

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Fluorescence microscope time-lapse movie showing wild type cells expressing EYFP-SsrA from the circadian *kaiBC* promoter. Scale bar 5 μm .

File Name: Supplementary Movie 2

Description: Time-lapse movie showing the copy number tunable strain incubated in 1 μM IPTG and 370 μM theophylline. Scale bar 5 μm .

File Name: Supplementary Movie 3

Description: Time-lapse movie showing the copy number tunable strain incubated in 1 μM IPTG and 92 μM theophylline. Scale bar 5 μm .

File Name: Supplementary Movie 4

Description: Time-lapse movie showing the copy number tunable strain incubated in 1 μM IPTG and 23 μM theophylline. Scale bar 5 μm .

File Name: Supplementary Data 1

Description: Kai protein copy number calculations.