

**Fig S 1** Effect of CoOx deposition solution pH on the ORR signal recorded at pH 5.0 acetate buffer solution



**Fig S 2** Effect of Co (II) concentration in deposition solution on the subsequent recordings of ORR signal in pH 5.0 acetate buffer



**Fig S 3** Effect of pulse duration, applied during CoOx deposition, on ORR signal



**Fig S 4** Effect of pulse number applied during CoOx deposition, on ORR signal

****

**Fig S 5** Effect of pulse duration applied during Pt np deposition on CoOx film on subsequent recordings of ORR signal in pH 5.0 acetate buffer



**Fig S 6** Effect of pulse number in Pt np deposition step on CoOx film on subsequent recordings of ORR signal in pH 5.0 acetate buffer



**Fig S 7** Effect of scan rate used while cyclic voltammetric deposition of CoOx on subsequent recordings of ORR signal in pH 5.0 buffer solution



**Fig S 8** Effect of cycle number in CV deposition of CoOx on subsequent recordings of ORR signal in pH 5.0 buffer solution



**Fig S 9** Effect of scan rate in CV deposition of Pt np on the surface of CoOx film on subsequent recordings of ORR signal in pH 5.0 buffer solution



**Fig S 10** Effect of cycle number used in CV deposition of Pt np on the surface of CoOx film on subsequent recordings of ORR signal in pH 5.0 buffer solution