

Changing of the guard: subverting the host immune response by recombination-mediated changes in a major surface antigen in the Lyme disease spirochete

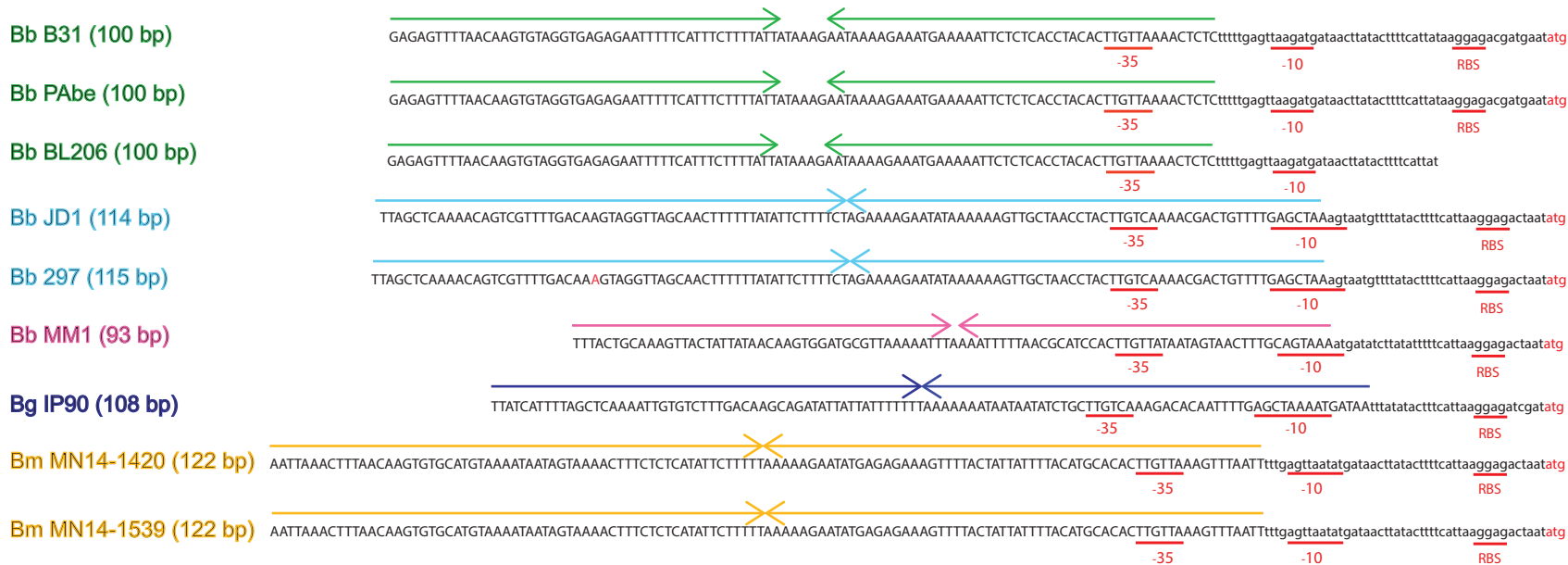
**George Chaconas<sup>1,2,3\*</sup>, Mildred Castellanos<sup>1,3</sup> and Theodore B. Verhey<sup>1,3</sup>**

Supporting Information:

Table S1

Figure S1

Table S1. Accession numbers related to Figures 3 and S1.										
Strain	Region	Accession	Strain	Region	Accession	Region	Accession	Strain	Region	Accession
<i>B. burgdorferi</i> MM1	RecA	CP031412.1	<i>B. burgdorferi</i> 156a	OspC	CP001271.1	VlsE	CP001262.1	<i>B. burgdorferi</i> B31	Inverted Repeat	AF314755.1
<i>B. burgdorferi</i> PAbe	RecA	NZ_CP019916.1	<i>B. burgdorferi</i> 297	OspC	NC_018983.1	VlsE	AB041949.1	<i>B. burgdorferi</i> PAbe	Inverted Repeat	CP019923.1
<i>B. burgdorferi</i> PAli	RecA	NZ_CP019844.1	<i>B. burgdorferi</i> B31	OspC	AE000792.1	VlsE	U76405	<i>B. burgdorferi</i> BL206	Inverted Repeat	MN066559
<i>B. burgdorferi</i> CA382	RecA	NC_022048.1	<i>B. burgdorferi</i> JD1	OspC	NC_017395.1	VlsE	MH509399	<i>B. burgdorferi</i> JD1	Inverted Repeat	MH509399
<i>B. burgdorferi</i> Z57	RecA	CP001205.1	<i>B. burgdorferi</i> MM1	OspC	CP031398.1	VlsE	CP031409.1	<i>B. burgdorferi</i> 297	Inverted Repeat	MN066558
<i>B. burgdorferi</i> JD1	RecA	NC_017403.1	<i>B. burgdorferi</i> PBoe	OspC	AJ749598.1	VlsE	AJ850089.1	<i>B. burgdorferi</i> MM1	Inverted Repeat	CP031409.1
<i>B. burgdorferi</i> N40	RecA	NC_017418.1	<i>B. burgdorferi</i> PBre	OspC	AJ749599.1	VlsE	AJ630107.1	<i>B. garinii</i> Ip90	Inverted Repeat	MN066557
<i>B. burgdorferi</i> B331	RecA	NZ_CP017201.1	<i>B. burgdorferi</i> PKa2	OspC	EF537420.1	VlsE	AJ630111.1	<i>B. mayonii</i> MN14-1420	Inverted Repeat	NZ_CP015790.1
<i>B. burgdorferi</i> B31	RecA	NC_001318.1	<i>B. burgdorferi</i> WI91-23	OspC	CP001446.1	VlsE	CP001448.1	<i>B. mayonii</i> MN14-1539	Inverted Repeat	NZ_CP015805.1
<i>B. bissetti</i> DN127	RecA	NC_015921.1	<i>B. garinii</i> Far04	OspC	CP001319.1	VlsE	CP001316.1			
<i>B. afzelii</i> PKo	RecA	NC_017238.1	<i>B. mayonii</i> MN14-1420	OspC	KR154297.1	VlsE	NZ_CP015790.1			
<i>B. afzelii</i> TOM3107	RecA	NZ_CP009212.1	<i>B. mayonii</i> MN14-1539	OspC	KR154294.1	VlsE	NZ_CP015805.1			
<i>B. afzelii</i> HLJ01	RecA	NC_018887.1	<i>B. spielmanii</i> A14S	OspC	CP001467.1	VlsE	AM993151.1			
<i>B. afzelii</i> K78	RecA	NZ_CP009058.1	<i>B. spielmanii</i> PHap	OspC	AM158269.1	VlsE	AM993152.1			
<i>B. afzelii</i> BO23	RecA	NZ_CP018262.1	<i>B. spielmanii</i> PMew	OspC	AM158270.1	VlsE	AM993153.1			
<i>B. garinii</i> 20047	RecA	NZ_CP028861.1								
<i>B. garinii</i> Vir	RecA	CP003151.1								
<i>B. garinii</i> SZ	RecA	NZ_CP007564.1								
<i>B. garinii</i> NMJW1	RecA	CP003866.1								
<i>B. chilensis</i> VA1	RecA	CP009910.1								
<i>B. bavariensis</i> PBi	RecA	NZ_CP028872.1								
<i>B. valisiana</i> Tom4006	RecA	CP009117.1								
<i>B. tachyglossi</i> Bc-F10-1268	RecA	CP025785.1								
<i>B. mayonii</i> MN14-1420	RecA	NZ_CP015780.1								
<i>B. mayonii</i> MN14-1539	RecA	NZ_CP015796.1								



**Fig. S1. Long inverted repeats found upstream of *vlsE* in different *Borrelia* species and strains.** Arrows above the sequences represent the extent and orientation of the repeats. -35 and -10 promoter boxes are underlined in red as are the Ribosome Binding Sites and the start ATG start codon for the *vlsE* signal peptide. Arrows in the same color indicate identical inverted repeat sequences. The unpublished inverted repeats from *B. burgdorferi* strains BL206, 297 and *B. garinii* IP90 were sequenced either by DNA cycle sequencing at high temperature as noted in the text or by PacBio sequencing. Bb=*B. burgdorferi*, Bg=*B. garinii* and Bm=*B. mayonii*. Accession numbers for the sequences are listed in **Table S1**.