Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Quasi-Graphene-Envelope Fe-doped Ni_2P Sandwiched Nanocomposites for Enhanced Water Splitting and Lithium Storage Performance

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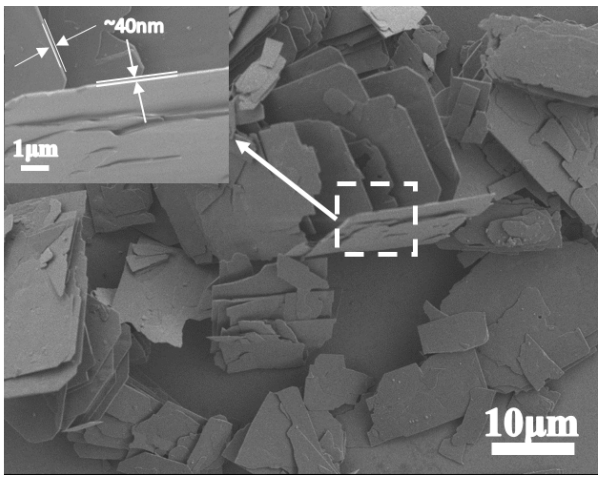
Figure S1. Low-magnification SEM image to clarify the uniformity and scalability of $NiNH_4PO_4 \cdot H_2O$ nanosheets and the thickness of the precursor is about 40 nm (inset).



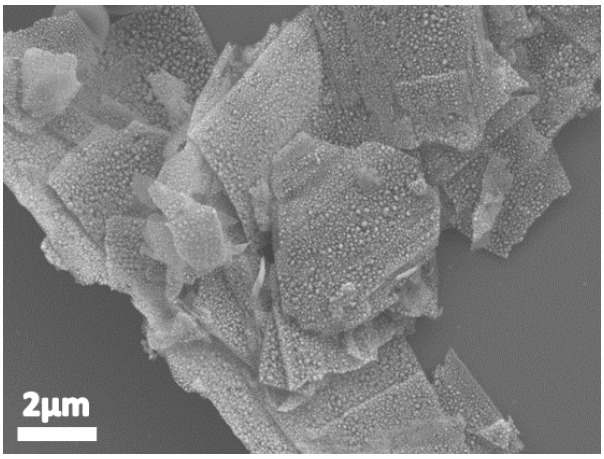


Figure S2. Low-magnification SEM image of sandwiched (Fe)Ni_2P/graphene.

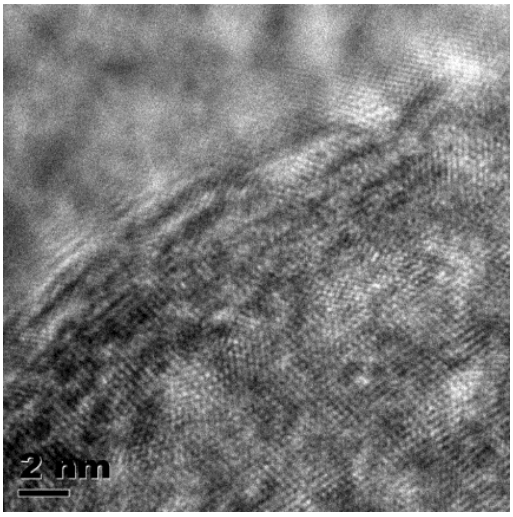


Figure S3. HRTEM image of the hexagonal lattices in the graphene envelope to confirm the existence of graphene.

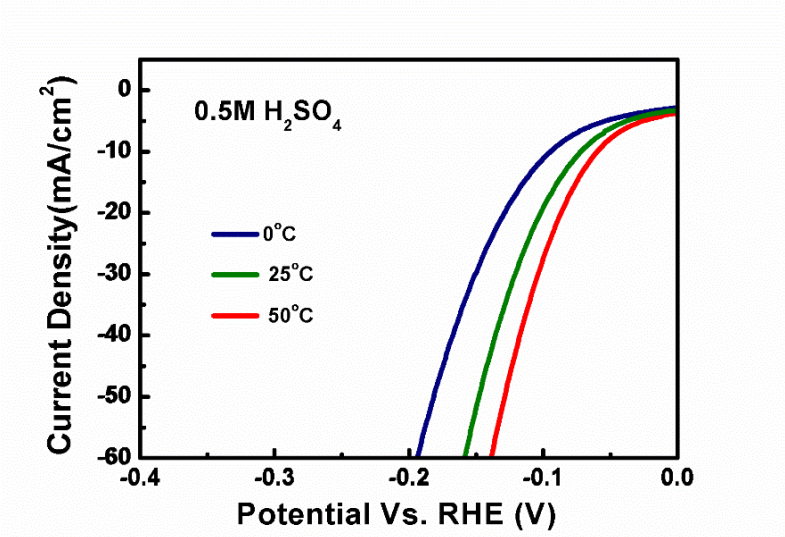


Figure S4. Polarization curves of (Fe)Ni_2P/Graphene, tested in thermostatic water bath from 0 to 25 and 50 ^oC (0.5 M H_2SO_4, scan rate: 5 mV s^{-1}).

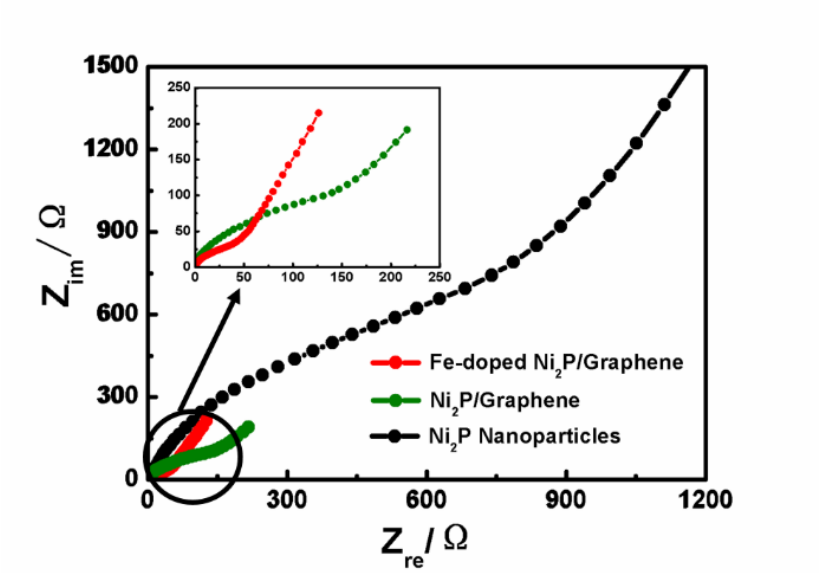


Figure S5. Comparison of AC impedance of Fe-doped Ni_2P/Graphene (red dot line), Ni_2P/Graphene (green dot line) and Ni_2P nanoparticles (black dot line) from 0.01Hz to 100 kHz.

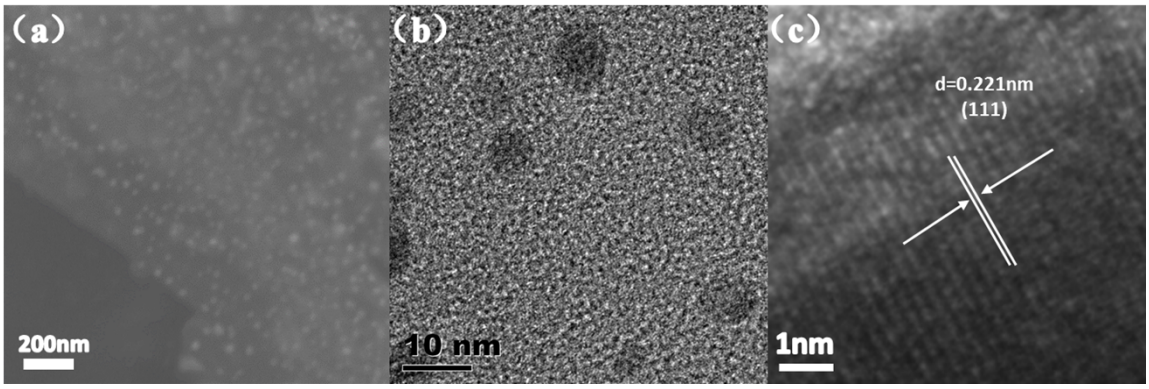


Figure S6. (a) SEM and (b) TEM to clarify the well-maintained sandwiched structure after 200 cycles of galvanostatic charge-discharge. (c) HRTEM to show the crystalline structure of (Fe)Ni_2P nanoparticles.