

Supplementary Materials:

Effect of Electronic Conductivities of Iridium Oxide/Doped SnO₂ Oxygen-Evolving Catalysts on the Polarization Properties in Proton Exchange Membrane Water Electrolysis

Hideaki Ohno¹, Shinji Nohara^{2,3}, Katsuyoshi Kakinuma³, Makoto Uchida³, and
Hiroyuki Uchida^{2,3,*}

¹Special Doctoral Program for Green Energy Conversion Science and Technology, Integrated Graduate School of Medicine, Engineering and Agricultural Science, University of Yamanashi, 4 Takeda, Kofu 400-8510, Japan

²Clean Energy Research Center, University of Yamanashi, 4 Takeda, Kofu 400-8510, Japan

³Fuel Cell Nanomaterials Center, University of Yamanashi, 6-43 Miyamae, Kofu 400-0021, Japan

*Correspondence: h-uchida@yamanashi.ac.jp

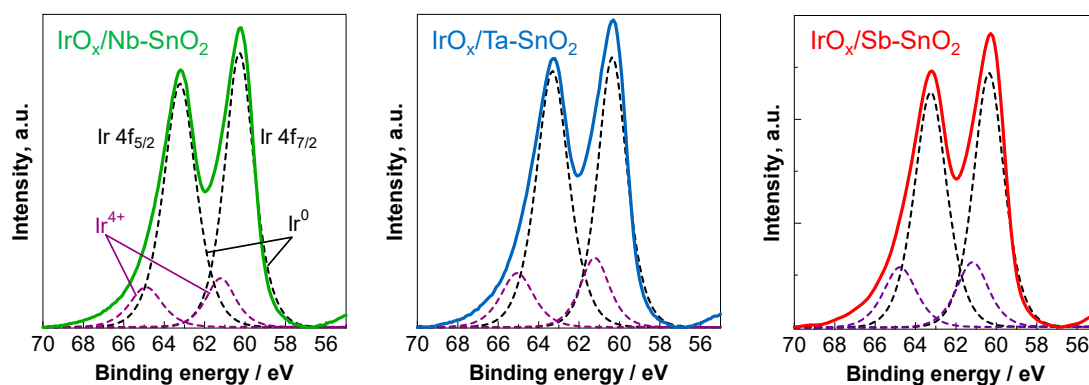


Figure S1. X-ray photoelectron spectra (XPS) of $\text{IrO}_x/\text{M-SnO}_2$ ($\text{M} = \text{Nb}, \text{Ta}, \text{and Sb}$) catalysts. Peaks around 64 and 60 eV were assigned to Ir $4f_{5/2}$ and $4f_{7/2}$, respectively. These peaks were deconvoluted into symmetric Gaussian peaks corresponding to metallic Ir and Ir^{4+} (IrO_2) components.

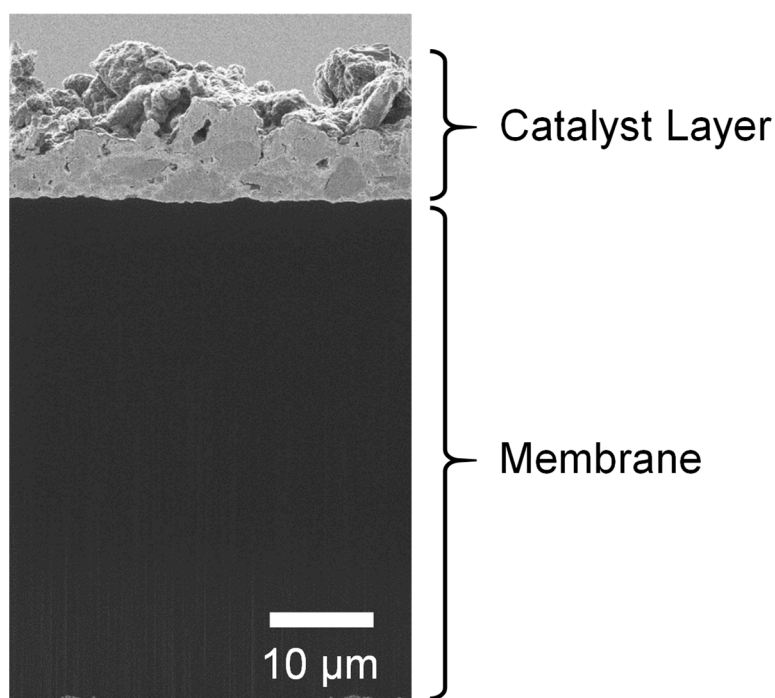


Figure S2. Secondary ion microscope (SIM) image of the cross-section at the anode for the CCM with $\text{IrO}_x/\text{Sb-SnO}_2$ catalyst. The average thickness and the standard deviation of the catalyst layer was $9.6 \pm 3.1 \mu\text{m}$.