Electronic Supplementary Information

Cobalt Hydroxide-based Compressible Electrode Material for Asymmetrical All-solid Supercapacitor

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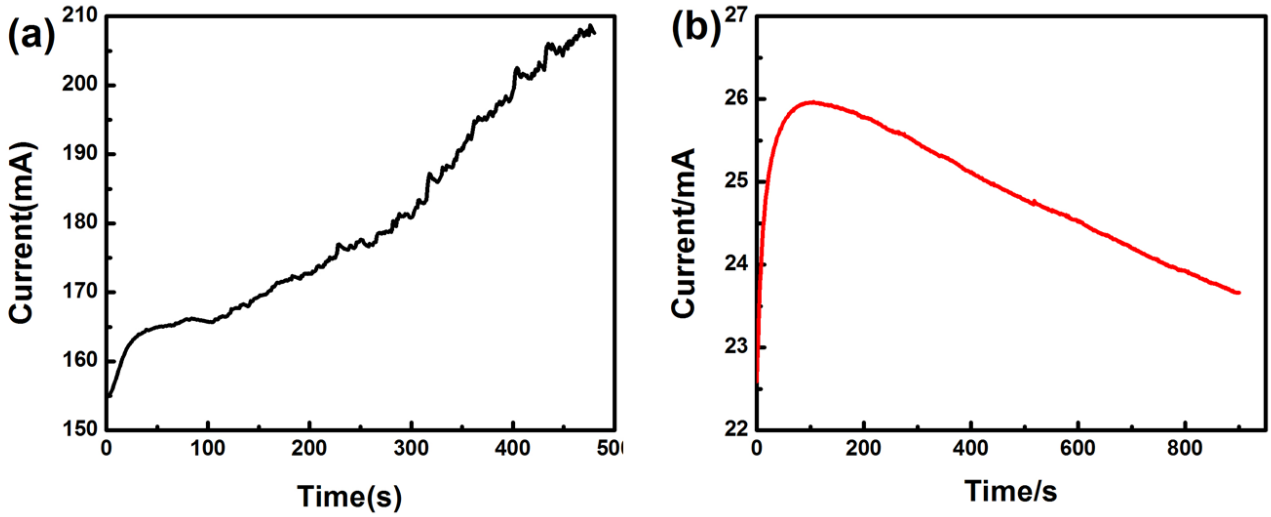

Figure S1. (a) the I-t (current-time) curve for fabrication of MF/Ni(II), (b) I-t curve for fabrication of MF/Ni(II)-Co(OH)2 compressible electrode material.

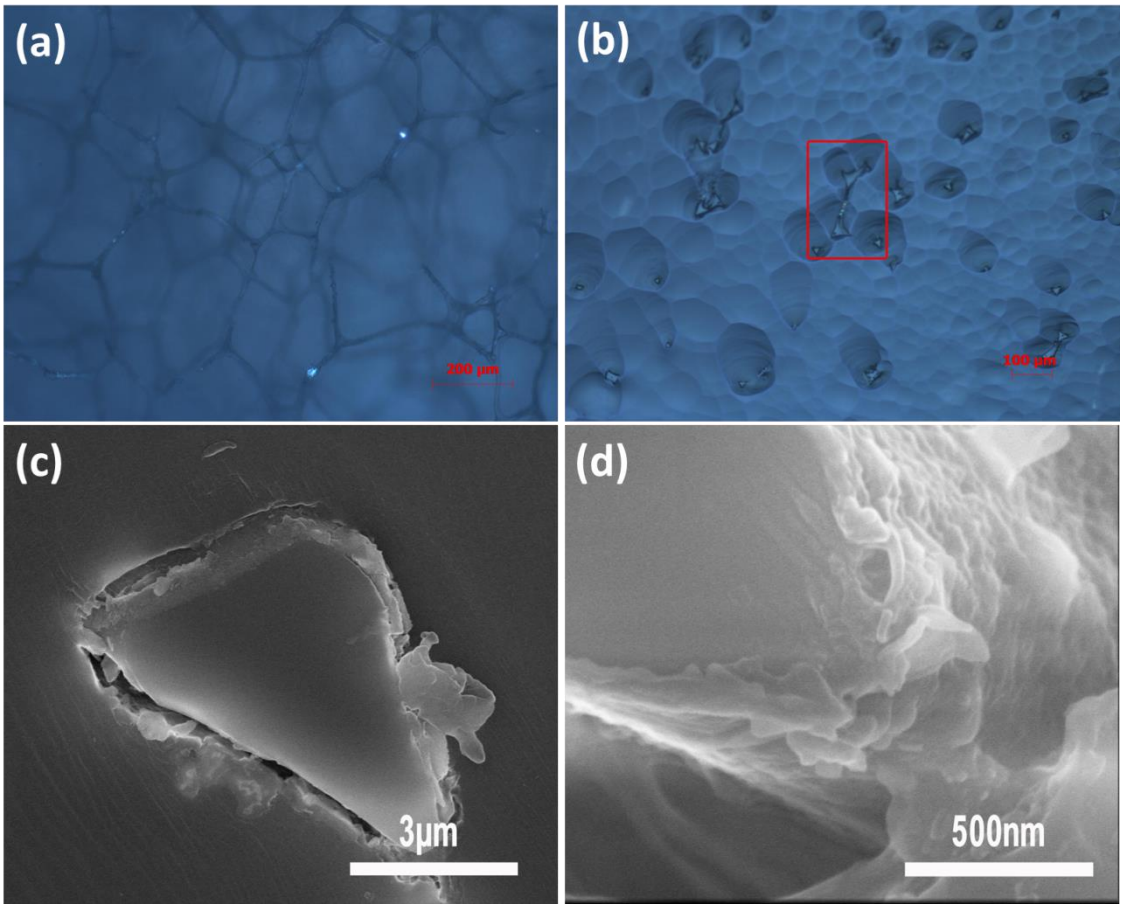

Figure S2. (a), (b) digital photos of MF/Ni(II)-$Co(OH)_2$ electrode material took by Polarizing microscope. (c) and (d) SEM images of MF/Ni(II)-$Co(OH)_2$ treated with FIB.

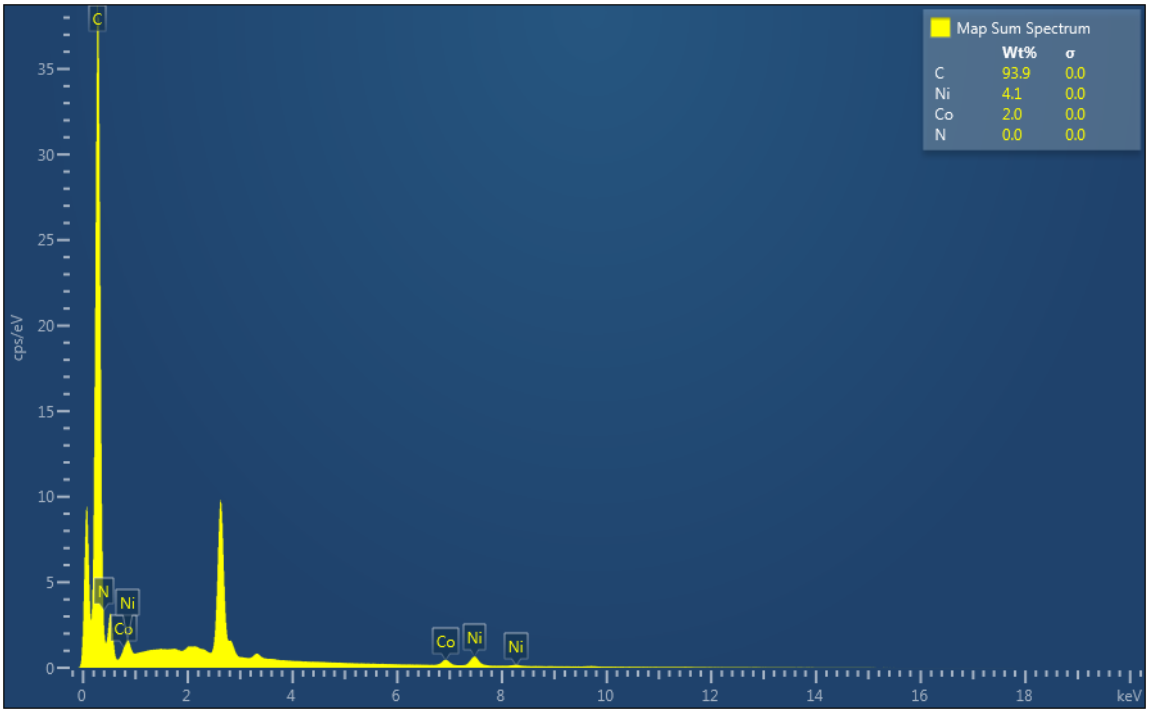

Figure S3. EDX spectrum of MF/Ni(II)-$Co(OH)_2$.

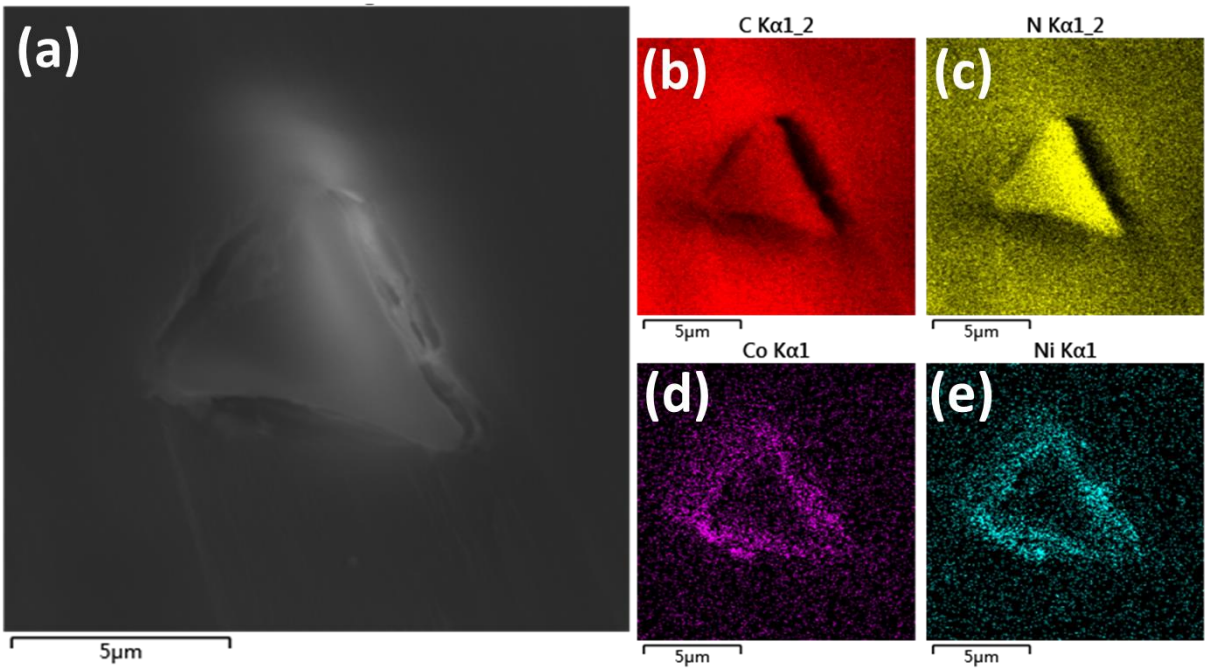

Figure S4. (a) SEM, and (b-e) elemental mapping of the MF/Ni(II)-$Co(OH)_2$ electrode material.

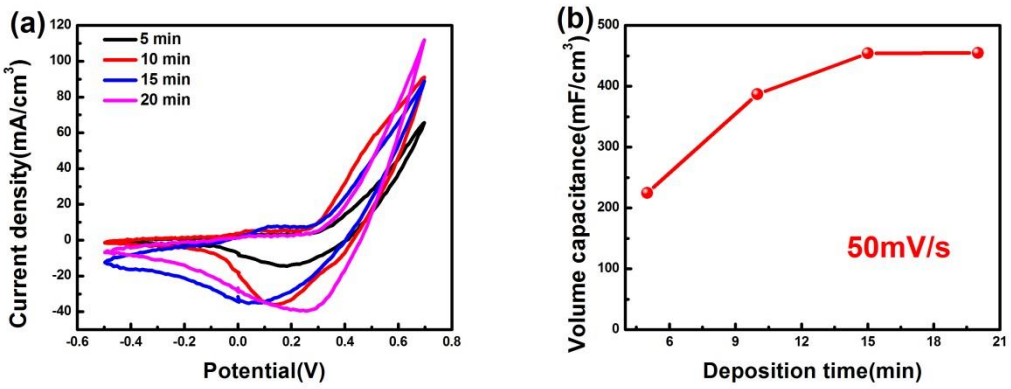

Figure S5. (a) CV curves of MF/Ni(II)-$Co(OH)_2$ electrode material with different deposition time, (b) the volume capacitance values versus deposition time.

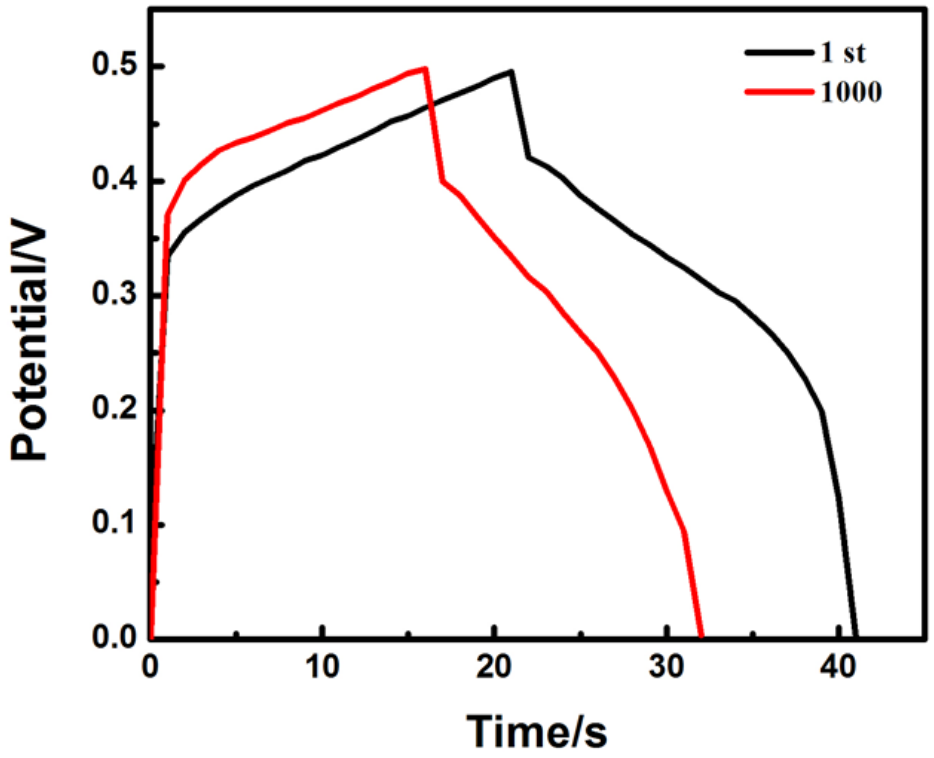

Figure S6. The GCD cycle curve of MF/Ni(II)-$Co(OH)_2$ electrode material at 10mA/cm^3.

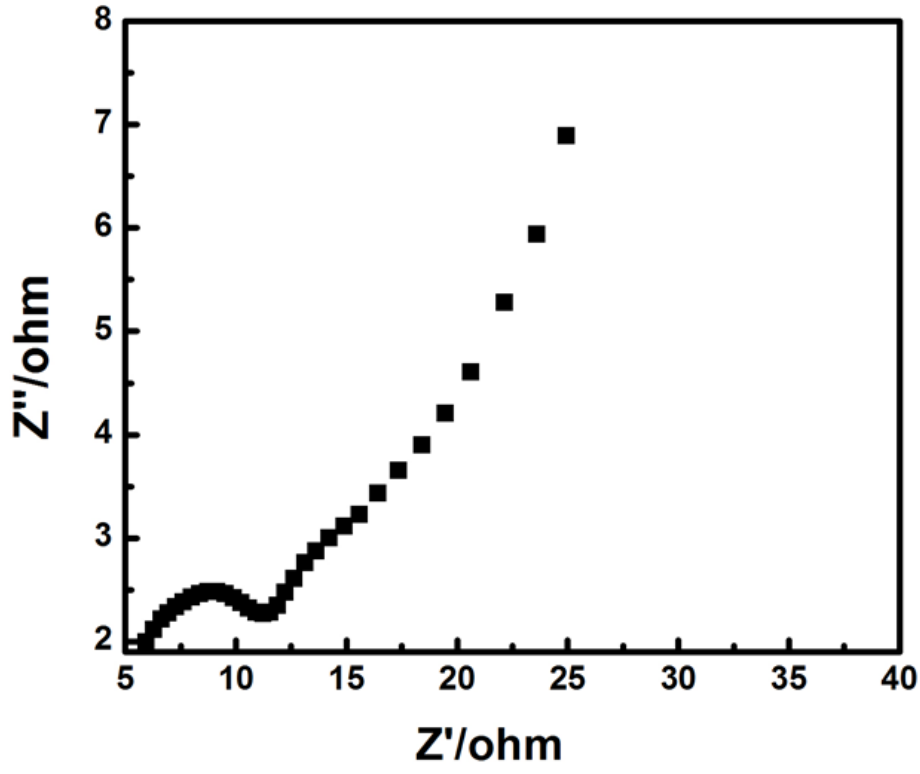

Figure S7. The Nyquist plot of MF/Ni(II)-$Co(OH)_2$ electrode material.

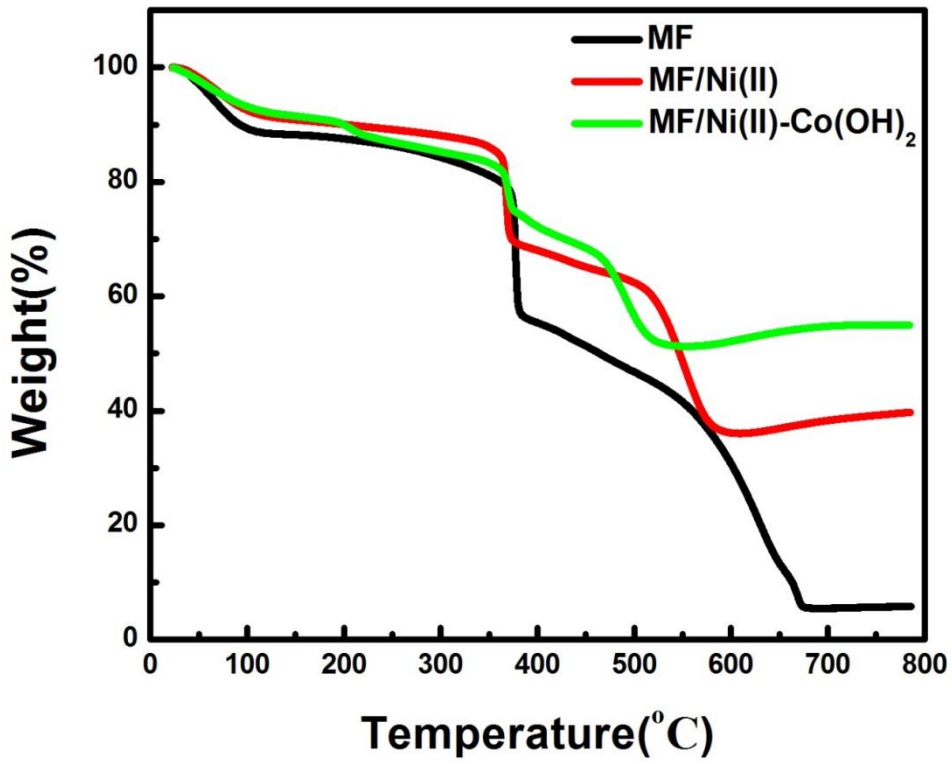

Figure S8. TGA curves of MF, MF/Ni(II) and MF/Ni(II)-$Co(OH)_2$.

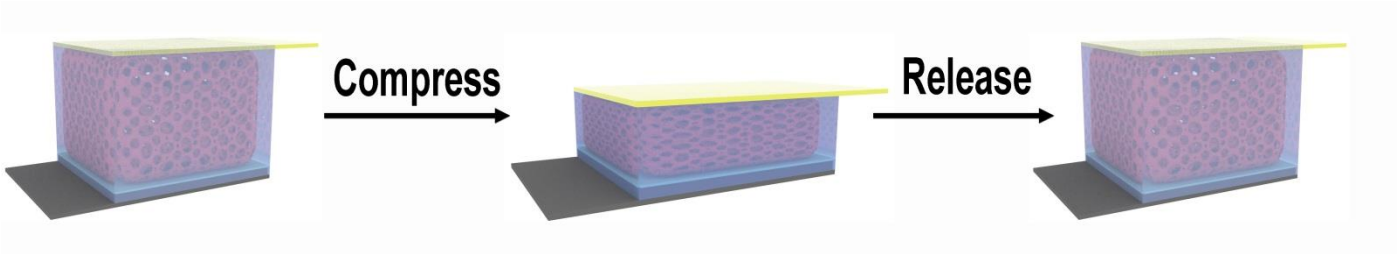

Figure S9. Schematic for compression process of device.

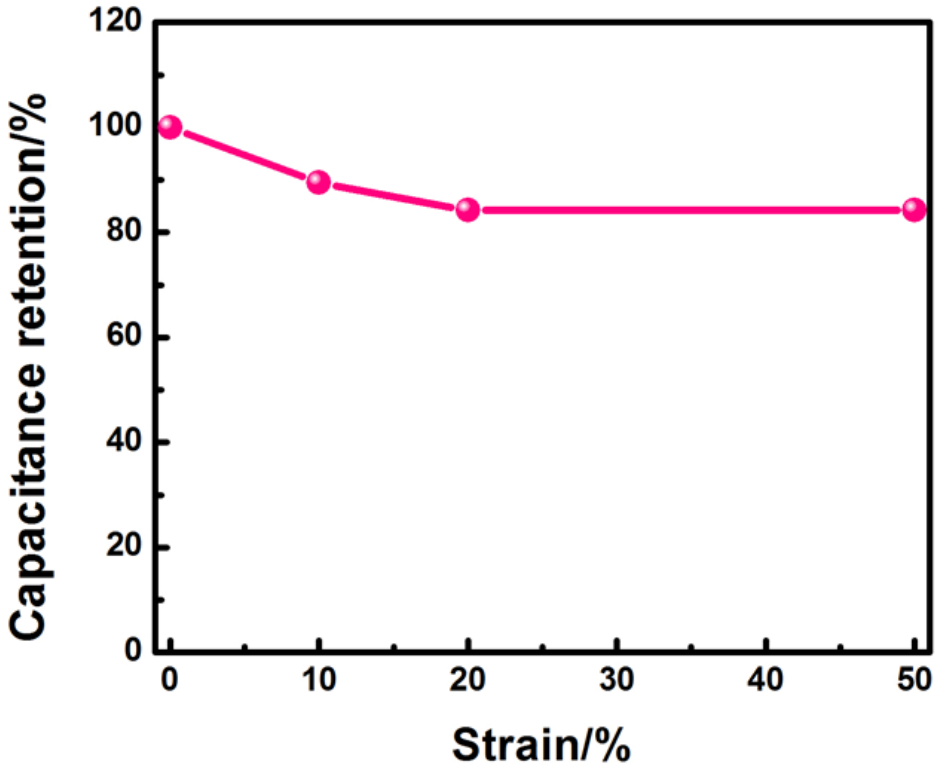

Figure S10. The specific capacitance values of device (calculated from Eq. (5)) versus compression conditions.

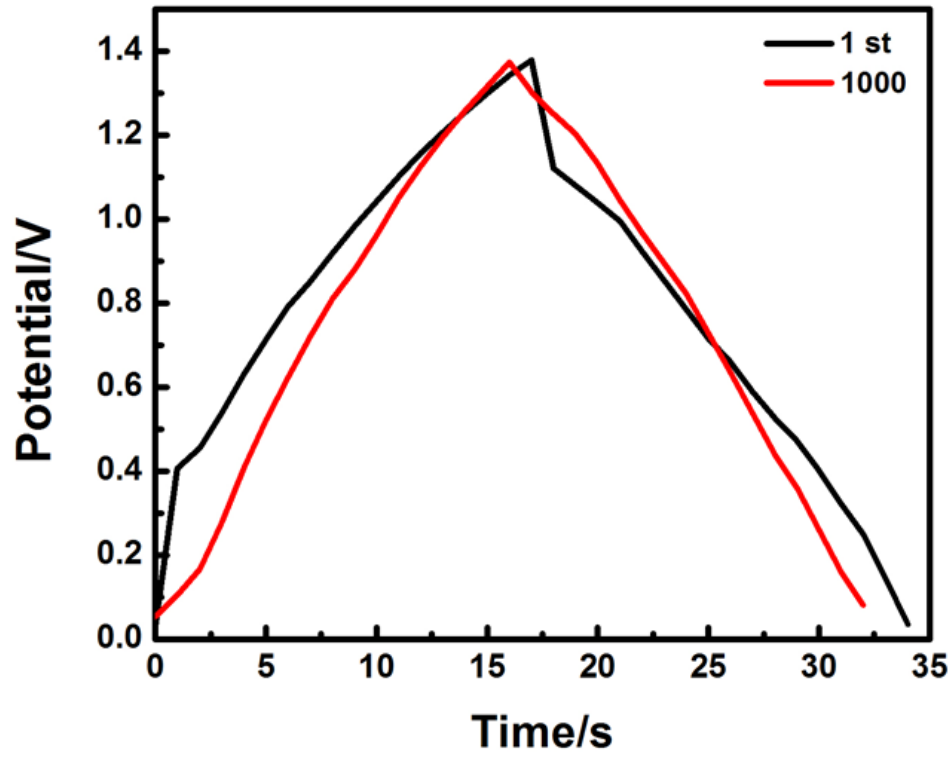

Figure S11. The GCD cycle curve of device at 10mA/cm^3.

Table S1: Comparison of the $Co(OH)_2$ and MF based supercapacitors.

No.	Electrode material	Cell type	Electrolyte	Specific capacitance	Ref.
1	β-$Co(OH)_2$	three-electrode	6 M KOH	675 F/g	S1
2	$Co(OH)_2$@RGONF/GCE	three-electrode	2 M KOH	235.20 F/g	S2
3	Ni/$Co(OH)_2$-FP	three-electrode	1 M KOH	1610 mF/cm^2	S3
4	NCF	three-electrode	5 M LiCl	332 mF/cm^2	S4
5	ENCF	three-electrode	5 M LiCl	473 mF/cm^3	S5
6	aCS-5	three-electrode	6 M KOH	301 F/g	S6
7	This work	three-electrode	1 M KOH	8.82 F/cm^3	

References:

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