

**Table S2. List of Plasmids**

Plasmid	Relevant Genotype	Source or Reference
pAH123	$\lambda$ cl857(ts) repA101(ts) oriR101 bla $\lambda$ p <sub>R</sub> -int <sub>φ80</sub>	[1]
pAH129	$\lambda$ cl857(ts) repA101(ts) oriR101 bla $\lambda$ p <sub>R</sub> - (xis <sub>φ80</sub> int <sub>φ80</sub> )	[1]
pCP20	$\lambda$ cl857(ts) repA101(ts) oriR101 bla cat $\lambda$ p <sub>R</sub> -FLP	[2]
pKD4	oriR <sub>γR6k</sub> bla FRT::kan::FRT	[3]
pKD13	oriR <sub>γR6k</sub> bla FRT::kan::FRT	[3]
pKD46	repA101(ts) oriR101 bla P <sub>araB</sub> -(gam bet exo)	[3]
pSR014	pTM168 ΔphoP	This work
pTM27	oriR <sub>γR6k</sub> kan attP <sub>HK</sub> P <sub>tetA</sub> -cfp	[4]
pTM79	oriR <sub>γR6k</sub> cat attP <sub>λ</sub> P <sub>mgrB</sub> -yfp	[4]
pTM83	oriR <sub>γR6k</sub> cat attP <sub>λ</sub> P <sub>phoPQ</sub> -yfp	[4]
pTM168	oriR <sub>γR6k</sub> cat attP <sub>φ80</sub> lacI <sup>q</sup> P <sub>trc</sub> -(phoP-phoQ(T281R))	[5]
pTM177	oriR <sub>γR6k</sub> cat attP <sub>φ80</sub> lacI <sup>q</sup> P <sub>phoPQ</sub> -(phoP-phoQ(T281R))	[5]
pWRG99	pKD46 P <sub>tet</sub> -(I-SceI tetR)	[6]
pWRG100	oriR <sub>γR6k</sub> cat-<Iscel> <sup>1</sup>	[6]

**References**

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4. Miyashiro T, Goulian M (2007) Stimulus-dependent differential regulation in the Escherichia coli PhoQ-PhoP system. Proceedings of the National Academy of Sciences of the United States of America 104: 16305-16310.
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<sup>1</sup> <Iscel> is the recognition site for the endonuclease I-SceI.