Supporting Information

Three-Dimensional Carbon-Nanotube Networks Enhanced Sodium Trimesic: A New Anode Material for Sodium Ion Batteries and Na-Storage Mechanism Revealed by *ex-situ* Studies

Xin Yan,[a] Huan Ye,[b] Xing-Long Wu,*[a] Yan-Ping Zheng, [a] Fang Wan,[a] Mingkai Liu,[c] Xiao-Hua Zhang,[a] Jing-Ping Zhang, [a] Yu-Guo Guo*[b]

[a] National & Local United Engineering Laboratory for Power Batteries, Faculty of Chemistry, Northeast Normal University, Changchun, Jilin 130024, P. R. China
[b] Key Laboratory of Molecular Nanostructure and Nanotechnology, Institute of Chemistry, Chinese Academy of Sciences (CAS), Beijing 100190, P. R. China
[c] School of Chemistry and Chemical Engineering, Jiangsu Normal University, Shanghai Road, Xu Zhou 221116, P. R. China

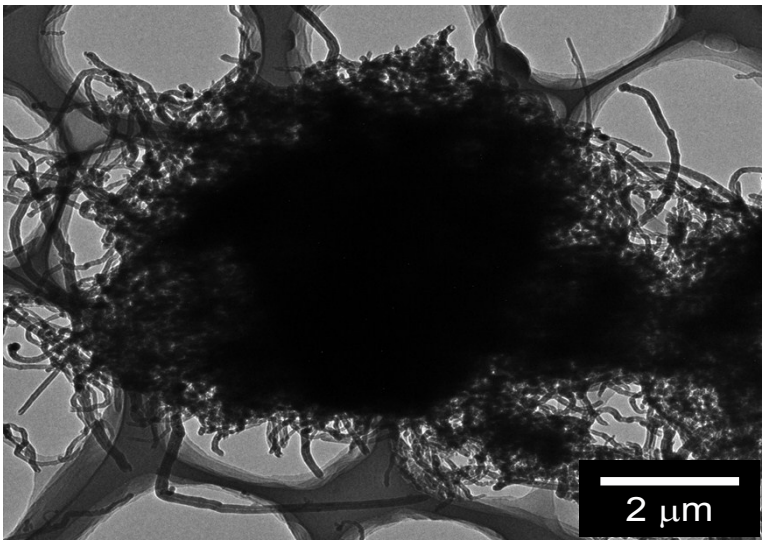

Fig.S1. The typical TEM image of the prepared CNT-NWs@Na_3TM composite.

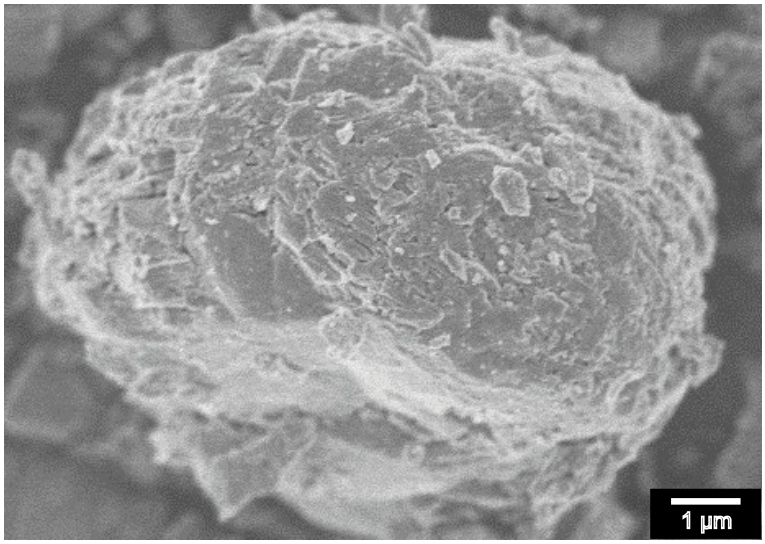

Fig. S2. The SEM image of pure Na_3TM microparticles.

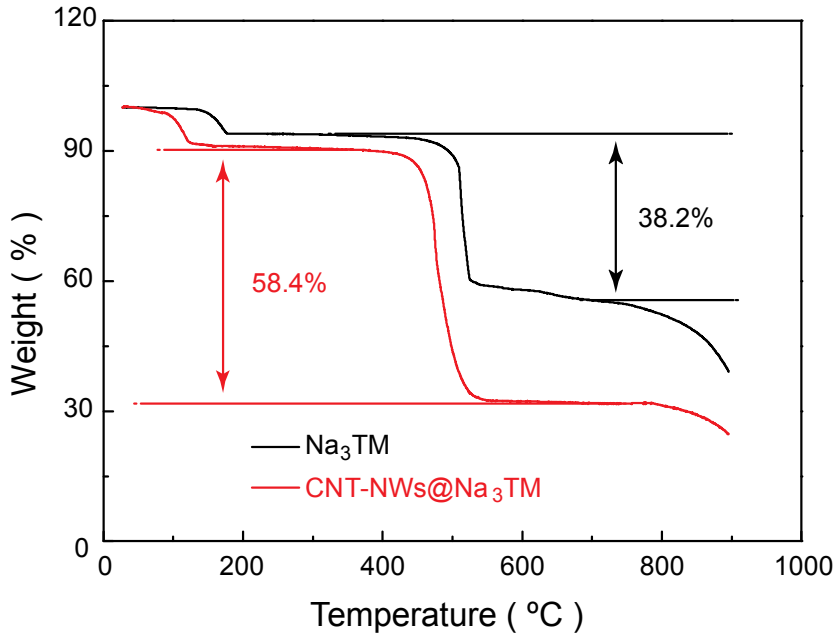

Fig. S3. The comparison of TGA curves between the prepared CNT-NWs@Na_3TM composite and pure Na_3TM. Both tests were carried out under the air atmosphere at the heating rate of 10 ºC/min.

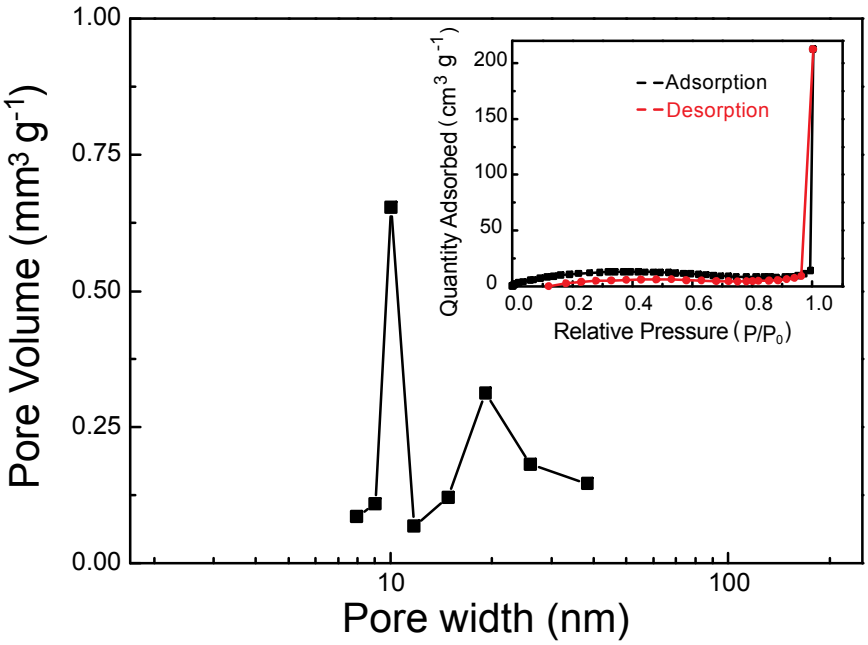

Fig. S4. The pore size distribution pattern of the pure Na_3TM microparticles calculated from the corresponding N_2 adsorption/desorption isotherm (inset).

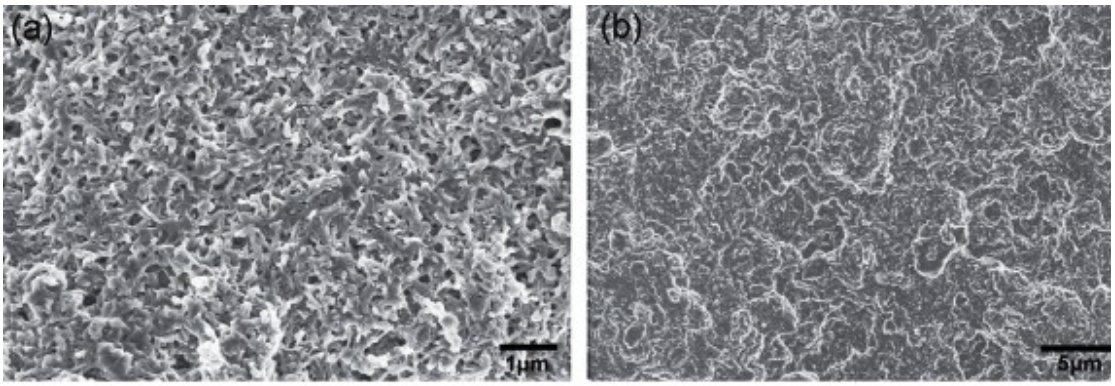

Fig. S5. The SEM images of the CNT-NWs@Na_3TM electrodes after 100 cycles tested at 0.5 A g^{-1}.

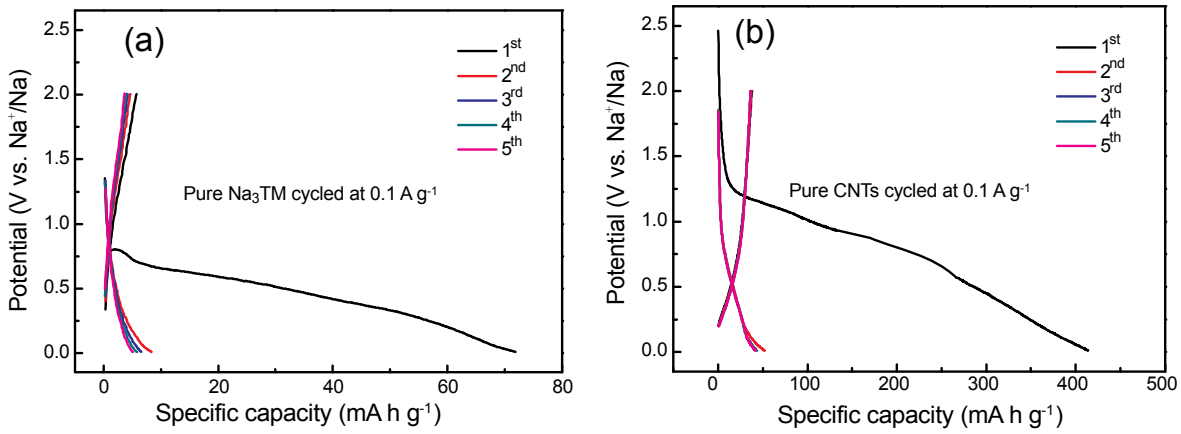

Fig. S6. The galvanostatic charge/discharge curves of the initial 5 cycles for the electrode of (a) pure Na_3TM material and (b) pure CNTs material at the current density of 0.1 A g^{-1} between 0.01 V and 2 V *vs.* Na^+/Na.

Table S1. The area contents and ratio of C-O and C=O groups fitted from the C1s XPS patterns at different sodiation/desodiation states.

The state of electrodes	Percentage of peak areas		Ratio of C-O/C=O
	C-O	C=O	
Pristine	10.5%	10.0%	1.05
ST 0.3 V	39.2%	12.3%	3.19
ST 0.01 V	28%	5.6%	5
DT 0.35 V	22.9%	5.6%	4.09
DT 2.0 V	15.8%	5.1%	3.10