

Electronic supplementary information

Photostable 3D heterojunction photoanode of ZnO nanosheets coated onto TiO₂ nanowire arrays for photoelectrochemical solar hydrogen generation

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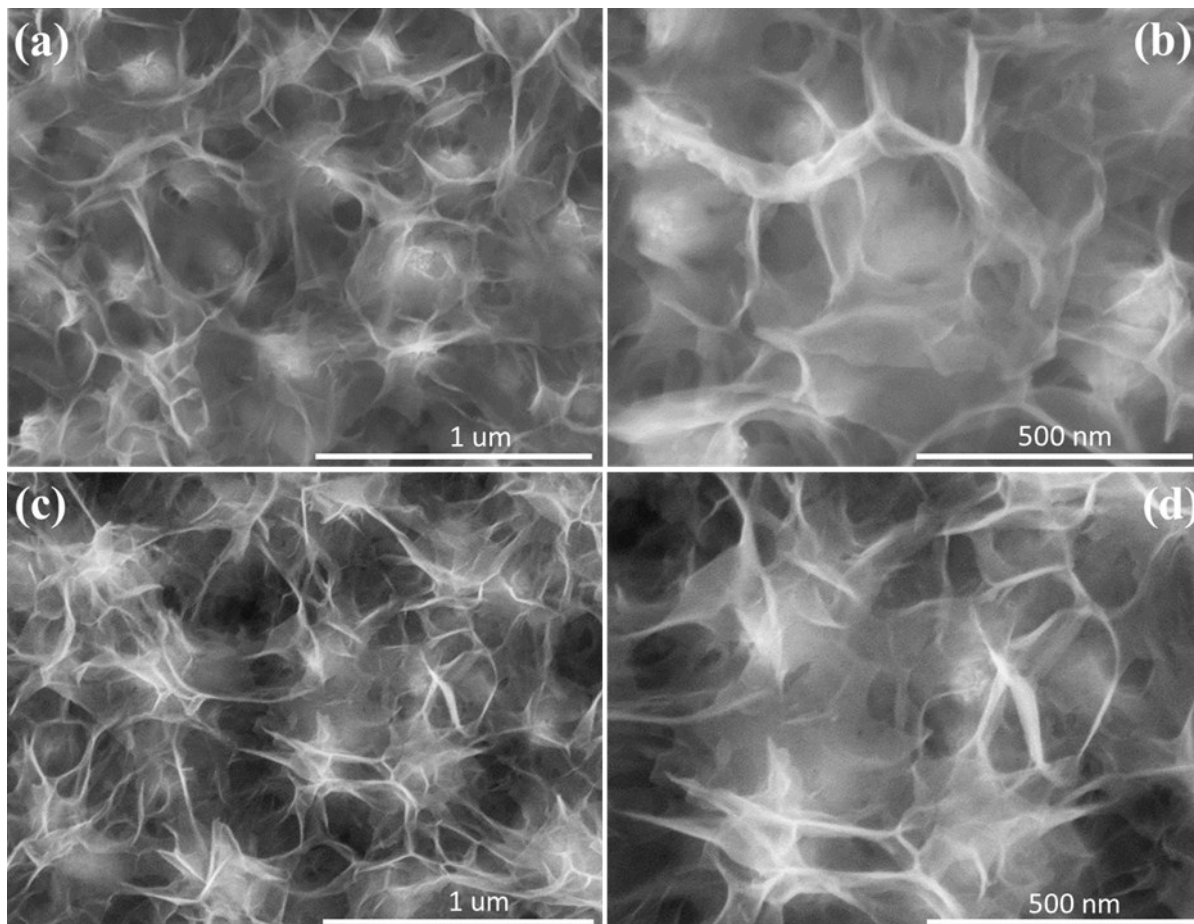


Fig. S1 (a) and (b) Medium- and high-magnification SEM images of 3D ZnO/TiO₂ 2D/1D NSs-NWAs architectures fabricated in 0.1 M zinc nitrate aqueous solution, showing that some tops of 1D TiO₂ NWAs are not covered by hierarchical 2D ZnO NSs. (c) and (d) Medium- and high-magnification SEM images of ZnO/TiO₂ NSs-NWAs architectures fabricated in 0.15 M zinc nitrate aqueous solution, showing that some tops of 1D TiO₂ NWAs are completely covered by hierarchical 3D architectures assembled by 2D ZnO NSs.

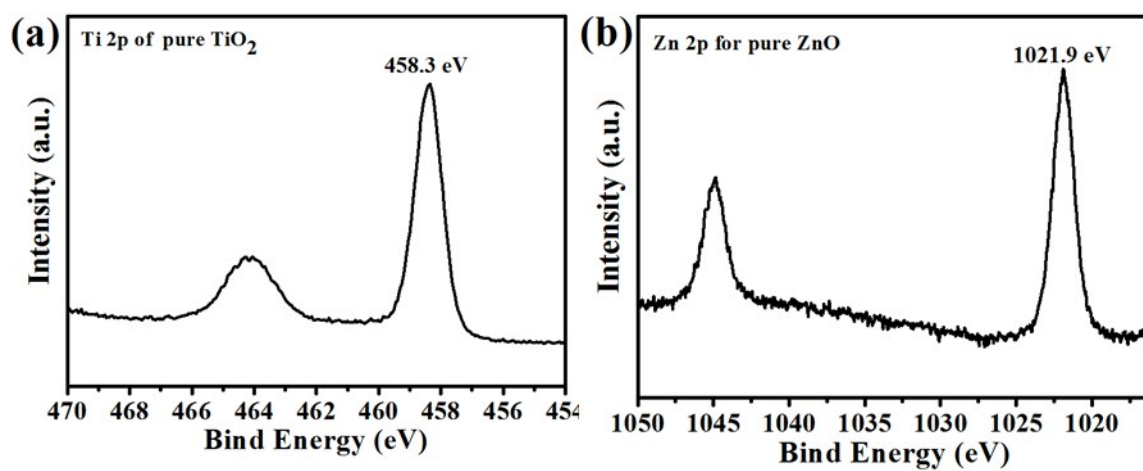


Fig. S2 High-resolution core-level XPS spectra for (a) Ti 2p of pure TiO₂ and (b) Zn 2p of pure ZnO.

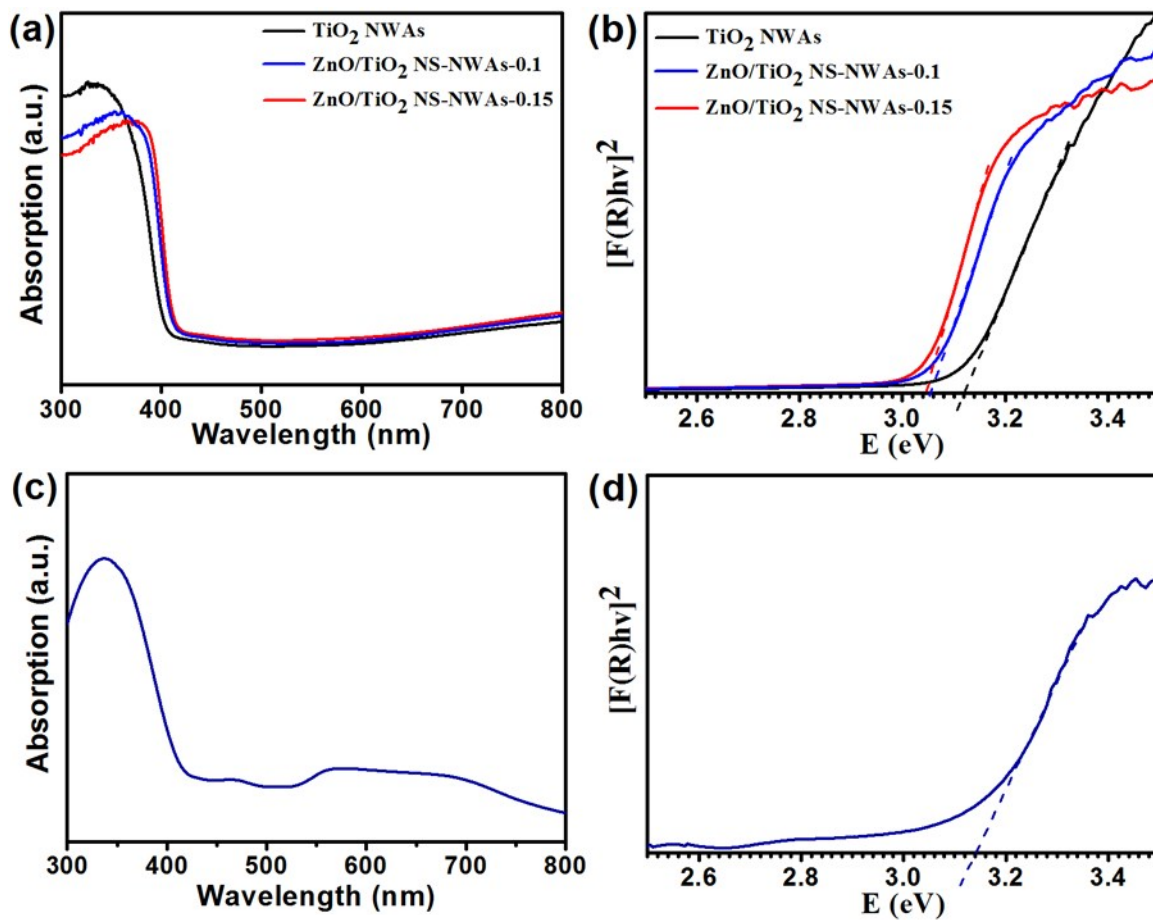


Fig. S3 (a) UV-vis absorption spectra of pure 1D TiO₂ NWAs, ZnO/TiO₂ NS-NWAs-0.1 and ZnO/TiO₂ NS-NWAs-0.15 samples. (b) Band gap energies of pure TiO₂ NWAs, ZnO/TiO₂ NS-NWAs-0.1 and ZnO/TiO₂ NS-NWAs-0.15 samples. (c) UV-vis absorption spectrum of pure 2D ZnO NSs. (d) Band gap energy of pure 2D ZnO NSs.