

## Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Sources and antimicrobial resistance phenotypes of 1871 *E. coli* isolates from pig farms.

File Name: Supplementary Data 2

Description: General features of sequenced multidrug-resistant *E. coli* isolates from pig farms in China.

File Name: Supplementary Data 3

Description: Virulence factor-encoding genes (VFGs) carried by sequenced multidrug-resistant *E. coli* isolates from pig farms in China.

File Name: Supplementary Data 4

Description: Antimicrobial resistance genes (ARGs) carried by sequenced multidrug-resistant *E. coli* isolates from pig farms in China.

File Name: Supplementary Data 5

Description: The class 1 integrase gene *intl1* carried by sequenced multidrug-resistant *E. coli* isolates from pig farms in China.

File Name: Supplementary Data 6

Description: Plasmid replicons identified in sequenced multidrug-resistant *E. coli* isolates from pig farms in China.

File Name: Supplementary Data 7

Description: Minimal inhibitory concentrations of different antibiotics when applied to transconjugants of carbapenem-resistant, colistin-resistant, and/or highly tigecycline-resistant *E. coli*.

File Name: Supplementary Data 8

Description: Numbers of single nucleotide polymorphisms (SNPs) identified between pig farm-originated multidrug-resistant *E. coli* isolates and human commensal *E. coli* collected across China.

File Name: Supplementary Data 9

Description: Sequence types of 287 human commensal *E. coli* collected across China analyzed in this study.

File Name: Supplementary Data 10

Description: The sizes of core genome alignments of each of the *E. coli* genome sequences compared to the complete genome sequence of *E. coli* XD35.

File Name: Supplementary Data 11

Description: Raw data for the MLST-based tree and its annotation codes used in iTOL (<https://itol.embl.de/>).

File Name: Supplementary Data 12

Description: Raw data for the Snippy tree and its annotation codes used in iTOL (<https://itol.embl.de/>).