## Band Gap Engineering of MnO<sub>2</sub>through In-situ Al-doping for

## **Applicable Pseudocapacitors**

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Fig. S1. N2 adsorption-desorption isotherms of ASM and ADM.



Fig. S2. SEM and TEM image of ASM, which shows same morphology of ADM.



Fig. S3.CV curves of ASM from 2 mV s<sup>-1</sup> to 200 mV s<sup>-1</sup>.



**Fig. S4.** The cycle testing of ADM and ASM through galvanostatic charge/dischargeat 2 Ag<sup>-1</sup>.



**Fig. S5.** UV-visible  $(ahv)^{1/2}$  vs Ep curves for samples with different Al<sup>3+</sup> concentration.