01000164	(4..17574)	17570	VBIBruSp146994_3187		hypothetical protein	17570
					VBIBruSp146994_3188		hypothetical protein	
					VBIBruSp146994_3189		hypothetical protein	
					VBIBruSp146994_3190	BIBO2_2953	hypothetical protein	
					VBIBruSp146994_3191		hypothetical protein	
					VBIBruSp146994_3192	BIBO2_2954	Putative predicted metal-dependent hydrolase	
					VBIBruSp146994_3193	BIBO2_2955	Type I restriction-modification system, restriction subunit R	
					VBIBruSp146994_3194	BIBO2_2956	possible multi-domain protein	
					VBIBruSp146994_3195		Type I restriction-modification system, specificity subunit S	
					VBIBruSp146994_3196	BIBO2_2957	Type I restriction-modification system, DNA-methyltransferase subunit M	
					VBIBruSp146994_3197		Integrase	
					VBIBruSp146994_3198	BIBO2_2958	site-specific recombinase, phage integrase family	
					VBIBruSp146994_3199	BIBO2_2959	Site-specific recombinase, resolvase family	
					VBIBruSp146994_3200		hypothetical protein	
					VBIBruSp146994_3201	BIBO2_2960	hypothetical protein	
					VBIBruSp146994_3202	BIBO2_2961	hypothetical protein	
BO2-5	BO2	NZ_ADFA01000167	(25512..29297)	3785			tmRNA remnant	9891
					VBIBruSp146994_3255		hypothetical protein	
					VBIBruSp146994_3256	BIBO2_3008	hypothetical protein	
					VBIBruSp146994_3257	BIBO2_3009	hypothetical protein	
					VBIBruSp146994_3258	BIBO2_3010	Phage terminase, large subunit	
		NZ_ADFA01000168	(767..6900)	6106	VBIBruSp146994_3261		hypothetical protein	
					VBIBruSp146994_3262	BIBO2_3011	phage portal protein, lambda family	

VBIBruSp146994_3263	BIBO2_3012	hypothetical protein
VBIBruSp146994_3264	BIBO2_3013	hypothetical protein
VBIBruSp146994_3265	BIBO2_3014	hypothetical protein
VBIBruSp146994_3266	BIBO2_3015	hypothetical protein
VBIBruSp146994_3267	BIBO2_3016	Phage related integrase
tmRNA		tmRNA coding piece

8N-1	83-13	NZ_DS999659	(152298..175439)	23141	VBIBruSp75385_2415	Bru83_010100010959	hypothetical protein	
					VBIBruSp75385_2416	Bru83_010100010964	DNA-binding protein, CopG family	
					VBIBruSp75385_2417		hypothetical protein	
					VBIBruSp75385_2418	Bru83_010100010989	terminase small subunit	
					VBIBruSp75385_2419		hypothetical protein	
					VBIBruSp75385_2420		hypothetical protein	
					VBIBruSp75385_2421	Bru83_010100011004	hypothetical protein	
					VBIBruSp75385_2422	Bru83_010100011016	hypothetical protein	
					VBIBruSp75385_2423		hypothetical protein	
					VBIBruSp75385_2424		hypothetical protein	
					VBIBruSp75385_2425	Bru83_010100011031	hypothetical protein	
					VBIBruSp75385_2426	Bru83_010100011036	hypothetical protein	
					VBIBruSp75385_2427	Bru83_010100011041	hypothetical protein	
					VBIBruSp75385_2428	Bru83_010100011046	hypothetical protein	
					VBIBruSp75385_2429	Bru83_010100011051	hypothetical protein	
					VBIBruSp75385_2430	Bru83_010100011056	hypothetical protein	
					VBIBruSp75385_2431		hypothetical protein	23141
					VBIBruSp75385_2432		hypothetical protein	
					VBIBruSp75385_2433	Bru83_010100011061	hypothetical protein	
					VBIBruSp75385_2434		hypothetical protein	
					VBIBruSp75385_2435		hypothetical protein	
					VBIBruSp75385_2436		hypothetical protein	
					VBIBruSp75385_2437	Bru83_010100011076	Flagellar protein FlgJ [peptidoglycan hydrolase]	
					VBIBruSp75385_2438		hypothetical protein	
					VBIBruSp75385_2439	Bru83_010100011081	hypothetical protein	
					VBIBruSp75385_2440	Bru83_010100011091	hypothetical protein	
					VBIBruSp75385_2441	Bru83_010100011096	hypothetical protein	
					VBIBruSp75385_2442	Bru83_010100011101	hypothetical protein	
					VBIBruSp75385_2443	Bru83_010100011116	putative transmembrane protein	
					VBIBruSp75385_2444	Bru83_010100011121	hypothetical protein	
					VBIBruSp75385_2445	Bru83_010100011126	hypothetical protein	
					VBIBruSp75385_2446	Bru83_010100011131	hypothetical protein	
					VBIBruSp75385_r047		tRNA-Thr-CGT	

8N-1	NF2653	NZ_ADFB01000077	(1528..24649)	23121	VBIBruSp153798_r032		tRNA-Thr-CGT	
					VBIBruSp153798_2356	BROD_2233	hypothetical protein	
					VBIBruSp153798_2357	BROD_2234	hypothetical protein	
					VBIBruSp153798_2358	BROD_2235	hypothetical protein	
					VBIBruSp153798_2359	BROD_2236	putative transmembrane protein	
					VBIBruSp153798_2360		hypothetical protein	
					VBIBruSp153798_2361	BROD_2239	hypothetical protein	
					VBIBruSp153798_2362	BROD_2240	hypothetical protein	
					VBIBruSp153798_2363	BROD_2241	hypothetical protein	
					VBIBruSp153798_2364	BROD_2243	hypothetical protein	
					VBIBruSp153798_2365		hypothetical protein	
					VBIBruSp153798_2366	BROD_2244	Flagellar protein FlgJ [peptidoglycan hydrolase]	
					VBIBruSp153798_2367		hypothetical protein	
					VBIBruSp153798_2368		hypothetical protein	
					VBIBruSp153798_2369		hypothetical protein	
					VBIBruSp153798_2370	BROD_2245	hypothetical protein	
					VBIBruSp153798_2371		hypothetical protein	
					VBIBruSp153798_2372		hypothetical protein	23121
					VBIBruSp153798_2373	BROD_2246	hypothetical protein	
					VBIBruSp153798_2374	BROD_2247	hypothetical protein	
					VBIBruSp153798_2375	BROD_2248	hypothetical protein	
					VBIBruSp153798_2376	BROD_2249	hypothetical protein	

VBIBruSp153798_2377	BROD_2250	hypothetical protein
VBIBruSp153798_2378	BROD_2251	hypothetical protein
VBIBruSp153798_2379		hypothetical protein
VBIBruSp153798_2380		hypothetical protein
VBIBruSp153798_2381	BROD_2252	hypothetical protein
VBIBruSp153798_2382	BROD_2253	hypothetical protein
VBIBruSp153798_2383	BROD_2254	hypothetical protein
VBIBruSp153798_2384		hypothetical protein
VBIBruSp153798_2385		hypothetical protein
VBIBruSp153798_2386	BROD_2255	terminase small subunit
VBIBruSp153798_2387		hypothetical protein
VBIBruSp153798_2388	BROD_2259	hypothetical protein
VBIBruSp153798_2389	BROD_2260	DNA-binding protein, CopG family
VBIBruSp153798_2390	BROD_2261	hypothetical protein

8N-2	83-13	NZ_DS999655	(872875..893340)	20465	VBIBruSp75385_1307	Bru83_010100008148	hypothetical protein	20465
					VBIBruSp75385_1308		hypothetical protein	
					VBIBruSp75385_1309		hypothetical protein	
					VBIBruSp75385_1310		hypothetical protein	
					VBIBruSp75385_1311	Bru83_010100008168	hypothetical protein	
					VBIBruSp75385_1312	Bru83_010100008173	hypothetical protein	
					VBIBruSp75385_1313	Bru83_010100008178	hypothetical protein	
					VBIBruSp75385_1314	Bru83_010100008188	hypothetical protein	
					VBIBruSp75385_1315	Bru83_010100008193	hypothetical protein	
					VBIBruSp75385_1316	Bru83_010100008203	hypothetical protein	
					VBIBruSp75385_1317	Bru83_010100008208	hypothetical protein	
					VBIBruSp75385_1318	Bru83_010100008213	hypothetical protein	
					VBIBruSp75385_1319		hypothetical protein	
					VBIBruSp75385_1320	Bru83_010100008223	hypothetical protein	
					VBIBruSp75385_1321	Bru83_010100008228	probable integrase/recombinase protein	
					VBIBruSp75385_r019		tRNA-Met-CAT	

8N-2	NF2653	NZ_ADFB01000074	(210668..231134)	20466	VBIBruSp153798_2247	BROD_2129	hypothetical protein	20466
							tRNA fragment	
					VBIBruSp153798_2248		hypothetical protein	
					VBIBruSp153798_2249		hypothetical protein	
					VBIBruSp153798_2250		hypothetical protein	
					VBIBruSp153798_2251	BROD_2132	hypothetical protein	
					VBIBruSp153798_2252	BROD_2133	hypothetical protein	
					VBIBruSp153798_2253	BROD_2134	hypothetical protein	
					VBIBruSp153798_2254	BROD_2136	hypothetical protein	
					VBIBruSp153798_2255	BROD_2137	hypothetical protein	
					VBIBruSp153798_2256	BROD_2139	hypothetical protein	
					VBIBruSp153798_2257	BROD_2140	hypothetical protein	
					VBIBruSp153798_2258		hypothetical protein	
					VBIBruSp153798_2259	BROD_2141	hypothetical protein	
					VBIBruSp153798_2260		hypothetical protein	
					VBIBruSp153798_2261	BROD_2143	hypothetical protein	
					VBIBruSp153798_2262	BROD_2144	probable integrase/recombinase protein	
					VBIBruSp153798_2263		hypothetical protein	
					VBIBruSp153798_r030		tRNA-Met-CAT	

8N-3	83-13	NZ_DS999655	(389450..396990)	7540	VBIBruSp75385_r032		tRNA-Arg-CCG	7540
					VBIBruSp75385_1871	Bru83_010100005889	hypothetical protein	
					VBIBruSp75385_1872		hypothetical protein	
					VBIBruSp75385_1873	Bru83_010100005894	hypothetical protein	
					VBIBruSp75385_1874	Bru83_010100005904	phage Terminase	
					VBIBruSp75385_1875		hypothetical protein	
					VBIBruSp75385_1876	Bru83_010100005909	hypothetical protein	
					VBIBruSp75385_1877	Bru83_010100005914	Cell division protein FtsH	

8N-3	NF2653	NZ_ADFB01000069	(328..7868)	7546	VBIBruSp153798_1905	BROD_1800	Cell division protein FtsH	
					VBIBruSp153798_1906	BROD_1801	hypothetical protein	

					VBIBruSp153798_1907		hypothetical protein	7546
					VBIBruSp153798_1908	BROD_1802	phage Terminase	
					VBIBruSp153798_1909	BROD_1804	hypothetical protein	
					VBIBruSp153798_1910		hypothetical protein	
					VBIBruSp153798_1911	BROD_1805	hypothetical protein	
					VBIBruSp153798_r021		tRNA-Arg-CCG	
8N-4	83-13	NZ_DS999649	(385133..386763)	1630	VBIBruSp75385_0832		hypothetical protein	1630
					VBIBruSp75385_0833		Integrase, catalytic region	
					VBIBruSp75385_0834		putative transposase	
					VBIBruSp75385_0835	Bru83_010100001873	hypothetical protein	
8N-4	NF2653	NZ_ADFB01000063	(9864..11494)	1630	VBIBruSp153798_1840		hypothetical protein	1630
					VBIBruSp153798_1841		Integrase, catalytic region	
					VBIBruSp153798_1842		putative transposase	
					VBIBruSp153798_1843	BROD_1738	hypothetical protein	
8N-5	83-13	NZ_DS999657	(219950..225014)	5064	VBIBruSp75385_r043		tRNA-Leu-CAG	5064
					VBIBruSp75385_2117	Bru83_010100010005	hypothetical protein	
					VBIBruSp75385_2118	Bru83_010100010010	exopolysaccharide production protein, putative	
					VBIBruSp75385_2119	Bru83_010100010015	hypothetical protein	
					VBIBruSp75385_2120	Bru83_010100010020	hypothetical protein	
8N-5	NF2653	NZ_ADFB01000019	(13330..18394)	5064	VBIBruSp153798_r003		tRNA-Leu-CAG	5064
					VBIBruSp153798_0367	BROD_0363	hypothetical protein	
					VBIBruSp153798_0368	BROD_0364	exopolysaccharide production protein, putative	
					VBIBruSp153798_0369	BROD_0365	hypothetical protein	
					VBIBruSp153798_0370	BROD_0366	hypothetical protein	
8N-6	83-13	NZ_DS999657	(240691..244988)	4297	VBIBruSp75385_r044		tRNA-Ser-GGA	4297
					VBIBruSp75385_2137		hypothetical protein	
					VBIBruSp75385_2138		transposase	
					VBIBruSp75385_2140	Bru83_010100010115	hypothetical protein	
					VBIBruSp75385_2141	Bru83_010100010120	YapH protein	
8N-6	NF2653	NZ_ADFB01000019	(34071..38368)	4297	VBIBruSp153798_r004		tRNA-Ser-GGA	4297
					VBIBruSp153798_0387		hypothetical protein	
					VBIBruSp153798_0388		transposase	
					VBIBruSp153798_0389		hypothetical protein	
					VBIBruSp153798_0390		YapH protein	
8N-7	83-13	NZ_DS999649	(93574..94734)	1160	VBIBruSp75385_0520		hypothetical protein	1160
					VBIBruSp75385_0521	Bru83_010100000420	hypothetical protein	
					VBIBruSp75385_0522		hypothetical protein	
8N-7	NF2653	NZ_ADFB01000090	(40584..41683)	1099	VBIBruSp153798_2808		hypothetical protein	1099
					VBIBruSp153798_2809	BROD_2663	hypothetical protein	
					VBIBruSp153798_2810		hypothetical protein	
8N-8	83-13	NZ_DS999661	(414984..420984)	6000	VBIBruSp75385_3158	Bru83_010100014847	O-methyltransferase	6000
					VBIBruSp75385_3159	Bru83_010100014852	autotransporter	
8N-8	NF2653	NZ_ADFB01000032	(46..6046)	6000	VBIBruSp153798_0769	BROD_0747	O-methyltransferase	6000
					VBIBruSp153798_0770	BROD_0748	autotransporter	