

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

Rosa D. Hernansaiz-Ballesteros¹, Luca Cardelli^{2,3} & Attila Csikász-Nagy^{1,4}

¹ Randall Centre for Cell and Molecular Biophysics and Institute for Mathematical and Molecular Biomedicine, King's College London, London, SE1 1UL f

² Microsoft Research, 21 Station Road, Cambridge CB1 2FB, UK

³ Department of Computer Science, University of Oxford, Wolfson Building, Parks Road, Oxford OX1 3QD, UK

⁴ Faculty of Information Technology and Bionics, Pázmány Péter Catholic University, H-1083 Budapest, Hungary

Supplementary Figure S2

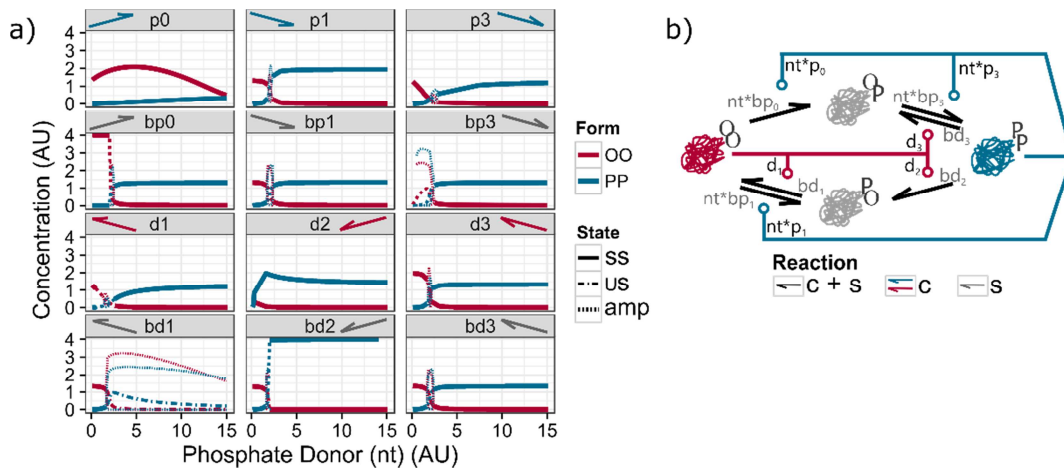


Figure S2. Removal of reactions from the BP network. **a)** Bifurcation diagrams showing the steady states of the systems where either a catalytic or a spontaneous reaction have been removed from the BP network. The arrows above each panel indicate which reactions have been dropped from the BP network. The name of the reaction rates that are dropped are also indicated above each panel. The stable state (ss) is indicated by a straight line, the unstable state (us) is defined by the dashed-dot line, and the maximal and minimal amplitudes (ma) are shown by the striped lines. **b)** Broken Paths (BP) system.