**Table S3. Construction of recombinant plasmids**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Plasmid** | **Insertion elements** | **Parent vector** | **Target sequence** | **Primers** | **Templete DNA** | **Restrict sites** |
| pTH12647 | *psrA* | pET24b | *psrA* | pr15159/pr15160 | ST606 | NdeI/XhoI |
| pTH13166 | Spn556IIS1-*psrA*Y247A-∆IR2.2∆IR3.2 | pEASY-blunt zero | Spn556IIS1-*psrA*Y247A-∆IR2.2∆IR3.2 | pr7566/pr7567 | TH8563 | Blunt cloning |
| pTH13170 | Spn556IIS2-*psrA*Y247A-∆IR2.2∆IR3.2 | pEASY-blunt zero | IR1.1-pEASY blunt zero-IR1.2 | pr15013/pr15014 | pTH13166 | BsaI |
| S between IR1.1 and IR1.2 | pr15011/pr15012 | TH8563 |
| pTH13337 | Spn556IIS1-*psrA*Y247A-∆IR1.2∆IR2.2 | pEASY-blunt zero | pEASY-blunt zero | pr14885/pr14886 | pTH13166 | BsaI |
| *hsdSA*-*hsdSB*∆IR1.2-*psrA*-*hsdSC* before IR2.2 | pr14887/pr14888 | TH7377 |
| *hsdSC* after IR2.2 | pr14889/pr14890 | TH7377 |
| pTH13339 | Spn556IIS4-*psrA*Y247A-∆IR1.2∆IR2.2 | pEASY-blunt zero | pEASY-blunt zero | pr14885/pr14886 | pTH13166 | BsaI |
| *hsdSA*-IR3.1 | pr14887/pr14891 | TH7377 |
| *hsdSC* between IR2.2 and IR3.2 | pr14892/pr14889 | TH7377 |
| S region between IR2.2 and IR3.1 | pr14888/pr14893 | TH7377 |
| IR3.2-*hsdSC* | pr14894/pr14890 | TH7377 |
| pTH13341 | Spn556IIS3-*psrA*Y247A-∆IR1.2∆IR3.2 | pEASY-blunt zero | pEASY-blunt zero | pr14885/pr14886 | pTH13166 | BsaI |
| *hsdSA*-*hsdSB*∆IR1.2-*psrA*-*hsdSC* before IR3.2 | pr14887/pr14895 | TH7377 |
| *hsdSC* after IR3.2 | pr14895/pr14890 | TH7377 |
| pTH13344 | Spn556IIS1-*psrA*Y247A-∆IR1.2∆IR3.2 | pEASY-blunt zero | pEASY-blunt zero | pr14885/pr14886 | pTH13166 | BsaI |
| *hsdSA*-IR2.1 | pr14887/pr14897 | TH7377 |
| S region between IR2.1 and IR2.2 | pr14898/pr14899 | TH7377 |
| IR2.2-*hsdSC* before IR3.2 | pr14900/pr14895 | TH7377 |
| *hsdSC* after IR3.2 | pr14896/pr14890 | TH7377 |