Erratum: Many-Body Models for Molecular Nanomagnets **[Phys. Rev. Lett. 110, 157204 (2013)]**

A. Chiesa, S. Carretta, P. Santini, G. Amoretti, and E. Pavarini

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We noticed three misprints in the Letter. First, in Eq. (1) the operator $c_{i'm'\sigma}^\dagger$ should be replaced with $c_{i'm'\sigma}$. The correct Hamiltonian is

$$\begin{aligned}
 H = & - \sum_{ii'} \sum_{\sigma} \sum_{mm'} t_{m,m'}^{i,i'} c_{im\sigma}^\dagger c_{i'm'\sigma} \\
 & + \frac{1}{2} \sum_{ii'} \sum_{\sigma\sigma'} \sum_{mm'} \sum_{pp'} U_{mpm'p'}^{i,i'} c_{im\sigma}^\dagger c_{i'p\sigma'}^\dagger c_{ip'\sigma'} c_{i'm'\sigma} \\
 & + \sum_i \lambda_i \mathbf{S}_i \cdot \mathbf{L}_i - H_{\text{DC}}.
 \end{aligned} \tag{1}$$

Next, the term $|t_{n,n'}^{i,i'}|^2$ is missing in the numerator of the second line of Eq. (3), which should read

$$\begin{aligned}
 \Gamma_{\text{SE}}^{i,i'} \sim & \frac{2}{9} \sum_{n'=1}^3 \sum_{n=4}^5 \frac{|t_{n',n}^{i,i'}|^2 + |t_{n,n'}^{i,i'}|^2}{U + \varepsilon_n - \varepsilon_{n'}} \\
 & + \frac{2}{9} \sum_{n'=1}^3 \sum_{n=1}^3 \frac{|t_{n',n}^{i,i'}|^2 + |t_{n,n'}^{i,i'}|^2}{U + 2J + \varepsilon_n - \varepsilon_{n'}} \\
 & - \frac{2}{9} \sum_{n'=1}^3 \sum_{n=4}^5 \frac{|t_{n',n}^{i,i'}|^2 + |t_{n,n'}^{i,i'}|^2}{U - 3J + \varepsilon_n - \varepsilon_{n'}}.
 \end{aligned} \tag{2}$$

Last, the hopping integral $t_{1,1}^{1,2}$ in Table I is -0.131 eV. In actual calculations, the correct value of $t_{1,1}^{1,2}$ and the exact superexchange formula were used. Equation (2) was only introduced to discuss qualitatively the superexchange mechanism. Therefore the misprints pointed out do not affect the effective spin-Hamiltonian derived.

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