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## Correction: Controlled synthesis of lanthanide-doped $\text{Gd}_2\text{O}_2\text{S}$ nanocrystals with novel excitation-dependent multicolor emissions

Lei Lei, \* Shengjun Zhang, Han Xia, Ying Tian, Junjie Zhang and Shiqing Xu\*Correction for 'Controlled synthesis of lanthanide-doped  $\text{Gd}_2\text{O}_2\text{S}$  nanocrystals with novel excitation-dependent multicolor emissions' by Lei Lei, *et al.*, *Nanoscale*, 2017, 9, 5718–5724.

The authors wish to amend the sections of the manuscript detailed below. These corrections are due to the misleading origin of the excitation bands for Eu/Sm/Dy in lanthanide oxysulfide hosts.

The corrections are as follows:

- (1) On page 5718 in the sentence beginning "Considering that  $\text{Tb}^{3+}$  and..." the phrase " $4f \rightarrow 5d$ " should instead read as " $4f \rightarrow 5d$  or  $4f \rightarrow 4f$ ".
- (2) On page 5721 in the sentence beginning "Taking the F-NYG NCs..." the phrase " $4f^n \rightarrow 4f^{n-1}5d^1$ " should instead read as " $4f \rightarrow 5d$  or charge transfer band".
- (3) On page 5721 in the sentence beginning "On replacing all  $\text{Gd}^{3+}$  ions..." the phrase "the intensity of the  $4f \rightarrow 5d$  transitions for  $\text{Tb}^{3+}$  and  $\text{Dy}^{3+}$  in the PLE spectra" should instead read as "the intensity of the  $4f \rightarrow 5d$  transitions for  $\text{Tb}^{3+}$  and  $\text{O}^{2-} \rightarrow \text{Dy}^{3+}$  charge transfer for  $\text{Dy}^{3+}$  in the PLE spectra".
- (4) On page 5721 in the sentence beginning "However, the color variation..." the phrase " $4f \rightarrow 5d$  transitions of  $\text{Tb}^{3+}$  and  $\text{Eu}^{3+}$ " should instead read as " $4f \rightarrow 5d$  transitions of  $\text{Tb}^{3+}$  and  $4f \rightarrow 4f$  transitions of  $\text{Eu}^{3+}$ ".
- (5) The labels in Fig. 4(a) and Fig. S10(b) should be corrected, as shown in the below corrected figures.<sup>1</sup>

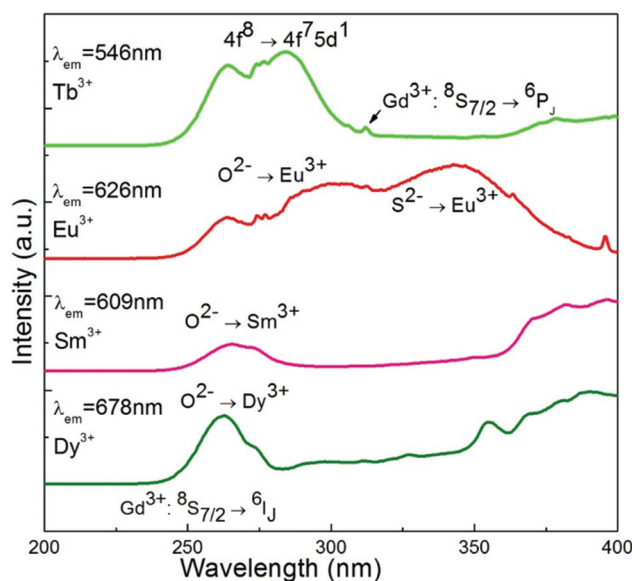


Fig. 4a PLE spectra of F-NYG: $\text{Tb}^{3+}$  (or  $\text{Eu}^{3+}$ ,  $\text{Sm}^{3+}$ , and  $\text{Dy}^{3+}$ ).

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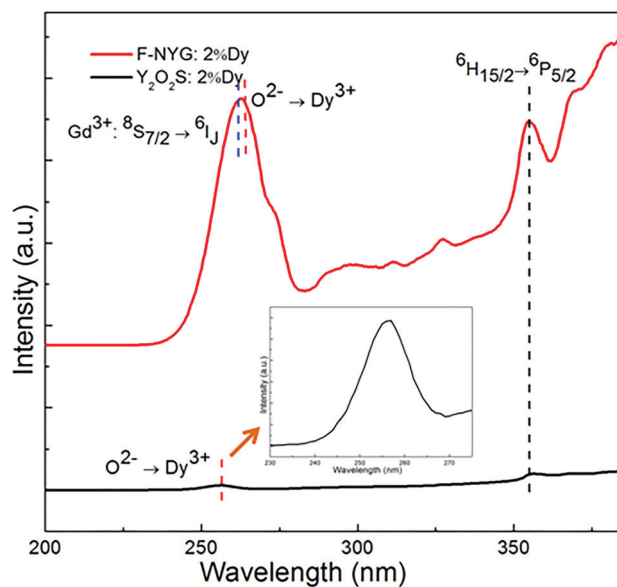


Fig. S10b PLE spectrum of F-NYG: 2%Dy (Y<sub>2</sub>O<sub>2</sub>S: 2%Dy).

(6) References 9 and 39 given in the sentence beginning “Multicolor emission could not...” should instead refer to the references listed below (ref. 2 and 3)

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

## References

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- 3 A. Podhorodecki, M. Banski, J. Misiewicz, M. Afzaal, P. O. Brien, D. Cha and X. B. Wang, *J. Mater. Chem.*, 2012, **22**, 5356–5361.

