

Supplementary Table S2. Primers used to detect virulence-associated genes and the results of virulence-associated gene detection in avian pathogenic *E. coli* (APEC) strains isolated in this study

Target gene	Primer	Primer sequence	Amplicon size (bp)	<i>E. coli</i> strain				Reference
				O1	O2	O18	O78	
<i>papC</i>	papC-F	TGATATCACGCAGTCAGTAGC	500	-	-	-	-	Janßen <i>et al.</i> 2001
	papC-R	CCGGCCATATTCACATAA		-	-	-	-	
<i>fimC</i>	fimC-F	GGGTAGAAAATGCCGATGGTG	496	+	+	+	+	
	fimC-R	CGTCATTTTGGGGGTAAAGTGC		+	+	+	+	
<i>tsh</i>	tsh-F	GTGATAAACAAGTCGGCAACA	804	-	+	-	-	
	tsh-R	GCATTGAGACATCCATTCC		-	+	-	-	
<i>iucD</i>	iucD-F	ACAAAAAGTTCTATCGCTTCC	692	+	+	+	-	
	iucD-R	CCTGATCCAGATGATGCTC		+	+	+	-	
<i>astA</i>	astA-F	TGCCATCAACACAGTATATCC	116	+	+	+	+	Subedi <i>et al.</i> 2018
	astA-R	TCAGGTCGCGAGTGACGGC		+	+	+	+	
<i>iutA</i>	iutA-F	GGCTGGACATCATGGGAACTGG	302	+	+	+	+	
	iutA-R	CGTCGGGAACGGGTAGAATCG		+	+	+	+	
<i>irp2</i>	irp2-F	AAGGATTCGCTGTTACCGGAC	413	+	+	+	+	Prioste <i>et al.</i> 2013
	irp2-R	AACTCCTGATACAGGTGGC		+	+	+	+	
<i>cva/cviC</i>	cva/cvi-F	TCCAAGCGGACCCCTTATAG	598	-	-	-	-	Horne <i>et al.</i> 2000
	cva/cvi-R	CGCAGCATAGTTCCATGCT		-	-	-	-	
<i>iss</i>	iss-F	GTGGCGAAAAC TAGTAAAACAGC	760	+	+	+	+	
	iss-R	CGCCTCGGGGTGGATAA		+	+	+	+	