

Table S1. Genotypes of DMS3m_{acr} phages, Related to STAR Methods

| Phage | acr gene source | Acr Accession |
|--|---|----------------------|
| DMS3m _{acrIE3} (parent phage, no manipulation) | Phage DMS3m (gp30) | WP_003723290.1 |
| DMS3m _{acrIF1} | Phage JBD30 (gp35) | YP_007392342.1 |
| DMS3m _{acrIF2} | Phage MP29 (gp29) | YP_002332454.1 |
| DMS3m _{acrIF3} | Phage JBD88a (gp33) | YP_007392440.1 |
| DMS3m _{acrIF4} | Phage JBD26 (gp37) | WP_016068584.1 |
| DMS3m _{acrIF5} | Phage JBD5 (gp36) | YP_007392740.1 |
| DMS3m _{acrIF6} | <i>Pseudomonas aeruginosa</i> strain PSE05 (prophage) | WP_043884810.1 |
| DMS3m _{acrIF7} | LPB1 (gp29) | YP_009146150.1 |
| DMS3m _{acrIIA4} | <i>Listeria monocytogenes</i> J0161 (prophage) | WP_003723290.1 |

Table S2. Plasmids used in this study, Related to STAR Methods

| Plasmid | Backbone | Purpose |
|-----------------|-------------------------|--|
| pAB02 | pHERD30T | crRNA overexpression: CRISPR2 spacer 17 |
| pAB03 | pHERD30T | crRNA overexpression: CRISPR2 spacer 20 |
| pAB58 | pHERD30T | Generating DMS3m _{acrIF2} |
| pAB59 | pHERD30T | Generating DMS3m _{acrIF3} |
| pAB21 | pHERD20T | Generating DMS3m _{acrIF4} |
| pJZ69 | pHERD30T | Generating DMS3m _{acrIF5} |
| pJZ70 | pHERD30T | Generating DMS3m _{acrIF6} |
| pAB24 | pHERD20T | Generating DMS3m _{acrIF7} |
| pJZ69 | pHERD30T | Generating DMS3m _{acrIIA4} |
| pAB45 | pHERD20T | Generating DMS3m _{acr} <i>gp52::gent</i> |
| pAB77,78 | pHERD20T and 30T | C repressor (JBD30) overexpression |
| pAB79,80 | pHERD20T and 30T | C repressor (DMS3) overexpression |
| pBAO72 | pMMB67HE | sgRNA targeting DMS3m |
| pBAO95 | pUC18T-mini-Tn7T- Gm | Insertion of SpyCas9 into the PAO1 tn7 site |
| pCsy_complex | 2D | Csy complex expression and purification |
| pCRISPR_DMS3g24 | pMK | crRNA expression and Csy complex purification |
| pAcrIF4 | p15TV-L | AcrIF4 expression and purification |