

## CORRECTION

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## Correction: Vertically aligned boron-doped diamond nanostructures as highly efficient electrodes for electrochemical supercapacitors

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[rsc.li/materials-a](https://rsc.li/materials-a)Correction for 'Vertically aligned boron-doped diamond nanostructures as highly efficient electrodes for electrochemical supercapacitors' by Shradha Suman *et al.*, *J. Mater. Chem. A*, 2024, <https://doi.org/10.1039/D3TA07728D>.

The authors regret that the original manuscript contained errors in the content of Sections 2.1 'Preparation of BDD films' and 2.2 'Fabrication of BDD nanostructures'. Additionally, a project number was accidentally omitted from the Acknowledgements. The correct versions of both sections and the Acknowledgements are displayed below.

**2.1 Preparation of BDD films**

The linear antenna microwave plasma enhanced chemical vapor deposition (LA MW CVD) reactor (SCIA cube 300) was employed to produce the pristine BMCD (designated as 'BMCD<sub>P</sub>') and BUNCD ('BUNCD<sub>P</sub>') films on an alumina (Al<sub>2</sub>O<sub>3</sub>) substrate. First, the substrates were cleaned in NH<sub>4</sub>OH/H<sub>2</sub>O<sub>2</sub> solution, rinsed in deionized water and annealed at 1000 °C for 1 h in air. The substrates were then ultrasonically nucleated in a suspension of nanodiamond powder (5 nm in size) in deionized water. Trimethyl borate (TMBT) was used as the carbon, boron and oxygen source for the film growth.<sup>40</sup> The 30 h growth was conducted in an H<sub>2</sub>/TMBT/CO<sub>2</sub> gas mixture combination with a CO<sub>2</sub> to H<sub>2</sub> ratio of 0.2%. The substrate temperature was maintained at 600 °C, and the pressure was kept at 30 Pa. For the formation of the pristine sample, the flow rate of evaporated TMBT was kept at 1% with a resulting B/C ratio of 312 500 ppm for BMCD<sub>P</sub>, and for BUNCD<sub>P</sub>, the flow rate was 4% with a B/C ratio of 328 000 ppm. The detailed growth process was described elsewhere.<sup>41</sup>

**2.2 Fabrication of BDD nanostructures**

First, an Au layer of 8 nm thickness was deposited on the BMCD<sub>P</sub> and BUNCD<sub>P</sub> films. The Au-coated BDD films were then heat treated in an H<sub>2</sub>-based microwave plasma at 500 °C for 10 min, yielding self-organized masks arranged in an array of Au nanodroplets on the surfaces of BMCD<sub>P</sub> and BUNCD<sub>P</sub>. The Au-masked diamond films were subjected to a standard capacitive coupled plasma system (Phantom III, Trion Technology) in a mixture of oxygen gas with tetrafluoromethane (O<sub>2</sub>/CF<sub>4</sub> – 60/3 sccm – 5%) to fabricate the desired structures. The pressure was maintained at 150 mTorr and the RF power at 150 W throughout the experiments. Etching was carried out for 6 min. After the RIE process, Au nanodroplets were etched out by a standard wet chemical etching process (HNO<sub>3</sub> : HCl at 1 : 3 n/n). The detailed fabrication process was described elsewhere.<sup>41</sup>

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

