## Supporting Information

## Silver Nanowire/Nickel Hydroxide Nanosheet Composites for Transparent

## Electrode and All-Solid-State Supercapacitor

Haojin Du,<sup>1</sup> Ying Pan,<sup>1</sup> Xiao Zhang,<sup>1</sup> Fuyang Cao,<sup>1</sup> Tao Wan,<sup>1</sup> Haiwei Du,<sup>2\*</sup> Rakesh Joshi<sup>1</sup> and Dewei Chu<sup>1\*</sup>

<sup>1</sup> School of Materials Science and Engineering, University of New South Wales, Sydney, NSW 2052, Australia

<sup>2</sup> School of Chemistry and Chemical Engineering, Anhui University, Hefei 230601, P. R. China

\*Corresponding authors: haiwei.du@hotmail.com (H. Du) and d.chu@unsw.edu.au (D. Chu)

Composites	Application	Ref.
Ag NW/chitosan	Transparent electrode	ACS Appl. Mater. Interfaces, 2017, 9, 4733
Ag NW/polyvinyl alcohol	Transparent electrode	J. Mater. Chem. C, 2014, 2, 9737
Ag NW/TiO <sub>2</sub>	Transparent electrode	ACS Appl. Mater. Interfaces, 2018, 10, 2688
Ag NW/ZnO	Transparent electrode	ACS Appl. Mater. Interfaces, 2018, 10, 19208
Ag NW/rGO	Biosensor	J. Mater. Chem. C, 2015, 3, 9444
Ag NW/amorphous cobalt layer	Supercapacitor	Part. Part. Syst. Charact., 2017, 34, 1600412
Ag NW/WO <sub>3</sub>	Supercapacitor	Chem. Commun., 2016, 52, 6296
Ag NW@NiAl LDH	Supercapacitor	Chem. Eng. J., 2018, 348, 338
Ag NW/Ni(OH)2 nanosheet	Transparent electrode	This work
	Supercapacitor	

Table S1 Comparison of previous studies on Ag NW based composites.

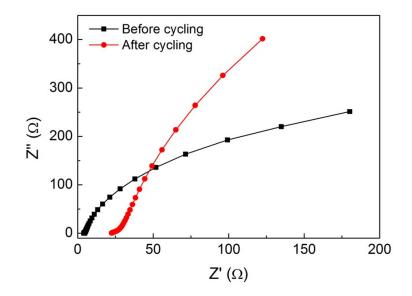


Fig. S1 Electrochemical impedance spectroscopy (EIS) result of Ag NW/Ni(OH)<sub>2</sub> NS electrode before and after cycling tests. Frequency range: 100 kHz to 0.1 Hz. The test was conducted in a three electrode system using Ag/AgCl electrode in saturated potassium chloride (KCl) solution and platinum plate as reference and counter electrode respectively. The electrolyte is 1 M KOH solution.

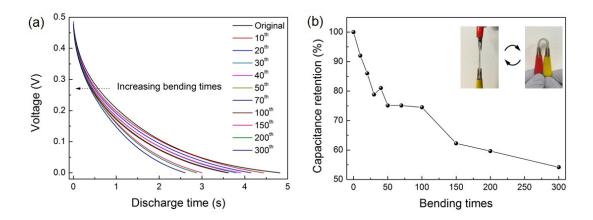


Fig. S2 Discharge curves (a) and capacitance retention (b) with the increasing bending times. Current density: 4 A  $g^{-1}$ . Inset shows the bending condition and the bending angle is ~180°.