

Figure S1 – Model with a single parameter describing plasmid division dynamics. (A) The single parameter describing plasmid division dynamics is assigned the value of the first plasmid division rate from the three-parameter model. The model including this assumption is simulated (blue curve) and compared to the data (red dots) (A) for methyltransferase, where F value for the comparison with the fit in Fig. 3A is 938 ($P \sim 10^{-22}$), and (B) restriction endonuclease dynamics, with $F=1782$ ($P \sim 10^{-25}$) for comparison with the fit in Fig. 3B. (C) The model containing a single free parameter describing plasmid division dynamics is fitted to the experimental data for methyltransferase, with $F=60$ ($P \sim 10^{-9}$), and (D) restriction endonuclease dynamics, with $F = 10$ ($P \sim 10^{-3}$).

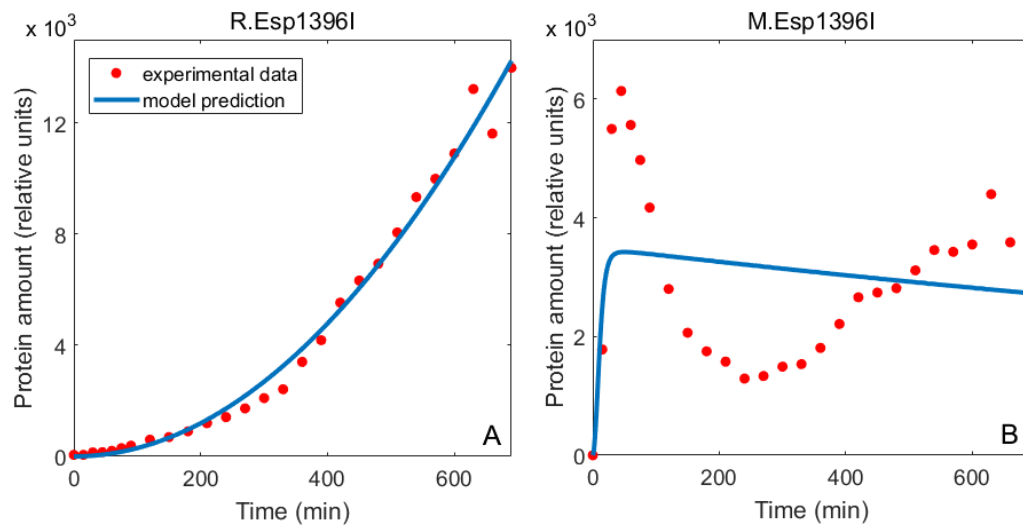


Figure S2 – Model ignoring population dynamics fitted to the experimental data for (A) restriction endonuclease and (B) methyltransferase expression dynamics.