

## Support Information

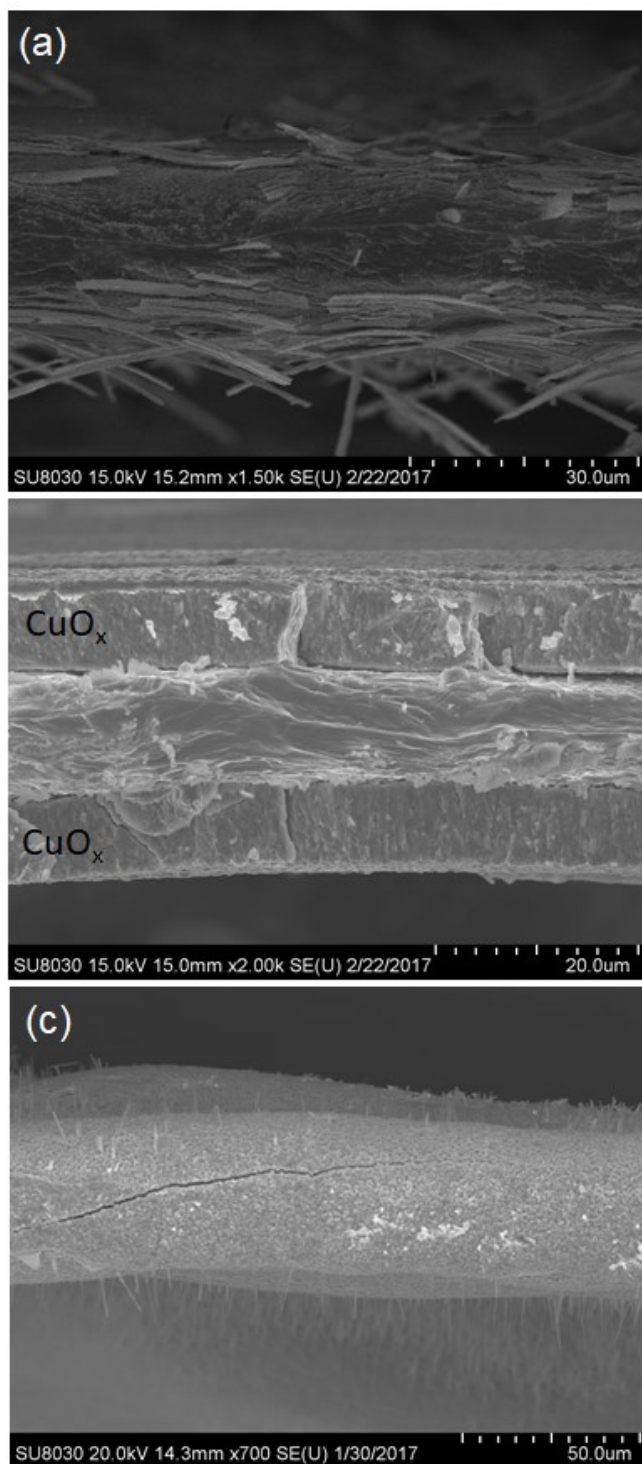
### **Spray-coated Barrier Coating on Copper Based on Exfoliated Vermiculite Sheets**

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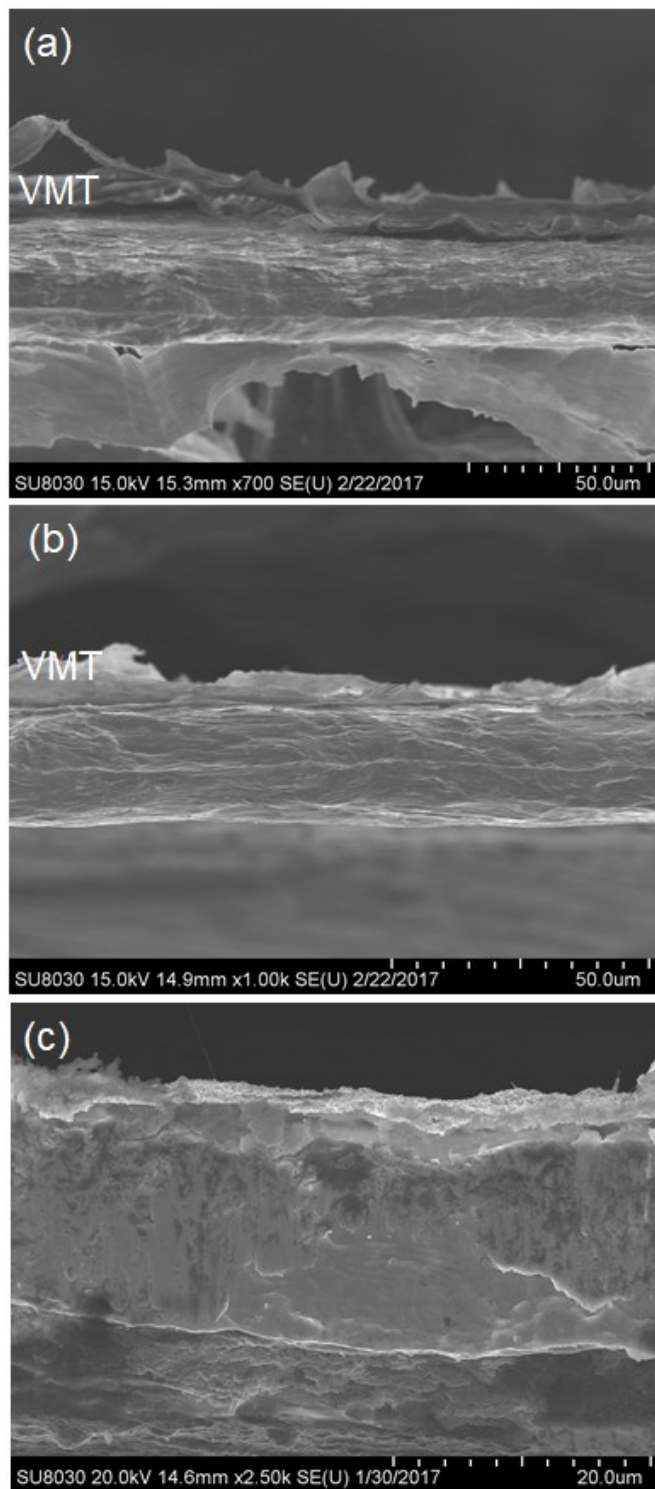
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**Fig. S1** Cross-sectional SEM images of uncoated Cu foils after heating for 24 hours at (a) 200 °C (b) 300 °C and (c) 400 °C in air. In (a) large oxide flakes are observed on the top and bottom surfaces. In (b), such flakes were removed to observe the thick CuO<sub>x</sub> layer at the two sides. In (c), CuO<sub>x</sub> wires were grown on the two surfaces.



**Fig. S2** The cross-sectional SEM images of VMT-coated Cu after annealing for 24 hours in air at temperatures of (a) 200 °C (b) 300 °C and (c) 400 °C. The top and bottom surface (a and b) are covered with broken vermiculite coatings formed during sample preparation. In (c), no obvious oxide flakes or wires can be observed on the two surfaces.