

Electronic Supplementary Information (ESI)

Excellent Electrochemical Performance of $\text{LiFe}_{0.4}\text{Mn}_{0.6}\text{PO}_4$ Microspheres Produced Using Double Carbon Coating Process

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Table S1 Crystallographic parameters of the double carbon coated $\text{LiFe}_{0.4}\text{Mn}_{0.6}\text{PO}_4$ selected from the Rietveld refinement results (Space group: Pnma)

Type	Wyck.	x/a	y/b	z/c	Occ
Li^+	4a	0.0000	0.0000	0.0000	1.0
Fe^{2+}	4c	0.2822(1)	0.2500	0.9723(4)	0.4
Mn^{2+}	4c	0.2822(1)	0.2500	0.9723(4)	0.6
P	4c	0.0924(3)	0.2500	0.4048(6)	1.0
O^{2-}	4c	0.1014(5)	0.2500	0.7328(9)	1.0
O^{2-}	4c	0.4559(6)	0.2500	0.2162(7)	1.0
O^{2-}	8d	0.1645(4)	0.0390(6)	0.2791(6)	1.0

Cell : a=10.4060(4) Å, b=6.0663(2) Å, c=4.7253(2) Å, V=298.29(2) Å³

Agreement Factors : Rp =21.9% Rwp =12.1% Rexp=10.41% Chi2=1.34

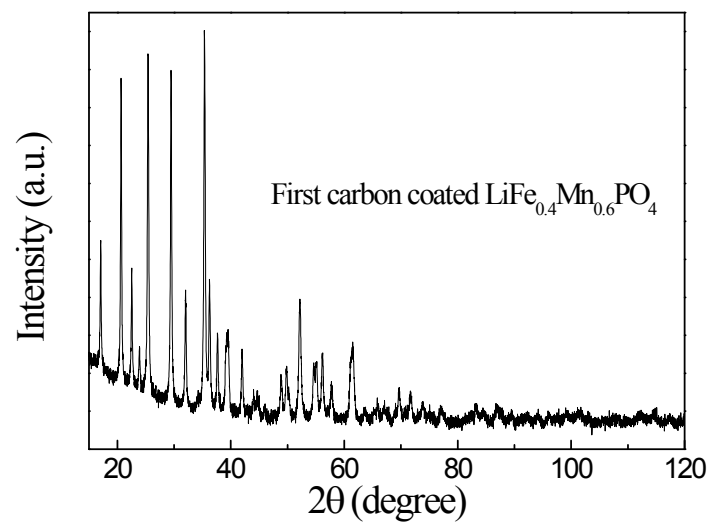


Fig S1. XRD pattern of the first carbon coated samples

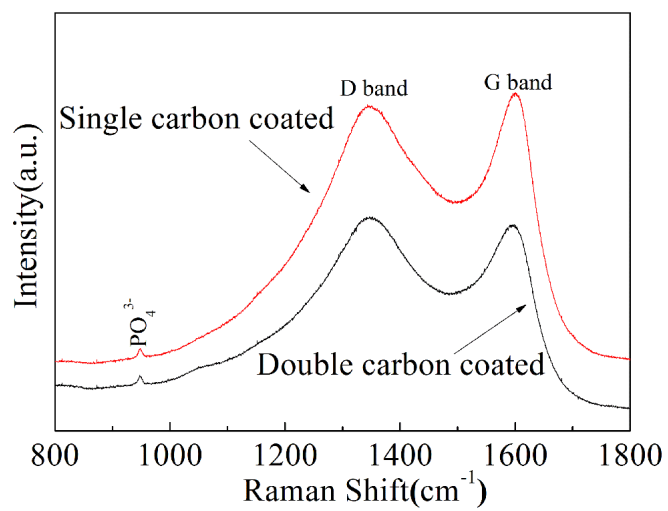


Fig. S2 Typical Raman spectrum of the double and single carbon coated LiFe_{0.4}Mn_{0.6}PO₄

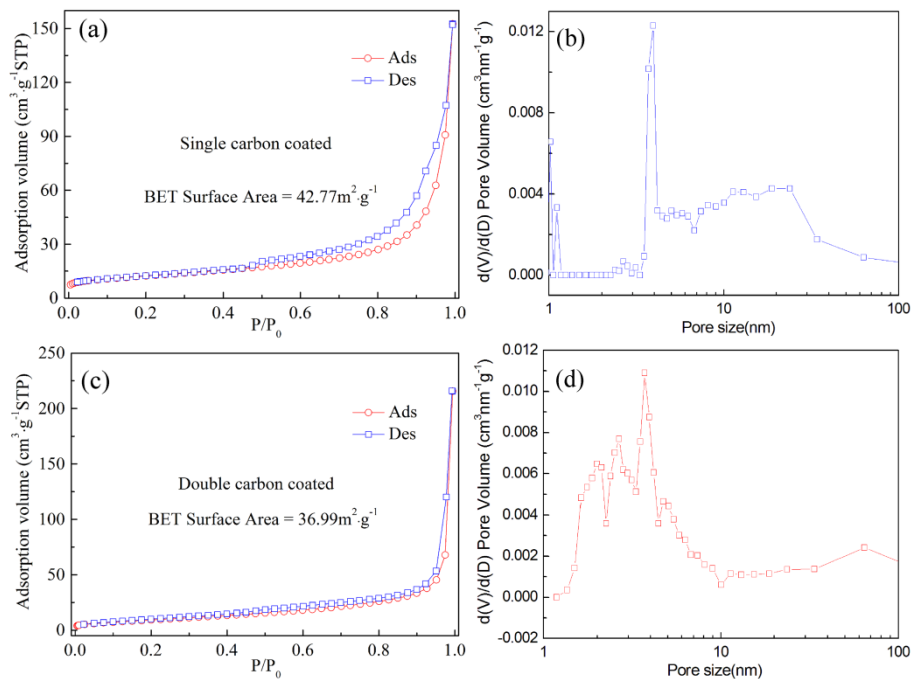


Fig. S3 Nitrogen adsorption/desorption isotherms and pore-size distribution (BJH curves) of the (a, b) single and (c, d) double carbon coated $\text{LiFe}_{0.4}\text{Mn}_{0.6}\text{PO}_4$

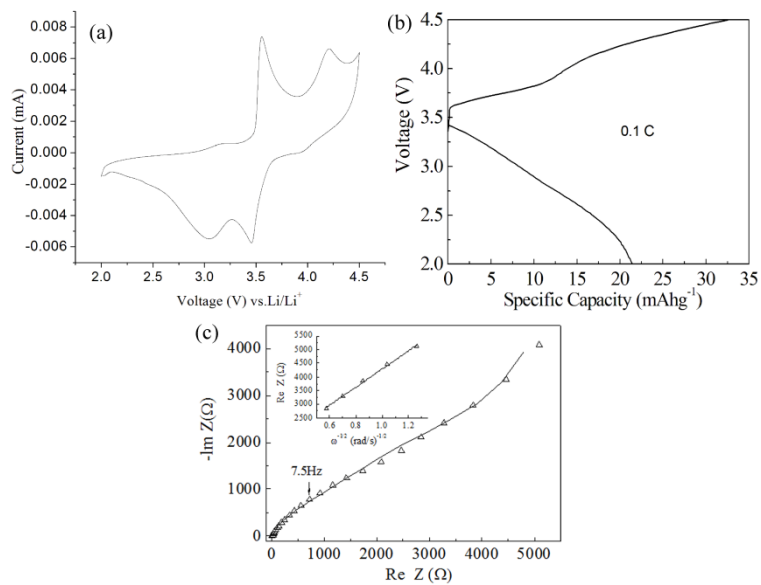


Fig. S4 CV curves (a), the first charge/discharge curves at a current density of 0.1 C (b), and the electrochemical impedance spectra (c), inset: the plots of the real part of impedance as a function of the inverse square root of angular frequency for the $\text{LiFe}_{0.4}\text{Mn}_{0.6}\text{PO}_4$ without carbon coating.