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## Correction to: SpectralTAD: an R package for defining a hierarchy of topologically associated domains using spectral clustering



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The original article can be found online at https://doi.org/10.1186/s12859-020-03652-w.

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Following publication of the original article [1], the authors identified misformatted equations in the published article. The correctly formatted equations are given below.

1. Calculating the normalized symmetric Laplacian:

$$\overline{L} = D^{-\frac{1}{2}}CD^{-\frac{1}{2}}$$

2. Solve the generalized eigenvalue problem:

$$\overline{L}\,\overline{V} = \lambda\overline{V}$$

- 3. The result is a matrix of eigenvectors  $\overline{V}_{w \times k}$ , where w is the window size, and k is the number of eigenvectors used, and a vector of eigenvalues where each entry  $\lambda_i$  corresponds to the  $i_{th}$  eigenvalue of the normalized Laplacian  $\overline{L}$ .
  - 4. Normalize rows and columns to sum to 1:

$$\widehat{V}_{i.} = \frac{\overline{V}_{i.}}{\|\overline{V}_{i.}\|}$$

5. Find the mean silhouette score over all possible numbers of clusters m and organize into a vector of means:



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Cresswell et al. BMC Bioinformatics (2020) 21:373 Page 2 of 2

$$\overline{s}_m = \frac{\sum_{i=1}^m s_i}{m}$$

6. Find the value of m which maximizes  $\overline{s}_m$  The original article has been updated.

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## Reference

 Cresswell, et al. SpectralTAD: an R package for defining a hierarchy of topologically associated domains using spectral clustering. BMC Bioinformatics. 2020;21:319. https://doi.org/10.1186/s12859-020-03652-w.