Supporting Information

Controllable synthesis of $InTaO_4$ catalysts with different morphologies using a versatile sol precursor for photocatalytic evolution of H_2

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Table S1. Brunauer-Emmett-Teller (BET) surface areas of the as-synthesized catalysts.

Samples	BET (m^2/g)
$InTaO_4$ nanoparticles	3.1405
SiO_2@$InTaO_4$ core-shell nanospheres	2.9093
$InTaO_4$ nanofibers	4.1579

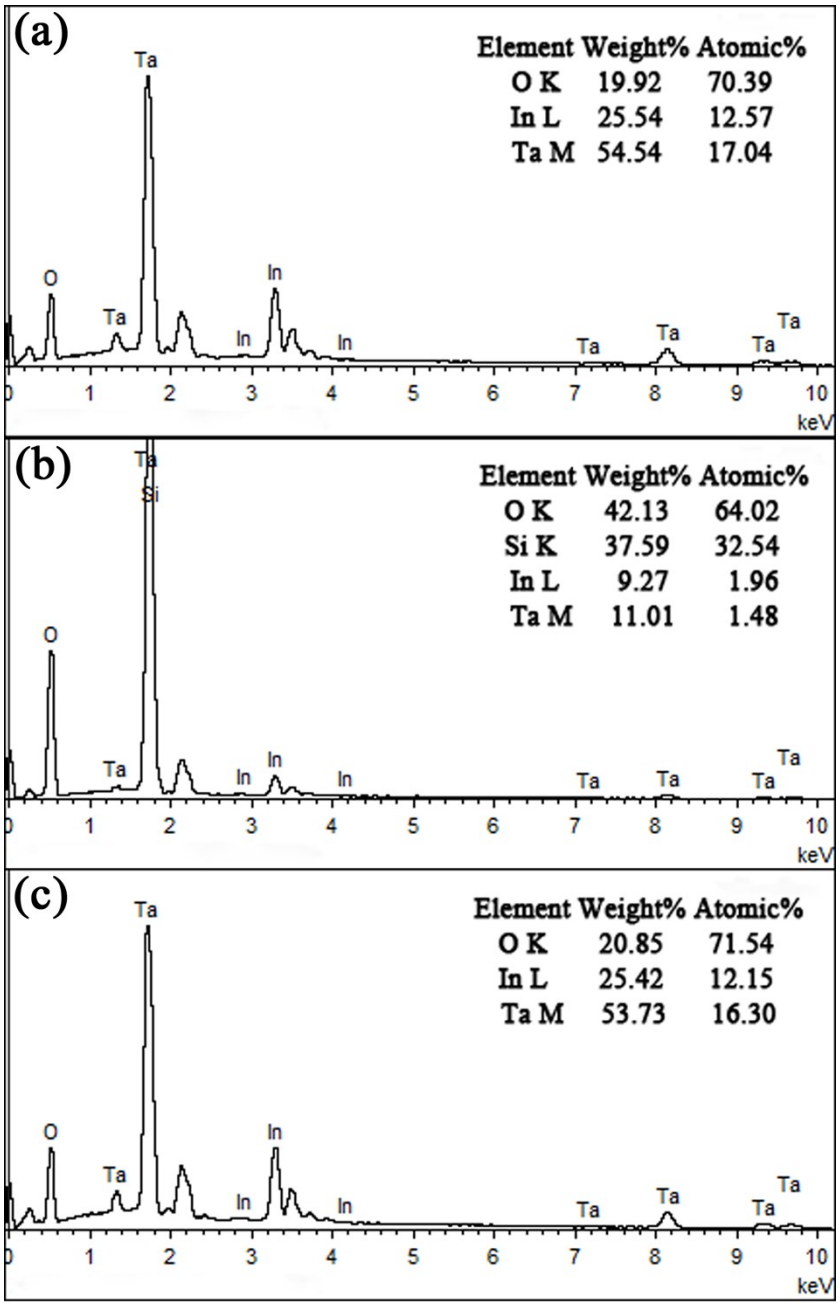

Fig. S1. EDS spectra of (a) $InTaO_4$ nanoparticles, (b) SiO_2@$InTaO_4$ core-shell nanospheres, and (c) $InTaO_4$ nanofibers.

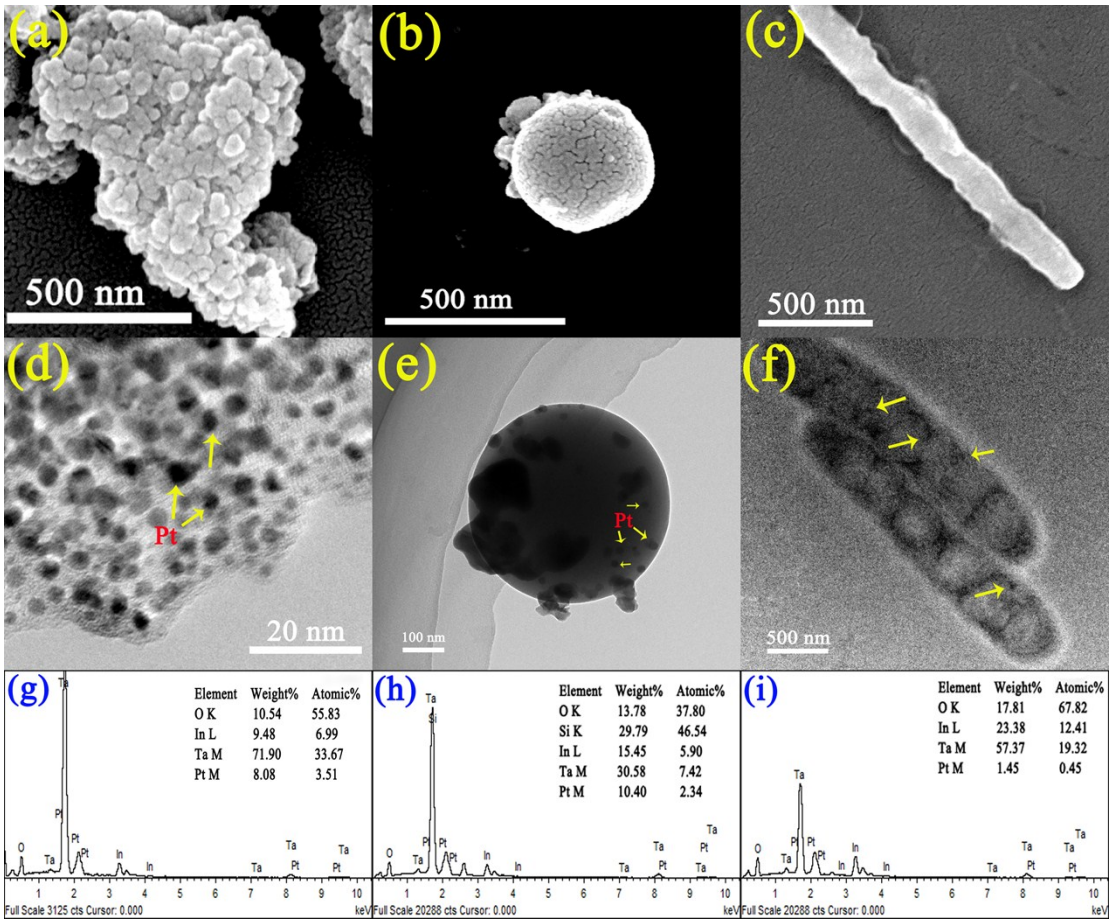

Fig. S2. SEM images of $InTaO_4$ nanoparticles (a), SiO_2@$InTaO_4$ nanospheres (b), and $InTaO_4$ nanofibers (c) after photodeposition of Pt; TEM images of $InTaO_4$ nanoparticles (d), SiO_2@$InTaO_4$ nanospheres (e), and $InTaO_4$ nanofibers (f) after photo photodeposition of Pt; EDS spectra of $InTaO_4$ nanoparticles (g), SiO_2@$InTaO_4$ nanospheres (h), and $InTaO_4$ nanofibers (i) after photo photodeposition of Pt.

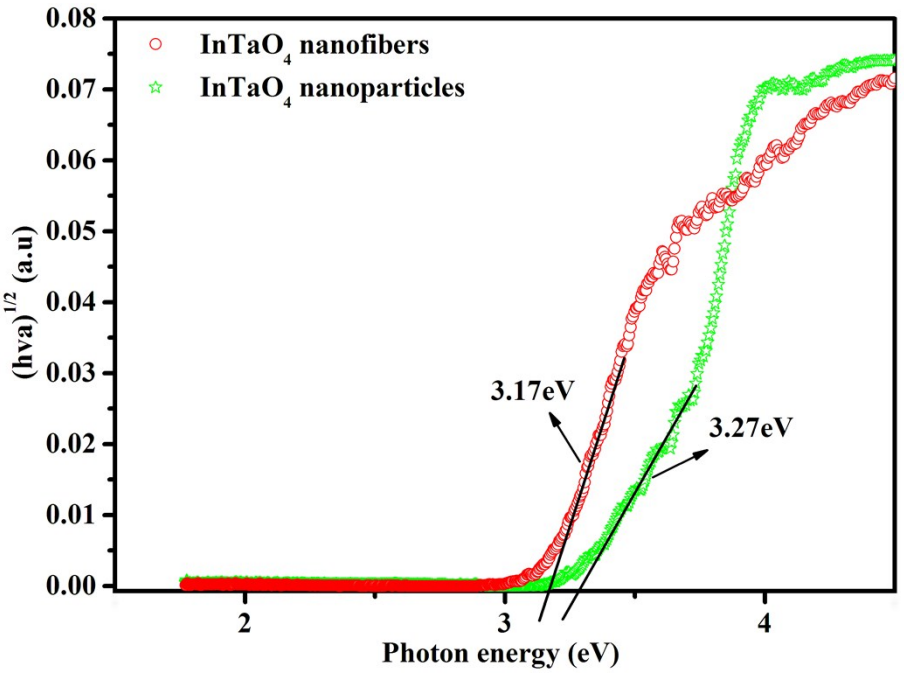

Fig. S3. The band gaps of $InTaO_4$ nanofibers and $InTaO_4$ nanoparticles were determined to be 3.17 eV and 3.27 eV, respectively.

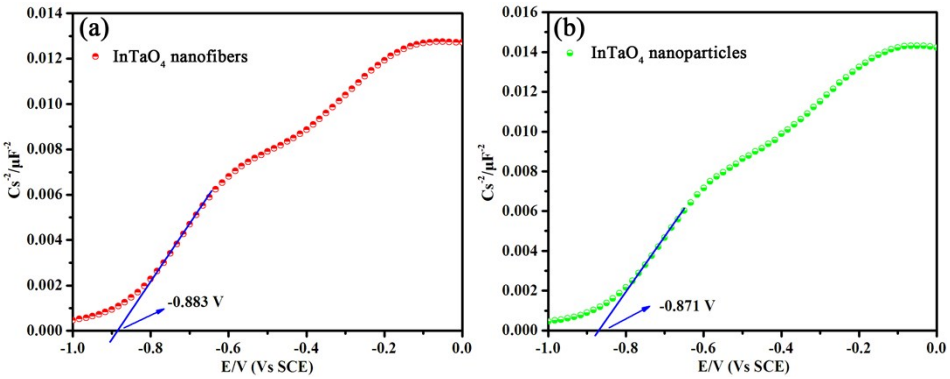

Fig. S4. Mott Schottky plots of (a) $InTaO_4$ nanofibers and (b) $InTaO_4$ nanoparticles electrodes using 0.5M Na_2SO_4 as electrolyte at frequency of 1000 Hz.