Supporting Information:

Kinetic Well-matched Full-carbon Sodium-ion Capacitor

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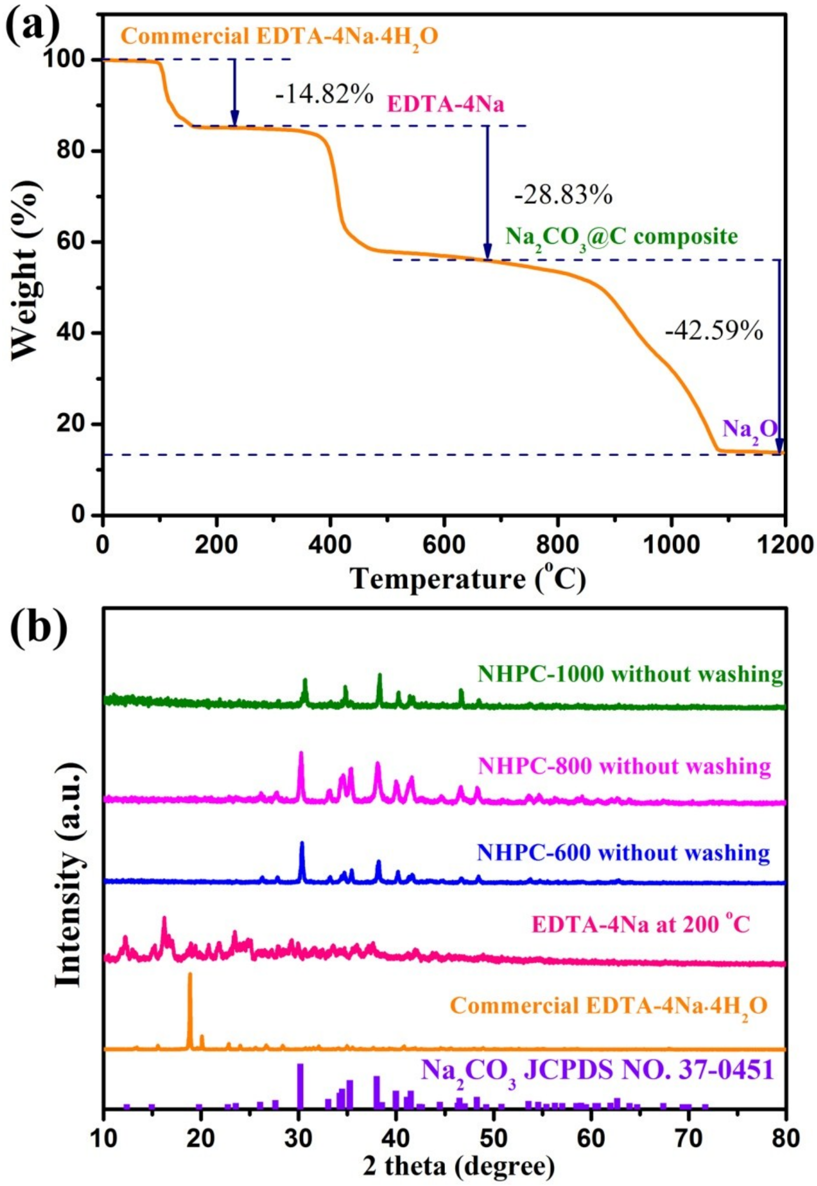

Figure S1 (a) TGA of commercial EDTA-4Na·4H_2O under N_2 condition. **(b)** XRD patterns of as-obtained products with different thermolysis temperatures before washing.

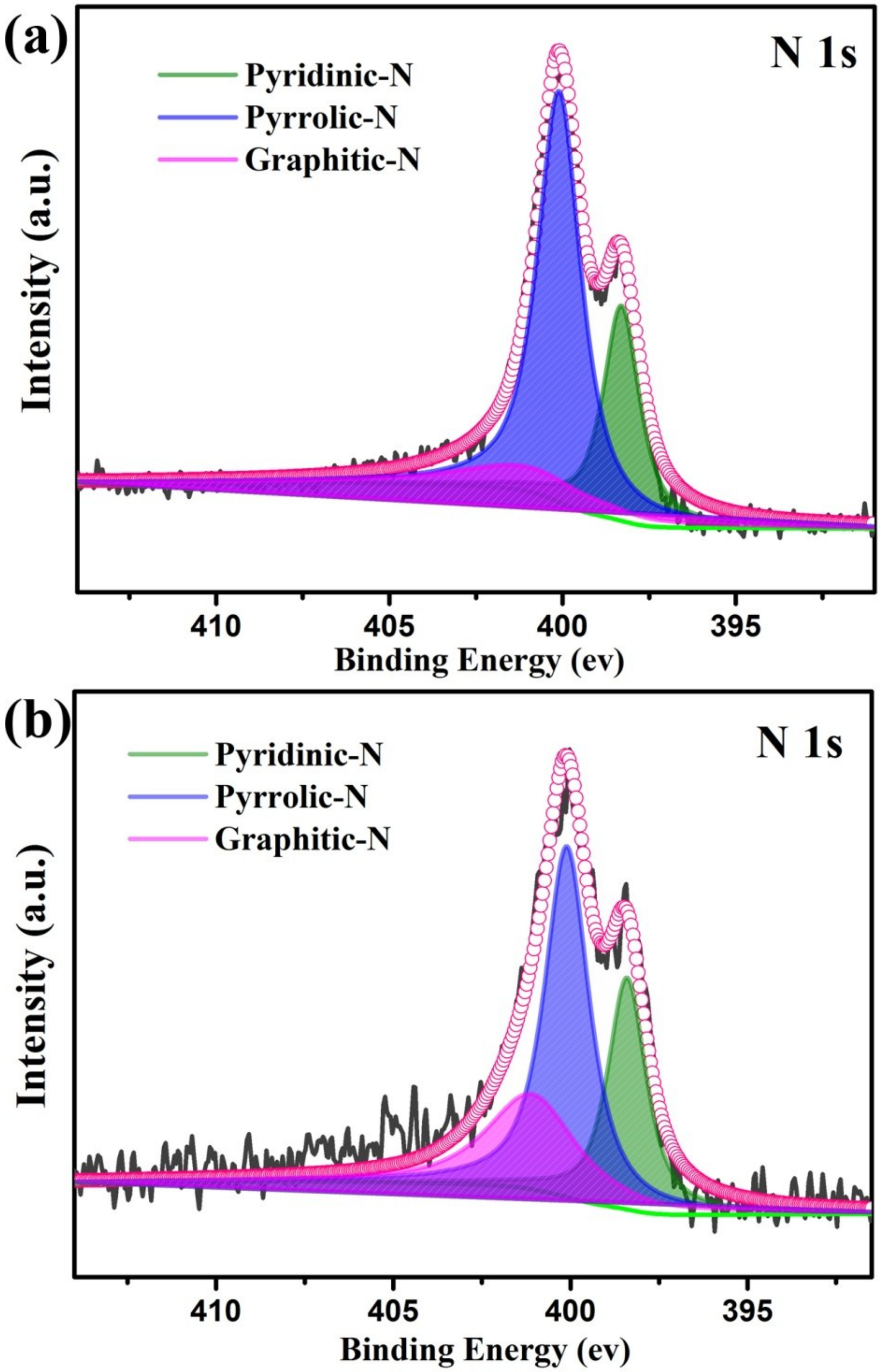

Figure S2 (a) The N1s high-resolution spectrum of **NHPC-600**. **(b)** The N1s high-resolution spectrum of **NHPC-1000**.

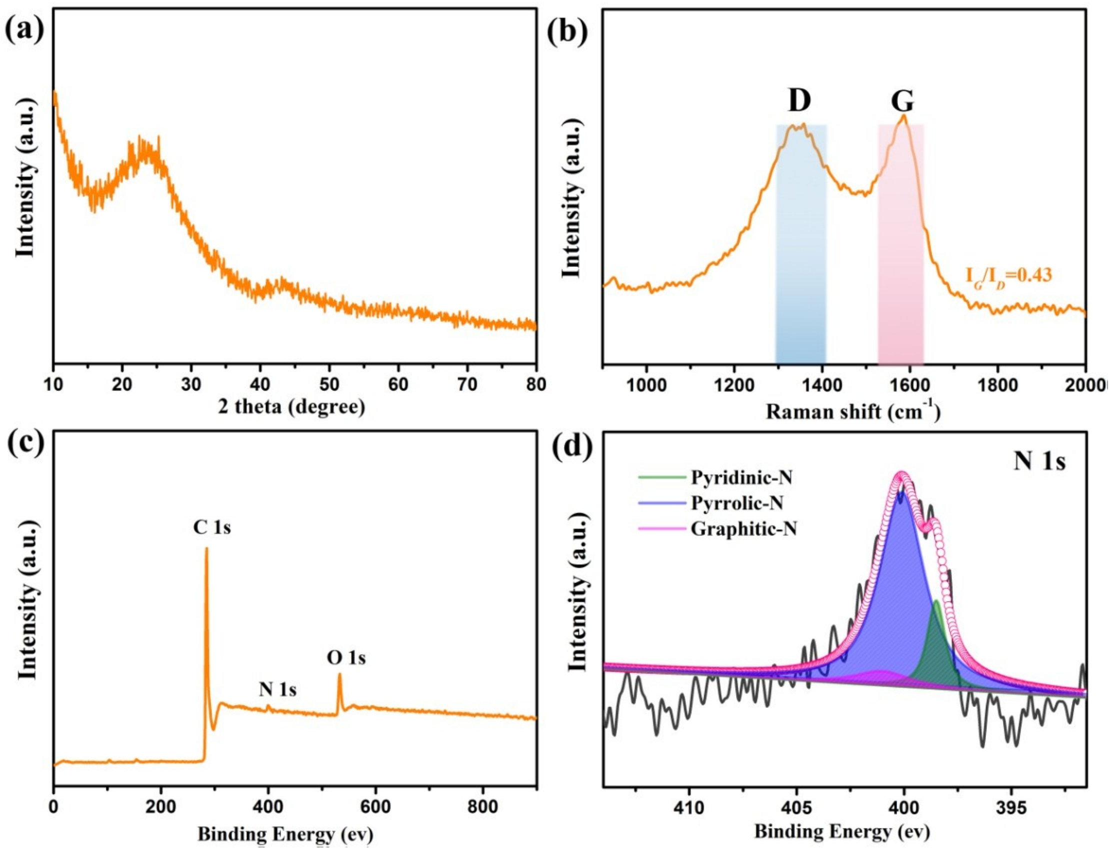

Figure S3 (a) XRD pattern, **(b)** Raman spectrum, **(c)** XPS survey spectrum, and **(d)** N1s high-resolution spectrum of **NHPAC**.

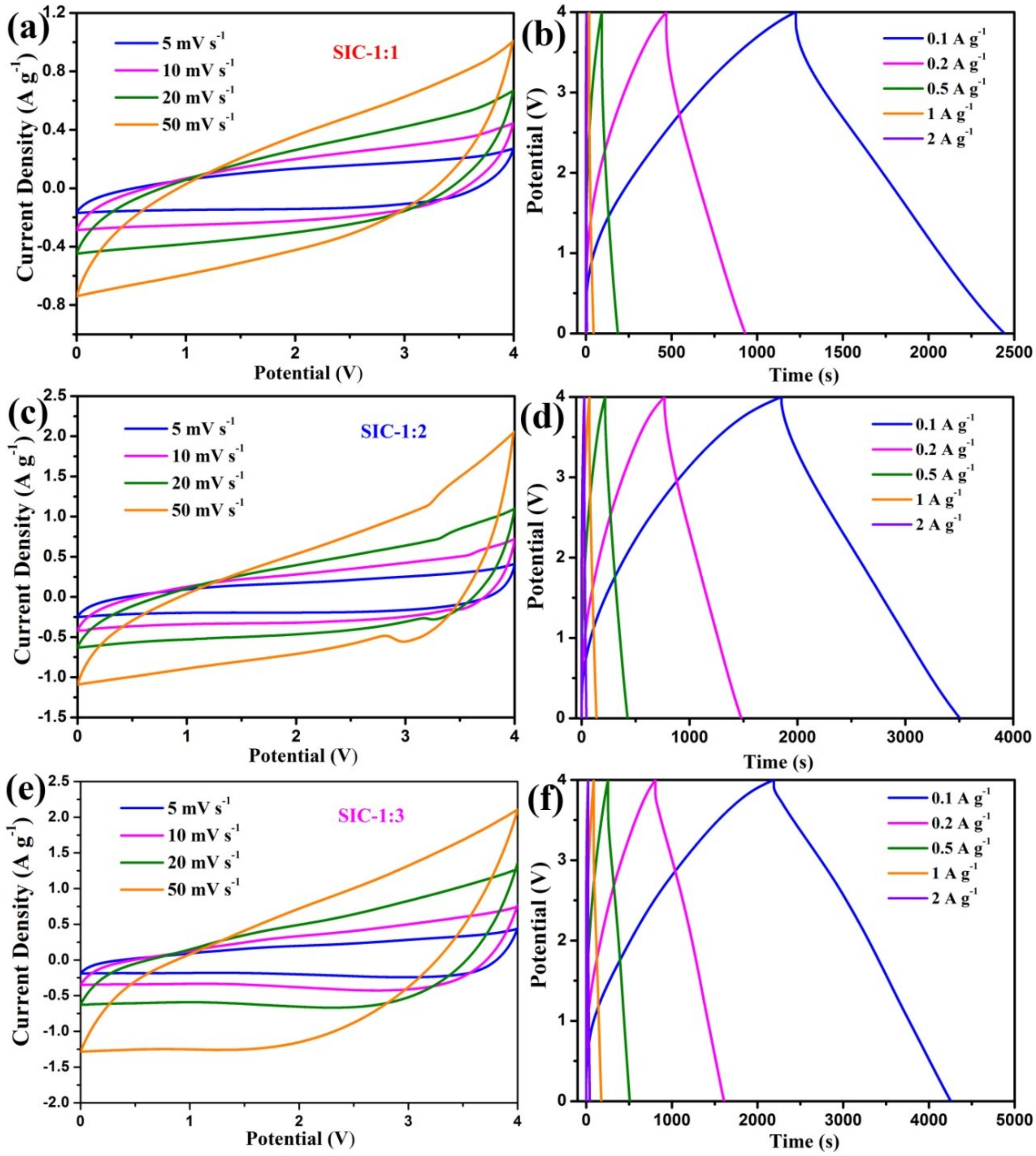

Figure S4 CV curves and GCD profiles of **NHPC-800**//**NHPAC** SICs with different mass ratios (**a**, **b**) 1:1, (**c**, **d**) 1:2, (**e**, **f**) 1:3.

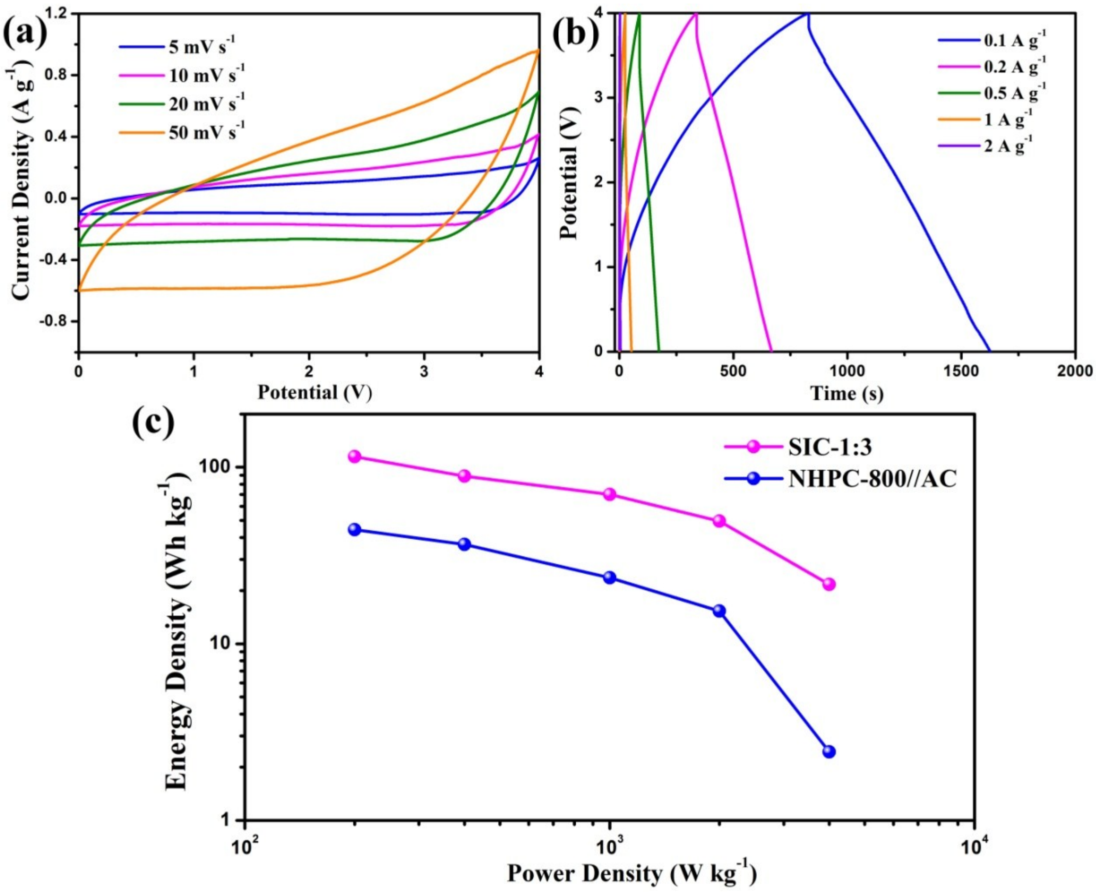

Figure S5 (a) CV curves and (**b**) GCD profiles of **NHPC-800**//**AC** SIC with the optimized mass ratio. (**c**) The comparison of Ragone plots between **NHPC-800**//**AC** SIC and **NHPC-800**//**NHPAC** SIC.

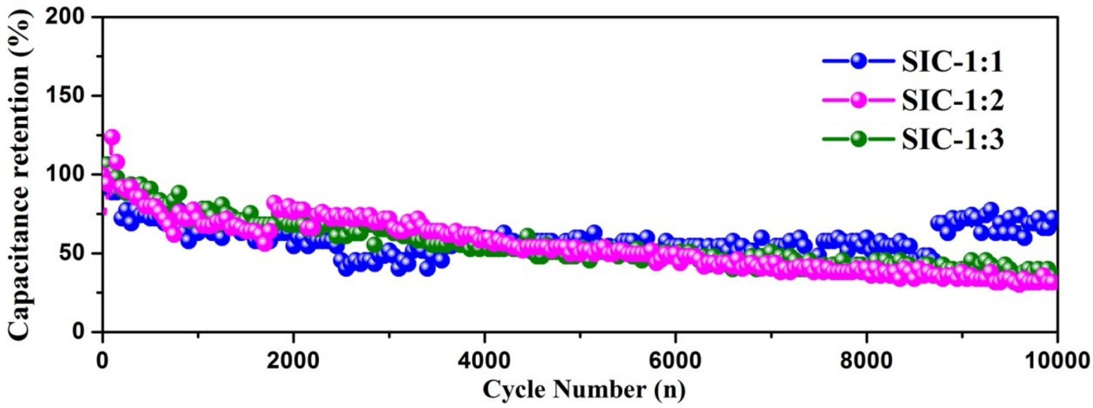

Figure S6 Cycling stability of **NHPC-800**//**NHPAC** SICs with different mass ratios at 1 A g^{-1} for 10000 cycles within 0-4.0 V.

Table **S1**. Comparison of electrochemical properties for carbon anodes between our work and the previous reports.

Carbon anode	**Cycling performance** (mAh g^{-1})	**rate capability** (mAh g^{-1})	**References**
Natural graphite	145 at 0.2 A g^{-1}	100 at 0.5 A g^{-1}	S1
	after 2500 cycles	112 at 3 A g^{-1}	
Expanded graphite	136 at 0.1 A g^{-1}	284 at 0.02 A g^{-1}	S2
	after 2000 cycles	184 at 0.1 A g^{-1}	
3D amorphous arbon	188 at 0.3 A g^{-1}	280 at 0.03 A g^{-1}	S3
	after 600 cycles	66 at 9.6 A g^{-1}	
Hollow carbon nanospheres	160 at 0.1 A g^{-1}	142 at 0.5 A g^{-1}	S4
	after 100 cycles	100 at 2 A g^{-1}	
Carbon nanotubes	130 at0.1 A g^{-1}	108 at 0.05 A g^{-1}	S5
	after 600 cycles	50 at 1 A g^{-1}	
N-doped carbon nanosheets	155 at 0.05 A g^{-1}	190 at 0.2 A g^{-1}	S6
	after 200 cycles	~50 at 2 A g^{-1}	
P-doped carbon cloth	164 at 0.2 A g^{-1}	215.5 @0.1 A g^{-1}	S7
	after 600 cycles	123.1 @1 A g^{-1}	
S-covalently bonded	150 at 1 A g-1	262 at 0.1 A g^{-1}	S8
grapheme	after 200 cycles	161 at 1 A g^{-1}	
F and N co-doped	203 at 0.05 A g^{-1}	197 mAh g^{-1} at 0.05 A g^{-1}	S9
graphene	after 50 cycles	50 mAh g^{-1} at1 A g^{-1}	
S-doped N-rich	211 at 1 A g^{-1}	300 at 0.1 A g^{-1}	S10
carbon nanosheets	after 1000 cycles	220 at 1 A g^{-1}	
NHPC-800	197 at 2 A g^{-1}	386 at 0.1 A g^{-1}	This work
	after 1000 cycles	176 at 5 A g^{-1}	

References

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