Supplementary Materials

Highly Flexible, Foldable and Stretchable Ni-Co Layered Double Hydroxide/Polyaniline/Bacterial Cellulose Electrodes for High-performance All-Solid-State Supercapacitors

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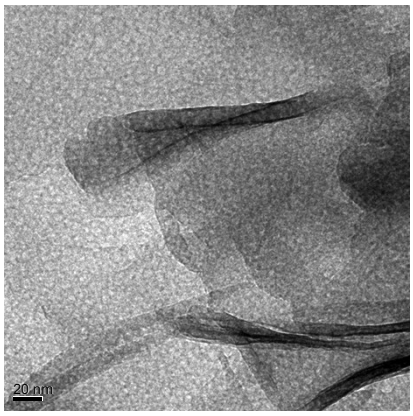

Fig. S1. TEM image of the NiCo-LDH from NiCo-LDH/PANI/BC.

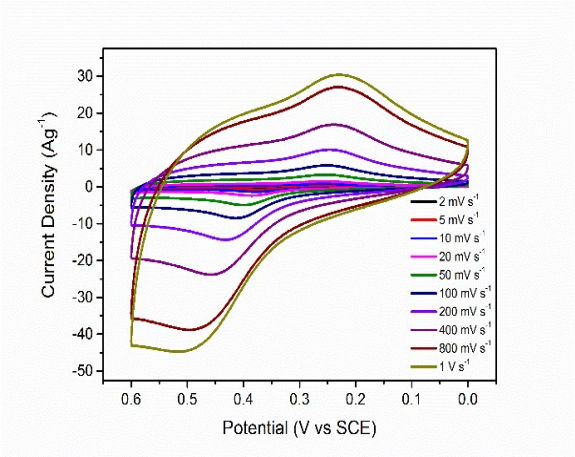

Fig. S2. CV curves of the PANI/BC obtained at various scan rates of 2-1000 mV s^{-1}.

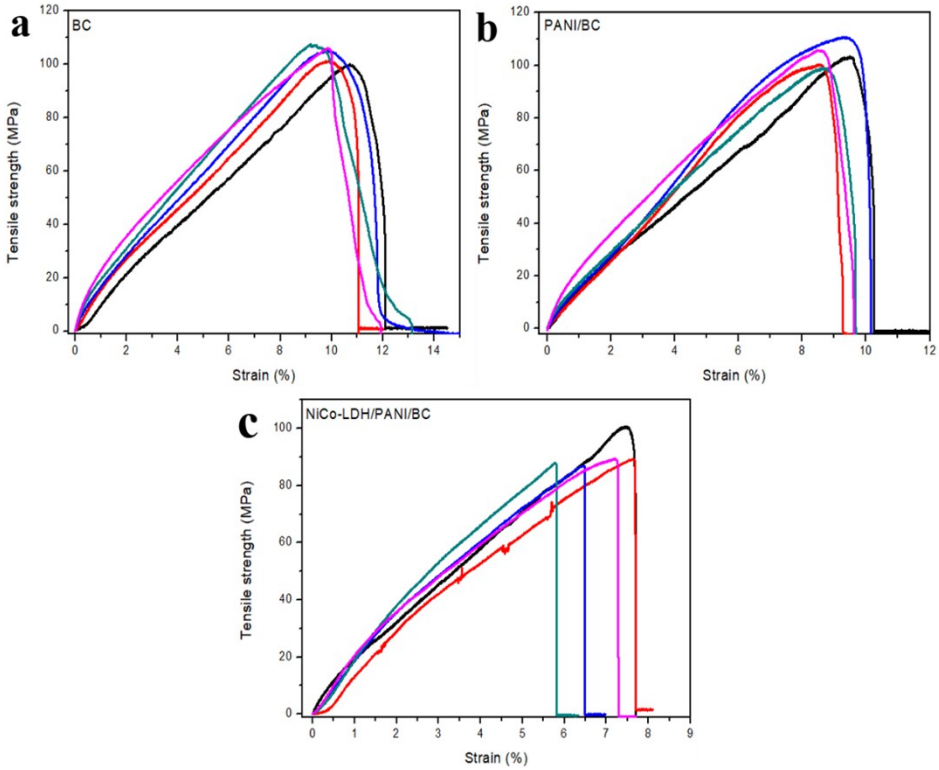

Fig. S3. Stress-strain curves of the (a) BC, (b) PANI/BC and (c) NiCo-LDH/PANI/BC.

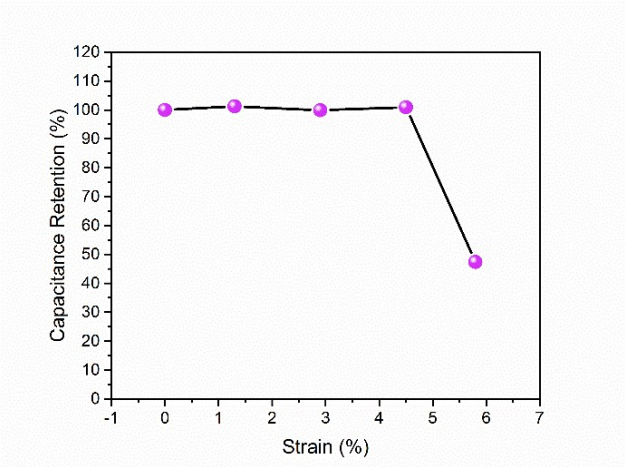

Fig. S4. Capacitance retention of the NiCo-LDH/PANI/BC during stretching.

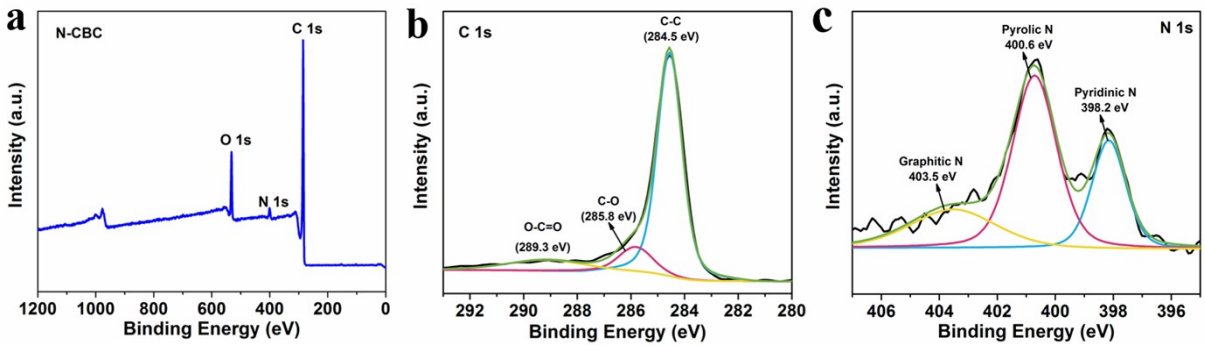

Fig. S5. (a) XPS survey, (b) high-resolution spectra of C 1s and (c) N 1p for the obtained N-CBC nanofibers.

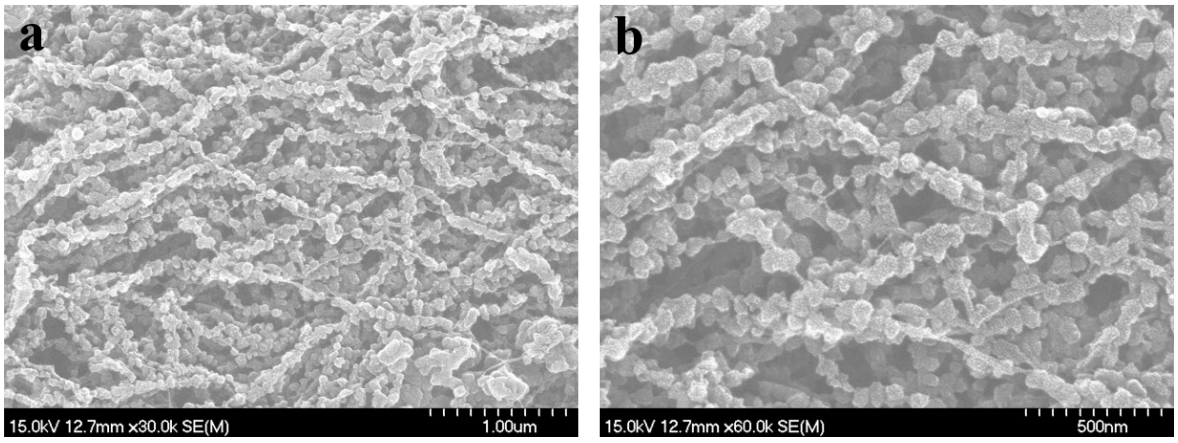

Fig. S6. SEM images of the N-CBC nanofibers.

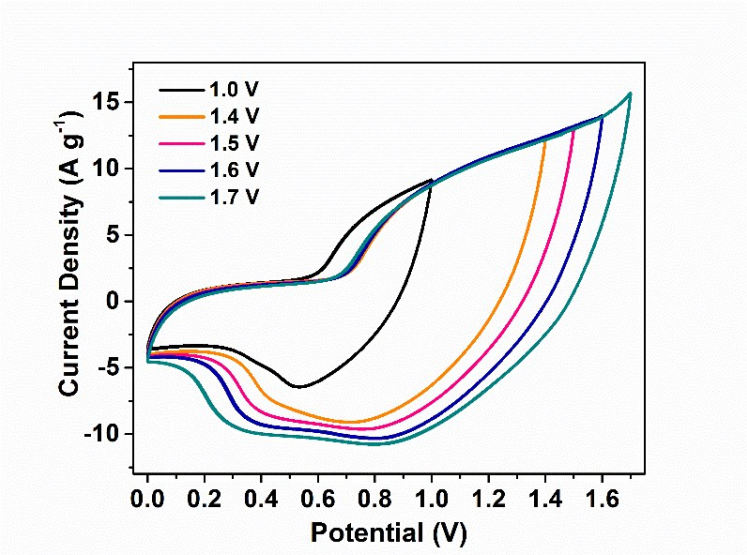

Fig. S7. An assembled flexible ASC in various voltage windows at a scan rate of 100 mV s^{-1}.

Table S1. Specific capacitance, flexibility and tensile strength reported in literature for flexible electrodes.

Samples	Electrolyte	Specific Capacitance	Flexibility	Tensile Strength	Ref.
$NiCo_2O_4$/CNT film	2 M KOH	1590 F g^{-1} at 0.5 A g^{-1} (3)-electrode	~100% capacitance retention after 1 bending	-	53
$NiCo_2O_4$/CNT paper	2 M KOH	1752 F g^{-1} at 1 A g^{-1} (3)-electrode	~100% capacitance retention after 1 bending	-	54
PANI/CNT film	(PVA)-H_3PO_4	315 F g^{-1} at 0.5 A g^{-1} (2)-electrode	93% capacitance retention after 150 bending cycles at 180°	-	55
MnO_2/RGO film	PVA-LiCl	305 F g^{-1} at 5 mV s^{-1} (3)-electrode	~100% capacitance retention after 1 bending	-	56
AC/RGO fiber	1 M H_2SO_4	180 F g^{-1} at 0.4 A g^{-1} (3)-electrode	~100% capacitance retention after 1000 bending cycles at 180°	23 MPa	57
PPY/RGO fiber	(PVA)-H_2SO_4	107.2 mF cm^{-2} at 0.24 mA cm^{-2} (2)-electrode	~100% capacitance retention after 1000 bending cycles	80 MPa	58
MoS_2/CC	PVA-LiCl	305 F g^{-1} at 5 mV s^{-1} (3)-electrode	~100% capacitance retention after 1 bending	-	59
$NiFe_2O_4$/CC	1 M H_2SO_4	1135 F g^{-1} at 2 mA cm^{-2} (3)-electrode	~100% capacitance retention after 1 bending	-	60
$Ni(OH)_2$/RGO/BC	2 M KOH	877 F g^{-2} at 5 mA cm^{-2} (3)-electrode	~100% capacitance retention after 1 bending	49 MPa	61
NiCo-LDH/PANI/BC	2 M KOH	1690 F g^{-1} at 1 A g^{-1} (3)-electrode	94.2% capacitance retention after 1000 bending cycles at 150°	91 MPa	This work