

## Supplementary material

**Supplementary Table S1. Bacterial strains**

Strain	Genotype	Selection	Comment
DA5438	<i>E. coli</i> K-12 MG1655	-	-
DA63522	<i>E. coli</i> K-12 MG1655/pUUH239.2	-	-
DA50494	<i>E. coli</i> K-12 MG1655/pBAD18	-	-
DA50500	<i>E. coli</i> K-12 MG1655/pBAD18:ctx-m-15	-	-
DA50506	<i>E. coli</i> K-12 MG1655/pBAD18:tem-1	-	-
DA50512	<i>E. coli</i> K-12 MG1655/pBAD18:oxa-1	-	-
DA61259	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 1	1 mg/L CZA	one step selection
DA61260	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 2	1 mg/L CZA	one step selection
DA61261	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 3	1 mg/L CZA	one step selection
DA61262	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 4	1 mg/L CZA	one step selection
DA62411	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 5	1 mg/L CZA	one step selection
DA61263	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 1	64 mg/L SAM	one step selection
DA61264	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 2	64 mg/L SAM	one step selection
DA61265	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 3	64 mg/L SAM	one step selection
DA61266	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 4	64 mg/L SAM	one step selection
DA61267	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 5	64 mg/L SAM	one step selection
DA61268	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 1	16 mg/L TZP	one step selection
DA61269	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 2	16 mg/L TZP	one step selection
DA61270	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 3	16 mg/L TZP	one step selection
DA61271	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 4	16 mg/L TZP	one step selection
DA61272	<i>E. coli</i> K-12 MG1655/pUUH239.2 clone 5	16 mg/L TZP	one step selection
DA65027	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	256 mg/L SAM	end population
DA68745	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	64 mg/L SAM	passage 3
DA68746	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	128 mg/L SAM	passage 5
DA68747	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	256 mg/L SAM	passage 7
DA65028	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	256 mg/L SAM	end population
DA65029	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	256 mg/L SAM	end population
DA65030	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 4	256 mg/L SAM	end population
DA68752	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	64 mg/L SAM	passage 1
DA68753	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	128 mg/L SAM	passage 4
DA70068	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	128 mg/L SAM	passage 7
DA65031	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	256 mg/L SAM	end population
DA68754	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	64 mg/L SAM	passage 1
DA70069	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	64 mg/L SAM	passage 5
DA68755	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	128 mg/L SAM	passage 7
DA65032	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	256 mg/L SAM	end population
DA68781	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	32 mg/L TZP	passage 1
DA68782	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	64 mg/L TZP	passage 2
DA68783	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	128 mg/L TZP	passage 4
DA65043	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	256 mg/L TZP	end population
DA65044	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	256 mg/L TZP	end population
DA65045	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	256 mg/L TZP	end population
DA65046	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 4	256 mg/L TZP	end population
DA68793	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	32 mg/L TZP	passage 1
DA68794	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	64 mg/L TZP	passage 4
DA68795	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	128 mg/L TZP	passage 6
DA65047	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	256 mg/L TZP	end population
DA68796	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	32 mg/L TZP	passage 1
DA68797	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	128 mg/L TZP	passage 4
DA71947	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	128 mg/L TZP	passage 6
DA65048	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	256 mg/L TZP	end population
DA65159	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 1	64 mg/L CZA	end population
DA65160	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 2	32 mg/L CZA	end population
DA68621	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	0.5 mg/L CZA	passage 1
DA68622	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	1 mg/L CZA	passage 3
DA68623	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	2 mg/L CZA	passage 4
DA68624	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	4 mg/L CZA	passage 6
DA68625	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	8 mg/L CZA	passage 9
DA68626	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	16 mg/L CZA	passage 26
DA68627	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	32 mg/L CZA	passage 52
DA65161	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 3	32 mg/L CZA	end population
DA65162	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 4	16 mg/L CZA	end population
DA68628	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	0.5 mg/L CZA	passage 1
DA68629	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	1 mg/L CZA	passage 3

DA68630	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	2 mg/L CZA	passage 4
DA68034	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	4 mg/L CZA	passage 6
DA68035	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	8 mg/L CZA	passage 9
DA68036	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	16 mg/L CZA	passage 24
DA68037	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	32 mg/L CZA	passage 50
DA65163	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 5	32 mg/L CZA	end population
DA68463	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	0.5 mg/L CZA	passage 1
DA68464	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	2 mg/L CZA	passage 3
DA68038	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	4 mg/L CZA	passage 5
DA68465	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	8 mg/L CZA	passage 13
DA65164	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 6	8 mg/L CZA	end population
DA65165	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 7	32 mg/L CZA	end population
DA68466	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	0.5 mg/L CZA	passage 1
DA68467	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	2 mg/L CZA	passage 3
DA68039	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	4 mg/L CZA	passage 7
DA68040	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	8 mg/L CZA	passage 10
DA68041	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	16 mg/L CZA	passage 26
DA68042	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	32 mg/L CZA	passage 38
DA68043	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	32 mg/L CZA	passage 41
DA65166	<i>E. coli</i> K-12 MG1655/pUUH239.2 lineage 8	64 mg/L CZA	end population

**Supplementary Table S2.** Primers used to evaluate copy number of genes as well as junctions in the plasmid. F: forward primer and R: reverse primer.

Application	Sequence (5' → 3')
qPCR_ <i>hcaT</i>	F: GCTGCTCGGCTTTCTCATCC R: CCAACCACGCAGACCAACC
qPCR_ <i>cysG</i>	F: TTGTCCGGCGGTGGTGATGTC R: ATGCGGTGAACTGTGGAATAAACG
qPCR_ <i>tem-1</i>	F: CCAGAAACGCTGGTGAAAGT R: TACCGCACCATAGCAGAA
qPCR_ <i>ctx-m-15</i>	F: CAGCTGGTGACATGGATGAA R: CTTAGGTTGAGGCTGGGTGA
qPCR_ <i>oxa-1</i>	F: GCAAATGGCACCAGATTCA R: AATTGCATCCACGTCTTTGG