

## **Supporting Information**

**for**

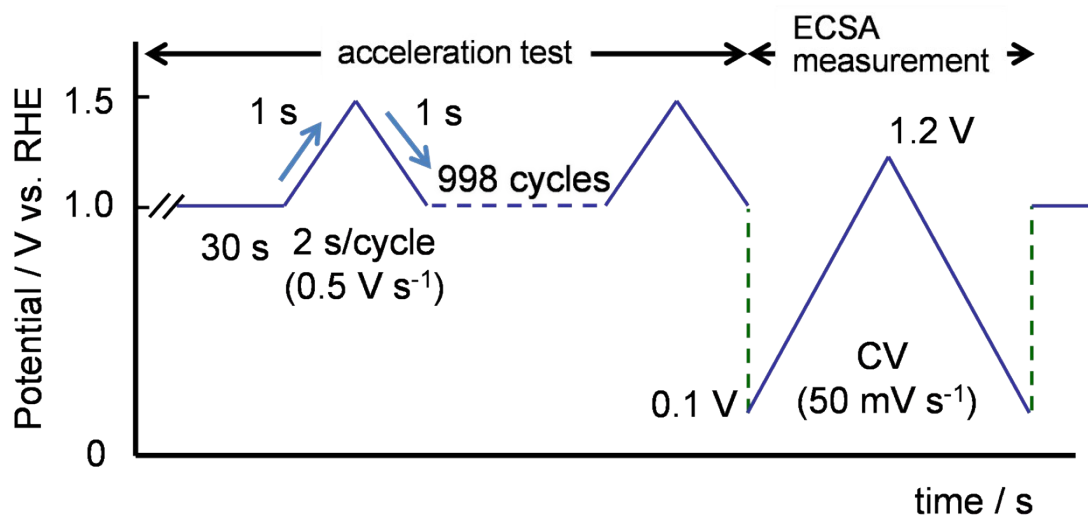
### **Remarkably Durable Platinum Cluster Supported on Multi-walled Carbon Nanotubes with High Performance in Anhydrous Polymer Electrolyte Fuel Cell**

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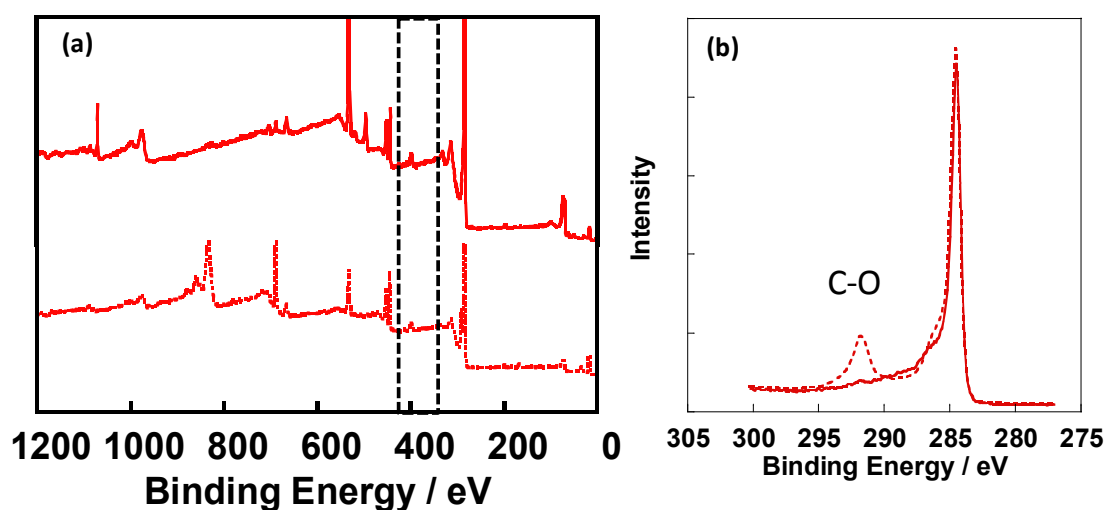
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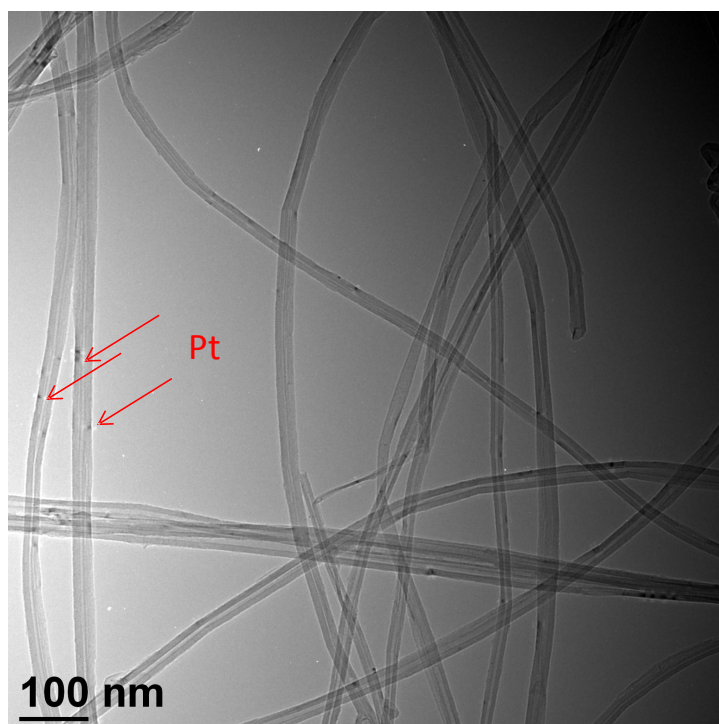
E-mail: Zhangyf329@gmail.com



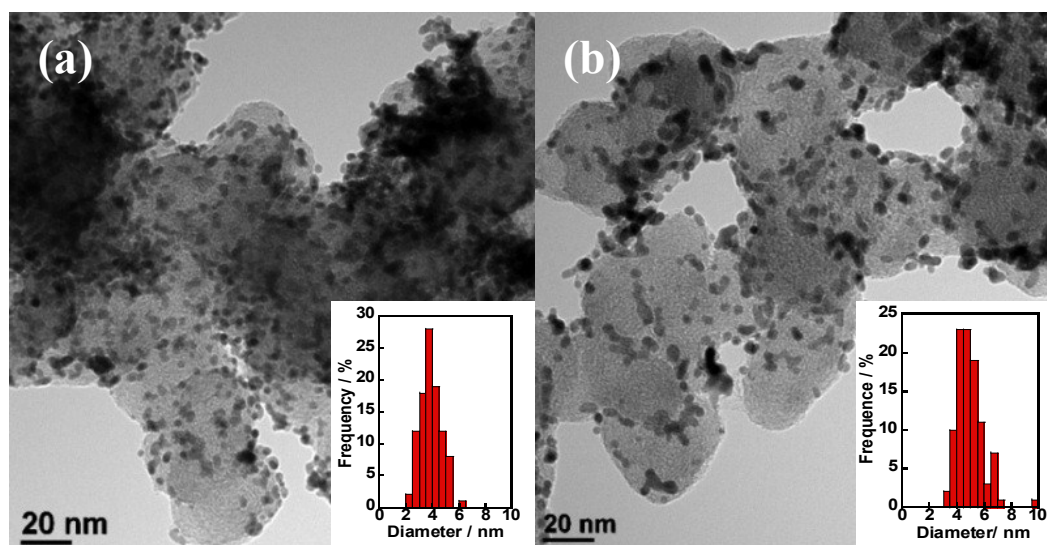
**Figure S1** Protocol of durability test for a half-cell based on the Fuel Cell Commercialization Conference of Japan (FCCJ).



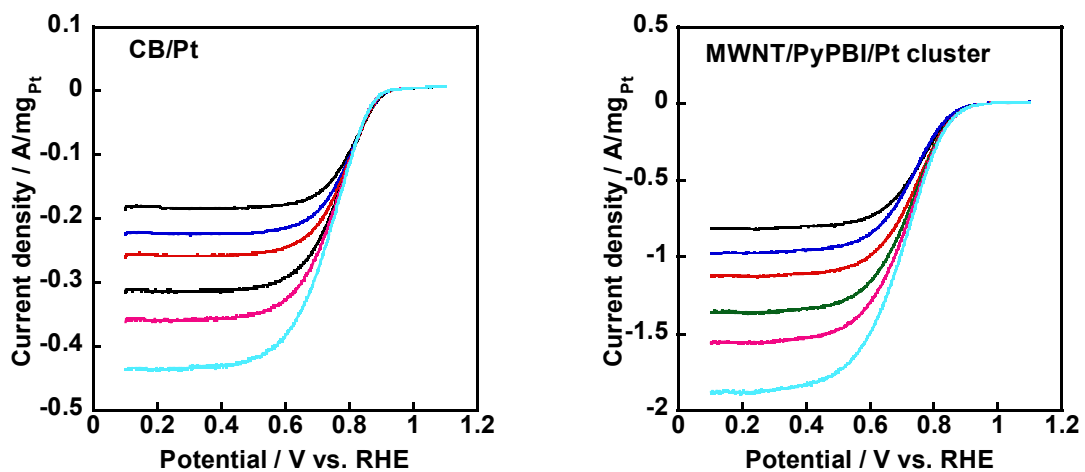
**Figure S2** XPS survey scans of MWNT/PyPBI/Pt cluster before (solid line) and after (dotted line) durability test.



**Figure S3** TEM image of the electrocatalyst synthesized with 2 mL NaOH in EG/water.



**Figure S4** TEM images of the commercial CB/Pt before (a) and after (b) durability test. Histograms of the particle size distribution (100 particles) were inserted.



**Figure S5** Rotating disc current density of the different electrocatalysts measured in O<sub>2</sub>-saturated 0.1M HClO<sub>4</sub> solutions at 25 °C.