Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary information

Study on the structural and electrocatalysis properties of Ba^{2+} and Eu^{3+} doped silica-xerogels as a sensory platform

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Figure S1

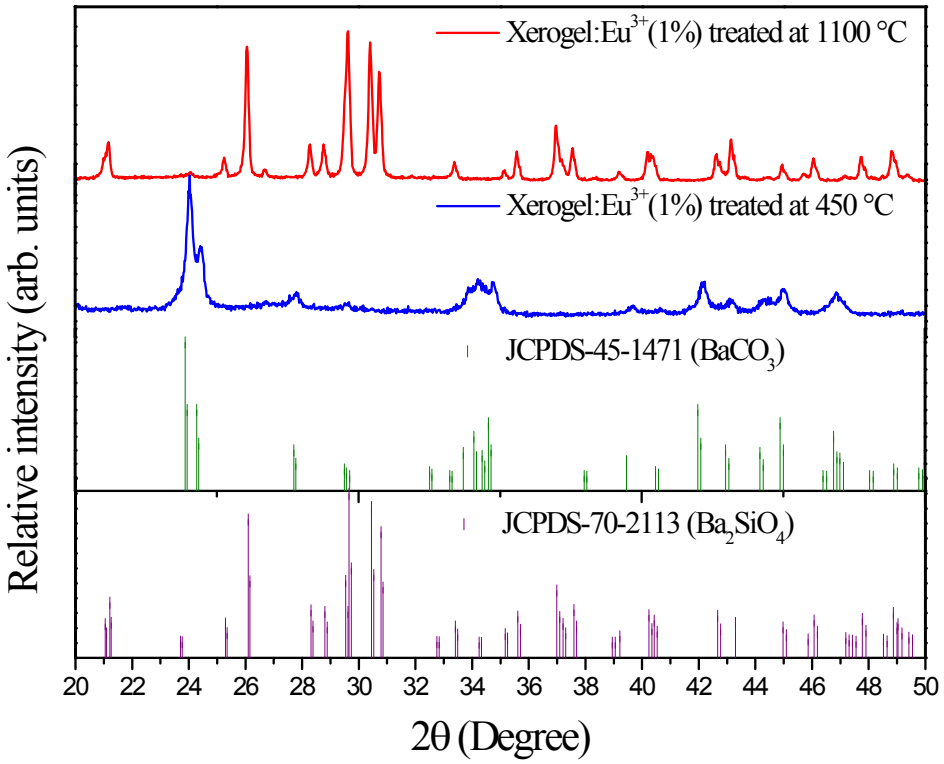

Figure S1 – X-ray powder diffractograms of (a) Xerogel:Eu^{3+}(1%) treated at 450 °C and (b) Xerogel:Eu^{3+}(1%) treated at 1100 °C.

Figure S2

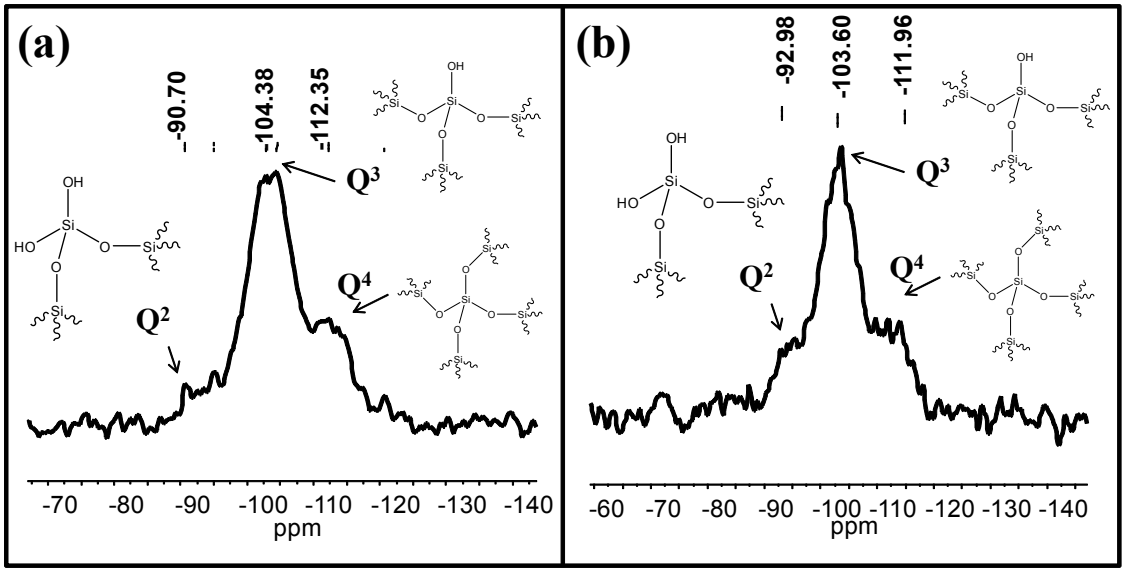

Figure S2 - Solid state ^{29}Si NMR spectra of (a) silica xerogel:Ba^{2+} and (b) silica xerogel:Ba^{2+},Eu^{3+}(1 ch%).

Figure S3

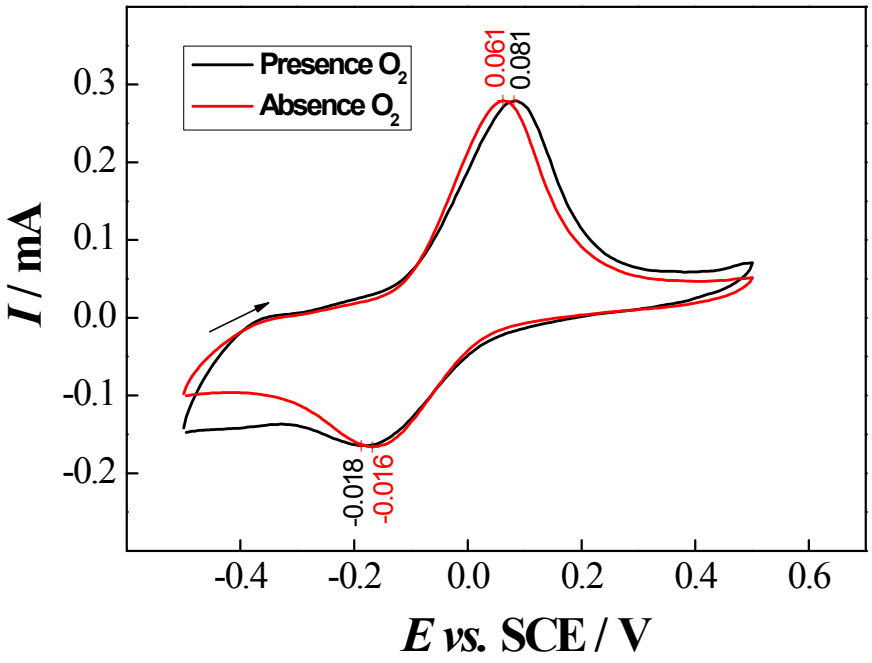

Figure S3 – Voltammetric response of the modified carbon paste electrode with xerogel:Eu^{3+}(1 ch%) in 0.5 mol L^{-1} KCl solution in the absence (red line) and in the presence (black line) of dissolved oxygen. Scan rate of 50 mV s^{-1}.

Figure S4

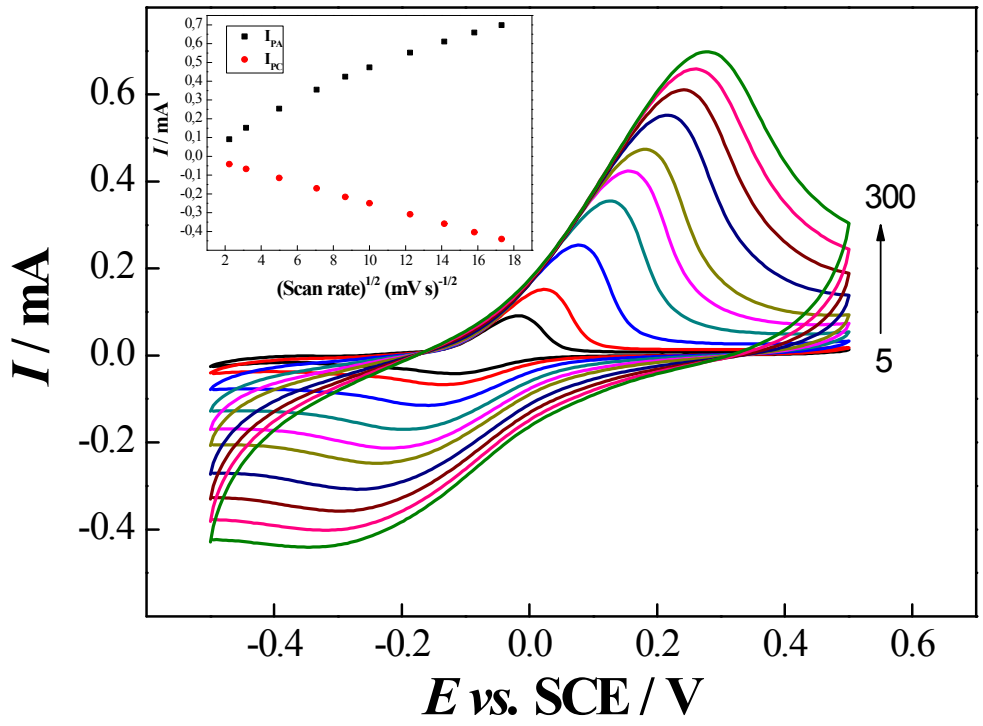

Figure S4 – Typical cyclic voltammograms of the modified carbon paste electrode with xerogel:Eu^{3+}(1 ch%) obtained in 0.1 mol L^{-1} KCl solution at a different potential scan rates (5–300 mV s^{-1}). Insert: dependence of anodic and cathodic peak current of the modified electrode as function of the square root of the scan rate.

Figure S5

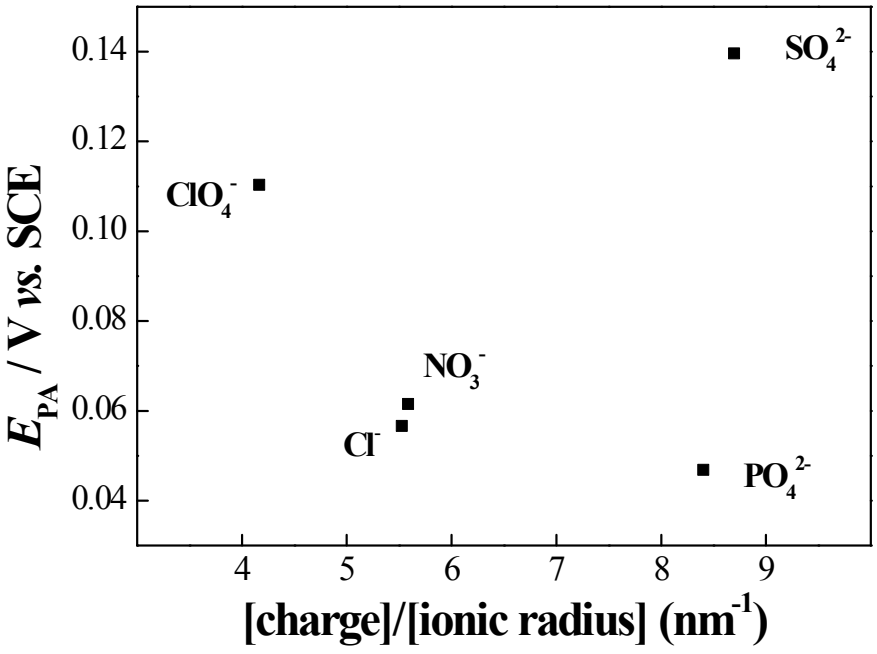

Figure S5 – Dependence of the anodic peak potential of the modified carbon paste electrode with xerogel:Eu^{3+}(1 ch%) *vs*. ratio [charge]/[ionic radius].

Figure S6

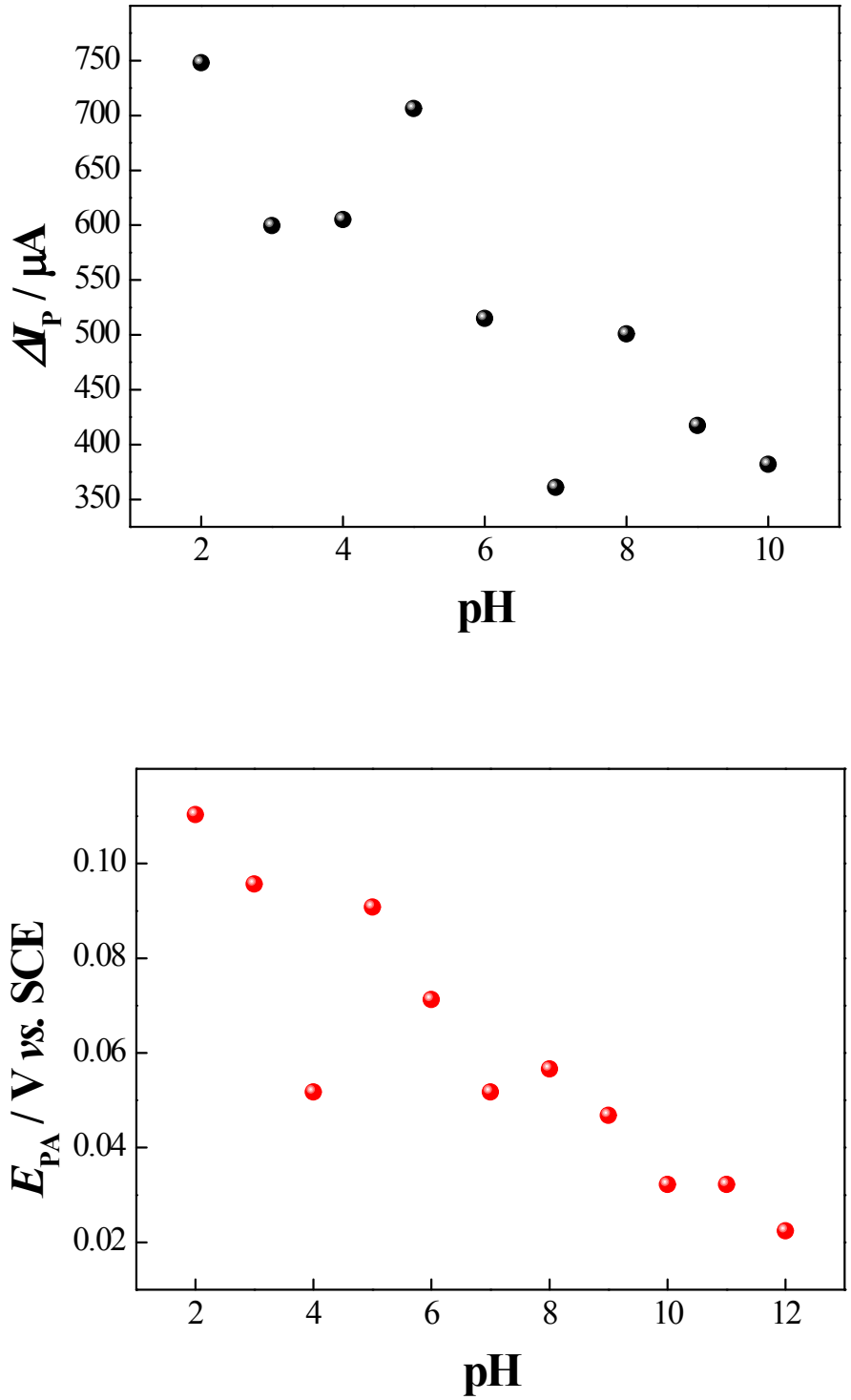

Figure S6 – Effect of pH on the voltammetric response (current and peak potential values) of the modified carbon paste electrode with xerogel:Eu^{3+}(1 ch%) .