

## Supporting Information:

### Structural and Electrocatalytic Properties of PtIrCo/C Catalysts for Oxygen Reduction Reaction

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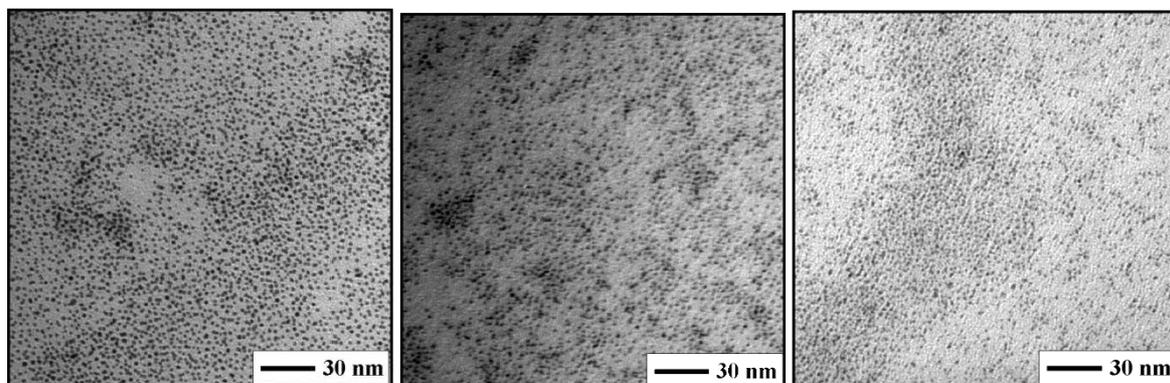
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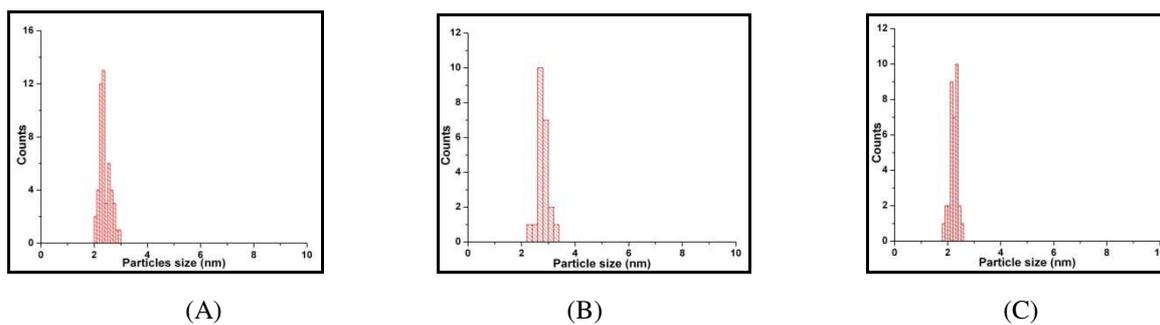
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This Supporting Information provides additional TEM micrographs and size distributions for as-synthesized PtIrCo nanoparticles of different compositions (Figure S1), TGA curves for thermal treatment (Figure S2), XPS data for catalyst composition (Figure S3), and electrochemical data for catalyst durability study (Figure S4).

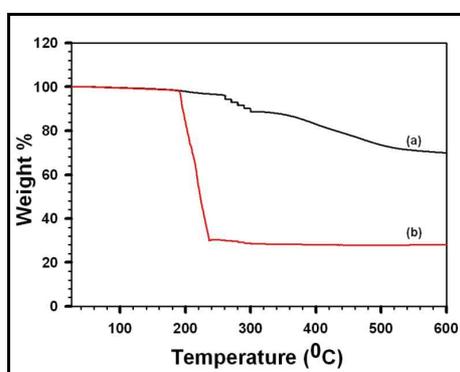
#### 1. TEM micrographs and size distributions:





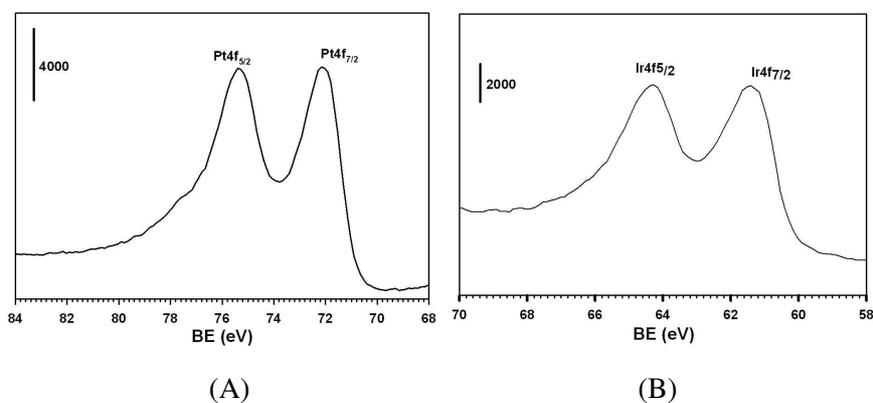
**Figure S1:** TEM micrographs and size distributions of as-synthesized nanoparticles: (A)  $\text{Pt}_{65}\text{Ir}_{11}\text{Co}_{24}$  ( $2.4 \pm 0.2$  nm), (B)  $\text{Pt}_{40}\text{Ir}_{28}\text{Co}_{32}$  ( $2.8 \pm 0.2$  nm), and (C)  $\text{Pt}_{25}\text{Ir}_{20}\text{Co}_{55}$  ( $2.2 \pm 0.2$  nm).

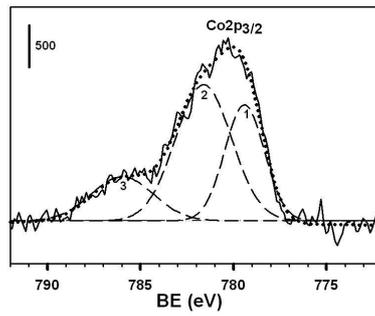
## 2. TGA curves.



**Figure S2:** TGA curves for  $\text{Pt}_{25}\text{Ir}_{20}\text{Co}_{55}/\text{C}$  samples under two different treatment environments:  $\text{N}_2$  (a) and 20%  $\text{O}_2$  + 80%  $\text{N}_2$  (b).

## 3. XPS spectra of $\text{Pt}_{25}\text{Ir}_{20}\text{Co}_{55}/\text{C}$

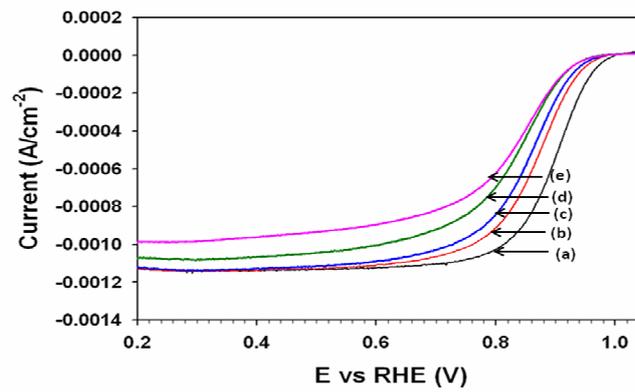




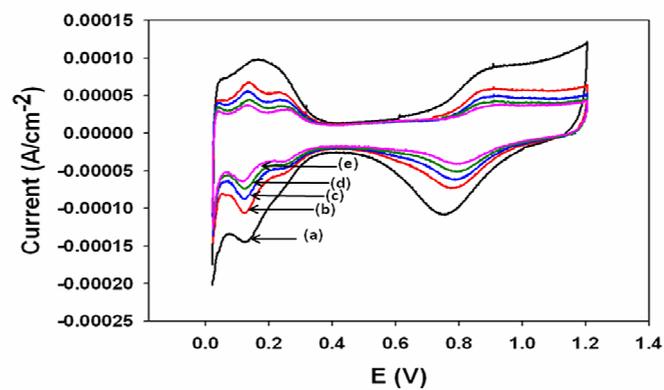
(C)

**Figure S3:** XPS spectra in the Pt4f (A), Ir4f (B) and Co2p (C) regions for Pt<sub>25</sub>Ir<sub>20</sub>Co<sub>55</sub>/C catalyst treated at 400 °C. (in C, the peak deconvolution result is shown as dotted lines).

#### 4. RDE and CV polarization curves in durability measurement



(A)



(B)

**Figure S4:** Durability measurements of Pt<sub>65</sub>Ir<sub>11</sub>Co<sub>24</sub>/C catalyst: (A) RDE curves and (B) CV curves for initial (a), after 5000 (b); 10,000 (c); 15,000 (d); 20,000 (e) cycles.