**Table S1**. The strains and plasmids used in this study.

|  |  |  |  |
| --- | --- | --- | --- |
| Strain and plasmid | Genotype / containing DNA | Resistance | Source or reference |
| *E. coli* MG1655 | F- λ- *ilvG*- rfb-50 rph-1 | NA | ATCC700926 |
| *E. coli* BL21(DE3) | F– *ompT* gal dcm lon hsdSB(rB- mB-) λ(DE3 [*lacI* lacUV5-T7 gene 1 ind1 sam7 nin5]) | NA | Novagen |
| *E. coli* W3110 | F- λ- rph-1 INV(*rrnD*, *rrnE*) | NA | ATCC27325 |
| *E. coli* W | - | NA | KCTC1039 |
| *E. coli* C | - | NA | ATCC8739 |
| *E. coli* B | - | NA | ATCC11303 |
| pCOLADuet™-1 | - | KanR | Novagen |
| pETDuet™-1 | - | AmpR | Novagen |
| pCOLA-RcsB-DsrA | Carrying the RcsB and DsrA gene of *E. coli* MG1655 | KanR | This study |
| pACYC-ADH | Carrying the ADH gene of *M. luteus* | CmR | (Song et al. 2013) |
| pET-BVMO | Carrying the BVMO gene of *P. putida* KT2440 | AmpR | This study |