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Author Correction: Boron-doped Nanodiamond as an Electrode Material for Aqueous Electric Double-layer Capacitors

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Correction to: *Scientific Reports* <https://doi.org/10.1038/s41598-019-54197-9>, published online 28 November 2019

The original version of this Article contained a calculation error in electric conductivity values. As illustrated in the Methods section, the inner diameter of the glass tube for the measurement was 1.0 mm. However, the authors incorrectly used 10.0 mm for the calculations. In addition, an incorrect equation $\sigma = \frac{1}{R} \cdot \frac{A}{l}$ was used for calculation of conductivity. The correct equation $\sigma = \frac{1}{R} \cdot \frac{l}{A}$ has now been used, where, σ is conductivity, R is electrical resistance measured, A is cross-sectional area of the cylinder, and l is length of the cylinder. As a result, the electric conductivity values in the original version of the Article were about 100 times smaller than the correct values.

Consequently, in the Abstract,

“The BDND comprises BDD and sp^2 carbon components, and exhibits a conductivity above $10^{-2} \text{ S cm}^{-1}$ and a specific surface area of $650 \text{ m}^2 \text{ g}^{-1}$.”

now reads:

“The BDND comprises BDD and sp^2 carbon components, and exhibits a conductivity above 1 S cm^{-1} and a specific surface area of $650 \text{ m}^2 \text{ g}^{-1}$.”

In addition, in the Results and Discussion section, under the subheading ‘Preparation of the boron-doped nanodiamond’,

“The electrical conductivity of the as-deposited BDND was increased rapidly from $1.8 \times 10^{-9} \text{ S cm}^{-1}$ to $3.5 \times 10^{-4} \text{ S cm}^{-1}$ with a deposition time of 1 h. The BDND prepared with 8 h deposition time exhibited a conductivity sufficient for an electrochemical electrode material ($2.0 \times 10^{-2} \text{ S cm}^{-1}$).”

now reads:

“The electrical conductivity of the as-deposited BDND was increased rapidly from $7.2 \times 10^{-7} \text{ S cm}^{-1}$ to $1.4 \times 10^{-2} \text{ S cm}^{-1}$ with a deposition time of 1 h. The BDND prepared with 8 h deposition time exhibited a conductivity sufficient for an electrochemical electrode material (4.0 S cm^{-1}).”

Finally, the y-axis scale and conductivity value in Figure 1 was incorrect. The original Figure 1 and accompanying legend appear below.

The original Article has been corrected.

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Figure 1. Electrical conductivity of the as-deposited BDND as a function of the CVD deposition time for the BDND preparation.

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