Electronic Supplementary Material (ESI) for New Journal of Chemistry.

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Electrospinning-based Construction of Porous Mn_3O_4/CNFs as Anode for High-Performance Lithium-ion Batteries

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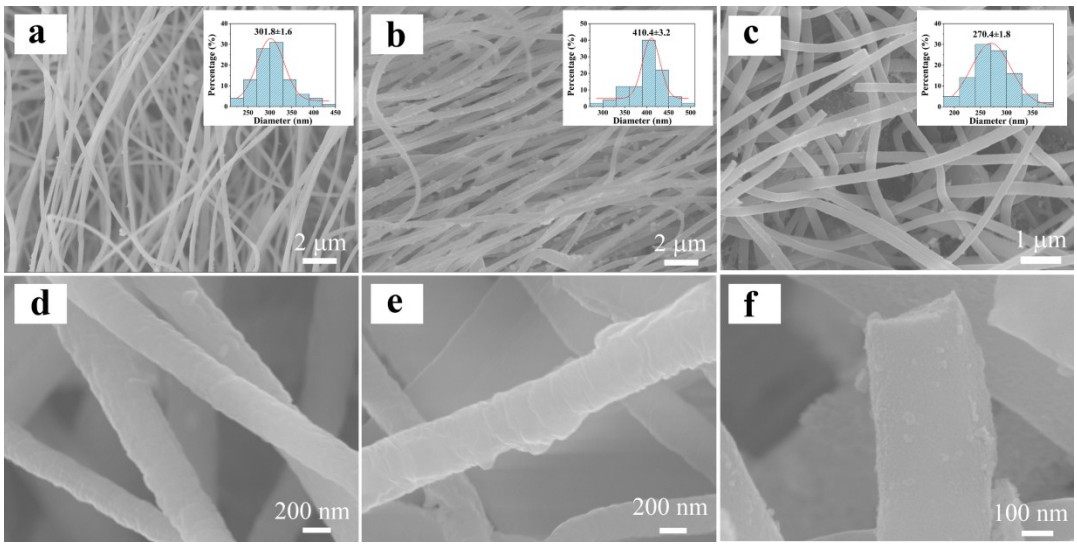

Figure S1 FE-SEM images of (a, d) H_3BTC/PAN-1, (b, e) Mn-MOF/PANs-1, (c, f) Mn_3O_4/CNFs-1. The inset of a, b, c show the corresponding diameter distributions.

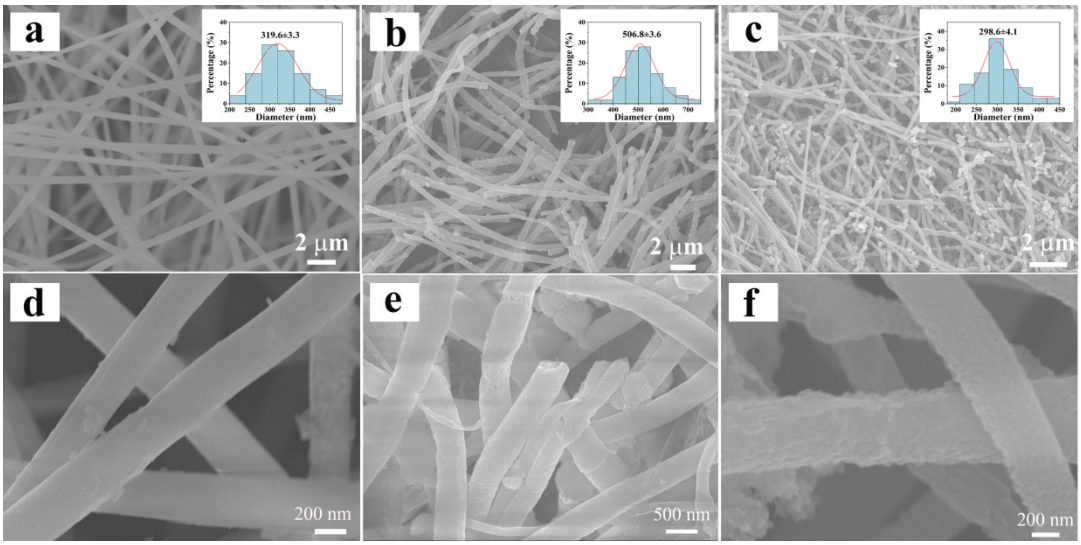

Figure S2 FE-SEM images of (a, d) H_3BTC/PAN-3, (b, e) Mn-MOF/PANs-3, (c, f) Mn_3O_4/CNFs-3. The inset of a, b, c show the corresponding diameter distributions.

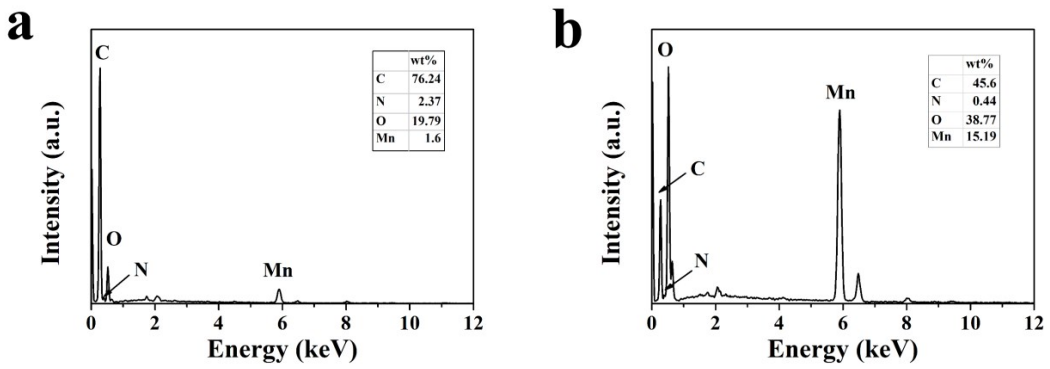

Figure S3 EDS spectrum of (a) Mn_3O_4/CNFs-1, (b) Mn_3O_4/CNFs-3.

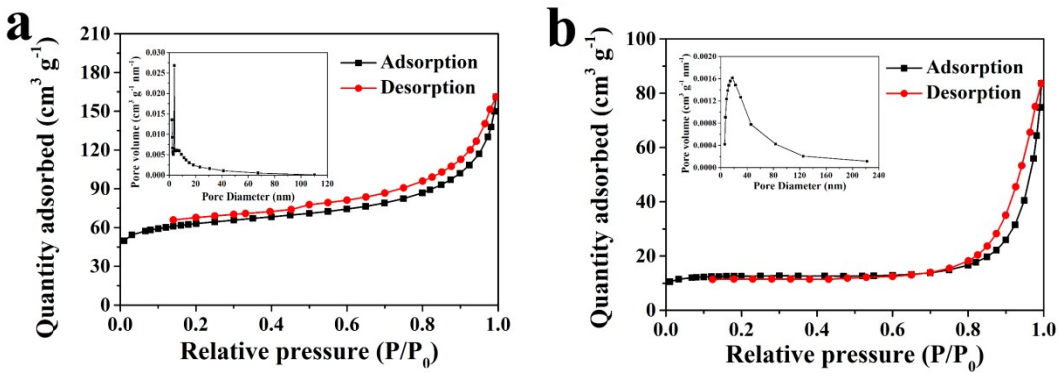

Figure S4 N_2 adsorption-desorption isotherms of (a) Mn_3O_4/CNFs-1, (b) Mn_3O_4/CNFs-3, the inset of a, b are pore size distribution cures of Mn_3O_4/CNFs-1, Mn_3O_4/CNFs-3 respectively.

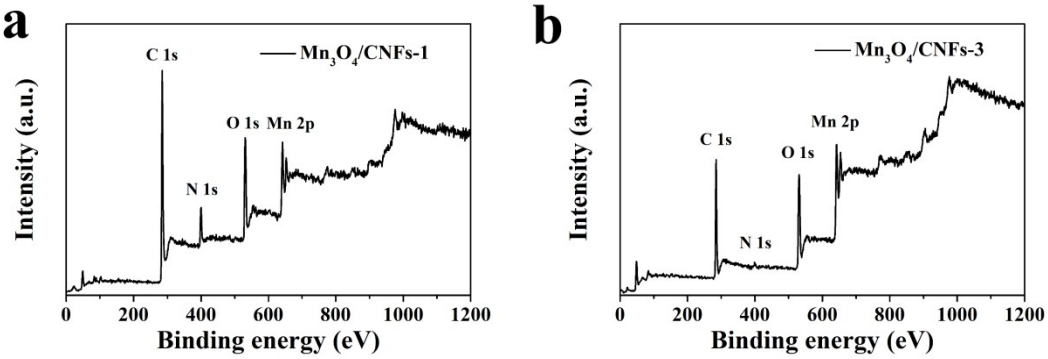

Figure S5 survey XPS spectrum of (a) Mn_3O_4/CNFs-1, (b) Mn_3O_4/CNFs-1.

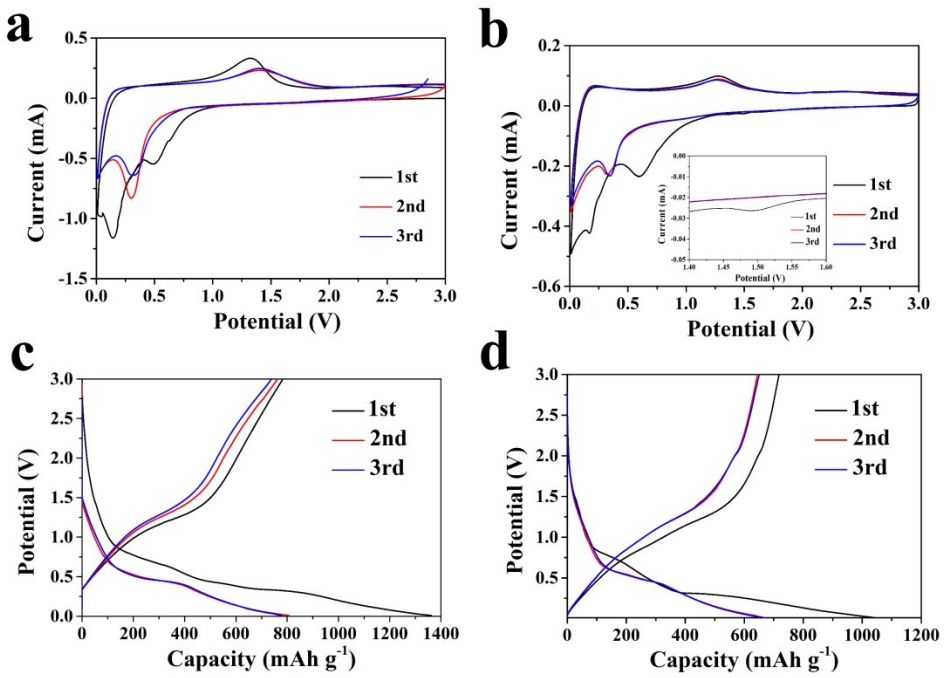

Figure S6 First three consecutive CVs at a scan rate of 0.1 mV s^{-1} (a) Mn_3O_4/CNFs-1 electrode, (b) Mn_3O_4/CNFs-3 electrode, Galvanostatic charge-discharge profiles of the first three cycles at a current density of 0.1 A g^{-1} (c) Mn_3O_4/CNFs-1 electrode, (d) Mn_3O_4/CNFs-3 electrode.

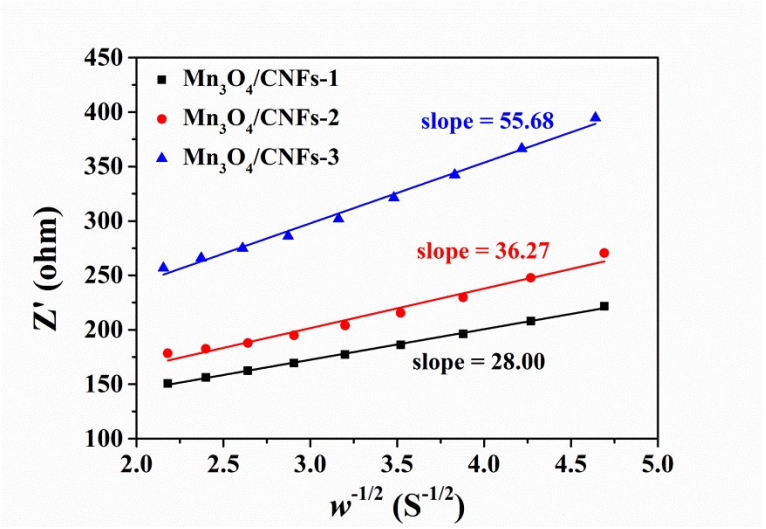

Figure S7 The relationships between Z' and $w^{-1/2}$ in low frequency region.

Table S1 Comparison of lithium storage performance of porous Mn_3O_4/CNFs-2 electrode with other Mn_3O_4-based electrodes

Materials	First discharge-charge capacity (mAh g^{-1})	Capacity retention (mAh g^{-1})	Ref.
Porous Mn_3O_4/CNFs-2	1732/1021 (0.1A g^{-1})	1000 (232 cycle) 754 (400 cycle)	This work
ysMnO_x/NC	1204/878 (0.1A g^{-1})	884 (100 cycle)	1
Mn_3O_4/C micro/nanocuboids	1505/879 (0.1 A g^{-1}) 1180/767 (0.5 A g^{-1})	870 (100 cycle) 785 (200 cycle) 711 (500 cycle)	2
Mn_3O_4 polyhedron@C	2057.1/1254.1 (0.1 A g^{-1})	885.5 (200 cycle)	3
Zn_xMnO@C HHNDs	1565.9/954.6 (0.1 A g^{-1})	1050 (200 cycle)	4
Mn_3O_4@C	1223.6/844.7 (0.25 A g^{-1})	730.2 (200 cycle)	5
CNFs/Mn_3O_4	1690/937 (0.1 A g^{-1})	760 (50 cycle)	6
rGO/Mn_3O_4	1271/802 (0.1 A g^{-1})	702 (100 cycle)	7
Ce-doped Mn_3O_4	1220.8/795.9 (0.1 A g^{-1})	754.2 (100 cycle)	8
PC-Mn_3O_4	1412.2/629.5 (0.1 C)	805.2 (200 cycle)	9
N-doped porous carbon/Mn_3O_4	2015/1090 (0.1 A g^{-1})	806 (120 cycle)	10

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