Errata

for

Properties of contact matrices induced by pairwise interactions in proteins

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1. Eq. (6) in the left-hand side of page 051910-3 should be:

$$E^{\mathrm{c}}(C,S) \;\geq\; \min_{\varepsilon_0}\,[\,-\frac{1}{2}\|\delta\vec{\mathcal{E}}(S)\|\|\vec{\Delta}(C)\|+\varepsilon_0 N_{\mathrm{c}}(C)\,], \tag{6}$$

2. Eq. (8) in the left-hand side of page 051910-3 should be:

$$E^{\mathrm{c}}(C,S) \;\geq\; \frac{1}{2}\sum_i\sum_j \delta\mathcal{E}_{ij}(S)\Delta_{ij}(C_{\min})+\varepsilon_0(C_{\min})N_{\mathrm{c}}(C_{\min}) \tag{8}$$

3. Eq. (17) in the right-hand side of page 051910-4 should be:

$$E^{\mathrm{c}}(C,S) \;\geq\; \min_{\varepsilon_0}\,[\,-\frac{1}{2}\sum_{\{\xi|\lambda_\xi\varepsilon_\xi\neq 0\}}|\lambda_\xi(C)\varepsilon_\xi(S)|+\varepsilon_0 N_{\mathrm{c}}(C)\,]. \tag{17}$$

4. Eq. (19) in the right-hand side of page 051910-4 should be:

$$\begin{aligned} E^{\mathrm{c}}(C,S) \;&\geq\; \min_{\varepsilon_0}\,[\,-\frac{1}{2}\|\vec{\lambda}(C)\|_{\{\xi|\lambda_\xi\varepsilon_\xi\neq 0\}}\|\vec{\varepsilon}(S)\|_{\{\xi|\lambda_\xi\varepsilon_\xi\neq 0\}}+\varepsilon_0 N_{\mathrm{c}}(C)\,] &(19)\\ &=\; \min_{\varepsilon_0}\,[\,-\frac{1}{2}\|\delta\vec{\mathcal{E}}(S)\|_{\{\xi|\lambda_\xi\varepsilon_\xi\neq 0\}}\|\vec{\Delta}(C)\|_{\{\xi|\lambda_\xi\varepsilon_\xi\neq 0\}}+\varepsilon_0 N_{\mathrm{c}}(C)\,], &(20)\end{aligned}$$

5. Eq. (22) in the right-hand side of page 051910-4 should be:

$$E^{c}(C,S) \;=\; \frac{1}{2}\sum_\nu |\varepsilon_\nu|({}^tU\Delta(C)V)_{\nu\nu}+\varepsilon_0 N_c(C). \tag{22}$$

6. FIG. 5 in the left-hand side of page 051910-9 should be:

   The original figure is not incorrect but the revised one will be better than the original in order to understand that the primary eigenvector of the C-matrix corresponds to the lower-frequency modes of the corresponding Kirchhoff matrix.

   In the revised figure, the primary eigenspace, indicated by $n = 1$, of the Kirchhoff matrix is one consisting of all eigenvalues equal to zero. In the original figure, the primary eigenvector of the Kirchhoff matrix was chosen arbitrarily from eigenvalues equal to zero.

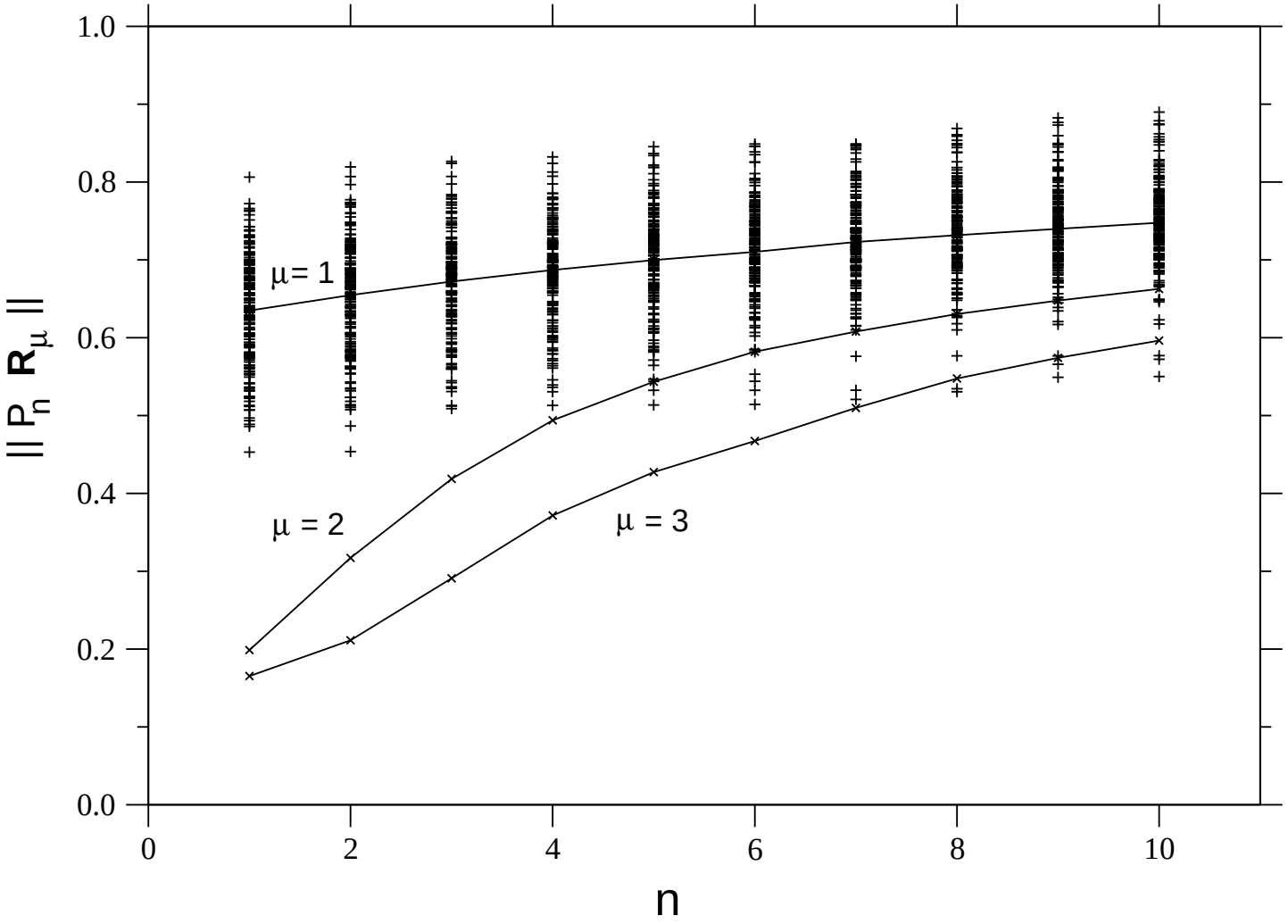

Figure 5: The norms of the C matrix eigenvectors, $\mathbf{R}_\mu$, projected on the subspace consisting of the n lowest-frequency normal modes of a Kirchihoff matrix corresponding to the C-matrix, are plotted against n; the primary eigenspace, indicated by $n = 1$, of the Kirchihoff matrix is the one consisting of all eigenvalues equal to zero. P_n means a projection operator on the n lowest-frequency normal modes of the Kirchhoff matrix. Plus marks indicate the norm of the principal eigenvector of the C-matrix of each of 182 proteins projected on each subspace consisting of the n lowest-frequency normal modes indicated on the abscissa. The solid curves with cross marks indicate those norms averaged over all the proteins; their curves from the left to the right show those values for the first, the second, and the third principal eigenvectors of the C matrix, respectively.