

Supporting information

Design and construction of bi-metal MOF-derived yolk-shell Ni₂P/ZnP₂ hollow microspheres for efficient electrocatalytic oxygen evolution

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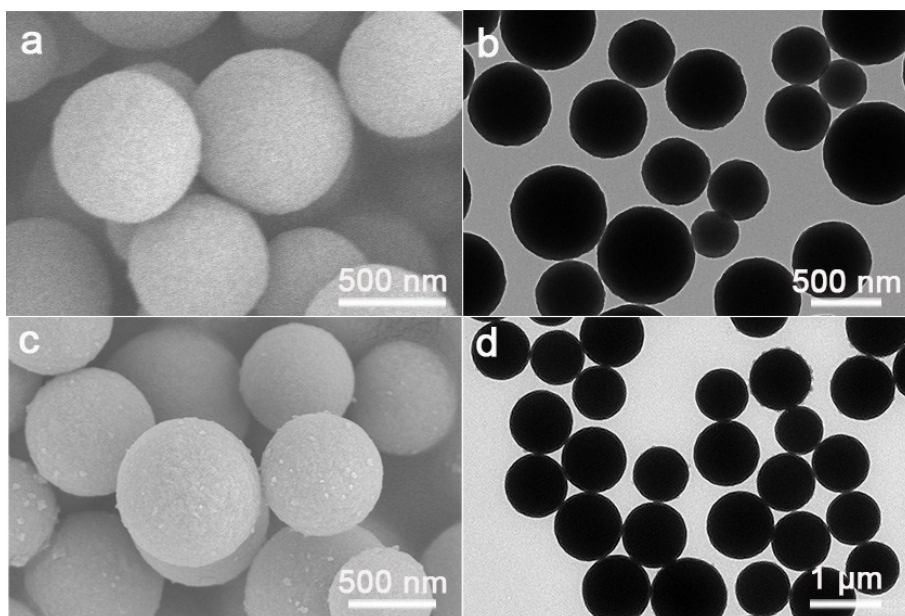


Fig. S1 FESEM and TEM images of (a, b) the pre-NP and pre-NZP samples.

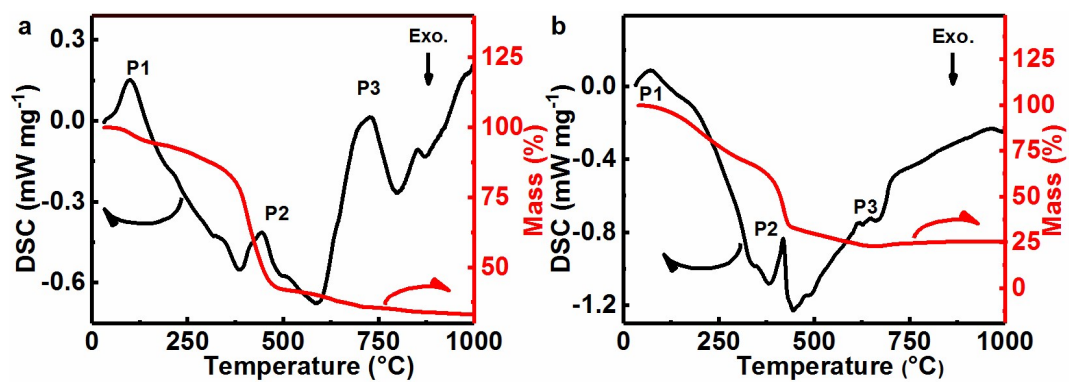


Fig. S2 DSC and TG curves of (a) pre-NZP and (b) pre-NP samples.

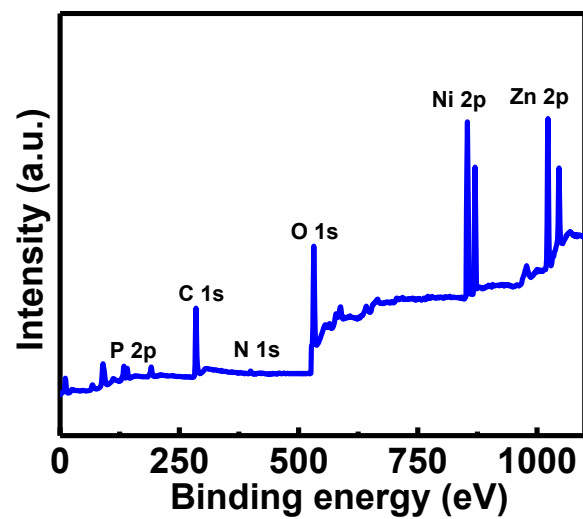


Fig. S3 XPS Survey spectrum of the yolk-shell NZP HMSs.

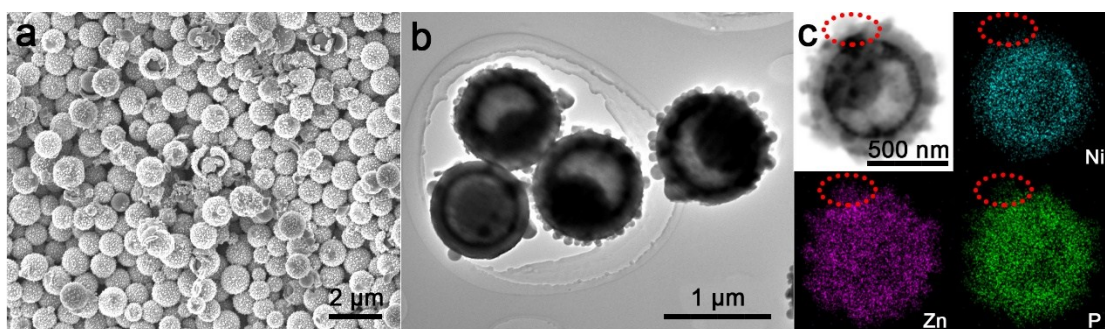


Fig. S4 (a) FESEM, (b) TEM, (c) STEM and corresponding EDS mapping images of the yolk-shell NZP-5 HMSs.

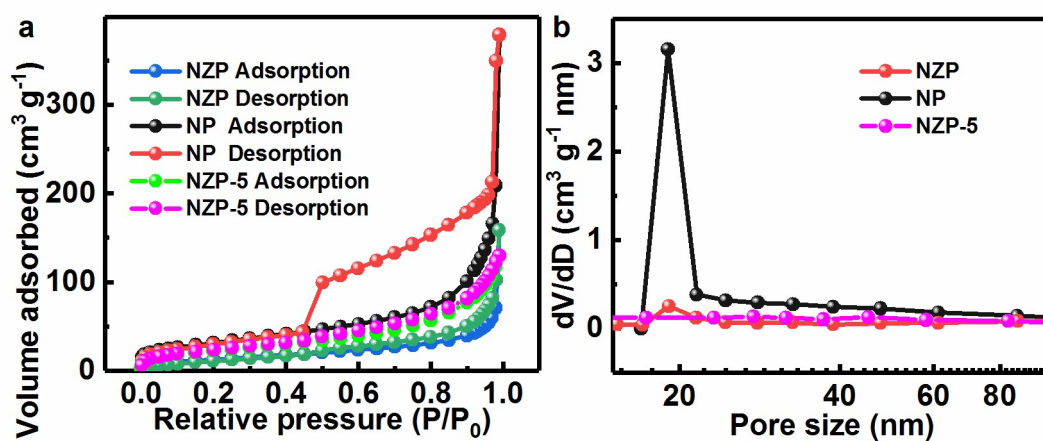


Fig. S5 (a) N_2 sorption isotherms and (b) PSD plots of the yolk-shell NZP HMSs, solid NP MSs, and yolk-shell NZP-5 HMSs.

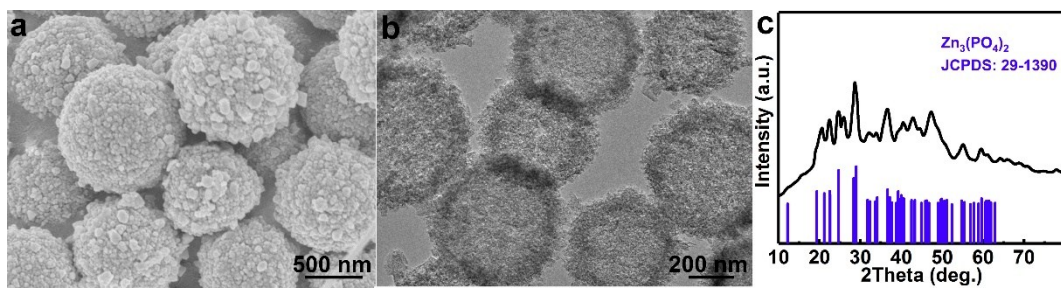


Fig. S6 (a) FESEM image, (b) TEM image, and (c) XRD pattern of the ZOP HMSs.

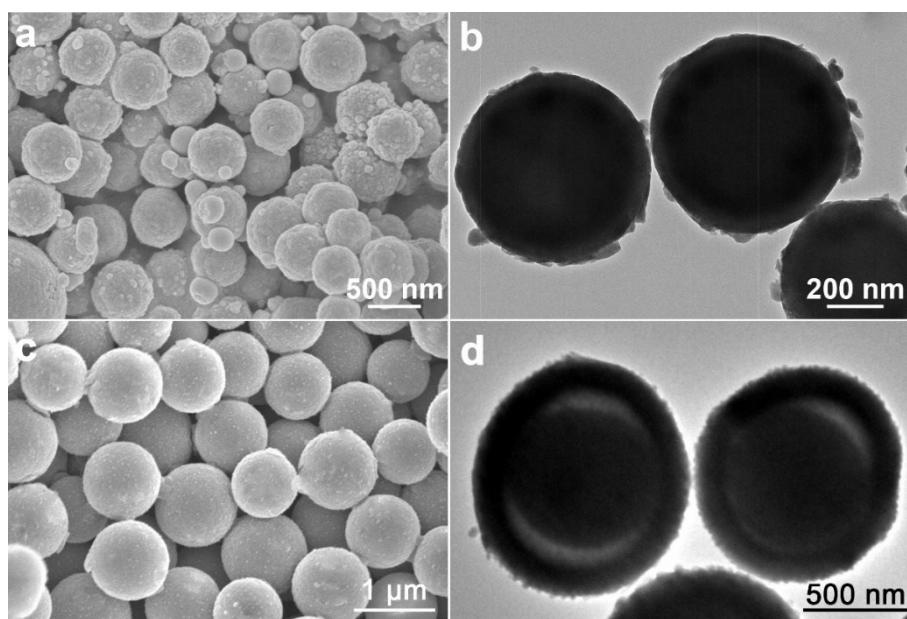


Fig. S7 (a) FESEM and (b) TEM images of the solid NZP MSs; (c) FESEM and (d) TEM images of the hollow NP HMSs.

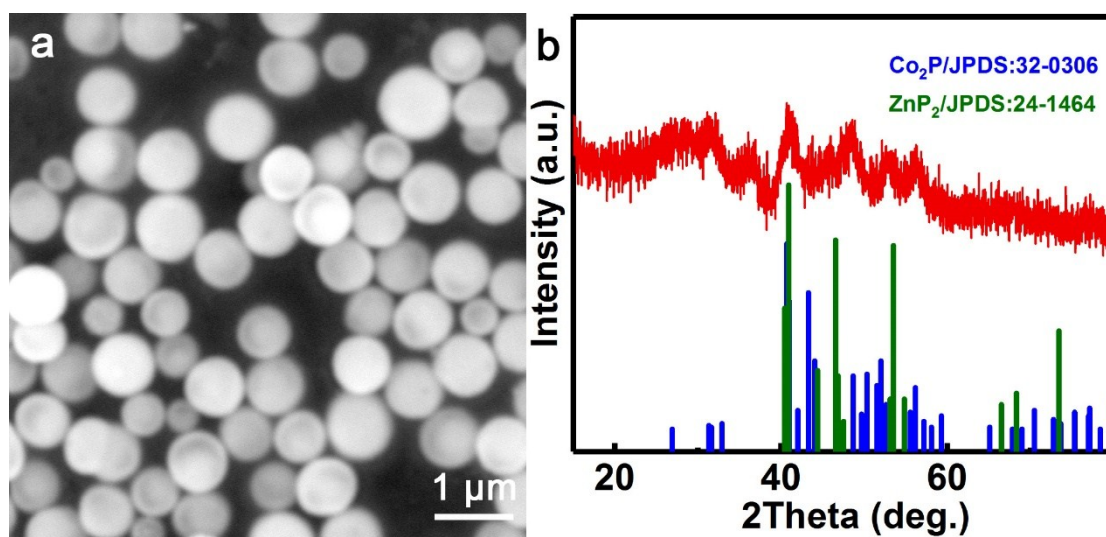


Fig. S8 (a) FESEM image and (b) XRD pattern of the CZP HMSs.

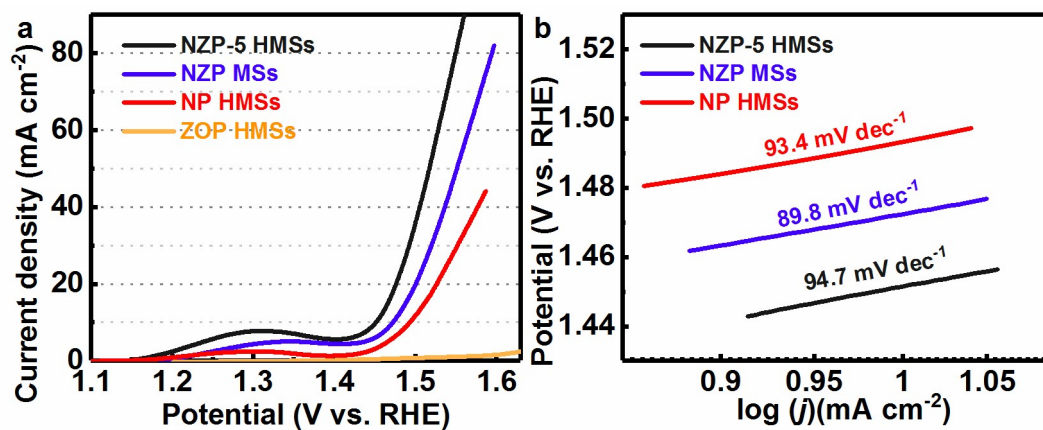


Fig. S9 (a) LSV curves and (b) Tafel slopes plots of the yolk-shell NYP-5 HMSs, NYP MSs, NP HMSs and ZOP HMSs.

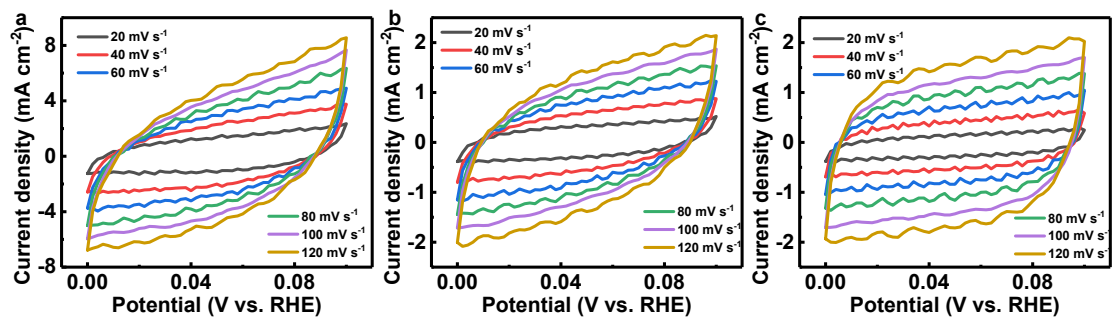


Fig. S10 CV curves of (a) NZP HMSs, (b) NP MSs and (c) NF at different scan rates from 20 to 100 mV s^{-1} .

Table S1 Comparison of the electrocatalytic activity of Ni-P based OER catalysts

Catalyst	Overpotential (mV)	Tafel Slope (mV dec⁻¹)	Reference
NZP HMSs	210	55.4	This work
Ni ₂ P	240	99.9	1
Ni ₂ P	360	153	2
Ni ₂ P nanoparticles	290	59	3
NF-P	350	112.1	4
Ni ₂ P@C	340	68	5
Ni-P	300	64	6
NiCoP	340	86	7

References

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