

Figure S1. Representative TGA curves for the palladium-based catalysts prepared from a successive reduction polyol/microwave method; air atmosphere flow rate = 100 mL min⁻¹, from 25 to 900 °C; temperature rate = 5 °C min⁻¹.

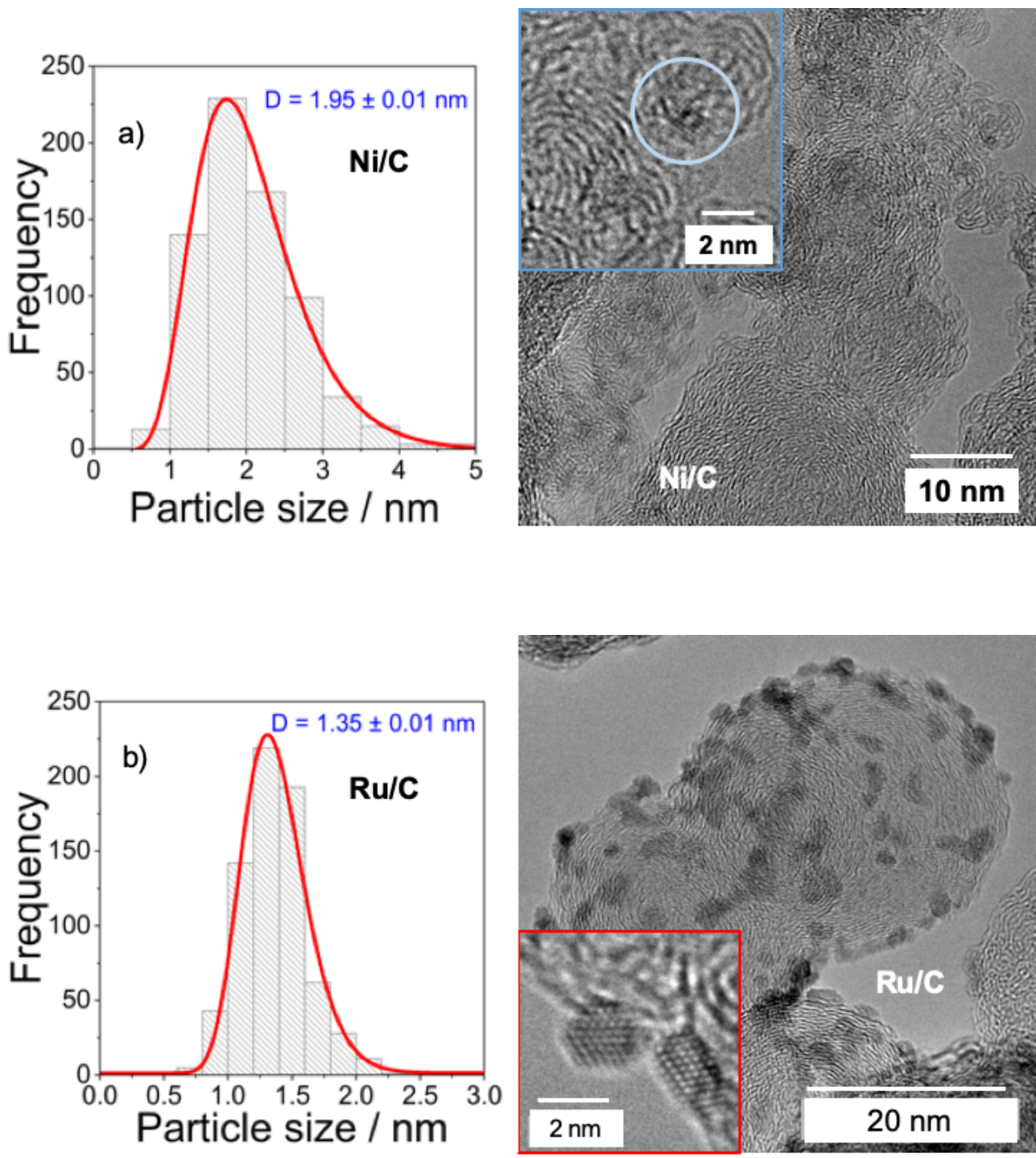


Figure S2. TEM images and histograms of metal particle size distribution for the materials prepared from a successive reduction polyol/microwave method: a) Ni/C and b) Ru/C; histograms obtained from the measurement of 700 isolated nanoparticles.

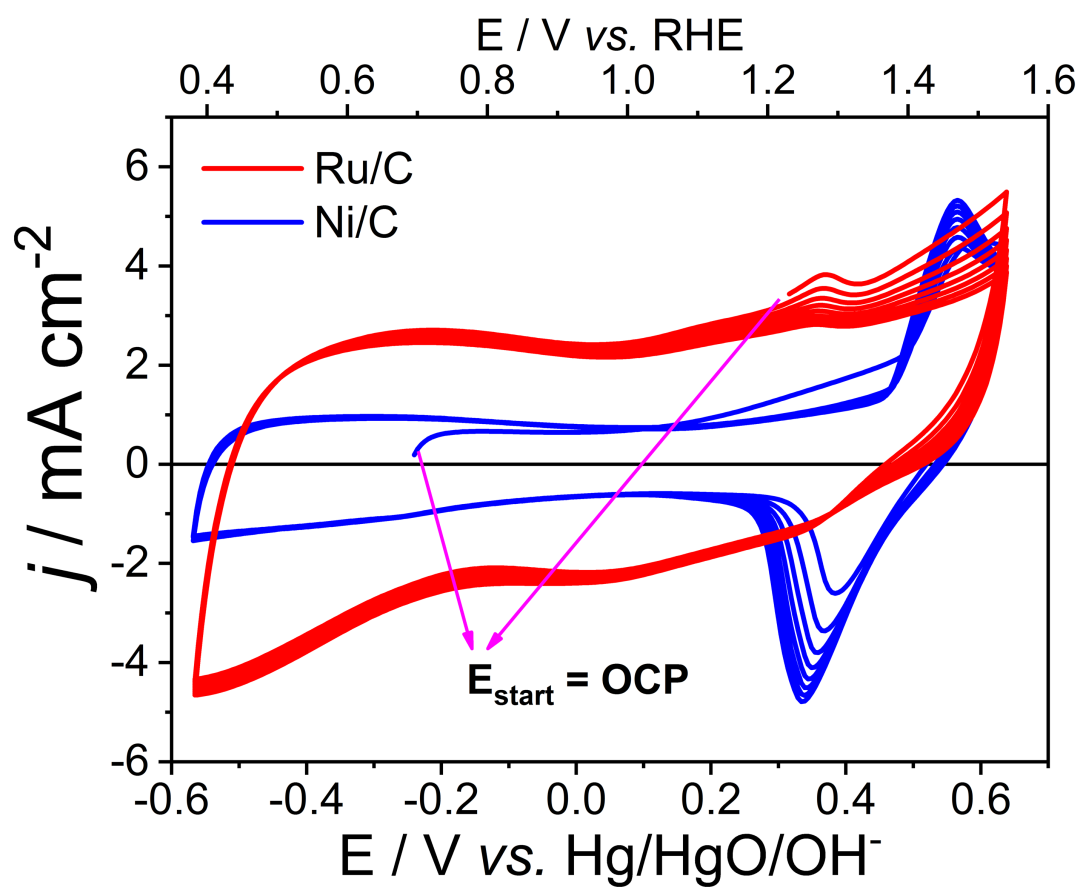


Figure S3. Cyclic voltammograms of Ni/C and Ru/C electrodes in 0.1 mol L⁻¹ NaOH recorded at 50 mV s⁻¹.

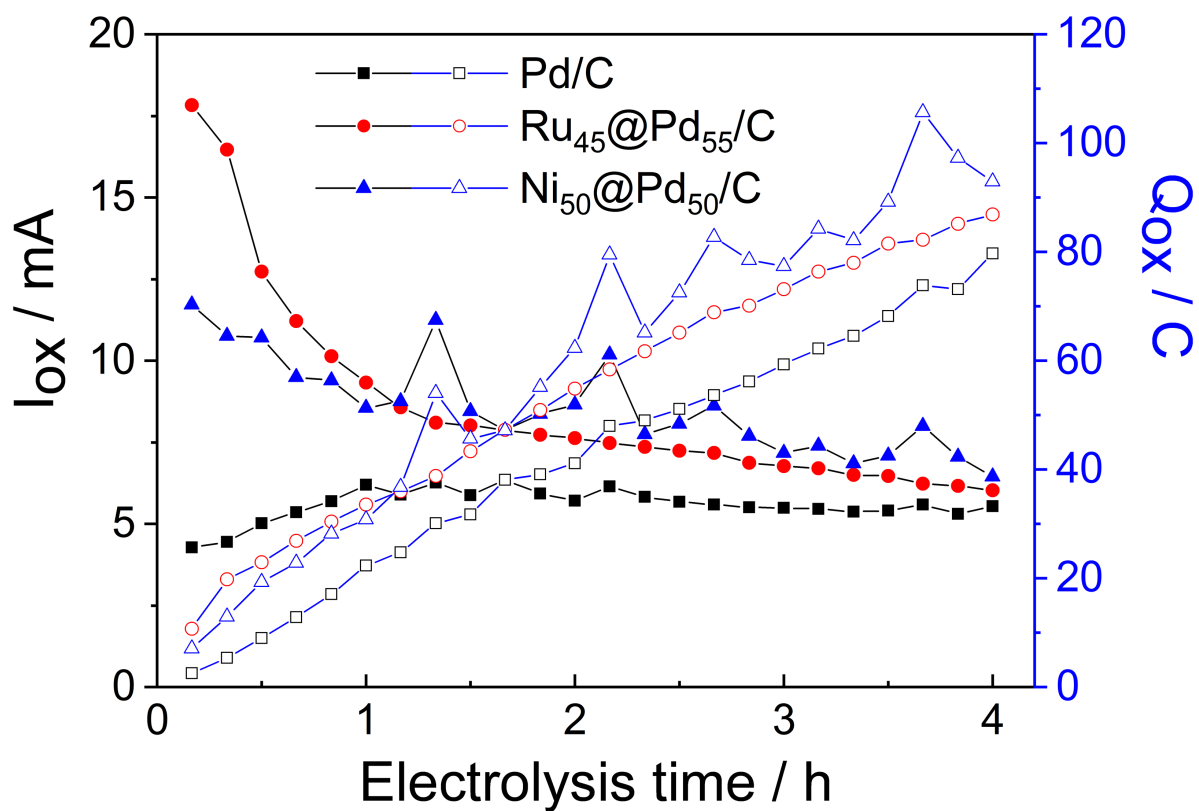


Fig. S4 Electrolysis of 50 mmol L⁻¹ ethylene glycol in 0.1 mol L⁻¹ NaOH on Pd-based electrode materials at 0.75 V vs. RHE. Oxidation current I_{ox} (closed symbols) and the quantity of electricity Q_{ox} (open symbols).