Electronic Supporting Information

Morphology-Oxygen Evolution Activity Relationship of Iridium(IV) Oxide Nanomaterials

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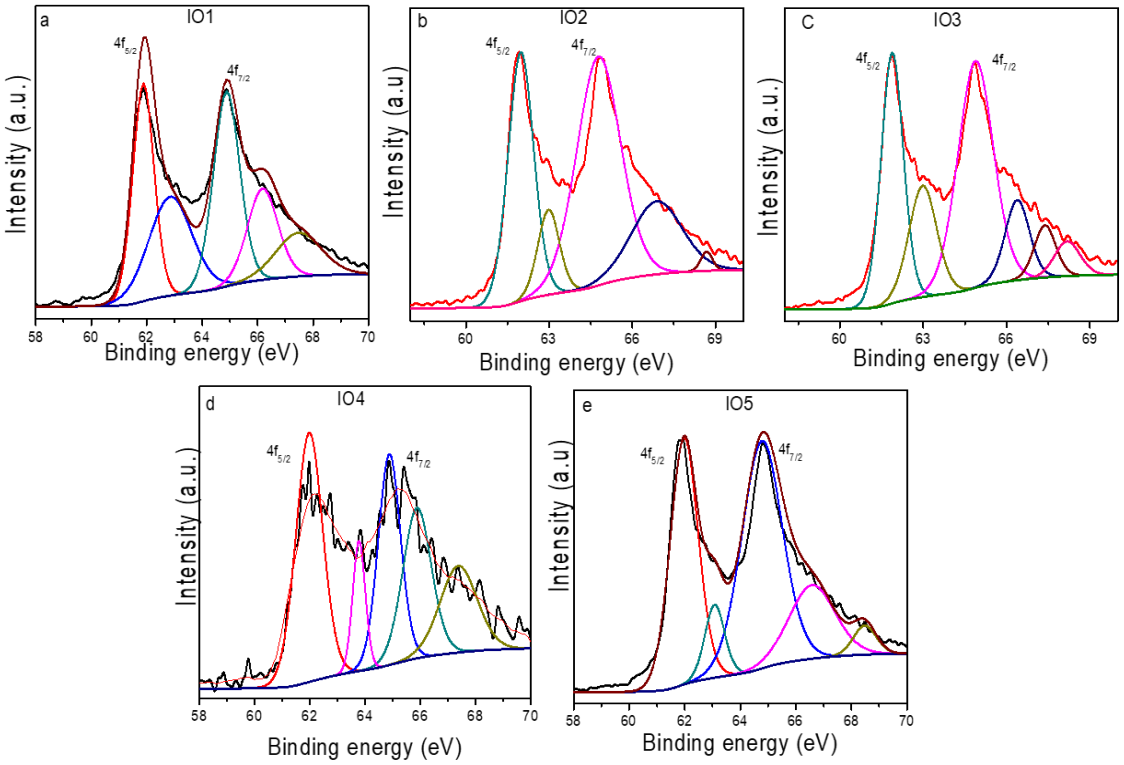

Figure S1. XPS spectra of Ir 4f core level electrons of the five NIO samples.

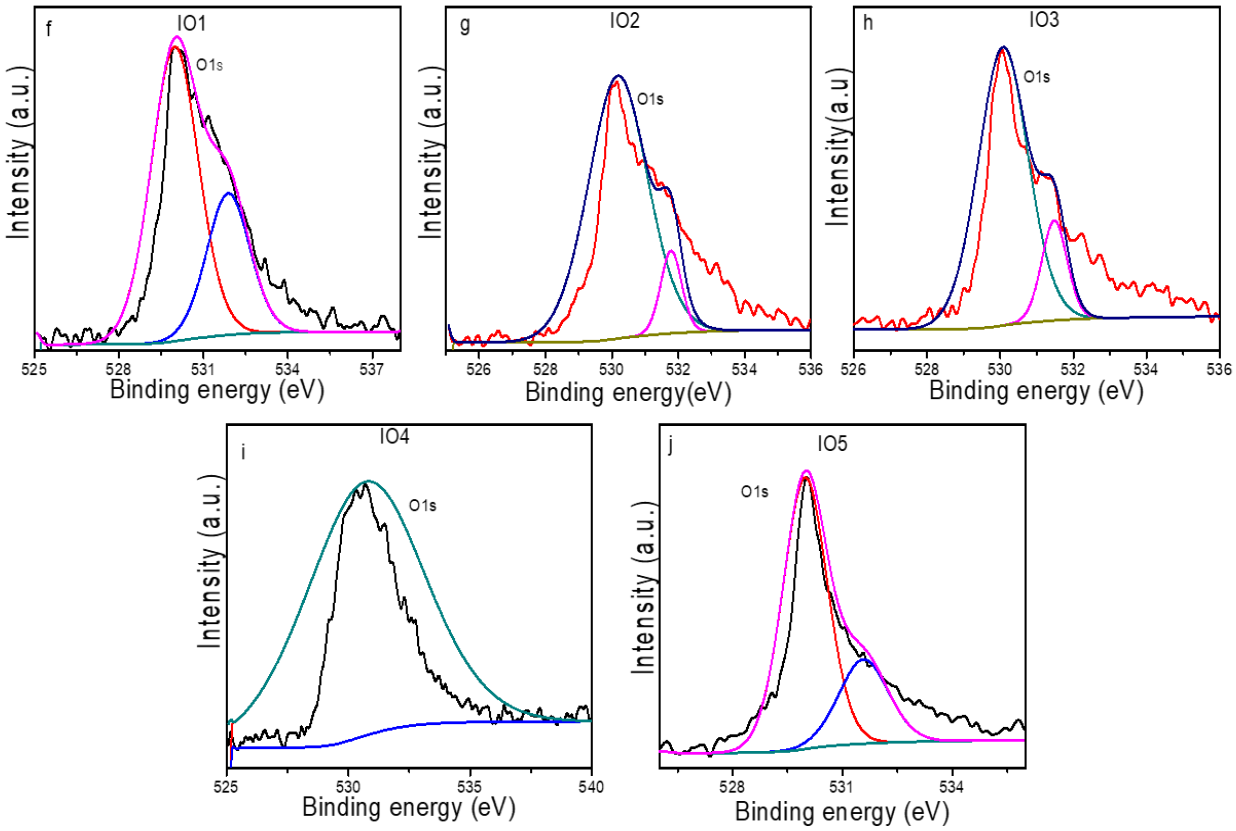

Figure S2. XPS spectra of O1s core level electrons of the five NIO samples.

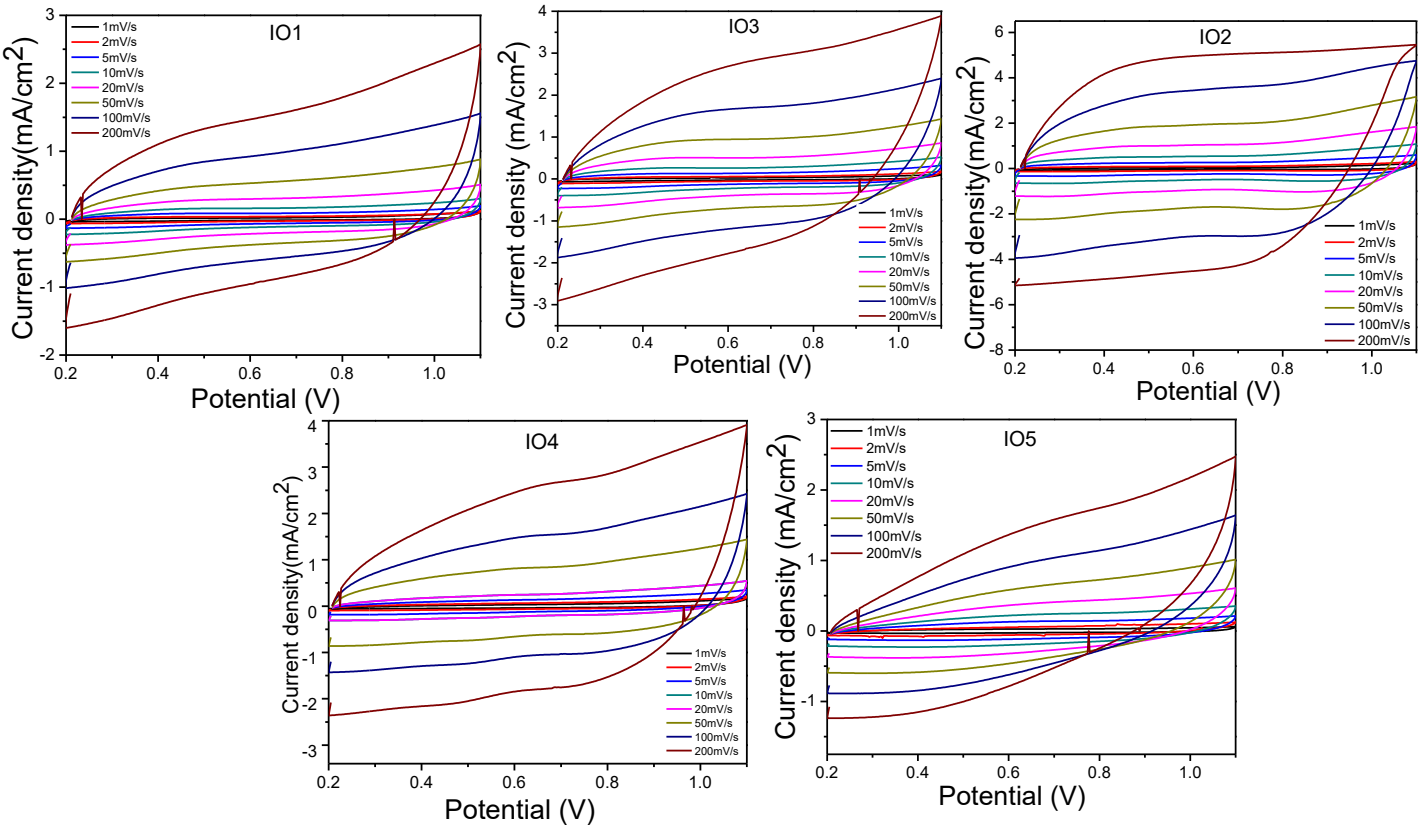

Figure S3. CV curves of the five NIO samples at different scan rates of 1, 2, 5, 10, 20, 50, 100 and 200 mV/sec.

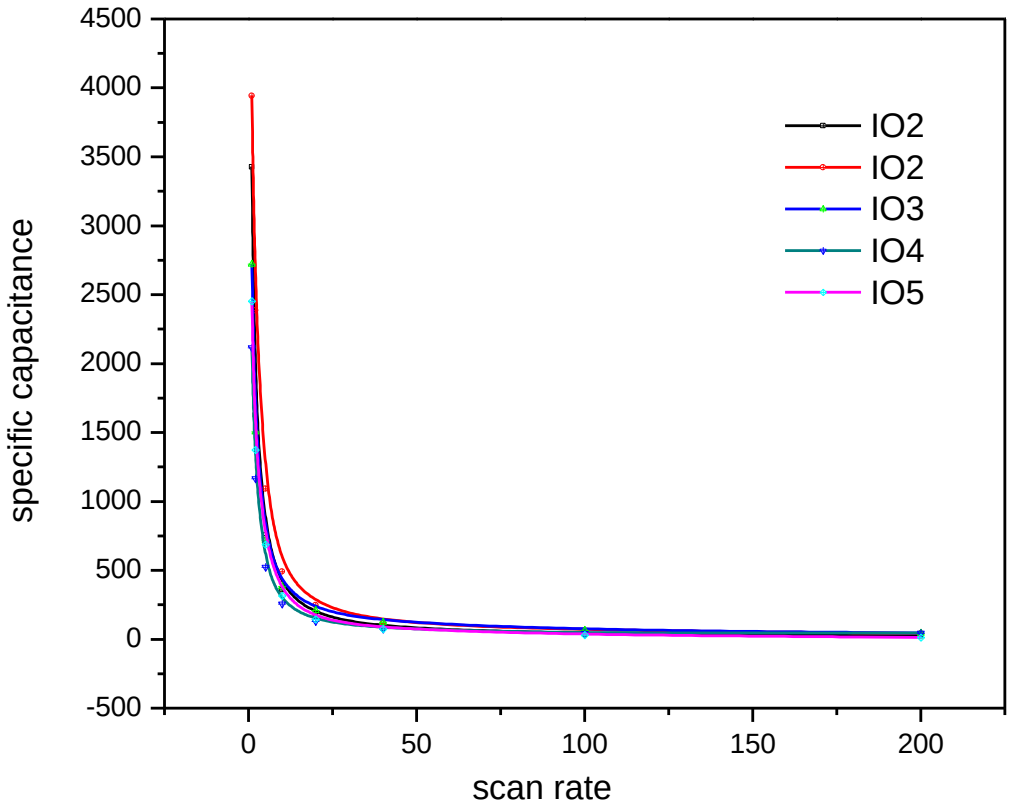

Figure S4. Specific capacitance *vs.* scan rate of the five NIO samples.

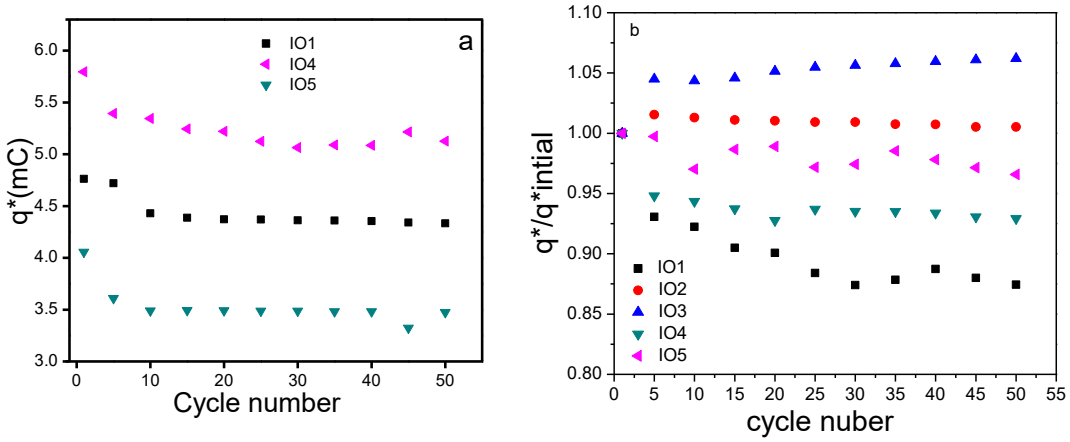

Figure S5. (a) Magnified variation of the measured charge (q^*) with cycling number from three of the five NIO samples during stability measurements. (b) $q^*/q_{\text{initial}}{}^*$ ratio evolution from the five NIO samples during stability measurements.

Table S1. Voltammeteric charges for all five NIO electrocatalyst samples

Scan rate (mV/sec)	*q** (C)				
	IO1	**IO2**	**IO3**	**IO4**	**IO5**
200	7.93E-03	7.82E-03	4.68E-03	2.48E-03	8.10E-03
100	3.85E-03	5.68E-03	3.31E-03	2.79E-03	6.02E-03
40	2.69E-03	4.12E-03	2.92E-03	2.67E-03	4.50E-03
20	2.34E-03	4.47E-03	3.08E-03	2.63E-03	3.76E-03
10	2.31E-03	4.43E-03	3.23E-03	2.85E-03	3.43E-03
5	2.36E-03	4.91E-03	3.40E-03	3.10E-03	3.24E-03
2	2.62E-03	5.37E-03	3.66E-03	3.09E-03	3.39E-03
1	2.38E-03	4.43E-03	3.85E-03	2.76E-03	3.06E-03

Table S2. OER electrochemical performance from literature reports compared with the IO3 sample synthesized by the MSS method

References	**Electrochemical performance of IrO_2**
J. Phys. Chem. C, 2016, 120, 2562	OER onset potential of ~1.5 V and current density of 10 mA/cm^2
Electrochim. Acta, 2016, 212, 686	IrO_2 nanorods generated higher OER current density of 70 mA/cm^2 whereas commercial sample demonstrated current density of 58 mA/cm^2
J. Phys. Chem. Lett., 2014, 5, 1636	IrO_2(100) facets showed 5 times higher current density than IrO_2(001) at an overpotential of 0.3 V with 3 $\mu A/cm^2$ and 0.5 $\mu A/cm^2$, respectively
J. Phys. Chem. Lett., 2012, 3, 399	IrO_2 nanoparticles demonstrated current density of 4 $\mu A/cm^2$ in acid and 2 $\mu A/cm^2$ in alkaline medium
J. Mater. Chem., 2012, 22, 6010	OER onset potential of ~1.6 V and current density of 25 mA/cm^2
Nanoparticle Research, 2011, 13, 1639	OER onset potential of ~1.8 V and current density of 1.32 A/cm^2
This work	OER onset potential of ~0.65 V and current density of ~84.1 mA/cm^2