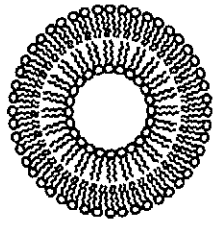

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P138 - INFLUENCE OF THE PREPARATION METHOD AND THE SUPPORT IN H_2O_2 ELECTROGENERATION USING CERIUM NANOPARTICLES

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Taking into account the H_2O_2 electrogeneration via oxygen reduction this work studied the influence of the preparation method and the carbon support using low content cerium oxide nanoparticles. For this proposal, the polymeric precursor (PP) and sol-gel methods and Vulcan XC 72R and Printex L6 were employed. Analysis of X-ray diffraction identified two phases CeO_2 and CeO_{2-x}. The electrochemical analysis was accomplished using a rotating ring-disc electrode. The results showed that 4% CeO_2/C prepared by PP and supported on Printex was the best electrocatalyst for H_2O_2 production in 1 mol $^{-1}$ NaOH since this material showed the highest ring current, consequence of the higher amount of H_2O_2 produced.

Keywords: Oxygen reduction reaction, hydrogen peroxide, cerium oxides nanoparticles.

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