

## Supporting Information

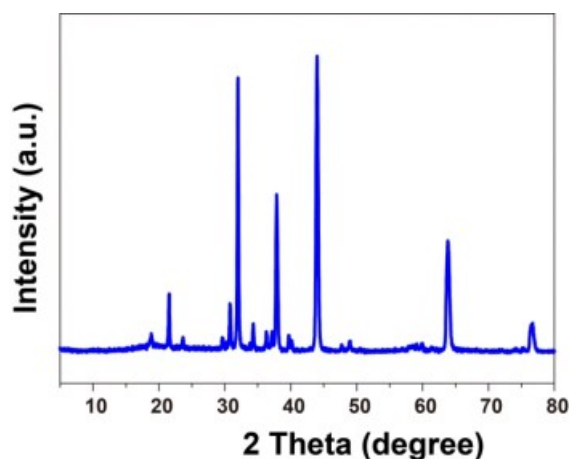
### A free-standing VN/MXene composite anode for high-performance Li-ion hybrid capacitor

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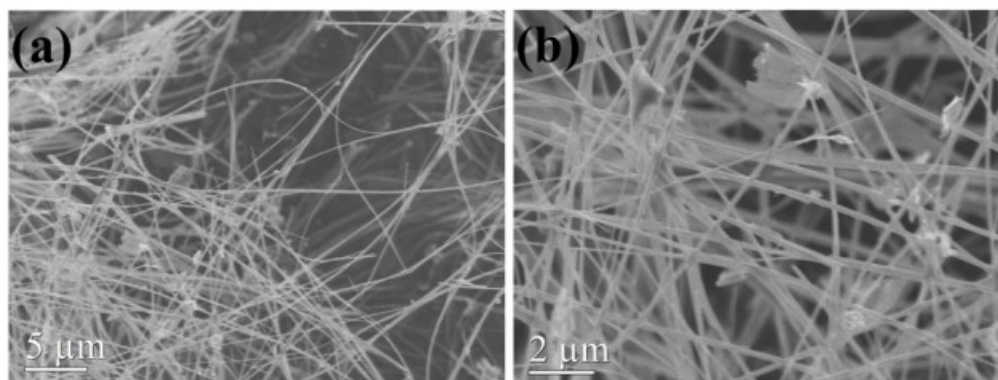
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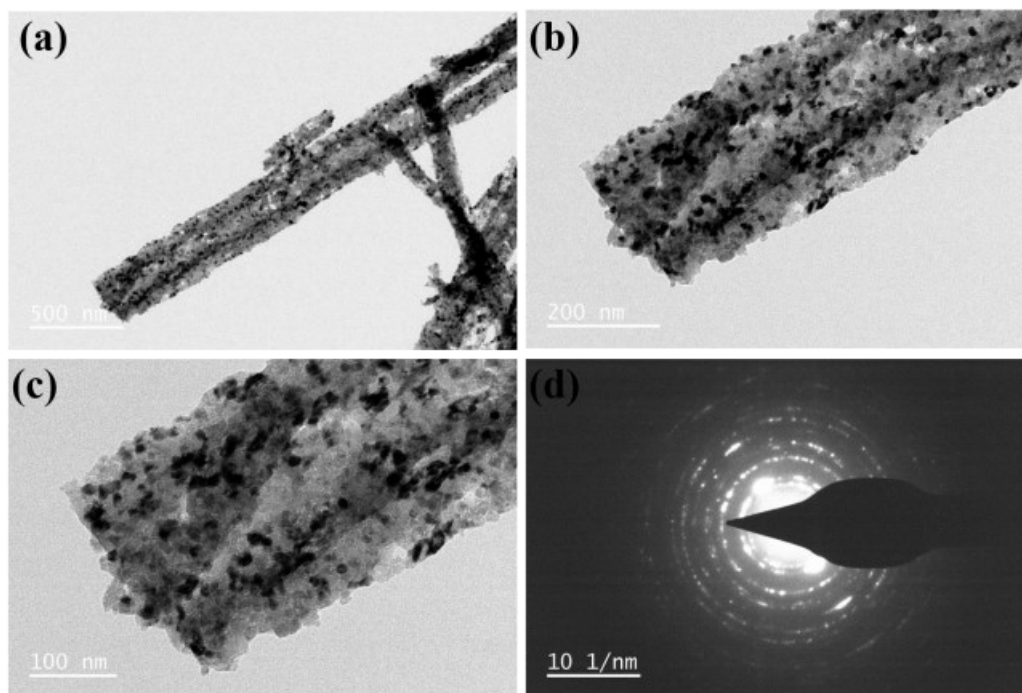
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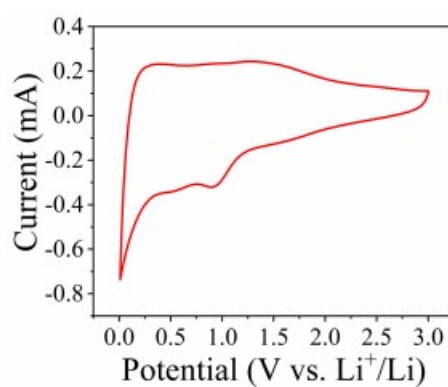
**Figure S1** XRD patterns of the prepared V<sub>2</sub>O<sub>5</sub> nanowires.



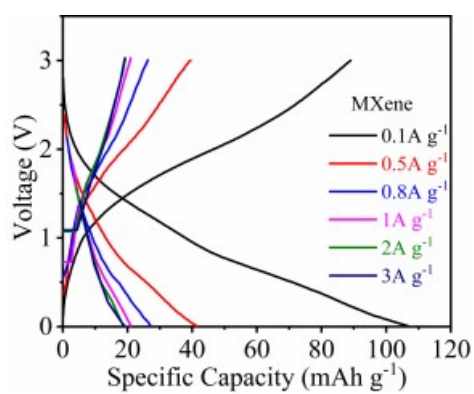
**Figure S2** SEM image of the prepared V<sub>2</sub>O<sub>5</sub> nanowires.



**Figure S3** (a-c) TEM images and (d) the SAED pattern of the prepared VN nanowires.



**Figure S4** CV curve of the VN/MXene at  $0.5 \text{ mv s}^{-1}$  in the working voltage window of 0.01-3.0 V.



**Figure S5** The discharge-charge profiles of  $\text{Ti}_3\text{C}_2\text{Tx}$  film at different current densities.