# Facile synthesis of dendrite-structured iridium oxide as electrocatalyst for oxygen evolution reaction

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Iridium oxide ($IrO_X$) is one of the best electrocatalysts for the oxygen evoloution reaction in acidic environments. The activity of the electrocatalyst depends on the nature of material, surface area, morphology and so on. To ehance electrocatalytic activity of the electrode material, $IrO_X$ is electrochemically deposited on gold dendrite, which is synthesized by chronoamperometry. Gold dendrite provides $IrO_X$ electrode with high surface area and good conductivity. As prepared, $IrO_X$ dendrite is well-defined and has high surface area. The morphology and composition of $IrO_X$ are investigated by scanning electron microscope, X-ray diffraction analysis, and energy dispersive spectrometer. Electrochemical properties of the electrode is charaterized by cyclic voltammetry and liner sweep voltammetry. The prepared electrode shows a high electrocatalytic activity towards the oxygen evolution with low overpotential.