Electronic Supplementary Material (ESI) for Sustainable Energy & Fuels.

From 1D to 2D: Dopamine constructing 2D NiCo-hydroxide nanosheets/graphene composite for high-performance supercapacitors

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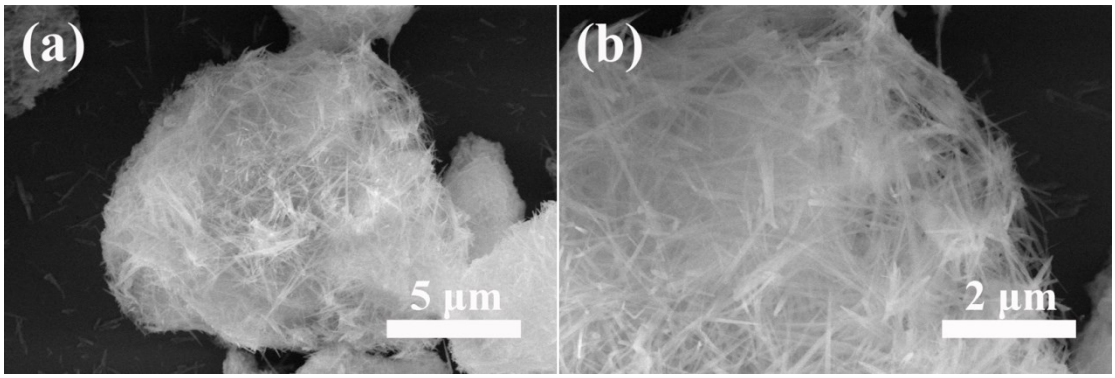

Fig. 1. SEM images of the as-made NiCo-OH nanowires

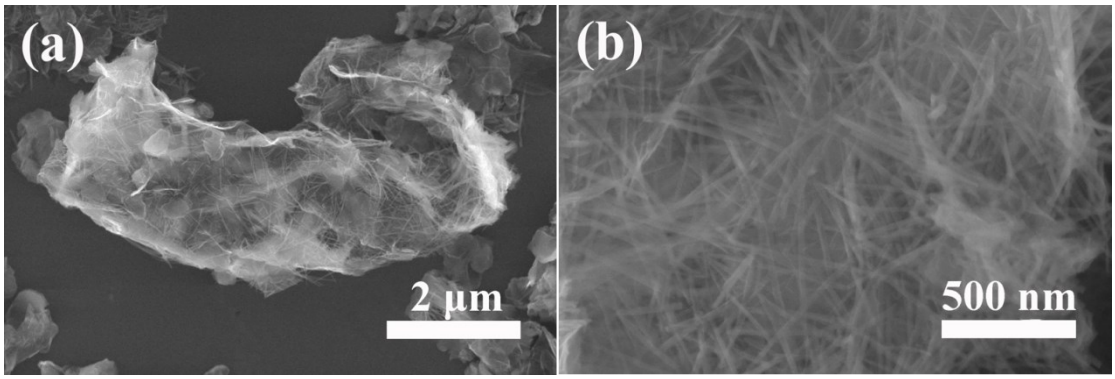

Fig. 2. SEM images of the as-made NiCo-OH/G

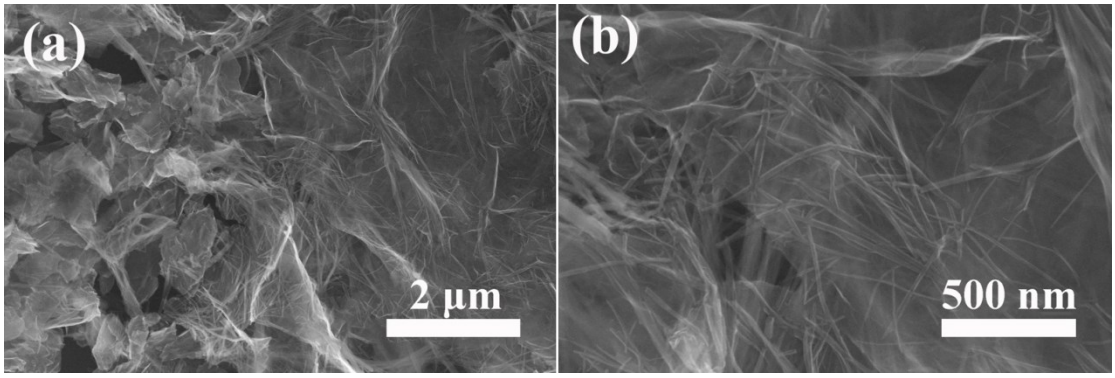

Fig. 3. SEM images of the as-made NiCo-OH/G@PDA-1

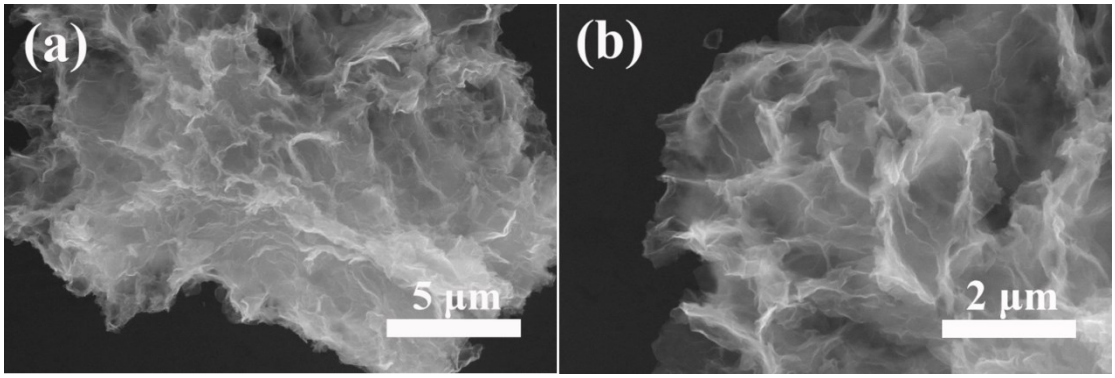

Fig. 4. SEM images of the as-made NiCo-OH/G@PDA-2

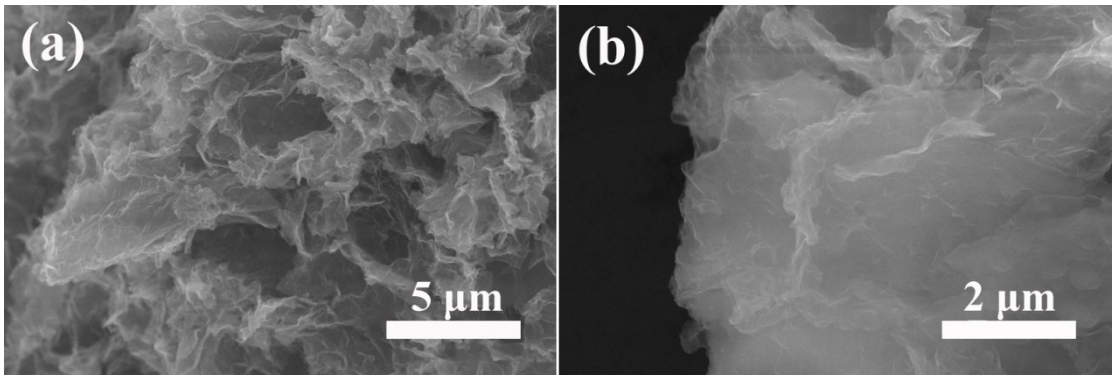

Fig. 5. SEM images of the as-made NiCo-OH/G@PDA-3

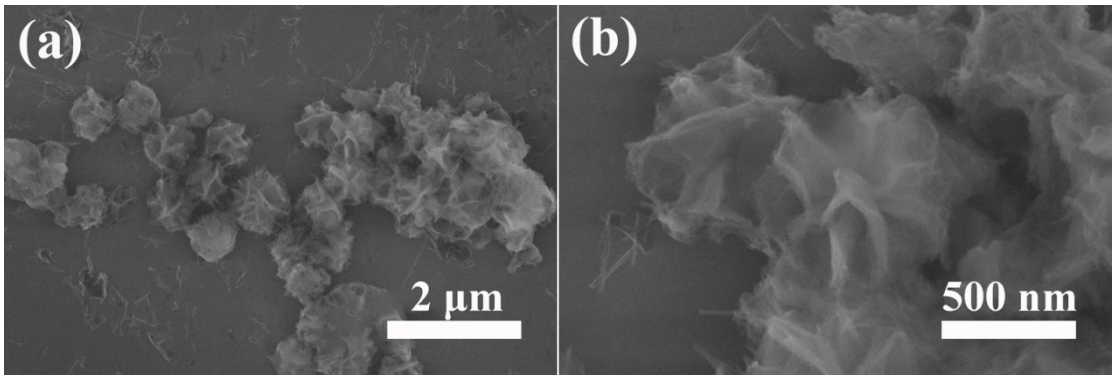

Fig. 6. SEM images of the as-made NiCo-OH @PDA

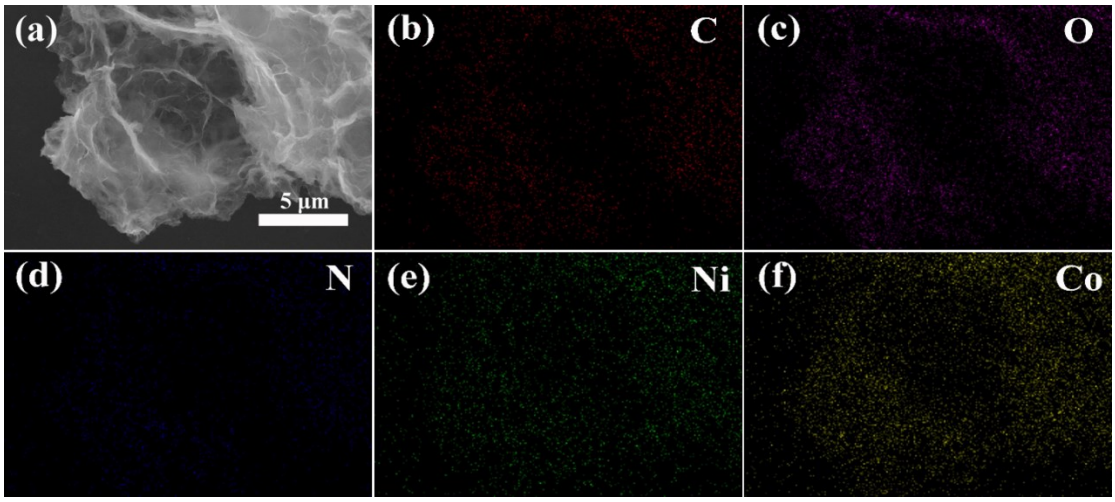

Fig. S7. SEM image of the (a) NiCo-OH/G@PDA-2 and (b-f) the corresponding elemental mapping images of C, O, N, Ni, Co from the image.

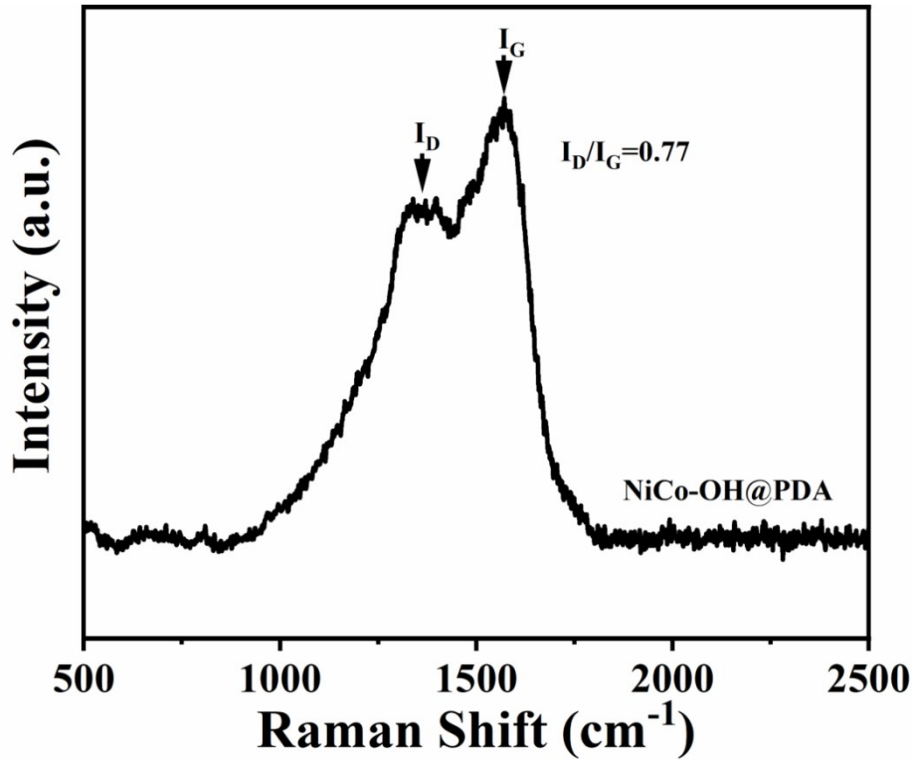

Fig. S8. Raman spectrum of the as-made NiCo-OH@PDA.

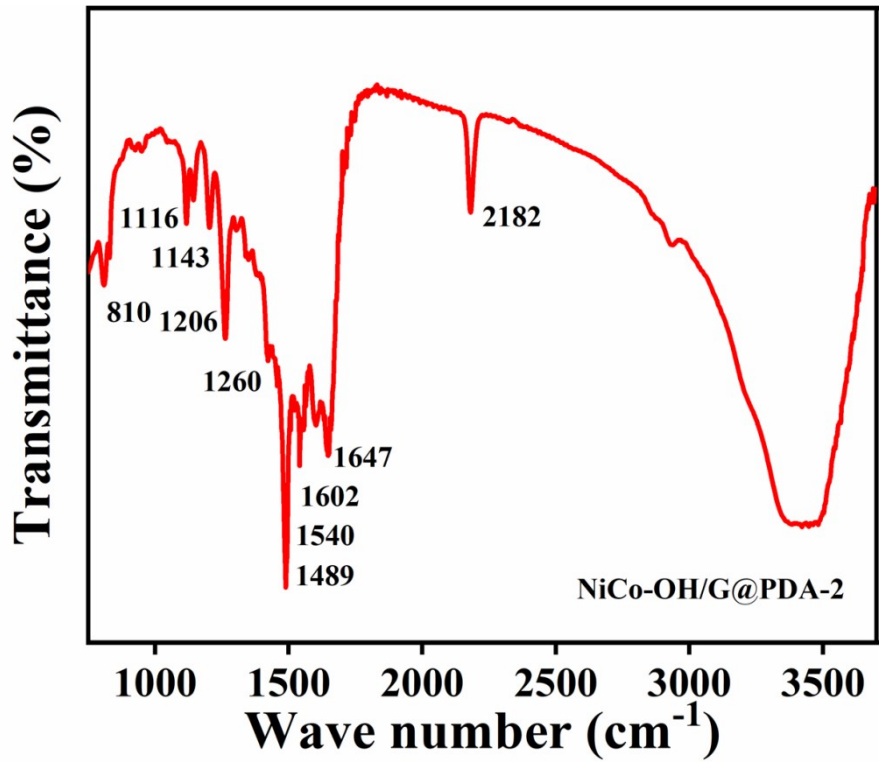

Fig. S9. FT-IR spectra of the as-made NiCo-OH/G@PDA-2.

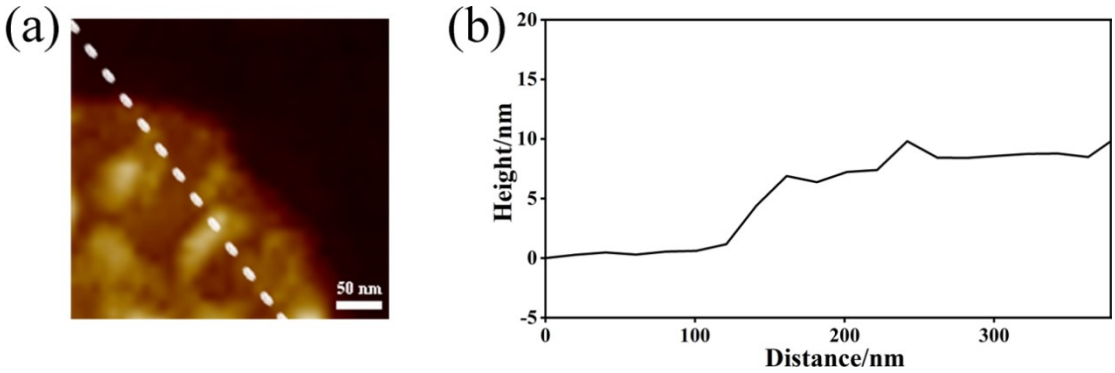

Fig. S10. AFM images and corresponding height image of NiCo-OH/G@PDA-2.

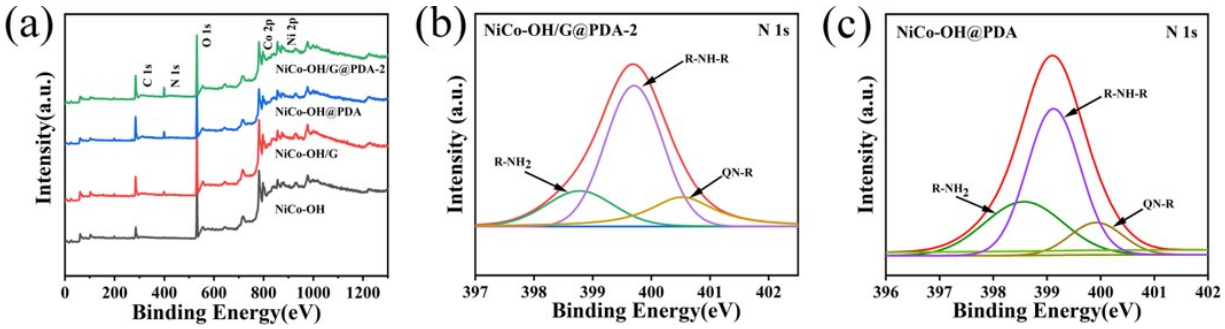

Fig. S11. (a) XPS survey of the NiCo-OH, NiCo-OH/G, NiCo-OH@PDA and NiCo-OH/G@PDA-2. High-resolution XPS N 1s spectra of the (b) NiCo-OH/G@PDA-2; (b) NiCo-OH/G@PDA-2.

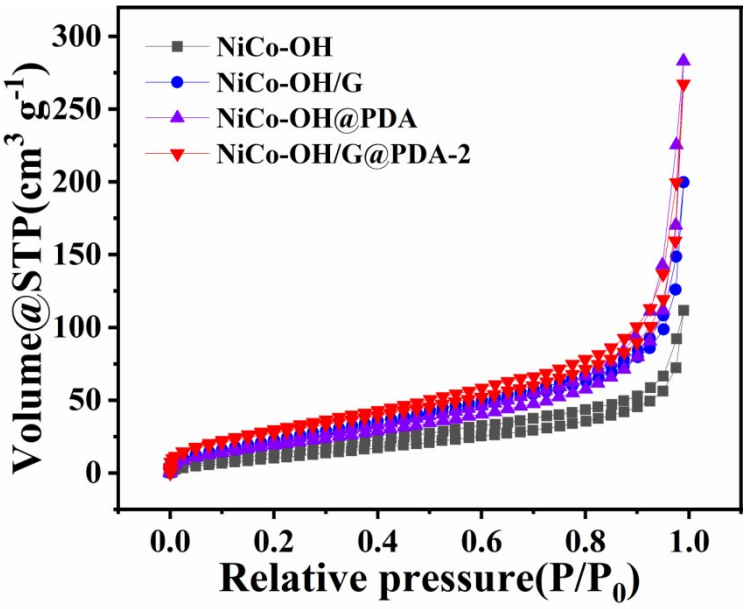

Fig. S12. Nitrogen adsorption-desorption isotherms of NiCo-OH, NiCo-OH/G, NiCo-OH@PDA and NiCo-OH/G@PDA-2

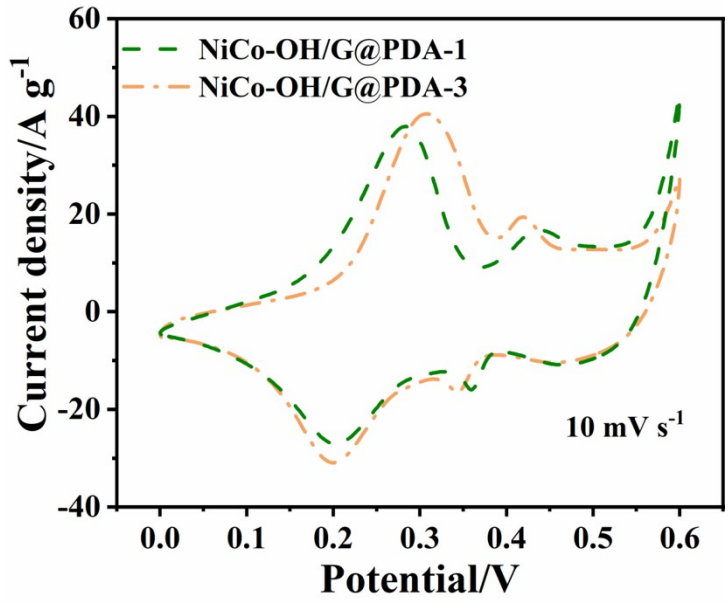

Fig. S13.CV curves of NiCo-OH/G@PDA-1 and NiCo-OH/G@PDA-3 at scan rates of 10 mV s^{-1}

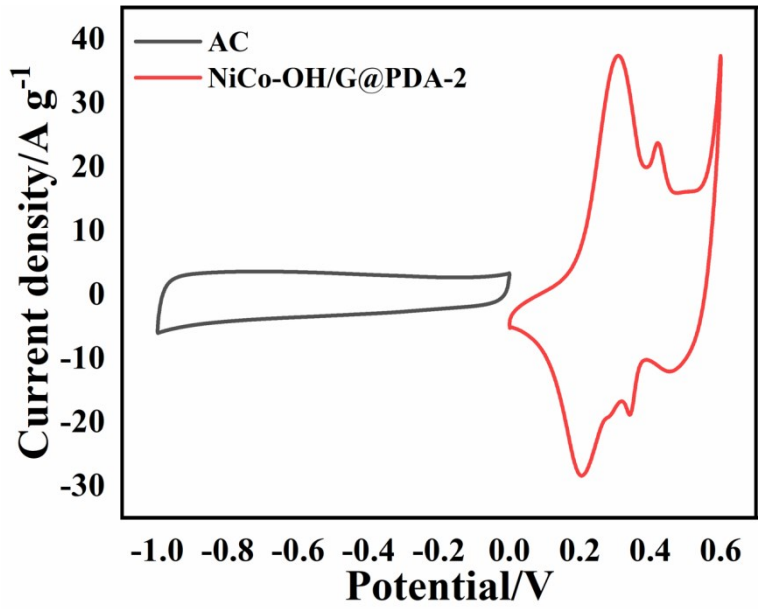

Fig. S14. CV curves of NiCo-OH/G@PDA-2 and active carbon electrodes tested at a scan rate of 10 mV s^{-1}.

Table S1. Capacitances of the representative transition metal-based electrodes

NO.	Sample	Current density(A g^{-1})	Specific capacitance (F g^{-1})	Rate capability	Reference
1	NiCo-OH/G@PDA-2	1	1520	68% at 50 A g^{-1}	This work
2	NiCoP@NiCoP	1	1492.5	69% at 15 A g^{-1}	[1]
3	flower-on-sheet NiCo LDH	1	1187.2	71% at 30 A g^{-1}	[2]
4	Co-MOF@$CoNiO_2$/CC	1	571	86% at 20 A g^{-1}	[3]
5	KCu_7S_4@NiMn LDHs	1	733.8	77% at 30 A g^{-1}	[4]
6	CoAl LDH@CF	1	634.3	67% at 10 A g^{-1}	[5]
7	$NiCu(OH)_2CO_3$	1	971	70% at 10 A g^{-1}	[6]
8	CoAl(DS^-)–LDHs	1	1481.7	58% at 32 A g^{-1}	[7]
9	MgAl-LDH-GO	1	1208.5	56% at 10 A g^{-1}	[8]
10	ring-like CoAlNi LDH	1	1339.6	56% at 10 A g^{-1}	[9]

Reference

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