Errata:
On the definition of a self-sustaining chemical reaction system and its role in heredity

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There are mistakes in Fig. 1 and in the caption of Fig. 2 in the original paper (see the correct ones below). But the mistakes do not affect anything critical.

How did the mistake happen?

For Fig. 1 in the original paper: I put the wrong initial condition when I was solving the ODEs. The initial condition for (a) is $(80, 5, 5, 5, 5)$, but I input $(5, 80, 5, 5, 5)$ in the code; The initial condition for (b) is $(100, 0, 0, 0, 0)$, but I input $(0, 100, 0, 0, 0)$ in the code.

Nevertheless, the wrongly-input initial condition does not affect anything critical. At $t = 60$, namely, after the transient period (strictly speaking, $t \to \infty$), the population vector $\boldsymbol{n}$ is identical in this correct figure and in the wrong figure in the original paper. For (a), at $t = 60$, the population vector $\boldsymbol{n} = (91.46, 0.67, 2.98, 3.19, 1.71)$; while for (b) at $t = 60$, the population vector $\boldsymbol{n} = (80.05, 19.95, 0, 0, 0)$. This makes sense, because in these systems, as long as the trigger molecules (namely, seeds) are present initially, the specific values of the initial condition will not change the final population vector when $t \to \infty$.

There is an error in the caption of Fig. 1 also: The outflow $\boldsymbol{f}'_{\boldsymbol{\xi}_a, \boldsymbol{f}_a}$ should be $(8.00, 0.06, 0.26, 0.28, 0.15)$. In the original caption, it is written as $(91.5, 0.7, 3.0, 3.2, 1.7)$ which is actually the population vector $\boldsymbol{n}$ at $t = 60$.

Corrected Fig. 1

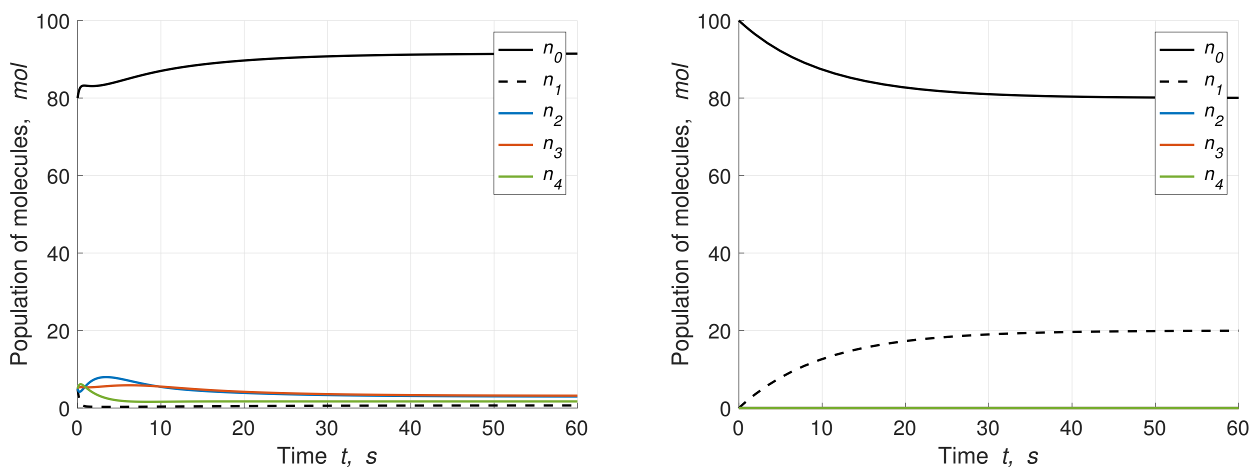

Fig. 1. Mean-field dynamics of CRN 1 (formose reaction) in CSTR. The reaction rate constants are $\omega_1 = 1, \omega_2 = 0.7$ and $\omega_3 = 0.4$. (a) The initial condition is $\boldsymbol{\xi}_a = (n_0, n_1, n_2, n_3, n_4) = (80, 5, 5, 5, 5)$, meaning that there are always $N = 100\ mol$ molecules in the solution and thus the total volume of the solution in the tank is $\nu \times N = 1.8\ L$. The inflow is $\boldsymbol{f}_a = (f_0, f_1, f_2, f_3, f_4) = (8, 2, 0, 0, 0)$, meaning that $F = 10\ mol$ fresh solution flows into the tank per second, 80% $(= f_0/F)$ of which is the solvent molecule $\overline{0}$ and 20% of which is molecule $\overline{1}$. It also means that per second, 10% $(= F/N)$ of the solution in the tank is replaced. After the transient period $(t > 50)$, the outflow is $\boldsymbol{f}'_{\boldsymbol{\xi}_a, \boldsymbol{f}_a} \doteq (8.00, 0.06, 0.26, 0.28, 0.15)$. (b) The initial condition is $\boldsymbol{\xi}_0 = (100, 0, 0, 0, 0)$, and the inflow is $\boldsymbol{f}_a$, as the same as in (a). After the transient period, the outflow is $\boldsymbol{f}'_{\boldsymbol{\xi}_0, \boldsymbol{f}_a} = (8, 2, 0, 0, 0)$.

Corrected caption of Fig. 2

Figure 2 in the original paper is all correct, except the last sentence in the caption. The last sentence should be: the outflow is $\boldsymbol{f}'_{\boldsymbol{\xi}_d, \boldsymbol{f}_d} = \boldsymbol{f}'_{\boldsymbol{\xi}_0, \boldsymbol{f}_d} \doteq (8.00, 1.55, 0.18, 0.73, 0.10, 0.09)$. Again, it does not change anything critical.
The original wrong vector $(75.2, 14.6, 1.7, 6.8, 0.9, 0.8)$ is actually the population vector $\boldsymbol{n}$ at $t = 50$.