**Supplementary Table 2: Primers used for the amplification of gene/traits of interest.**

***Gene/trait Amplicon Primer sequence (5’ – 3’) Reference/ comments***

 ***size (bp)***

***16S***

UAL 1939b 187 F ATGGAATTTCGCCGATTTTGC

UAL 2105b R ATTGTTTGCCTCCCTGCTGC (Lamprecht et al. 2014)

***Plasmid PAI encoded traits***

*cvaC*\*679 F cacacacaaacgggagctgtt (Johnson & Stell 2000)

 R cttcccgcagcatagttccat

*iroN*†667 F aagtcaaagcaggggttgcccg

R gacgccgacattaagacgcag (Rodriguez-Siek et al. 2005)

*traT*\*290 F ggtgtggtgcgatgagcacag (Johnson & Stell 2000)

 R cacggttcagccatccctgag

*iss* 323 F CAGCAACCCGAACCACTTGATG (Johnson et al. 2008)

R agcattgccagagcggcagaa

*ompTp* 496 F TCATCCCGGAAGCCTCCCTCACTACTAT Plasmid-encoded

 R TAGCGTTTGCTGCACTGGCTTCTGATAC outer membrane protease

*iutA(aerJ)* 302 F ggctggacatcatgggaactgg (Johnson & Stell 2000)

 R cgtcgggaacgggtagaatcg

***Chromosmal encoded traits***

***Adhesins***

*bmaE* 507 F atggcgctaacttgccatgctg (Johnson & Stell 2000) R agggggacatatagcccccttc

*fimH* 508 F tcgagaacggataagccgtgg (Johnson & Stell 2000)

 R gcagtcacctgccctccggta

*focG* 364 F cagcacaggcagtggatacga (Johnson & Stell 2000)

 R gaatgtcgcctgcccattgct

*gafD* 952 F tgttggaccgtctcagggctc (Johnson & Stell 2000)

 R tcccggaactcgctgttact

*papA* 717 F atggcagtggtgttttggtg (Johnson & Stell 2000)

 R cgtcccaccatacgtgctcttc

*papC* 205 F gtggcagtatgagtaatgaccgtta (Johnson & Stell 2000)

 R atatcctttctgcagggatgcaata

*papEF* 326 F gcaacagcaacgctggttgcatcat (Johnson & Stell 2000)

 R agagagagccactcttatacggaca

*papG* allele I§ 461 F tcgtgctcaggtccggaattt (Johnson & Stell 2000)

 R tggcatcccccaacattatcg

*papG* allele I’§ 479 F ctactatagttcatgctcaggtc (Johnson & Stell 2000)

 R cctgcatcctccaccattatcga

*papG* allele II§ 190 F gggatgagcgggcctttgat (Johnson & Stell 2000)

 R cgggcccccaagtaactcg

*papG* allele III§ 258 F ggcctgcaatggatttacctgg (Johnson & Stell 2000)

 R ccaccaaatgaccatgccagac

*papG1\** 1140F CTGTAATTACGGAAGTGATTTCTG

R TTCCAGAAATAGCTCATGTAACCCG

*papG2/3* 1070 R ACTATCCGGCTCCGGATAAACCAT

*sfaS* 244 F gtggatacgacgattactgtg (Johnson & Stell 2000)

 R ccgccagcattccctgtattc

*sfa-foc* 410F ctccggagaactgggtgcatcttac (Johnson & Stell 2000)

 R cggaggagtaattacaaacctggca

*adhC* 411 F GTCGGCGAGGGCGTCACCAGCCTGAAGC (Johnson et al. 2007a)

 R GGCCGCGCCCTGAATCACCGCCAGACC

*ompT* 559 F atctagccgaagaaggaggc

 R cccgggtcatagtgttcatc (Rodriguez-Siek et al. 2005)

*fliC* (H7) 547 F acgatgcaggcaacttgacg

 R gggttggtcgttgcagaacc (Rodriguez-Siek et al. 2005)

***Iron related***

*fyuA* 787 F tgattaaccccgcgacgggaa (Johnson & Stell 2000)

 R cgcagtaggcacgatgttgta

*ireA* 254 F gatgactcagccacgggtaa

 R ccaggactcacctcacgaat (Rodriguez-Siek et al. 2005)

*etsB* 537 F CAGCAGCGCTTCGGACAAAATCTCCT *E. coli* transport system

R TTCCCCACCACTCTCCGTTCTCAAAC

iroNec 667 F AAGTCAAAGCAGGGGTTGCCCG Salmochelin operon

 R GACGCCGACATTAAGACGCAG

***Protectins***

*kpsMT K1* 153F TAGCAAACGTTCTATTGGTGC (Johnson & Stell 2000)

R catccagacgataagcatgagca

*kpsMT* *II* 272 F gcgcatttgctgatactgttg (Johnson & Stell 2000)

 R catccagacgataagcatgagca

*kpsMT* *III* 392 F tcctcttgctactattccccct (Johnson & Stell 2000)

R aggcgtatccatccctcctaac

***Toxins***

*cdtB* 430 F GAAAATAAATGGAACACACATGTCCG (Johnson & Stell 2000) F’ GAAAGTAAATGGAATATAAATGTCCG

R AAATCTCCTGCAATCATCCAGTTA

R’ AAATCACCAAGAATCATCCAGTTA

*cnf1* 1105 F ATCTTATACTGGATGGGATCATCTTGG (Johnson & Stell 2000)

 R GCAGAACGACGTTCTTCATAAGTATC

*hlyD* 904 F ctccggtacgtgaaaaggac

R gccctgattactgaagcctg (Rodriguez-Siek et al. 2005)

*hlyF* 599 F GGCGATTTAGGCATTCCGATACTC Hemolysin F

 R ACGGGGTCGCTAGTTAAGGAG

***Miscellaneous***

*ibeA* 171 F AGGCAGGTGTGCGCCGCGTAC (Johnson & Stell 2000)

 R TGGTGCTCCGGCAAACCATGC

*maIX PAI* 925 F GGACATCCTGTTACAGCGCGCA (Johnson & Stell 2000)

 R TCGCCACCAATCACAGCCGAAC

*1024UI*  598 F GGCTTTCCCGCCTTCTTTTACCACTACG Inc FIB

R GGACGGCGACGTTGTGTTATTCGGTAAT recombinase/integrase

*1051UI* 664 F CACGCCGTTACTGGTCGCGGAAAAAT ColV gene

R AACCCACGGCCTCTATTGGCGAAGAACT

*parB*  534 F TCGTGGCCGAGTTCTTGGCAACAGC Inc FIB

R GCGGCCTGAAACGCACGAGTCACTTT Plasmid partitioning

*umuC*  474 F CCGCCGTACGGAAAAACTGCTGTCACTG UV protection gene R ACGGCAGCGGCAATGATGTCCTGTGTAT

*rfc* 788 F ATCCATCAGGAGGGGACTGGA O antigen polymerase

 R AACCATACCAACCAATGCGAG

*iha* 829 F CTGGCGGAGGCTCTGAGATCA UPEC Island

 R TCCTTAAGCTCCCGCGGCTGA

*afa* 594 F GGCAGAGGGCCGGCAACAGGC Afimbrial adhesin Afa

 R CCCGTAACGCGCCAGCATCTC

**Plasmid-Replicon Types**

B/O 159 F GCGGTCCGGAAAGCCAGAAAAC

R TCTGCGTTCCGCCAAGTTCGA (Johnson et al. 2007b)

FIC 262 F GTGAACTGGCAGATGAGGAAGG

R TTCTCCTCGTCGCCAAACTAGAT (Johnson et al. 2007b)

A/C 465 F GAGAACCAAAGACAAAGACCTGGA

R ACGACAAACCTGAATTGCCTCCTT (Johnson et al. 2007b)

P 534 F CTATGGCCCTGCAAACGCGCCAGAAA

R TCACGCGCCAGGGCGCAGCC (Johnson et al. 2007b)

T 750 F TTGGCCTGTTTGTGCCTAAACCAT

R CGTTGATTACACTTAGCTTTGGAC (Johnson et al. 2007b)

K/B 160 F GCGGTCCGGAAAGCCAGAAAAC

R TCTTTCACGAGCCCGCCAAA (Johnson et al. 2007b)

W 242 F CCTAAGAACAACAAAGCCCCCG

R GGTGCGCGGCATAGAACCGT (Johnson et al. 2007b)

FIIA 270 F CTGTCGTAAGCTGATGGC

R CTCTGCCACAAACTTCAGC (Johnson et al. 2007b)

FIA 462 F CCATGCTGGTTCTAGAGAAGGTG

R GTATATCCTTACTGGCTTCCGCAG (Johnson et al. 2007b)

FIB 702 F GGAGTTCTGACACACGATTTTCTG

R CTCCCGTCGCTTCAGGGCATT (Johnson et al. 2007b)

Y 765 F AATTCAAACAACACTGTGCAGCCTG

R GCGAGAATGGACGATTACAAAACTTT (Johnson et al. 2007b)

I1 139 F CGAAAGCCGGACGGCAGAA

R TCGTCGTTCCGCCAAGTTCGT (Johnson et al. 2007b)

X 376 F AACCTTAGAGGCTATTTAAGTTGCTGAT

R TGAGAGTCAATTTTTATCTCATGTTTTAGC (Johnson et al. 2007b)

HI1 471 F GGAGCGATGGATTACTTCAGTAC

R TGCCGTTTCACCTCGTGAGTA (Johnson et al. 2007b)

N 559 F GTCTAACGAGCTTACCGAAG

R GTTTCAACTCTGCCAAGTTC (Johnson et al. 2007b)

HIII 644 F TTTCTCCTGAGTCACCTGTTAACAC

R GGCTCACTACCGTTGTCATCCT (Johnson et al. 2007b)

L/M 785 F GGATGAAAACTATCAGCATCTGAAG

R CTGCAGGGGCGATTCTTTAGG (Johnson et al. 2007b)

**Antimicrobials and Heavy Metals**

*blaTEM* 558 F ATGTGCGCGGAACCCCTATTTGTTTA Ampicillin resistance

 R AAAAAGCGGTTAGCTCCTTCGGTCCT

*aac3 VIa* 502 F GGCACCCGCGACGCCCTGGTCCAAAAG Gentamicin resistance

 R GGGCCCGGCGCCGATCGACAGGATTT

*aac3 VIb* 302 F GGGCAAGCGCCGCGTCACTTATT Gentamicin resistance

 R CGCGGCGTTGTTTCGGCTTCA

*tetA*  372 F CGGGGCGACTGGGGCGGTAGC Tetracycline resistance

 R CAAAGCGCGGCCGGCACCTGT

*tetB* 446 F AACGCGTGAAGTGGTTCGGTTGGT Tetracycline resistance

 R TTCGCCCCATTTAGTGGCTATTCTTC

*aph3IA*  378 F TCGGGCAATCAGGTGCGACAATCTA Gentamicin resistance

 R TGCCAGCGCATCAACAATATTTTCACC

*terD* 231 F CCACTGCGCGGAATTTCCACTCACCAT Tellurite resistance

 R ACGCCGTCCCGTCTGATGTTGACAAG

*terF*  428 F CCGACAAACTTCCAGAAGATGGGGTAGT Tellurite resistance

 R GAGGCAGCGGTTGCATTTGTACTTGACG

*terX*  576 F ATGCGCCGCCTGCCTGTTTACCTTGTTA Tellurite resistance

 R CGCGCTTGTGCTGCCGGAAGACA

*terY3* 302 F CCTGGGGCCGTCAGCGGACCTG Tellurite resistance

 R TCCTTGCTGGTGGCCGTTCATACTTCAT

*pcoA*  507 F ATCCGGAAGGTCAGCACCGTCCATAGAC Copper resistance

 R GACCTCGCGGATGTCAGTGGCTACACCT

*pcoD*  502 F GGCGCCCAGAATGATAATCGCAACA Copper resistance

 R GGGCGTGGCGCTGGCTACACTT

*pcoE* 385 F GTGGGGCAGCTTTTGCTCAGTCCAGTGA Copper resistance

 R CGAAGCTTTCTTGCCTGCGTCTGATGTG

*dfr17*  243 F ATATCCCGTGGTCAGTAAAAGGTG Trimethoprim resistance

 R GACCCCCGCCAGAGACATA

*arsC* 153 F CCAGCCTGCGGCACCTCGCGTAATAC Arsenic resistance

 R ACGCAGCAGCGCTCGTACTGAAATACCC

*silE*  364 F TCGGCCTGGGCCACTGAAACCGTGAATA Silver resistance

 R GGCGGTGCGCTTCGGCCATAGCCTGATG

*silP* 603 F ACACCCCGGCCTGGGCTCCTT Silver resistance

 R TGCGGGCACGGGAACAAACCTC

*sul1* 462 F CGCCGCTCTTAGACGCCCTGTCC Sulfa resistance

 R CAACGGTGGCGCCCAAGAAGGAT

*merA* 250 F GATCCGCGCCGCCCATATCGCCCATCTG Mercury resistance

 R CACGCGCTCGCCGCCGTCGTTGAGTTG

*intI1* 545 F CACTCCGGCACCGCCAACTTTC Integrase

 R GAACGGGCATGCGGATCAGTGAG

*iseC12* 404 F CGCGGCCACGTAAACCGAAAGATAAA Transposase

 R GCGCGGGTGCACAGCAACCTC

*aadA*  365 F TAACGGCGCAGTGGCGGTTTTCA Aminoglycoside

 R AAGCTCGCCGCGTTGTTTCATCAAG resistance

*qacE delta* 250 F TCGGCCTCCGCAGCGACTTCC Quaternary

 F CTTGCCCCTTCCGCCGTTGTCTAAT ammonium compounds

**Phylogenetic Typing**

*chuA* 288 F ATGGTACCGGACGAACCAAC (Clermont et al. 2013)

 R TGCCGCCAGTACCAAAGACA (Clermont et al. 2000)

*yjaA* 211 F CAAACGTGAAGTGTCAGGAG (Clermont et al. 2013)

 R AATGCGTTCCTCAACCTGTG Quadruplex PCR

 TspE4.C2 152 F CACTATTCGTAAGGTCATCC (Clermont et al. 2013)

 R AGTTTATCGCTGCGGGTCGC

*arpA* 400 F AACGCTATTCGCCAGCTTGC (Clermont et al. 2013)

 R TCTCCCCATACCGTACGCTA (Clermont et al. 2004)

*arpA\** 301 F GATTCCATCTTGTCAAAATATGCC (Lescat et al. 2013) R GAAAAGAAAAAGAATTCCCAAGAG Group E

*trpA* 219 F AGTTTTATGCCCAGTGCGAG (Lescat et al. 2013)

 R TCTGCGCCGGTCACGCCC Group C

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