Supporting Information

Tailoring Activation of CoNiO Nanoparticles/Porous Carbon Nanofibers by Atomic Doping for High Performance Supercapacitors

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Table S1 the atomic % of Co and Ni atoms in CoNiO/PCNFs materials

Materials	Atomic % of Co	Atomic % of Ni
CoNiO/PCNFs-0	7.59	0
CoNiO/PCNFs-1	8.41	1.72
CoNiO/PCNFs-2	8.36	2.64
CoNiO/PCNFs-3	7.38	3.48

Table S2 Electrochemical performance of CoNiO/PCNFs electrode compared with other MOF derivatives electrodes.

Electrode	Specific capacitance	Rate	Cycle	Ref
Co_3O_4-Ni-MOF /MWCNTs	72.12 F g^{-1} (1 A g^{-1})	--	80.2% after 1000 cycles	1
Co_3O_4/NiO/ Mn_2O_3	3652 mF cm^{-2}	77% (20 A g^{-1})	99.1% after 1000 cycles	2
NMC (ZIF-8/ Na_2SiO_3)	263 F g^{-1} (1 A g^{-1})	71.6% (10 A g^{-1})	96.1% after 10000 cycles	3
(3DPC)/ Co_3O_4	423 F g^{-1} (1 A g^{-1})	85.7% (10 A g^{-1})	83% after 2000 cycles	4
Ni@NiOx/ C-2	752 F g^{-1} (1 A g^{-1})	56% (100 A g^{-1})	99% after 10000 cycles	5
CoNiO/ PCNFs	912.4 F g^{-1} (1 A g^{-1})	50% (100 A g^{-1})	90% after 6000 cycles	This work

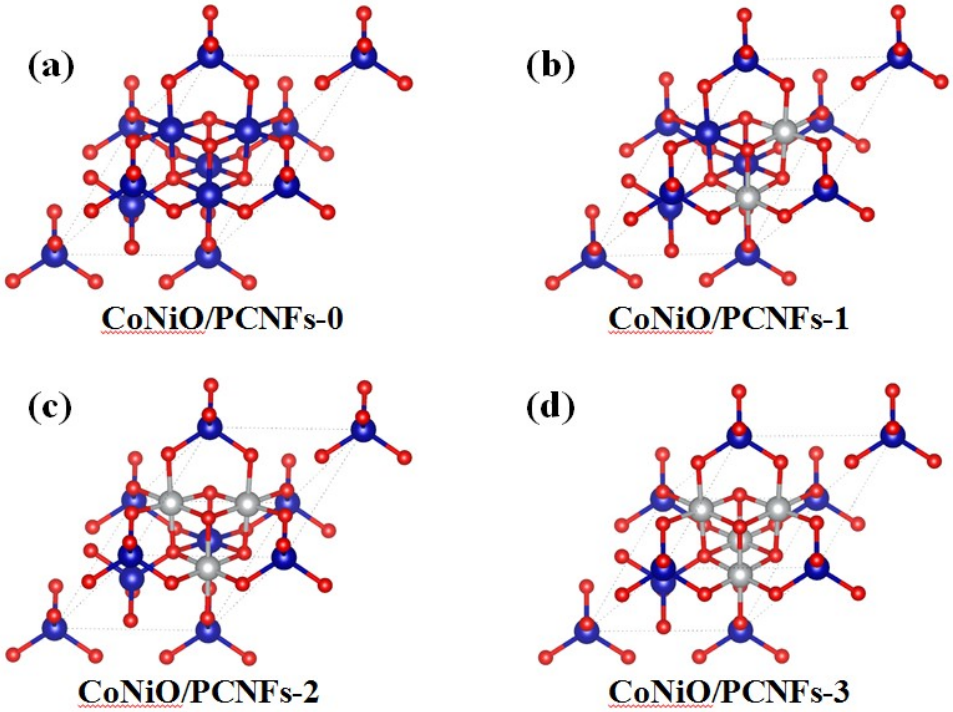

Figure S1. The geometry structure models for the DFT calculations. (a) CoNiO/PCNFs-0, (b) CoNiO/PCNFs-1, (c) CoNiO/PCNFs-2 and (d) CoNiO/PCNFs-3.

Reference

1. C. Zhang, Q. Wang, W. Zhang, X. Li, Z. Zhu, C. Zhang, A. Xie and S. Luo, *Ionics*, 2021, **27**, 3543-3551.
2. S. Li, Y. Duan, Y. Teng, N. Fan and Y. Huo, *Applied Surface Science*, 2019, **478**, 247-254.
3. C. Ma, Y. Mo, L. Liu, Y. Yu and A. Chen, *Chinese Chemical Letters*, 2021, **32**, 1485-1490.
4. S. Li, K. Yang, P. Ye, K. Ma, Z. Zhang and Q. Huang, *Applied Surface Science*, 2020, **503**, 144090.
5. H. Yang, Y. Liu, X. Sun, H. Zhang, C. Zhu, X. Yin, Z. Li and X. Ma, *Journal of Alloys and Compounds*, 2022, **903**, 163993.