

## Supplementary data

Table S1. List of the EnteroBase-archived completely sequenced *E. coli* genomes with

ST	Name	Source	Collection Year	Country
4	MOD1-EC6657	Human	1991	Saudi Arabia
4	MOD1-EC6656	Human	1991	Saudi Arabia
4	DHQP1301742	Human	2013	United States
4	S-157	Human	2014	Denmark
4	E19059	Human	2019	China
4	E19033	Human	2019	China
4	E18103	Human	2018	China
4	E18090	Human	2018	China
4	1519783	Human	2021	United Kingdom
4	CN-256-D	Human	2017	China
4	843997	Human	2019	United Kingdom
4	899086	Human	2019	United Kingdom
4	310244	Human	2016	United Kingdom
4	649914	Human	2018	United Kingdom
10	Ec21	Wild Animal	2016	France
10	A1-349	Wild Animal	2017	United States
10	20E0498	Wild Animal	2019	Germany
10	TMP022110	Wild Animal	2016	Kenya
10	CE1813	Wild Animal	2012	Australia
10	CE1664	Wild Animal	2012	Australia
10	F1T3-S121	Wild Animal	2018	United Kingdom
10	C7-6	Wild Animal	2020	Spain
10	ALQ034651	Wild Animal	2016	Kenya
10	575ESBA	Wild Animal	2017	Australia
10	Ec12-5	Poultry	2018	Hungary
10	Ec117-R29	Poultry	2016	Croatia
10	ND29FEP	Poultry	2018	Lebanon
10	DTU2018-1255	Poultry	2015	Denmark
10	SAMEA8534253	Poultry	2015	Netherlands
10	S47CTX	Poultry	2018	Lebanon
10	SAMEA8534256	Poultry	2015	Netherlands
10	92-103-T-0-S99-L008	Poultry	2016	Norway
10	154AHL-1	Poultry	2016	Canada
10	ZZA20	Poultry	2016	China
10	IHIT32012	Poultry	2013	Spain
10	PNUSAE076614	Poultry	2021	United States
10	20IA01GT05-EC	Poultry	2020	United States
10	FL34741PPY30036	Poultry	2019	United States
10	CVM-N19EC0247	Poultry	2019	United States

10	180510-0798-S37	Poultry	2015	Poland
10	DTU2018-149	Poultry	2016	Ireland
10	EC-19	Poultry	2016	Italy
10	E-0685	Livestock	2015	Spain
10	E-0738	Livestock	2014	Spain
10	AQC6-8-R	Livestock	2015	France
10	M23	Livestock	2007	Canada
10	126PM2	Livestock	2018	Thailand
10	SYSUSCCB1947	Livestock	2018	China
10	201402016-S2-S4	Livestock	2015	Germany
10	129PM1	Livestock	2018	Thailand
10	60PP1	Livestock	2018	Thailand
10	MOD1-EC5327	Livestock	2002	Mexico
10	Ec-39	Livestock	2018	United States
10	F7P9	Livestock	2019	Australia
10	Mcr-SJP150	Human	2016	China
10	8UP1	Human	2018	Thailand
10	FDAARGOS-1249	Human		United States
10	400621	Human		Kenya
10	LSQ67	Human	2012	China
10	300247	Human		Mozambique
10	CN-154-F	Human	2017	China
10	700470	Human		Pakistan
10	600059	Human		Bangladesh
10	CN-170-F	Human	2017	China
10	FDAARGOS-1337	Human		United States
10	C43-90	Human	1990	Turkey
10	CN-155-F	Human	2017	China
10	isol207	Human	2013	Netherlands
10	SYSUSCAD170	Human	2016	China
10	SAMEA11308210	Human	2018	Madagascar
10	NUH-ECO-036	Human	2015	Singapore
10	OS-07-001-6	Human	2014	United States
10	G8	Human	1954	Germany
10	105CM2	Human	2018	Thailand
10	LSQ34	Human	2011	China
10	200090	Human		Mali
10	59CM2	Human	2018	Thailand
10	9UM1	Human	2018	Thailand
10	G4-9	Human	1954	Germany
10	C667	Human	2015	Spain
10	SYSUSCBC077	Human	2017	China
10	PF-EC06	Human	2014	Spain

10	SGH-ECO-012	Human	2015	Singapore
10	Ec023	Human	2015	Spain
10	N46	Human	2014	Spain
10	3-267-03	Human	2009	Tanzania
10	Ec25371	Human		France
10	UPEC-46	Human	1999	Brazil
10	EC10	Human	2015	Thailand
10	53417	Human	2018	Lebanon
10	16-01258	Human	2016	Romania
10	PE01-200	Human	2018	Peru
10	E80	Human	2018	Qatar
10	YJ3	Human	2018	Myanmar
10	Ec7728	Human		Finland
10	MOD1-EC5500	Human	1992	India
10	PHWECO-H54-1	Human	2019	South Africa
10	EF319	Human	2013	Sweden
10	91-0593	Human	1991	Mexico
10	1569sis2018-11AT	Food	2018	Macao
10	GWGS14407a-S10	Food	2014	Netherlands
10	CDPHFDLB-F12M00493-2	Food	2012	United States
10	AM-LREC-126	Food	2010	Spain
10	21914232	Food	2008	Canada
10	7-1171	Food	2007	United States
10	22113962	Food	2008	Canada
10	1217245	Food	2021	United Kingdom
10	ATB47-1	Food	2020	Switzerland
10	16-AB00232	Food	2016	Germany
10	KL90-M10A	Environment	2019	United States
34	MOD1-EC6425	Wild Animal	1988	United States
34	CFSAN085893	Wild Animal	2018	United States
34	2388	Wild Animal	2000	United States
34	448-C3G	Wild Animal	2016	United States
34	Ec1	Wild Animal	2016	France
34	CE1807	Wild Animal	2012	Australia
34	MOD1-EC6397	Livestock	1988	New Zealand
34	MOD1-EC5589	Livestock	1979	United States
34	ECSW-11	Livestock	2015	Thailand
34	ecoliST-34	Livestock	2015	Denmark
34	802002014	Livestock	2015	Denmark
34	ARS-CC9654	Livestock	2015	United States
34	110704012	Livestock	2015	Netherlands
34	202002015-S45	Livestock	2015	Germany
34	MOD1-EC6733	Human	1993	Canada

34	3-6-R5	Human	2010	Australia
34	633502	Human	2018	United Kingdom
34	1488366	Human	2021	United Kingdom
34	1512689	Human	2021	United Kingdom
34	1547548	Human	2021	United Kingdom
34	1545515	Human	2021	United Kingdom
34	WCHEC1614	Environment	2015	China
34	PSU-3092	Poultry	2007	United States
34	PSU-3075	Poultry	2007	United States
34	DTU2018-326	Poultry	2016	Germany
34	DTU2018-331	Poultry	2016	Germany
34	CVM-N19EC0048	Poultry	2019	United States
34	FSIS12028770	Poultry	2020	United States
34	FSIS12028477	Poultry	2020	United States
34	CVM-N17EC0362	Poultry	2017	United States
34	FSIS11918361	Poultry	2019	United States
34	CVM-N18EC0306	Poultry	2018	United States
218	TMP023873	Wild Animal	2016	Kenya
218	FSIS11815336	Poultry	2018	United States
218	19OR05GT06-EC	Poultry	2019	United States
218	20NC01GT09_EC	Poultry	2020	United States
218	BES-1300	Poultry	2016	France
218	MOD1-EC5584	Livestock	1979	United States
218	ESBL-15-0236	Livestock	2015	Austria
218	ECSW-14	Livestock	2015	Thailand
218	ECSW-13	Livestock	2015	Thailand
218	FSIS12033354	Livestock	2020	United States
218	PSU-3041	Livestock	2007	United States
218	PAWECO-P13	Livestock	2019	South Africa
218	F1T3-S17	Livestock	2018	United Kingdom
218	FSIS12143038	Livestock	2021	United States
218	2014C-3287	Human		United States
218	10HAE13	Human	2013	China
218	UPCH-220	Human	2018	Peru
218	MA-040	Human	2018	Nigeria
218	MA241	Human	2019	Nigeria
218	161042	Food	2015	United Kingdom
218	TMP016623	Food	2015	Kenya
752	CN-381-F	Human	2018	China
752	CN-447-F	Human	2018	China
752	166336	Human	2015	United Kingdom
752	IBD_EPEC1	Human	2016	Austria
752	CNTRL_EPEC51	Human	2000	Denmark

752	COL-24	Human	2008	Denmark
752	761652	Human	2019	United Kingdom
752	1521808	Human	2021	United Kingdom
752	DTU2016_949	Poultry	2015	Denmark
752	FSIS11813032	Poultry	2018	United States
752	FSIS11815594	Poultry	2018	United States
752	Ec9-2	Poultry	2018	Hungary
752	50095	Poultry	2018	Lebanon
752	DTU2018-311	Poultry	2016	Spain
752	EC-152	Poultry	2019	Thailand
752	440097	Wild Animal	2017	United Kingdom
1201	MOD1-EC5558	Poultry	1979	United States
1201	MOD1-EC3511	Livestock	2014	United States
1201	255516	Human	2016	United Kingdom
1201	MOD1-EC6631	Human	1991	Saudi Arabia
1201	640301	Human		United States
1201	FSIS11814697	Poultry	2018	United States
1312	100195	Human		Gambia
1312	600037	Human		Bangladesh
1312	600036	Human		Bangladesh
1312	700461	Human		Pakistan
1312	204620	Human		Mali
1312	SAMEA11308067	Human	2019	Madagascar
1312	500147	Human		India
1312	SCHI0016.S.2	Human	2017	Australia
1312	isol218	Human	2013	Netherlands
1312	CN-606	Human	2018	China
1312	SAMEA11308161	Human	2019	Madagascar
1312	300239	Human		Mozambique
1312	899050	Human	2019	United Kingdom
1312	449450	Human	2017	United Kingdom
1312	G732	Human	2011	United States
1312	MOD1-EC563	Human	1947	United States
1312	362068	Human	2017	United Kingdom
1312	R8-4	Human	2014	Ecuador
1312	ST1312carrying-blaCTX-M-15-1	Environment	2013	Sweden
1312	ST1312carrying-blaCTX-M-15-2	Environment	2013	Sweden
1312	108	Human	2005	Norway
1491	CN-202-F	Human	2017	China
1491	CN-263-D	Human	2017	China
1491	638802	Human	2018	United Kingdom
1491	E20033	Human	2020	China
1491	E19124	Human	2019	China

1491	E15052	Human	2015	China
1491	E17113	Human	2017	China
6955	287717	Human	2016	United Kingdom
6955	E19010	Human	2019	China
6955	E17090	Human	2017	China
34	20090041	Human	2010	South Korea
34	20110030	Human	2011	South Korea
4	20110125	Human	2011	South Korea
34	20110218	Human	2011	South Korea
4	20110252	Human	2011	South Korea
1312	20110253	Human	2011	South Korea
1312	20110462	Human	2011	South Korea
1312	20110765	Human	2011	South Korea
218	20112025	Human	2011	South Korea
1312	20112155	Human	2011	South Korea
4	20112395	Human	2011	South Korea
10	20120209	Human	2013	South Korea
4	20121544	Human	2012	South Korea
1491	20121813	Human	2012	South Korea
1491	20122124	Human	2012	South Korea
1312	20122570	Human	2012	South Korea
34	20123617	Human	2012	South Korea
34	20123618	Human	2012	South Korea
34	20130502	Human	2013	South Korea
10	20130509	Human	2013	South Korea
10	20130569	Human	2013	South Korea
10	20132718	Human	2013	South Korea
10	20134849	Human	2013	South Korea
10	20140044	Human	2014	South Korea
34	20140220	Human	2014	South Korea
34	20140370	Human	2014	South Korea
34	20140384	Human	2014	South Korea
34	20140777	Human	2014	South Korea
34	20143336	Human	2014	South Korea
1312	20145955	Human	2014	South Korea
752	20150271	Human	2015	South Korea
1491	20150375	Human	2015	South Korea
6955	20160275	Human	2016	South Korea
6955	20161813	Human	2016	South Korea
1312	20170132	Human	2017	South Korea
10	20170416	Human	2017	South Korea
4	20180444	Human	2018	South Korea
1491	20180595	Human	2018	South Korea

1491	20181199	Human	2018	South Korea
1201	20181305	Human	2018	South Korea
4	20181364	Human	2018	South Korea
4	20181484	Human	2018	South Korea
4	20181747	Human	2018	South Korea
1491	20182201	Human	2018	South Korea
10	20182203	Human	2018	South Korea
1491	20182244	Human	2018	South Korea
1491	20182274	Human	2018	South Korea
1491	20182759	Human	2018	South Korea
1491	20183083	Human	2018	South Korea

the same sequence type (CC10) strains used in this study.