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CORRECTION

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Correction: $[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_4]^{24-}$: a new robust visible light-driven water oxidation catalyst based on nickel-containing polyoxometalate

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Correction for '$[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_4]^{24-}$: a new robust visible light-driven water oxidation catalyst based on nickel-containing polyoxometalate' by Li Yu *et al.*, *Chem. Commun.*, 2016, DOI: 10.1039/c6cc02728h.

The authors regret that the structural formula of the reported catalyst is incorrect in the original article. After publication, the authors were made aware that, although the initial single-crystal X-ray diffraction structural analysis revealed the chemical formula of polyoxoanion **1** to be $[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_4]^{24-}$, this nickel cluster is the same as the previously reported polyoxoanion $[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_2]^{12-}$ that was first reported by Kortz and co-workers in 1999, herein cited as ref. 1.

As a result, the title of the article is changed to '**$[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_2]^{12-}$: a robust visible light-driven water oxidation catalyst based on nickel-containing polyoxometalate**' and the abstract is changed to '$[\{\beta\text{-SiNi}_2W_{10}O_{36}(OH)_2(H_2O)\}_2]^{12-}$ (**1**) was reported as an efficient, robust visible light-driven water oxidation catalyst for the first time. Of the reported polyoxometalates containing nickel, **1** shows the best photocatalytic O_2 evolution activity with a TON of 335 and TOF of 1.7 s^{-1}.' Additionally, at the end of the sentence beginning 'Herein, we report a POM-based polynuclear nickel…' on the first page of the article, a citation to the work of Kortz and co-workers should be added.[1]

The authors also wish to further demonstrate the reproducibility of the catalytic water oxidation activity experiments by adding that the catalytic runs were conducted in triplicate at each catalyst concentration and stating that all O_2 yields from the repeated experiments show similar values to the original published data. A revised version of Fig. 2, with the updated kinetics of O_2 formation curves and standard deviations, is included herein. Error bars have been added to the kinetics of O_2 formation curves.

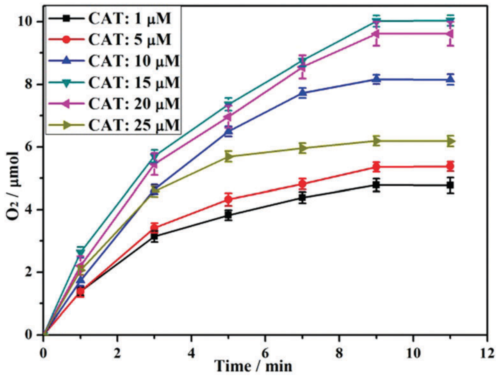

Fig. 2 Kinetics of O_2 formation in the photocatalytic system using different concentrations of **1**. Conditions: LED lamp ($\lambda \geq$ 420 nm), 1.0 mM $[Ru(bpy)_3]Cl_2$, 5.0 mM $Na_2S_2O_8$, 80 mM sodium borate buffer (initial pH 9.0), the total reaction volume was 15 mL.

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Finally, in order to add value to the claims made in the original article, the authors wish to report some additional control experiments to confirm that the observed catalytic activity can mainly be attributed to the anion **1**, rather than Ni^{2+} associated with the anion or free Ni^{2+}.

Different concentrations of $NiSO_4$ (1–150 μM) were tested under the same water oxidation conditions to observe the photocatalytic water oxidation activities. As shown in Fig. S27–S30, **1** shows higher catalytic activity than the control free Ni^{2+} ions. Based on these control experiments, little O_2 was produced over the free Ni^{2+} ions, and an induction period in the early stage of O_2 evolution was observed for the water oxidation reaction catalyzed by $NiSO_4$. The difference in the catalytic activity and catalytic behavior between **1** and the equivalent free Ni^{2+}(aq) salt is strong evidence that **1** is a dominant water oxidation catalyst in this photocatalytic reaction.

According to the X-ray analysis, Ni^{2+} associated with the anion exists in **1**. The EDTA chelating test demonstrates the O_2 evolution contribution of Ni^{2+} associated with the anion in the water oxidation. Once the Ni^{2+} associated with the anion was chelated by EDTA, the amount of O_2 evolved decreased by 1 μmol for the reaction system. As shown in Fig. S34, when an excessive amount of EDTA–Na was added to the reaction system in the presence of **1**, the catalytic water oxidation activity of **1** fell very slightly, which explains that the water oxidation activity mainly results from **1**.

Therefore, it can be concluded that Ni^{2+} associated with the anion contributes about 1 μmol O_2 to this water oxidation system, *i.e.* occupies 9.8% of the total amount of evolved O_2. Additional experimental details have been provided in an updated version of the Electronic Supplementary Information (Fig. S26–S30, S32, S34 and S37–S39), which is now available alongside the original article.

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

References

1 U. Kortz, Y. P. Jeannin, A. Tézé, G. Hervé and S. Isber, *Inorg. Chem.*, 1999, **38**, 3670–3675.