

1 **Supplementary figures and tables**

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3 **Supplementary Table 1. Assemblies used in *acrF* alignment (Figure 1a)**

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Strain name	NCBI accession code	Reference in alignment
<i>Escherichia coli</i> O157:H7 str. EC4115	NC_011353.1	O157:H7 1
<i>Escherichia coli</i> O157:H7 str. TW14359	NC_013008.1	O157:H7 2
<i>Escherichia coli</i> O157:H7 str. SS17	NZ_CP008805.1	O157:H7 3
<i>Escherichia coli</i> O157:H7 str. SS52	NZ_CP010304.1	O157:H7 4
<i>Escherichia coli</i> O157:H7 str. Sakai	NC_002695.2	O157:H7 5
<i>Escherichia coli</i> O157:H7 str. EDL933	NZ_CP008957.1	O157:H7 6
<i>Escherichia coli</i> O157:H7 str. WS4202	NZ_CP012802.1	O157:H7 7
<i>Escherichia coli</i> O157:H7 str. FRIK2069	NZ_CP015846.1	O157:H7 8
<i>Escherichia coli</i> O157:H7 str. FRIK2533	NZ_CP015842.1	O157:H7 9
<i>Escherichia coli</i> O157:H7 str. FRIK2455	NZ_CP015843.2	O157:H7 10
<i>Escherichia coli</i> O157:H7 str. FRIK944	NZ_CP016625.1	O157:H7 11

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K-12 substr. MG1655  MANFFIRRP10IFAWVLA20AILLHMAGALAILQL30PVAQYPT40IA50PPAVSVSANY60FGADAQ70TVQDTVT80QVIEQN90NGIDNLMY100MSSTSDSAGSVT110ITLTFQSGTDP120 100
O157:H7 str. Sakai  MANFFIRRP10IFAWVLA20AILLHMAGALAILQL30PVAQYPT40IA50PPAVSVSANY60FGADAQ70TVQDTVT80QVIEQN90NGIDNLMY100MSSTSDSAGSVT110ITLTFQSGTDP120 100

K-12 substr. MG1655  DIAQVQVQNK110LQ120LATPLLP130EQVQQQGIS140VEKSSSSYL150MVAGFVSDN160PDTTQDDIS170DYVASNVK180DTLSRL190NGVGDV200QLPGAQYAM210R220IWL230DADLLN240KYKLT250P 200
O157:H7 str. Sakai  DIAQVQVQNK110LQ120LATPLLP130EQVQQQGIS140VEKSSSSYL150MVAGFVSDN160PDTTQDDIS170DYVASNVK180DTLSRL190NGVGDV200QLPGAQYAM210R220IWL230DADLLN240KYKLT250P 200

K-12 substr. MG1655  VDVINQLK210VQND220QIAAGQLGG230TPALPG240QQLNAS250IIAQ260TRFKN270PEE280FGK290VT300LRVNSD310GSV320VRLK330DV340AR350VELG360GENY370VIAR380INGK390PAAG400LGI410KLAT420GANAL 300
O157:H7 str. Sakai  VDVINQLK210VQND220QIAAGQLGG230TPALPG240QQLNAS250IIAQ260TRFKN270PEE280FGK290VT300LRVNSD310GSV320VRLK330DV340AR350VELG360GENY370VIAR380INGK390PAAG400LGI410KLAT420GANAL 300

K-12 substr. MG1655  DTAKAIKAK310LAE320LQ330PP340QGMK350VLY360YD370TP380PFV390QLS400IE410H420V430V440TK450L460FE470AI480ML490V500FL510V520MY530LF540LQ550N560RAT570L580PT590IA600VP610V620LL630GT640FA650IL660AA670FG680YS690INT700LT710MF720GV730L 400
O157:H7 str. Sakai  DTAKAIKAK310LAE320LQ330PP340QGMK350VLY360YD370TP380PFV390QLS400IE410H420V430V440TK450L460FE470AI480ML490V500FL510V520MY530LF540LQ550N560RAT570L580PT590IA600VP610V620LL630GT640FA650IL660AA670FG680YS690INT700LT710MF720GV730L 400

K-12 substr. MG1655  AIGLLV410DDA420IV430V440VEN450VER460V470N480MED490KL500PP510KE520ATE530K540SM550SQ560I570Q580GA590LV600GI610AM620VL630SA640VF650IP660MA670FF680GG690ST700GA710IY720R730Q740FS750IT760IV770SAM780AL790SV800LV810AL820LIT830PAL840CAT850LL860K870PV 500
O157:H7 str. Sakai  AIGLLV410DDA420IV430V440VEN450VER460V470N480MED490KL500PP510KE520ATE530K540SM550SQ560I570Q580GA590LV600GI610AM620VL630SA640VF650IP660MA670FF680GG690ST700GA710IY720R730Q740FS750IT760IV770SAM780AL790SV800LV810AL820LIT830PAL840CAT850LL860K870PV 500

K-12 substr. MG1655  SAEH510HN520K530GG540FF550GW560NT570TF580D590HS600V610N620HY630T640NS650V660G670K680IL690G700ST710GR720YL730LI740YA750LIV760AG770M780V790VL800FL810RL820P830SS840FL850PE860ED870Q880V890FL900TI910Q920L930P940AG950AT960Q970ER980T990Q1000K1010VL1020D1030Q1040VT1050D1060Y1070YL1080KN 600
O157:H7 str. Sakai  SAEH510HN520K530GG540FF550GW560NT570TF580D590HS600V610N620HY630T640NS650V660G670K680IL690G700ST710GR720YL730LI740YA750LIV760AG770M780V790VL800FL810RL820P830SS840FL850PE860ED870Q880V890FL900TI910Q920L930P940AG950AT960Q970ER980T990Q1000K1010VL1020D1030Q1040VT1050D1060Y1070YL1080KN 600

K-12 substr. MG1655  EKAN610V620ES630V640FT650V660NG670FS680F690S700QA710.....720Q730N740AG750MA760VF770SL780K790P800WE810ERN820GD830EN840SA850E860AV870I880H890RA900K910M920E930L940G950K960IR970D980GF990VI1000PF1010N1020MP1030AI1040VEL1050GT1060AT1070GF1080DF1090EL1100ID 685
O157:H7 str. Sakai  EKAN610V620ES630V640FT650V660NG670FS680F690S700QA710PP720QH730VF740TX750LL760RX770P780IE790ST800GM810AF820VS830SL840K850P860WE870ERN880GD890EN900SA910E920AV930I940H950RA960K970M980E990L1000G1010K1020IR1030D1040GF1050VI1060PF1070N1080MP1090AI1100VEL1110GT1120AT1130GF1140DF1150EL1160ID 700

K-12 substr. MG1655  QAC690L700GH710D720AL730T740Q750AR760N770QL780LG790MA800A810Q820HP830AS840LV850SR860P870NG880LE890DTA900Q910FK920LE930V940D950Q960E970KA980Q990AL1000GV1010SL1020DI1030N1040QT1050IST1060AL1070GG1080TY1090V1100ND1110F1120ID1130R1140GR1150V1160KK1170LV1180Y1190Q1200AD1210AK1220FR1230ML1240P1250ED1260V 785
O157:H7 str. Sakai  QAC690L700GH710D720AL730T740Q750AR760N770QL780LG790MA800A810Q820HP830AS840LV850SR860P870NG880LE890DTA900Q910FK920LE930V940D950Q960E970KA980Q990AL1000GV1010SL1020DI1030N1040QT1050IST1060AL1070GG1080TY1090V1100ND1110F1120ID1130R1140GR1150V1160KK1170LV1180Y1190Q1200AD1210AK1220FR1230ML1240P1250ED1260V 800

K-12 substr. MG1655  DK710LY720VR730SA740NG750EM760VP770FS780AF790TT800SH810V820YG830SP840RL850ERY860NG870LP880S890ME900IQ910GE920EA930PT940SS950GD960AM970AL980MEN990L1000ASK1010LP1020AG1030IG1040Y1050D1060WT1070GM1080SY1090Q1100ER1110LS1120GN1130Q1140AP1150AL1160VA1170IS1180SV1190V1200VL 885
O157:H7 str. Sakai  DK710LY720VR730SA740NG750EM760VP770FS780AF790TT800SH810V820YG830SP840RL850ERY860NG870LP880S890ME900IQ910GE920EA930PT940SS950GD960AM970AL980MEN990L1000ASK1010LP1020AG1030IG1040Y1050D1060WT1070GM1080SY1090Q1100ER1110LS1120GN1130Q1140AP1150AL1160VA1170IS1180SV1190V1200VL 900

K-12 substr. MG1655  CL890A900AL910Y920ES930W940S950IP960VS970ML980V990LV1000PL1010GI1020V1030GV1040LL1050AA1060TL1070FN1080Q1090K1100ND1110V1120Y1130W1140V1150GL1160LT1170TI1180LS1190AK1200NA1210IL1220IV1230EF1240AK1250DL1260ME1270KE1280G1290K1300V1310VE1320AT1330LM1340AV1350R1360HL1370RP1380IL1390MT1400SL1410AF1420IL1430GV 985
O157:H7 str. Sakai  CL890A900AL910Y920ES930W940S950IP960VS970ML980V990LV1000PL1010GI1020V1030GV1040LL1050AA1060TL1070FN1080Q1090K1100ND1110V1120Y1130W1140V1150GL1160LT1170TI1180LS1190AK1200NA1210IL1220IV1230EF1240AK1250DL1260ME1270KE1280G1290K1300V1310VE1320AT1330LM1340AV1350R1360HL1370RP1380IL1390MT1400SL1410AF1420IL1430GV 1000

K-12 substr. MG1655  L990PL1000AI1010SN1020GAG1030SGA1040Q1050NAV1060GIG1070VM1080GG1090W1100VS1110AT1120LLA1130IFF1140V1150VP1160V1170FF1180V1190IRR1200CFK1210GX 1035
O157:H7 str. Sakai  L990PL1000AI1010SN1020GAG1030SGA1040Q1050NAV1060GIG1070VM1080GG1090W1100VS1110AT1120LLA1130IFF1140V1150VP1160V1170FF1180V1190IRR1200CFK1210GX 1050

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 Asp, Glu
 Arg, Lys, His
 Phe, Tyr, Trp
 Ala, Gly
 Cys, Met
 Ser, Thr
 Asn, Gln
 Leu, Val, Ile
 Pro

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10 **Supplementary Figure 1**

11 Alignment of AcrF amino acid sequences from *E. coli* K-12 substr. MG1655 (accession:
 12 NC_000913.3) and *E. coli* O157:H7 str. Sakai (accession: NC_002695.2). Figure was
 13 generated using the MSA R package (1).

14

15 **Reference**

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17 1. Bodenhofer U, Bonatesta E, Horejs-Kainrath C, Hochreiter S. msa: an R package for
 18 multiple sequence alignment. *Bioinformatics*. 2015;31(24):3997-9.

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