

Supporting Information

Room Temperature Light-Induced Recrystallization of Cu₂O Cubes to CuO Nanostructures in Water

Yuri Na,¹ Sungwoo Lee,² Nitish Roy,³ Debabrata Pradhan,^{3,*} and Youngku Sohn^{1,*}

¹Department of Chemistry, Yeungnam University, Gyeongsan 712-749, Republic of Korea

²Center for Research Facilities, Chungnam National University, Daejeon 305-764, Republic of Korea

³Materials Science Centre, Indian Institute of Technology, Kharagpur 721 302, W.B., India

* Corresponding author e-mail: youngkusohn@ynu.ac.kr, deb@matssc.iitkgp.ernet.in

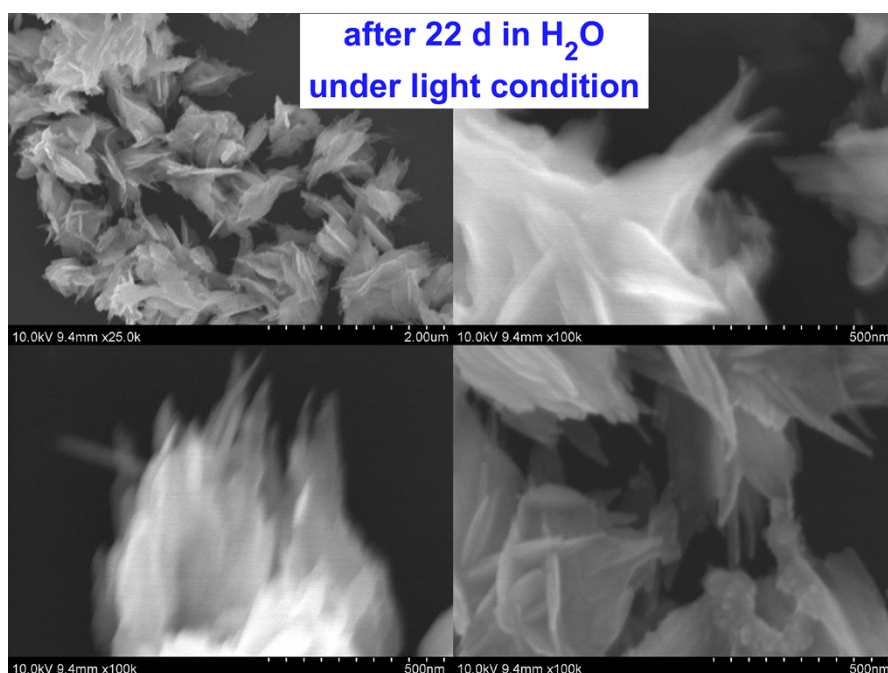


Figure S1. SEM images of Cu oxide samples stored in water with light exposure for 22days.

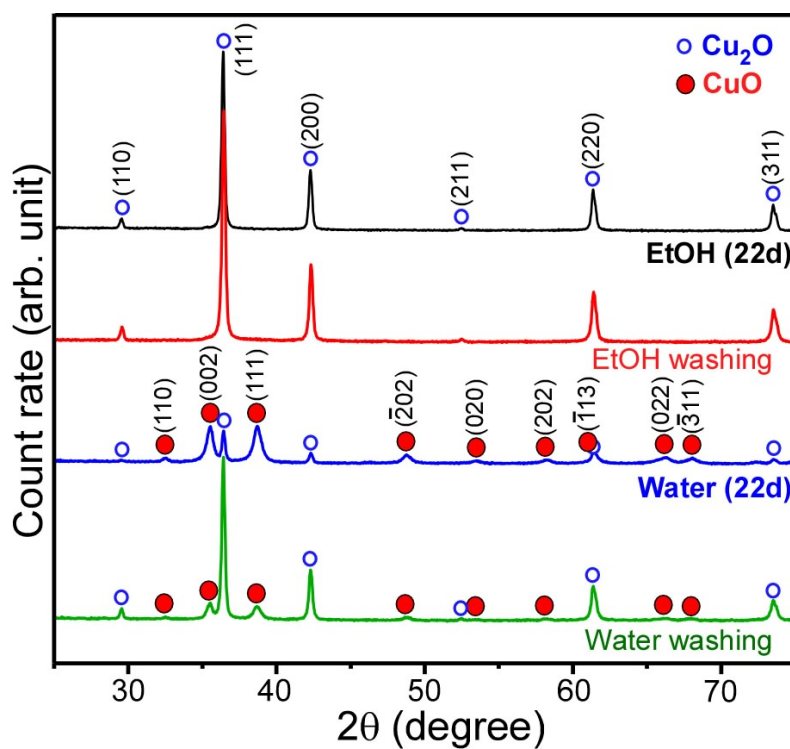


Figure S2. Powder X-ray diffraction patterns of as-prepared Cu oxide samples washed only with ethanol or water, and for the samples stored in ethanol or water for 22 days with light exposure.

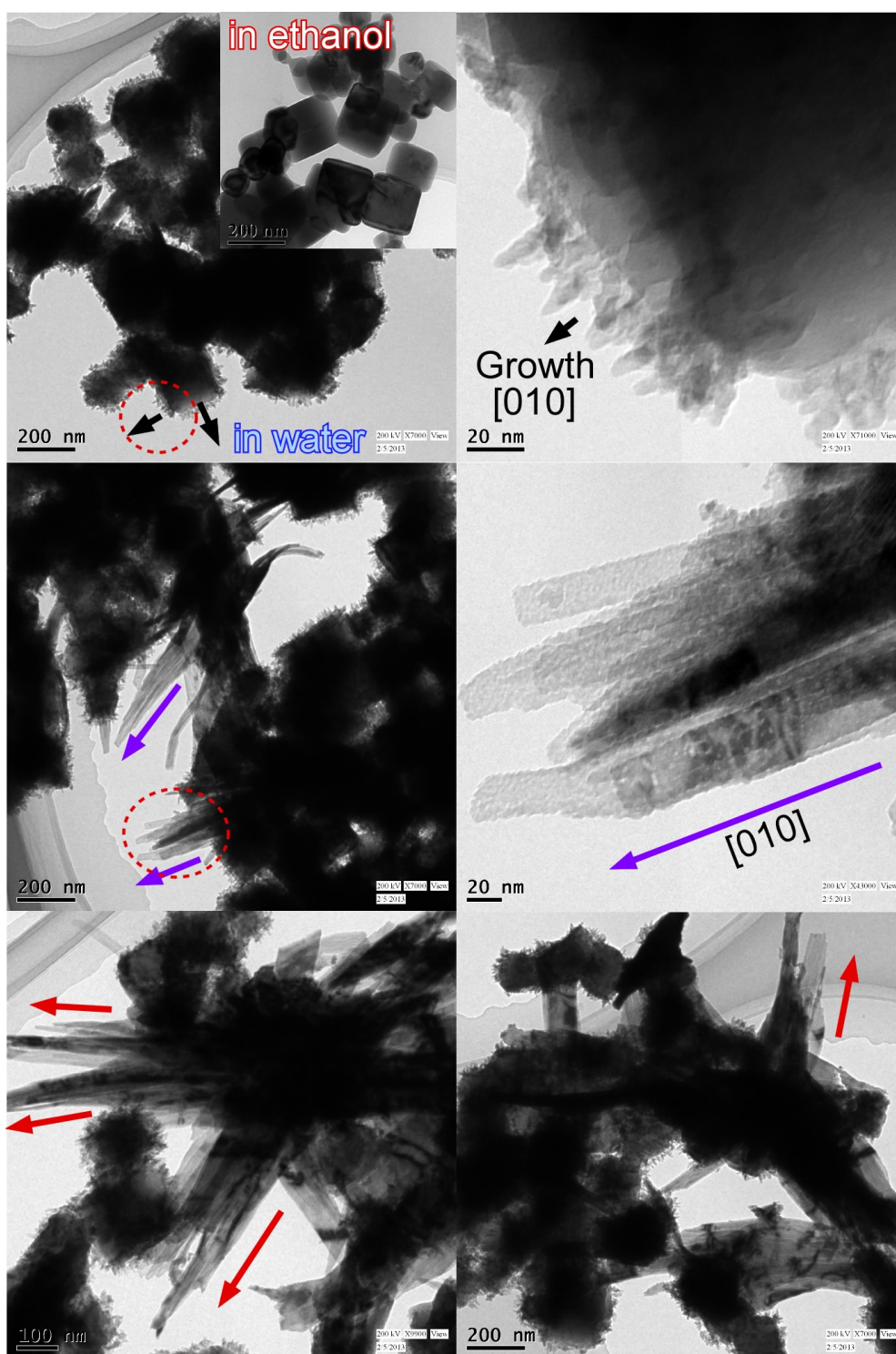


Figure S3. TEM images of Cu oxide samples stored in water with light exposure. Inset (top left) shows the TEM image of Cu₂O cubes stored in ethanol. Other TEM images clearly reveal outward CuO growth in water under visible light irradiation.

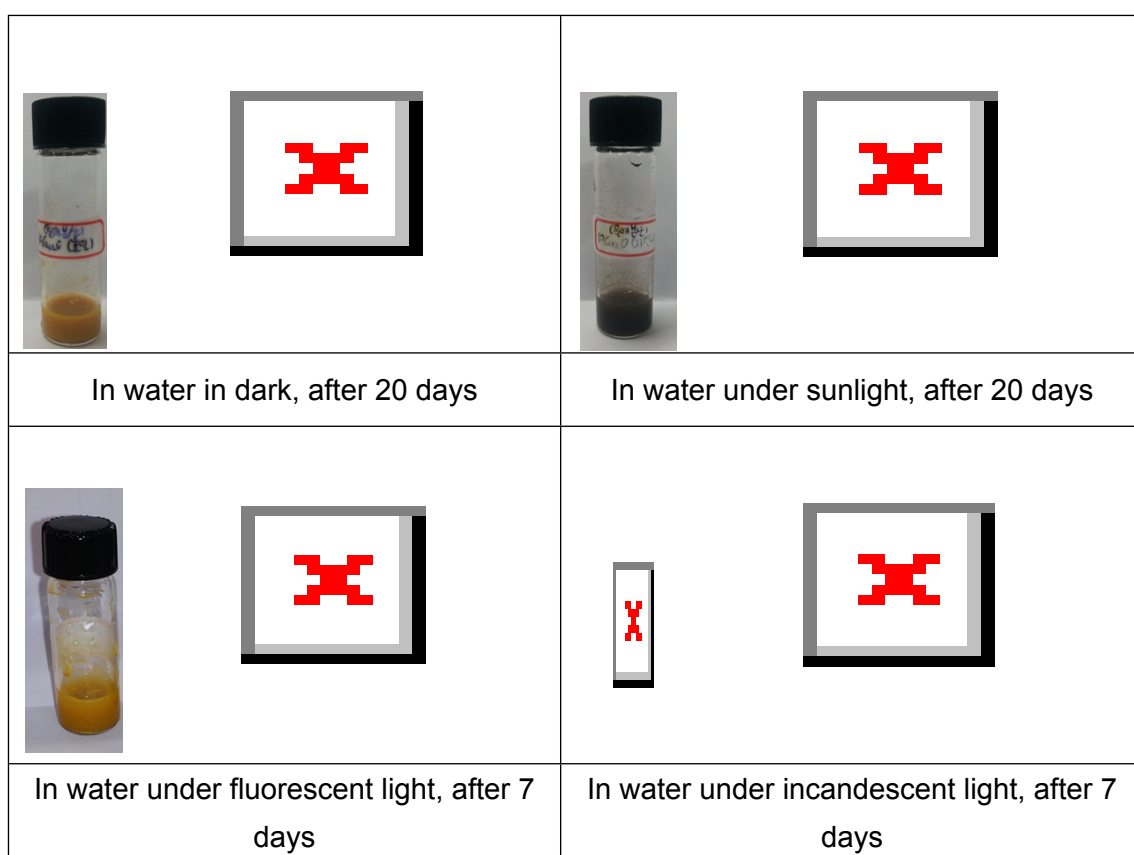


Figure S4. Photographs and SEM images of Cu oxide samples in dark (top left), and under sun (top right), fluorescent (bottom left), and incandescent (bottom right) light.

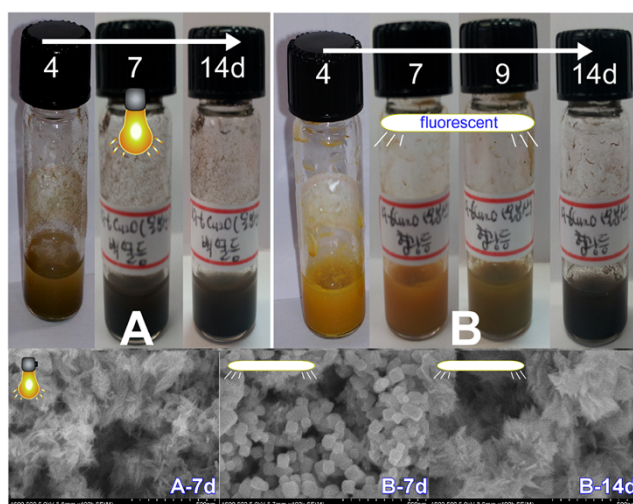


Figure S5. Change in color of water containing Cu_2O cubes upon irradiation of incandescent (A), fluorescent (B) light, A-7d: SEM image of sample A after 7 days. B-7d and B-14d: SEM images of sample B after 7 and 14 days, respectively.

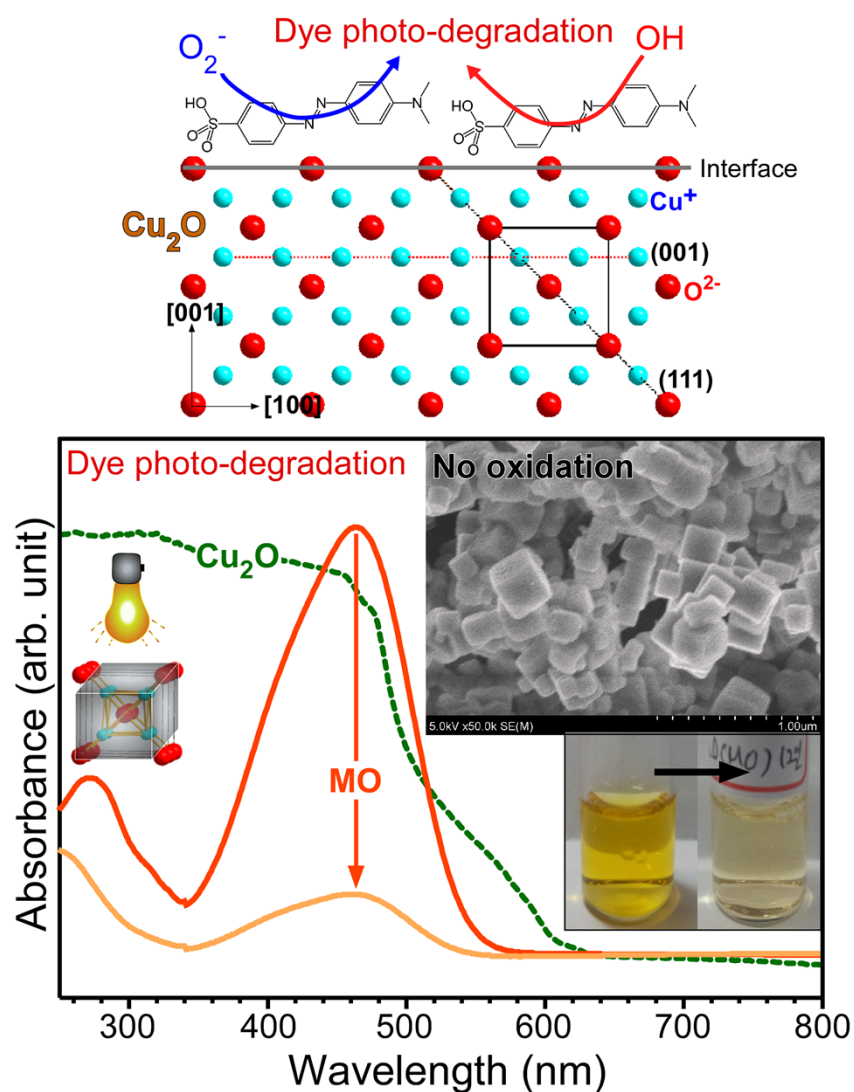


Figure S6. Change in UV-vis absorption spectra and color of MO solution with Cu_2O cubes in water upon irradiation of incandescent light. SEM images of Cu_2O cubes after the dye-degradation experiment.

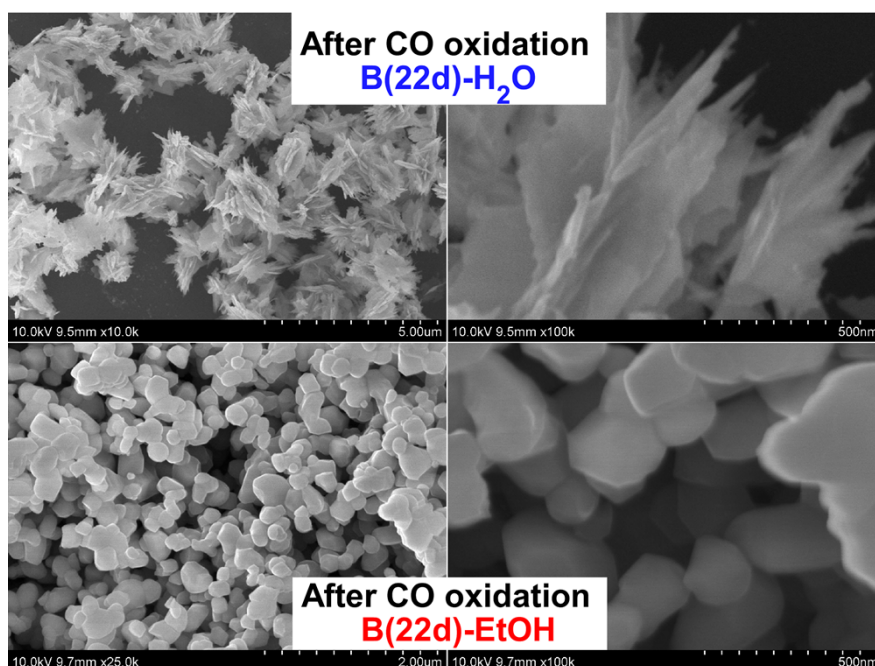


Figure S7. SEM images of Cu oxide samples stored in water (top) and ethanol (bottom) for 22 days with light exposure after CO oxidation experiments.

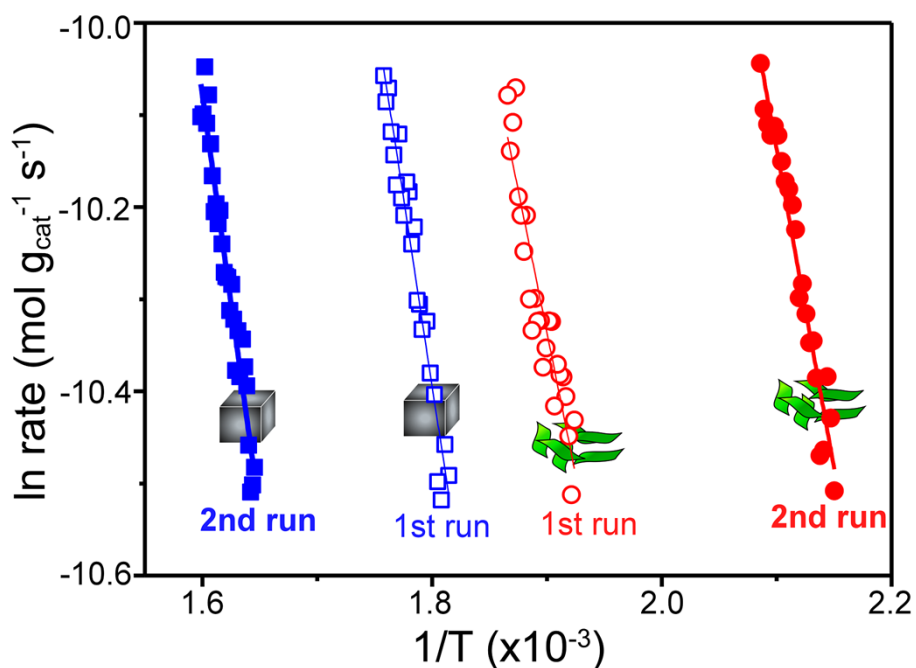


Figure S8. Arrhenius plots for the 1st and 2nd CO oxidation runs over the samples stored in ethanol (cubes) and water (nanoribbons) for 22 days with light exposure.