Nickel Oxide modified Screen-Printed Carbon Electrodes
(Ref. DRP-110NI)

DropSens launches Screen-Printed Carbon Electrodes (SPCEs) modified with Nickel (II) Oxide (NiO) developed for working with microvolumes and for decentralised assays.

Among other applications, Nickel (II) Oxide SPCEs are designed as electrocatalysts for the electrochemical oxidation of small organic molecules such as carbohydrates, aminoacids and alcohols.

Ceramic substrate: L33 x W10 x H0.5 mm
Electric contacts: Silver

The electrochemical cell consists on:

Working electrode: Nickel (II) Oxide / Carbon (4 mm diameter)
Counter electrode: Carbon
Reference electrode: Silver

Ni (II) Oxide SPCEs are commercialised in 50 units pack.

They should be stored at room temperature in a dry place.

Recommended conditions of use

In order to obtain the best results in catalytic processes, as described above, is recommended an electrode pre-treatment before you start working with it.

The pre-treatment conditions are described below:

Electrochemical Method: Cyclic Voltammetry
Supporting electrolyte: NaOH 0,1M (50µL)

Conditions:

t_{eq} = 3"; *nScan* = 15
E_o = + 0,1 V; $E_{vrtx,1}$ = + 0,7 V; $E_{vrtx,2}$ = + 0,1 V
E_{step} = 2 mV; S_{rate} = 50 mV/s

Then wash the electrode with ultrapure water.

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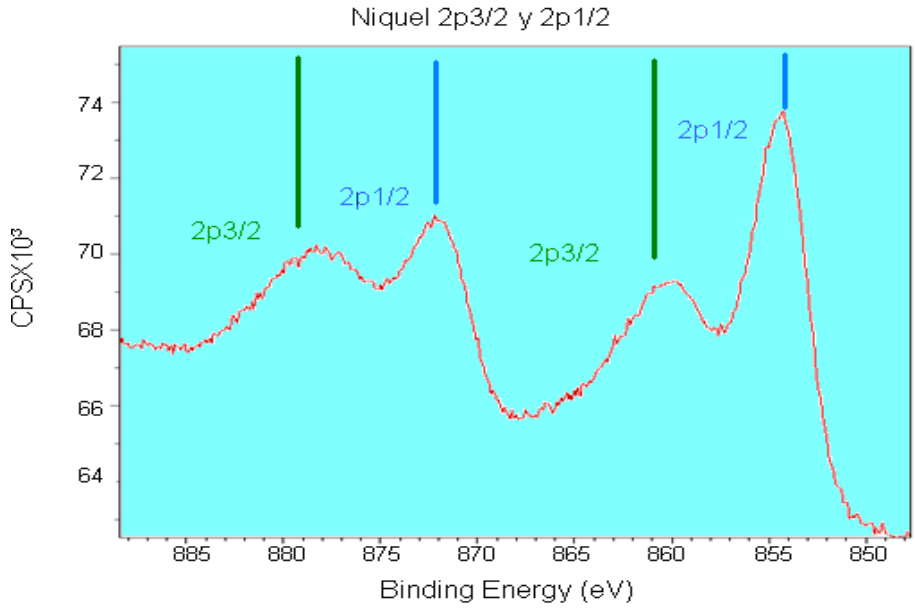
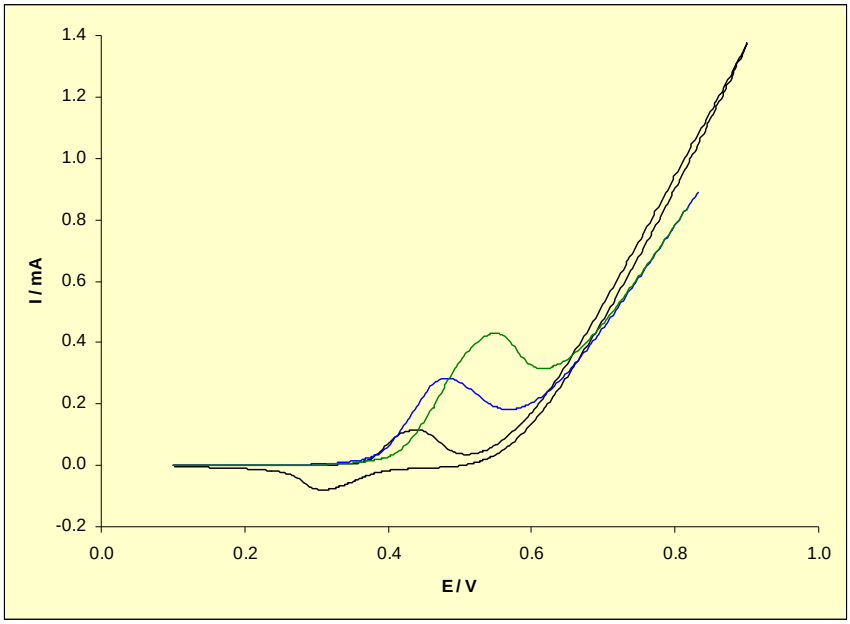
XPS spectra of nickel oxide screen-printed carbon electrode



Electrocatalytic behaviour of Nickel (II) Oxide SPCEs



Cyclic voltammograms of DRP-110NI obtained in 0.1 M NaOH, in absence (black curve) and presence of 3 mM (blue curve) and 5 mM (green curve) glucose.

Research use only

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