

The data from Korbokova et al "From molecular noise to behavioral variability in a single bacterium", Nature, 428, 574-578 (2004) can be divided into experiments and simulations.

DESCRIPTION:

The following directories contain the laboratory data used to produce the figures of the paper:

FIGURE\_2A            3 Mbytes  
FIGURE\_2B            25 Mbytes  
FIGURE\_3A            12 Mbytes  
FIGURE\_3A\_INSET      4 Mbytes  
FIGURE\_3B            0.4 Mbytes  
FIGURE\_4            196 Mbytes (Only 2 representative cases. Full simulation data is in the ../directory simulations)

Experimental data (figures 2 and 3):

Each file contains a binary time serie (-1=CCW, 1=CW) recorded from one single cell. The sampling rate is 100 Hz. The first number in each file is the sampling rate.

Numerical simulations (figure 4):

Each file contains an independent time series of the total number of CheYp molecules. The sampling rate is 10 Hz.

DETAILS:

-----  
FIGURE\_2A  
one wild-type cell  
-----

FIGURE\_2B/WILD-TYPE  
wild-type cells  
black curve and inset  
-----

FIGURE\_2B/CHEYD13K  
PS2001 mutant cells  
grey curve  
-----

FIGURE\_3A/IPTG\_00  
RP4968 mutant cells expressing wild-type level of CheR (IPTG=0 microM)  
black curve  
-----

FIGURE\_3A/IPTG\_01  
RP4968 mutant cells expressing 2-fold wt level of CheR (IPTG=1 microM)  
dark grey curve  
-----

FIGURE\_3A/IPTG\_05  
RP4968 mutant cells expressing 4-fold wt level of CheR (IPTG=5 microM)  
grey curve  
-----

FIGURE\_3A/IPTG\_30  
RP4968 mutant cells expressing 10-fold wt level of CheR (IPTG=30 microM)  
light grey curve

---

FIGURE\_3A/INSET

RP8610 mutant cells expressing expressing Tsr serine receptors with QQQQE methylation sites (see methods).

grey curve

the black curve is the same as FIGURE\_2B/WILD-TYPE

---

FIGURE\_3B

770 seconds segment of:

- one RP4968 mutant cell expressing 10-fold wt level of CheR (IPTG=30 microM)

light grey curve

- one wild-type cell

black curve

---

FIGURE\_4

Data from the numerical simulations that was used to produce the two panels of Figure 4. 9 cases were considered:

CASE: 802 806 803 807 804 808 805 809 810

TOTAL NUMBER OF CHER: 14 20 28 40 56 79 112 158 223

REACTION VOLUME =  $2e-10$  L

On this CD we included 2 representative cases: 803 and 810. Full data is in directory ../simulations.

For each case, a directory contains 63 files YP00.txt, YP01.txt, etc. Each YP\*.txt file contains the output (number of CheYp molecules) of an independent simulation. The sample rate in the files YP\*.txt is 10 Hz.

---

DESCRIPTION OF SIMULATION DATA:

Each directory correspond to a different level of CheR. Inside each directory there are many directories (00, 01, 02, ...) each containing one LONG StochSim simulation. Input and Output are inside the directories 00, 01, ...

Case Number = [ 802 , 806 , 803 , 807 , 804 , 808 , 805 , 809 , 810 ]

Num of CheR = [ 14 , 20 , 28 , 40 , 56 , 79 , 112 , 158 , 223 ]

Num of CheB = [ 273 , 273 , 273 , 273 , 273 , 273 , 273 , 273 , 273 ]

Num of Receptors = [ 602 , 602 , 602 , 602 , 602 , 602 , 602 , 602 , 602 ]