Single molecules can operate as primitive biological sensors, switches and oscillators

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Supplementary Figure S3

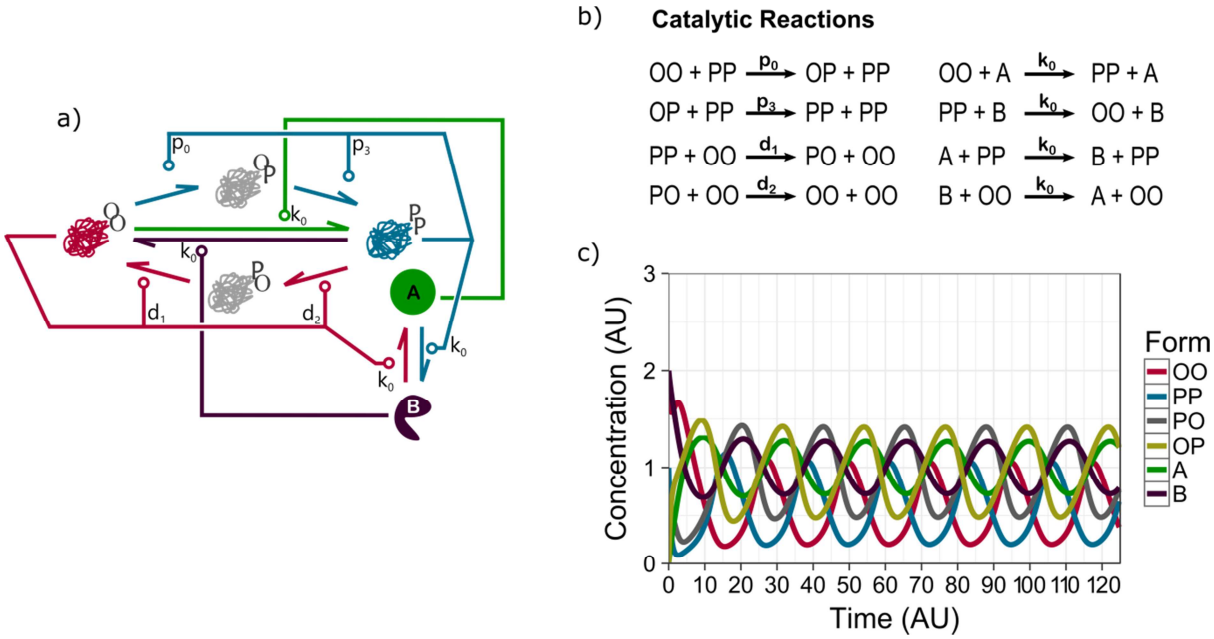

Figure S3. Negative feedback driven oscillations of a TI derivative system. a) Wiring diagram of a TI system derivate that interacts with an external molecule that presents two conformations (A and B). b) List of reactions. The left column shows the catalytic reactions driven by the main TI system, while the right column presents the reactions established with the external conformations A and B. On top of each reaction arrow, the parameter names that affect the specific reactions are indicated. c) Time-course diagram showing the sinusoidal behaviour of the system. Initial concentrations of the molecules: *OO* = 2; *PP* = 1; *B* = 2 AU, all others are 0. Parameters: p_0 = 1, p_3 = 0.5, d_1 = 0.5, d_2 = 1, k_3 = 0.1, *tot* = 3