

Supplementary material: Genomic Epidemiology of Vancomycin-Resistant *Enterococcus faecium* (VRE_{fm}) in Latin America: Revisiting The Global VRE Population Structure

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Supplementary Table 1. List of *E. faecium* genomes included in the analysis

GENOME	SOURCE CATEGORY	SOURCE	COUNTRY	YEAR	ST	SUBCLADE	ACCESSION
ICIS96	Animal	<i>Equus caballus</i>	Russia	2014	47	Animal branches	NNSQ01
E1630	Other	River water	Netherlands	1981	69	Animal branches	AH XK01
E3346	Hospitalized patient	Human - Blood	Netherlands	2002	69	Animal branches	AHYA01
E0679	Animal	Pig	Belgium	1995	150	Animal branches	AHWM01
E0680	Animal	Pig	Germany	1995	151	Animal branches	AHWN01
9930238_2	Animal	Pig feces	Denmark	1999	133	Animal branches	AITJ01
841V03	Animal	Pig feces	Denmark	2003	147	Animal branches	AISU01
E0688	Animal	Pig	Spain	1995	5	Animal branches	AHWO01
HF50104	Animal	Pig	USA	2008	5	Animal branches	AITR01
E1552	Hospitalized patient feces	Human feces	Netherlands	2002	5	Animal branches	AHWW01
1_EFCM_CA_NL	Hospitalized patient feces	Human feces	Netherlands	2012	6	Animal branches	NXOY01
E8SV3	Animal	Pig feces	Denmark	1995	6	Animal branches	AITM01
7430166_3	Animal	Pig feces	Denmark	2002	6	Animal branches	AIST01
9730219_1	Animal	Pig feces	Denmark	1997	6	Animal branches	AISY01

7330519_3	Animal	Pig feces	Denmark	2001	6	Animal branches	AISQ01
9830091_5	Animal	Pig feces	Denmark	1998	6	Animal branches	AITC01
HF50106	Animal	Pig feces	USA	2008	6	Animal branches	AITT01
7230532_1	Animal	Pig feces	Denmark	2000	New ST	Animal branches	AISN01
A17SV1	Animal	Pig feces	Denmark	1995	6	Animal branches	AITL01
IQ110	Other	Cheese	Argentina	2011	SLV-52	Animal branches	LKPG01
1231501	Hospitalized patient	Human - Blood	USA	2005	52	Animal branches	ACAY01
E1258	Hospitalized patient	Human - Blood	Spain	1998	127	Animal branches	AHWT01
5209	Other	Chicken carcass rinse	USA	2003	54	Animal branches	NSDA01
7C8_DIV0219	Animal	Marmot feces	Afghanistan	2015	New ST	Animal branches	NGKZ01
F1213D01	Animal	<i>Bos taurus</i> feces	Canada	2004	SLV-955	Animal branches	MJDZ01
D	Other	Cheese	Mexico	2008	1046	Animal branches	MEGX01
VAN335	Animal	Chicken feces	Denmark	2010	417	Animal branches	AIUZ01
E2071	Animal	Poultry	Denmark	2001	27	Animal branches	AHXT01
E1574	Animal	Dog	Belgium	1995	27	Animal branches	AHWY01
E0120	Hospitalized patient	Human - Ascites	Netherlands	1995	27	Animal branches	AHWI01

E1185	Hospitalized patient	Human - Blood	France	1998	26	Animal branches	AHWS01
E1679	Hospitalized patient	Human - Vascular catheter	Brazil	1998	114	Animal branches	ABSC01
10_96A	Hospitalized patient	Human - Blood	Brazil	1996	281	Animal branches	AXOL01
E1904	Hospitalized patient	Human - Urine	Netherlands	2001	210	Animal branches	AHXQ01
E2134	Animal	Chicken	Netherlands	2004	12	Animal branches	AHXU01
LS170308	Animal	Forest musk deer (<i>Moschus berezovskii</i>)	China	2017	30	Animal branches	chromosome: NZ_CP025077.1/CP025077.1
FDAARGOS_374	Hospitalized patient	Human - Skin swab	USA	2015	New ST	Animal branches	PDFH01
7527	Other	Chicken carcass rinse	USA	2003	269	Animal branches	NSDB01
E0269	Animal	Turkey feces	Netherlands	1996	9	Animal branches	AHWK01
E1620	Hospitalized patient	Human - Blood	Netherlands	1957	67	Animal branches	AHXF01
E0045	Animal	Chicken feces	United Kingdom	1992	9	Animal branches	AHWH01
E1575	Animal	Chicken	Belgium	1995	158	Animal branches	AHWZ01
E0164	Animal	Turkey feces	Netherlands	1996	26	Animal branches	AHWJ01
F9730129_1	Animal	Chicken	Denmark	1997	245	Animal branches	AITN01
E4215	Animal	Chicken	Sweden	2004	310	Animal branches	AHYE01

2D4_DIV0473	Animal	Buzzard	Germany	2015	195	Animal branches	NGLQ01
615	Other	Environmental - Playground slide	USA	2001	82	Animal branches	NSDE01
E1627	Hospitalized patient feces	Human feces	Netherlands	1979	66	Animal branches	AHXJ01
97_6_S5	Hospitalized patient feces	Human feces	Chile	2015	822	Animal branches	MRYG01
WEFA23	Healthy Individual Feces	Human - Healthy infants	China	2015	66	Animal branches	chromosome: CP021885.1
E1634	Other	River water	Netherlands	1982	66	Animal branches	AHXL01
VAN345	Animal	Chicken feces	Denmark	2010	38	Animal branches	AIVB01
E4452	Animal	Dog feces	Netherlands	2008	266	Animal branches	AEOU01
E1626	Hospitalized patient	Human - Stomach fluid	Netherlands	1965	92	Animal branches	AHXI01
GL3	Animal	Dromedary milk	Algeria	2013	22	Animal branches	LIHM01
64_3	Healthy Individual Feces	Human feces	Germany	1992	21	Animal branches	chromosome: NZ_CP012522.1/CP012522.1
L_3	Other	Probiotic	Russia	2010	619	Animal branches	JRGX01
9B11_DIV0348	Animal	Bird	Germany	2015	22	Animal branches	NGKT01
70_36_8	Animal	Pig	Denmark	2011	536	Animal branches	JRUG01
E1622	Animal	Mouse	Netherlands	1959	104	Animal branches	AHXG01

E1050	Healthy Individual Feces	Non-hospitalized individual Feces	Netherlands	1998	92	Animal branches	AHWQ01
NCTC13169	Hospitalized patient	Human - Blood	United Kingdom	c. 1982	71	Animal branches	ERR375583
NCTC7380	Hospitalized patient	Human - Blood	United Kingdom	≤ 1946	32	Animal branches	ERR375572
E1071	Hospitalized patient feces	Human feces	Netherlands	2000	32	Animal branches	ABQI01
ATCC8459	Other	Cheese	USA	1972	860	Animal branches	AJAJ01
CRL1879	Other	Cheese	Argentina	2011	New ST	Animal branches	AOUK01
11B6_DIV0698	Animal	Mollusc	USA	2013	DLV-304	Animal branches	NGMC01
E1573	Animal	Turkey feces	Netherlands	1996	21	Animal branches	AHWX01
E1576	Animal	Ostrich caecum	South Africa	2001	159	Animal branches	AHXA01
E1623	Hospitalized patient	Human - Pus	Netherlands	1960	22	Animal branches	AHXH01
NCTC7171	Hospitalized patient	Human - Blood	United Kingdom	≤ 1946	160	Animal branches	ERR375571
LCT_EF128	Hospitalized patient	Human - Bronchoalveolar lavage	China	2011	160	Animal branches	AJUP01
E1578	Animal	Pig feces	Germany	2001	160	Animal branches	AHXB01
471	Hospitalized patient	Human - Blood	Russia	2016	SLV-168		PDFM01
993	Hospitalized patient	Human - Wound	Russia	2015	SLV-168		PDLZ01

E161	Hospitalized patient	Human - Urine	China	2013	414		JXZA01
E31	Hospitalized patient	Human - Bile	China	2013	572		JYCO01
SC4	Other	Fodder	China	2016	78		chromosome:CP02542 5.1
BSAC_EC2783	Hospitalized patient	Human - Blood	United Kingdom	2011	412	Clinical subclade I	ERR374675
ERV144	Hospitalized patient	Human - Blood	Peru	2007	494	Clinical subclade I	AMAK01
ERV180	Hospitalized patient	Human Pleural liquid	Colombia	2010	656	Clinical subclade I	MJFF00000000
MRSN3418	Hospitalized patient	Human - Wound	USA	2011	412	Clinical subclade I	LBIM01
LIM1759	Hospitalized patient feces	Human feces	Brazil	2014	SLV-896	Clinical subclade I	MVGJ01
LIM1590	Hospitalized patient feces	Human feces	Brazil	2013	963	Clinical subclade I	MVGG01
LIM1546	Hospitalized patient feces	Human - Rectal swap	Brazil	2013	896	Clinical subclade I	MVGO01
LIM1586	Hospitalized patient feces	Human feces	Brazil	2013	896	Clinical subclade I	MVGF01
LIM918	Hospitalized patient feces	Human feces	Brazil	2012	896	Clinical subclade I	MVGE01
LIM4247	Hospitalized patient feces	Human feces	Brazil	2014	896	Clinical subclade I	MVGH01
LIM1530	Hospitalized patient feces	Human - Rectal swap	Brazil	2013	896	Clinical subclade I	MVGD01
IHC2	Hospitalized patient	Human - Blood	USA	2013	664	Clinical subclade I	MSHR01
FDAARGOS_326	Hospitalized patient feces	Human - jejunal aspirate	USA	2015	736	Clinical subclade I	POVW01

E39	Hospitalized patient	Human - Blood	USA	2009	736	Clinical subclade I	chromosome: NZ_CP011281.1/ CP011281.1
ISMMS_VRE_10	Hospitalized patient	Human - Blood	USA	2011	736	Clinical subclade I	chromosome: NZ_CP012471.1/ CP012471.1
ER04120.3A	Hospitalized patient	Human - Blood	USA	2015	736	Clinical subclade I	chromosome: CP023784.1
ER03933.3A	Hospitalized patient	Human - Blood	USA	2015	736	Clinical subclade I	chromosome: CP023780.1
ISMMS_VRE_5	Hospitalized patient	Human - Blood	USA	2011	736	Clinical subclade I	chromosome: NZ_CP012454.1/ CP012454.1
E240	Hospitalized patient	Human - Uterus cancer	USA	2013	736	Clinical subclade I	chromosome: NZ_CP017792.1/ CP017792.1
909_EFCM	Hospitalized patient	Human - Urine	USA	2012	736	Clinical subclade I	JUOK01
702_EFCM	Hospitalized patient	Human - Urine	USA	2012	736	Clinical subclade I	JUWL01
514_EFCM	Hospitalized patient	Human - Urine	USA	2012	736	Clinical subclade I	JVEC01
377_EFCM	Hospitalized patient	Human - Sputum induced	USA	2012	736	Clinical subclade I	JVJM01
43_EFCM	Hospitalized patient	Human - Blood	USA	2012	736	Clinical subclade I	JVHJ01
41_EFCM	Hospitalized patient	Human - Blood	USA	2012	SLV-736	Clinical subclade I	JVIG01
97_7_S6	Hospitalized patient feces	Human feces	Chile	2015	New ST	Clinical subclade I	MRYH01
BSAC_EC2288	Hospitalized patient	Human - Blood	United Kingdom	2010	78	Clinical subclade I	ERR374760

197806558	Hospitalized patient feces	Human feces	Sweden	2014	192	Clinical subclade I	LNLA01
VRE_1502382	Hospitalized patient feces	Human feces	Sweden	2015	1489	Clinical subclade I	LN0T01
VRE_1400136	Hospitalized patient feces	Human feces	Sweden	2014	192	Clinical subclade I	LNLL01
S_1402282	Hospitalized patient feces	Human feces	Sweden	2014	192	Clinical subclade I	LNLD01
E13931	Hospitalized patient feces	Human feces	Sweden	2013	192	Clinical subclade I	LNLB01
ERV223	Hospitalized patient	Human - Blood	Colombia	2011	17	Clinical subclade I	MJFL00000000
ERV218	Hospitalized patient feces	Human - Rectal swap	Colombia	2011	17	Clinical subclade I	MJFJ00000000
2014_VREF_114	Hospitalized patient feces	Human - Rectal swap	South Korea	2014	1421	Clinical subclade I	chromosome: NZ_CP019970.1/ CP019970.1
2014_VREF_268	Hospitalized patient feces	Human - Rectal swap	South Korea	2015	1421	Clinical subclade I	chromosome: NZ_CP019992.1/ CP019992.1
EF_DMG1500501	Hospitalized patient	Human - No Data	Australia	2014	1421	Clinical subclade I	chromosome 1:LT603678.1
VREF001	Hospitalized patient	Human - Cholecystitis	United Kingdom	2017	1424	Clinical subclade I	PJZU01
VREF005	Hospitalized patient	Human - Colon cancer	United Kingdom	2017	1424	Clinical subclade I	PJZQ01
VREF004	Hospitalized patient	Human - Colon cancer	United Kingdom	2017	1424	Clinical subclade I	PJZR01
VREF002	Hospitalized patient	Human - Cholecystitis	United Kingdom	2017	1424	Clinical subclade I	PJZT01
ERV242	Hospitalized patient	Human - Urine	Colombia	2012	412	Clinical subclade I	MJFO00000000

ERV237	Hospitalized patient feces	Human feces	Colombia	2012	412	Clinical subclade I	MJFN00000000
K59_68	Hospitalized patient	Human - Blood	Norway	2008	203	Clinical subclade I	NMZH01
BSAC_EC2041	Hospitalized patient	Human - Blood	United Kingdom	2009	203	Clinical subclade I	ERR375174
ERV251	Hospitalized patient	Human - Osteomyelitis	Colombia	2013	412	Clinical subclade I	MJFP00000000
U_1313438	Hospitalized patient feces	Human feces	Sweden	2013	DLV-203	Clinical subclade I	LNLE01
S_1001508	Hospitalized patient feces	Human feces	Sweden	2010	SLV-192	Clinical subclade I	LNLC01
VRE1044	Hospitalized patient	Human - Blood	Sweden	2007	192	Clinical subclade I	JAAL01
VRE1261	Hospitalized patient	Human - Blood	Sweden	2008	SLV-192	Clinical subclade I	JAAM01
C309	Hospitalized patient	Human - Peritoneal fluid	China	2006	78	Clinical subclade I	AJTW01
XH877	Hospitalized patient feces	Human feces	China	2012	203	Clinical subclade I	LXWZ01
VRE16	Hospitalized patient	Human - Endocarditis	Brazil	2009	412	Clinical subclade I	LSYW01
ISMMS_VRE_2	Hospitalized patient	Human - Blood	USA	2011	656	Clinical subclade I	chromosome: NZ_CP012436.1/ CP012436.1
LIM559	Hospitalized patient feces	Human feces	Brazil	2008	412	Clinical subclade I	MXAS01
AUS0085	Hospitalized patient	Human - Blood	Australia	2009	203	Clinical subclade I	chromosome: NC_021994.1/ CP006620.1
E6012	Hospitalized patient feces	Human - Rectal swap	Latvia	2010	78	Clinical subclade I	AHYK01

BSAC_EC1359	Hospitalized patient	Human - Blood	United Kingdom	2006	78	Clinical subclade I	ERR374663
E6045	Hospitalized patient feces	Human - Rectal swap	Portugal	2010	78	Clinical subclade I	AHYL01
4686	Hospitalized patient	Human - Blood	Russia	2009	192	Clinical subclade I	MQRF01
24	Hospitalized patient feces	Human feces	Russia	2012	78	Clinical subclade I	PDMA01
24_10	Hospitalized patient	Human - Wound Infection	Russia	2011	78	Clinical subclade I	MVEB01
U0317	Hospitalized patient	Human - Urinary tract infection	Netherlands	2005	78	Clinical subclade I	ABSW01
E2560	Hospitalized patient	Human - Blood	Netherlands	2006	78	Clinical subclade I	AHYI01
ERV161	Hospitalized patient	Human - Blood	Colombia	2008	203	Clinical subclade I	AMAW01
1231502	Hospitalized patient	Human - Blood	USA	2005	203	Clinical subclade I	ACAX01
ERV108	Hospitalized patient	Human - Urine	Ecuador	2006	203	Clinical subclade I	AMAZ01
ERV98	Hospitalized patient	Human - Blood	Colombia	2005	412	Clinical subclade I	MJFY00000000
ERV89	Hospitalized patient	Human - Bronchial secretion	Colombia	2005	412	Clinical subclade I	MTRT00000000
ERV114	Hospitalized patient	Human - Peritoneal liquid	Colombia	2006	412	Clinical subclade I	AMBB01
ERV102	Hospitalized patient	Human - Sputum	Colombia	2006	412	Clinical subclade I	AMAX01
ERV168	Hospitalized patient	Human - Surgical wound secretion	Colombia	2009	412	Clinical subclade I	AMAU01

ERV172	Hospitalized patient	Human - No data	Colombia	2009	412	Clinical subclade I	MJFB00000000
ERV220	Hospitalized patient	Human - No data	Colombia	2011	412	Clinical subclade I	MJFK00000000
ERV174	Hospitalized patient	Human - Peritoneal liquid	Colombia	2009	412	Clinical subclade I	MJFC00000000
ERV177	Hospitalized patient feces	Human - Rectal swap	Colombia	2010	412	Clinical subclade I	MJFE00000000
805447_07	Hospitalized patient	Human - Pleura effusion	Austria	2007	412	Clinical subclade I	LQRS01
IHC11	Hospitalized patient	Human - Blood	USA	2007	584	Clinical subclade I	MSIB01
10_131	Hospitalized patient	Human - Catheter	France	2010	412	Clinical subclade I	PHKY01
967_EFCM	Hospitalized patient	Human - Wound	USA	2012	412	Clinical subclade I	JULR01
964_EFCM	Hospitalized patient	Human - Fluid	USA	2012	412	Clinical subclade I	JULU01
990_EFCM	Hospitalized patient	Human - Fluid	USA	2012	412	Clinical subclade I	JUKT01
LIM716	Hospitalized patient feces	Human feces	Brazil	2008	DLV-478	Clinical subclade I	MVGL01
LIM1547	Hospitalized patient feces	Human - Rectal swap	Brazil	2013	478	Clinical subclade I	MVGP01
LIM554	Hospitalized patient	Human - Blood	Brazil	2008	412	Clinical subclade I	MVGM01
LIM563	Hospitalized patient feces	Human feces	Brazil	2009	412	Clinical subclade I	MVGK01
LIM699	Hospitalized patient	Human - Blood	Brazil	2006	412	Clinical subclade I	MXAU01
LIM695	Hospitalized patient	Human - Blood	Brazil	2006	478	Clinical subclade I	MXAT01

ERV124	Hospitalized patient	Human - Surgical wound secretion	Peru	2007	412	Clinical subclade I	AMAM01
IHC8	Hospitalized patient	Human - Blood	USA	2007	412	Clinical subclade I	MSHY01
IHC13	Hospitalized patient	Human - Blood	USA	2006	412	Clinical subclade I	MSID01
ERV133	Hospitalized patient	Human - Urine	Venezuela	2007	412	Clinical subclade I	MJEY00000000
ERV118	Hospitalized patient	Human - Blood	Venezuela	2006	412	Clinical subclade I	MTRU00000000
ERV115	Hospitalized patient	Human - Surgical wound secretion	Venezuela	2006	412	Clinical subclade I	MTRV00000000
463_ANA	Hospitalized patient	Human - Blood	USA	2015	SLV-750	Clinical subclade I	NETE01
463_AER	Hospitalized patient	Human - Blood	USA	2015	750	Clinical subclade I	NETD01
ERV175	Hospitalized patient	Human - Urine	Colombia	2009	412	Clinical subclade I	MJFD00000000
ERV155	Hospitalized patient	Human - Blood	Colombia	2008	412	Clinical subclade I	MJEZ00000000
ERV165	Hospitalized patient feces	Human feces	Colombia	2008	412	Clinical subclade I	AMAV01
ERV157	Hospitalized patient feces	Human feces	Colombia	2008	412	Clinical subclade I	MJFA00000000
ERV196	Hospitalized patient	Human - Blood	Colombia	2010	412	Clinical subclade I	MJFH00000000
VRE_1502939	Hospitalized patient feces	Human feces	Sweden	2015	New ST	Clinical subclade II	LNOW01
VRE2014_7	Hospitalized patient feces	Human - Rectal swap	USA	2014	New ST	Clinical subclade II	NLCP01
VREN1625	Hospitalized patient	Human - Blood	United Kingdom	2015	80	Clinical subclade II	FXHD01

VREN1371	Hospitalized patient	Human - Blood	United Kingdom	2015	80	Clinical subclade II	FXHP01
ICBEF1B	Other	Seafood	Brazil	2016	1336	Clinical subclade II	NKYP01
LIM4275	Hospitalized patient feces	Human feces	Brazil	2014	792	Clinical subclade II	MVGI01
ET13_17	Hospitalized patient feces	Human - Rectal swap	Brazil	2017	New ST	Clinical subclade II	PEJX02
ET12_17	Hospitalized patient	Human - Blood	Brazil	2017	New ST	Clinical subclade II	PEJV02
ET14_17	Hospitalized patient feces	Human - Rectal swap	Brazil	2017	New ST	Clinical subclade II	PEJY02
ERV190	Hospitalized patient	Human - No data	Colombia	2010	1517	Clinical subclade II	MJFG00000000
BSAC_EC1822	Hospitalized patient	Human - Blood	United Kingdom	2008	412	Clinical subclade II	ERR374884
BSAC_EC2499	Hospitalized patient	Human - Blood	United Kingdom	2010	412	Clinical subclade II	ERR374686
FDAARGOS_332	Hospitalized patient feces	Human - Stool sample	USA	2015	17	Clinical subclade II	NJFI02
VRE2014_195	Hospitalized patient feces	Human - Rectal swap	USA	2014	17	Clinical subclade II	NLCQ01
VRE2016_194	Hospitalized patient feces	Human - Rectal swap	USA	2016	17	Clinical subclade II	NLCT01
VRE001	Hospitalized patient	Human - Blood	USA	2013	203	Clinical subclade II	chromosome: NZ_CP018071.1/ CP018071.1
712_EFCM	Hospitalized patient	Human - Urine	USA	2012	412	Clinical subclade II	JUWB01
969_EFCM	Hospitalized patient	Human - Urine	USA	2012	412	Clinical subclade II	JULP01

BSAC_EC2198	Hospitalized patient	Human - Blood	United Kingdom	2009	665	Clinical subclade II	ERR374807
BSAC_EC1484	Hospitalized patient	Human - Blood	United Kingdom	2006	665	Clinical subclade II	ERR374754
1230933	Hospitalized patient	Human - Blood	USA	2005	18	Clinical subclade II	ACAS01
ISMMS_VRE_11	Hospitalized patient	Human - Blood	USA	2011	18	Clinical subclade II	chromosome: NZ_CP016163.1 CP016163.1
VRE2015_149	Hospitalized patient feces	Human - Rectal swap	USA	2015	18	Clinical subclade II	NLCR01
FDAARGOS_138	Hospitalized patient feces	Human - Stool sample	USA	2014	18	Clinical subclade II	LORO02
MRSN11639	Hospitalized patient	Human - Wound	USA	2012	18	Clinical subclade II	LBIN01
199_EFCM	Hospitalized patient	Human - Blood	USA	2012	18	Clinical subclade II	JVQH01
999_EFCM	Hospitalized patient	Human - Abdominal Fluid	USA	2012	18	Clinical subclade II	JUKJ01
715_EFCM	Hospitalized patient	Human - Urine	USA	2012	18	Clinical subclade II	JUVY01
704_EFCM	Hospitalized patient	Human - Blood	USA	2012	18	Clinical subclade II	JUWJ01
VRE_1502913	Hospitalized patient feces	Human feces	Sweden	2015	117	Clinical subclade II	LNOV01
E2	Hospitalized patient	Human - Urine	Spain	2011	117	Clinical subclade II	MPZY01
1250_EFCM	Hospitalized patient	Human - Blood	USA	2012	117	Clinical subclade II	JVWZ01
1232_EFCM	Hospitalized patient	Human - Blood	USA	2012	117	Clinical subclade II	JVXT01

1238_EFCM	Hospitalized patient	Human - Blood	USA	2012	117	Clinical subclade II	JVXN01
97_3_S3	Hospitalized patient feces	Human feces	Chile	2015	New ST	Clinical subclade II	MRYF01
EF_AUS00233	Healthy Individual Feces	Human feces	Australia	2011	796	Clinical subclade II	chromosome 1: NZ_LT598663.1/ LT598663.1
18434	Hospitalized patient	Human - Blood	Russia	2012	78	Clinical subclade II	PDFL01
ERS1122499	Hospitalized patient	Human - Blood	Germany	2013	17	Clinical subclade II	FKLC01
9_F_6	Hospitalized patient	Human - Blood	Norway	2012	872	Clinical subclade II	NMZI01
MRSN4777	Hospitalized patient	Human - Wound	USA	2011	No typeable	Clinical subclade II	LBIL01
560_EFCM	Hospitalized patient	Human - Blood	USA	2012	SLV-923	Clinical subclade II	JVCC01
VRE1558	Hospitalized patient	Human - Blood	Brazil	2013	No typeable	Clinical subclade II	LBCV01
ERV280	Hospitalized patient	Human - Urine	Colombia	2014	1516	Clinical subclade II	MJFU00000000
BSAC_EC1116	Hospitalized patient	Human - Blood	United Kingdom	2005	202	Clinical subclade II	ERR374680
BSAC_EC2579	Hospitalized patient	Human - Blood	United Kingdom	2011	117	Clinical subclade II	ERR374756
HPH2	Hospitalized patient	Human - Urinary tract infection	Portugal	2007	125	Clinical subclade II	MBRH01
E1731	Hospitalized patient	Human - Blood	Tanzania	2002	18	Clinical subclade II	AHXO01

ERV275	Hospitalized patient	Human - No data	Mexico	2012	1304	Clinical subclade II	MJFS00000000
BSAC_EC1179	Hospitalized patient	Human - Blood	United Kingdom	2005	1042	Clinical subclade II	ERR374732
BSAC_EC1142	Hospitalized patient	Human - Blood	United Kingdom	2005	64	Clinical subclade II	ERR374989
BSAC_EC1201	Hospitalized patient	Human - Blood	United Kingdom	2005	1477	Clinical subclade II	ERR374823
BSAC_EC956	Hospitalized patient	Human - Blood	United Kingdom	2004	1477	Clinical subclade II	ERR375172
76	Hospitalized patient	Human - Skin	Russia	2014	80	Clinical subclade II	PDNS01
97_19_S17	Hospitalized patient feces	Human feces	Chile	2015	262	Clinical subclade II	MRYE01
ERV279	Hospitalized patient	Human - No data	Mexico	2012	770	Clinical subclade II	MJFT00000000
2E6_DIV0576	Animal	Bird	Germany	2015	80	Clinical subclade II	NGLP01
93	Hospitalized patient	Human - Skin	Russia	2013	18	Clinical subclade II	PDFN01
BSAC_EC1514	Hospitalized patient	Human - Blood	United Kingdom	2007	18	Clinical subclade II	ERR374938
32	Hospitalized patient	Human - Burn wound	Russia	2010	18	Clinical subclade II	PDFP01
ST_18_K073	Hospitalized patient	Human - Urine	South Africa	2013	18	Clinical subclade II	NXIX01
607_EFCM	Hospitalized patient	Human - Fluid	USA	2012	18	Clinical subclade II	JVAH01
E2883	Hospitalized patient	Human - Blood	Netherlands	2002	18	Clinical subclade II	AHXX01
BSAC_EC824	Hospitalized patient	Human - Blood	United Kingdom	2004	18	Clinical subclade II	ERR374662

BSAC_EC1651	Hospitalized patient	Human - Blood	United Kingdom	2007	78	Clinical subclade II	ERR374849
ERV122	Hospitalized patient	Human - Surgical wound secretion	Peru	2007	18	Clinical subclade II	AMAO01
ERV99	Hospitalized patient	Human - Peritoneal liquid	Colombia	2005	18	Clinical subclade II	AMAQ01
ERV138	Hospitalized patient	Human - Blood	Colombia	2007	18	Clinical subclade II	AMBD01
ERV109	Hospitalized patient	Human - Blood	Colombia	2006	18	Clinical subclade II	AMBC01
E1321	Hospitalized patient	Human - Catheter	Italy	1999	78	Clinical subclade II	AHYF01
E4389	Animal	Dog feces	Denmark	2008	78	Clinical subclade II	AHYJ01
E4453	Animal	Dog feces	Netherlands	2008	192	Clinical subclade II	AEDZ01
FDAARGOS_331	Hospitalized patient feces	Human - Stool sample	USA	2015	18	Clinical subclade II	POVX01
BSAC_EC832	Hospitalized patient	Human - Blood	United Kingdom	2004	186	Clinical subclade II	ERR375187
E1133	Hospitalized patient feces	Human feces	USA	2001	117	Clinical subclade II	AHWR01
1231408	Hospitalized patient	Human - Blood	USA	2005	582	Clinical subclade II	ACBB01
E0333	Hospitalized patient	Human - Blood	Israel	1997	80	Clinical subclade II	AHWL01
VRE2	Hospitalized patient	Human - Blood	Malaysia	2011	80	Clinical subclade II	LTAA01
VRER5	Hospitalized patient	Human - Endocarditis	Malaysia	2011	80	Clinical subclade II	LTBJ01

TX16_DO	Hospitalized patient	Human - Blood	USA	1992	18	Clinical subclade II	chromosome: NC_017960.1/ CP003583.1
E1392	Hospitalized patient feces	Human feces	United Kingdom	2000	64	Clinical subclade II	AHWV01
NCTC12202	Hospitalized patient	Human - Blood	United Kingdom	1986	18	Clinical subclade II	ERR375579
NCTC12204	Hospitalized patient	Human - Blood	United Kingdom	1986	18	Clinical subclade II	ERR375585
ISMMS_VRE_8	Hospitalized patient	Human - Blood	USA	2011	17	Clinical subclade II	chromosome: NZ_CP012465.1/ CP012465.1
ERV281	Hospitalized patient	Human - Blood	Colombia	2014	17	Clinical subclade II	MJFV00000000
ERV231	Hospitalized patient	Human - Blood	Colombia	2012	17	Clinical subclade II	MJFM00000000
ERV212	Hospitalized patient	Human - Blood	Colombia	2011	17	Clinical subclade II	MTRX00000000
ERV214	Hospitalized patient feces	Human feces	Colombia	2011	17	Clinical subclade II	MJFI00000000
ERV263	Hospitalized patient	Human - Blood	Colombia	2013	17	Clinical subclade II	MJFQ00000000
ERV270	Hospitalized patient feces	Human feces	Colombia	2013	17	Clinical subclade II	MJFR00000000
ERV28	Hospitalized patient	Human - Surgical wound secretion	Colombia	2001	17	Clinical subclade II	MTRY00000000
ERV35	Hospitalized patient	Human - Blood	Colombia	2001	17	Clinical subclade II	MJFX00000000
ERV30	Hospitalized patient	Human - Surgical wound secretion	Colombia	2001	17	Clinical subclade II	MTRW00000000
ERV26	Hospitalized patient	Human - Pleural liquid	Colombia	2001	17	Clinical subclade II	AMAT01

ERV34	Hospitalized patient	Human - No data	Colombia	2001	17	Clinical subclade II	MJFW00000000
ERV69	Hospitalized patient	Human - Fistula	Colombia	2005	17	Clinical subclade II	AMAR01
ERV38	Hospitalized patient	Human - No data	Colombia	2002	17	Clinical subclade II	AMAS01
TX0082	Hospitalized patient	Human - Blood	USA	1999	17	Clinical subclade II	AEBU01
LIM714	Hospitalized patient feces	Human feces	Brazil	2008	New ST	Clinical subclade II	MVGN01
E1644	Hospitalized patient	Human - Catheter-Urine	Germany	2002	78	Clinical subclade II	AHYG01
E2369	Hospitalized patient	Human - Wound	Hungary	2005	78	Clinical subclade II	AHYH01
E6	Hospitalized patient feces	Human feces	Spain	2009	17	Clinical subclade II	MQAC01
AUS0004	Hospitalized patient	Human - Blood	Australia	1998	17	Clinical subclade II	chromosome: NC_017022.1/ CP003351.1
E525	Hospitalized patient	Human - Wound	Australia	1998	17	Clinical subclade II	AUWV01
ERV121	Hospitalized patient	Human - Blood	Peru	2007	280	Clinical subclade II	AMAP01
ERV123	Hospitalized patient	Human - Urine	Peru	2007	280	Clinical subclade II	AMAN01
ERV125	Hospitalized patient	Human - Blood	Peru	2007	125	Clinical subclade II	AMAL01
ERV113	Hospitalized patient	Human - Urine	Peru	2006	280	Clinical subclade II	MJEW00000000
E155	Healthy Individual Feces	Human - Stool sample	USA	1995	17	Clinical subclade II	AUWX01

BSAC_EC239	Hospitalized patient	Human - Blood	United Kingdom	2001	17	Clinical subclade II	ERR374681
BSAC_EC227	Hospitalized patient	Human - Blood	United Kingdom	2001	17	Clinical subclade II	ERR374688
BSAC_EC754	Hospitalized patient	Human - Blood	United Kingdom	2004	17	Clinical subclade II	ERR374714
VRE0576	Hospitalized patient	Human - Blood	Sweden	2006	17	Clinical subclade II	JAAK01
E1162	Hospitalized patient	Human - Blood	France	1997	17	Clinical subclade II	ABQJ01
ATCC51559	Hospitalized patient	Human - Blood	USA	1992	17	Clinical subclade II	JSVT01
E1165	Hospitalized patient	Human - Wound	Italy	1997	17	Clinical subclade II	AUWW01
1231410	Hospitalized patient	Human - Skin and soft tissue	USA	2005	17	Clinical subclade II	ACBA01
E2297	Hospitalized patient	Human - Urine	USA	2001	117	Clinical subclade II	AHXV01
ERV1	Hospitalized patient	Human - Pleural liquid	Colombia	1998	17	Clinical subclade II	AMAY01
ERV107	Hospitalized patient	Human - Blood	Ecuador	2006	17	Clinical subclade II	AMBA01
ERV127	Hospitalized patient	Human - Blood	Ecuador	2007	17	Clinical subclade II	MJEX00000000
VRE3	Hospitalized patient	Human - Blood	USA	1998	SLV-16	Clinical subclade II	JSET01
C68	Hospitalized patient feces	Human feces	USA	1997	16	Clinical subclade II	LPUE01
BSAC_EC426	Hospitalized patient	Human - Blood	United Kingdom	2002	16	Clinical subclade II	ERR374669
BSAC_EC495	Hospitalized patient	Human - Blood	United Kingdom	2002	16	Clinical subclade II	ERR374844

1141733	Hospitalized patient	Human - Wound	USA	2005	327	Clade B	ACAZ01
17OM39	Healthy Individual Feces	Human - Stool sample	India	2015	76	Clade B	LWHF01
7H8_DIV0219	Animal	Marmot feces	Afghanistan	2015	New ST	Clade B	NGKW01
825	Animal	Dairy cattle feces	USA	2004	SLV-94	Clade B	NSDF01
BM4107	Hospitalized patient feces	Human feces	France	1988	172	Clade B	JMII01
BSAC_EC555	Hospitalized patient	Human - Blood	United Kingdom	2003	1036	Clade B	ERR374785
COM12	Healthy Individual Feces	Non-hospitalized individual Feces	USA	2006	107	Clade B	ACBC01
COM15	Healthy Individual Feces	Non-hospitalized individual Feces	USA	2007	583	Clade B	ACBD01
E1007	Healthy Individual Feces	Non-hospitalized individual Feces	Netherlands	1998	61	Clade B	AHWP01
E1590	Healthy Individual Feces	Non-hospitalized individual Feces	Ireland	2001	163	Clade B	AHXC01
E1604	Other	Cheese	Norway	1956	75	Clade B	AHXD01
E1613	Other	Fish burger	Norway	1964	77	Clade B	AHXE01
E1861	Hospitalized patient feces	Human feces	Spain	2001	289	Clade B	AHXP01
E1972	Hospitalized patient	Human - Blood	Germany	2000	94	Clade B	AHXR01

E2039	Hospitalized patient	Human - K-spitze	Germany	2000	296	Clade B	AHXS01
E2620	Hospitalized patient	Human - Blood	Netherlands	2006	1175	Clade B	AHXW01
E3083	Hospitalized patient	Human - Blood	Netherlands	2000	327	Clade B	AHXZ01
E3548	Hospitalized patient	Human - Blood	Netherlands	2004	328	Clade B	AHYB01
E980	Healthy Individual Feces	Human - Healthy volunteer	Netherlands	1998	94	Clade B	ABQA01
F1129D110	Animal	Bos taurus feces	Canada	2004	New ST	Clade B	MJDY01
GM75	Other	Cheese	Argentina	2011	94	Clade B	LKPI01
HP_5_10	Healthy Individual Feces	Human feces	Russia	2016	New ST	Clade B	PCGB01
JB00008	Other	Korean fermented soybean paste (cheonggukjang)	South Korea	2015	94	Clade B	NPOO01
KACC15689	Other	Doenjang fermented soybean paste	South Korea	2013	New ST	Clade B	LBIT01
KACC15700	Other	Ganjang fermented soy sauce	South Korea	2013	New ST	Clade B	LDNC01
KACC15711	Other	Meju fermented soybeans	South Korea	2013	New ST	Clade B	LDND01
KACC15960	Other	Doenjang fermented soybean paste	South Korea	2013	New ST	Clade B	LDNE01

KACC16093	Other	Meju fermented soybeans	South Korea	2013	New ST	Clade B	LDNH01
L_X	Other	Probiotic preparation	Russia	2010	812	Clade B	JRGY01
M3K31	Animal	Griffon vulture	Spain	2010	76	Clade B	LAXK01
NCTC7378	Hospitalized patient	Human - Blood	United Kingdom	≤ 1946	361	Clade B	ERR375567
PC4_1	Healthy Individual Feces	Non-hospitalized individual Feces	Australia	2008	720	Clade B	ADMM01
TX1330	Healthy Individual Feces	Non-hospitalized individual Feces	USA	2006	107	Clade B	ACHL01
11F9MSG5001	Animal	Chelonia mydas feces	Brazil	0	688	Clade B	NGMK01
UBA4566	Other	Wood	USA	2015	946	Clade B	DGKQ01
UC7256	Other	Food	Italy	0	74	Clade B	AWWM01
UC8668	Other	Food	Italy	0	New ST	Clade B	AWWN01

Supplementary table 2. Genomic characteristics of the clades A and B of *E. faecium* population.

	CLADE A	CLADE B
Genome size	2.908 Mb ± 0.19 Mb	2.833 Mb ± 0.16 Mb
Gene content	2801 ± 208 genes	2736 ± 156 genes
Pan genome	10382 orthogroups	23746 orthogroups
Core genome	1182 orthogroups	1466 orthogroups
Average number of virulence genes	21.6	13.7
Average number of <i>rep</i> plasmids genes	3.24	2.16
Average number of Insertion Sequences (IS) families	7.4	4.1

Supplementary table 3. Comparison of the prevalences and frequencies of genetic elements related to antibiotic resistance, virulence, mobile elements, plasmid families and CRISPR/CAS-system among the genomes from the subgroups in the clade A. Not applicable (NA) results were obtained when the proportion of the element for both compared groups was zero.

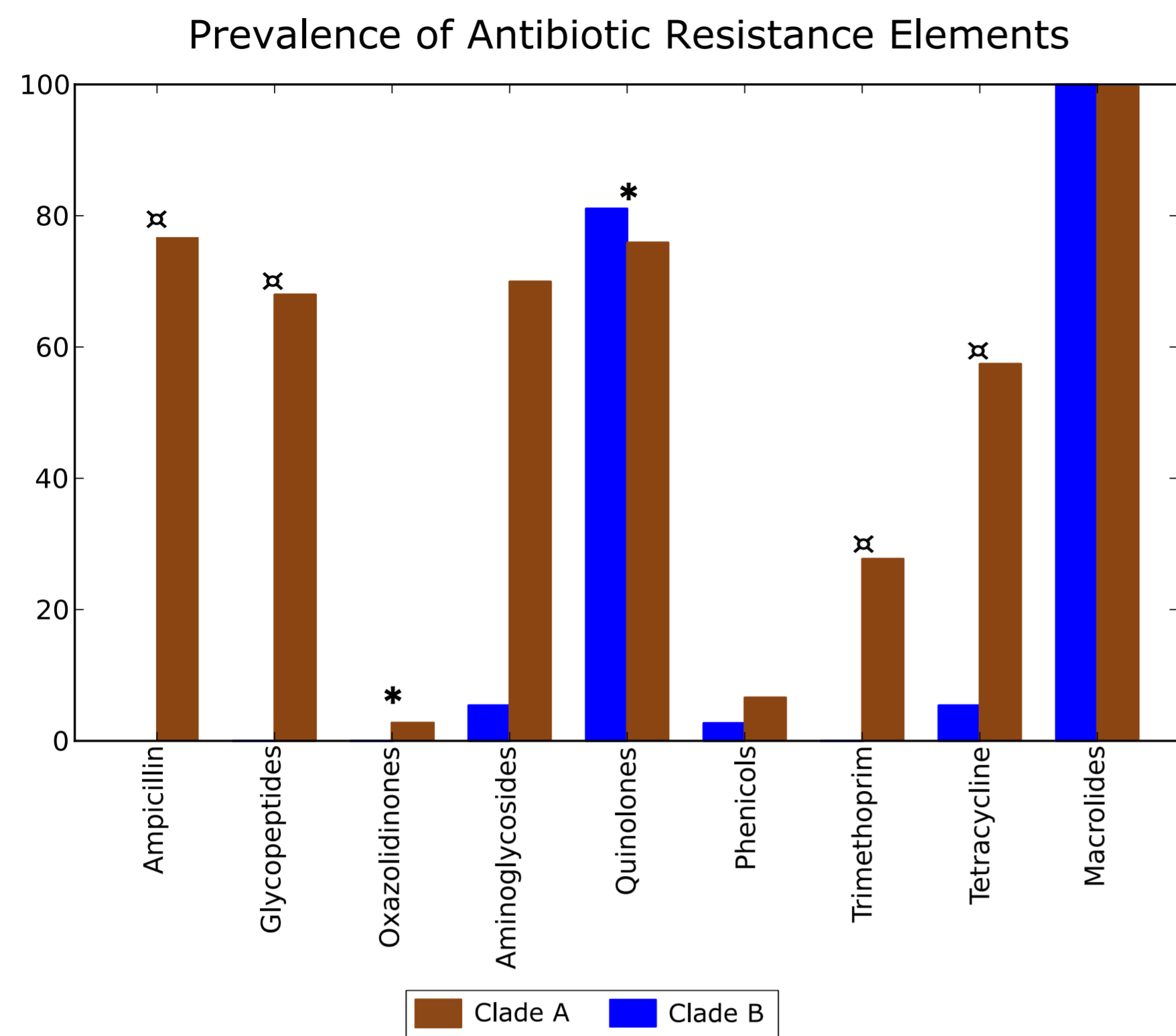
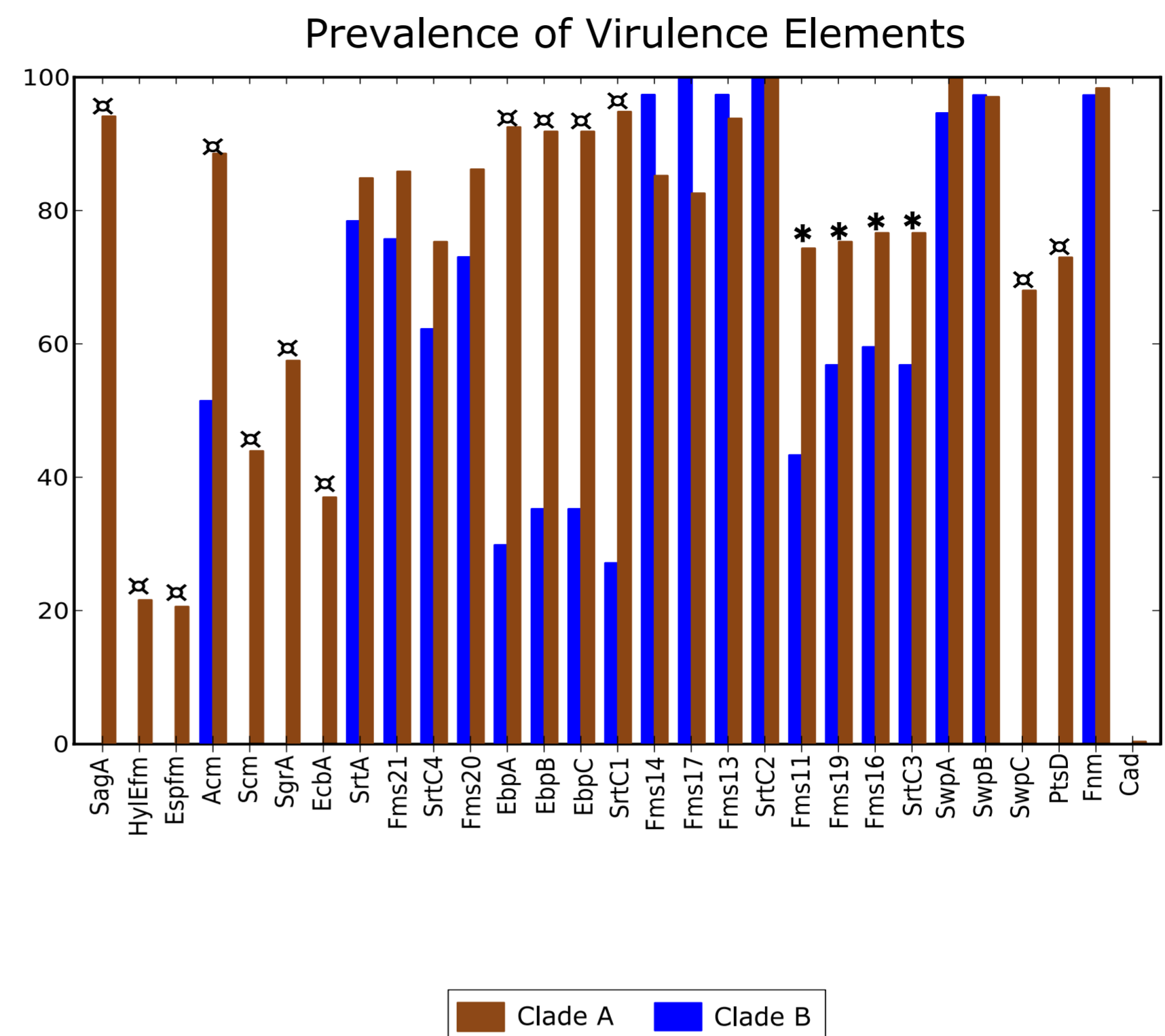
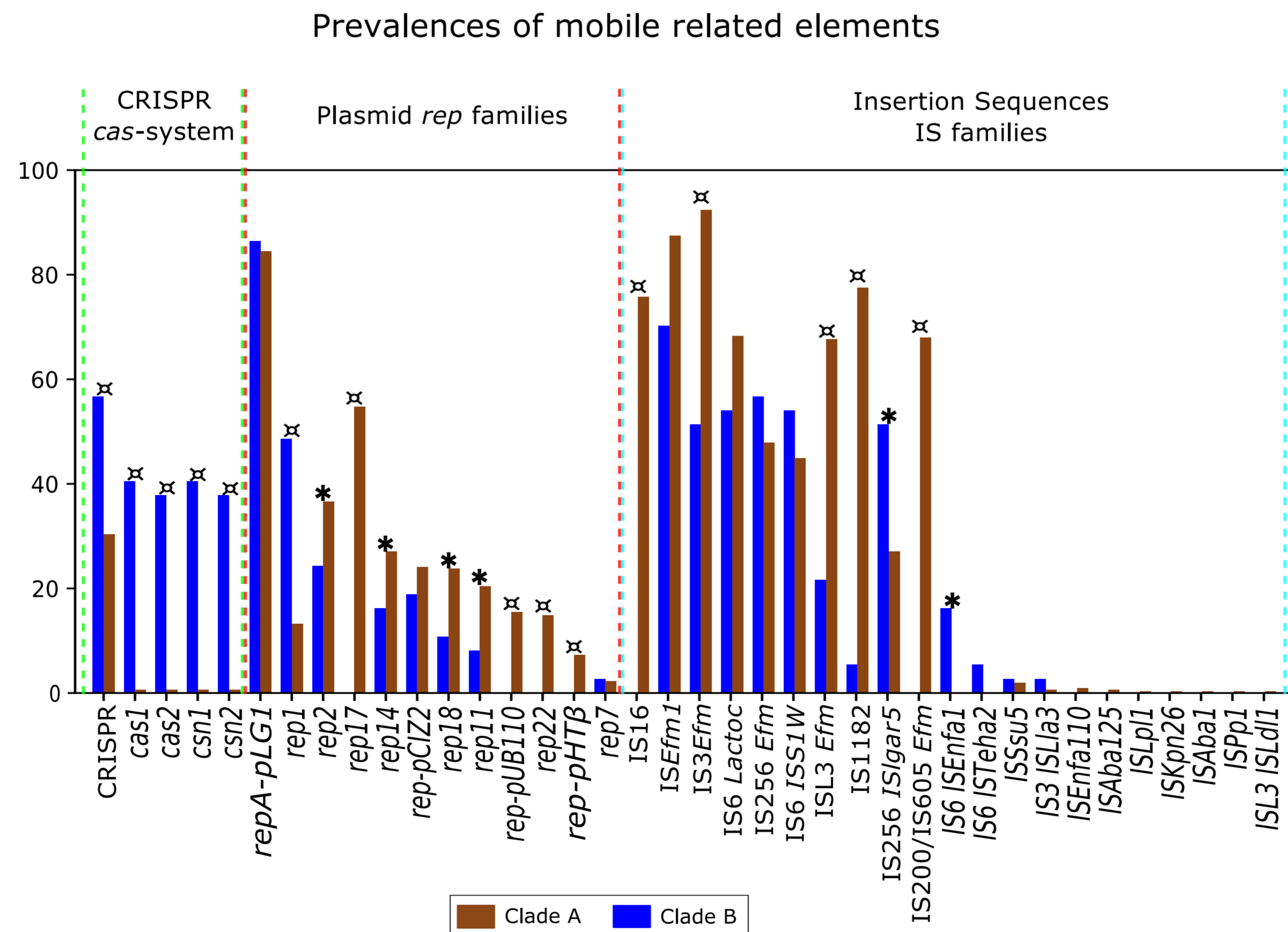
Category	Description	Element	Animal branches	CRS-I	CRS-II	P value of the difference of proportions (X ² test) between		95% Confidence Intervals of the differences of proportions	
			(n=73)	(n=101)	(n=124)	Animal vs CRS-I	Animal vs CRS-II	Animal vs CRS-I	Animal vs CRS-II
			% (n)	% (n)	% (n)				
Resistance	Glycopeptides resistance	VanA	32,8 (24)	70,2 (71)	65,3 (81)	< .001	< .001	[-52.6, -22.3]	[-47.2, -17.7]
		VanB	0 (0)	11,8 (12)	9,6 (12)	.005	.014	[-19.4, -4.4]	[-16, -3.4]
		VanD	1,3 (1)	0 (0)	0 (0)	.87	.788	[-2.5, 5.2]	[-2.4, 5.1]
		Total	34,2 (25)	82,1 (83)	75 (93)	< .001	< .001	[-62.3, -33.6]	[-55.1, -26.4]
	Aminoglycosides resistance	aac(6')-aph(2'')	6,8 (5)	52,4 (53)	47,5 (59)	< .001	< .001	[-58.1, -33.1]	[-52.3, -29.1]
		ant(6)-Ia	16,4 (12)	74,2 (75)	71,7 (89)	< .001	< .001	[-71, -44.6]	[-68, -42.6]
		aph(3')-III	12,3 (9)	82,1 (83)	71,7 (89)	< .001	< .001	[-81.6, -58.1]	[-71.5, -47.4]
		aadD, aph(2'')-Ib, aph(2'')-Id, spc or str	15 (11)	7,9 (8)	4 (5)	.212	.013	[-3.8, 18.1]	[1, 21]
	Total	21,9 (16)	90 (91)	81,4 (101)	< .001	< .001	[-80.5, -55.9]	[-72.3, -46.7]	
	Fluroquinolones resistance	GyrA mutations	1,3 (1)	96 (97)	86,2 (107)	< .001	< .001	[-100, -88.8]	[-92.6, -77.2]
		ParC mutations	2,7 (2)	100 (101)	86,2 (107)	< .001	< .001	[-100, -92.3]	[-91.8, -75.3]
		Total	2,7 (2)	100 (101)	98,3 (122)	< .001	< .001	[-100, -92.3]	[-100, -90.2]
Ampicillin resistance	PBP5-R	9,5 (7)	94 (95)	96,7 (120)	< .001	< .001	[-93.8, -75.1]	[-95.7, -78.7]	
Trimethoprim resistance	dfrG	4,1 (3)	13,8 (14)	53,2 (66)	.06	< .001	[-19.1, -0.4]	[-60.1, -38.1]	

		erm(A)	5,4 (4)	6,9 (7)	3,2 (4)	.942	.688	[-9.8, 6.9]	[-4.9, 9.4]	
		erm(B)	39,7 (29)	85,1 (86)	83 (103)	< .001	< .001	[-59.8, -31]	[-57.4, -29.2]	
		erm(G)	0 (0)	0 (0)	0,8 (1)	NA	1	[0, 0]	[-3.2, 1.6]	
		erm(T)	1,3 (1)	0,9 (1)	10,4 (13)	1	.034	[-3.3, 4.1]	[-16.2, -2]	
MLSb resistance		lnu(B)	9,5 (7)	25,7 (26)	4,8 (6)	.012	.317	[-28.2, -4.1]	[-4.1, 13.6]	
		msr(C)	95,8 (70)	100 (101)	97,5 (121)	.142	.812	[-9.8, 1.6]	[-8.1, 4.7]	
		vat(D)	6,8 (5)	0 (0)	0 (0)	.027	.013	[-0.1, 13.8]	[0, 13.7]	
		vat(E)	5,4 (4)	0 (0)	0 (0)	.061	.034	[-0.9, 11.9]	[-0.8, 11.8]	
		Total	98,6 (72)	100 (101)	100 (124)	.87	.788	[-5.2, 2.5]	[-5.1, 2.4]	
	Tetracyclines resistance		tet(L)	19,1 (14)	34,6 (35)	30,6 (38)	.038	.11	[-29.6, -1.3]	[-24.7, 1.8]
			tet(M)	46,5 (34)	44,5 (45)	60,4 (75)	.912	.08	[-14.2, 18.2]	[-29.3, 1.5]
		tet(S)	1,3 (1)	0,9 (1)	3,2 (4)	1	.74	[-3.3, 4.1]	[-7, 3.3]	
		Total	50,6 (37)	57,4 (58)	63,7 (79)	.467	.1	[-22.9, 9.4]	[-28.4, 2.3]	
Phlopa resistance		cat	9,5 (7)	0 (0)	9,6 (12)	.005	1	[1.7, 17.5]	[-8.7, 8.5]	
		fexA	0 (0)	0 (0)	0,8 (1)	NA	1	[0, 0]	[-3.2, 1.6]	
		cfrB	0 (0)	0 (0)	0,8 (1)	NA	1	[0, 0]	[-3.2, 1.6]	
		optrA	0 (0)	0 (0)	0,8 (1)	NA	1	[0, 0]	[-3.2, 1.6]	
		23s mutation	0 (0)	2,9 (3)	2,9 (3)	.37	.304	[-7.5, 1.5]	[-7.4, 1]	
		Total	9,5 (7)	2,9 (3)	11,2 (14)	.128	.892	[-2.1, 15.3]	[-11.5, 8.1]	
Virulence	Pili forming clusters	PilA	SrtA	79,4 (58)	87,1 (88)	85,4 (106)	.369	.229	[-20.2, 4.8]	[-18.3, 6.2]
			Fms21	78 (57)	87,1 (88)	89,5 (111)	.047	.047	[-21.7, 3.7]	[-23.4, 0.6]
			SrtC4	73,9 (54)	81,1 (82)	70,9 (88)	.772	.359	[-21, 6.6]	[-10.9, 16.9]
			Fms20	75,3 (55)	88,1 (89)	91,12 (113)	.004	.007	[-25.7, 0.1]	[-28, -3.6]
		PilB	EbpA	76,7 (56)	97 (98)	97,58 (121)	< .001	< .001	[-31.7, -8.9]	[-32, -9.7]
			EbpB	73,9 (54)	97 (98)	97,58 (121)	< .001	< .001	[-34.8, -11.3]	[-35.1, -12.1]
			EbpC	75,3 (55)	95 (96)	98,38 (122)	< .001	< .001	[-31.6, -7.8]	[-34.3, -11.8]
			SrtC1	83,5 (61)	97 (98)	99,19 (123)	< .001	< .001	[-23.8, -3.2]	[-25.4, -5.9]

Pili forming clusters	Fms14	68,4 (50)	91 (92)	91,12 (113)	< .001	< .001	[-35.8, -9.4]	[-35.5, -9.8]
	Fms17	69,8 (51)	88,1 (89)	87,09 (108)	.005	.007	[-31.7, -4.8]	[-30.4, -4.1]
	Fms13	91,7 (67)	98 (99)	93,5 (116)	.857	.358	[-14.3, 1.8]	[-10.5, 7]
	SrtC2	100 (73)	100 (101)	100 (124)	NA	1	[0, 0]	[0, 0]
	Fms11	30,1 (22)	81,1 (82)	95,96 (119)	< .001	< .001	[-65.2, -36.9]	[-78, -53.7]
	Fms19	27,3 (20)	86,1 (87)	95,96 (119)	< .001	< .001	[-72.2, -45.3]	[-80.5, -56.7]
	Fms16	30,1 (22)	87,1 (88)	96,77 (120)	< .001	< .001	[-70.6, -43.4]	[-78.7, -54.6]
	SrtC3	30,1 (22)	87,1 (88)	96,77 (120)	< .001	< .001	[-70.6, -43.4]	[-78.7, -54.6]
LPxTG-containing proteins Adhesins	Acm	53,4 (39)	100 (101)	99,1 (123)	< .001	< .001	[-59.2, -34]	[-58.4, -33.1]
	Scm	21,9 (16)	56,4 (57)	48,38 (60)	< .001	< .001	[-49.2, -19.8]	[-40.5, -12.4]
	EcbA	4,1 (3)	59,4 (60)	38,7 (48)	< .001	< .001	[-67.1, -43.5]	[-45.4, -23.8]
	Espfm	0 (0)	28,7 (29)	25 (31)	< .001	< .001	[-38.7, -18.7]	[-33.7, -16.3]
	SgrA	6,8 (5)	80,1 (81)	66,93 (83)	< .001	< .001	[-84.2, -62.5]	[-71.3, -48.9]
	Fms3	100 (73)	100 (101)	98,4 (122)	NA	1	[0, 0]	[-1.6, 3.2]
	Fms6	84,9 (62)	100 (101)	99,2 (123)	< .001	< .001	[-24.5, -5.7]	[-24.4, -5.8]
	Fms7	83,6 (61)	96 (97)	95,2 (118)	.021	.013	[-21.3, -0.9]	[-21, -1]
	Fms12	93,2 (68)	98 (99)	97,6 (121)	.408	.273	[-10.6, 3.6]	[-10.6, 2.9]
	Fms22	24,7 (18)	0,9 (1)	58,1 (72)	< .001	< .001	[13.6, 36.5]	[-47.2, -18.5]
Fnm	100 (100)	98 (99)	97,5 (121)	.625	.461	[-1.9, 5.9]	[-1.4, 6.2]	
Secreted antigen A	SagA	87,6 (64)	98 (99)	94,3 (117)	.014	.164	[-19.5, -1.2]	[-16.3, 3]
Carbohydrate transport and gut colonization	PtsD	5,4 (4)	95 (96)	93,5 (116)	< .001	< .001	[-97.5, -81.7]	[-95.9, -80.2]
Glycosyl hydrolase	hyfEfm	0 (0)	19,8 (20)	34,6 (43)	< .001	< .001	[-28.8, -10.9]	[-44.1, -25.2]
WxL-containing proteins	SwpA	100 (100)	100 (101)	100 (124)	NA	NA	[0, 0]	[0, 0]
	SwpB	94,5 (69)	97 (98)	98,3 (122)	.659	.273	[-9.9, 4.9]	[-10.6, 2.9]
	SwpC	84,9 (62)	27,7 (28)	91,1 (113)	< .001	.271	[44, 70.4]	[-16.9, 4.5]

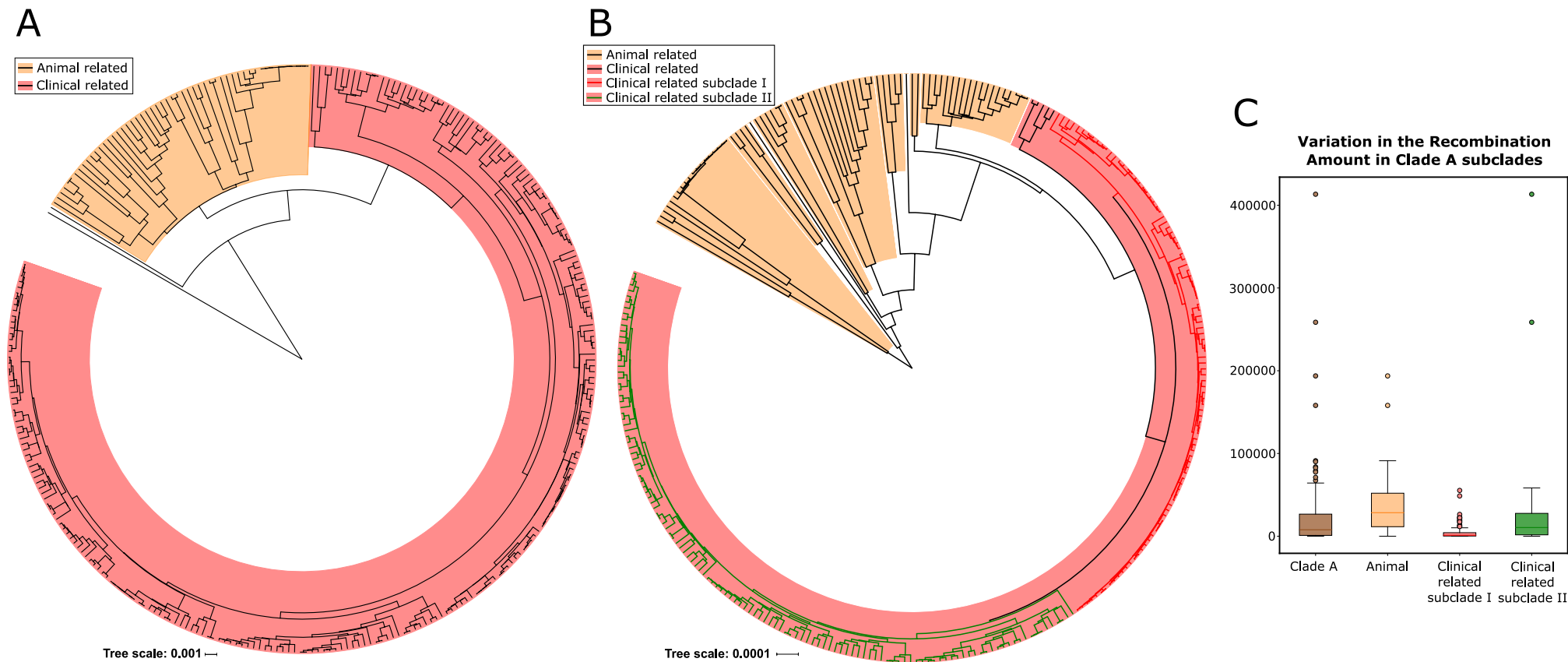
Plasmid families	<i>pLG1</i> megaplasmid	rep-Efae287	82,1 (60)	85,1 (86)	84,6 (105)	.752	.979	[-15.3, 9.4]	[-14.4, 9.4]
	<i>pRUM</i>	rep17	10,9 (8)	79,2 (80)	62,09 (77)	< .001	< .001	[-80.1, -56.4]	[-63.4, -38.9]
	Rolling circle replication	rep14	6,8 (5)	18,8 (19)	46,77 (58)	.041	< .001	[-22.7, -1.2]	[-51.5, -28.3]
	Rep_3	rep-pClZ2	6,8 (5)	20,7 (21)	37,9 (47)	.019	< .001	[-24.9, -3]	[-42.5, -19.6]
		rep11	4,1 (3)	28,7 (29)	20,96 (26)	< .001	.002	[-35.7, -13.5]	[-26.4, -7.3]
		rep18	6,8 (5)	28,7 (29)	28,22 (35)	< .001	< .001	[-33.6, -10.1]	[-32.3, -10.5]
	Inc18 (pRE25)	rep2	26 (19)	40,5 (41)	40,3 (50)	.066	.06	[-29.6, 0.5]	[-28.6, 0.1]
		rep1	34,2 (25)	0,9 (1)	10,48 (13)	< .001	< .001	[21, 45.5]	[10.5, 37]
	Broad range hosts	rep7	1,3 (1)	0,9 (1)	4 (5)	1	.534	[-3.3, 4.1]	[-8.1, 2.8]
	Described in <i>S. aureus</i>	rep22	5,4 (4)	15,8 (16)	20,16 (25)	.06	.009	[-20.4, -0.4]	[-24.6, -4.8]
	rep-pUB110	8,2 (6)	15,8 (16)	20,16 (25)	.206	.043	[-18.3, 3.1]	[-22.5, -1.4]	
Rep trans	rep-pHTBeta	1,3 (1)	1,9 (2)	14,51 (18)	1	.005	[-5, 3.8]	[-21, -5.3]	
Insertion Sequences	IS16	IS16	9,5 (7)	95 (96)	99,1 (123)	< .001	< .001	[-94.6, -76.3]	[-97.6, -81.6]
	IS3	ISefa10, ISEfa8 and ISEnfa3	75,3 (55)	96 (97)	99,19 (123)	< .001	< .001	[-32.5, -8.9]	[-35, -12.8]
	IS1182	ISEfa12 and ISEfa7	36,9 (27)	89,1 (90)	91,12 (113)	< .001	< .001	[-65.9, -38.3]	[-67.4, -40.9]
	IS200/IS605	ISEfa4 and ISEnfa200	24,6 (18)	90 (91)	74,19 (92)	< .001	< .001	[-78.1, -52.8]	[-63.2, -35.9]
	IS19/IS982	ISEfm1	91,7 (67)	80,1 (81)	90,3 (112)	.057	.93	[0.4, 22.8]	[-7.8, 10.7]
	ISL3	ISEfa11 and ISEfa5	20,5 (15)	82,1 (83)	82,25 (102)	< .001	< .001	[-74.7, -48.6]	[-74.2, -49.2]
	IS6 <i>Lactococcus lactis</i>	ISS1	71,2 (52)	83,1 (84)	53,2 (66)	.09	.019	[-25.8, 1.9]	[3.3, 32.7]
	IS6 <i>Lactobacillus sake</i>	ISS1W	78 (57)	29,7 (30)	37,09 (46)	< .001	< .001	[34.2, 62.6]	[27.2, 54.8]
	IS256	ISEfa13 and ISEfm2	76,7 (56)	30,6 (31)	43,5 (54)	< .001	< .001	[31.6, 60.4]	[19, 47.3]

IS256 <i>Lactococcus garvieae</i>	ISLgar5	26 (19)	6,9 (7)	44,3 (55)	.001	.015	[6.7, 31.5]	[-32.7, -3.9]
IS5	ISKpn26	0 (0)	0,9 (1)	0 (0)	1	NA	[-3.9, 1.9]	[0, 0]
CRISPR		38,3 (28)	23,7 (24)	30,6 (38)	.048	.056	[-0.5, 29.7]	[-7.2, 22.6]
Cas-system		0 (0)	0 (0)	1,6 (2)	1	NA	[0, 0]	[-4.9, 1.7]

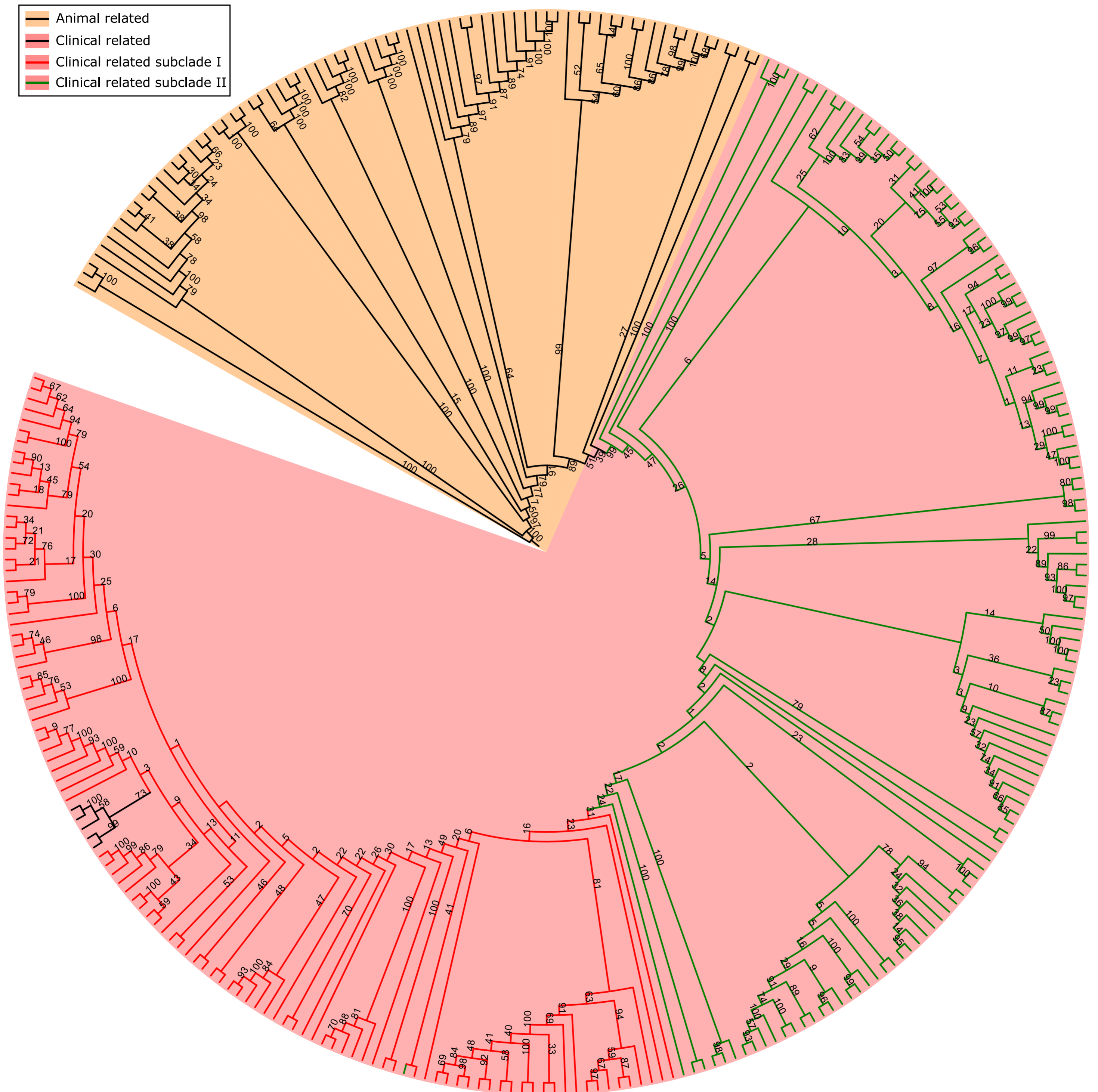
A**B****C**

Supplementary Figure 1. (A) Prevalence of genetic elements associated with resistance against different groups of antibiotics in each of the clades. Ampicillin resistance was predicted based on a random forest model using the sequences of the PBP5 protein of susceptible and resistant isolates. (B) Prevalence of putative virulence determinants in each of the clades. (C) Prevalence of mobile genetic elements in each of the clades including isolates harboring the CRISPR cas-system, plasmid rep families and insertion sequences.

*p-value ≤ 0.05
 x p-value ≤ 0.001



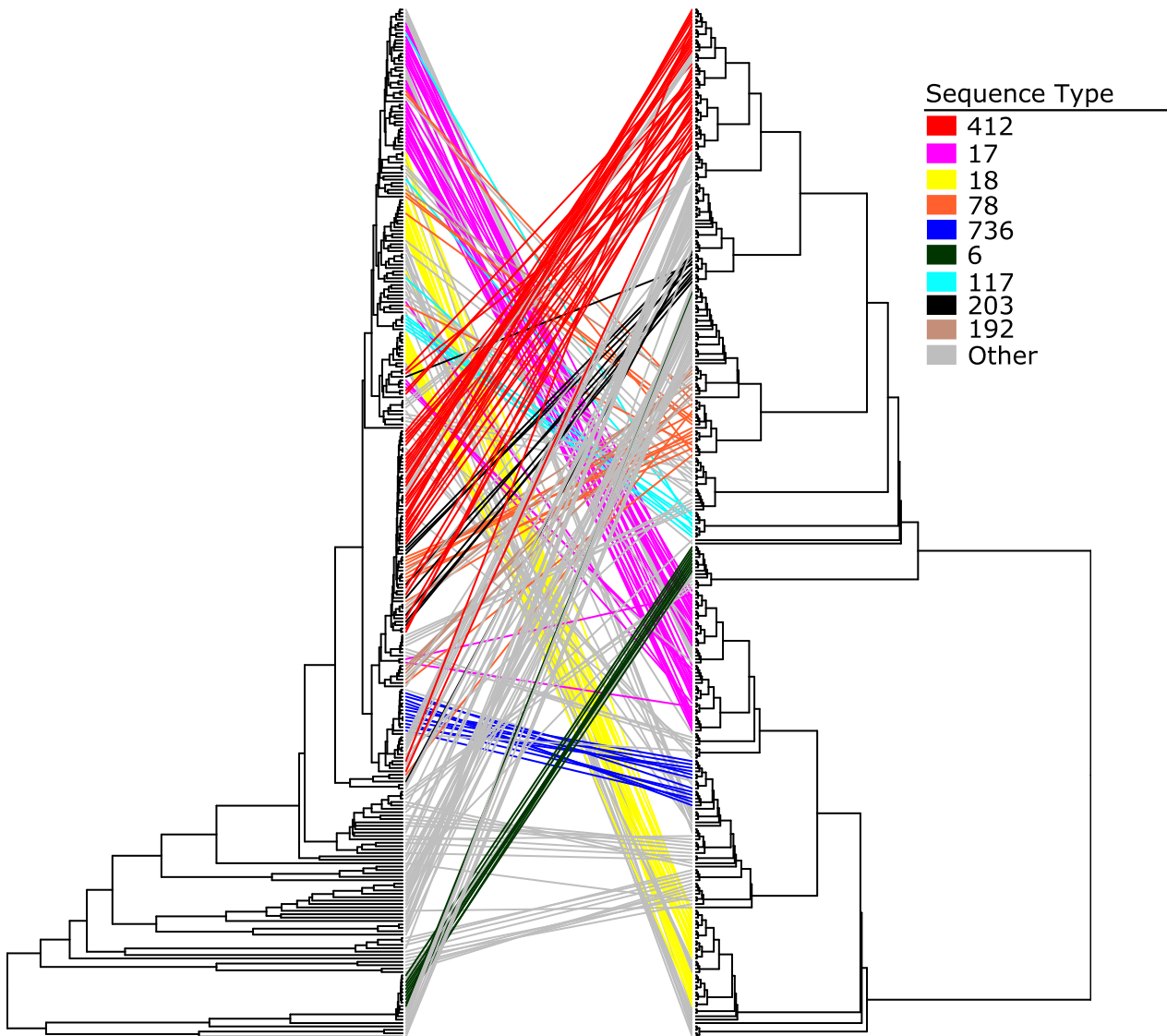
Supplemental Figure 2. Comparison of maximum clade credibility trees including (A) and excluding recombinant regions (B). Both trees show the subclade/branches related to animal (orange background) and clinical sources (red background). (C) Box and whiskers plot of the amount of recombination in the genomes belonging to different subclades/branches in the clade A, based on the recombination regions defined by ClonalFrame. Colored dots represent outliers within each group.



Supplementary Figure 3. Maximum likelihood cladogram of the non recombinant regions of the clade A. Numbers on branches represent the bootstrap support for each branch from 1000 resamplings.

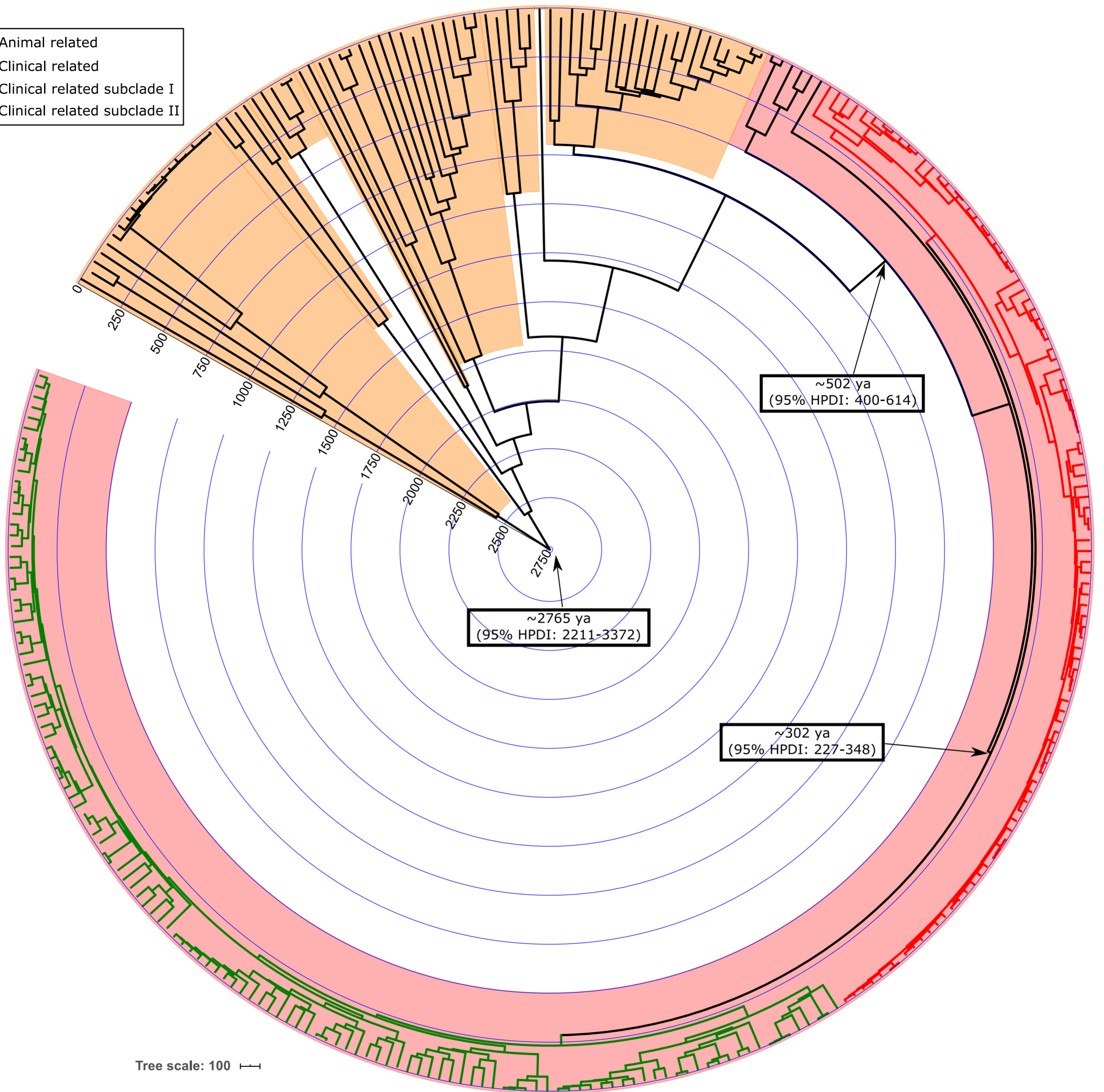
No recombinant regions

MLST loci

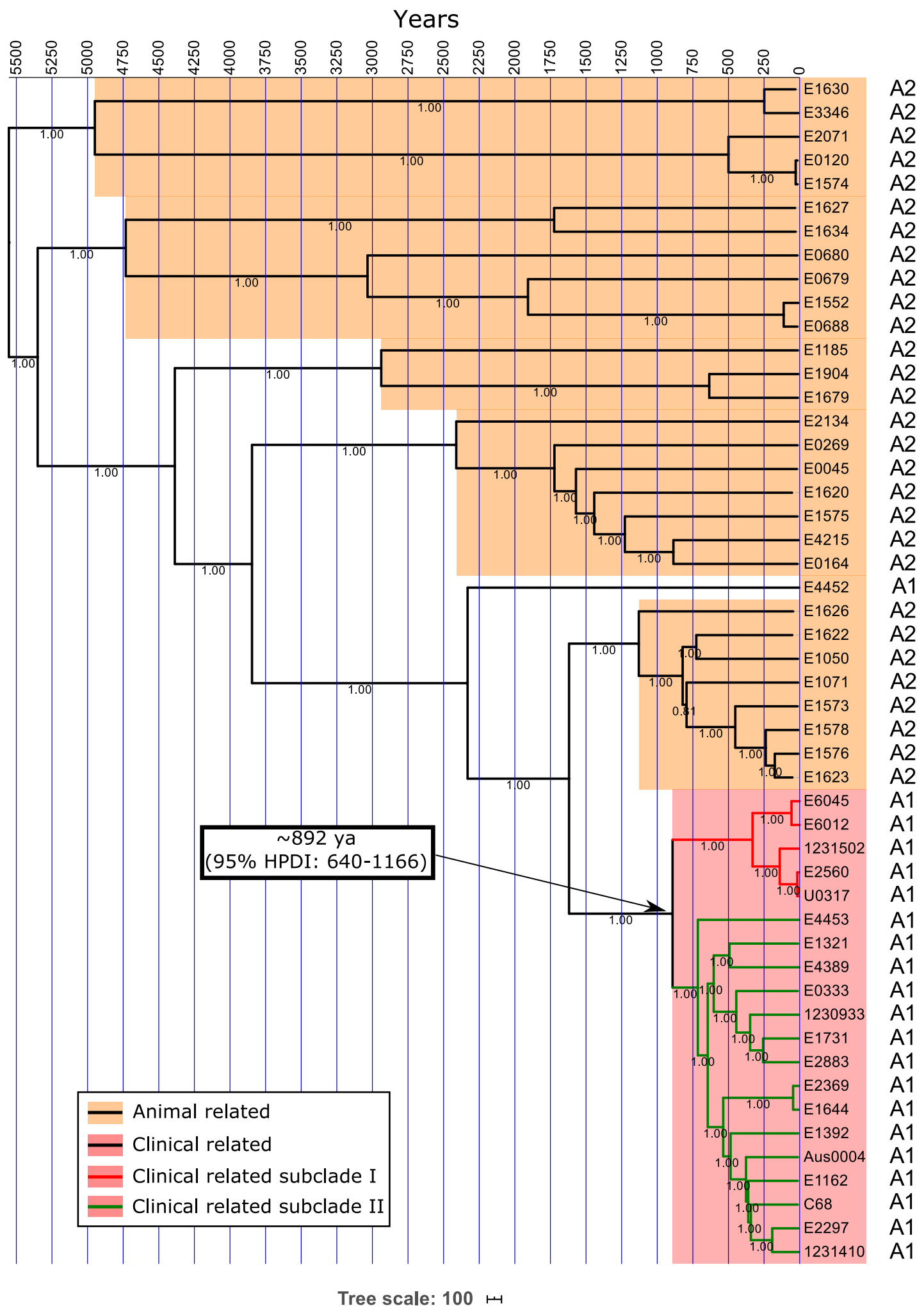


Supplementary figure 4. Tanglegram of phylogenetic reconstructions of Clade A genomes. Tree on the left side is based on non-recombinant regions. Tree on the right side was constructed based on MLST loci. Colored lines in the middle connect the branches from the same genome in the two trees.

- Animal related
- Clinical related
- Clinical related subclade I
- Clinical related subclade II



Supplementary Figure 5. Maximum clade credibility tree of the molecular clock analysis of clade A genomes. Each blue ring represents 250 years across branch lengths. Boxes pointing at the splits between major subclades indicate the estimated divergence time between them and their corresponding 95% high probability density intervals (HPDI).



Supplementary Figure 6. Maximum clade credibility tree of the molecular clock of 50 genomes from Clade A (previously described by Lebreton et, al. MBio. 2013). Each blue line represents 250 years across branch lengths. Box pointing the most recent common ancestor for clinical associated isolates and their corresponding 95% high probability density intervals (HPDI). Numbers on the branches shows their posterior probabilities accordingly the Bayesian analysis.