Supporting Information for:

Birnessite-type MnO_2 Nanowalls and Their Magnetic Properties

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S1. In situ temperature dependent XRD study of the birnessite-type MnO_2 sample

The in situ temperature dependent XRD study of the birnessite-type MnO_2 powder sample was performed on a Philipls X'pert Pro diffractometer with Cu Kα1 radiation in a continuous-scan mode. As shown in Figure S1a, the birnessite-type MnO_2 structure is stable below 350 ^{o}C. The layered MnO_2 transforms into the α-MnO_2 phase between 350 ^{o}C and 500 ^{o}C, which agrees well with our TGA analysis. Figure S1b shows that the position of the (001) diffraction peak varies with the temperature. The d_{001} value decreases from 0.72 nm at 30 ^{o}C to 0.68 nm at 350 ^{o}C, which is related to the loss of the interlayer water with increasing temperature.

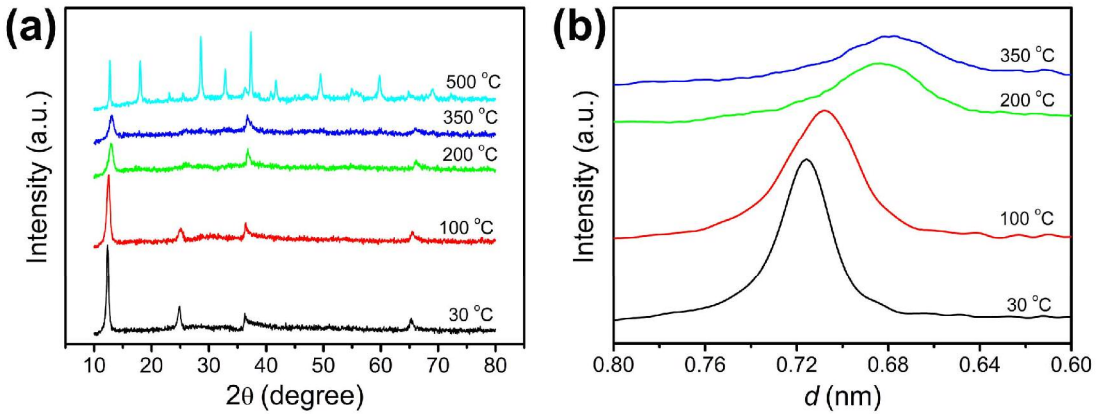

Figure S1 Temperature dependent XRD patterns of the birnessite-type MnO_2 powder sample

S2. SEM images of the birnessite-type MnO_2 nanowalls with a reaction time of 60 minutes

Figure S2 show the SEM images of the birnessite-type MnO_2 nanowalls with shorter reaction time (60 min). The distribution of the nanowalls is uniform (figure S2a). The difference is that the

flakes are much sparser and thinner than those of the sample with a reaction time of 100 min, indicating that the dimension and morphology of the nanowalls are adjustable by controlling the reaction conditions.

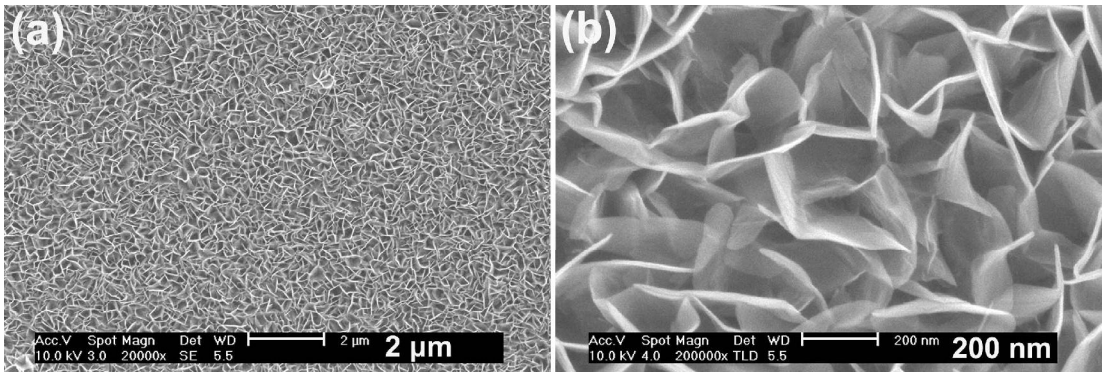

Figure S2 (a) Low- and (b) high-magnification SEM images of the birnessite-type MnO_2 nanowalls with a reaction time of 60 min.