Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

Synthesis and Characterization of High Surface Area $CuWO_4$ and Bi_2WO_6 Electrodes for use as Photoanodes for Solar Water Oxidation

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SUPPORTING INFORMATION

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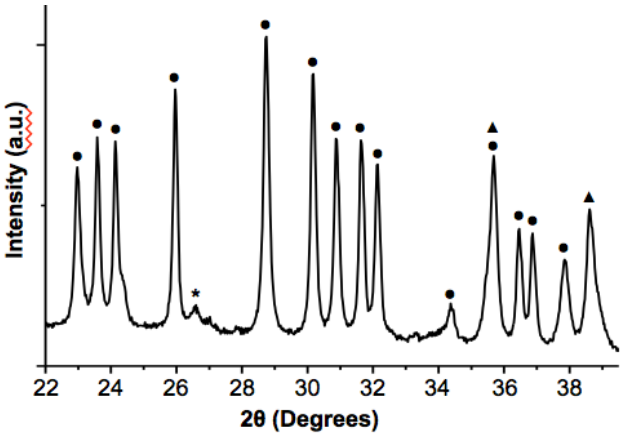

Figure S1. XRD pattern of a Cu^{2+}-containing WO_3 electrode annealed at 550 °C for 6 hours before the removal of CuO in acid. Peaks from the FTO substrate, $CuWO_4$, and CuO are denoted by *, • and ▲, respectively.

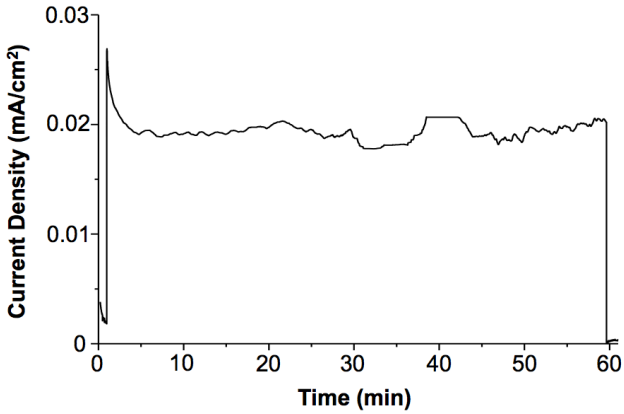

Figure S2. Photocurrent-time plot of a $CuWO_4$ electrode measured in 0.1 M sodium phosphate buffer (pH 7) at 0.42 V vs. Ag/AgCl (1.03 V vs. RHE) (AM 1.5G, 100 mW/cm^2 illumination).

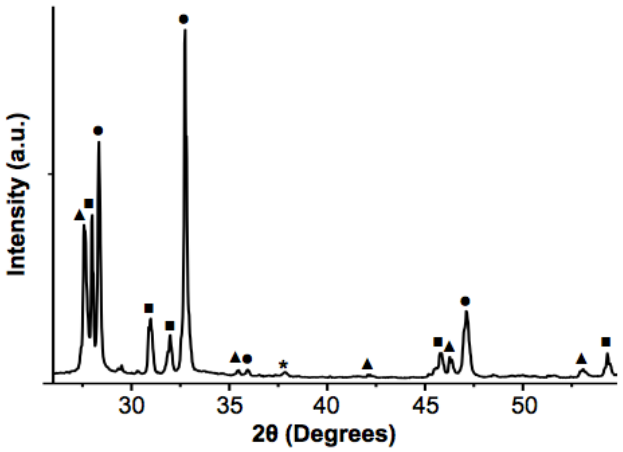

Figure S3. XRD pattern of a Bi^{3+}-containing WO_3 electrode annealed at 550 °C for 6 hours before the removal of Bi_2O_3. Peaks from the FTO substrate, Bi_2WO_6, and Bi_2O_3 are denoted by *, • and ▲, respectively. The peaks denoted by ■ are peaks from Bi-rich Bi-W-O ternary phases such as $Bi_{3.84}W_{0.16}O_{6.24}$, which can also be removed with Bi_2O_3 in acid, leaving a pure Bi_2WO_6 electrode.

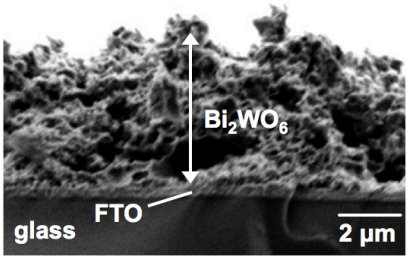

Figure S4. Side-view SEM image of a Bi_2WO_6 electrode.