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## Electronic Supporting Information

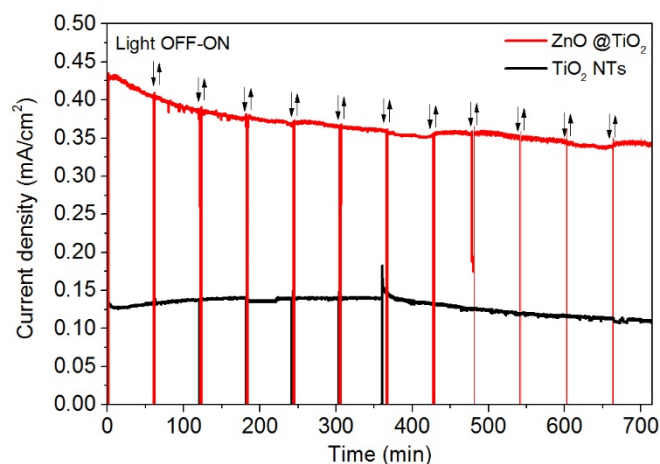
### Comparison of photocatalytic and transport properties of TiO<sub>2</sub> and ZnO nanostructures for solar-driven water splitting

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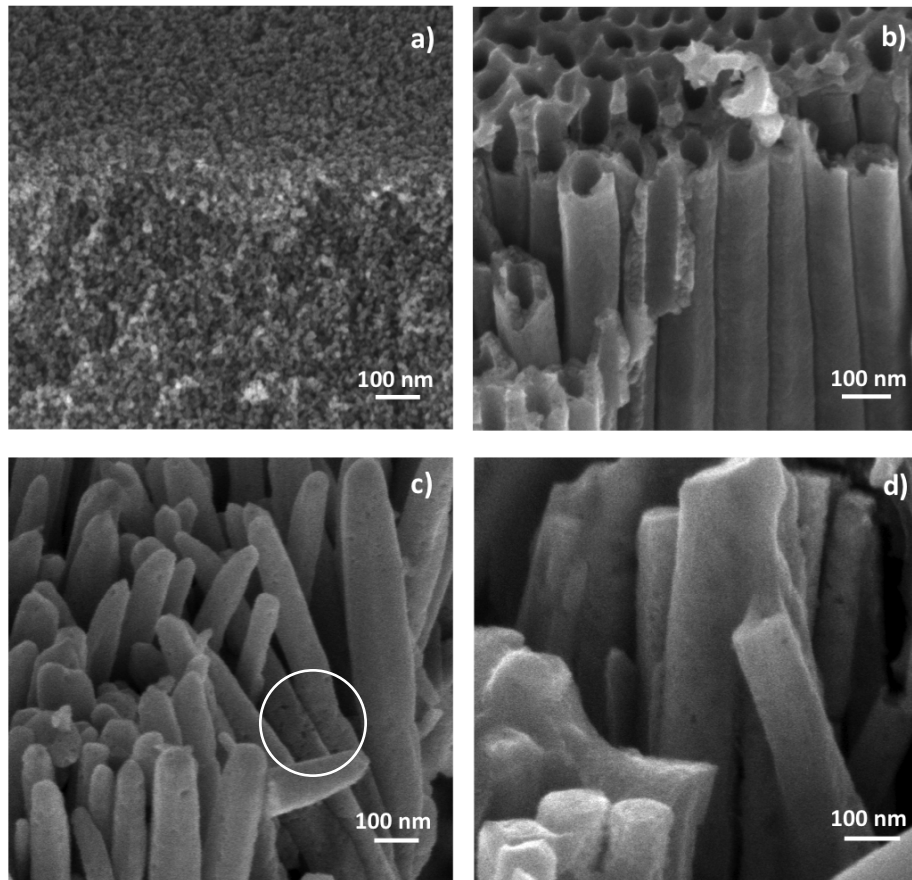
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**Figure S1.** Long-time *I-t* curves (12 h) at 0.3 V vs. Ag/AgCl under AM 1.5G simulated solar illumination (100 mW/cm<sup>2</sup>) of TiO<sub>2</sub> NTs and ZnO@TiO<sub>2</sub> photoelectrodes.



**Figure S2.** 45° tilted view FESEM images of the different nanostructures after PEC tests: a) TiO<sub>2</sub> NPs, b) TiO<sub>2</sub> NTs after additional 12h CA, c) ZnO NWs and d) ZnO@TiO<sub>2</sub> core shells after additional 12h CA. White circle put in evidence the early corrosion stage of the ZnO NWs