Supporting Information

$LiMnPO_4$-Olivine Deposited on Nanoporous Alloy as Additive-Free Electrodes for Lithium Ion Batteries

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The electrochemical charge–discharge curves of powder $LiMnPO_4$ were examined by using EL-CELL type two-electrode cells comprising Li|$LiPF_6$(EC:DMC)|LiMnPO4. The positive electrode, supported onto an aluminium foil, was a mixture containing 70 wt. % of the active $LiMnPO_4$, 5.0 wt.% PvDF as a binder, 17.5 wt.% Super C65 (TIMCAL) and 7.5 wt.% C-NERGY KS 6 L graphite (TIMCAL). The loaded mass of active materials on Al collectors was about of 11 mg. The electrolyte was a 1 M LiPF6 solution in ethylene carbonate and dimethyl carbonate (1 : 1 by volume) with less than 20 ppm of water (0.2 ml electrolyte solution was used). The lithium electrodes consisted of a clean lithium metal disk with diameter of 18 mm. The cells were mounted in a dry box under argon atmosphere. The electrochemical cycling was carried out using an eight-channel Arbin BT2000 system in galvanostatic mode.

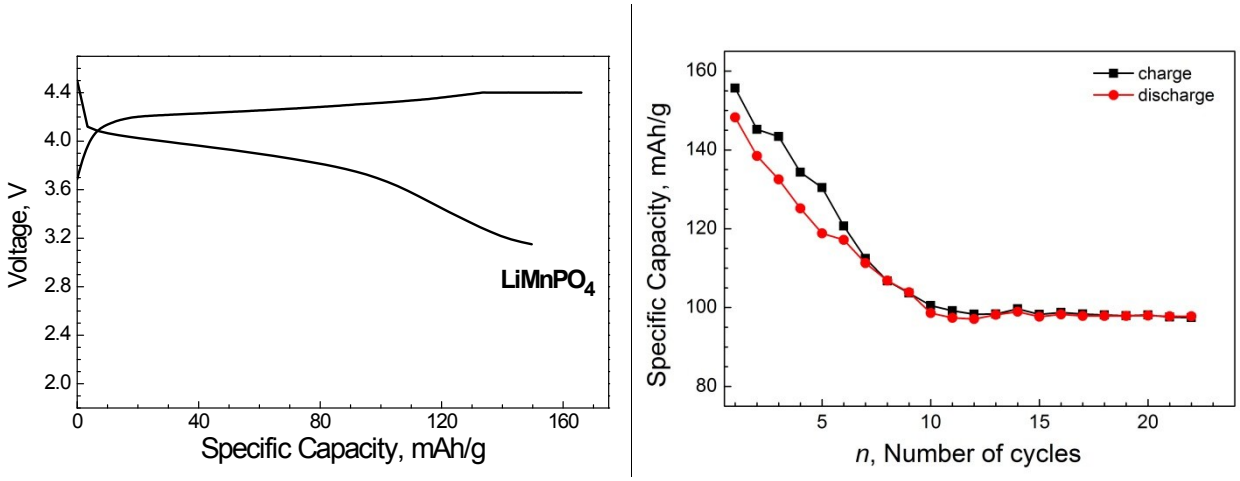

Figure S1. Charge/discharge curves (left) of powder $LiMnPO_4$ cycled between 4.5 and 3.0 V in $LiPF_6$-based electrolyte. The cycling stability (right) of powder $LiMnPO_4$ is also shown.

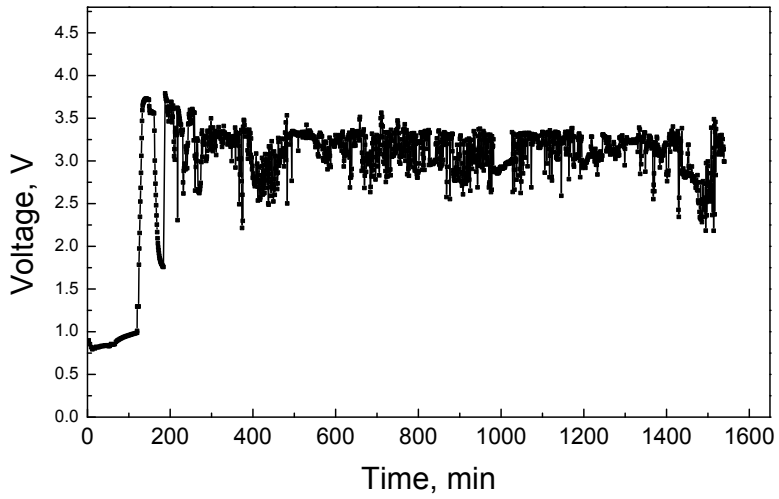

Figure S2. Charge curve of unsupported alloy obtained after 120 min de-alloying.