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Supporting Information

Phase transformation in tungsten oxide nanoplates as a function of post-annealing temperature and its electrochemical influence on energy storage

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Contains:

Numerical methods.

Figures S1 to S4.

A. Numerical Methods

1. Specific capacitance calculated from CV curve as given as:

$$C = \frac{\int_{V_a}^{V_b} IdV}{mV(V_b - V_a)} \qquad (1)$$

Where, *I.dV* is total area under the CV curve at given potential range, *m* is mass of material, *V* is total scan range, V_a and V_b are initial and final voltage of given potential range in CV curve respectively.

2. Specific capacitance from charge discharge curve is given as:

$$C = \frac{I\Delta t}{m\Delta V} \qquad (2)$$

where *I/m* is applied current density, Δt is discharge time, ΔV is total applied voltage range.

3. The trasatti equation as follows:

$$1/q^*(\nu) = 1/q^*_{total} + a\nu^{1/2} \qquad (3)$$

Where, q* is the maximum charge stored, ν is scan rate, *a* is constant, q^*_{total} is total charges stored at inner and outer surface of electrode.

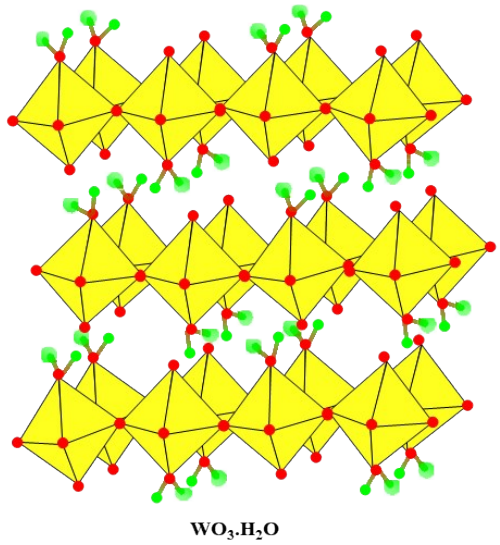

Fig. S1. Crystal structure of 2D layered $WO_3.H_2O$ (W80).

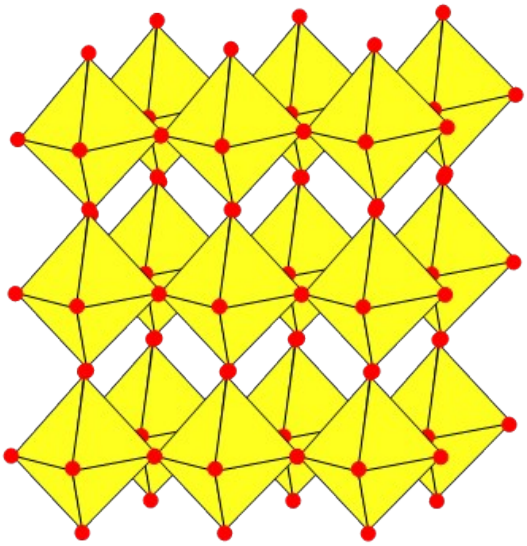

Fig. S2. Crystal structure of 3D monoclinic WO_3 (W400).

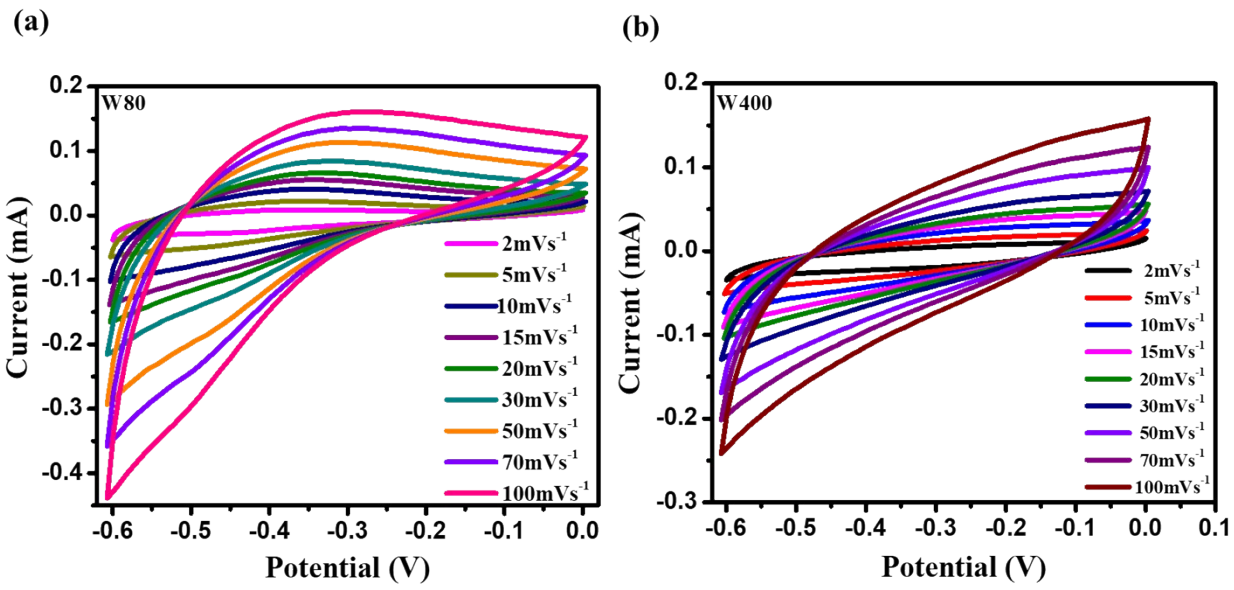

Fig. S3. Cyclic voltammetry curves of (a) W80, (b) W400 at various scan rates.

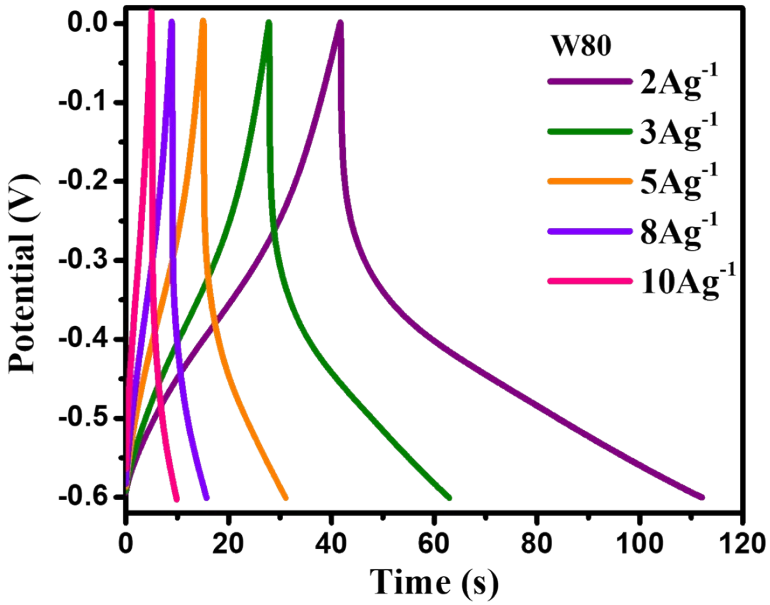

Fig. S4. Galvanostatics charge-discharge curves of W80 at various current densities.