

Supplementary material 2

Supplementary Table 1 Primer sequences used for singleplex and multiplex PCR to detect pathogenic *Escherichia coli* serogroups, virulence and selected antimicrobial resistance genes

Targeted Genes	Primer name	Sequence direction (5'→3')	Amplicon size (bp)	Reference	
Multiplex PCR primers targeting PEC virulence genes					
<i>stx1</i>	<i>stx1</i> _F	CAGTTAATGTGGTGGCGAAGG	348	Iguchi <i>et al.</i> , 2015	
	<i>stx1</i> _R	CACCAGACAATGTAACCGCTG			
<i>stx2</i>	<i>stx2</i> _F	ATCCTATTCCCAGGAGTTTACG	584		
	<i>stx2</i> _R	GCGTCATCGTATACACAGGAGC			
<i>Eae</i>	<i>eae</i> _F	CCCGAATTCGGCACAAGCATAAGC	881		
	<i>eae</i> _R	CCCGGATCCGTCTCGCCAGTATTCG			
Multiplex PCR primers targeting PEC serogroups					
O26	O26_F	GGGGGTGGGTAATAATTGG	241		
	O26_R	AGCGCCTATTTTCAGCAAAGA			
O103	O103_F	TAAGTACGGGGGTGCTTTTT	716		
	O103_R	AAGCTCCCAGACAGTATAAA			
O111	O111_F	CAAGAGTGCTCTGGGCTTCT	451		
	O111_R	AACGCAAGACAAGGCAAAAAC			
O121	O121_F	CAAATGGGCGTAAATACAGCC	193		
	O121_R	TTCCACCCATCCAACCTCTAA			
O145	O145_F	TTCGCGCACAGCATGGTTAT	132		
	O145_R	TACAATGCACCGCAAACAGT			
O157	O157_F	CAGGTGAAGGTGGAATGGTTGTC	296		
	O157_R	TTAGAATTGAGAACCATCCAATAAG			
O165	O165_F	GGCGTAAATAAAATATGGGGG	1 042		
	O165_R	GCCCTCTAACAAACGAATTGT			
Singleplex PCR Primers targeting PEC haemolysin					
<i>hlyA</i>	<i>hlyA</i> _F	GCATCATCAAGCGTACGTTCC	532	Paton and Paton, 1998	
	<i>hlyA</i> _R	AATGAGCCAAGCTGGTTAAGCT			
Multiplex TEM, SHV and OXA-1-like					
TEM variants including TEM-1 and -2	MultiTSO-T_for	CATTTCCGTGTGCGCCCTTATTC	800		
	MultiTSO-T_rev	CGTTCATCCATAGTTGCCTGAC			
SHV variants including SHV-1	MultiTSO-S_for	AGCCGCTTGAGCAAATTA AAC	713		
	MultiTSO-S_rev	ATCCCGCAGATAAATCACCAC			
OXA-1, -4 and -30	MultiTSO-O_for	GGCACCAGATTCAACTTCAAG	564		
	MultiTSO-O_rev	GACCCCAAGTTTCTGTAAAGTG			
Multiplex CTX-M group 1, group 2 and group 9					
variants of CTX-M group 1 including CTX-M-1, -3 and -15	MultiCTXMGp1_for	TTAGGAARTGTGCCGCTGYA ^b	688	Dallenne <i>et al.</i> , 2010	
	MultiCTXMGp1-2_rev	CGATATCGTTGGTGGTRCCAT ^b			
variants of CTX-M group 2 including CTX-M-2	MultiCTXMGp2_for	CGTTAACGGCACGATGAC	404		
	MultiCTXMGp1-2_rev	CGATATCGTTGGTGGTRCCAT ^b			
variants of CTX-M group 9 including CTX-M-9 and -14	MultiCTXMGp9_for	TCAAGCCTGCCGATCTGGT	561		
	MultiCTXMGp9_rev	TGATTCTCGCCGCTGAAG			
CTX-M group 8/25					
CTX-M-8, -25, -26 and -39 to -41	CTX-Mg8/25_for	AACRCRCAGACGCTCTAC ^b	326		
	CTX-Mg8/25_rev	TCGAGCCGGAASGTGTYAT ^b			

Supplementary Table 1 Primer sequences used for singleplex and multiplex PCR to detect pathogenic *Escherichia coli* serogroups, virulence and selected antimicrobial resistance genes (continued)

Targeted Genes	Primer name	Sequence direction (5'→3')	Amplicon size (bp)	Reference	
OXA-48					
OXA-48-like	MultiOXA-48_for	GCTTGATCGCCCTCGATT	281	Dallenne <i>et al.</i> , 2010	
	MultiOXA-48_rev	GATTTGCTCCGTGGCCGAAA			
IMP					
IMP variants except IMP-9, -16, -18, -22 and -25	MultiIMP_for	TTGACACTCCATTTACDG ^b	139		
	MultiIMP_rev	GATYGAGAATTAAGCCACYCT ^b			
Multiplex MCR 1 to 5					
MCR 1	<i>mcr-1</i> Fwd	AGTCCGTTTGTCTTGTGGC	320		
	<i>mcr-1</i> Rev	AGATCCTTGGTCTCGGCTTG			
MCR 2	<i>mcr-2</i> Fwd	CAAGTGTGTTGGTCGCAGTT	715		
	<i>mcr-2</i> Rev	TCTAGCCCGACAAGCATACC			
MCR 3	<i>mcr-3</i> Fwd	AAATAAAAATTGTTCCGCTTATG	929	Rebelo <i>et al.</i> , 2018	
	<i>mcr-3</i> Rev	AATGGAGATCCCCGTTTTT			
MCR 4	<i>mcr-4</i> Fwd	TCACCTTCATCACTGCGTTG	1,116		
	<i>mcr-4</i> Rev	TTGGTCCATGACTACCAATG			
MCR 5	<i>mcr-5</i> Fwd	ATGCGGTTGTCTGCATTTATC	1,644		
	<i>mcr-5</i> Rev	TCATTGTGGTTGTCCTTTTCTG			
Multiplex MCR 6 to 9					
MCR 6	<i>mcr-6</i> Fwd	AGCTATGTCAATCCCCGTGAT	252		
	<i>mcr-6</i> Rev	ATTGGCTAGGTTGTCAATC			
MCR 7	<i>mcr-7</i> Fwd	GCCCTTCTTTCGTTGTT	551	Borowiak <i>et al.</i> , 2020	
	<i>mcr-7</i> Rev	GGTTGGTCTCTTCTCGT			
MCR 8	<i>mcr-8</i> Fwd	TCAACAATTCTACAAAGCGTG	856		
	<i>mcr-8</i> Rev	AATGCTGCGGAATGAAG			
MCR 9	<i>mcr-9</i> Fwd	TTCCCTTTGTTCTGGTTG	1011		
	<i>mcr-9</i> Rev	GCAGGTAATAAGTCGGTC			

^b Y=T or C; R=A or G; S=G or C; D=A or G or T

Supplementary Table 2 Reaction mixture for the singleplex and multiplex PCR assays to confirm the serogroups and virulence genes of pathogenic *Escherichia coli* isolates

Reagents	Volume (μL) X1	Final concentration
2X MyTaq HS Red Mix Boline	6.25	1X (2 mM MgCl ₂)
10X primer mix (2 μM each primer)	1.25	0.2 μM
Nuclease-free water (Qiagen, Germany)	4	-
Template DNA	1	< 0.25 μg DNA/12.5 μL
Total	12.5	-

Supplementary Table 3 Amplification conditions for the singleplex and multiplex PCR assays to confirm the serogroups and virulence genes of pathogenic *Escherichia coli* isolates

Assay	Activity	Temperature	Duration	Number of cycles
Serotypes/Virulence	Initial denaturation	94	30 sec	1
	Denaturation	94	30 sec	
	Annealing	59	30 sec	25
	Extension	72	1 min	
	Final extension	72	2 min	1
Singleplex	Initial denaturation	95	5 min	1
	Denaturation	94	90 sec	
	Annealing	60	90 sec	35
	Extension	72	90 sec	
	Final extension	72	5 min	1
ESBLs/Carbapenems	Initial denaturation	94	10 min	1
	Denaturation	94	40 sec	
	Annealing	60/57/55*	40 sec	30
	Extension	72	1 min	
	Final extension	72	7 min	1
MCR-1 to MCR- 5	Initial denaturation	94	15 min	1
	Denaturation	94	30 sec	
	Annealing	58	90 sec	25
	Extension	72	60 sec	
	Final extension	72	10 min	1
MCR-6 to MCR-9	Initial denaturation	95	5 min	1
	Denaturation	95	30 sec	35
	Annealing	52	30 sec	
	Extension	72	60 sec	
	Final extension	72	10 min	1

*Annealing temperature was optimal at 55°C for amplification *bla_{IMP}* and optimal at 57°C for amplification of *bla_{OXA-48}*

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
1.	Swine	BVS 3	BVS-3c	+						+					
2.	Swine	BVS 17	BVS-17b	+					+						
3.	Swine	BVS 18	BVS-18b	+											+
4.	Hand swab	BVH 1	BVH-1a	+						+					
5.	Hand swab		BVH-1b	+						+					
6.	Hand swab		BVH-1c	+						+					
7.	Poultry	RPA 1	RPA 1-1	+									+		
8.	Poultry	RPA 3	RPA 3-1	+									+		
9.	Poultry		RPA 3-2	+									+		
10.	Poultry	RPA 7	RPA 7-1	+									+		
11.	Poultry		RPA 7-2	+									+		
12.	Poultry	RPA 8	RPA 8-2	+									+		
13.	Poultry	RPA 9	RPA 9-1	+									+		
14.	Poultry		RPA 9-2	+									+		
15.	Poultry	RPA 10	RPA 10-1	+									+		
16.	Poultry		RPA 10-2	+							+		+		
17.	Poultry	RPA 12	RPA 12-2	+									+		
18.	Poultry	RPA 13	RPA 13-1	+									+		
19.	Poultry		RPA 13-2	+									+		
20.	Poultry	RPA 16	RPA 16-1	+									+		
21.	Poultry	RPA 18	RPA 18-1	+									+		
22.	Poultry	RPA 21	RPA 21-1	+									+		
23.	Poultry		RPA 21-2	+									+		
24.	Poultry	RPA 25	RPA 25-1	+									+		
25.	Poultry		RPA 25-2	+									+		

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes (continued)

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
26.	Poultry	RPA 27	RPA 27-1	+									+		
27.	Poultry		RPA 27-2	+									+		
28.	Poultry	RPH 3	RPH 3-1	+									+		
29.	Poultry	SPA 9	SPA 9-1	+									+		
30.	Poultry	SPA 13	SPA 13-1	+									+		
31.	Poultry		SPA 13-2	+									+		
32.	Poultry	SPA 14	SPA 14-1	+									+		
33.	Poultry		SPA 14-2	+									+		
34.	Poultry	SPA 18	SPA 18-2	+									+		
35.	Poultry	SPA 26	SPA 26-1	+									+		
36.	Poultry	SPA 27	SPA 27-2	+									+		
37.	Poultry	SPA 32	SPA 32-2	+									+		
38.	Poultry	SPA 33	SPA 33-1	+									+		
39.	Poultry		SPA 33-2	+									+		
40.	Poultry	SPA 34	SPA 34-1	+									+		
41.	Poultry		SPA 34-2	+									+		
42.	Poultry	SPA 35	SPA 35-1	+									+		
43.	Poultry	SPA 36	SPA 36-1	+									+		
44.	Poultry		SPA 38-2	+									+		
45.	Poultry	SPA 48	SPA 48-2	+									+		
46.	Hand swab	SPH 9	SPH 9-1	+									+		
47.	Hand swab		SPH 9-2	+									+		
48.	Environmental	SPRO 1	SPRO 1-6	+									+		
49.	Poultry	KPA 8	KPA 8-1	+									+		
50.	Poultry		KPA 8-2	+									+		

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes (continued)

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
51.	Poultry	KPA 18	KPA 18-2	+									+		
52.	Poultry	KPA 21	KPA 21-2	+									+		
53.	Poultry	KPA 27	KPA 27-1	+									+		
54.	Poultry		KPA 27-2	+									+		
55.	Poultry	KPA 32	KPA 32-1	+									+		
56.	Poultry		KPA 32-2	+									+		
57.	Poultry	KPA 37	KPA 37-1	+									+		
58.	Human	KPAH 11	KPAH 11-1	+									+		
59.	Hand swab	KPAH 13	KPAH 13-1	+									+		
60.	Hand swab		KPAH 13-2	+									+		
61.	Environmental	KPA RO	KPA RO 2	+									+		
62.	Environmental		KPA RO 7	+									+		
63.	Swine	LAF 3	LAF 3-2	+											+
64.	Swine	LAF 14	LAF 14-1	+											+
65.	Swine		LAF 14-2	+											+
66.	Swine	LAF 17	LAF 17-1	+											+
67.	Swine		LAF 17-2	+											+
68.	Swine	LAF 22	LAF 22-2	+											+
69.	Swine	RDW 2	RDW 2-2	+					+				+		
70.	Swine	RDW 5	RDW 5-1	+					+				+		
71.	Swine		RDW 5-2	+					+				+		
72.	Swine	RDW 6	RDW 6-1	+					+				+		
73.	Swine		RDW 6-2	+					+				+		
74.	Swine	RDW 7	RDW 7-1	+					+				+		
75.	Swine		RDW 7-2	+					+				+		

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes (continued)

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
76.	Swine	RDW 8	RDW 8-2	+					+				+		
77.	Swine	RDW 10	RDW 10-1	+					+				+		
78.	Swine		RDW 10-2	+					+				+		
79.	Swine	RDW 12	RDW 12-1	+					+			+			
80.	Swine		RDW 12-2	+					+			+	+		
81.	Swine	RDW 13	RDW 13-1	+					+			+	+		
82.	Swine		RDW 13-2	+					+			+	+		
83.	Swine	RDW 15	RDW 15-1	+					+			+	+		
84.	Swine		RDW 15-2	+					+			+	+		
85.	Swine	RDW 16	RDW 16-1	+					+			+	+		
86.	Swine		RDW 16-2	+					+				+		
87.	Swine	RDW 17	RDW 17-1	+					+			+	+		
88.	Swine		RDW 17-2	+					+			+	+		
89.	Swine	RDW 20	RDW 20-1	+					+				+		
90.	Swine		RDW 20-2	+					+			+	+		
91.	Swine	RDW 22	RDW 22-1	+					+			+	+		
92.	Swine		RDW 22-2	+					+				+		
93.	Swine	RDW 24	RDW 24-1	+					+			+	+		
94.	Swine		RDW 24-2	+					+			+	+		
95.	Swine	RDW 25	RDW 25-1	+					+			+	+		
96.	Swine		RDW 25-2	+					+			+	+		
97.	Swine	RDW 27	RDW 27-1	+	+							+	+		+
98.	Environmental	RDW RO	RDW RO 1	+					+			+	+		
99.	Environmental		RDW RO 6	+					+				+		
100.	Swine	RSA 8	RSA 8-1	+											+

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes (continued)

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
101.	Swine	RSA 13	RSA 13-1	+											+
102.	Swine	RSA 18	RSA 18-2	+											+
103.	Swine	KSA 14	KSA 14-2	+								+			+
104.	Swine	KSA 21	KSA 21-1	+						+		+	+		
105.	Swine		KSA 21-2	+						+		+	+		
106.	Swine	KSA 22	KSA 22-1	+								+			+
107.	Swine		KSA 22-2	+								+			+
108.	Swine	KSA 32	KSA 32-2	+						+		+	+		
109.	Swine	KSA 34	KSA 34-1	+								+			+
110.	Swine		KSA 34-2	+								+			+
111.	Swine	KSA 36	KSA 36-1	+						+		+	+		
112.	Swine		KSA 36-2	+						+		+	+		
113.	Swine	PSA 3	PSA 3-1	+											+
114.	Swine	PSA 8	PSA 8-1	+									+		
115.	Swine		PSA 8-2	+									+		
116.	Swine	PSA 27	PSA 27-1	+											+
117.	Swine		PSA 27-2	+											+
118.	Swine	PSA 34	PSA 34-1	+											+
119.	Swine		PSA 34-2	+											+
120.	Swine	PSA 44	PSA 44-1	+											+
121.	Poultry	BPA 5	BPA 5-1	+									+		
122.	Poultry	BPA 8	BPA 8-1	+			+								
123.	Poultry		BPA 8-2	+			+						+		
124.	Poultry	BPA 13	BPA 13-2	+									+		
125.	Poultry	BPA 18	BPA 18-2	+									+		

Supplementary Table 4 M-PCR detection of PEC isolates and the associated serogroups and virulence genes (continued)

No	Isolate Source	Sample ID	Isolate ID	<i>uidA</i>	O157	O165	O103	O111	O26	O121	O145	<i>hlyA</i>	<i>eae</i>	<i>stx1</i>	<i>stx2</i>
126.	Poultry	BPA 23	BPA 23-1	+			+						+		
127.	Poultry		BPA 23-2	+			+						+		
128.	Poultry	BPA 24	BPA 24-2	+									+		
129.	Poultry	BPA 26	BPA 26-1	+									+		
130.	Poultry		BPA 26-2	+									+		
131.	Poultry	BPA 30	BPA 30-1	+									+		
132.	Poultry		BPA 30-2	+									+		
133.	Poultry	BPA 42	BPA 42-1	+			+						+		
134.	Poultry		BPA 42-2	+			+						+		
135.	Poultry	BPA 43	BPA 43-1	+									+		
136.	Poultry		BPA 43-2	+									+		
137.	Poultry	BPA 50	BPA 50-1	+			+						+		
138.	Environmental	BPA RO	BPA RO4	+									+		
139.	Environmental		BPA RO6	+			+						+		
140.	Environmental		BPA RO7	+			+						+		
141.	Environmental		BPA RO8	+									+		
142.	Environmental		BPA RO9	+									+		
	Total		142		1	0	9	0	31	4	6	27	114	0	22

Supplementary Table 5 Whole genome sequencing report for 36 representative PEC isolates

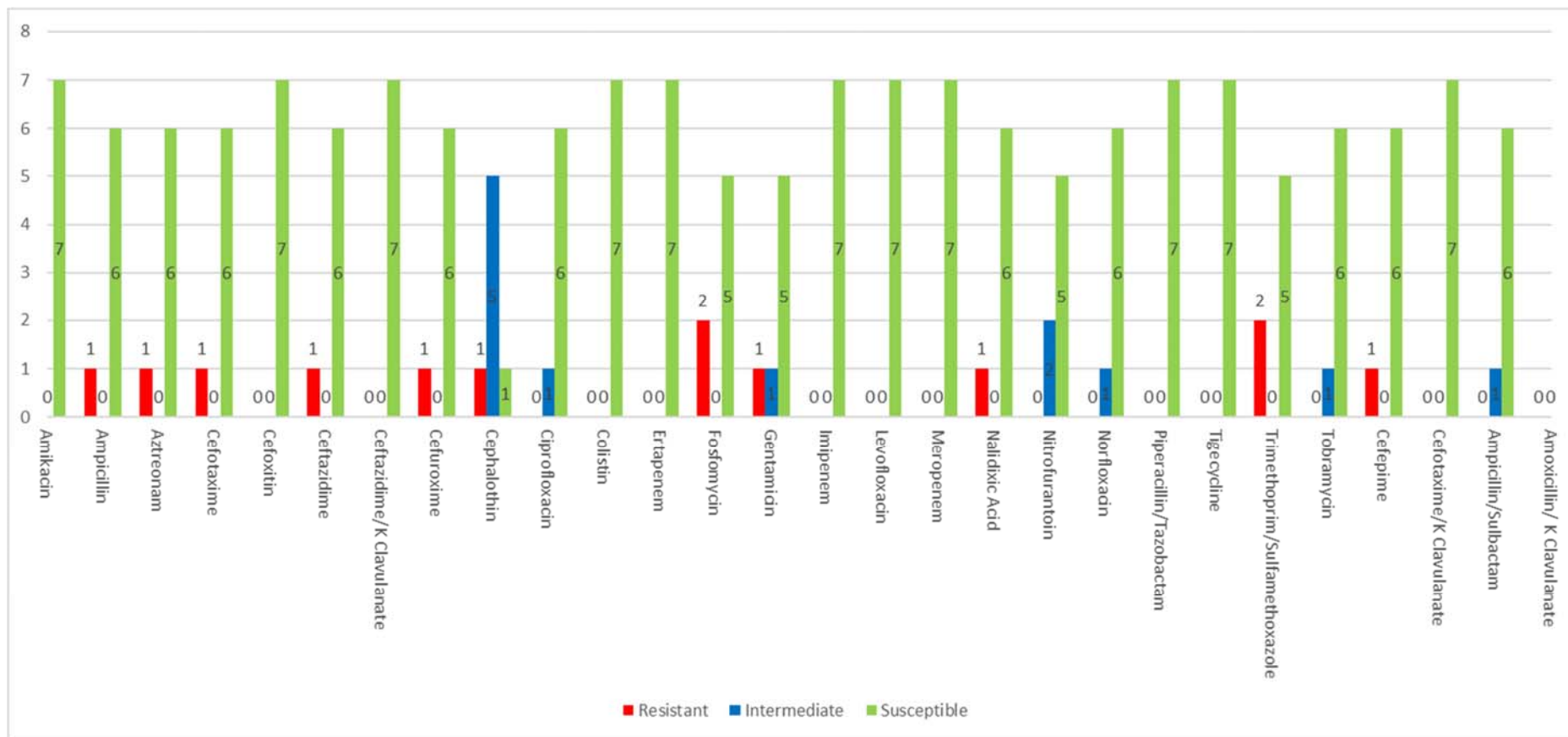
SampleID	Species Identification	Contamination Present	kraken2_match	Total reads	Total bases	Coverage Depth	Contig num	Contigs GC content	N50 value	Longest contig	Total bases assembly
LAF-14-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (18.00%)	3881352	5.78E+08	104	311	50.78	42773	132227	4999817
PSA-3-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (19.88%)	3219692	4.8E+08	85	327	50.79	42859	129307	5193771
KSA14-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (16.19%)	3430604	5.11E+08	87	321	50.82	45419	129408	5001221
BVS-3C	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (21.25%)	3515970	5.24E+08	99	268	50.69	52251	194046	4886074
BPA-50-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (17.31%)	3890898	5.8E+08	108	199	50.49	54947	288998	5032454
RPA-21-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (17.42%)	3434798	5.12E+08	88	330	50.13	57139	171040	5375459
BPA-RO7	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (17.17%)	4036620	6.01E+08	111	202	50.49	57345	278381	5034542
BVH-1a	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (19.65%)	2729106	4.07E+08	78	292	50.68	58468	194046	4874251
PSA-34-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (26.98%)	3083342	4.59E+08	87	212	50.64	68601	185384	4956646
RSA-18-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (16.77%)	3494184	5.21E+08	87	222	50.46	75350	231508	5426339
KPA-8-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (16.12%)	3134846	4.67E+08	82	226	50.38	76379	212282	5488740
RPA-8-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (14.36%)	3446524	5.14E+08	92	209	50.39	76379	284598	5256104
SPA-48-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.49%)	4126674	6.15E+08	87	203	50.31	78108	210815	5110212
BPA-26-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (14.32%)	3555390	5.3E+08	90	262	50.4	80764	201923	5301144
KSA-34-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (14.54%)	3394596	5.06E+08	89	170	50.57	83209	210283	5144353
SPA-32-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (15.65%)	3592648	5.35E+08	92	215	50.31	84902	284598	5416006

Supplementary Table 5 Whole genome sequencing report for 36 selected PEC isolates (continued)

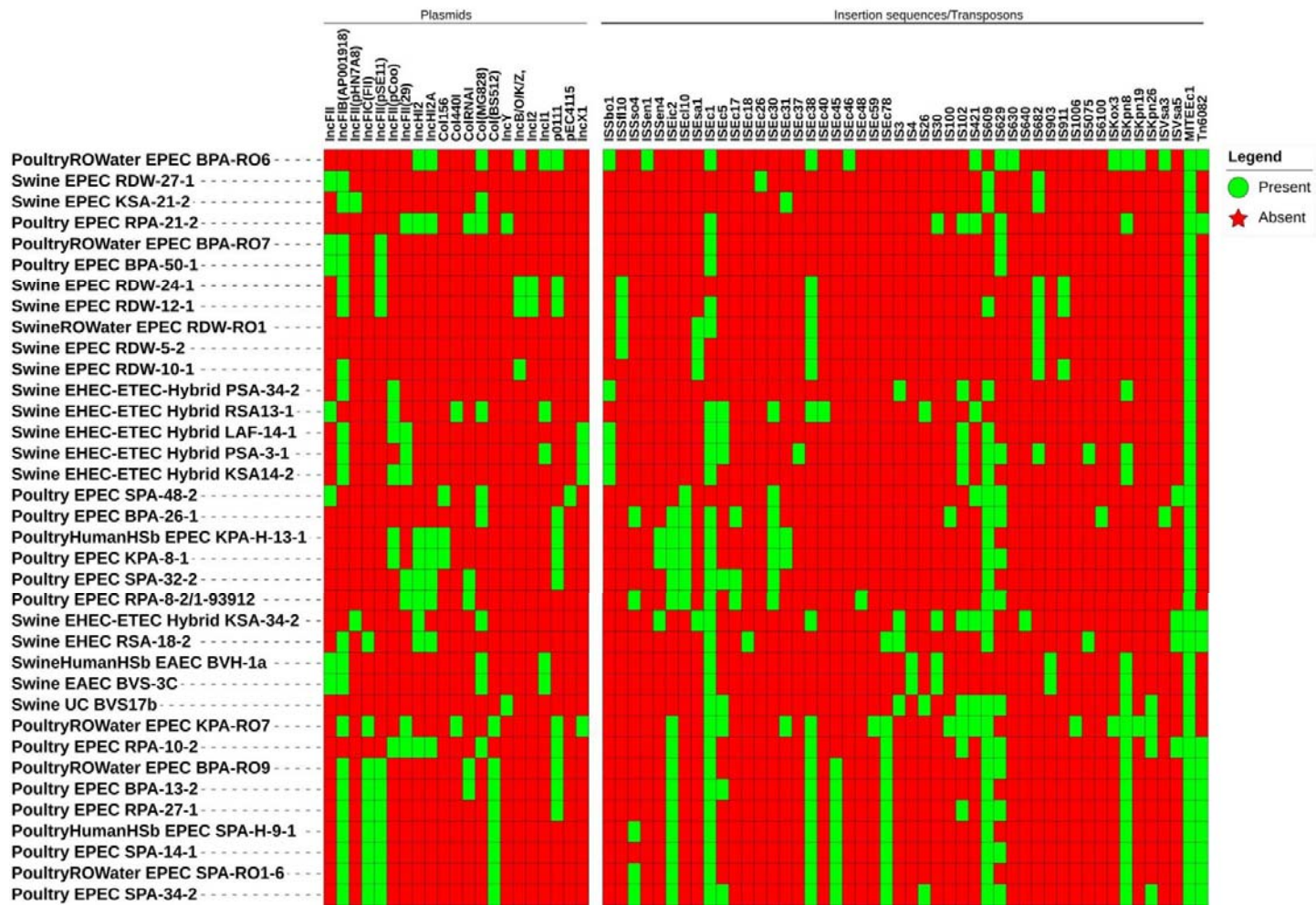
SampleID	Species Identification	Contamination Present	kraken2_match	Total reads	Total bases	Coverage Depth	Contig num	Contigs GC content	N50 value	Longest contig	Total bases assembly
RDW-5-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (20.24%)	3256420	4.85E+08	85	301	50.45	88850	232506	5222803
KPA-H-13-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (15.83%)	3295834	4.91E+08	86	215	50.37	91681	212282	5469338
RDW-10-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (22.15%)	3481714	5.19E+08	93	257	50.41	92256	234978	5272880
KPA-RO7	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (12.57%)	3877090	5.78E+08	99	181	50.35	94430	265185	5329121
SPA-14-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.59%)	4111080	6.13E+08	101	203	50.29	97629	228883	5369263
RDW-RO1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (21.54%)	3749886	5.59E+08	103	230	50.45	98468	238401	5229128
RDW-24-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (23.84%)	3510360	5.23E+08	88	299	50.12	99147	378321	5594301
SPA-34-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.26%)	4203026	6.26E+08	102	204	50.3	104805	290286	5364884
SPA-RO1-6	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.71%)	3471090	5.17E+08	91	216	50.31	104818	290006	5350268
BPA-RO6	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (47.13%)	3328998	4.96E+08	84	219	50.33	115274	348409	5725889
RDW-12-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (26.59%)	2428488	3.62E+08	64	288	50.13	116627	250877	5606490
SPA-H-9-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.15%)	4882286	7.27E+08	115	198	50.3	118622	290286	5352842
RPA-10-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (15.41%)	2769860	4.13E+08	75	209	50.05	119370	274915	5494184
BPA-13-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.51%)	3999246	5.96E+08	106	164	50.27	128584	302594	5218842
BPA-RO9	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (13.46%)	4635676	6.91E+08	121	168	50.27	128584	302594	5221176
RPA-27-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (14.83%)	3287258	4.9E+08	89	187	50.28	135107	294989	5376114

Supplementary Table 5 Whole genome sequencing report for 36 selected PEC isolates (continued)

SampleID	Species Identification	Contamination Present	kraken2_match	Total reads	Total bases	Coverage Depth	Contig num	Contigs GC content	N50 value	Longest contig	Total bases assembly
RSA13-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (17.95%)	3927290	5.85E+08	106	123	50.57	136325	301328	5195031
RDW-27-1	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (44.37%)	4227038	6.3E+08	101	194	50.29	145340	610940	5256323
BVS17b	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (11.41%)	2891114	4.31E+08	89	68	50.73	146608	505718	4671582
KSA-21-2	<i>Escherichia coli</i> (100%)	False (0%)	<i>Escherichia coli</i> (43.75%)	3759216	5.6E+08	93	191	50.36	170137	487459	5265199



Supplementary Figure 1 Antimicrobial susceptibility testing of presumptive ESBL-producing PEC isolates with Microscan system (Beckman Coulter Inc, California, USA)



Supplementary Figure 2 Heatmap of plasmids, insertion sequences and transposons of PEC isolates