

Electronic Supplementary Information

For “Morphology-Controlled Solvothermal Synthesis of LiFePO_4 as a Cathode Material for Lithium-ion Batteries”

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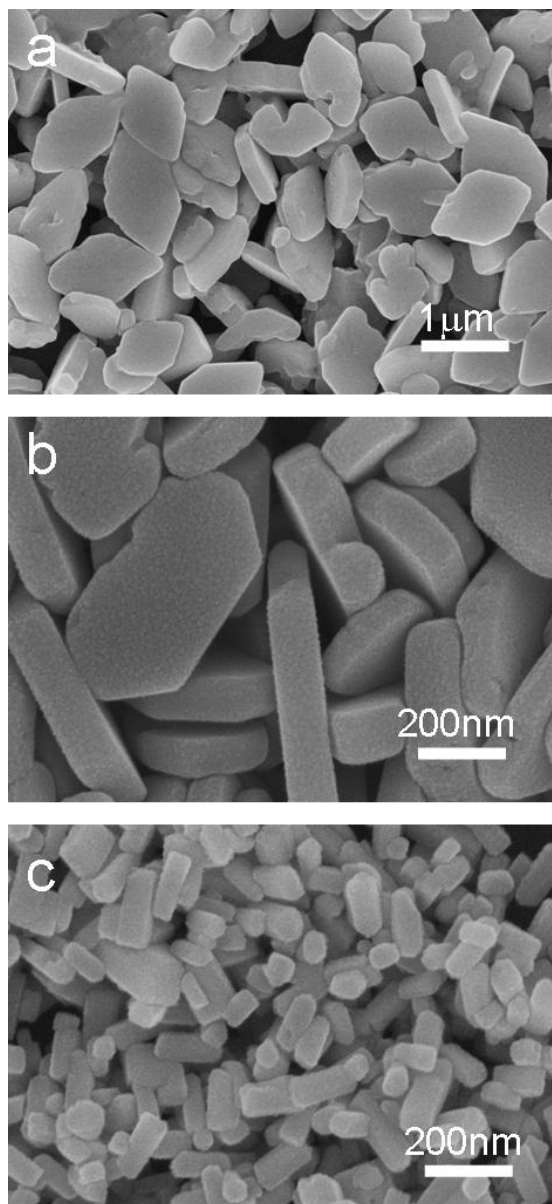


Figure S1. SEM images of the samples synthesized by adjusting synthesis parameters: a) PEG400/water is 1:4; b) Doubling the concentrations of the reactants; c) 220 °C. The other synthesis parameters are kept unchanged with those for the synthesis of the nanoparticles (referred to the Experimental details in the main text).

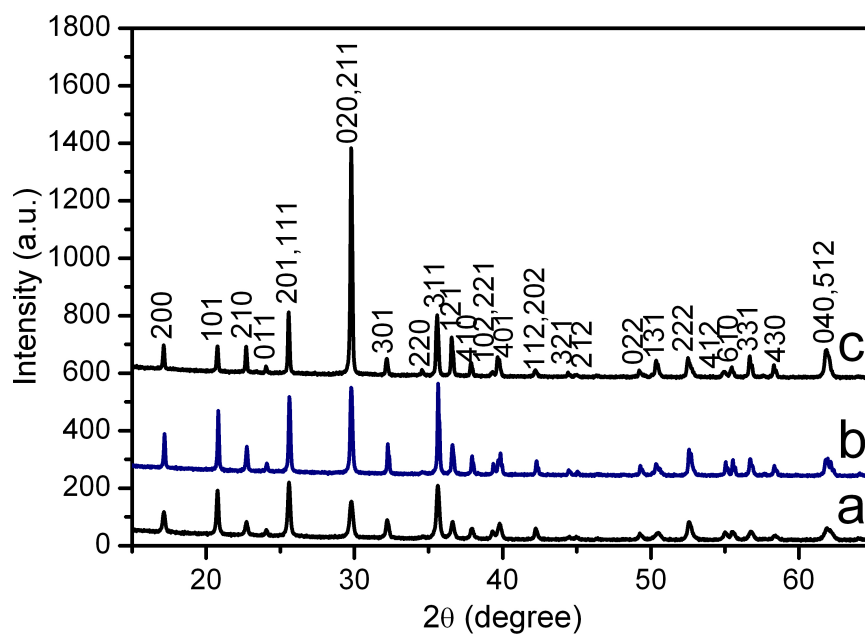


Figure S2. XRD patterns of the LFP products: a) nanoparticles prepared at 180 °C for 9 h, b) nanoplates prepared at 140 °C for 24h, and c) microplates prepared at 180 °C for 9 h. Note that, for the synthesis of microplates, the LiOH solution was added into the mixture of H_3PO_4 and FeSO_4 .

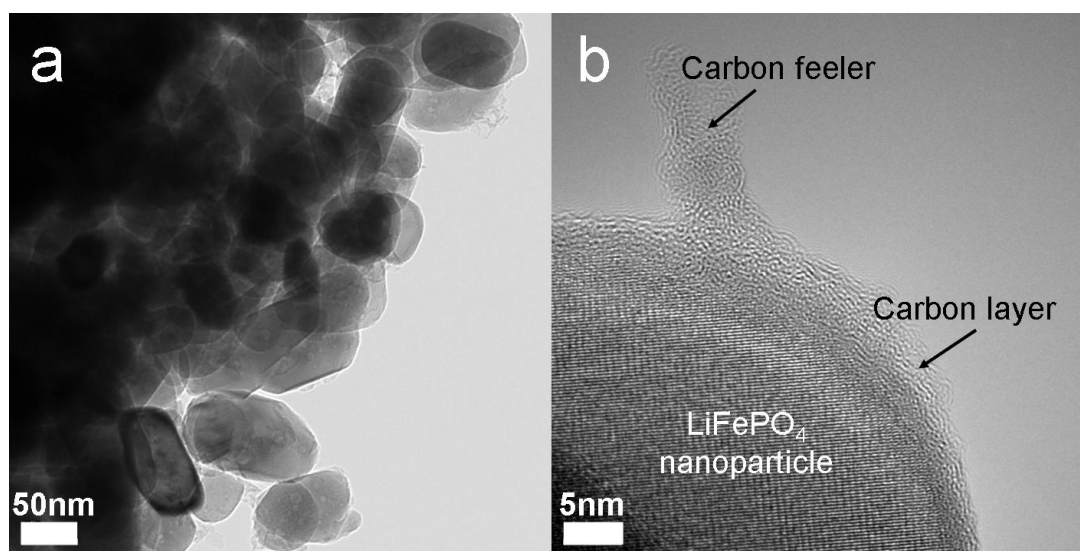


Figure S3. a) TEM and b) HRTEM images of the carbon coated LFP nanoparticles.

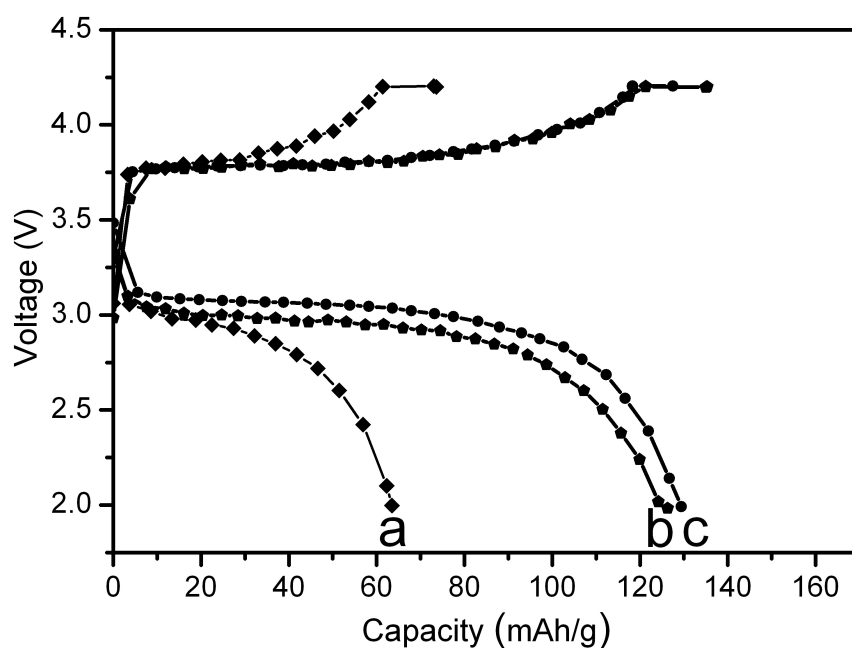


Figure S4. The first charge–discharge curves of the carbon coated LFP materials recorded at 20C rate between 2.0 and 4.2 V: a) microplates, b) nanoparticles, and c) nanoplates. Note that the LFP/SP/PVDF ratio is 60:30:10.

Table S1. Characteristics of the electrodes of our sample and four high rate LFP materials in references 33-36.

References	Particle Size (nm)	LFP/C (wt %)	Carbon (wt %)	Binder (wt %)	Loading (mg/cm ²)
Our	20-100	57/3	30	10	3.5
33	20-50	70/0	30	Included	2.8
34	20-40	78/5	12	5	6
35	60-100	52/18	20	10	Unknown
36	50	80/0	15	5	3.86