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Title	Comparative genome and methylome analysis reveals restriction/modification system diversity in the gut commensal Bifidobacterium breve
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SUPPLEMENTARY MATERIAL

LEGENDS TO FIGURES

Figure S1. Synteny conservation across *B. breve*.

Dotplot alignments of the sequenced strains in this study showing the synteny conservation across this species.

Figure S2. Comparison of synteny conservation between *B. breve* and *B. longum*.

Dotplot alignments showing the conservation of genome synteny between representatives of *B. longum* species compared to the reference strain *B. breve* UCC2003. Chromosomal inversions are highlighted with green circles, while flanking genes are also indicated.

Figure S3. Truncated R/M systems in *B. breve*.

Locus maps showing gene organization and comparison of partially functional R/M systems belonging to RM7-COG and RM8-COG, as predicted within this study. Genes are indicated as arrows and are coloured based on their predicted function. Percentage of similarity in BLASTP alignment across homologous genes is indicated. A red star (*) shows what is predicted to be the truncated RE-encoding gene in these systems.

Figure S4. Sequence homology between RM10 and RM14.

Locus map displaying the sequence homology observed between RM10 and RM14. Genes are indicated as arrows coloured based on the predicted function. BLASTP similarity is also indicated.

Figure S5. Restriction of *B. breve* selected strains with commercially available enzymes for methylome assessment.

Restriction of gDNA obtained from selected *B. breve* strains (*B. breve* NRBB01, *B. breve* NRBB02, *B. breve* NRBB57, *B. breve* NRBB04, *B. breve* 180W8-3 and *B. breve* NRBB52) with commercially available restriction enzymes as confirmation of the predicted methylome.

Table S1. Bifidobacteria used for Comparative Genomics Hybridization analysis.

	Strain name	Source	16S similarity	CGH family
1	*Bifidobacterium breve* UCC2003	Infant isolate, (Breast fed)	100%	1
2	*Bifidobacterium breve* NRBB39	Infant isolate, NCIMB 8807	99%	1
3	*Bifidobacterium breve* NRBB38	Infant isolate, LMG 11040	99%	1
4	*Bifidobacterium breve* B8815	Infant isolate, NCIMB8815	99%	2
5	*Bifidobacterium breve* NRBB56	Infant isolate, NIZO 658	99%	2
6	*Bifidobacterium bifidum* NRBB05	Infant isolate (Breast Fed)	99%	3
7	*Bifidobacterium bifidum* NRBB10	Infant isolate (Breast Fed)	99%	3
8	*Bifidobacterium pseudolongum* subsp. *pseudolongum* NRBB06	Unknown	100%	3
9	*Bifidobacterium animalis* subsp. *animalis* NRBB17	Human isolate	99%	3
10	*Bifidobacterium bifidum* NRBB16	Infant isolate (Breast Fed)	99%	3
11	*Bifidobacterium bifidum* 017W4-21	Infant isolate (Breast Fed)	99%	3
12	*Bifidobacterium breve* NRBB15	Infant isolate, ATCC 15701	99%	4
13	*Bifidobacterium breve* B7017	Human isolate, JCM 7017	99%	4
14	*Bifidobacterium breve* B7019	Infant isolate, JCM 7019	99%	5
15	*Bifidobacterium breve* NRBB42	Infant isolate	99%	5
16	*Bifidobacterium breve* BUCC2005	Infant isolate	99%	5
17	*Bifidobacterium breve* NRBB43	Infant Isolate	99%	6
18	*Bifidobacterium breve* NRBB52	Infant isolate (Breast Fed), subject 903	99%	6
19	*Bifidobacterium breve* NRBB44	Human milk isolate	99%	7
20	*Bifidobacterium breve* DRBB27	Infant Isolate	99%	7
21	*Bifidobacterium breve* DRBB29	Infant Isolate	99%	7
22	*Bifidobacterium breve* DRBB25	Adult Isolate	99%	8
23	*Bifidobacterium breve* DRBB30	Infant Isolate	99%	8
24	*Bifidobacterium breve* CNCM I-4321	Child isolate CNCM I-4321	99%	8
25	*Bifidobacterium breve* B12L	Human milk isolate	99%	8

26	*Bifidobacterium breve* 215W4-47a	Infant isolate	99%	9
27	*Bifidobacterium breve* NRBB07	Infant isolate (Breast Fed) Subject 3	99%	10
28	*Bifidobacterium breve* NRBB09	Infant isolate (Breast Fed) Subject 3	99%	10
29	*Bifidobacterium breve* NRBB12	Infant isolate (Breast Fed) Subject 6	99%	11
30	*Bifidobacterium breve* NRBB11	Infant isolate (Breast Fed) Subject 6	99%	11
31	*Bifidobacterium breve* NRBB13	Infant isolate (Breast Fed) Subject 6	99%	11
32	*Bifidobacterium breve* NRBB14	Infant isolate (Breast Fed) Subject 6	99%	11
33	*Bifidobacterium breve* NRBB57	Infant isolate, BbC50 (used in Infant Milk Formula)	99%	12
34	*Bifidobacterium breve* NRBB03	Infant isolate	99%	12
35	*Bifidobacterium breve* NRBB53	Infant isolate (Breast Fed)	99%	12
36	*Bifidobacterium breve* NRBB50	Infant isolate (Breast Fed) Subject 903	99%	13
37	*Bifidobacterium breve* NRBB35	Human Isolate	99%	13
38	*Bifidobacterium breve* NRBB51	Infant isolate (Breast Fed)	99%	13
39	*Bifidobacterium breve* NRBB55	Infant isolate (Breast Fed)	99%	13
40	*Bifidobacterium breve* 165W4-19	Infant isolate	99%	13
41	*Bifidobacterium breve* B461	Human isolate B461	99%	14
42	*Bifidobacterium breve* DRBB26	Child isolate	99%	15
43	*Bifidobacterium breve* NRBB36	Human Isolate	99%	16
44	*Bifidobacterium breve* NRBB48	Human Isolate	99%	16
45	*Bifidobacterium breve* BUCC2004	Human isolate	99%	16
46	*Bifidobacterium breve* NRBB46	Infant isolate	99%	17
47	*Bifidobacterium breve* NRBB01	Infant isolate	99%	17
48	*Bifidobacterium breve* B2257	Infant isolate, NCFB 2257	99%	17
49	*Bifidobacterium breve* NRBB41	Human isolate (CCUG 47591)	99%	18
50	*Bifidobacterium breve* NRBB04	Infant isolate, ATCC 15698	99%	18
51	*Bifidobacterium breve* B2258	Infant isolate, NCFB 2258	99%	18
52	*Bifidobacterium breve* B689b	Infant isolate	99%	19
53	*Bifidobacterium breve* NRBB25	Infant Isolate Subject 1 (Formula Fed)	99%	20

54	*Bifidobacterium breve* NRBB21	Infant Isolate Subject 1 (Formula Fed)	99%	20
55	*Bifidobacterium breve* NRBB20	Infant Isolate Subject 1 (Formula Fed)	99%	20
56	*Bifidobacterium breve* NRBB30	Infant Isolate Subject 1 (Formula Fed)	99%	20
57	*Bifidobacterium breve* NRBB24	Infant Isolate Subject 1 (Formula Fed)	99%	20
58	*Bifidobacterium breve* NRBB02	Infant Isolate Subject 1 (Formula Fed)	99%	20
59	*Bifidobacterium breve* NRBB08	Infant Isolate Subject 1 (Formula Fed)	99%	20
60	*Bifidobacterium breve* NRBB23	Infant Isolate Subject 1 (Formula Fed)	100%	20
61	*Bifidobacterium breve* NRBB26	Infant Isolate Subject 1 (Formula Fed)	99%	20
62	*Bifidobacterium breve* NRBB27	Infant Isolate Subject 1 (Formula Fed)	99%	20
63	*Bifidobacterium breve* NRBB29	Infant Isolate Subject 1 (Formula Fed)	99%	20
64	*Bifidobacterium breve* NRBB31	Infant Isolate Subject 1 (Formula Fed)	99%	20
65	*Bifidobacterium breve* NRBB19	Infant Isolate Subject 1 (Formula Fed)	99%	20
66	*Bifidobacterium breve* NRBB18	Infant Isolate Subject 1 (Formula Fed)	99%	20
67	*Bifidobacterium breve* NRBB28	Infant Isolate Subject 1 (Formula Fed)	99%	20
68	*Bifidobacterium breve* NRBB49	Infant Isolate Subject 1 (Formula Fed)	99%	20
69	*Bifidobacterium breve* 082W4-8	Infant isolate (Breast Fed)	99%	21
70	*Bifidobacterium breve* 139W4-23	Infant isolate	99%	22
71	*Bifidobacterium breve* 200W4-13	Infant isolate	99%	22
72	*Bifidobacterium breve* 144W4-15	Infant isolate	99%	23
73	*Bifidobacterium breve* 180W8-3	Infant isolate	99%	23
74	*Bifidobacterium breve* 017W4-39	Infant isolate	99%	23
75	*Bifidobacterium breve* DRBB28	Infant Isolate	99%	24
76	*Bifidobacterium breve* DRBB31	Child Isolate	99%	24
77	*Bifidobacterium breve* NRBB54	Infant isolate (Breast Fed)	99%	24

NCIMB: National Collection of Industrial and Marine Bacteria, Aberdeen, UK, NCFB, National Collection of Food Bacteria; NCTC, National Collection of Type Cultures; NCIMB, National Collection of Industrial and Marine Bacteria; JCM: Japanese Collection of Microorganisms; UCC, University College Cork culture collection; Nizo, Nizo food research.

Table S2. R/M systems in *B. breve* with assigned nomenclature and cluster of orthology.

Genome	R/M COG ID	Locus_tag	Size (aa)	Gene	Type	Name	Predicted recognition sequer
NRBB01	RM1a	NRBB01_1469	245	S	I	S1.Bbr01IIP	?
	RM1a	NRBB01_1471	365	S	I	S2.Bbr01IIP	?
	RM1a	NRBB01_1472	167	S	I	S3.Bbr01IIP	?
	RM1a	NRBB01_1473	502	M	I gamma	M.Bbr01II	GC^{m6}**A**NNNNNN**T**GC
	RM1a	NRBB01_1474	1039	R	I	Bbr01ORF1473P	GCANNNNNNTGC
	RM3	NRBB01_0329	431	R	II	Bbr01IP	(GATC)
	RM3	NRBB01_0330	276	M	II alpha	M.Bbr01I	G^{m6}**A**T**C**
	RM16	NRBB01_0727	910	RM	II G	Bbr01ORF727P	-
	RM9	NRBB01_1139	321	M	II alpha	M.Bbr01ORF1139P	(TG**G**^{m4}**C**CA)
	RM7	NRBB01_1317	361	M	II	M1.Bbr01ORF1317P	-
	MT1	NRBB01_1319	160	M	II gamma	M2.Bbr01ORF1317P	-
NRBB02	RM8	NRBB02_0220	263	R	II	R1.Bbr02IIP	(GGCGCC)
	RM8	NRBB02_0224	305	R	II	R2.Bbr02IIP	(GGCGCC)
	RM8	NRBB02_0225	392	M	II	M.Bbr02II	GG^{m5}**C**G**C**C
	RM3	NRBB02_0408	431	R	II	Bbr02I	GATC
	RM3	NRBB02_0409	276	M	II alpha	M.Bbr02I	G^{m6}**A**T**C**
NRBB04	RM8	NRBB04_0189	263	R	II	R1.Bbr04ORF194P	(GGCGCC)
	RM8	NRBB04_0193	305	R	II	R2.Bbr04ORF194P	(GGCGCC)
	RM8	NRBB04_0194	392	M	II	M.Bbr04ORF194P	(GG^{m5}**C**G**C**C)
	RM3	NRBB04_0355	431	R	II	Bbr04IP	(GATC)
	RM3	NRBB04_0356	276	M	II	M.Bbr04I	G^{m6}**A**T**C**
NRBB09	RM4	NRBB09_0015	231	M	II	M.Bbr09I	RG^{m6}**A**T**C**Y
	RM4	NRBB09_0016	252	R	II	Bbr09I	RGATCY
NRBB11	RM10	NRBB11_0942	627	M	II alpha	M.Bbr11ORF942P	(GTCG^{m6}**A**G)
	RM7	NRBB11_1113	480	R	II	Bbr11ORF1113P	(CCWGG)

	RM15	NRBB11_1481	1103	RM	II G,S,alpha	Bbr11I	GGRC^{m6}**A**G
NRBB50	RM6	NRBB50_0937	910	RM	II G	Bbr50ORF937P	-
	RM6	NRBB50_1129	473	R	II	Bbr50IP	(CCWGG)
	RM16	NRBB50_1130	441	M	II	M.Bbr50I	C^{m5}**C**W**G**G
NRBB51	RM2c	NRBB51_0178	1014	R	I	Bbr51ORF183P	-
	RM2c	NRBB51_0180	165	S	I	S1.Bbr51ORF183P	?
	RM2c	NRBB51_0181	215	S	I	S2.Bbr51ORF183P	?
	RM2c	NRBB51_0183	520	M	I gamma	M.Bbr51ORF183P	(CC^{m6}**A**NNNNNNNN**T**GG)
	RM2c	NRBB51_1104	698	M	I gamma	M.Bbr51ORF1104P	(CC^{m6}**A**NNNNNNNN**T**GG)
	RM2c	NRBB51_1105	397	S	I	S.Bbr51ORF1104P	?
	RM7	NRBB51_1083	422	R	II	Bbr51IIP	(CCWGG)
	RM7	NRBB51_1084	323	M	II	M.Bbr51II	C^{m5}**C**W**G**G
	RM15	NRBB51_1584	1110	RM	II G,S,alpha	Bbr51I	(GGCG^{m6}**A**G and perhaps GGRC^{m6}**A**G)
NRBB52	RM4	NRBB52_0014	231	M	II	M.Bbr52I	RG^{m6}**A****T**CY
	RM4	NRBB52_0015	252	R	II	Bbr52I	RGATCY
	RM15	NRBB52_1542	1110	RM	II G,S,alpha	Bbr52II	GGCG^{m6}**A**G
NRBB56	RM8	NRBB56_0222	263	R	II	R1.Bbr56IP	(GGCGCC)
	RM8	NRBB56_0226	305	R	II	R2.Bbr56IP	(GGCGCC)
	RM8	NRBB56_0227	392	M	II	M.Bbr56I	GG^{m5}**C****G**CC
	RM11	NRBB56_1180	315	R	II	Bbr56IIP	(CTGCAG)
	RM11	NRBB56_1181	467	M	II gamma	M.Bbr56II	C**T**GC^{m6}**A**G
	RM12	NRBB56_1182	695	R	II	Bbr56IIIP	(GTCGAC)
	RM12	NRBB56_1183	349	M	II	M.Bbr56III	GT^{m5}**C****G**AC
NRBB57	RM2a	NRBB57_1685	1096	R	I	Bbr57IP	(RAYCNNNNNCTG)
	RM2a	NRBB57_1687	419	S	I	S1.Bbr57I	RAYNNNNNCTG
	RM2a	NRBB57_1688	855	M	I gamma	M.Bbr57I	R^{m6}**A**YCNNNNNC**T**G
	RM2a	NRBB57_1690	280	S	I	S2.Bbr57IP	-
	RM2a	NRBB57_1692	251	S	I	S3.Bbr57IP	-

	RM6	NRBB57_0729	476	R	II	Bbr57ORF730P	-
	RM6	NRBB57_0730	448	M	II	M.Bbr57ORF730P	(CCWGG)
	MT7	NRBB57_0962	633	M	II gamma	M.Bbr57ORF962P	-
	RM14	NRBB57_0969	1206	RM	II G,S,alpha	Bbr57III	GTRA^{m6}**A**YG
	RM13	NRBB57_1093	932	RM	II G,S,gamma	Bbr57II	GAGG^{m6}**A**C
	MT2	NRBB57_1229	885	M	II	M.Bbr57ORF1229P	-
	MT5	NRBB57_1238	426	M	II beta	M.Bbr57ORF1238P	-
	MT3	NRBB57_1276	327	M	II	M.Bbr57ORF1276P	-
CNCM I-4321	RM4	CNCMI4321_0016	231	M	II	M.Bbr4321I	RG^{m6}**A**<u>**T**</u>CY
	RM4	CNCMI4321_0017	252	R	II	Bbr4321IP	(RGATCY)
	RM9	CNCMI4321_1238	321	M	II alpha	M.Bbr4321ORF1238P	(TG<u>**G**</u>^{m4}**C**CA)
	MT6	CNCMI4321_1398	152	M	II	M.Bbr4321ORF1398P	-
	MT1	CNCMI4321_1413	160	M	II gamma	M.Bbr4321ORF1413P	-
	RM1b	CNCMI4321_1557	265	S	I	S1.Bbr4321ORF1561P	?
	RM1b	CNCMI4321_1559	386	S	I	S2.Bbr4321ORF1561P	?
	RM1b	CNCMI4321_1560	181	S	I	S3.Bbr4321ORF1561P	?
	RM1b	CNCMI4321_1561	502	M	I gamma	M.Bbr4321ORF1561P	CC^{m6}**A**YNNNNG<u>**T**</u>C
	RM1b	CNCMI4321_1562	1039	R	I	Bbr4321ORF1561P	-
DRBB26	RM8	DRBB26_0203	263	R	II	R1.Bbr26IP	(GGCGCC)
	RM8	DRBB26_0207	305	R	II	R2.Bbr26IP	(GGCGCC)
	RM8	DRBB26_0208	392	M	II	M.Bbr26I	GG^{m5}**C**<u>**G**</u>CC
	RM12	DRBB26_1110	349	M	II	M.Bbr26II	RT^{m5}**C**<u>**G**</u>AY
	RM12	DRBB26_1111	684	R	II	Bbr26IIP	(RTCGAY)
	RM2b	DRBB26_1520	1096	R	I	Bbr26ORF1523P	-
	RM2b	DRBB26_1522	406	S	I	S1.Bbr26ORF1523P	?
	RM2b	DRBB26_1523	855	M	I gamma	M.Bbr26ORF1523P	G^{m6}**A**CNNNNNNCA<u>**T**</u>Y
	RM2b	DRBB26_1524	280	S	I	S2.Bbr26ORF1523P	?
	RM2b	DRBB26_1528	232	S	I	S3.Bbr26ORF1523P	?
DRBB27	RM16	DRBB27_0893	910	RM	II G	BbrBB27ORF893P	-

DRBB28	RM4	DRBB28_0014	231	M	II	M.Bbr28II	RG^{m6}**A**<u>**T**</u>CY
	RM4	DRBB28_0015	252	R	II	Bbr28IIP	(RGATCY)
	RM8	DRBB28_0217	263	R	II	R1.Bbr28ORF222P	(GGCGCC)
	RM8	DRBB28_0221	305	R	II	R2.Bbr28ORF222P	(GGCGCC)
	RM8	DRBB28_0222	392	M	II	M.Bbr28IV	GG^{m5}**C**<u>**G**</u>CC
	RM12	DRBB28_1199	349	M	II	M.Bbr28III	RT^{m5}**C**<u>**G**</u>AY
	RM12	DRBB28_1200	684	R	II	Bbr28IIIP	(RTCGAY)
	RM2g	DRBB28_1641	1096	R	I	Bbr28IP	(RAYCNNNNNNTRCC)
	RM2g	DRBB28_1643	384	S	I	S1.Bbr28I	RAYCNNNNNNTRCC
	RM2g	DRBB28_1644	855	M	I gamma	M.Bbr28I	R^{m6}**A**YCNNNNNN<u>**T**</u>RCC
	RM2g	DRBB28_1645	280	S	I	S2.Bbr28IP	-
	RM2g	DRBB28_1648	232	S	I	S3.Bbr28IP	-
017W4-39	RM8	BB017W439A_0210	263	R	II	R1.Bbr17IIP	(GGCGCC)
	RM8	BB017W439A_0214	305	R	II	R2.Bbr17IIP	(GGCGCC)
	RM8	BB017W439A_0215	392	M	II	M.Bbr17II	GG^{m5}**C**<u>**G**</u>CC
	RM7	BB017W439A_1170	422	R	II	Bbr17IP	(CCWGG)
	RM7	BB017W439A_1171	323	M	II	M.Bbr17I	C^{m5}**C**W<u>**G**</u>G
	RM2d	BB017W439A_1489	1096	R	I	Bbr17ORF1492P	-
	RM2d	BB017W439A_1491	392	S	I	S1.Bbr17ORF1492P	?
	RM2d	BB017W439A_1492	855	M	I gamma	M.Bbr17ORF1492P	^{m6}**A**GCNNNNNG<u>**T**</u>C
	RM2d	BB017W439A_1493	280	S	I	S2.Bbr17ORF1492P	?
	RM2d	BB017W439A_1494	169	S	I	S3.Bbr17ORF1492P	?
082W4-8	RM8	BB082W48_0219	263	R	II	R1.Bbr82ORF224P	(GGCGCC)
	RM8	BB082W48_0223	305	R	II	R2.Bbr82ORF224P	(GGCGCC)
	RM8	BB082W48_0224	392	M	II	M.Bbr82ORF224P	(GG^{m5}**C**<u>**G**</u>CC)
	RM3	BB082W48_0377	431	R	II	Bbr82ORF378P	(GATC)
	RM3	BB082W48_0378	276	M	II alpha	M.Bbr82II	G^{m6}**A**<u>**T**</u>C
	RM7	BB082W48_1165	480	R	II	Bbr82ORF1165P	-
	RM2e	BB082W48_1475	1096	R	I	Bbr82IP	(GACNNNNNNRTTG)

	RM2e	BB082W48_1477	399	S	I	S1.Bbr82I	GACNNNNNNRTTG
	RM2e	BB082W48_1478	855	M	I gamma	M.Bbr82I	G^{m6}**A**CNNNNNNR**T**TG
	RM2e	BB082W48_1479	280	S	I	S2.Bbr82IP	-
139W4-23	RM8	BB139W423_0233	263	R	II	R1.Bbr139ORF238P	(GGCGCC)
	RM8	BB139W423_0237	305	R	II	R2.Bbr139ORF238P	(GGCGCC)
	RM8	BB139W423_0238	392	M	II	M.Bbr139ORF238P	(GG^{m5}**C**G**C**C)
180W8-3	RM8	BB180W83_0208	263	R	II	R1.Bbr180IIP	(GGCGCC)
	RM8	BB180W83_0212	305	R	II	R2.Bbr180IIP	(GGCGCC)
	RM8	BB180W83_0213	392	M	II	M.Bbr180II	GG^{m5}**C**G**C**C
	RM7	BB180W83_1170	422	R	II	Bbr180IP	CCWGG
	RM7	BB180W83_1171	323	M	II	M.Bbr180I	C^{m5}**C**W**G**G
	MT7	BB180W83_0927	767	M	I	M.Bbr180ORF927P	-
215W4-47a	MT4	BB215W447A_1044	288	M	II beta	M.Bbr215ORF1044P	-
	RM13	BB215W447A_1062	932	RM	II G,gamma	Bbr215II	GAGG^{m6}**A**C
	MT3	BB215W447A_1258	327	M	II	M.Bbr215ORF1258P	-
	MT5	BB215W447A_1218	413	M	II beta	M.Bbr215ORF1218P	-
	MT2	BB215W447A_1210	913	M	II	M.Bbr215ORF1210P	-
	MT1	BB215W447A_1576	160	M	II gamma	M.Bbr215ORF1576P	-
	MT6	BB215W447A_1561	152	M	II	M.Bbr215ORF1561P	-
	RM2f	BB215W447A_1727	1096	R	I	Bbr215ORF1730P	-
	RM2f	BB215W447A_1729	413	S	I	S1.Bbr215ORF1730P	?
	RM2f	BB215W447A_1730	855	M	I gamma	M.Bbr215ORF1730P	G^{m6}**A**GNNNNNR**T**TC
	RM2f	BB215W447A_1731	280	S	I	S2.Bbr215ORF1730P	?
	RM2f	BB215W447A_1734	232	S	I	S3.Bbr215ORF1730P	?
	RM15	BB215W447A_1808	1110	RM	II G, S, alpha	Bbr215I	GGCG^{m6}**A**G
JCM7017	MT9	B7017_0097	1068	R	IV	Bbr7017ORF97P	-
	RM5	B7017_0735	776	M	II	M.Bbr7017I	GG^{m6}**A**T**C**
	RM5	B7017_0736	567	R	II	Bbr7017IP	(GGATC)
	RM15	B7017_1663	944	RM	IIG	Bbr7017ORF1663P	GGRC^{m6}**A**G

MT10	pl7017_0033	240	M	II	M.Bbr7017ORF33P	-
MT11	pl7017_0034	152	M	II	M.Bbr7017ORF34P	-
RM17	pl7017_0142	351	RM	II	Bbr7017ORF142P	-
RM17	pl7017_0143	383	RM	II	Bbr7017ORF142P	-
RM17	pl7017_0144	193	RM	II	Bbr7017ORF142P	-
RM13	pl7017_0174	931	RM	IIG	Bbr7017ORF174P	CGGG^{m6}**A**G
MT12	pl7017_0197	353	M	II	M.Bbr7017ORF197P	-

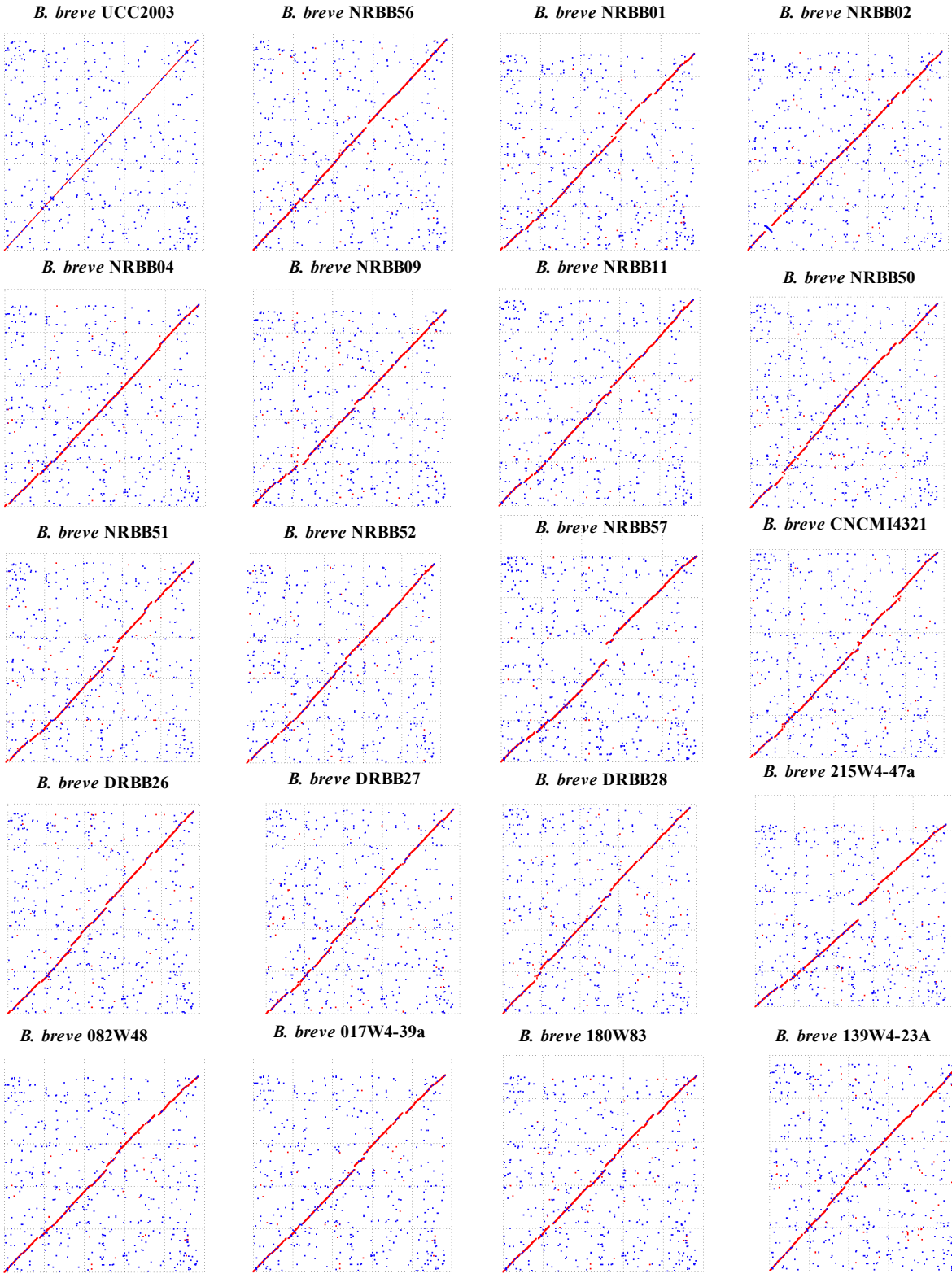
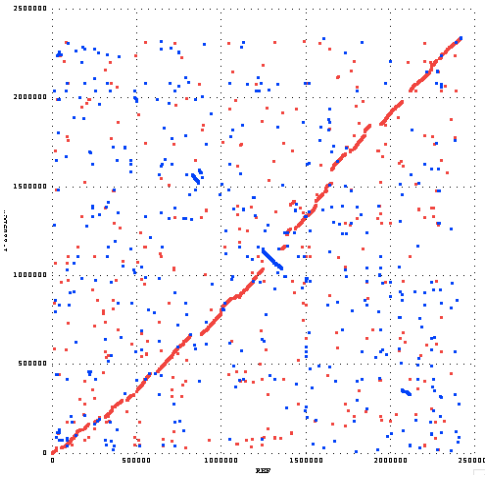
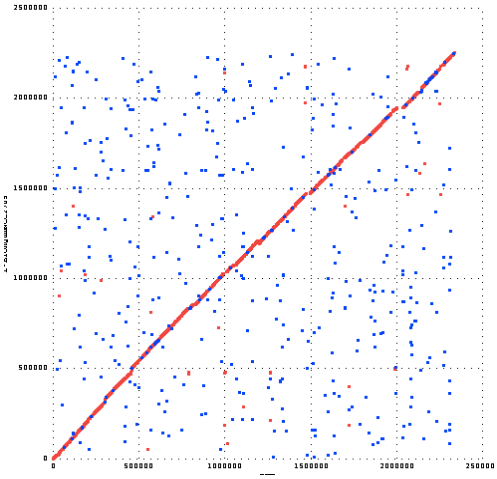

B. breve UCC2003
B. breve NRBB56
B. breve NRBB01
B. breve NRBB02
B. breve NRBB04
B. breve NRBB09
B. breve NRBB11
B. breve NRBB50
B. breve NRBB51
B. breve NRBB52
B. breve NRBB57
B. breve CNCMI4321
B. breve DRBB26
B. breve DRBB27
B. breve DRBB28
B. breve 215W4-47a
B. breve 082W48
B. breve 017W4-39a
B. breve 180W83
B. breve 139W4-23A

Figure S1

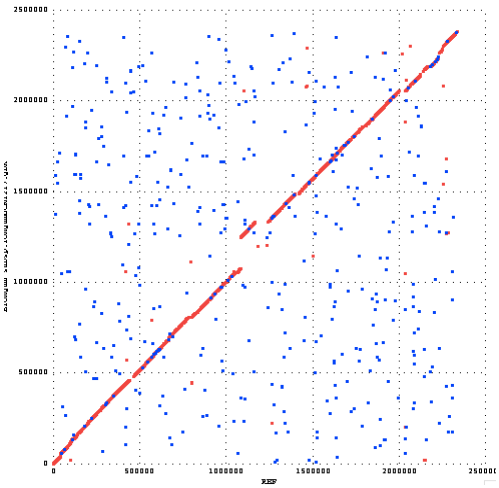
UCC2003 *vs* NCIMB 8809



NCIMB8809 *vs* NCC2705

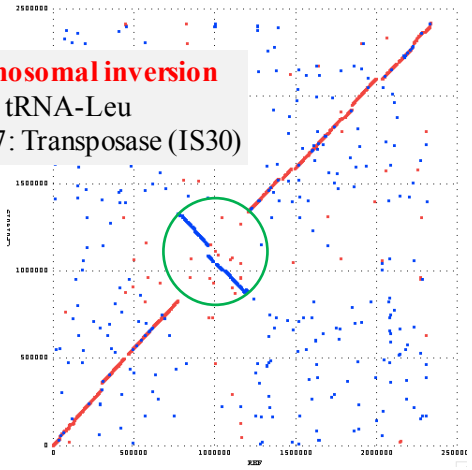


NCIMB 8809 *vs* JCM1217



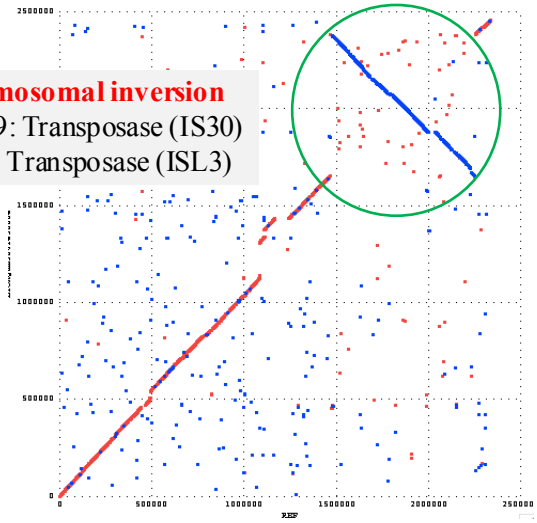
NCIMB 8809 *vs* AH1206

Chromosomal inversion
827605: tRNA-Leu
1345177: Transposase (IS30)



NCIMB 8809 *vs* CCUG 30698

Chromosomal inversion
1654359: Transposase (IS30)
237826: Transposase (ISL3)



NCIMB8809 *vs* F8

Chromosomal inversion
1205675: Phage infection protein
2280722: Acetyltransferase

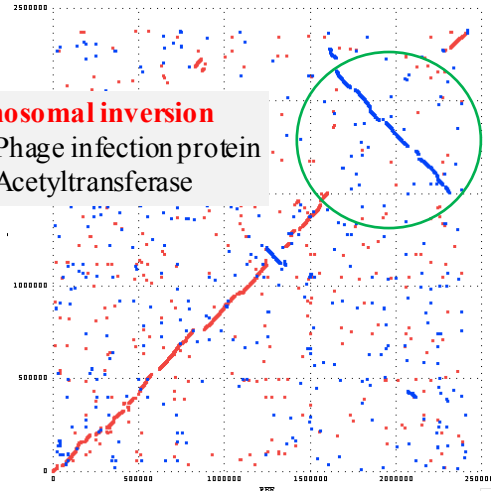


Figure S2

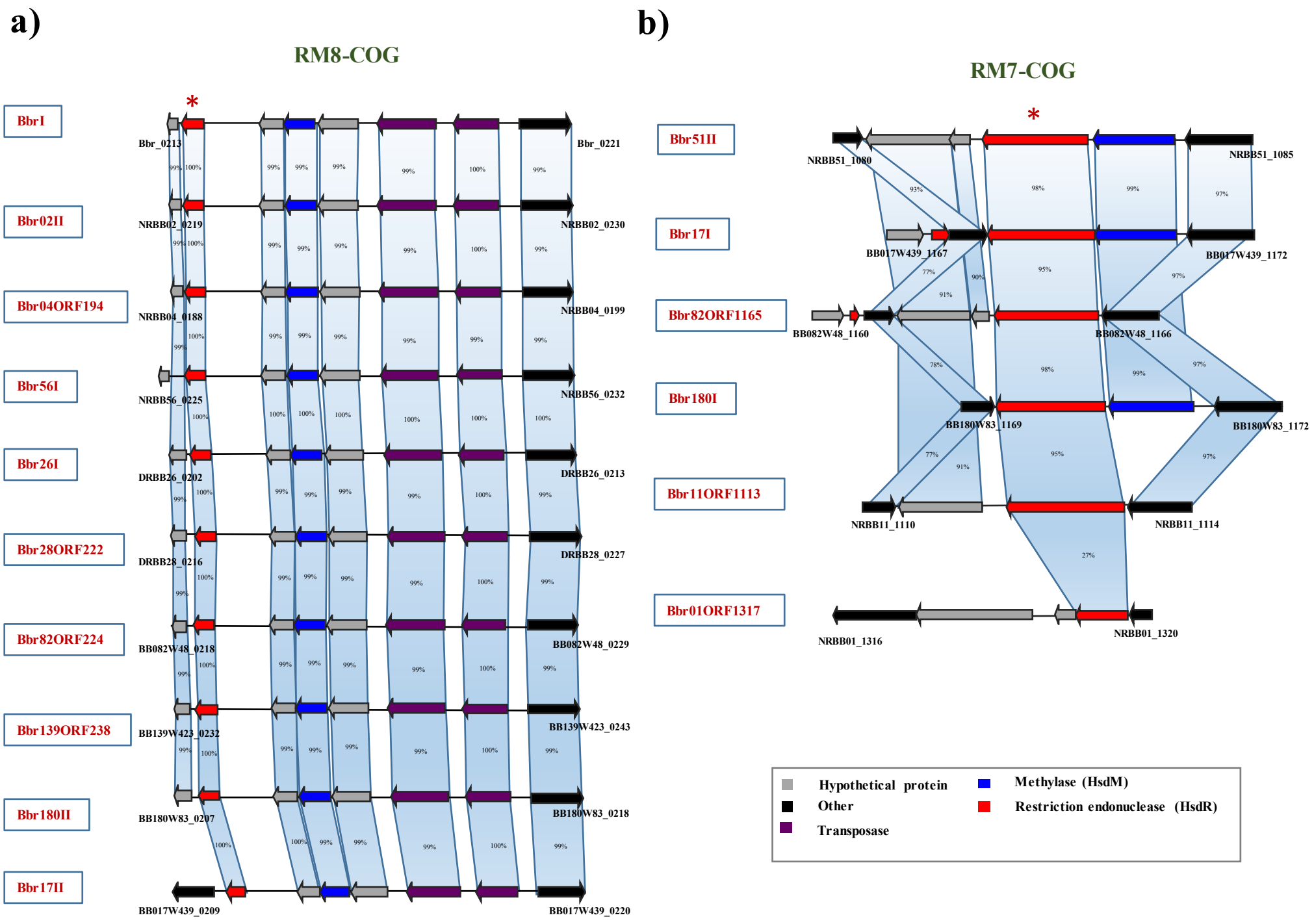

a)
RM8-COG
BbrI
Bbr02II
Bbr04ORF194
Bbr56I
Bbr26I
Bbr28ORF222
Bbr82ORF224
Bbr139ORF238
Bbr180II
Bbr17II
Bbr_0213
Bbr_0221
NRBB02_0219
NRBB02_0230
NRBB04_0188
NRBB04_0199
NRBB56_0225
NRBB56_0232
DRBB26_0202
DRBB26_0213
DRBB28_0216
DRBB28_0227
BB082W48_0218
BB082W48_0229
BB139W423_0232
BB139W423_0243
BB180W83_0207
BB180W83_0218
BB017W439_0209
BB017W439_0220
b)
RM7-COG
Bbr51II
Bbr17I
Bbr82ORF1165
Bbr180I
Bbr11ORF1113
Bbr01ORF1317
NRBB51_1080
NRBB51_1085
BB017W439_1167
BB017W439_1172
BB082W48_1160
BB082W48_1166
BB180W83_1169
BB180W83_1172
NRBB11_1110
NRBB11_1114
NRBB01_1316
NRBB01_1320
Hypothetical protein
Other
Transposase
Methylase (HsdM)
Restriction endonuclease (HsdR)

Figure S3

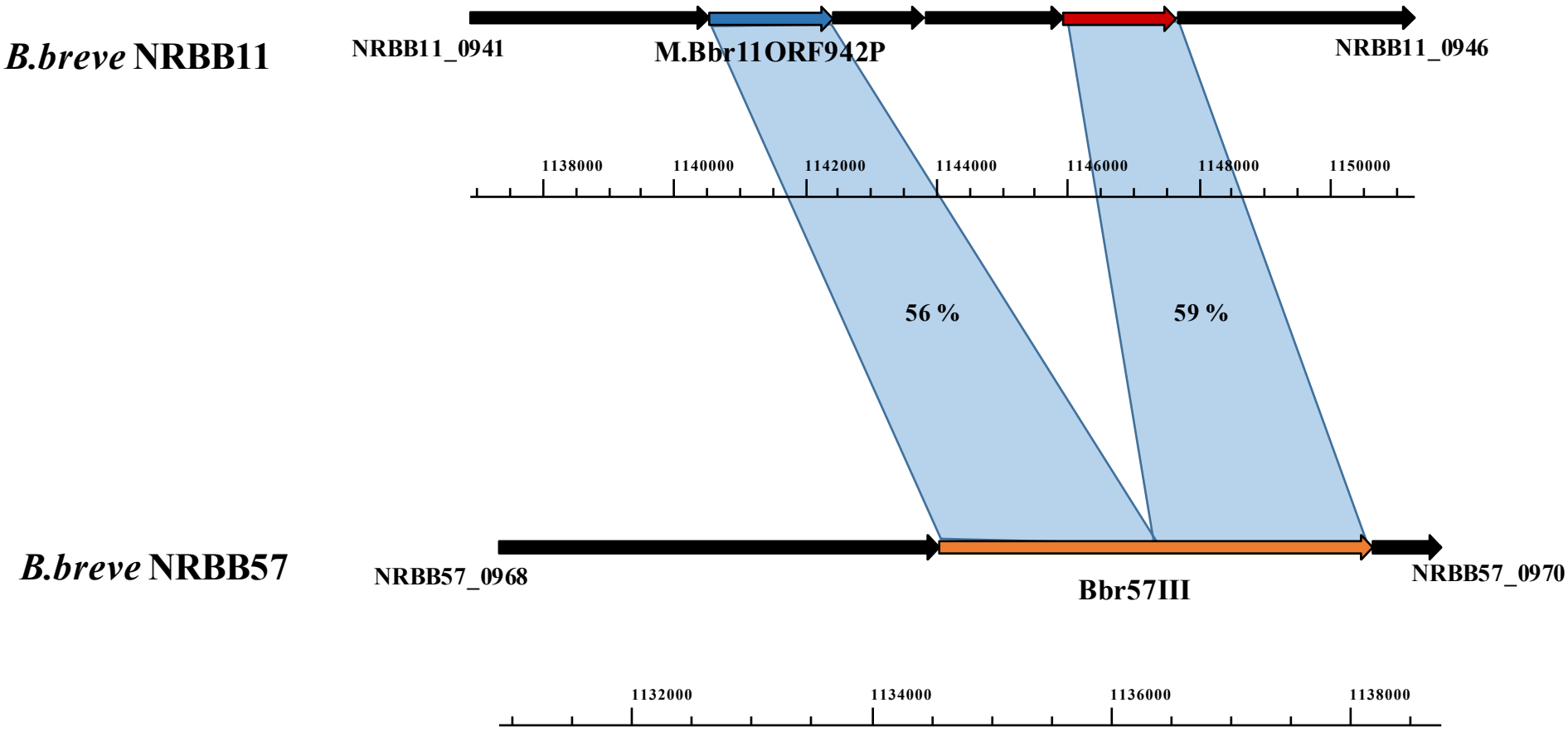

B.breve NRBB11
NRBB11_0941
M.Bbr11ORF942P
NRBB11_0946
1138000
1140000
1142000
1144000
1146000
1148000
1150000
56 %
59 %
B.breve NRBB57
NRBB57_0968
Bbr57III
NRBB57_0970
1132000
1134000
1136000
1138000

Figure S4

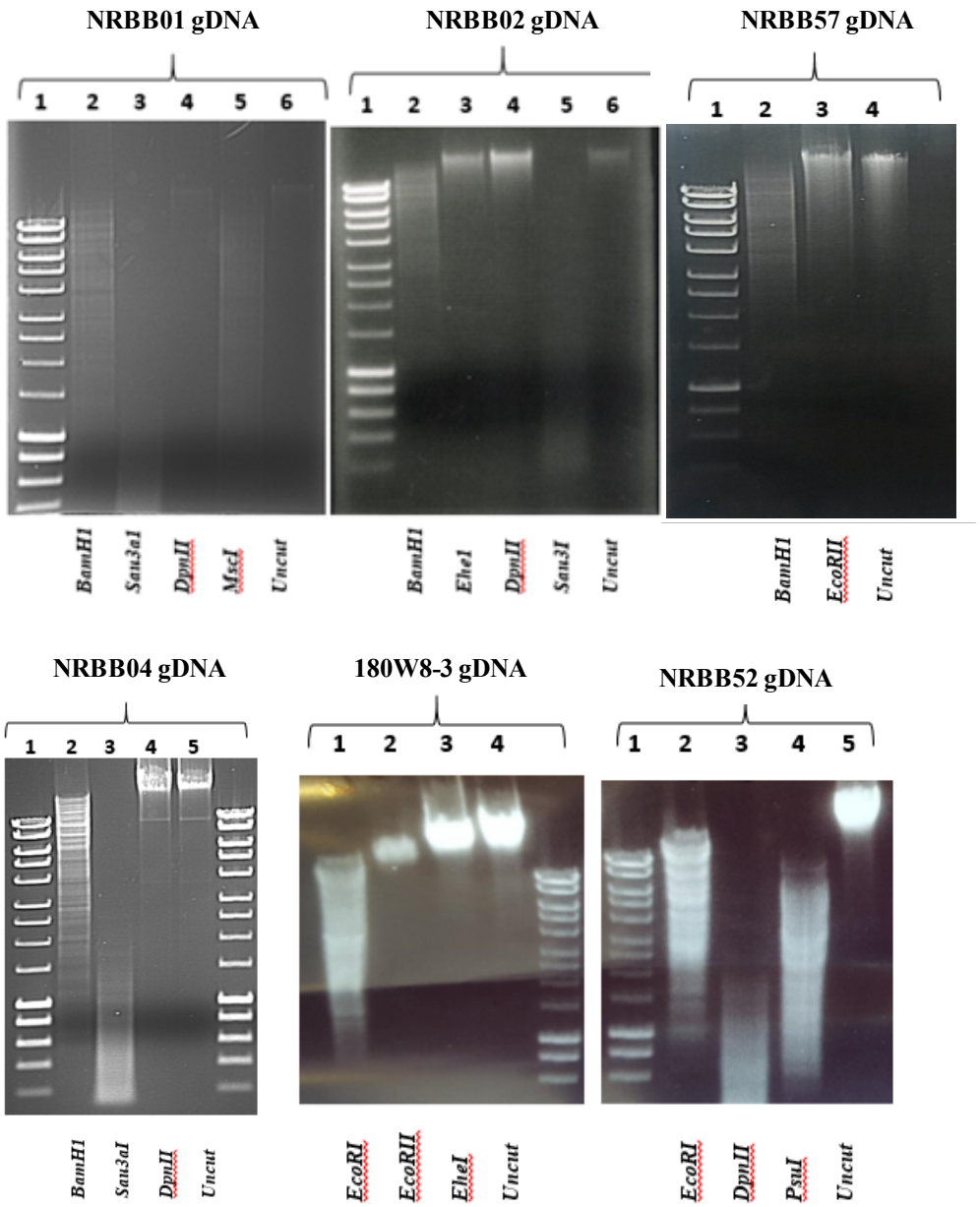

NRBB01 gDNA
1 2 3 4 5 6
BamH1
Sau3aI
DpnII
MscI
Uncut
NRBB02 gDNA
1 2 3 4 5 6
BamH1
EheI
DpnII
Sau3I
Uncut
NRBB57 gDNA
1 2 3 4
BamH1
EcoRII
Uncut
NRBB04 gDNA
1 2 3 4 5
BamH1
Sau3aI
DpnII
Uncut
180W8-3 gDNA
1 2 3 4
EcoRI
EcoRII
EheI
Uncut
NRBB52 gDNA
1 2 3 4 5
EcoRI
DpnII
PstI
Uncut

Figure S5