Errata

TOWARD THE DESIGN PRINCIPLES OF MOLECULAR MACHINES (2017) [6]

Citation 32: a liation superscripts were erroneously appended to author last names. Should instead read: \32. S. Toyabe, T. Watanabe-Nakayama, T. Okamoto, S. Kudo, and E. Muneyuki, \Thermodynamic e ciency and mechanochemical coupling of F1-ATPase, Proc. Natl. Acad. Sci. USA, 108, 17951-17956 (2011)."

ENERGY DISSIPATION AND INFORMATION FLOW IN COUPLED MARKOVIAN SYSTEMS (2018) [7]

Table 1 should not appear at the top of page 2, but rather should appear near the top of page 6, immediately following \These limits on ^{ss} are laid out in Table 1."

STOCHASTIC CONTROL IN MICROSCOPIC NONEQUILIBRIUM SYSTEMS (2018) [8]

Eq. (16) is missing a partial derivative in the numerator and should read

$$(\ ) = \frac{1}{D} \int_{1}^{1} \frac{[@ \ _{\mathrm{eq}}(x j \ )]^2}{(x j \ )} \mathrm{d}x \ ;$$

instead of

$$(\ ) = \frac{1}{D} \int_{1}^{1} \frac{[\ _{\mathrm{eq}}(x j \ )]^2}{(x j \ )} \mathrm{d}x \ :$$

Citation 10 should instead read (changes in **bold**): \[10] Collin D., Ritort F., Jarzynski C., Smith S., **Tinoco** I. and Bustamante C., Nature, 437, 231 (2005)."

OPTIMAL CONTROL OF ROTARY MOTORS (2019) [9]

Aliakbar Mehdizadeh's present address should read \Sharif University of Technology", not \Sharif University of Science and Technology".

OPTIMAL CONTROL OF PROTEIN COPY NUMBER (2020) [10]

Final sentence of Appendix B should read (changes in **bold**): \This produces the rapid increase in excess power (**c/k = 10** curves in Fig. 4) late in the protocol." instead of \This produces the rapid increase in excess power (red curves in Fig. 4) late in the protocol."

NONEQUILIBRIUM ENERGY TRANSDUCTION IN STOCHASTIC STRONGLY COUPLED ROTARY MOTORS (2020) [11]

The energy o sets in Fig. 1 are each missing a factor of 2 , so should be 2 $_{\mathrm{H^+}}$ and 2 $_{\mathrm{ATP}}$ instead of $_{\mathrm{H^+}}$ and $_{\mathrm{ATP}}$, respectively.

To be consistent in notation, Eq. (S3) should have $_i$ and $_j$ subscripts on the 's on the LHS, reading

$h \ _i(t) \ _j(t^0) i = 2 \ k_{\mathrm{B}} T \ _{ij}$ (xt]TJ/F14 9.9626 Tf 5.611 0 Td [(( )]TJ/F11 9.962

the RHS of Eq. (S5) is multiplied by two to give

$$h \quad (t) \quad (t^{0}) i = 4 \; k_{\mathrm{B}} T \;\; (t \quad t^{0}) \; ;$$

the RHS of Eq. (S6) is multiplied by two to give

$$\begin{aligned} V(\;) &= \quad \frac{1}{2} E_{o} \cos n(\qquad) \quad \frac{1}{2} E_{1} \cos n \\ &= \quad \frac{1}{2} E \cos n(\qquad ') \; ; \end{aligned}$$

the chemical driving force in the sentence immediately following Eq. (S8) becomes $\quad _{\mathrm{H}^{+}} + \quad _{\mathrm{ATP}}$, the RHS of Eq. (S9) is multiplied by two to give

$$hJ\, i = \frac{k_{\mathrm{B}} T}{2} \;"\; (1 \quad e^{\;2} \quad)^{1} \int_{0}^{2} \mathrm{d} \; e^{\;U(\;)} \int_{0}^{2} \mathrm{d}^{\;0} e^{\quad U(\;^{0})} \int_{0}^{2} \mathrm{d} \; e^{\quad U(\;)} \int_{0} \mathrm{d}^{\;0} e^{\;U(\;^{0})} \;\#^{1} \; ;$$

the inequalities in the sentence immediately before Eq. (S10) become $n_{o} E_{o}; n_{1} E_{1} \quad (\; _{\mathrm{H}^{+}} + \; _{\mathrm{ATP}})$, the LHS of Eq. (S10) is multiplied by two to give

$$2 \; \text{-} \quad (\; _{\mathrm{H}^{+}} + \; _{\mathrm{ATP}}) = \quad ;$$

and the constant (6a Td 2U8aJ/F10 6-342(constan)28(t)-342((6a-Friem-16(diately)-4a-Frollo)278wing)-4nstaq.)-3341(S10)ecome

[5] Sivak, D. A. & Crooks, G. E. Thermodynamic geometry of minimum-dissipation driven barrier crossing. *Phys. Rev. E* **94**, 052106 (2016).

[6] Brown, A. I. & Sivak, D. A. Toward the design principles of molecular machines. *Phys. in Canada* **73**, 61{66 (2017). ArXiv:1701.04868v2.

[7] Quenneville, M. & Sivak, D. A. Energy dissipation and information .

[8]Phys1 rin.7132, 61{6642(2017).d707{9Xiv:17061 0 G 2.