

Table S1. Metadata and *in silico* characterization of sequenced IncI1-I γ plasmids analyzed in the present study from (A) Colombian poultry, (B) GenBank and (C) previous publications from Europe.

(A) IncI1-I γ plasmids from Colombian poultry

Source	Year	Plasmid Name ^{a,b}	Colombian Department of Origin	ENA Accession Number	ESBL/pAmpC Enzymes	IncI1 pMLST _{c,d,e,f}	Bacterial Host	Bacterial Host MLST
Farm	2008	pSSXXXV.4.C1 ^a	Santander	ERS2017899	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Farm	2008	pSSIII.4.C2 ^a	Santander	ERS2017900	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Farm	2008	pSXXI.1.C5	Cundinamarca	ERS2017901	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Farm	2008	pECSLV.10.C1	Santander	ERS2893249	SHV-12	Non-typeable ^{c,d}	<i>E. coli</i>	366
Farm	2008	pECSXXXIV.1.C	Santander	ERS2893250	CMY-2	12	<i>E. coli</i>	57
Farm	2009	pEC4.5	Cundinamarca	ERS2893251	CMY-2	12	<i>E. coli</i>	101
Slaughter	2012	pFBOG8	Bogotá	ERS2017931	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Slaughter	2012	pFBOG7 ^b	Bogotá	ERS2017938	CMY-2	Non-typeable ^{c,e}	<i>S. Paratyphi</i> B var. Java	28
Slaughter	2013	pFSUC414	Sucre	ERS2017932	CMY-2	12	<i>S. Heidelberg</i>	15
Slaughter	2013	pFCAR509	Bolívar	ERS2017933	CMY-2	12	<i>S. Heidelberg</i>	15
Slaughter	2013	pFANT596	Antioquia	ERS2017934	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Slaughter	2013	pFVAL369	Valle del Cauca	ERS2017937	CMY-2	12	<i>S. Heidelberg</i>	15
Slaughter	2013	pFPAS506	Nariño	ERS2017939	CMY-2	12	<i>S. Heidelberg</i>	15
Slaughter	2008	pECSIIL.18.C2	Santander	ERS2893252	SHV-12	12	<i>E. coli</i>	3107
Slaughter	2008	pECSLII.8.C3	Santander	ERS2893253	CMY-2	12	<i>E. coli</i>	155
Slaughter	2008	pECSLIV.27.C2	Santander	ERS2893254	CMY-2	12	<i>E. coli</i>	10
Slaughter	2008	pECSLIV.7.C1	Santander	ERS2893255	CMY-2	12	<i>E. coli</i>	3910
Slaughter	2008	pECSVIL.11.C1	Santander	ERS2893256	CMY-2	12	<i>E. coli</i>	359
Slaughter	2008	pECSVIL.21.C3	Santander	ERS2893257	CMY-2	12	<i>E. coli</i>	212
Slaughter	2012	pFSAN126	Santander	ERS2893258	CMY-2	231	<i>E. coli</i>	1775
Retail	2010	pUGBOG4 ^a	Bogotá	ERS2017904	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Retail	2010	pUGBOG327 ^a	Bogotá	ERS2017909	SHV-12	231	<i>S. Paratyphi</i> B var. Java	28
Retail	2010	pUGBOG339	Bogotá	ERS2017910	SHV-12	231	<i>S. Paratyphi</i> B var. Java	28
Retail	2010	pUGBOG340	Bogotá	ERS2017911	SHV-12	231	<i>S. Paratyphi</i> B var. Java	28
Retail	2011	pUGBAR394	Atlántico	ERS2017912	CMY-2	12	<i>S. Heidelberg</i>	15
Retail	2011	pUGBAR434	Atlántico	ERS2017913	CMY-2	12	<i>S. Albany</i>	292
Retail	2011	pUGVAL515	Valle del Cauca	ERS2017915	CMY-2	Non-typeable ^{c,e}	<i>S. Heidelberg</i>	15
Retail	2011	pUGCUC851	Norte de Santander	ERS2017917	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Retail	2011	pUGARA888	Arauca	ERS2017919	CMY-2	12	<i>S. Enteritidis</i>	11
Retail	2011	pUGIBA933	Tolima	ERS2017920	SHV-12	231	<i>S. Paratyphi</i> B var. Java	28
Retail	2011	pUGPER971	Risaralda	ERS2017921	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Retail	2011	pUGBOG1024	Bogotá	ERS2017922	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Retail	2011	pUGPAS1097	Nariño	ERS2017923	CMY-2	12	<i>S. Kentucky</i>	152
Retail	2011	pUGBAR1170 ^a	Atlántico	ERS2017927	CMY-2	12	<i>S. Paratyphi</i> B var. Java	28
Retail	2009	pEC9PP62328	Cundinamarca	ERS2893259	SHV-12	230 ^f	<i>E. coli</i>	973
Retail	2010	pUGBOG204EC	Cundinamarca	ERS2893260	CMY-2	12	<i>E. coli</i>	189

Retail	2010	pUGBOG301EC	Cundinamarca	ERS2893261	CMY-2	12	<i>E. coli</i>	201
Retail	2010	pUGBOG304EC	Cundinamarca	ERS2893262	SHV-12	26	<i>E. coli</i>	746
Retail	2010	pUGBOG34EC	Cundinamarca	ERS2893263	CMY-2	12	<i>E. coli</i>	48
Retail	2010	pUGVIL369EC	Meta	ERS2893264	CMY-2	12	<i>E. coli</i>	1049
Retail	2011	pUGBAR389EC	Atlántico	ERS2893265	CMY-2	12	<i>E. coli</i>	5416
Retail	2011	pUGBAR425EC	Atlántico	ERS2893266	CMY-2	12	<i>E. coli</i>	533
Retail	2011	pUGMON457EC	Córdoba	ERS2893267	CMY-2	12	<i>E. coli</i>	162

^a A plasmid from this strain carrying the ESBL/pAmpC gene was transformed into *E. coli* DH10B, sequenced and included in the phylogenetic trees as reference

^b Excluded prior phylogenetic analysis due to missing sequence data

^c This plasmid missed one allele from the pMLST scheme

^d Single-locus variant of IncI1-I γ /ST26, ^e IncI1-I γ /ST12 or ^f IncI1-I γ /ST231

(B) IncI1-I γ plasmids from GenBank

Source ^{a,b,c}	Year ^{c,d,e}	Plasmid Name ^{f,g}	Country of Origin ^{c,e}	GenBank Accession Number	ESBL/pAmpC Enzymes ^{h,i}	IncI1 pMLST ^{j,k,l}	Bacterial Host	Bacterial Host MLST ^m
Chicken breast meat at retail	2003	pCVM29188_101	USA	CP001121.1	CMY-2	12	<i>S. Kentucky</i>	N/A ^m
Chicken meat	2010	pSA02DT10168701_99	Canada	CP012923.1	CMY-2	12	<i>S. Heidelberg</i>	15
Human stool	2012	p12-4374_96	Canada	CP012929.1	CMY-2	12	<i>S. Heidelberg</i>	15
Turkey meat	2012	pN13-01290_98	Canada	CP012936.1	CMY-2	12	<i>S. Heidelberg</i>	15
Bovine pre-evisceration carcass	2005	pSAN1-1727	USA	CP014622.1	- ^h	Non-typeable ^{j,k}	<i>S. Anatum</i>	64
Bovine organ	2011	p11-004736-1-7_99	Canada	CP016516.1	CMY-2	12	<i>S. Heidelberg</i>	15
Chicken meat	2009	pSA02DT09004001_101	Canada	CP016522.1	CMY-2	Non-typeable ^{j,k}	<i>S. Heidelberg</i>	15
Chicken feces	2013	pAMR588-04-00318_99	Canada	CP016568.1	CMY-2	12	<i>S. Heidelberg</i>	15
Chicken feces	2013	pAMR588-04-00320_99	Canada	CP016572.1	CMY-2	12	<i>S. Heidelberg</i>	15
Human stool	2006	pSTY2-2010K-1587	USA	CP016865.1	CMY-2	Non-typeable ^{j,k}	<i>S. Typhimurium</i>	19
Human clinical	2016	pMR0716_tem1 ^f	Germany	CP018104.1	TEM-1B-like	12	<i>E. coli</i>	617
Human clinical	2016	pMRSN346595_120.3	USA	CP018110.1	TEM-1B (IP 99.88%) ⁱ	12	<i>E. coli</i>	617
Human clinical	2016	pMRSN346638_119.3	USA	CP018116.1	TEM-1B (IP 99.88%)	12	<i>E. coli</i>	617
Human clinical	2016	pMRSN346355_120.3	USA	CP018122.1	TEM-1B (IP 99.88%)	12	<i>E. coli</i>	617
Ground turkey	2011	- ^g	USA	CP022064.2	CMY-2-like	12	<i>S. Typhimurium</i>	19
N/A ^c	N/A ^c	-	USA ^e	CP027127.1	CMY-2	12	<i>E. coli</i>	156
Human stool	2012	-	USA ^e	CP027415.1	-	12	<i>S. Typhimurium</i>	19
N/A	N/A	pSTM709 DNA	Uruguay	HG428759.1	CMY-2	12	<i>S. Typhimurium</i>	N/A
Pig fecal material	2005 ^d	pESCR	France	KR494248.1	CMY-2-CTX-M-1	12	<i>E. coli</i>	N/A
Air sac of turkey condemned by airsacculitis	N/A	pJB10	Brazil	KX452392.1	CMY-2	Non-typeable ^{j,k}	<i>E. coli</i>	N/A
N/A	N/A	RCS37_pII	France ^e	LT985231.1	SHV-12	178 ^k	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p343-2	France	MG692703.1	CMY-2	12	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p368-6	France	MG692704.1	CMY-2	12	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p492-9	France	MG692706.1	CMY-2	12	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p482-1	France	MG692709.1	CMY-2	12	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p506-5	France	MG692734.1	CMY-2	12	<i>E. coli</i>	N/A

Hatchery, free range broiler	2010-2011 ^e	p481-4	France	MG692735.1	CMY-2	12	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p508-1	France	MG692738.1	CMY-2	Non-typeable ^{j,k}	<i>E. coli</i>	N/A
Hatchery, free range broiler	2010-2011 ^e	p508-3	France	MG692740.1	CMY-2	Non-typeable ^{j,k}	<i>E. coli</i>	N/A
Chicken	N/A	p1108-CMY2	China ^e	MG825376.1	CMY-2	12	<i>E. coli</i>	N/A
Human stool	1999	pFORC11.2	South Korea	CP010831.1	-	230 ¹	<i>Shigella sonnei</i>	152
Human	N/A	-	USA	CP018774.2	TEM-1A	270 ¹	<i>E. coli</i>	2732
Human	2015	-	USA	CP019905.1	SHV-12	231	<i>E. coli</i>	117
Human diabetic foot infection	2016	pICBEC72Hctx	Brazil	KX443694.1	CTX-M-8	131 ¹	<i>E. coli</i>	N/A
Fecal swab	N/A	pV404	Bolivia	LM651376.1	CTX-M-14	107 ¹	<i>E. coli</i>	N/A
Canine	2003	pCVM22462	USA	CP009566.1	CMY-2	23	<i>S. Newport</i>	45
Chicken cecal content	2009	pSA01AB09084001_92	Canada	CP016533.1	CMY-2	2	<i>S. Heidelberg</i>	15
Canine	2002	p95	Scotland	CP023356.1	CMY-2	2	<i>E. coli</i>	963
Canine	2002	p92	Scotland	CP023365.1	CMY-2	2	<i>E. coli</i>	38
Canine	2002	p92	Scotland	CP023376.1	CMY-2	2	<i>E. coli</i>	10
Canine	2002	p95	Scotland	CP023382.1	CMY-2	2	<i>E. coli</i>	46
Canine	2002	p87	Scotland	CP023385.1	CMY-2	23	<i>E. coli</i>	744
N/A	N/A	tig00000311	N/A ^c	CP024854.1	CMY-2	23	<i>E. coli</i>	405
N/A	N/A	-	N/A	CP027535.1	CMY-2	20	<i>E. coli</i>	131
N/A	N/A	pJIE512b	Australia	HG970648.1	CMY-2	2	<i>E. coli</i>	N/A
Canine	2008	pR7AC	Denmark	KF434766.1	CMY-2	2	<i>E. coli</i>	297
Human urine	2009	pC-6	Denmark	KT186369.1	CMY-2	2	<i>E. coli</i>	657
Food	2006	pS10584	China	KX058576.1	CMY-2	265	<i>S. enterica</i>	N/A
Chicken	2011	pCAZ590	Germany	LT669764.1	SHV-12	95	<i>E. coli</i>	N/A

^a Included plasmid sequences from GenBank had a Query Coverage value of 100% and Identity value $\geq 99\%$ in relation to the concatenated fasta files of IncI1-I γ /ST12 or ST231

^b Only plasmids from IncI1-I γ /ST12, ST12-SLVs, ST231 or ST231-SLVs and/or carrying CMY-2 or SHV-12 are displayed

^c N/A = data not available in Genbank

^d Year of isolation was personally informed by Dr. Isabelle Kempf from the French Agency for Food, Environmental and Occupational Health & Safety (ANSES), France

^e Data taken from information accompanying the sequence submission in GenBank but not specifically found in the metadata fields

^f Excluded prior phylogenetic analysis due to large discrepancies in the sequence size

^g - = Unnamed plasmids

^h - = no ESBL/pAmpC genes were detected

ⁱ IP = Identity percentage

^j This plasmid missed or provide no exact match to one of the alleles in the pMLST scheme

^k Single-locus variant of IncI1-I γ /ST12 or ^l IncI1-I γ /ST231

^m N/A = MLST information is not available for this strain

(C) IncI1-Iy plasmids from previous publications from Europe

Source	Year	Plasmid Name	Country of Origin	Biosample /ENA Accession Number ^{a,b}	ESBL/pAmpC Enzymes	IncI1 pMLST	Bacterial Host	Bacterial Host MLST
Chicken meat	2007	pESBL-355	Netherlands	SAMN03168488 ^a	CMY-2	12	<i>E. coli</i>	117
Chicken cecal content at slaughter	2008	pESBL-318	Netherlands	SAMN03168487	CMY-2	12	<i>E. coli</i>	117
Broiler meat	2010	p1061-1	Denmark	ERR915115 ^b	CMY-2	12	<i>E. coli</i>	10
Broiler flock feces	2010	p5498-4	Denmark	ERR915116	CMY-2	12	<i>E. coli</i>	212
Parental broiler flock feces	2011	p2028-7	Denmark	ERR915117	CMY-2	12	<i>E. coli</i>	745
Human urine clinical	2011	pC-20	Denmark	ERR915118	CMY-2	12	<i>E. coli</i>	155
Broiler flock faces	2010	p7077-60	Denmark	ERR915119	CMY-2	12	<i>E. coli</i>	410
Parental broiler flock feces	2011	p2123-1	Denmark	ERR915120	CMY-2	12	<i>E. coli</i>	350
Parental broiler flock feces	2011	p2028-14	Denmark	ERR915121	CMY-2	12	<i>E. coli</i>	3272
Parental broiler flock feces	2011	p2067-1	Denmark	ERR915122	CMY-2	12	<i>E. coli</i>	88
Parental broiler flock feces	2011	p2054-6	Denmark	ERR915123	CMY-2	12	<i>E. coli</i>	206
Parental broiler flock feces	2011	p2028-10	Denmark	ERR915124	CMY-2	12	<i>E. coli</i>	1303

^a Plasmid sequences from the Netherlands have no accession number assigned. They were provided by Wageningen Bioveterinary Research (WBVR), the Netherlands

^b Plasmid sequences from Denmark were inferred after assembling the reads available in the ENA

Fig. S1. Core genome (40056 bp) phylogenetic tree including plasmids from IncI1-I γ /ST12 and its SLVs from Colombian poultry, previous publications and all plasmids obtained from GenBank using the concatenated alleles of IncI1-I γ /ST12.



0.05

Footnotes for Fig. S1

^a Plasmids with their names in blue color belong to Single-Locus Variants (SLVs) of ST12

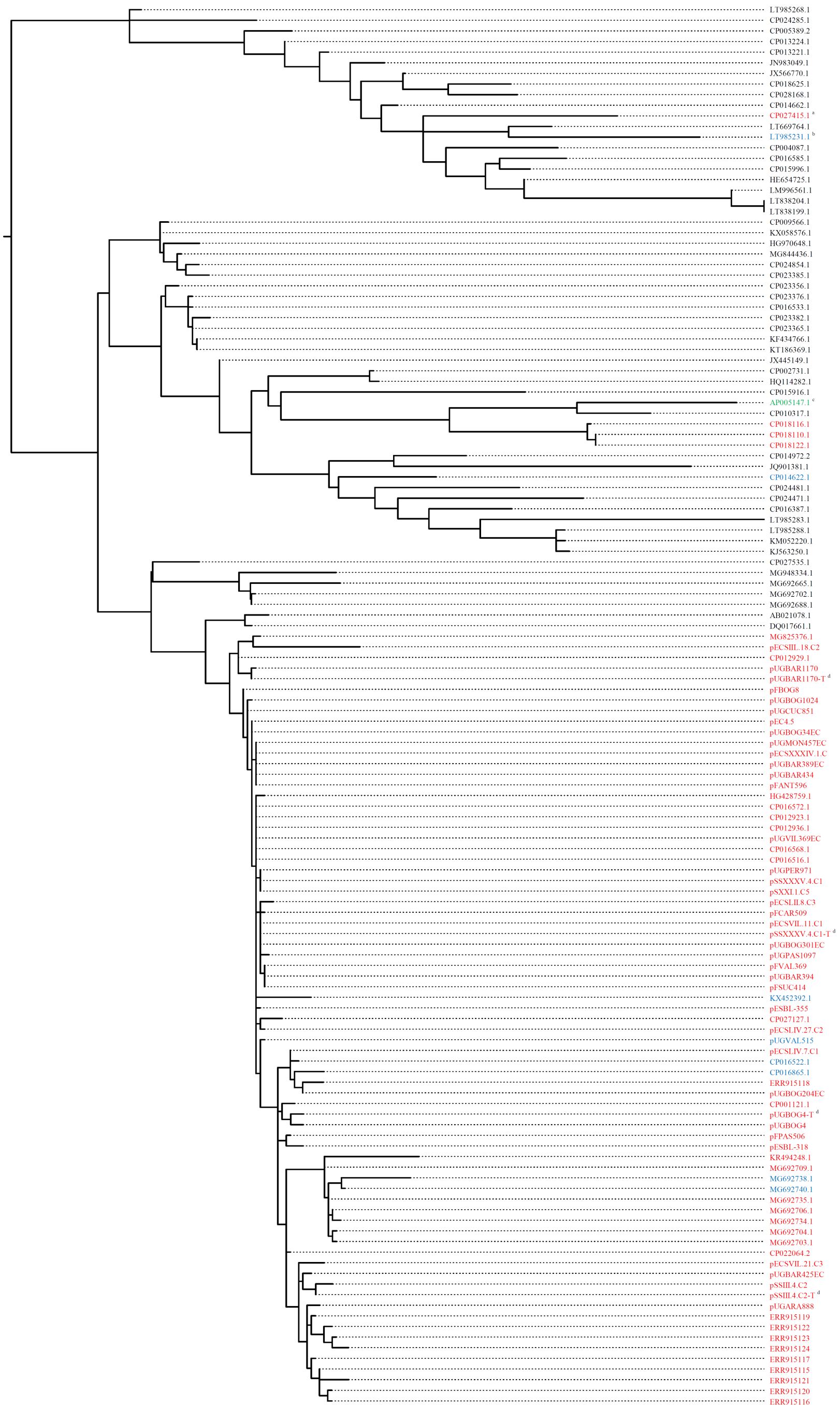
^b Plasmid R64 with its name in green color and included as reference

^c Plasmids with their names in red color belong to ST12

^d Plasmid from Colombian *S. enterica* transformed into *E. coli* DH10B and included as reference

Scale bar represents nucleotide substitutions per site

Fig. S2. Gene presence/absence phylogenetic tree including plasmids from IncI1-Iγ/ST12 and its SLVs from Colombian poultry, previous publications and all plasmids obtained from GenBank using the concatenated alleles of IncI1-Iγ/ST12.



Footnotes for Fig. S2

^a Plasmids with their names in red color belong to ST12

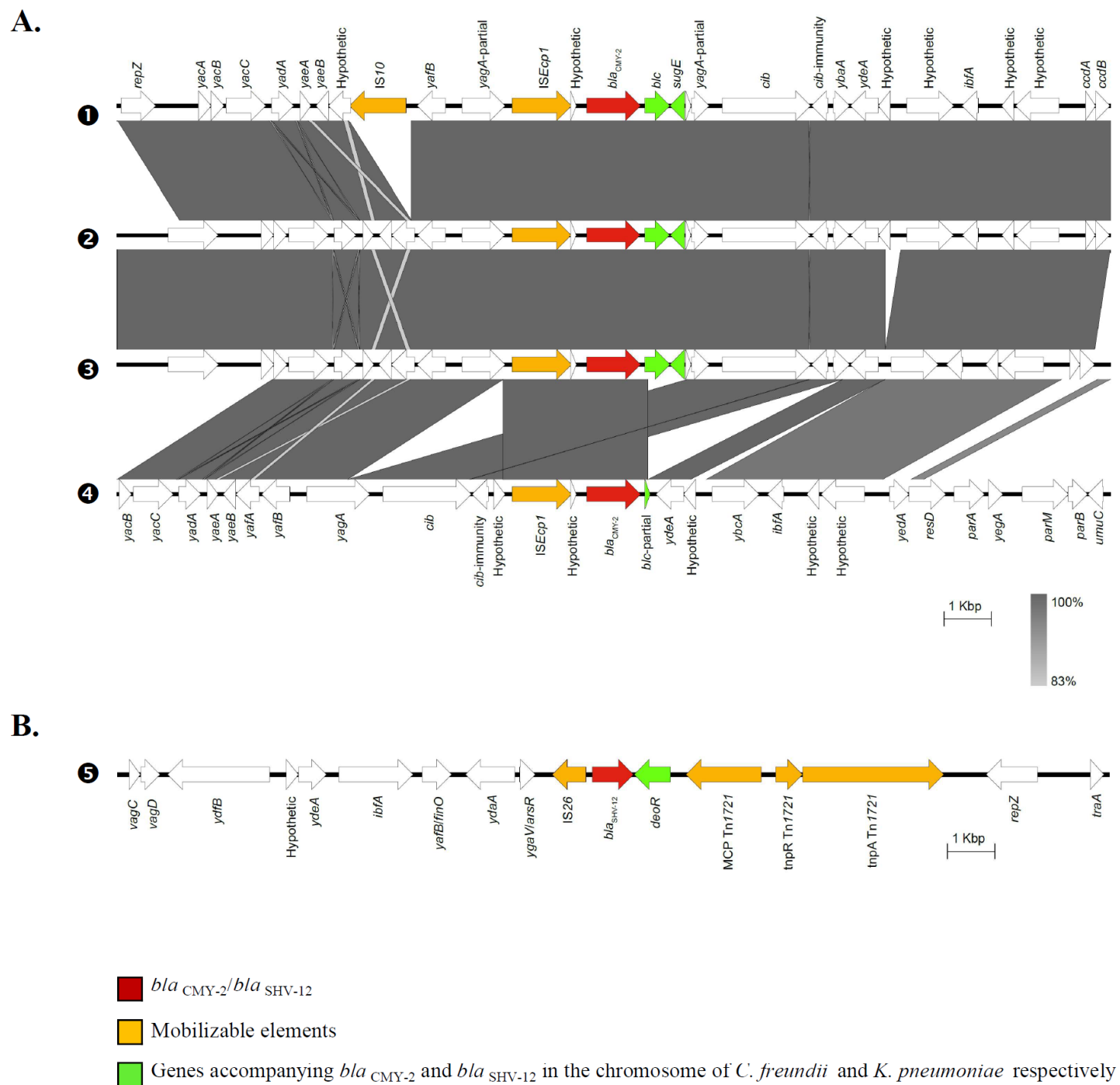
^b Plasmids with their names in blue color belong to Single-Locus Variants (SLVs) of ST12

^c Plasmid R64 with its name in green color and included as reference

^d Plasmid from Colombian *S. enterica* transformed into *E. coli* DH10B and included as reference

Scale bar represents distance in number of genes

Fig. S3. Patterns of genetic environment found repeatedly in (A) *bla*_{CMY-2}-carrying plasmids from ST12 and its SLVs and (B) *bla*_{SHV-12}-carrying plasmids from ST231.



NCBI RefSeq ID (A): Common genes surrounding *bla*_{CMY-2} in IncI1-I γ /ST12 plasmids and SLVs.

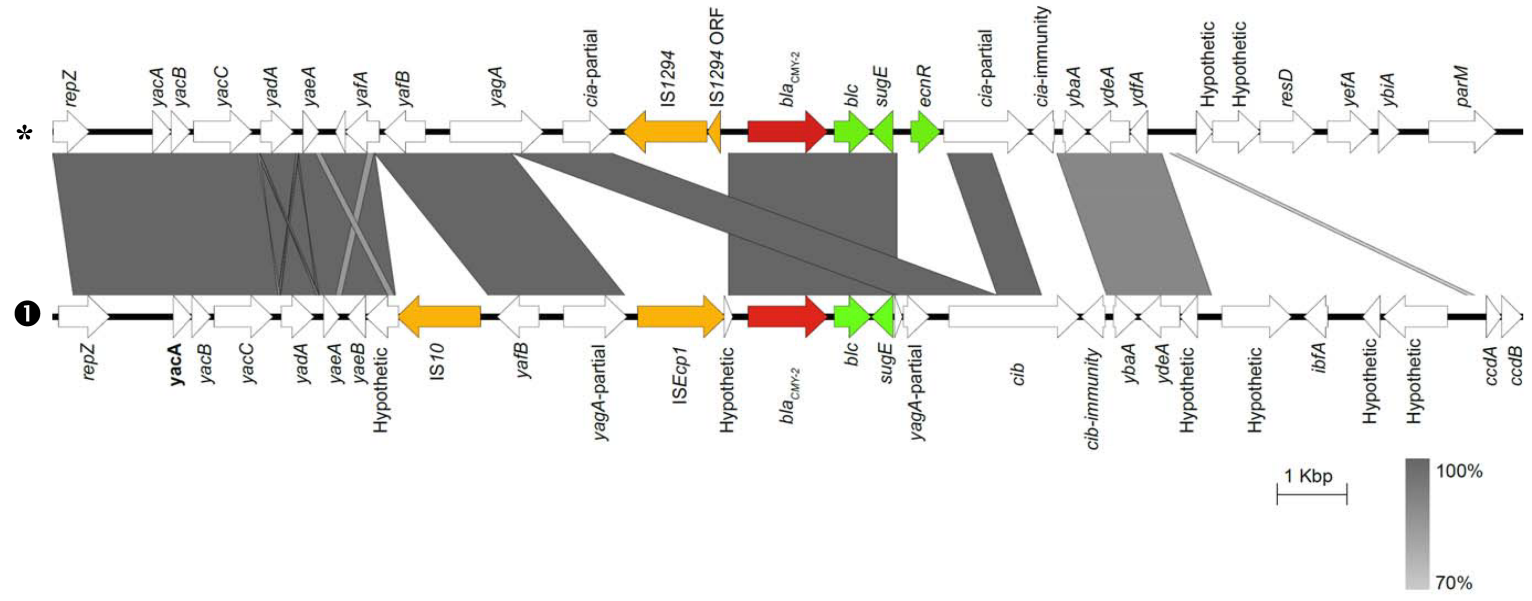
yacA (WP_000079941.1); *yacB* (WP_032072246.1); *yacC* (WP_001057991.1); *yadA* (WP_001334658.1); *yaeA* (WP_001334656.1); *yafB* (WP_000517695.1); *yagA* (WP_001132032.1); *ISEcp1* (WP_000608644.1); *blc* (WP_001221666.1); *sugE* (P_000118520.1); *yagA* (partial sequences) (WP_001132034.1 and EFU56748.1); *cib* (colicin 1B) (WP_001283341.1); *cib* immunity protein (WP_000762570.1); *ybaA* (WP_000142436.1); *ydeA* (WP_000194550.1); *ibfA* (WP_000793307.1); *ccdA* (WP_000813630.1); *ccdB* (WP_001159871.1).

NCBI RefSeq ID (B): Common genes surrounding *bla*_{SHV-12} in IncI1-I γ /ST231 plasmids and SLVs.

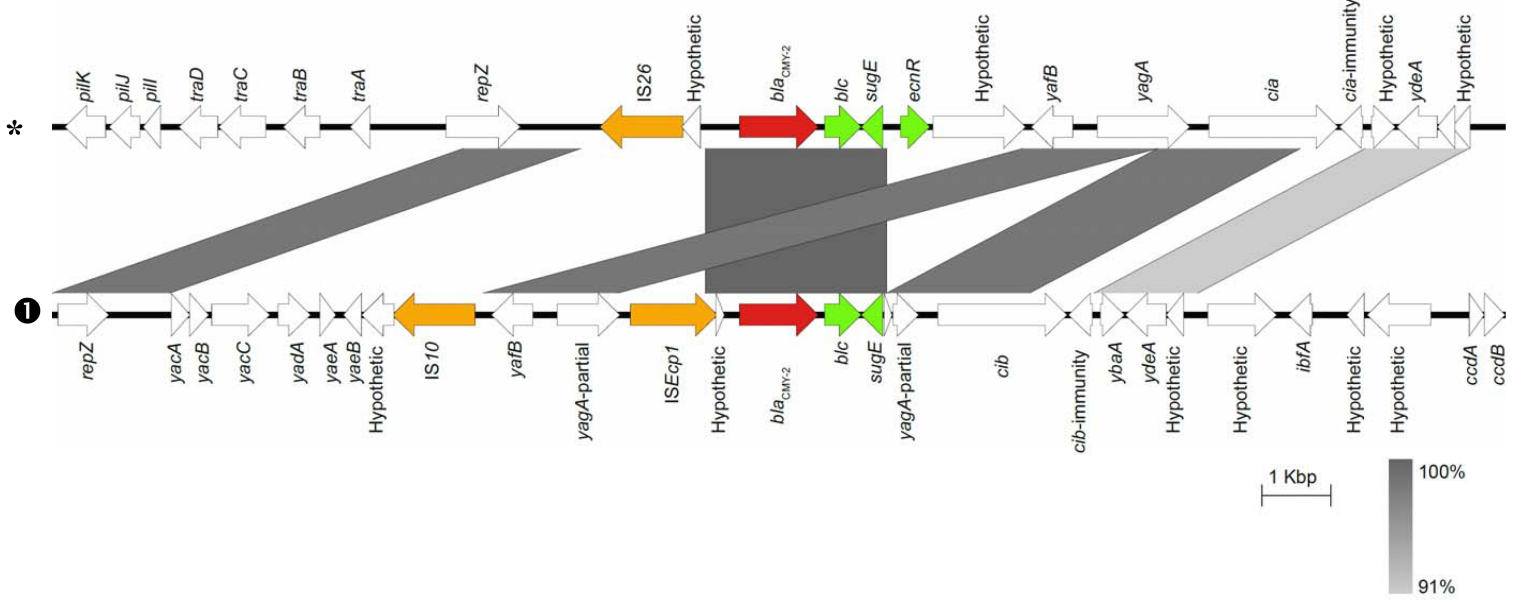
vagC (WP_001261287.1); *vagD* (WP_001341418.1); *ydfB* (WP_000350638.1); *ydeA* (WP_000194575.1); *ibfA* (WP_000818556.1); *yafB/finO* (WP_000521603.1); *ydaA* (WP_044502555.1); *ygaV/larsR* (WP_001175593.1); *IS26* (WP_001067855.1); *deoR* (WP_002210513.1).

Fig. S4. Genetic environment of *bla*_{CMY-2} in (A) IS1294-associated plasmids CP009566.1 and KX058576.1 and (B) IS26-associated CP023365.1, KF434766.1 and KT186369.1

A.



B.



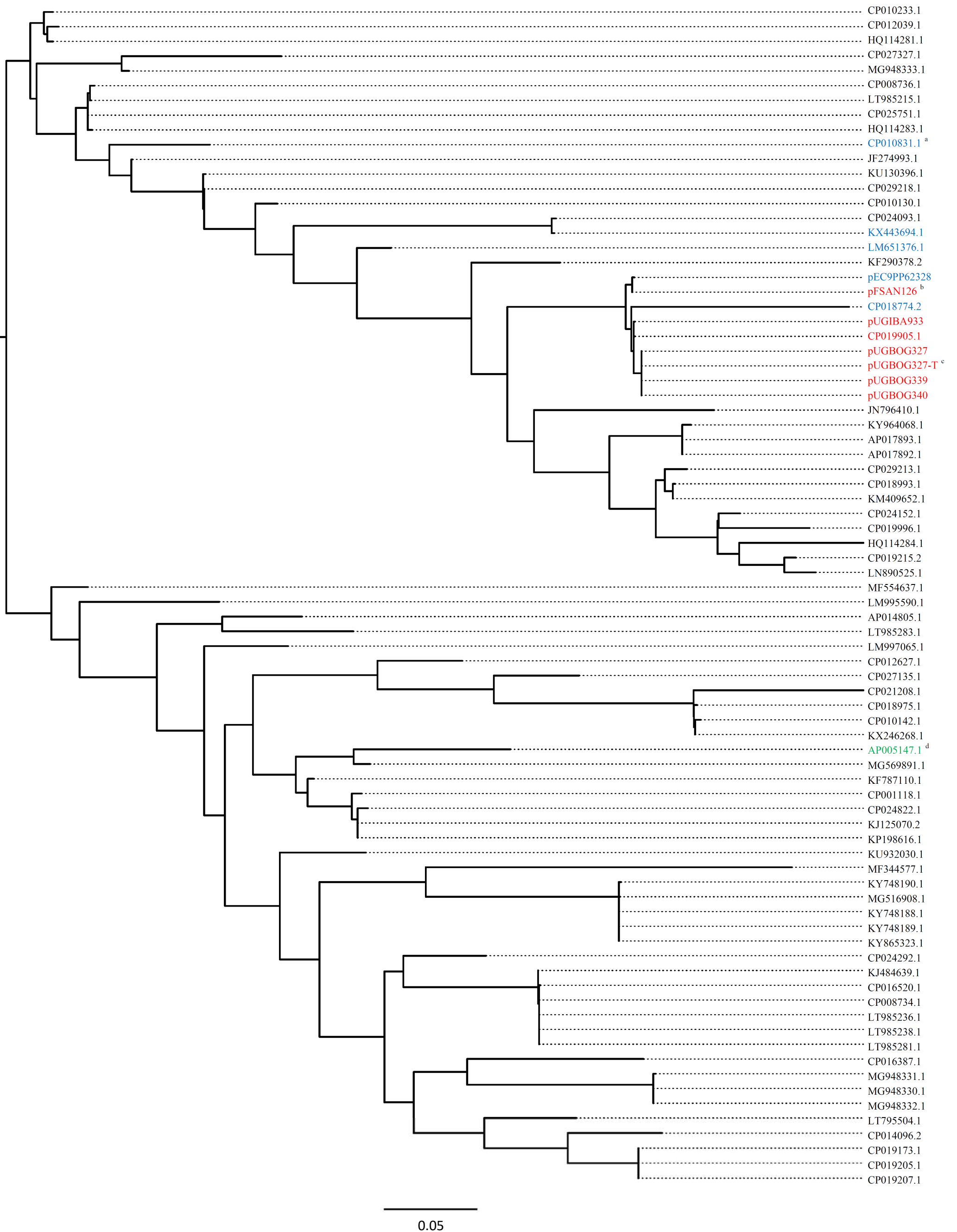
█ *bla*_{CMY-2}

█ Mobilizable elements

█ Genes accompanying *bla*_{CMY-2} in the chromosome of *C. freundii*

* The genetic environment (20kb) was identical for CP009566.1 and KX058576.1 in (A) and for CP023365.1, KF434766.1 and KT186369.1 in (B)

Fig. S5. Core genome (32789 bp) phylogenetic tree including plasmids from IncI1-I γ /ST231 and its SLVs from Colombian poultry and all plasmids obtained from GenBank using the concatenated alleles of IncI1-I γ /ST231.



Footnotes for Fig. S5

^a Plasmids with their names in blue color belong to Single-Locus Variants (SLVs) of ST231

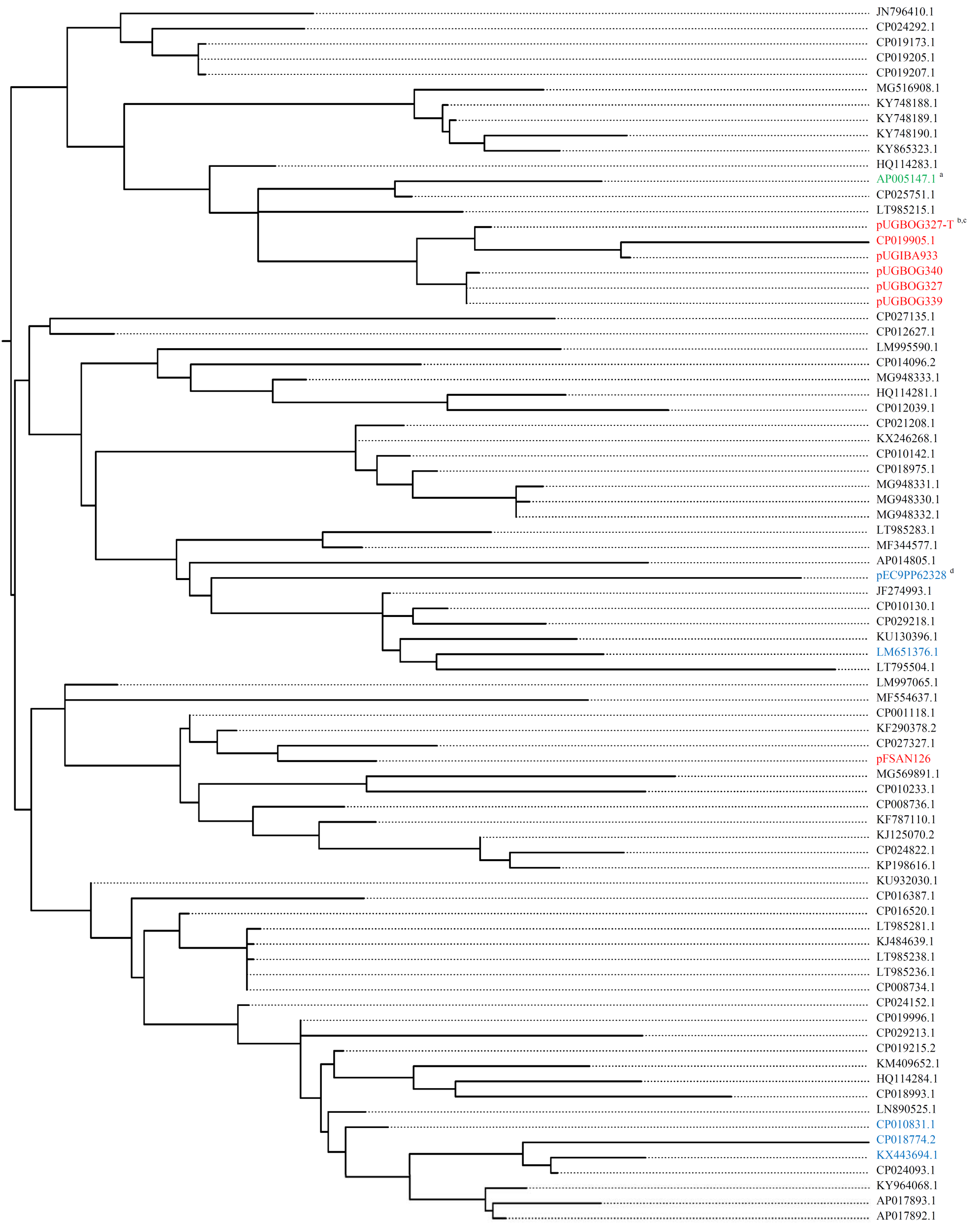
^b Plasmids with their names in red color belong to ST231

^c Plasmid from Colombian *S. enterica* transformed into *E. coli* DH10B and included as reference

^d Plasmid R64 with its name in green color and included as reference

Scale bar represents nucleotide substitutions per site

Fig. S6. Gene presence/absence phylogenetic tree including plasmids from IncI1-I γ /ST231 and its SLVs from Colombian poultry and all plasmids obtained from GenBank using the concatenated alleles of IncI1-I γ /ST231.



Footnotes for Fig. S6

^a Plasmid R64 with its name in green color and included as reference

^b Plasmids with their names in red color belong to ST231

^c Plasmid from Colombian *S. enterica* transformed into *E. coli* DH10B and included as reference

^d Plasmids with their names in blue color belong to Single-Locus Variants (SLVs) of ST231

Scale bar represents distance in number of genes

Fig. S7. Differences in the genetic environment of *bla*_{SHV-12} in plasmids CP019905.1 (ST231) and pEC9PP62328 (ST230).

