

CORRECTION

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# Correction: Weakening hydrogen adsorption on nickel via interstitial nitrogen doping promotes bifunctional hydrogen electrocatalysis in alkaline solution

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Correction for 'Weakening hydrogen adsorption on nickel via interstitial nitrogen doping promotes bifunctional hydrogen electrocatalysis in alkaline solution' by Tingting Wang *et al.*, *Energy Environ. Sci.*, 2019, DOI: 10.1039/c9ee01743g.

In the original manuscript, we inadvertently missed one important result from the original ref. 28 by Oshchepkov *et al.*<sup>1</sup> for the comparison in Table S1 in the electronic supporting information (ESI†). That work reported the preparation of nanostructured nickel nanoparticles supported on vulcan carbon as an active catalyst for the hydrogen oxidation reaction (HOR) in alkaline media. RDE measurements revealed a mass-specific kinetic current ( $J_{mk}$ ) of  $32.1 \pm 4.8$  mA g<sub>Ni</sub><sup>-1</sup> and a mass specific exchange current ( $J_{m0}$ ) of  $22.4 \pm 4.3$  mA g<sub>Ni</sub><sup>-1</sup> at the catalyst loading of  $0.073 \pm 0.009$  mg cm<sup>-2</sup> (later provided by the authors of ref. 1 through email communication) in 0.1 M NaOH. Both values are higher than those reported in our manuscript even though we believe that this is at least partly due to the very low catalyst loading the authors adopted for HOR RDE measurements. This correction doesn't affect the scientific content of our work.

Table S1 should appear as follows.

The following discussion of the manuscript should be corrected as follows, with the changes indicated in bold:

On p. 5: "Remarkably, we find that both  $J_{mk}$  and  $J_{m0}$  of our np-Ni<sub>3</sub>N are significantly improved **compared to most** previous Ni-based HOR electrocatalysts as summarized in Fig. 3c and Table S1 (ESI†)".

In the Conclusion: "All these metrics were superior to **most** existing non-precious-metal-based electrocatalysts to our best knowledge".

Table 1 Comparison of the alkaline HOR activity of our catalyst with literature results

Electrocatalyst	Electrolyte	T/°C	Loading/mg <sub>metal</sub> cm <sup>-2</sup>	$J_{mk}/A$ g <sup>-1</sup> @ $\eta = 50$ mV	$J_{m0}/A$ g <sup>-1</sup>	Ref.
np-Ni <sub>3</sub> N	0.1 M KOH	25	0.16	29.75	10.3	<b>This work</b>
Ch-activated NiED/XC-72	0.1 M NaOH	25	$0.073 \pm 0.009^a$	$32.1 \pm 4.8$	$22.4 \pm 4.3$	<i>J. Power Sources</i> , 2018, <b>402</b> , 447
Ni/N-CNT	0.1 M KOH	RT	0.25	9.3	3.54	<i>Nat. Commun.</i> , 2016, <b>7</b> , 10141
Ni/CNT	0.1 M KOH	RT	0.25	1.9	0.98	<i>Nat. Commun.</i> , 2016, <b>7</b> , 10141
Ni	0.1 M KOH	RT	0.25	0.28	0.15	<i>Nat. Commun.</i> , 2016, <b>7</b> , 10141
50% Ni <sub>3</sub> Mo <sub>1</sub> /KB	0.1 M NaOH	25	—	—	4.5	<i>J. Mater. Chem. A</i> , 2017, <b>5</b> , 24433
Ni <sub>0.95</sub> Cu <sub>0.05</sub> /C	—	—	0.25	—	2.5	<i>J. Electroanal. Chem.</i> , 2016, <b>783</b> , 146
Ni <sub>3</sub> @h-(BN) <sub>1</sub> /C-700NH <sub>3</sub>	0.1 M NaOH	RT	—	—	3.3	<i>Chem. Sci.</i> , 2017, <b>8</b> , 5728

<sup>a</sup> Value provided by the authors through email communication.

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

## References

- 1 A. G. Oshchepkov, A. Bonnefont, S. N. Pronkin, O. V. Cherstiouk, C. Ulhaq-Bouillet, V. Papaefthimiou, V. N. Parmon and E. R. Savinova, *J. Power Sources*, 2018, **402**, 447–452.

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