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Correction

Correction to: Hydrothermal temperature dependence of $CaWO_4$ nanoparticles: structural, optical, morphology and photocatalytic activity

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The original version of this article was published with the following errors. These have been corrected with this erratum.

1. The original article was published reporting the electronic supplementary document, which contains the Fig. S1 (unit cell structure), Table S1 (bond length, bond distance), Table S2 (crystallite size, dislocation density and microstrain) and Table S3 (band position for active Raman modes). However, this document was not attached and available for readers. Therefore, it will be available in the corrected version of article.

The original article can be found online at https://doi.org/10.1007/s10854-021-05638-7.

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2. The Table 1, available in section "3.1. structural characterization of $CaWO_4$ nanoparticles" was wrongly published with the atomic position for tungsten atom (W) and oxygen atom (O); the R_profile parameters for crystallographic data of ICSD card n°. 18135 were erroneously reproduced from crystallographic data of sample $CaWO_4$ 100 °C—1 h.

3. Equation number 5 has incorrectly been published as

$$\beta_{\mathrm{Tot}} \cos\theta_{hkl} = \frac{k\lambda}{\overline{D}\cos\theta} + 4\varepsilon \sin\theta_{hkl},$$

whereas it should be

$$\beta_{\mathrm{Tot}} \cos\theta_{hkl} = \frac{k\lambda}{\overline{D}} + 4\varepsilon \sin\theta_{hkl}$$

4. We incorrectly mentioned in the original paper that the crystallite size ($\overline{D}$) and strain (ε) were found using the Williamson–Hall (W–H) equation, where the slope of linear adjustment has a = $\frac{k\lambda}{\overline{D}\cos\theta}$, and the intercept was $b = \varepsilon$. However, it should read that the intercept $a = \frac{k\lambda}{\overline{D}}$, and the slope is $b = \varepsilon$.

5. In the original paper, we reported the crystallite size and strain values for samples $CaWO_4$-100 °C—1 h (24.61(0.12) nm and 1.071(0.012)), $CaWO_4$-120 °C—1 h (33.64(0.39) nm and 2.419(0.030)), $CaWO_4$-140 °C—1 h (40.13(0.18) nm and 2.310(0.007)), and $CaWO_4$-160 °C—1 h (39.16(0.12)) nm and 1.993(0.02)). Although these values had been replaced in the proof version, these had not been updated in the final version of manuscript. Therefore, these respective values are $CaWO_4$-100 °C—1 h (32 nm and 0.58×10^{-3}), $CaWO_4$-120 °C—1 h (44 nm and 1.39×10^{-3}), $CaWO_4$-140 °C—1 h (52 nm and 1.23×10^{-3}), and $CaWO_4$-160 °C—1 h (51 nm and 1.11×10^{-3}).

6. Similarly, there was a mistake in the dislocation density values reported in the original version: $1.65 \pm 0.02\ \mathrm{nm}^{-2}$ ($CaWO_4$-100 °C—1 h), $0.621 \pm 0.02\ \mathrm{nm}^{-2}$ ($CaWO_4$-140 °C—1 h) and $0.652 \pm 0.03\ \mathrm{nm}^{-2}$ ($CaWO_4$-160 °C—1 h). However, these should be 9.8×10^{-4}, 5.2×10^{-4}, 3.7×10^{-4}, 3.8×10^{-4}, for $CaWO_4$-100 °C—1 h, $CaWO_4$-120 °C—1 h, $CaWO_4$-140 °C—1 h and $CaWO_4$-160 °C—1 h, respectively, according to the Table S1, available in supplementary electronic material.

7. The optical bandgap values reported in the Abstract and Conclusion section were incorrectly mentioned as ranging between 3.90 and 4.01 eV; however, it should be 3.9(1) eV and 4.0(2) eV.

8. Equations 1 and 3 have incorrectly been published as

$$\mathrm{Ca(NO_3)_2{\cdot}4H_2O} \xrightarrow{\mathrm{H_2O}} \mathrm{Ca^{2+}(aq) + NO_3^{2-}(aq)} + \mathrm{4H_2O\,(l)} \quad (1)$$

and

$$\mathrm{Ca^{2+}(aq) + NO_3^{2-}(aq) + 4H_2O\ (l) + 2Na^{+}(aq)} + \mathrm{WO_4^{2-}(aq) + 2H_2O} \xrightarrow{\mathrm{HT=100-160^{\circ}C}} \mathrm{CaWO_4(s)} + \mathrm{NO_3^{2-}(aq) + 2Na^{+}(aq) + 6H_2O(l)}, \quad (3)$$

whereas they should be

$$\mathrm{Ca(NO_3)_2{\cdot}4H_2O} \xrightarrow{\mathrm{H_2O}} \mathrm{Ca^{2+}(aq) + 2NO_3^{-}(aq)} + \mathrm{4H_2O\,(l)} \quad (1)$$

and

$$\mathrm{Ca^{2+}(aq) + 2NO_3^{-}(aq) + 4H_2O\ (l) + 2Na^{+}(aq)} + \mathrm{WO_4^{2-}(aq) + 2H_2O\,(l)} \xrightarrow{\mathrm{HT=100-160^{\circ}C}} \mathrm{CaWO_4(s)} + \mathrm{2NO_3^{-}(aq) + 2Na^{+}(aq) + 6H_2O(l)} \quad (3)$$

9. The experimental full width at half maximum (FWHM) for the XRD peaks in the XRD sample patterns were automatically calculated through the Rietveld refinement using the instrumental resolution file (.IRF) of LaB_6. In this case, the instrumental resolution function (FWHM) is calculated as $\mathrm{FWHM} = \sqrt{U_i \tan^2\theta + V_i \tan\theta + W_i}$.

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