Supporting information:

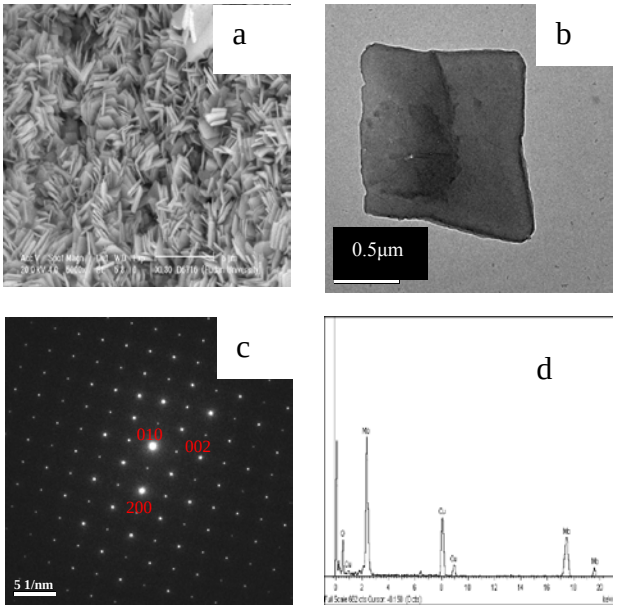

Fig.S1 (a) SEM micrograph in lower magnification, (b) TEM micrograph, (c) SAED pattern and (d) EDX pattern of α-MoO_3 nanoplate.

X-ray diffraction pattern shows that the the α-MoO_3 nanoplates exist in α-phase with lattice constants a = 3.9616 Å, b = 13.8560 Å, c = 3.6978 Å). Furthermore, from Fig.S1c, it can be seen that the α-MoO_3 nanoplates consist of single crystal, which grows along [001] planes, which is mostly consistent with the report in reference [15]. Fig.S1d clearly shows that the nanoplates consist of Mo and O, and the composition is about MoO_3.

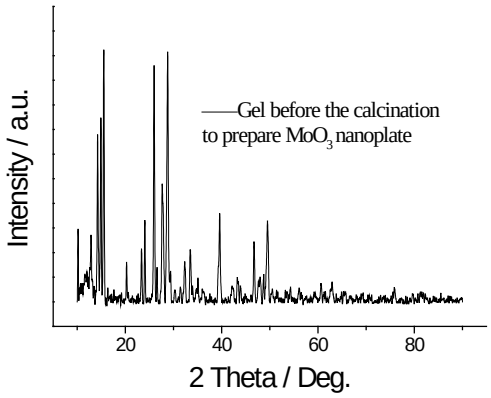

Fig.S2 XRD pattern of the gel before the calcination process to prepare MoO_3 nanoplate.

There are some obvious differences between XRD patterns of the gel before the calcination process and the final MoO_3 nanoplates as shown in Fig. 1(c). It suggests that the calcination process plays an important role in the crystal growth of MoO_3 nanoplates.

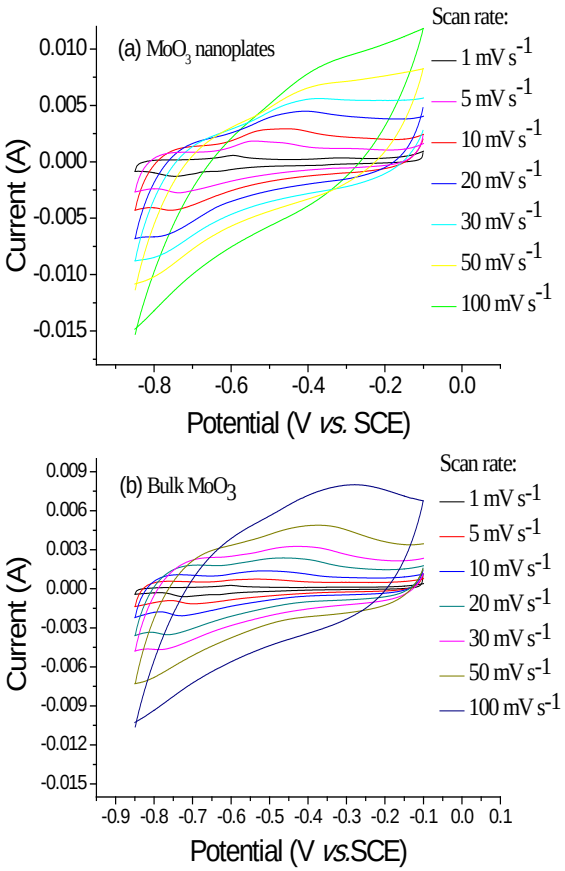

Fig.S3 CV curves of (a) the MoO_3 nanoplates and (b) the bulk MoO_3 at different scan rates in 0.5 M Li_2SO_4 aqueous solution using nickel grid as the counter electrode and SCE as the reference electrode.

At low or high scan rate, the intergrated area of the CV curve for the MoO_3 nanoplates is larger than that for the bulk MoO_3, indicating larger capacitance for the MoO_3 nanoplates, which is consistent with the data in Fig.3.