Erratum for: Franck-Condon factors by counting perfect matchings of graphs with loops

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Equation (31) of Ref. [1] reads

$$\hat{\mathcal{W}} = \hat{\mathcal{U}}(\boldsymbol{O}_R^T)\hat{\mathcal{S}}(\log(\boldsymbol{l})\hat{\mathcal{U}}(\boldsymbol{O}_L)\hat{\mathcal{D}}(\boldsymbol{d}/\sqrt{2}), \tag{1}$$

It should read

$$\hat{\mathcal{W}} = \hat{\mathcal{D}}(\boldsymbol{d}/\sqrt{2})\hat{\mathcal{U}}(\boldsymbol{O}_R^T)\hat{\mathcal{S}}(\log(\boldsymbol{l}))\hat{\mathcal{U}}(\boldsymbol{O}_L). \tag{2}$$

Similarly, the equation before Eq. (47) of Ref. [1] reads

$$\langle \boldsymbol{n}_{\text{final}}|\boldsymbol{m}_{\text{in}}\rangle = \langle \boldsymbol{n}|\hat{\mathcal{U}}(\boldsymbol{O}_L^T)\hat{\mathcal{S}}(\log(\boldsymbol{l}))\mathcal{U}(\boldsymbol{O}_R)\hat{\mathcal{D}}(\boldsymbol{d}/\sqrt{2})|\boldsymbol{m}\rangle. \tag{3}$$

It should read

$$\langle \boldsymbol{n}_{\text{final}}|\boldsymbol{m}_{\text{in}}\rangle = \langle \boldsymbol{n}|\hat{\mathcal{D}}(\boldsymbol{d}/\sqrt{2})\hat{\mathcal{U}}(\boldsymbol{O}_L^T)\hat{\mathcal{S}}(\log(\boldsymbol{l}))\mathcal{U}(\boldsymbol{O}_R)|\boldsymbol{m}\rangle. \tag{4}$$

This also implies that one does not need to take the Hermitian adjoint in the same equation to move the displacement to the left-hand side of the inner product. Thus this equation when amended with the correction presented here is already in the form of equation (47) albeit with the indices $\boldsymbol{m}$ and $\boldsymbol{n}$ switched.

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[1] Nicolás Quesada. Franck-condon factors by counting perfect matchings of graphs with loops. *J. Chem. Phys.*, 150(16):164113, 2019. doi: 10.1063/1.5086387. URL https://doi.org/10.1063/1.5086387.