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CORRECTION

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

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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 accidently 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$_P$') and BUNCD ('BUNCD$_P$') films on an alumina (Al_2O_3) substrate. First, the substrates were cleaned in NH_4OH/H_2O_2 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.[40] The 30 h growth was conducted in an H_2/TMBT/CO_2 gas mixture combination with a CO_2 to H_2 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$_P$, and for BUNCD$_P$, the flow rate was 4% with a B/C ratio of 328 000 ppm. The detailed growth process was described elsewhere.[41]

2.2 Fabrication of BDD nanostructures

First, an Au layer of 8 nm thickness was deposited on the BMCD$_P$ and BUNCD$_P$ films. The Au-coated BDD films were then heat treated in an H_2-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$_P$ and BUNCD$_P$. 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_2/CF_4 – 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_3 : HCl at 1 : 3 n/n). The detailed fabrication process was described elsewhere.[41]

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