Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supporting Information:

Hetero-Nanostructures Constructed by 2D Porous Metal Oxide/Hydroxide Nanosheets Supported on 1D Hollow Co_9S_8 Nanowire for Hybrid Supercapacitors with High Areal Capacity

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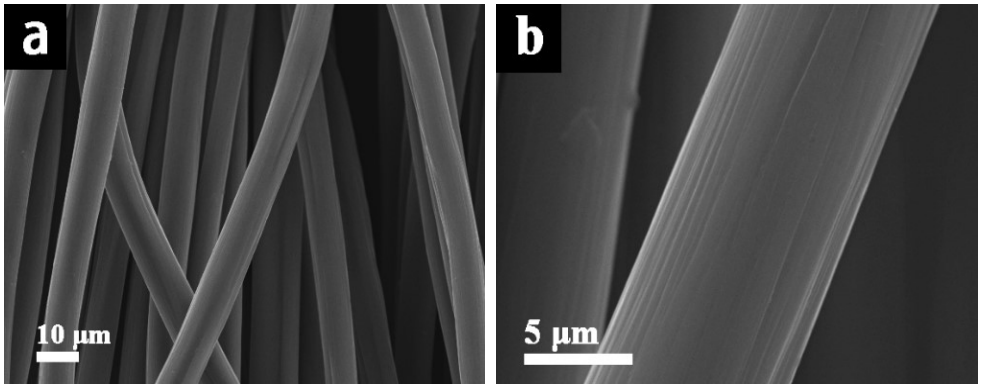

Figure S1 (a,b) Morphology of the pristine carbon cloth used as a current collector

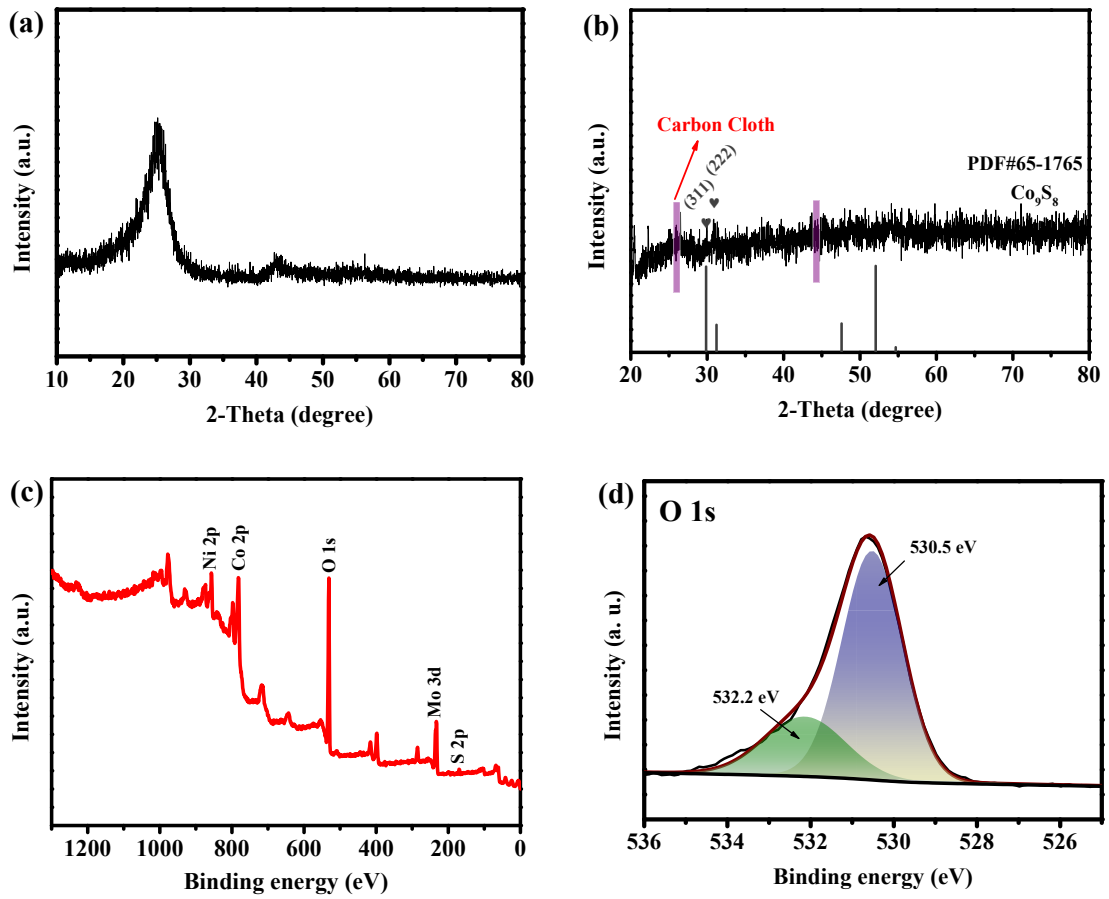

Figure S2 (a) The XRD patterns of CC. (a) The XRD patterns of h-Co_9S_8 NWAs. (c) XPS survey spectrum of CC/h-Co_9S_8/NiCo-Mo hetero-nanostructures. (d) XPS spectra of the O1s.

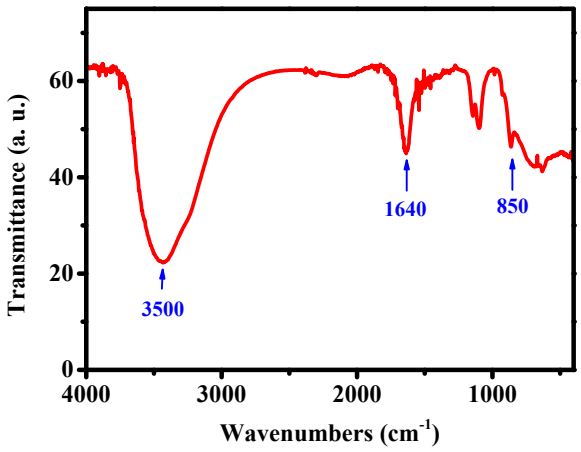

Figure S3 The FT-IR spectrum of CC/h-Co_9S_8/NiCo-Mo hetero-nanostructures.

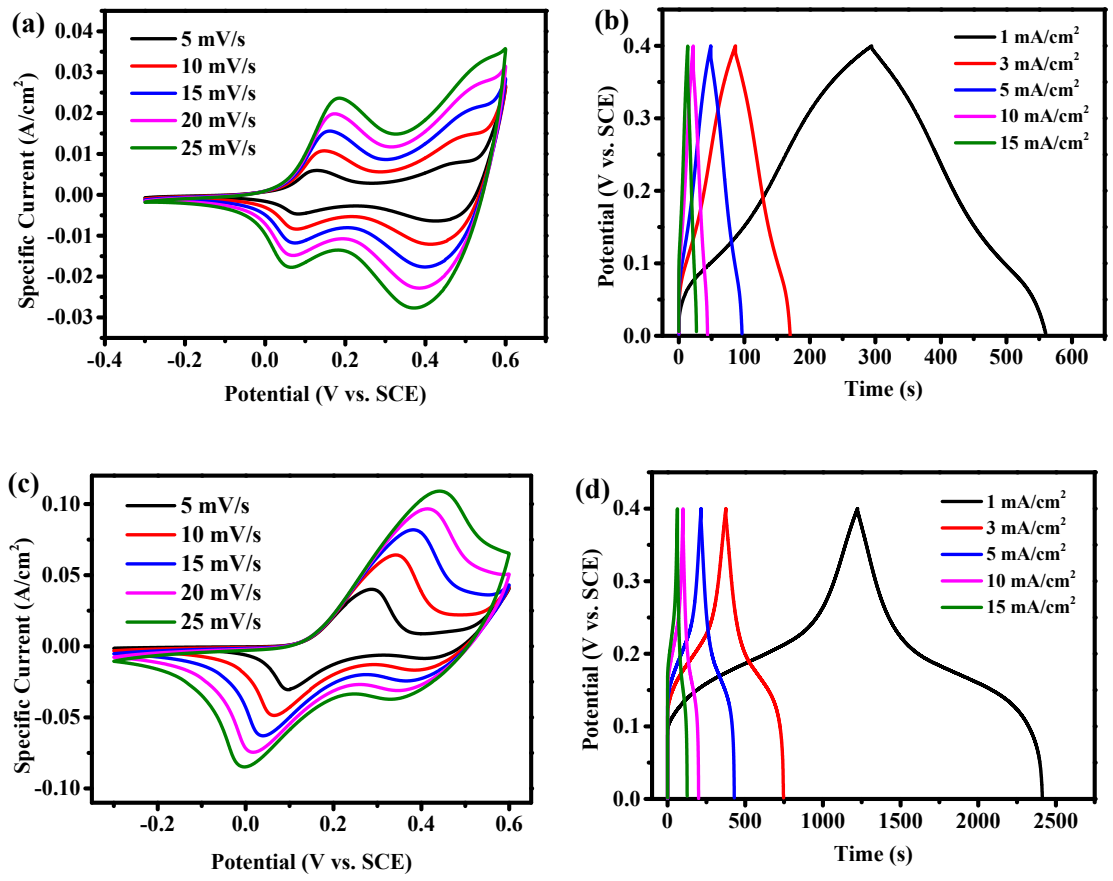

Figure S4 (a, b) The CV and GCD curves of CC/h-Co_9S_8 electrode, and (c, d) CC/NiCo-Mo electrode in 2 M KOH.

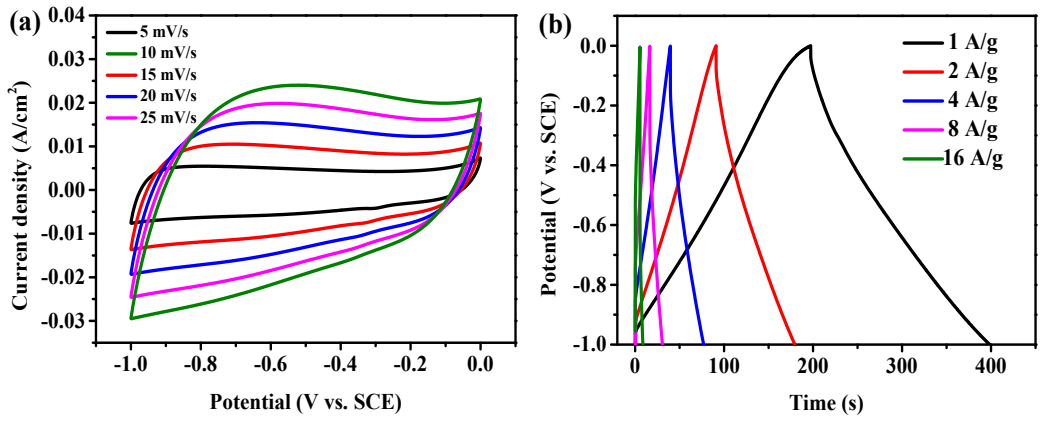

Figure S5 The electrochemical performance of the CC/AC electrode in 2 M KOH electrolyte: (a) CV curves, (b) GCD curves.

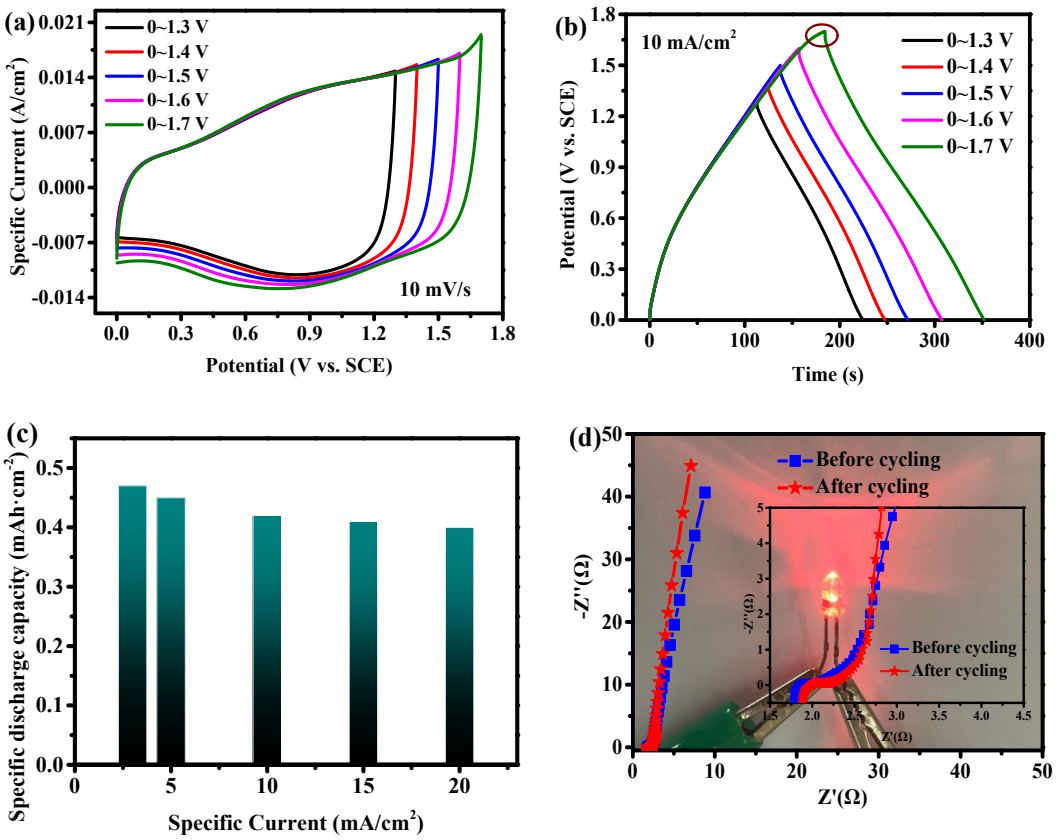

Figure S6 (a) CV curves of the as-assembled CC/h-Co_9S_8/NiCo-Mo//AC HSC device measured at different operating voltages at the scan rate of 10 mV·s^{-1}. (b) GCD curves of the CC/h-Co_9S_8/NiCo-Mo//AC HSC device at different voltages at a specific current of 10 mA·cm^{-2}. (c) Specific discharge capacity of CC/h-Co_9S_8/NiCo-Mo//AC HSC device calculated from GCD curves. (d) EIS curves of the CC/h-Co_9S_8/NiCo-Mo//AC HSC device before and after 10000 cycles and inset showing the LED lights illuminated with CC/h-Co_9S_8/NiCo-Mo//AC HSC device connected in series.

Tabal S1 Comparison of performance between electrode materials prepared in this work and other Ni/Co/Mo-based materials.

Electrode	Specific Capacity	Specific Current	Reference
Co_9S_8@$Ni(OH)_2$	0.3 mA h·cm^{-2}	2 mA·cm^{-2}	[1]
Co_9S_8@$Ni(OH)_2$	0.45 mA h·cm^{-2}	0.5 mA·cm^{-2}	[2]
Co_9S_8 NTs@NiCo LDH NSs	1.07 mA h·cm^{-2}	2 mA·cm^{-2}	[3]
Co_9S_8@PPy@NiCo-LDH NTAs	0.74 mA h·cm^{-2}	1 mA cm^{-2}	[4]
NiCo-LDH/Co_9S_8	0.95 mA h·cm^{-2}	7 mA·cm^{-2}	[5]
NiMoCo-LDH	0.61 mA h·cm^{-2}	0.6 mA·cm^{-2}	[6]
$Co(OH)_2CO_3$@NiCo-LDH	0.33 mA h·cm^{-2}	5 mA·cm^{-2}	[7]
NiCo-LDH	1.72 mA h·cm^{-2}	2 mA·cm^{-2}	[8]
CoS_2@$Ni(OH)_2$	0.58 mA h·cm^{-2}	0.7 mA·cm^{-2}	[9]
C@MoO_2	0.42 mA h·cm^{-2}	0.5 mA·cm^{-2}	[10]
MoO_3	0.25 mA h cm^{-2}	1.5 mA cm^{-2}	[11]
MoO_3@CuO	0.86 mA h cm^{-2}	1 mA cm^{-2}	[12]
MoO_3/$NiMoO_4$	0.8 mA h cm^{-2}	2.2 mA cm^{-2}	[13]
MoO_3-CNF	0.15 mA h cm^{-2}	1 mA cm^{-2}	[14]
MoO_3/$ZnMoO_4$	110 F/g	0.5 A·g^{-1}	[15]
h-Co_9S_8/NiCo-Mo NSAs	3.07 mA h·cm^{-2}	1 mA cm^{-2}	This work

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