

## Supporting Information

### **Photo-catalyzed Surface Hydrolysis of Iridium (III) Ions on Semiconductors: A Facile Method for Preparation of Semiconductor/IrO<sub>x</sub> Composite Photoanodes toward Oxygen Evolution Reaction**

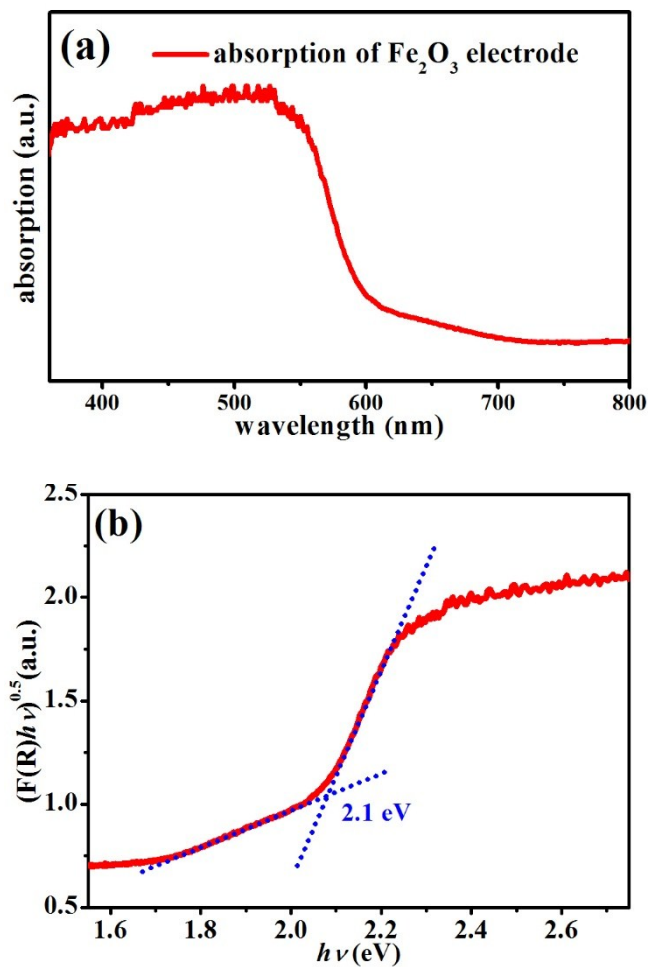
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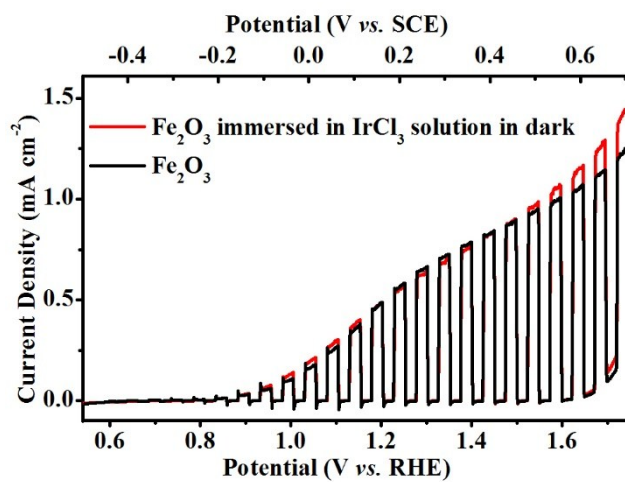
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**Fig. S 1**



**Fig. S1.** (a) UV-Vis absorption spectrum and (b) the corresponding Tauc plot of Fe<sub>2</sub>O<sub>3</sub> electrode.

**Fig. S 2**



**Fig. S2.** *J-V* curves of Fe<sub>2</sub>O<sub>3</sub> photoanode in 1 M KOH under chopped illumination before (black line) and after (red line) it was immersed in the 2 mM IrCl<sub>3</sub> solution (pH12) for 2 h without irradiation and then rinsed with water. The incident light intensity was 100 mW·cm<sup>-2</sup>.