

# A NOVEL PATTERN TRANSFER TECHNIQUE FOR MOUNTING GLASSY CARBON MICROELECTRODES ON POLYMERIC FLEXIBLE SUBSTRATES

## 1. Objective of work

To provide the possibility of transferring glassy carbon structures from a Silicon substrate to a Polyimide one.

## 2. Sample description

Array of glassy carbon electrodes fabricated by traditional photolithography and pyrolysis on silicon substrate. Then, 20  $\mu\text{m}$  thick polyimide DuPont's PI2611 is spin-coated and cured at 350  $^{\circ}\text{C}$  under nitrogen for 2 h. The polymer is separated of the silicon one.

## 3. Equipment and conditions for FTIR

The FTIR is performed on solid samples through a diamond ATR crystal, ranging from 4000  $\text{cm}^{-1}$  to 650  $\text{cm}^{-1}$ . It was zoomed the sections of carbonyl area (1600-1800  $\text{cm}^{-1}$ ) and carbonyl hydrogen bonding (2550-2650  $\text{cm}^{-1}$ ) to check the changes on polyimide, carbon and composites.

## 4. Results

A lower intensity on the peaks 1604, 1713 and 1777  $\text{cm}^{-1}$  implies a decrease of the three types of carbonyls in the spectra. As well, a broadening of peaks at 1605 and 1777  $\text{cm}^{-1}$  indicate carbon influence on the bending and vibrational modes of the polyimide carbonyl. Another broadening on the peaks 2585 and 2660  $\text{cm}^{-1}$  means that there is a unorganized interaction between polymer chains.

