Table S1: residence times for tracks longer than 10 frames

| strain                        | dwell time [ms] | #tracks > 10 frames |
|-------------------------------|-----------------|---------------------|
| ME15 (amyE::yfp-dnaA)         | 342 ± 8.3 (SD)  | 11                  |
| ME20 (amyE::yfp dnaAE183Q)    | 205 ± 2.4 (SD)  | 9                   |
| KS167 (amyE::yfp-yabA DyabA)  | 442 ± 9.2 (SD)  | 28                  |
| KS192 (amyE::yfp-dnaA, Dsoj-spo0J) | 345 ± 8.4 (SD) | 28                  |
| DnaA-YFP<sup>W</sup> E. coli (original locus) | 310 ± 3.6 (SD) | 93                  |
| Spo0J-YFP                     | 559 ± 13.4 (SD) | 109                 |