

Supporting Information for

TaO_x-capped Pt nanoparticles as an active and durable electrocatalyst for oxygen reduction

Zaenal Awaludin, James Moo Guo Sheng, Takeyoshi Okajima, and Takeo Ohsaka

Department of Electronic Chemistry, Interdisciplinary Graduate School of Science and Engineering,
Tokyo Institute of Technology, Mail Box G1-5, 4259 Nagatsuta, Midori-ku, Yokohama 226-8502,
Japan

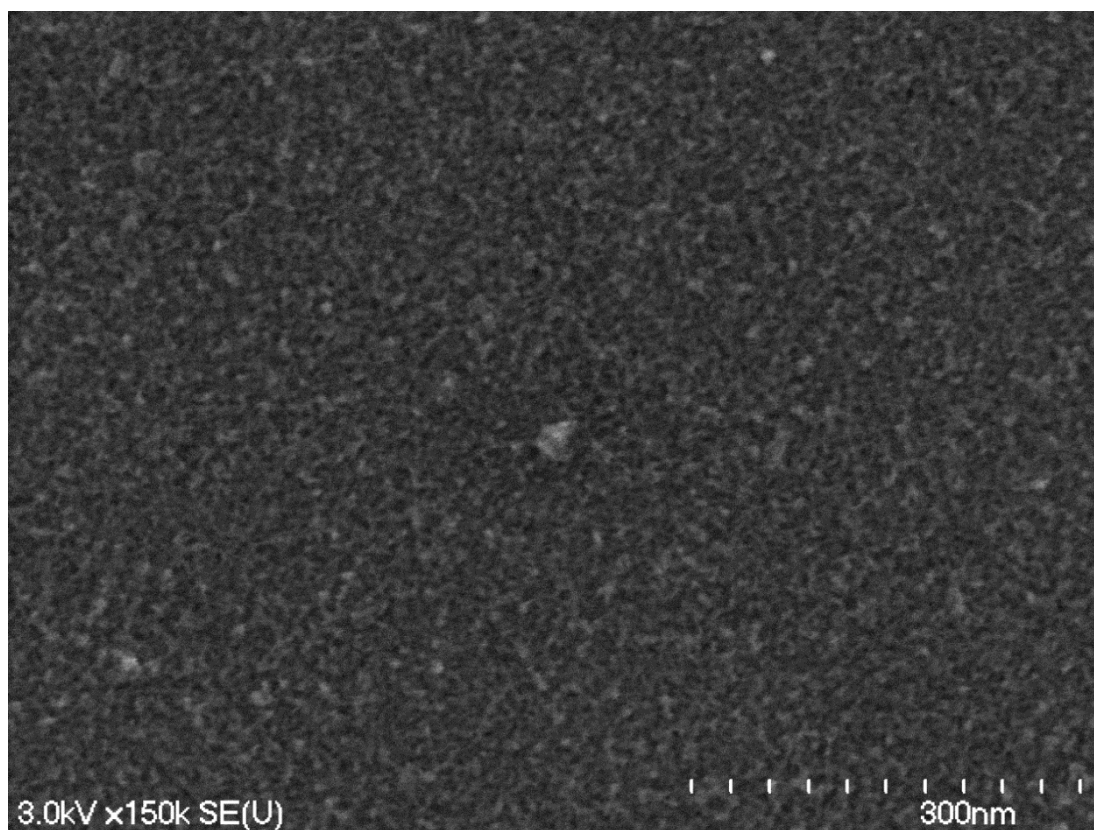


Fig. S1. An SEM image of TaO_x/GC electrode in which the TaO_x was deposited by 2 cycles of the deposition.

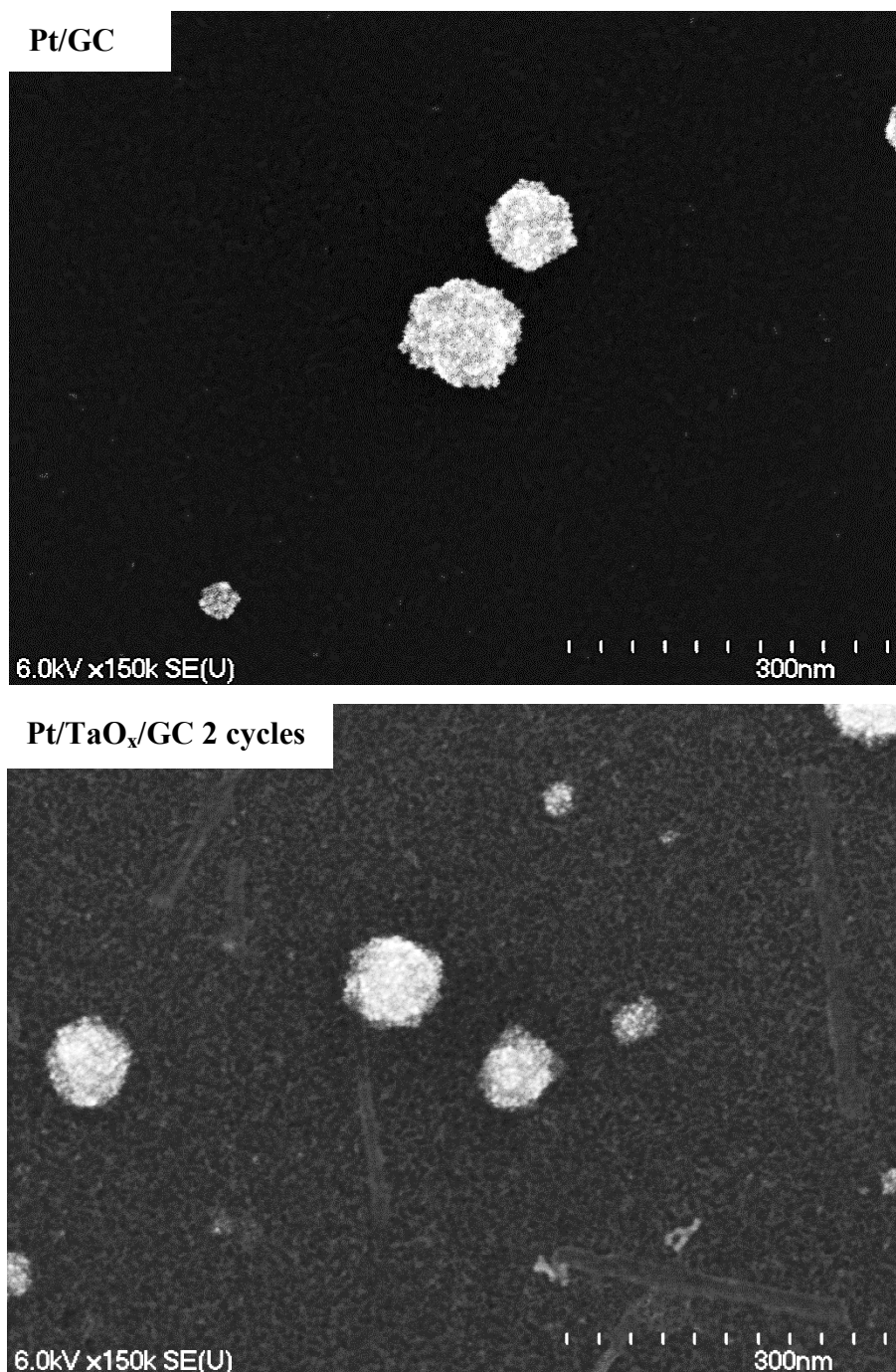


Fig. S2. SEM images of (top) Pt/GC and (bottom) Pt/TaO_x/GC electrodes in which the TaO_x was deposited by 2 cycles of the deposition. At the Pt/TaO_x/GC, no apparent capping effect of TaO_x is observed because the layer thickness is too thin.

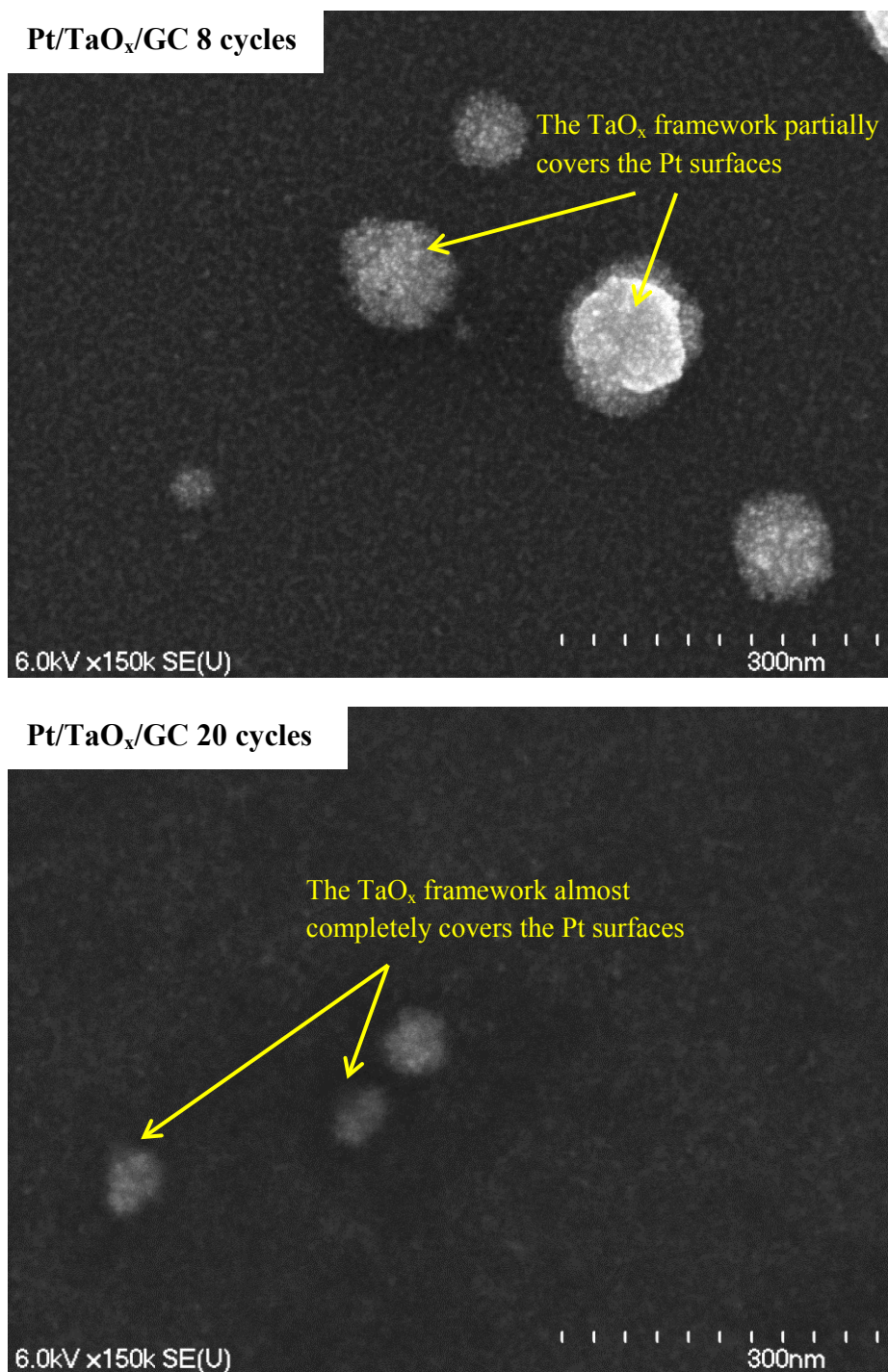


Fig. S3. SEM images of Pt/TaO_x/GC electrodes in which the TaO_x was deposited by (top) 8 and (bottom) 20 cycles of the deposition.

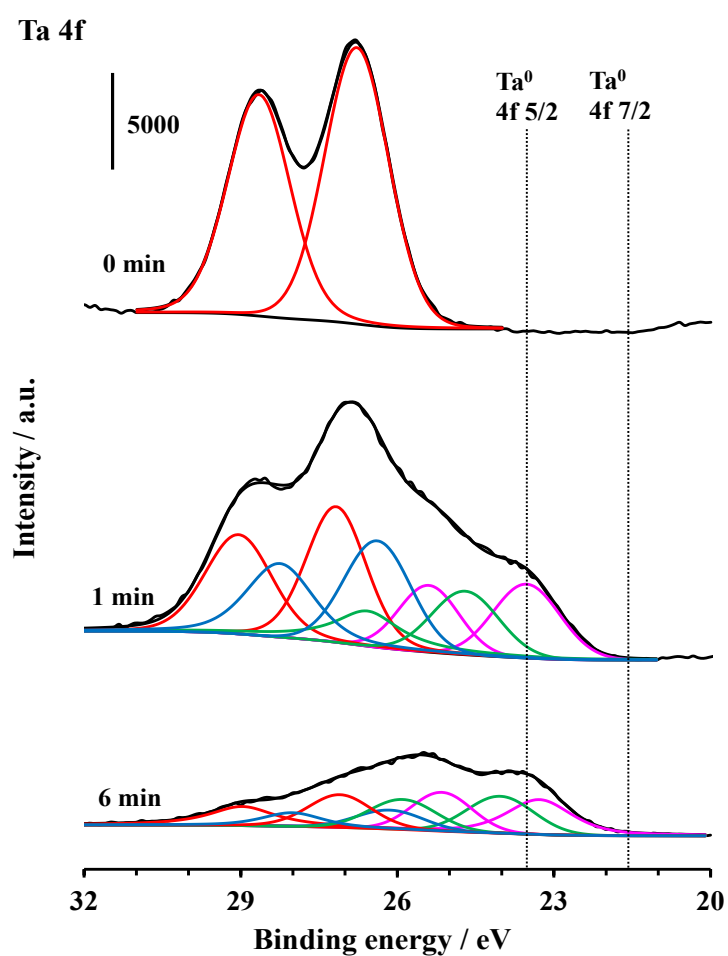


Fig. S4. Ta 4f spectra for TaO_x/GC electrode. The Ar^+ etching for 1 and 6 mins revealed various oxidation states of the Ta but no Ta metal is observed. The dashed lines at binding energies of 21.5 and 23.4 eV represent the Ta metal.