Electronic Supplementary Information

Sb nanoparticles uniformly dispersed in 1-D N-doped porous carbon as anodes for Li-ion and Na-ion batteries

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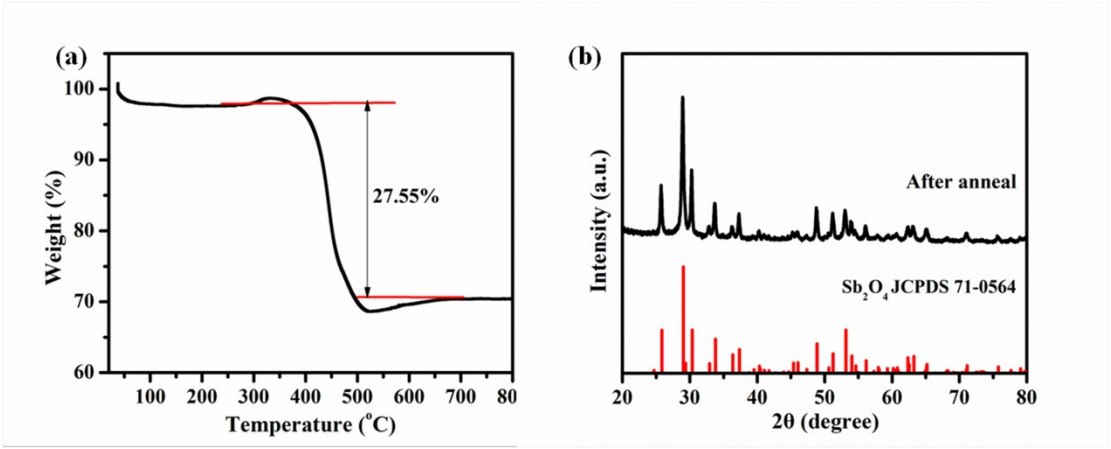

Fig. S1. (a) TGA curve of the Sb/NPC composite annealed in air from room temperature to 800 °C, (b) XRD patterns of the Sb/NPC composite after anneal in air.

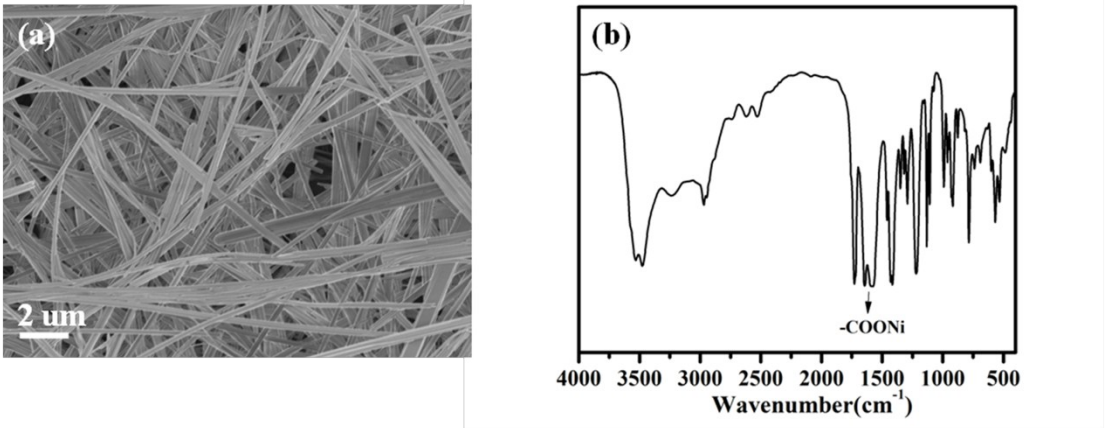

Fig. S2. SEM image (a) and Infrared (IR) spectra (b) of Ni-NTA precursor.

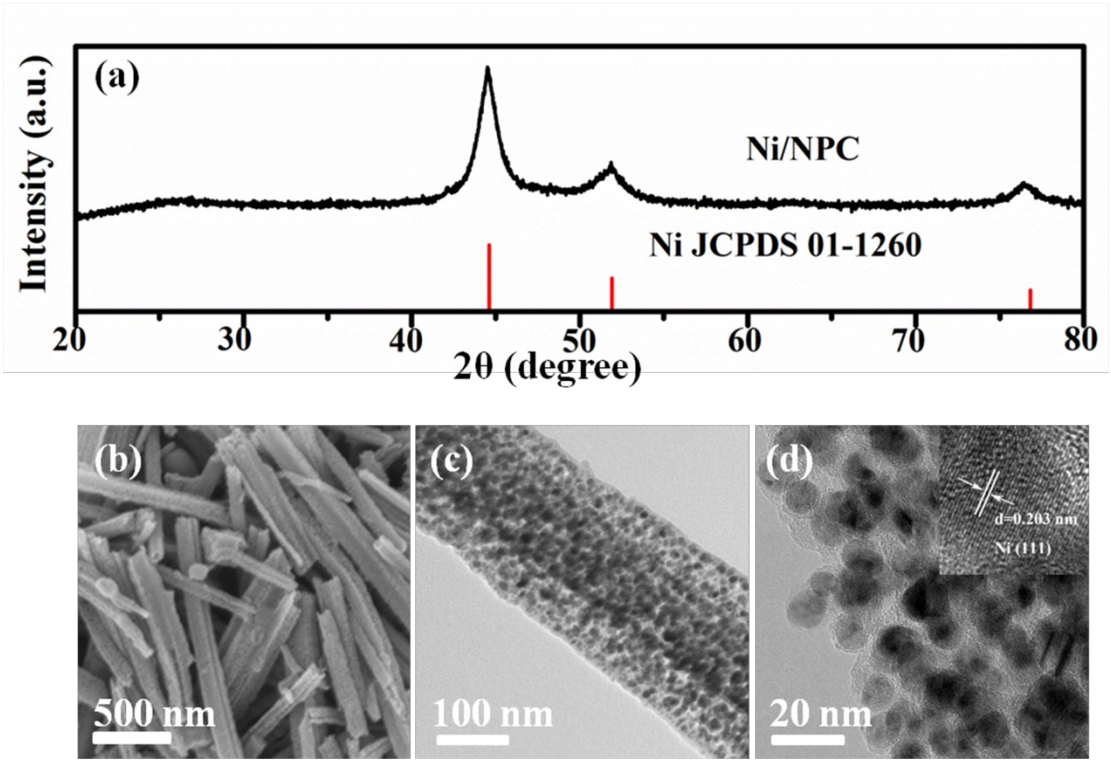

Fig. S3. XRD patterns (a), SEM and TEM images (b,c,d) of Ni/NPC.

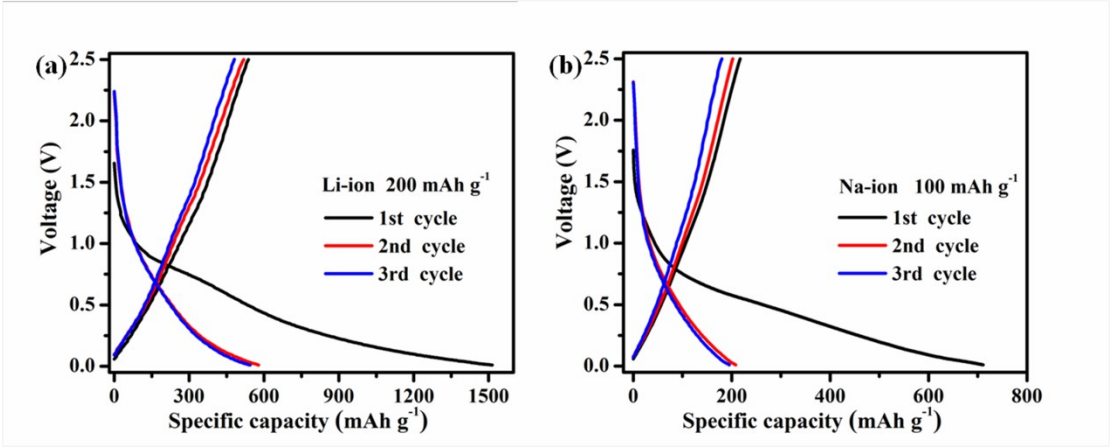

Fig. S4. The discharge/charge voltage profiles of NPC.

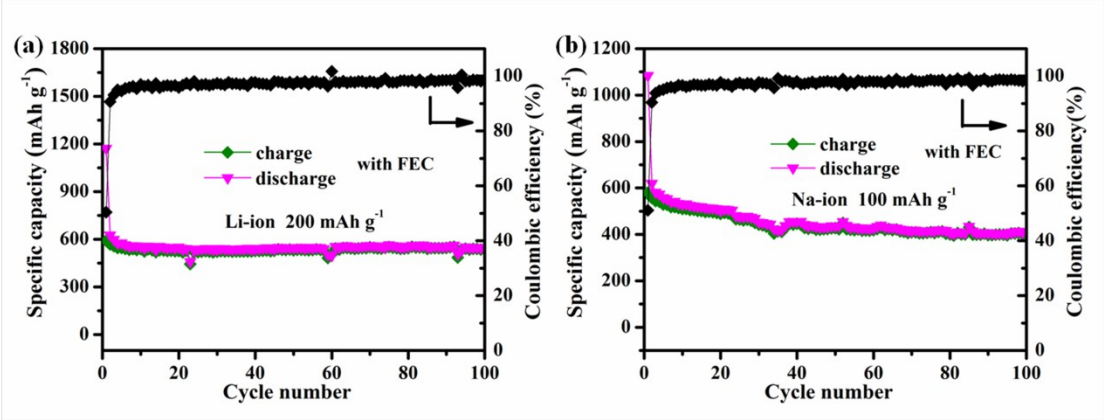

Figure S5. Cycling performances of the Sb/NPC composite in Li-ion battery (electrolyte : 1 M $LiPF_6$ dissolved in ethylene carbonate/dimethyl carbonate (EC/DMC = 1/1, V/V) with 5 % FEC additive) and (electrolyte : Na-ion battery 1.0 M $NaClO_4$ in an ethylene carbonate/dimethyl carbonate (EC/DMC = 1/1, V/V) with 5 % FEC additive).

Table S1. Comparison of the performances in this work with previously reported Sb/C composite for Li-ion batteries.

Sb-based anodes	**Reversible capacity (mAh g^{-1})**	**Current density (mA g^{-1})**	**Cycle number (cycles)**	**Ref.**
Sb/C composites	466.2	100	200	[1]
nanostructured Sb/carbon composite fibers	315.9	100	100	[2]
Sb/C polyhedra composite	565	200	100	[7]
RGO-Sb_{TF}-Ni	424.1	100	50	[8]
hollow Sb@C yolk-shell spheres	405	1000	300	[9]
graphene@NiSb/ Sb@nickel foam	340	200	50	[10]
Sb/graphene composites	515	100	50	[11]
1-D Sb/NPC	556	200	100	This work

Table S2. Comparison of the performances in this work with previously reported Sb/C composite for Na-ion batteries.

Sb-based anodes	**Reversible capacity (mAh g^{-1})**	**Current density (mA g^{-1})**	**Cycle number (cycles)**	**Ref.**
Sb–C nanofibers	446	200	400	[3]
Sb/C fibers	422	350	300	[4]
Sb NPs anchored on carbon nanofibers	542.5	100	100	[5]
Sb-carbon-graphene fibrous composite	274	100	100	[6]
hollow Sb@C yolk−shell spheres	280	1000	200	[9]
graphene@NiSb/ Sb@nickel foam	305	300	100	[10]
Sb @C coaxial nanotubes	407	100	240	[12]
spherical nano-Sb@C composite	385	100	500	[13]
Sb/J-SP-α	280	300	160	[14]
1-D Sb/NPC	400.9	100	100	This work

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