

## Electronic Supplementary Information

### Birnessite-type Manganese Oxides Nanosheets with Hole Acceptor Assisted Photoelectrochemical Activity in Response to Visible Light

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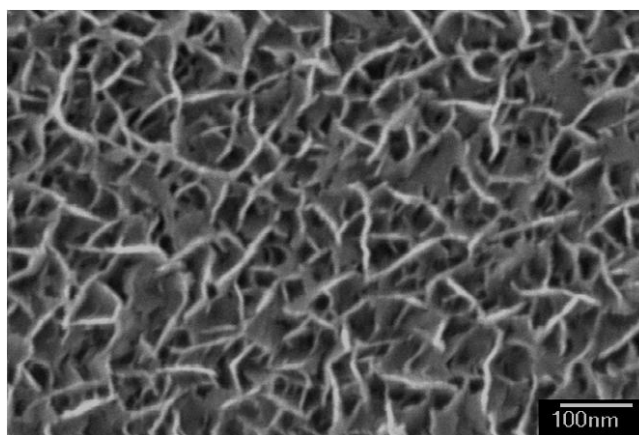


Figure S1 SEM top-view image of hierarchically structured nanosheets deposited on ITO by means of anodic electroplating at a current density of  $0.25 \text{ mA/cm}^2$  for 250s.

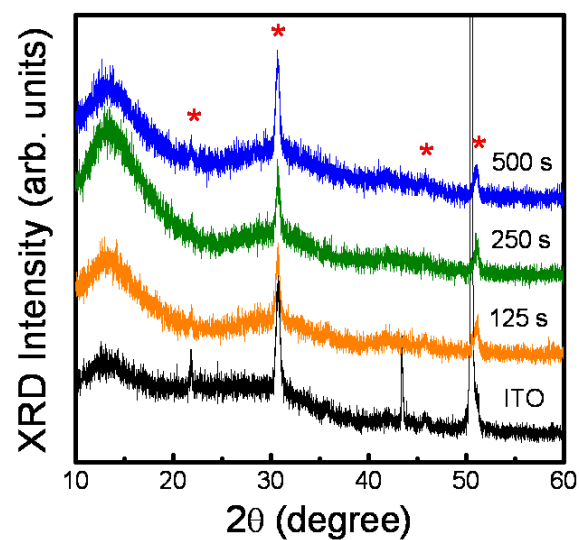


Figure S2 XRD patterns of MnO<sub>2</sub> nanosheets, fabricated via anodic electrodeposition, for different deposition times.

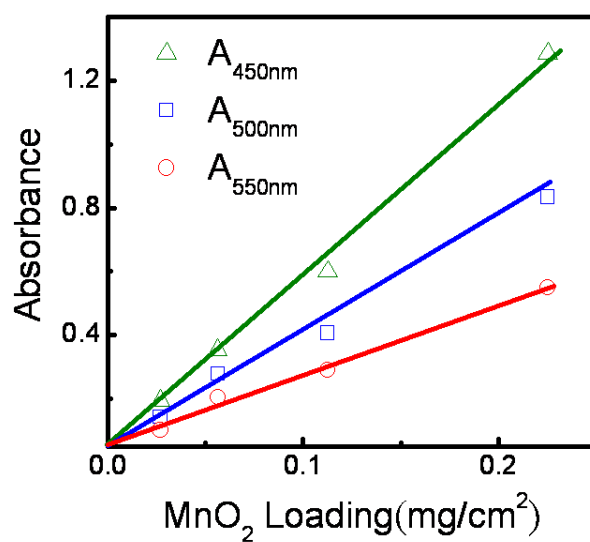


Figure S3 Absorbance at 450, 500 and 550 nm as a function of MnO<sub>2</sub> nanosheets deposit.

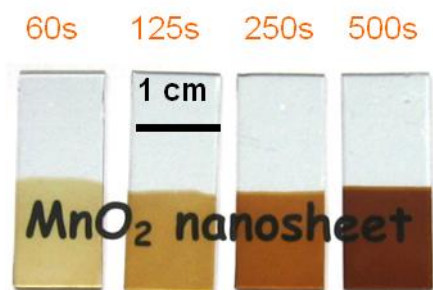


Figure S4 Photographs of MnO<sub>2</sub> nanosheets on ITO.

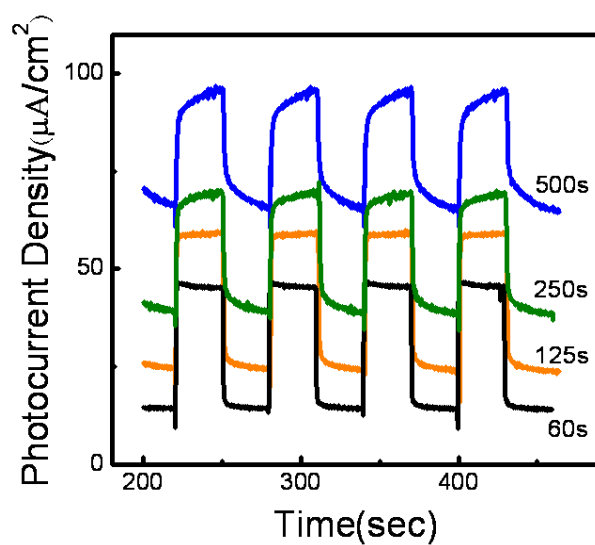


Figure S5 Photocurrent-time behaviour of MnO<sub>2</sub> nanosheets with different deposition times in the presence of methanol.