

Table S1. Accession details of *E. coli* / *A. baumannii* genomes used in this study

Genome	Accession	20 genome sub-set
<i>E. coli</i> SMS-3-5	NC_010498	X
<i>E. coli</i> B str. REL606	NC_012967	X
<i>E. coli</i> SE11	NC_011415	X
<i>E. coli</i> APEC 01	NC_008563	
<i>E. coli</i> UTI89	NC_007946	X
<i>E. coli</i> O157:H7 str. Sakai	NC_002695	
<i>E. coli</i> 536	NC_008253	
<i>E. coli</i> HS	NC_009800	
<i>E. coli</i> str. K-12 substr. DH10B	NC_010473	
<i>E. coli</i> CFT073	NC_004431	X
<i>E. coli</i> O111:H- str. 11128	NC_013364	
<i>E. coli</i> O103:H2 str. 12009	NC_013353	
<i>E. coli</i> UMN026	NC_011751	X
<i>E. coli</i> IAI39	NC_011750	X
<i>E. coli</i> ED1a	NC_011745	X
<i>E. coli</i> O26:H11 str. 11368	NC_011361	
<i>E. coli</i> BL21	NC_012947	X
<i>E. coli</i> S88	NC_011742	X
<i>E. coli</i> IAI1	NC_011741	
<i>E. coli</i> O127:H6 str. E2348/69	NC_011601	
<i>E. coli</i> ATCC 8739	NC_010468	
<i>E. coli</i> str. K-12 substr. MG1655	NC_000913	X
<i>E. coli</i> O157:H7 str. FRIK966	NZ_ACXN00000000	X
<i>E. coli</i> 53638	NZ_AAKB00000000	
<i>E. coli</i> 83972	NZ_ACGN00000000	
<i>E. coli</i> str. K-12 substr. W3110	AC_000091	
<i>E. coli</i> E24377A	NC_009801	X
<i>S. sonnei</i> Ss046	NC_007384	
<i>S. boydii</i> Sb227	NC_007613	X
<i>S. boydii</i> CDC 3083-94	NC_010658	X
<i>S. flexneri</i> 5 str. 8401	NC_008258	
<i>S. flexneri</i> 2a str. 301	NC_004337	X
<i>S. flexneri</i> 2002017	CP001383	
<i>S. flexneri</i> 2a str. 2457T	NC_004741	X
<i>S. dysenteriae</i> Sd197	NC_007606	X
<i>E. coli</i> TW10598	AELA00000000	X
<i>E. coli</i> TW10722	AELB01000000	
<i>E. coli</i> TW10828	AELC01000000	X
<i>E. coli</i> TW11681	AELD01000000	
<i>E. coli</i> TW14425	AELE01000000	
<i>A. baumannii</i> AB0057	NC_011586.1	
<i>A. baumannii</i> AB056	NZ_ADGZ00000000	
<i>A. baumannii</i> AB058	NZ_ADHA00000000	
<i>A. baumannii</i> AB059	NZ_ADHB00000000	
<i>A. baumannii</i> AB_1656_2	CP001921.1	
<i>A. baumannii</i> AB210	AEOX00000000	
<i>A. baumannii</i> AB307_0294	NC_011595.1	
<i>A. baumannii</i> AB_3909	AEOZ00000000	
<i>A. baumannii</i> AB_3990	AEOY00000000	
<i>A. baumannii</i> AB_4190	AEPA00000000	
<i>A. baumannii</i> AB_4857	AHAG00000000	
<i>A. baumannii</i> AB_5075	AHAH00000000	
<i>A. baumannii</i> AB_5256	AHAI00000000	
<i>A. baumannii</i> AB_5711	AHAJ00000000	
<i>A. baumannii</i> AB6013113	NZ_ACYR00000000	
<i>A. baumannii</i> AB6013150	NZ_ACYQ00000000	
<i>A. baumannii</i> AB6014059	NZ_ACYS00000000	
<i>A. baumannii</i> AB900	NZ_ABXK00000000	
<i>A. baumannii</i> AB_A118	AEOW00000000	
<i>A. baumannii</i> AB_ABNIH1	AFSZ00000000	
<i>A. baumannii</i> AB_ABNIH2	AFTA00000000	
<i>A. baumannii</i> AB_ABNIH3	AFTB00000000	
<i>A. baumannii</i> AB_ABNIH4	AFTC00000000	
<i>A. baumannii</i> AB_ACICU	NC_010611.1	
<i>A. baumannii</i> AB_ATCC_17978	CP000521.1	
<i>A. baumannii</i> AB_D1279779	AERZ00000000	
<i>A. baumannii</i> AB_MDR_TJ	AEOE00000000	
<i>A. baumannii</i> AB_MDR_ZJ06	CP001937.1	
<i>A. baumannii</i> AB_naval_18	AFDA00000000	
<i>A. baumannii</i> AB_naval_81	AFDB00000000	
<i>A. baumannii</i> AB_OIFC032	AFCZ00000000	
<i>A. baumannii</i> AB_TCDC_AB_715	CP002522.1	
<i>A. baumannii</i> AB_W6976	AIEG00000000	
<i>A. baumannii</i> AB_W7282	AIEH00000000	
<i>A. baumannii</i> AB_WM99C	AERY00000000	
<i>A. baumannii</i> ATCC_19606	ACQB00000000	
<i>A. baumannii</i> AYE	NC_010410.1	
<i>A. baumannii</i> AB_NCTC_10304	AIEE00000000	
<i>A. baumannii</i> SDF	NC_010400.1	
<i>A. baumannii</i> UMB001	AEPK00000000	
<i>A. baumannii</i> UMB002	AEPL00000000	
<i>A. baumannii</i> UMB003	AEPM00000000	