

## Supporting Information

### Oxygen Reduction Activity of Carbon Supported Pt–M (M = V, Ni, Cr, Co and Fe) Alloys Prepared by Nano- Capsule Method

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Table S1 Lattice constant of Pt/CB and Pt-M/CB catalysts

Catalysts	Lattice constant / Å				
	Lattice plane (hkl)				
	(111)	(200)	(220)	(311)	Average value
Pt/CB	3.92	3.95	3.93	3.92	3.93 ± 0.01
Pt-V/CB	3.91	3.92	3.89	3.89	3.90 ± 0.01
Pt-Cr/CB	3.92	3.92	3.89	3.89	3.90 ± 0.02
Pt-Fe/CB	3.85	-	3.83	-	3.85 ± 0.02
Pt-Co/CB	3.86	-	3.83	3.87	3.85 ± 0.02
Pt-Ni/CB	3.77	3.79	3.79	3.78	3.78 ± 0.01

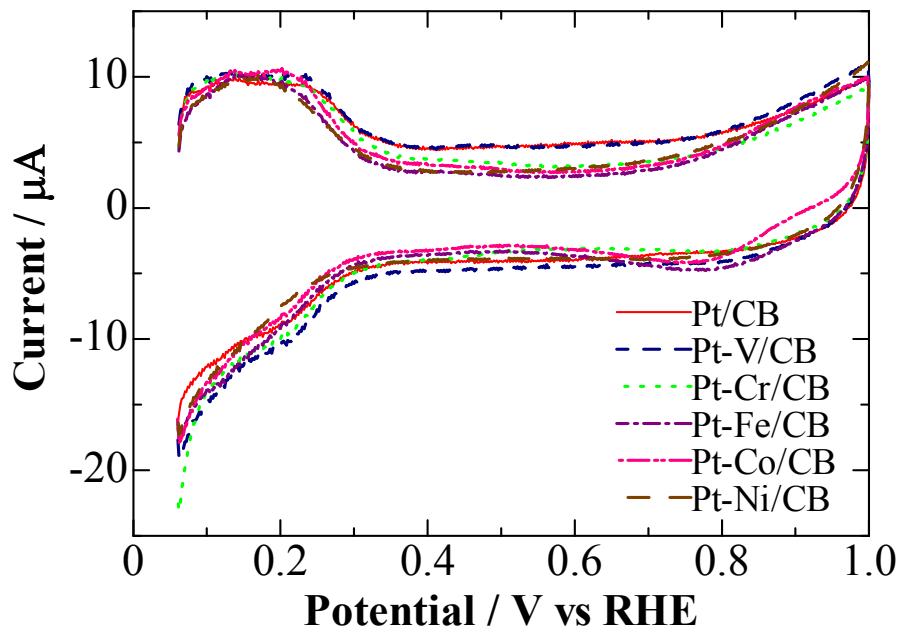


Figure S1 Cyclic voltammograms on Nafion-coated Pt/CB and Pt-M/CB catalysts in 0.1 M HClO<sub>4</sub> solution purged with N<sub>2</sub> at room temperature. Sweep rate = 0.1 V s<sup>-1</sup>.

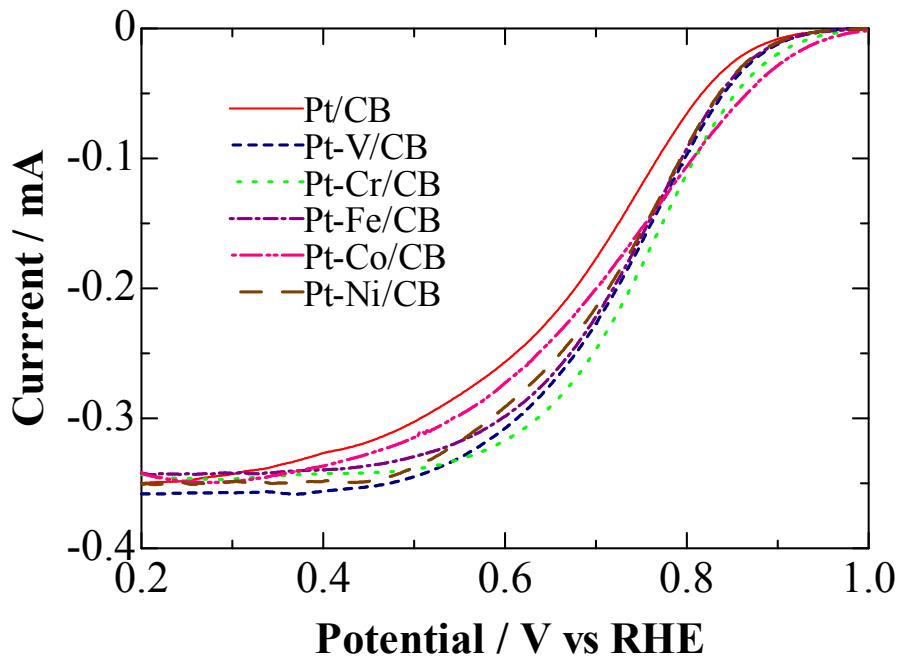


Figure S2 Hydrodynamic voltammograms for the ORR at the Nafion-coated Pt/CB, Pt-Co/CB, Pt-Fe/CB, Pt-V/CB, Pt-Cr/CB and Pt-Ni/CB working electrode at 50 cm/s, in O<sub>2</sub>-saturated 0.1 M HClO<sub>4</sub> solution at 30 °C.

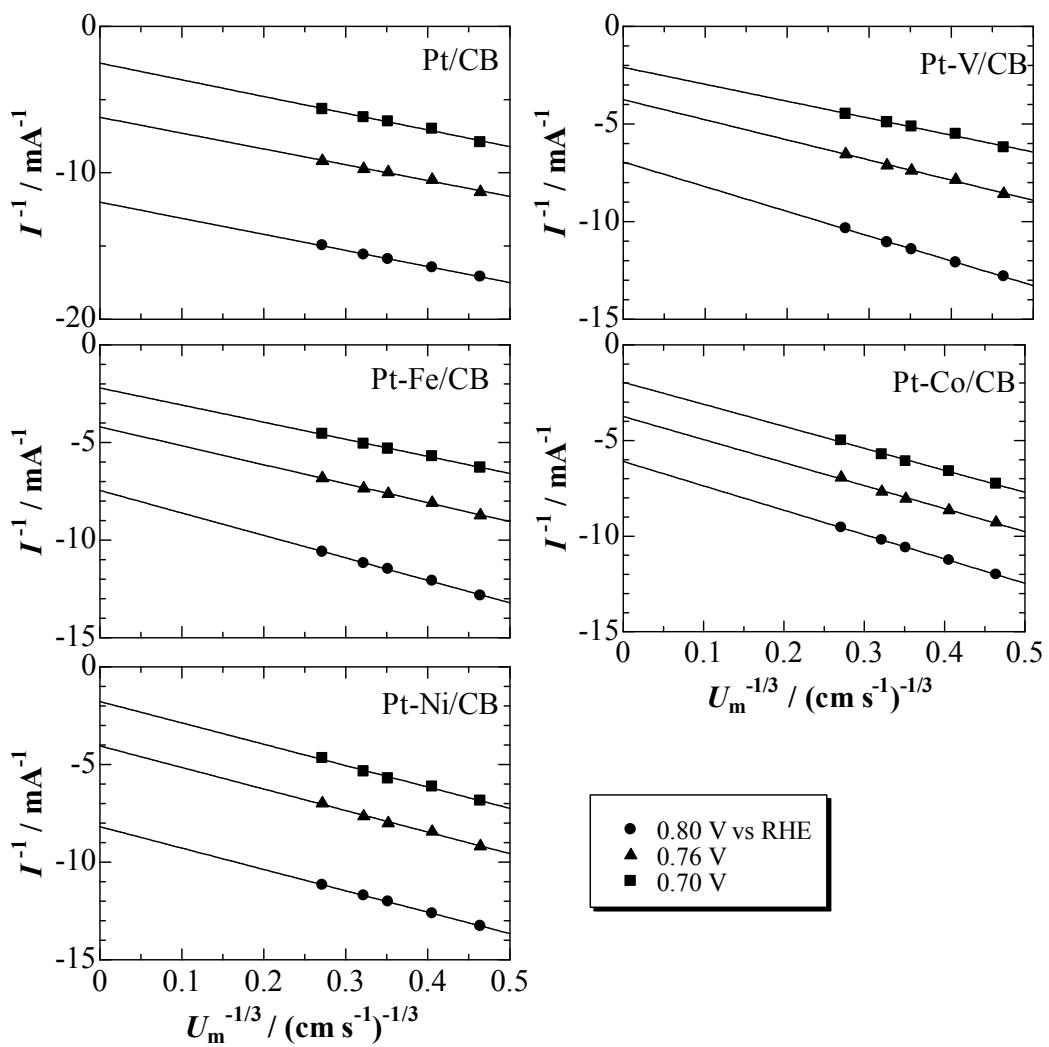


Figure S3  $I^1$  vs.  $U_m^{-1/3}$  plots at various potential on Nafion-coated Pt/CB, Pt-Fe/CB, Pt-V/CB, Pt-Cr/CB and Pt-Ni/CB electrodes in air-saturated 0.1 M HClO<sub>4</sub> solution at room temperature.