**Supplemental Information**

**Supplemental Tables**

**Supplemental Table S1 (Related to material and methods):** List of strains and plasmids used in this study

|  |  |  |
| --- | --- | --- |
| Strain | Genotype | Reference |
| DL1 | Wild type (NCIB 3610) | [1] |
| DL2 | Wild type 168 | [2] |
| GK129 | 3610 *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK38 | 168 *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK43 | 3610 Δ*srf*::*mls* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK45 | 3610 Δ*kinC*::*cm* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK47 | 3610 Δ*kinD*::*tet* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK49 | 3610 Δ*sigE*::*mls amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK51 | 3610 Δ*sigF*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK53 | 3610 Δ*spo0A*::*mls* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK55 | 3610 Δ*comA*::*cm* *amyE*::P*floT*-*yfp* (*spc)* | This study |
| GK57 | 3610 Δ*spo0E*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK59 | 3610 Δ*dlt*::*tet* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK61 | 3610 Δ*rapD*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK63 | 3610 Δ*rapG*::*cm* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK65 | 3610 Δ*abrB*::*tet* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK67 | 3610 Δ*abh*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK69 | 3610 Δ*degS*::*tet* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK71 | 3610 Δ*lgtR*::*cm* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK73 | 3610 Δ*slr*::*tet amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK75 | 3610 Δ*rapH*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK77 | 3610 Δ*ftsH*::*km amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK109 | 3610 Δ*codY*::*spc* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK110 | 3610 Δ*mecA*::*spc lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK111 | 3610 Δ*compqx*::*spc* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK112 | 3610 Δ*sinR*::*spc lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK113 | 3610 Δ*comK*::*spc* *lacA:*:P*floT*-*yfp* (*mls*) | This study |
| GK119 | 3610 Δ*relA*::*km* *amyE*::P*floT*-*yfp* (*spc*) | This study |
| GK126 | 3610 Δ*hpr*::*cm* l*acA*::P*floT*-*yfp* (*mls*) | This study |
| GK127 | 3610 Δ*spo0F*::*km* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK128 | 3610 Δ*rapD*::*cm* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK131 | 3610 Δ*sqhC*::*km* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK132 | 3610 Δ*rapB*::*spc* l*acA*::P*floT*-*yfp* (*mls*) | This study |
| GK133 | 3610 Δ*sinI*::*spc* *lacA*::P*floT*-*yfp* (*mls*) | This study |
| GK82 | 168 *amyE*::Pf*loA*-*yfp* (*spc*) | This study |
| GK83 | 3610 *amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK116 | 168 *lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK84 | 3610 Δ*srf*::*mls* *amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK85 | 3610 Δ*kinC*::*cm* *amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK86 | 3610 Δ*kinD*::*tet amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK87 | 3610 Δ*sigE*::*mls amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK88 | 3610 Δ*sigF*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK96 | 3610 Δ*spo0A*::*mls amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK99 | 3610 Δ*comA*::*cm amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK100 | 3610 Δ*spo0E*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK92 | 3610 Δ*dlt*::*tet amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK93 | 3610 Δ*rapD*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK95 | 3610 Δ*rapG*::*cm amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK89 | 3610 Δ*abrB*::*tet amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK90 | 3610 Δ*abh*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK91 | 3610 Δ*degS*::*tet amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK97 | 3610 Δ*lgtR*::*cm* *amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK98 | 3610 Δ*slr*::*tet amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK94 | 3610 Δ*rapH*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK124 | 3610 Δ*ftsH*::*km lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK125 | 3610 Δ*codY*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK123 | 3610 Δ*mecA*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK122 | 3610 Δc*ompqx*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK121 | 3610 Δ*sinR*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK120 | 3610 Δ*comK*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK102 | 3610 Δ*relA*::*km amyE*::P*floA*-*yfp* (*spc*) | This study |
| GK134 | 3610 Δ*hpr*::*cm lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK135 | 3610 Δ*spo0F*::*km lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK139 | 3610 Δ*rapD*::*cm lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK137 | 3610 Δs*qhC*::*km lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK138 | 3610 Δ*rapB*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| GK136 | 3610 Δ*sinI*::*spc lacA*::P*floA*-*yfp* (*mls*) | This study |
| DL573 | 3610 Δ*spo0A::mls* | [1] |
| DL383 | 3610 Δ*abrB::tet* | [3] |
| JS136 | 3610 *amyE::floA-gfp* (*spc*) | This study |
| JS280 | 3610 *amyE::floT-gfp* (*spc*) | This study |
| JS170 | 3610 Δ*spo0A::mls* *amyE::floA-gfp* (*spc*) | This study |
| JS169 | 3610 Δ*spo0A::mls* *amyE::floT-gfp* (*spc*) | This study |
| JS177 | 3610 Δ*spo0A::mls* Δ*abrB::tet* *amyE::floA-gfp* (*spc*) | This study |
| JS181 | 3610 Δ*spo0A::mls* Δ*abrB::tet* *amyE::floT-gfp* (*spc*) | This study |
| JS183 | 168 *lacA::floT-rfp* (*mls*) | This study |
| JS320 | 168 *lacA::floA-rfp* (*mls*) | This study |
| JS186 | 3610 *lacA::floT-rfp* (*mls*) *amyE::floA-gfp* (*spc*) | This study |
| JS321 | 3610 *lacA::floA-rfp* (*mls*) *amyE::floT-gfp* (*spc*) | This study |
| JS134 | 3610 *lacA::floA-mEos2* (*mls*) | This study |
| JS153 | 3610 *lacA::floT-mEos2* (*mls*) | This study |
| JS119 | 3610 Δ*floT* (markerless) | [4] |
| JS152 | 3610 Δ*floA* (markerless) | [4] |
| JS201 | 3610 Δ*floT* (markerless) *amyE::Php-floT-His6* (*spc*) | [5] |
| JS202 | 3610 Δ*floA* (markerless) *amyE::Php-floA-His6* (*spc*) | [5] |
| JS303 | 168 *amyE::floT-gfp* [A342G,E343L,A344G] (*spc*) | This study |
| JS304 | 168 *amyE::floT-gfp* [A357G,E358L,A359G,E360L] (*spc*) | This study |
| JS305 | 168 *amyE::floT-gfp* [A370G,E371L,A372G,E373L] (*spc*) | This study |
| JS306 | 168 *amyE::floT-gfp* [A390G,E391L,A392G,E393L,A394G] (*spc*) | This study |
| JS310 | 168 *amyE::floA-gfp* [A240G,E241L,A242G] (*spc*) | This study |
| JS311 | 168 *amyE::floA-gfp* [A251G,E252L,E252L] (*spc*) | This study |
| JS317 | 168 *amyE::floA-gfp* [E278L,A279G,E280L,A281G,E282L] (*spc*) | This study |
| JS312 | 168 *amyE::floA-gfp* [A288G,E289L,A290G] (*spc*) | This study |
| JS334 | 3610 Δ*floT* (markerless) *lacA::floT-mEos2* [A357G,E358L,A359G,E360L] (mls) | This study |
| JS335 | 3610 Δ*floA* (markerless) *lacA::floA-mEos2* [A288G,E289L,A290G] (mls) | This study |
| JS461 | 168 *lacA::floAT-gfp* (*mls*) | This study |
| JS470 | 168 *lacA::floTA-gfp* (*mls*) | This study |
| JS166 | 3610 *lacA::floT-PAmCherry* (*mls*) | This study |
| JS167 | 3610 *lacA::floA-PAmCherry* (*mls*) | This study |
| BM155 | 168 Δ*floT* (markerless) | This study |
| DL1401 | 168 Δ*floA::mls* | [6] |
| JS338 | 168 Δ*floA::mls* *amyE::floT-gfp* [A342G,E343L,A344G] (*spc*) | This study |
| JS341 | 168 Δ*floA::mls* *amyE::floT-gfp* [A357G,E358L,A359G,E360L] (*spc*) | This study |
| JS339 | 168 Δ*floA::mls* *amyE::floT-gfp* [A370G,E371L,A372G,E373L] (*spc*) | This study |
| JS342 | 168 Δ*floA::mls* *amyE::floT-gfp* [A390G,E391L,A392G,E393L,A394G] (*spc*) | This study |
| JS343 | 168 Δ*floA::mls* *amyE::floT-gfp* (*spc*) | This study |
| JS345 | 168 Δ*floT* (markerless) *amyE::floA-gfp* [A240G,E241L,A242G] (*spc*) | This study |
| JS346 | 168 Δ*floT* (markerless) *amyE::floA-gfp* [A251G,E252L,E252L] (*spc*) | This study |
| JS347 | 168 Δ*floT* (markerless) *amyE::floA-gfp* [E278L,A279G,E280L,A281G,E282L] (*spc*) | This study |
| JS348 | 168 Δ*floT* (markerless) *amyE::floA-gfp* [A288G,E289L,A290G] (*spc*) | This study |
| JS357 | 168 Δ*floT* (markerless) *amyE::floA-gfp* (*spc*) | This study |
| DL1662 | 168 *amyE::Php-phoP-3xFlag* (*spc*) | This study |
| DL1664 | 168 *amyE::Php-resD-3xFlag* (*spc*) | This study |
| DL1666 | 168 Δ*floA::mls amyE::Php-phoP-3xFlag* (*spc*) | This study |
| DL1668 | 168 Δ*floA::mls amyE::Php-resD-3xFlag* (*spc*) | This study |
| DL1670 | 168 Δ*floT* (markerless) *amyE::Php-phoP-3xFlag* (*spc*) | This study |
| DL1672 | 168 Δ*floT* (markerless) *amyE::Php-resD-3xFlag* (*spc*) | This study |
| DL1681 | 168 Δ*phoR::km amyE::Php-phoP-3xFlag* (*spc*) | This study |
| DL1679 | 168 Δ*resE::km amyE::Php-resD-3xFlag* (*spc*) | This study |
| JS506 | 168 *lacA::floT-rfp* (*mls*) *amyE::resE-gfp* (*spc*) | This study |
| JS508 | 168 *lacA::floA-rfp* (*mls*) *amyE::phoR-gfp* (*spc*) | This study |
| JS517 | 168 Δ*resE::km amyE::resE-gfp* (*spc*) | This study |
| JS518 | 168 Δ*phoR::km amyE::phoR-gfp* (*spc*) | This study |
| DL95 | *E. coli* DH5α | [7] |
| JS263 | *E. coli* DH5α pDR183 *PfloT-floT-gfp* | This study |
| JS314 | *E. coli* DH5α pDR111 *PfloA-floA-gfp* | This study |
| BM263 | *E. coli* BTH101 | [8] |
| BM261 | *E. coli* DH5α pKT25-*zip* | This study |
| BM262 | *E. coli* DH5α pUT18C-*zip* | This study |
| BM258 | *E. coli* DH5α pKNT25 | This study |
| BM259 | *E. coli* DH5α pUT18 | This study |
| JS369 | *E. coli* BTH101 pKT25-*zip* pUT18C-*zip* | This study |
| JS368 | *E. coli* BTH101 pKNT25pUT18 | This study |
| JS360 | *E. coli* BTH101 pKNT25-*floT* pUT18-*resE* | This study |
| JS378 | *E. coli* BTH101 pKNT25-*floT* pUT18-*phoR* | This study |
| JS379 | *E. coli* BTH101 pKNT25-*floA* pUT18-*resE* | This study |
| JS362 | *E. coli* BTH101 pKNT25-*floA* pUT18-*phoR* | This study |
| JS370 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floT* | This study |
| JS371 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floA* | This study |
| JS372 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floT* | This study |
| JS373 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floA* | This study |
| JS394 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floT* [A342G,E343L,A344G] | This study |
| JS395 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floT* [A357G,E358L,A359G,E360L] | This study |
| JS380 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floT* [A370G,E371L,A372G,E373L] | This study |
| JS381 | *E. coli* BTH101 pKNT25-*floT* pUT18-*floT* [A390G,E391L,A392G,E393L,A394G] | This study |
| JS396 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floA* [A240G,E241L,A242G] | This study |
| JS397 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floA* [A251G,E252L,E252L] | This study |
| JS382 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floA* [E278L,A279G,E280L,A281G,E282L] | This study |
| JS383 | *E. coli* BTH101 pKNT25-*floA* pUT18-*floA* [A288G,E289L,A290G] | This study |
| JS442 | *E. coli* DH5α pSEVA641 | [9] |
| JS445 | *E. coli* DH5α pSEVA631 | [9] |
| JS446 | *E. coli* DH5α pSEVA621 | [9] |
| JS441 | *E. coli* BTH101 pKNT25-*phoR* pUT18-*phoR* | This study |
| JS443 | *E. coli* BTH101 pKNT25-*resE* pUT18-*resE* | This study |
| JS444 | *E. coli* DH5α pSEVA641 *PfloA-floA-His6* | This study |
| JS447 | *E. coli* DH5α pSEVA631 *PfloA-floA-His6* | This study |
| JS448 | *E. coli* DH5α pSEVA621 *PfloA-floA-His6* | This study |
| JS450 | *E. coli* DH5α pSEVA641 *PfloT-floT-His6* | This study |
| JS451 | *E. coli* DH5α pSEVA631 *PfloT-floT-His6* | This study |
| JS452 | *E. coli* DH5α pSEVA621 *PfloT-floT-His6* | This study |

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