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### Elaboration and characterization of Polyaniline (PANI) - SiC structure prepared by electrochemical method for chemical sensing

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The grafting of organic molecules onto semiconducting substrates modifies their surface properties and can be used to prepare materials with potential applications such as capacitors, sensors, anti-corrosive coatings, batteries and actuator.

The present work reports the electrochemical grafting of polyaniline doped with sulfuric acid ( $H_2SO_4$ ), onto a thin hydrogenated amorphous silicon carbide (a-SiC:H) films, via cyclic voltammetry method. The confirmation of PANI was done by FT-IR which displayed the principal characteristic peaks attributed to the different functional groups. Scanning electron microscopy (SEM) was used to evaluate the surface modification. The electrochemical properties of PANI samples were studied by CV and electrochemical impedance spectroscopy tests. The structure has been tested for ammoniac ( $NH_3$ ) vapor detection.