

The hierarchical nanorod-branched structure of NiO by P, Ni co-doping for boosting
energy storage property as electrode materials of supercapacitor

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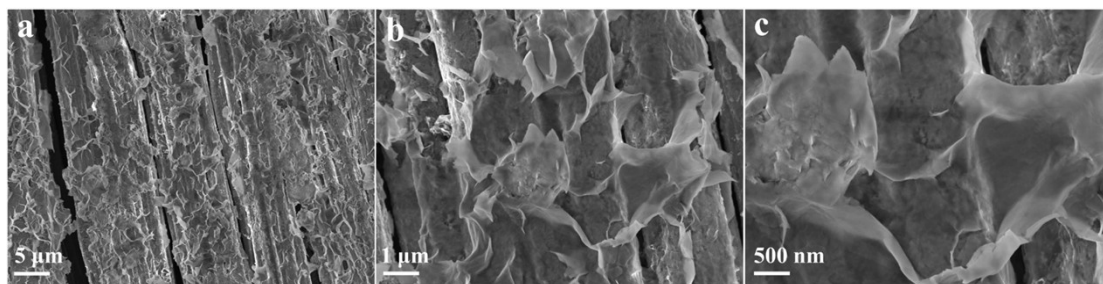


Fig. S1. (a-c) SEM images of Ni(OH)₂/CC

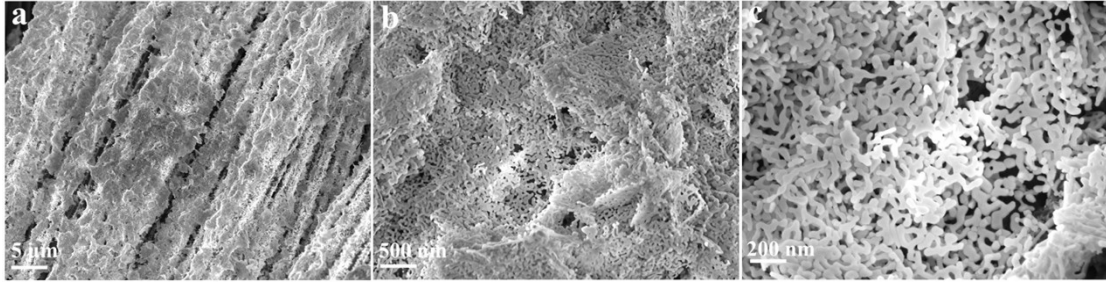


Fig. S2. (a-c) SEM images of NiO/CC

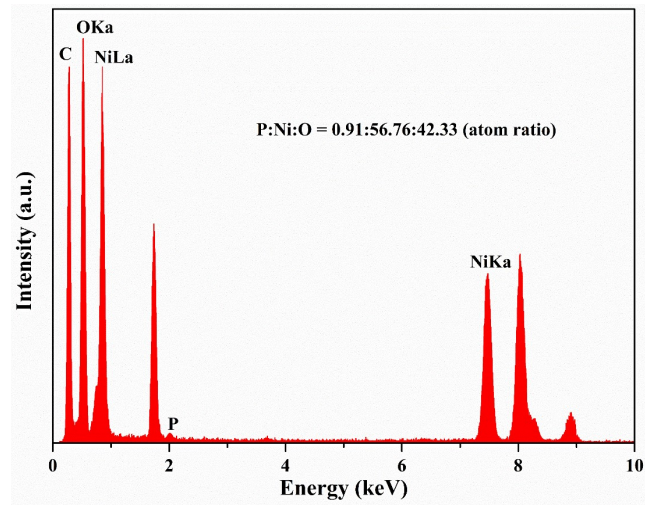


Fig. S3. EDX spectrum of P, Ni-NiO/CC

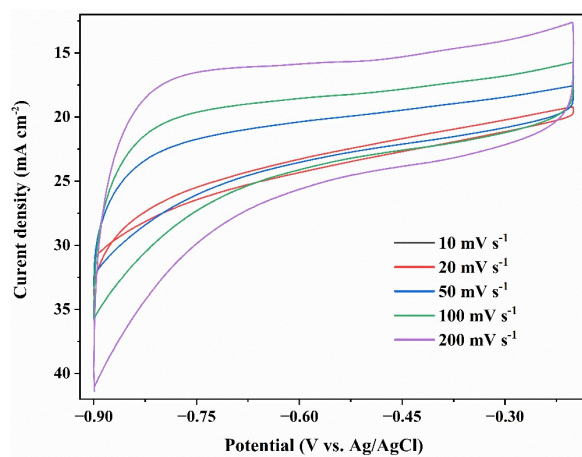


Fig. S4. CV curves of Ni(OH)₂/CC at 10, 20, 50, 100 and 200 mV s⁻¹.

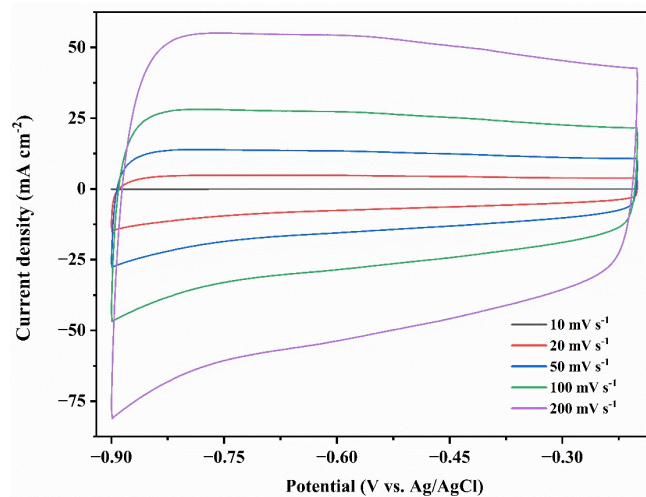


Fig. S5. CV curves of NiO/CC at 10, 20, 50, 100 and 200 mV s⁻¹.

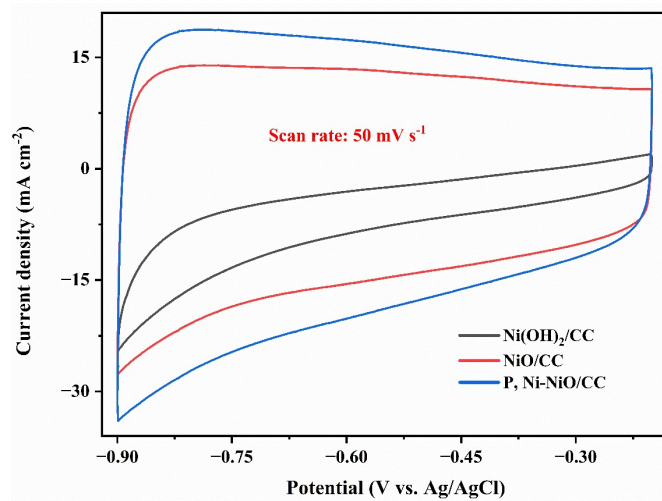


Fig. S6. CV curves of Ni(OH)₂/CC, NiO/CC and P, Ni-NiO/CC at 50 mV s⁻¹.

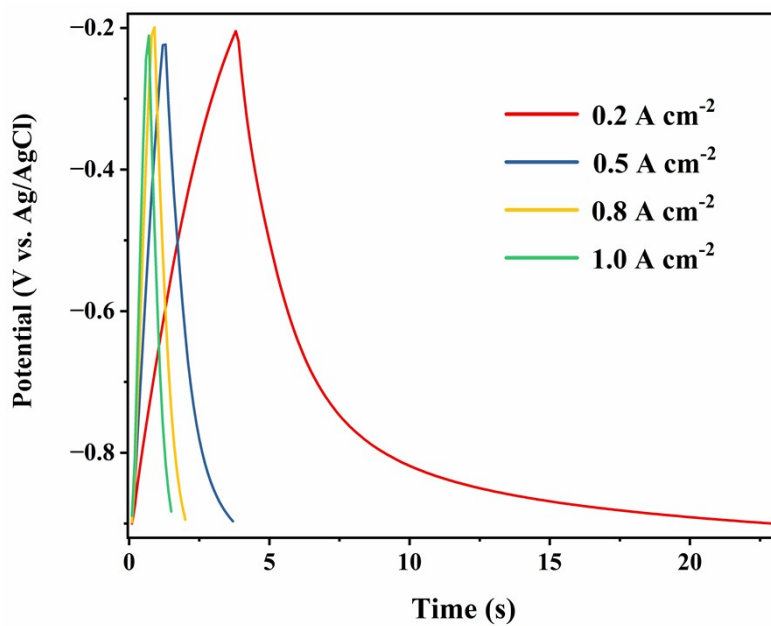


Fig. S7. GCD curves of Ni(OH)₂/CC at 0.2, 0.5, 0.8 and 1.0 A cm⁻².

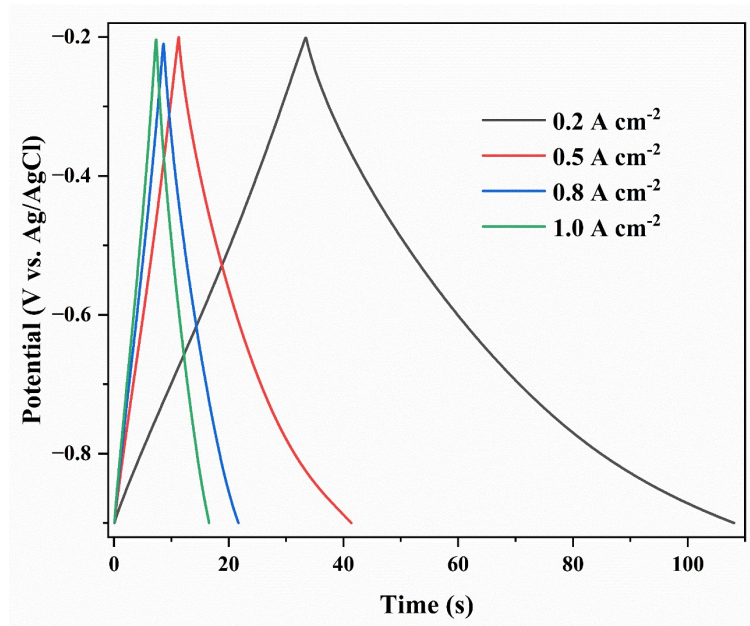


Fig. S8. GCD curves of NiO/CC at 0.2, 0.5, 0.8 and 1.0 A cm⁻².

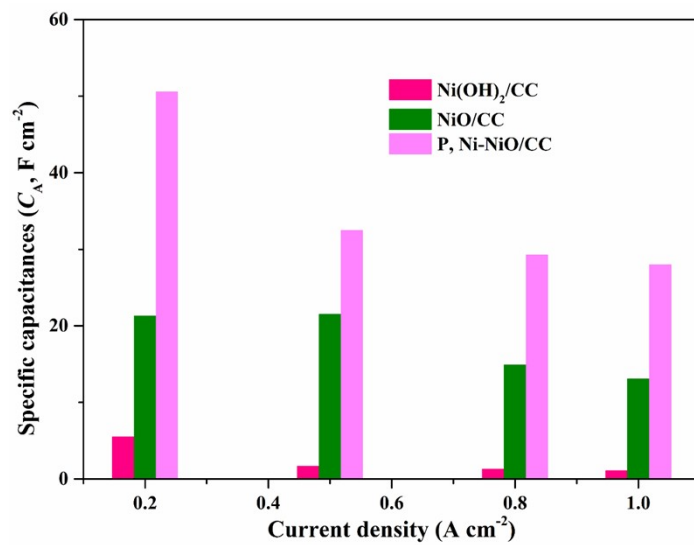


Fig. S9. Specific capacitances of Ni(OH)₂/CC, NiO/CC and P, Ni-NiO/CC at current density of 0.2, 0.5, 0.8 and 1.0 A cm⁻².

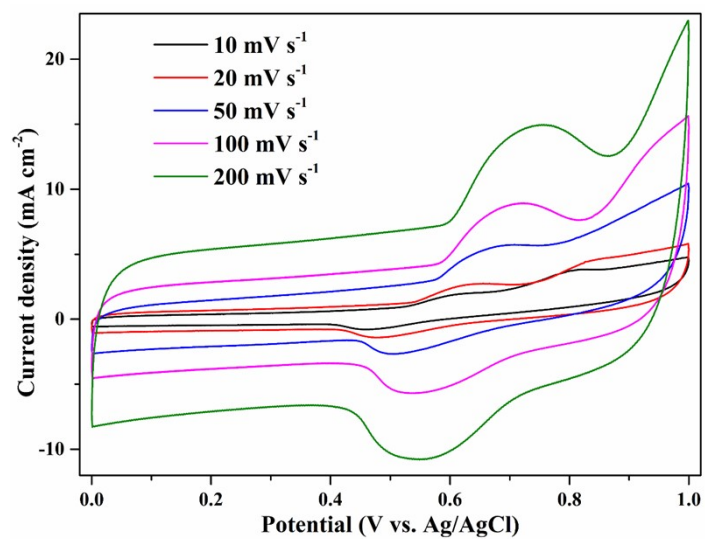


Fig. S10. CV curves of P, Ni-NiO/CC at 10, 20, 50, 100 and 200 mV s⁻¹ for the symmetric supercapacitor device.

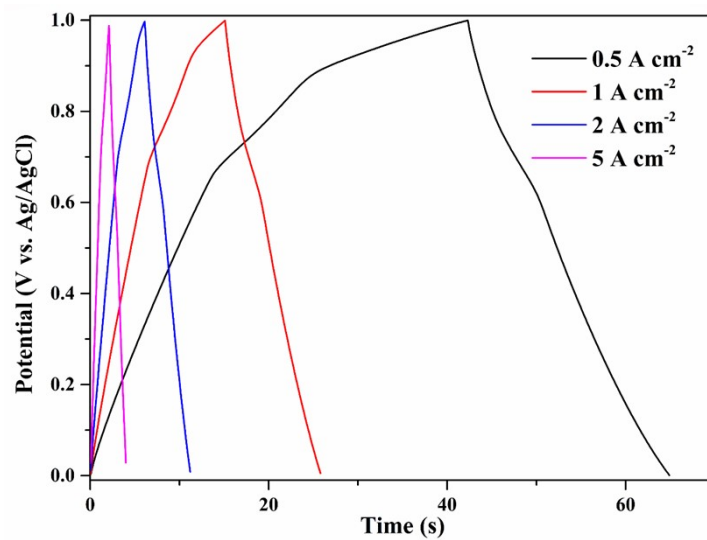


Fig. S11. GCD curves of P, Ni-NiO/CC at 0.5, 1, 2 and 5 A cm⁻² for the symmetric supercapacitor device.

Table S1 The specific capacitance of NiO/CC and other NiO-based materials.

Material	Specific capacity	Current density	Refs.
P, Ni-NiO/CC	50.6 F cm ⁻²	0.2 A cm ⁻²	This work
Ni/NiO	684.4 mF cm ⁻²	1 mA cm ⁻²	1
(Fe-Co) co-doped NiO	58.7 F g ⁻¹	1 mA cm ⁻²	2
NiO@CoO/CC	2.87 F cm ⁻²	1 A g ⁻¹	3
Co₃O₄@MnO₂@NiO nanoarrays	6.42 F cm ⁻²	1 mA cm ⁻²	4
CC/NiCo₂O₄-N@NiO	921.9 mF cm ⁻²	2 mA cm ⁻²	5
NiO@Ni(OH)₂	2.509 F cm ⁻²	1 mA cm ⁻²	6
NiO nanoplatelet arrays	320 F g ⁻¹	4 mA cm ⁻²	7
NiO-CuO mesoporous	1450.8 F g ⁻¹	2 mA cm ⁻²	8
Co-doped NiO nanosheets	1244 F g ⁻¹	5 mA cm ⁻²	9
Nanonet/nanoflower NiO	8400 F g ⁻¹	0.1 mA cm ⁻²	10

Supporting References

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