SUPPLEMENTARY MATERIAL

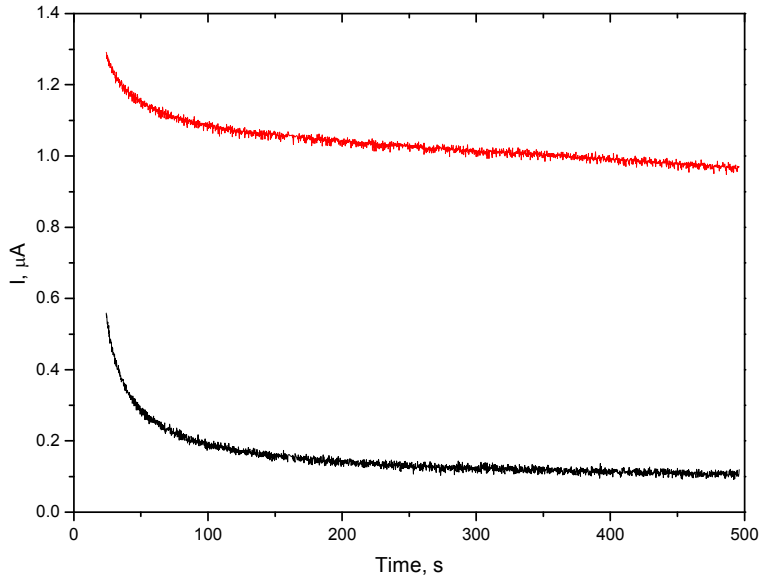

Fig. S1. Plot of I_{ring} (red) and I_{disk} (black) vs time, recorded 0.1M $HClO_4$ at ν = 10 mV/s with the RRDE rotating at ω = 900 rpm while holding both E_{disk} and E_{ring} at 1.4V vs RHE.

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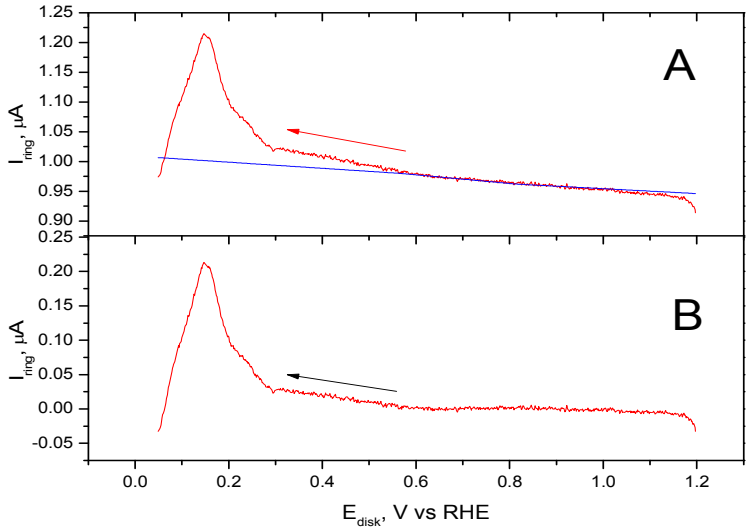

Fig. S.2. Panel A. Plot of I_{ring} vs E_{disk} recorded under the conditions specified in Fig. A1 in 0.1M $HClO_4$ containing 10^{-5}M KBr (red curve). Shown in Panel B is the same curve after subtracting the blue line in Panel A in this figure (see text for details).

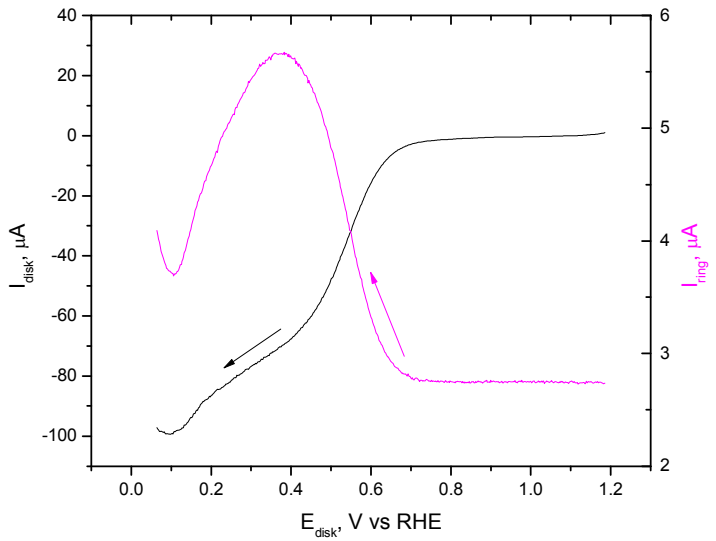

Fig. S.3. Polarization curve recorded at ν = 10 mV/s, and ω = 900 rpm with the Pt disk of the Pt│Pt RRDE in 0.1M $HClO_4$ containing 10^{-5} M KBr (black curve, left ordinate) and I_{ring} collected simultaneously, while holding E_{ring} at 1.4 V (magenta curve, right ordinate).

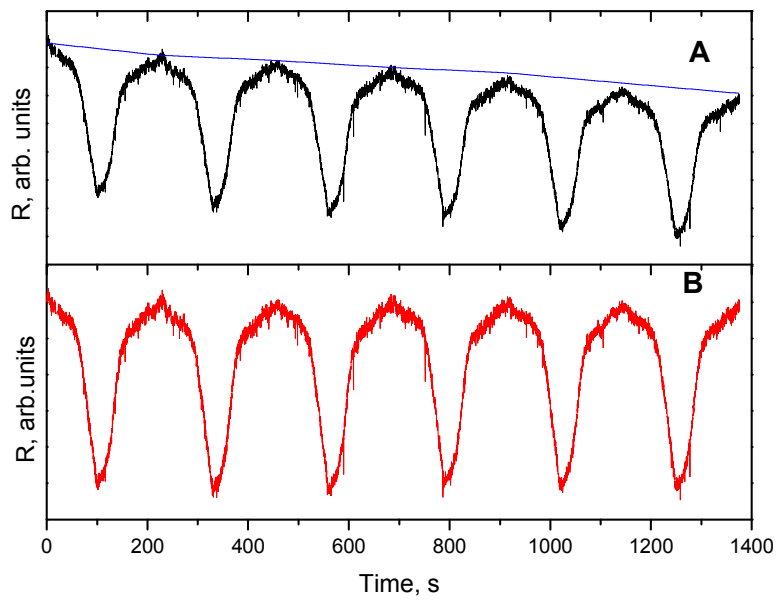

Fig. S.4. Panel A. Sequence of consecutive normal incidence reflectance signals recorded from the Pt disk of the Pt-disk Pt│Pt RRDE rotating at ω = 900 rpm in 0.1M $HClO_4$ + 10^{-5}M KBr as a function of time, while E_{disk} was scanned repeatedly between 50 mV to 1.2 V vs RHE, at ν = 10 mV/s,. Panel B shows the same data after subtracting the drift (see blue line, Panel A).