Supplementary Information (SI) for Nanoscale.

Supplementary Information

Controlling ZnO Nanopagoda Structure Enhances Photoelectrochemical Water Splitting

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Content:

Figure S1. Raman spectra of ZnO NRs and NPGs with different growth times.

Figure S2. SEM images of ZnO NPGs with 4 h growth time before and after 1 h photocurrent measurement at 1.23 V vs RHE under simulated sunlight.

References

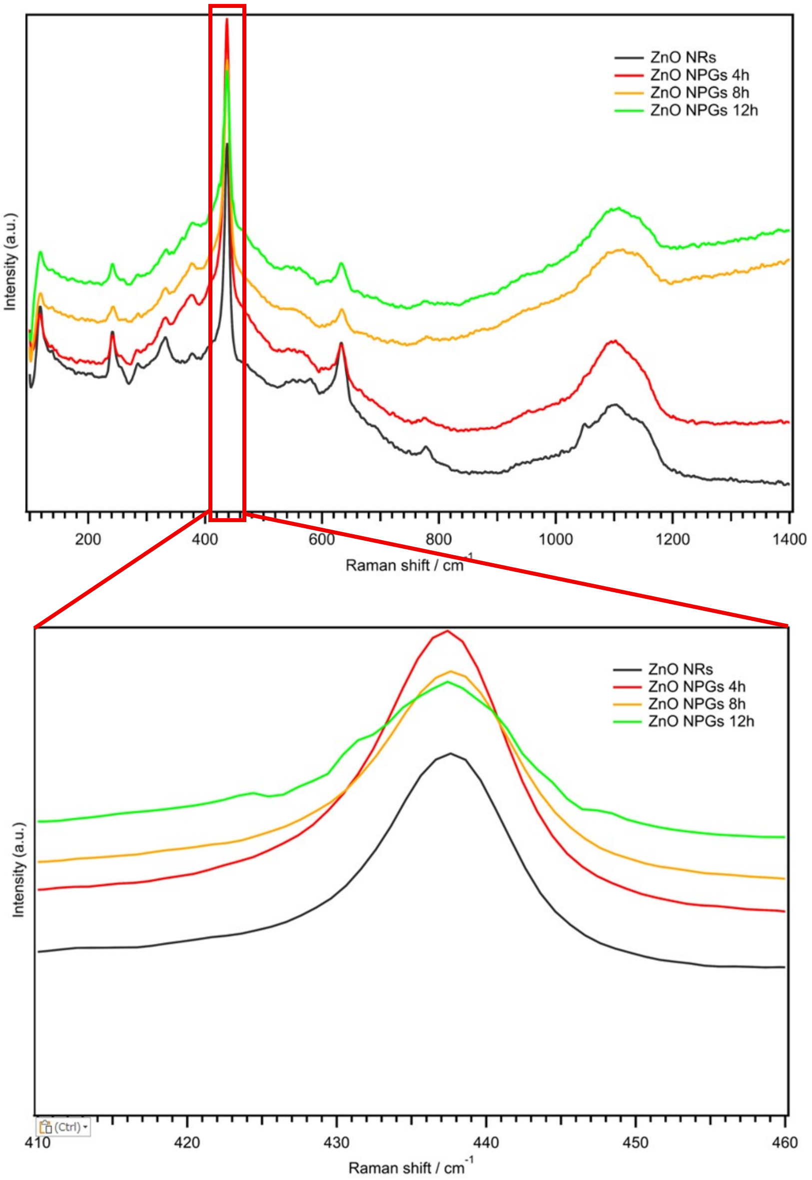

Figure S1. Raman spectra of ZnO NRs and NPGs with different growth times. The Raman peak at 437.5 cm^{-1} is assigned to the E$_2$ mode, and both its peak position and full width at half maximum (FWHM) have been reported to correlate with defect concentration [1,2]. Although no shift in the peak position was observed in this study, the FWHM of the NPGs increased with longer synthesis time, from 7.0 to 8.0 and 11.0 cm^{-1}, for 4, 8, and 12 h, respectively, showing the same trend as the increase in defect concentration indicated by the XPS results.

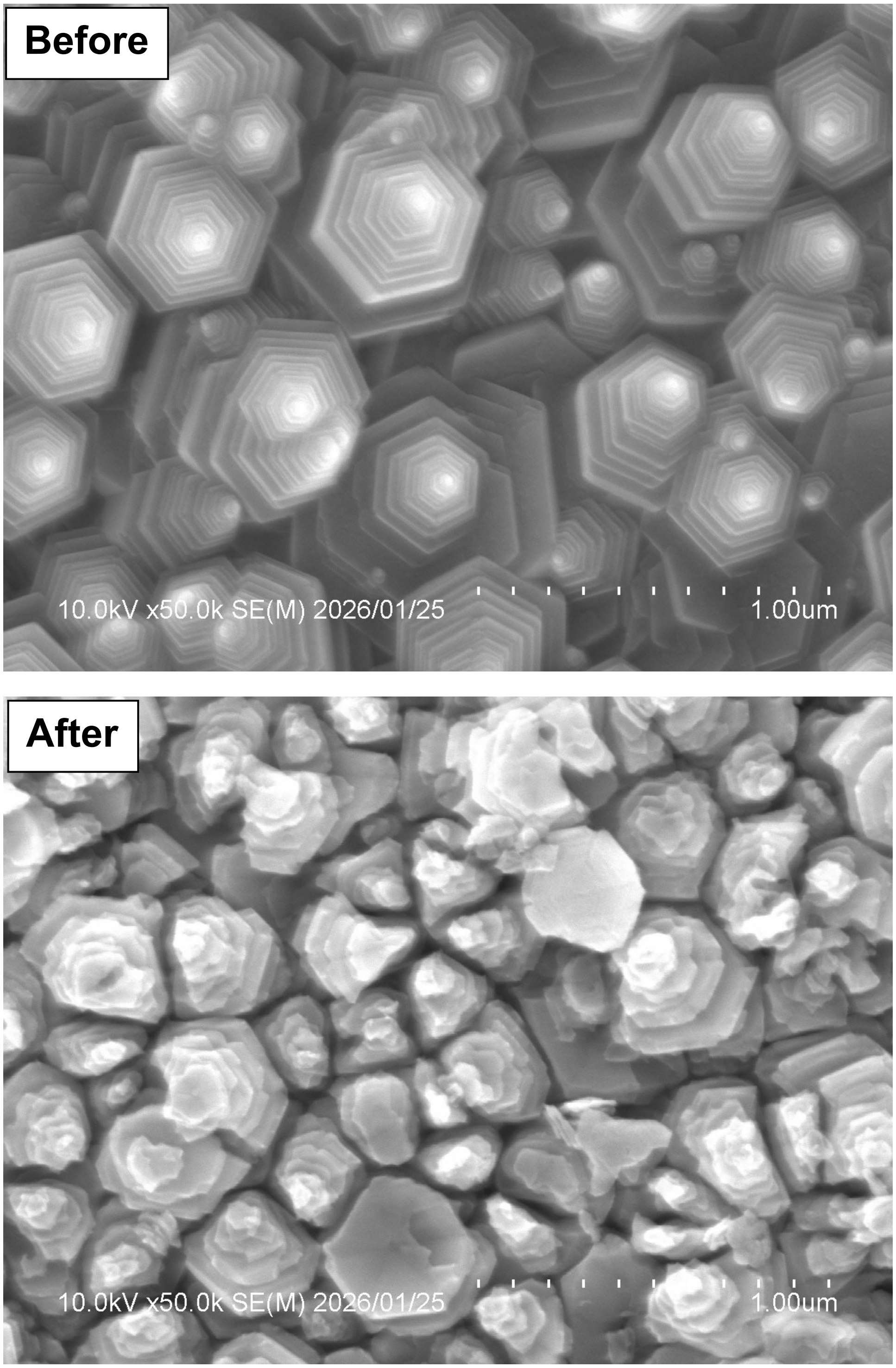

Figure S2. SEM images of ZnO NPGs with 4 h growth time before and after 1 h photocurrent measurement at 1.23 V vs RHE under simulated sunlight.

References:

[1] M. Šćepanović, M. Grujić-Brojčin, K. Vojisavljević, S. Bernik, T. Srećković, *J. Raman Spectrosc.*, 2010, **41**, 914.

[2] Raphael Lucas de Sousa e Silva [a], A. Franco Jr, *Mater. Sci, Semicond. Process.*, 2020, **119**, 105227.