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Supporting Information

In-situ synthesized single-crystalline $LiMn_2O_4$ embedded in carbon nanotube films as free-standing cathodes for Li-ion batteries

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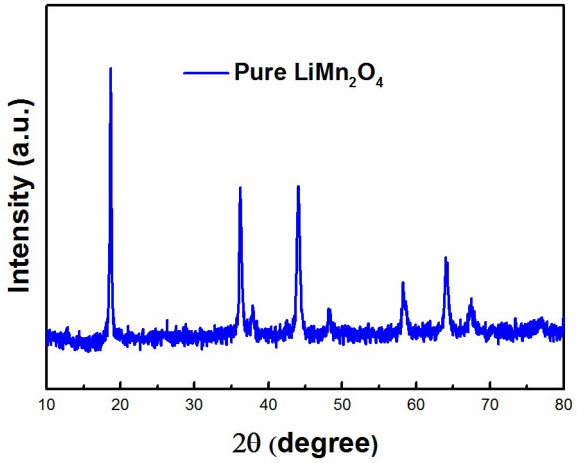

Fig. S1 XRD pattern of the pure $LiMn_2O_4$ nanoparticles.

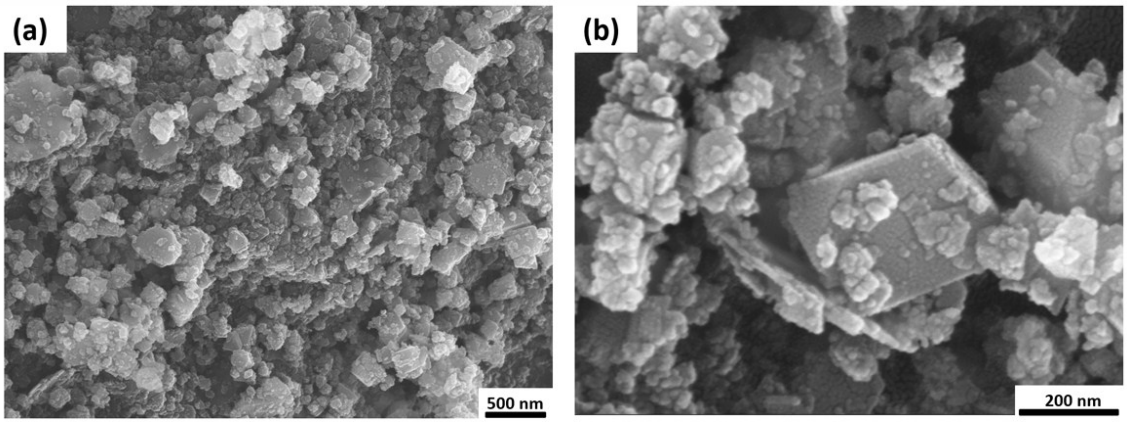

Fig. S2. (a and b) SEM images of the pure $LiMn_2O_4$ nanoparticles.

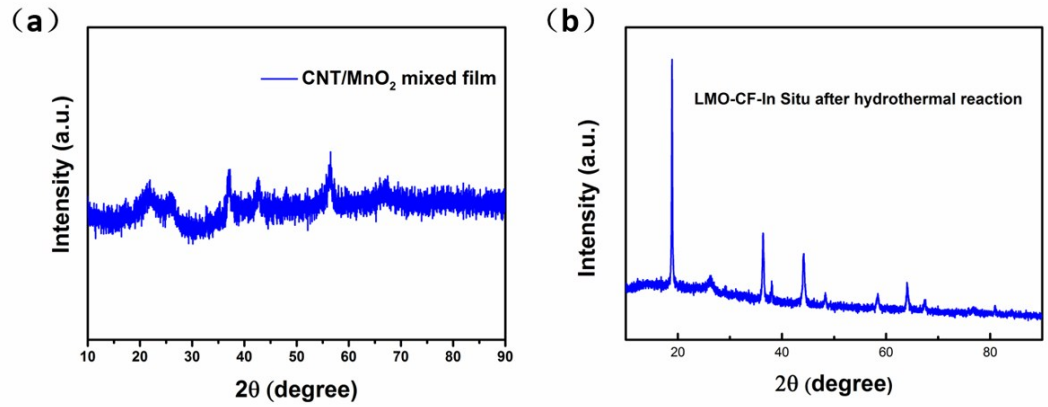

Fig. S3 (a) XRD pattern of the CNT/MnO_2 composite film; (b) XRD pattern of LMO-CF-In Situ synthesized only after hydrothermal reaction.

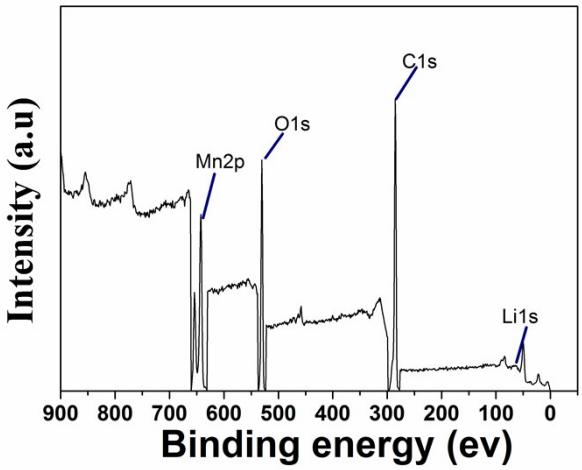

Fig. S4 XPS pattern of LMO-CF-In Situ.

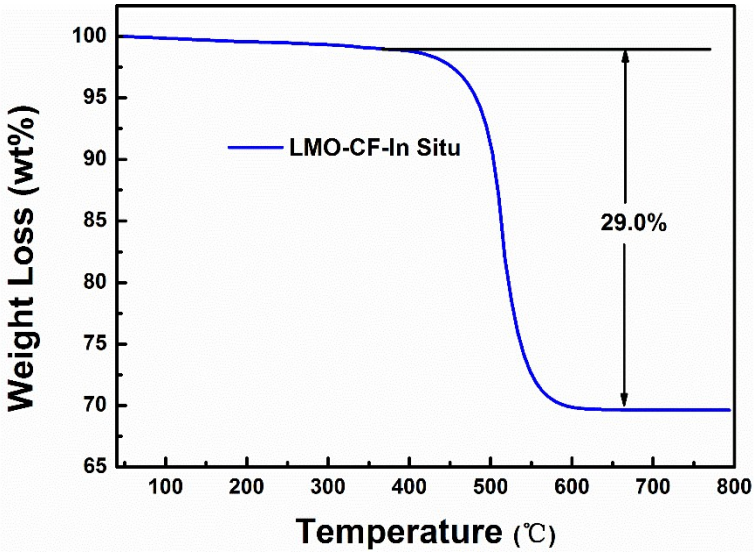

Fig. S5 TGA curve of the LMO-CF-In Situ.

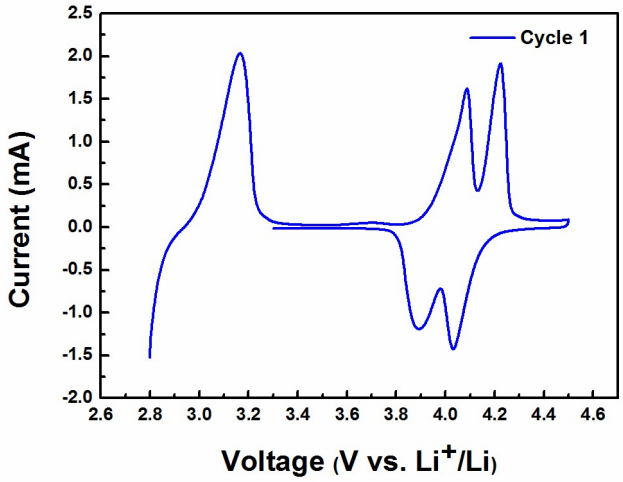

Fig. S6 The CV curve of the first cycle of LMO-CF-In Situ electrode at a scan rate of 0.1 mV s^{-1}.

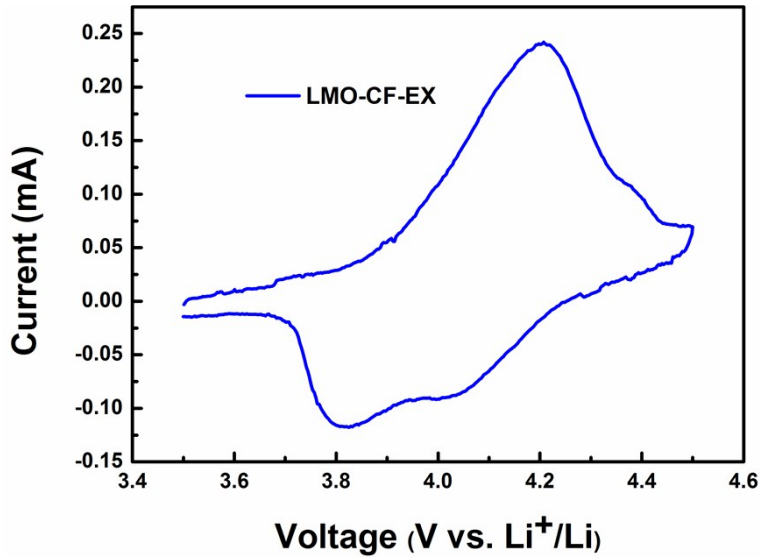

Fig. S7 CV curve of the LMO-CF-EX electrode at a scan rate of 0.1 mV s^{-1}.

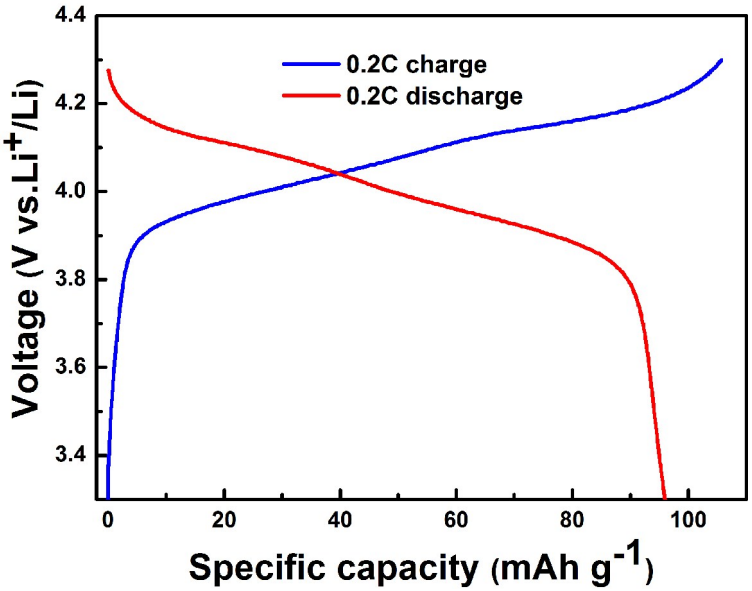

Fig. S8 Charge and discharge curves of LMO-CF-EX electrode at 0.2 C.