

Supporting information

High-performance Ti/IrO₂-RhO_x-Ta₂O₅ electrodes for polarity reversal applications

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Figure S1. Sediment at the bottom of the container after accelerated lifetime test experiment.

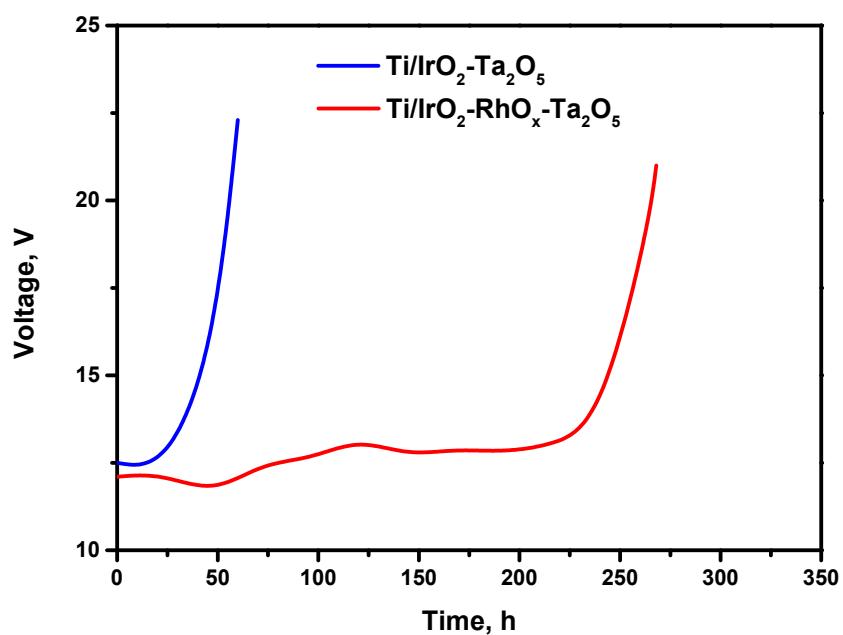


Figure S2. Voltage variation of $\text{Ti}/\text{IrO}_2\text{-Ta}_2\text{O}_5$ and $\text{Ti}/\text{IrO}_2\text{-RhO}_x\text{-Ta}_2\text{O}_5$ in 20 g L^{-1} NaCl at a current density of 5000 A m^{-2} , a polarity reversal frequency of 12 h^{-1} and 27°C .

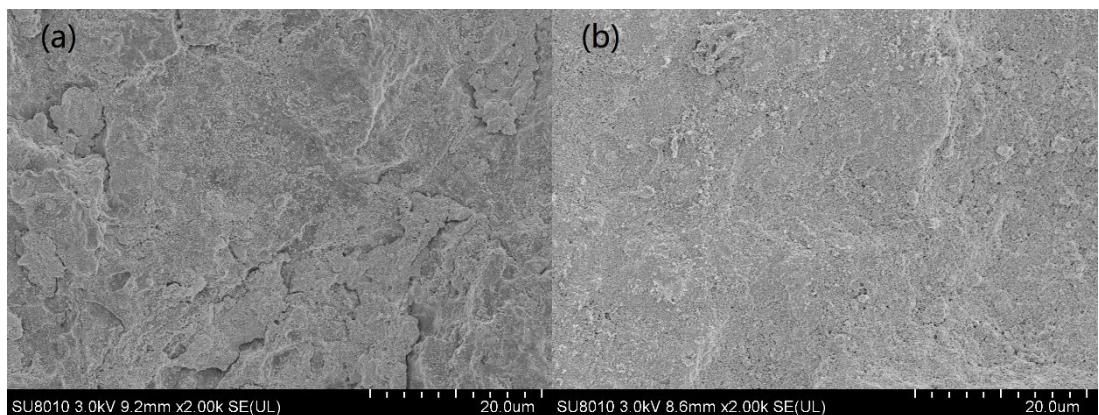


Figure S3. FE-SEM images of electrodes after accelerated lifetime test (magnification = 2000): (a) Ti/IrO₂-Ta₂O₅; (b) Ti/IrO₂-RhO_x-Ta₂O₅.

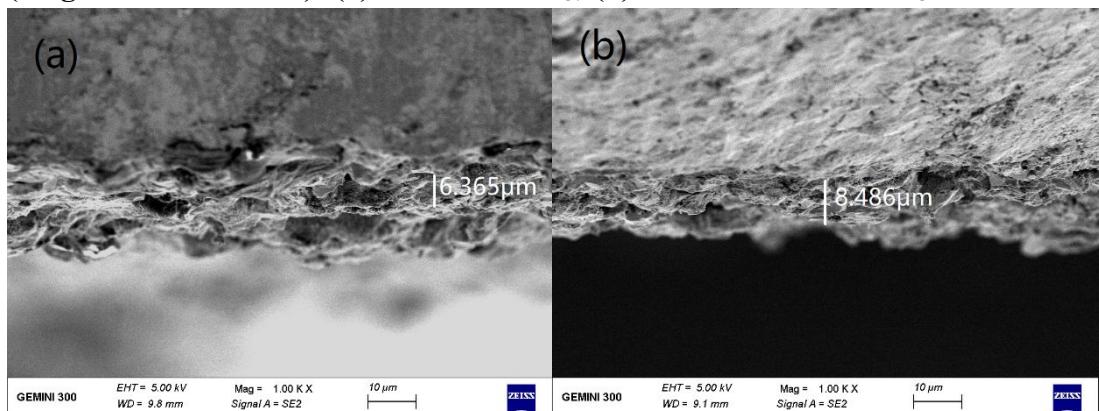
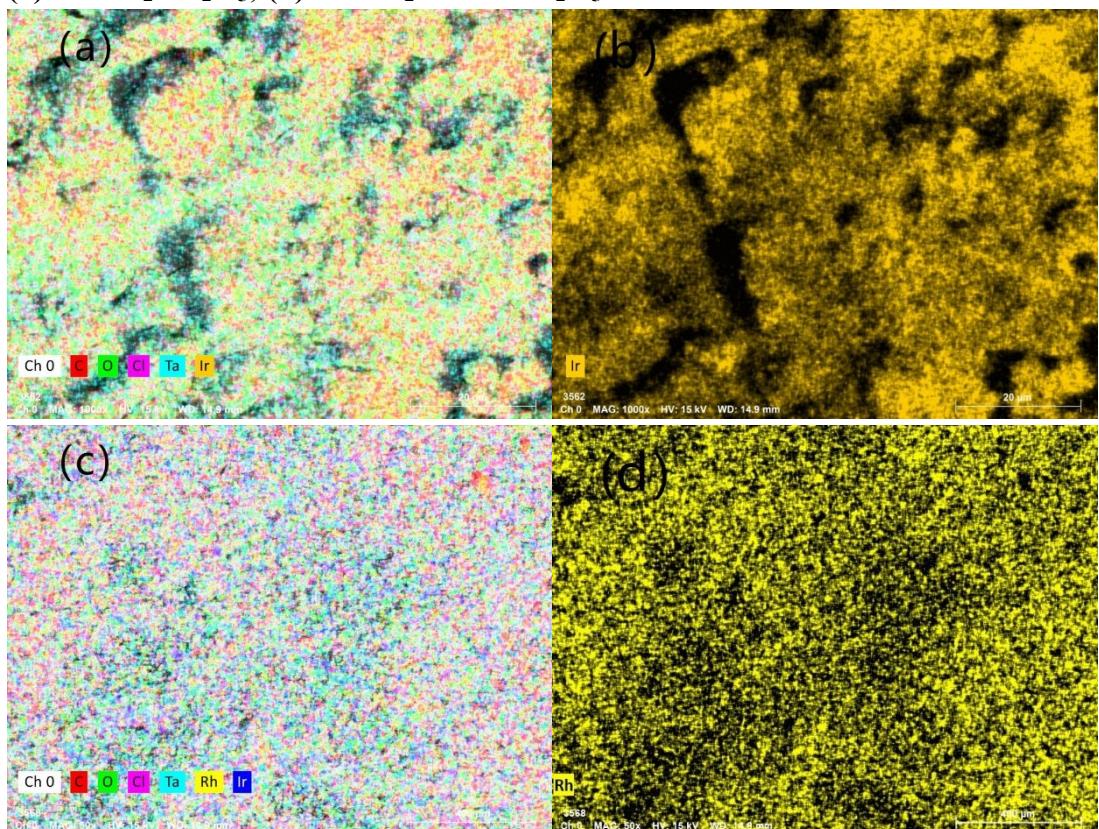


Figure S4. FE-SEM images of cross-sections of electrodes (magnification = 1000): (a) Ti/IrO₂-Ta₂O₅; (b) Ti/IrO₂-RhO_x-Ta₂O₅.



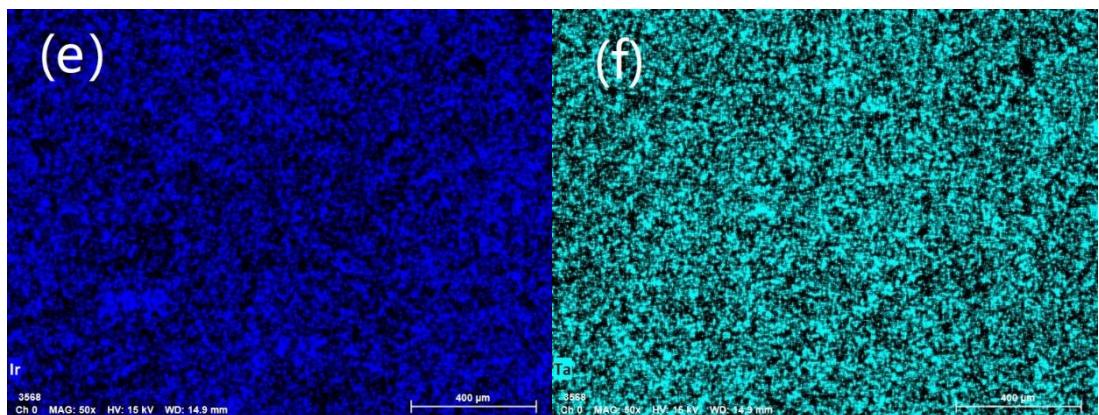


Figure S5. EDS-SEM images: (a) $\text{IrO}_2\text{-Ta}_2\text{O}_5$ film; (b) Ir of $\text{IrO}_2\text{-Ta}_2\text{O}_5$ film; (c) $\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ film; (d) Rh of $\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ film; (e) Ir of $\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ film; (f) Ta of $\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ film.

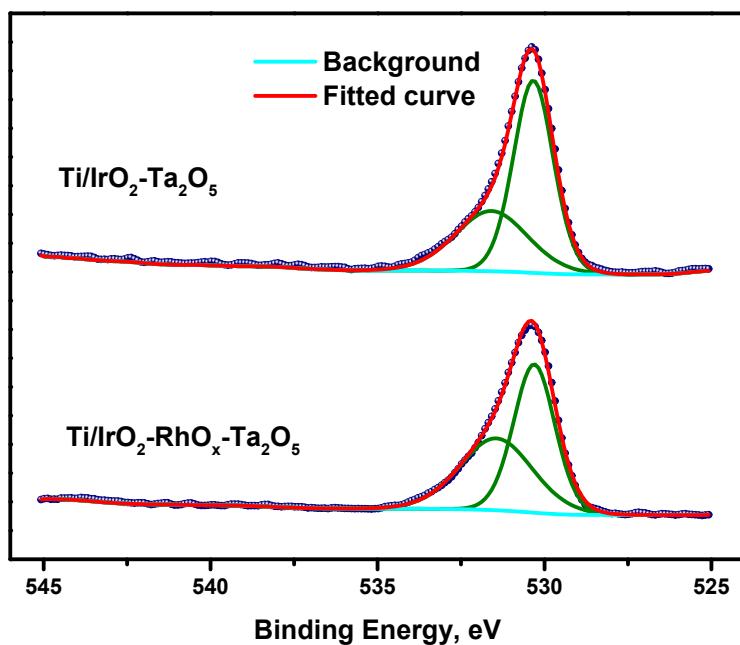


Figure S6. O 1s spectrum of $\text{IrO}_2\text{-Ta}_2\text{O}_5$ and $\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ film.

Table S1. Variation of $\text{Ti}/\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ electrode mass in different experimental stages.

Stages	$\text{Ti}/\text{IrO}_2\text{-RhOx-Ta}_2\text{O}_5$ electrode mass (g)
Before coating	2.1002
After coating	2.1097
After accelerated lifetime test	2.1034