Development of Porous Pt Electrocatalysts for Oxygen Reduction and Evolution Reactions

Marika Muto¹, Mayumi Nagayama², Kazunari Sasaki ^{1,2,3,4} and Akari Hayashi ^{1,2,3,4,5,*}

- ¹ Department of Hydrogen Energy Systems, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan; mmjb004@gmail.com (M.M.); sasaki@mech.kyushu-u.ac.jp (K.S.)
- ² Coevolutionary Research for Sustainable Communities (COI-C²RSC), Kyushu University, 744 Motooka,
 - Nishi-ku, Fukuoka 819-0395, Japan; nagayama.mayumi.630@m.kyushu-u.ac.jp
- International Research Center for Hydrogen Energy, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan
- ⁴ NEXT-FC, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan
- ⁵ Q-PIT, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan
- * Correspondence: hayashi.akari.500@m.kyushu-u.ac.jp

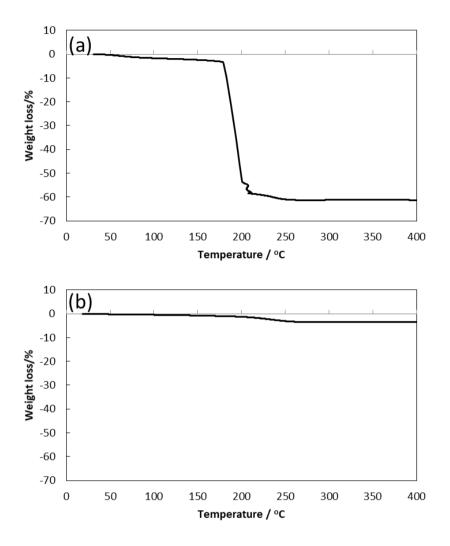


Figure S1. Thermogravimetric (TG) analyses of porous Pt (a) with heat treatment at 400 °C for 3 hours under dry nitrogen and (b) with additional heat treatment at 200 °C for 10 minutes under humidified nitrogen.

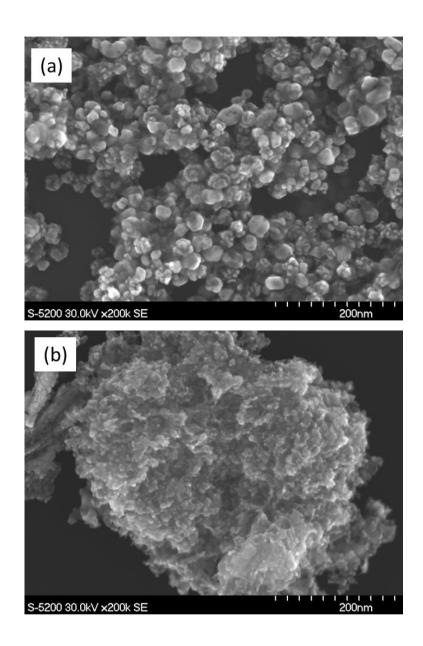


Figure S2. SEM images of (a) porous Pt and (b) Pt black with a higher magnification.

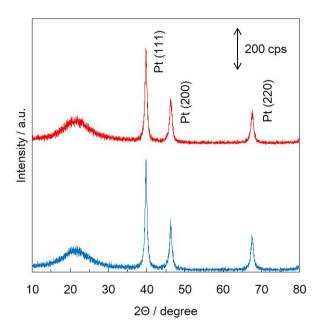


Figure S3. XRD patterns of porous Pt (top, red) and Pt black (bottom, blue).

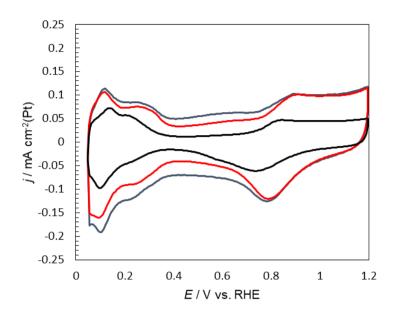


Figure S4. Cyclic voltammograms of porous Pt (red), Pt black (blue), and Pt/KB (black), where the current is normalized to specific surface area of Pt.