Supporting Information

A 3D Multilevel Heterostructure Containing 2D Vertically Aligned MoS_2 Nanosheets and 1D Sandwich C-MoS_2-C Nanotubes to Enhance the Storage of Li^+ Ions

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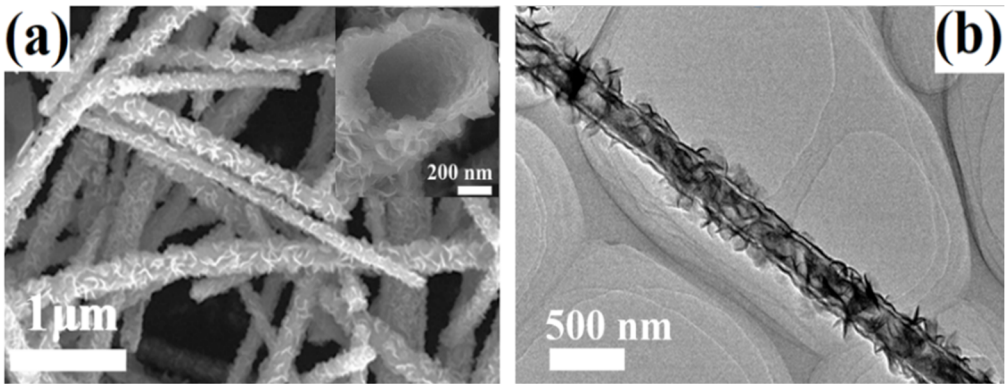

Figure S1 (a) SEM and (b) TEM images of VANS-MoS_2-NTs, and the inset of (a) is the high-magnified SEM image.

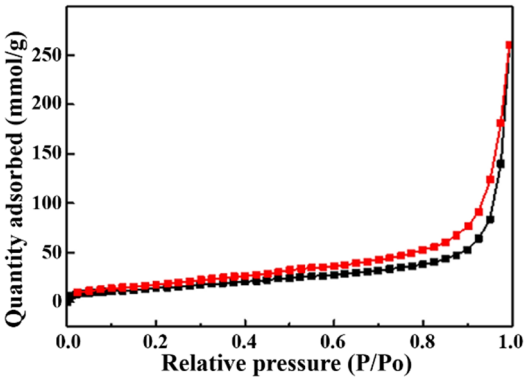

Figure S2 N_2 adsorption/desorption isotherms of VANS-MoS_2-CNTs.

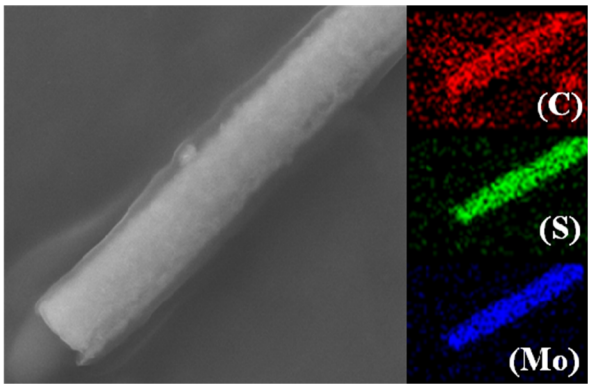

Figure S3 SEM and EDS-mapping images of MoS_2 nanotubes covered by carbon under the high concentration of glucose solution.

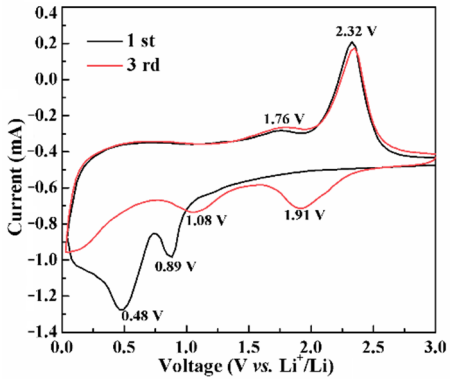

Figure S4 CV curves for VANS-MoS_2-CNTs at a scan rate of 0.2 mV/s.

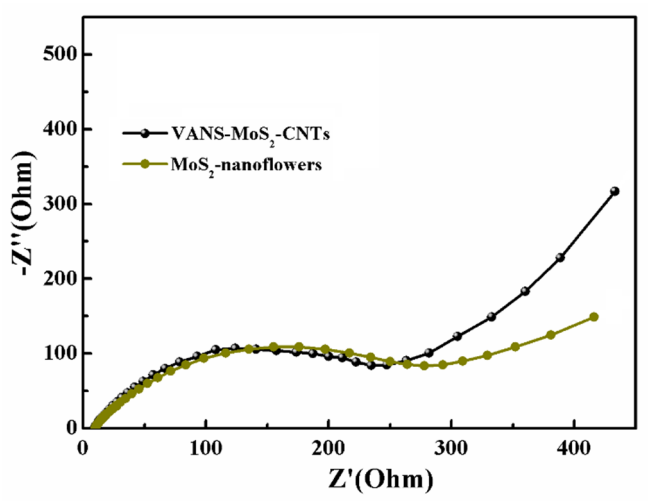

Figure S5 Nyquist plots of VANS-MoS_2-CNTs and MoS_2 nanoflowers.

Table S1. The comparison of the electrochemical performance of VANS-MoS_2-CNTs and some other previously reported MoS_2-based anodes for LIBs.

Samples	Cycling stability mAh/g-cycles-A/g	Rate capability mAh/g-A/g	Ref.
VANS-MoS_2-CNTs	1270-100-0.1	730-2	In this work
C@MoS_2 nanoboxes	952/200/0.4	689/2	[1]
Carbon nanotube hybrids with MoC and MoS_2	1200/200/0.1	680/1	[2]
Hollow microsphere@solid nanosphere MoS_2	302/100/0.1	*ca*. 260/1	[3]
Graphene quantum doped MoS_2 nanosheets	1031/80/0.1	660/5	[4]
MoS_2/N-graphene nanocomposites	820/100/1	700/2	[5]
N-doped graphene/MoS_2/N-doped graphene heterostructure	552/600/1	528/2	[6]
MoS_2-rGO/hollow carbon spheres network	1145/100/0.1	753/2	[7]

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