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Galvanic-Submerged Photo Synthesis of Crystallites: Fabrication of ZnO nanorods@ Cu- surface

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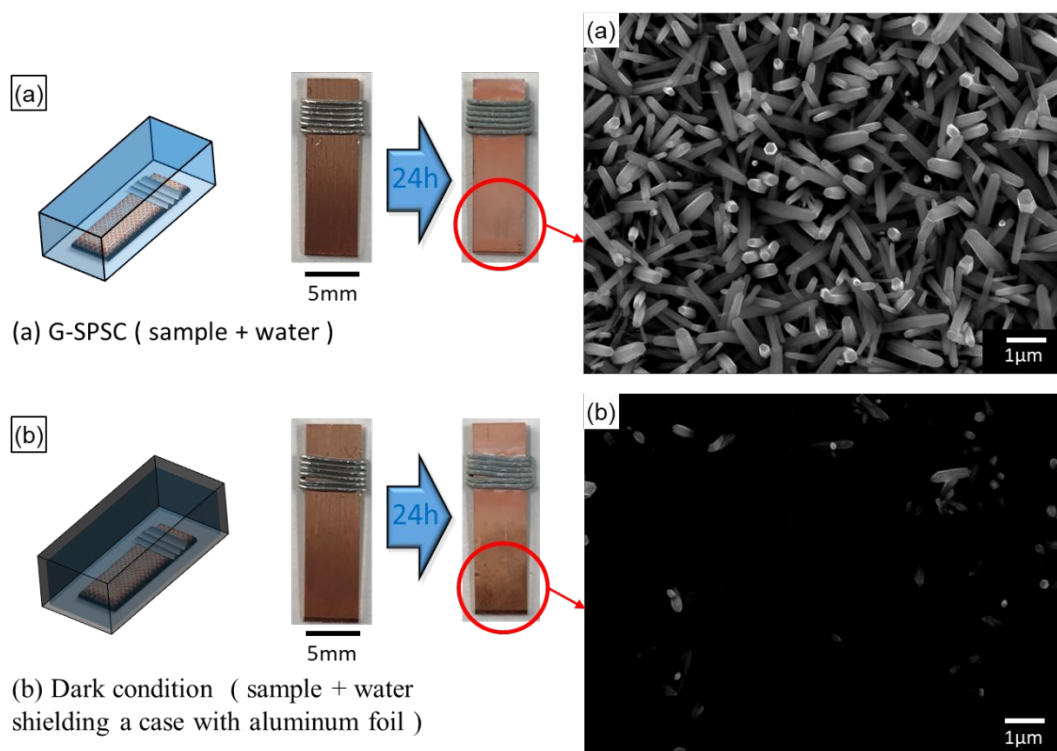


Fig. S1. G-SPSC effect on ZnO NRs growth (a) with and (b) without UV irradiation.

Fig. S1 depicts the feasibility of NRs growth in G-SPSC experiment with and without UV irradiation. In the experiment, both setups include Cu plate wrapped with Zn wire. Then, the sample was immersed in deaerated purified water contained by cuvette cells. Both cells were placed together under 24h UV irradiation in a dark chamber, with (b) cell was shielded by aluminum foil to prevent UV light but maintain the water temperature increase. Metallic luster of Zn wire was decreased according to the taken optical photographs and white layer formed near the wire. The white layer generously spread at the bottom area of Cu plate, built by the ZnO NRs as revealed by SEM observation. Instead of white, dark layer was observed on the same area of (b) sample, which contain very less ZnO NRs and dominantly covered by Zn(OH)₂. OH⁻ production was suppressed without light-induced water splitting as described by Fig. 5, which inhibit the transformation of Zn(OH)₂ species to ZnO.