

NANO AND MICRO-PATTERNED STRUCTURES OF POLY(ANILINE) FROM ADMICELLAR POLYMERIZATION

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Nano and micro-patterned structures of conductive poly(aniline) (PANI) on HOPG have been prepared from using adsorbed latex spheres as a mask followed by admicellar polymerization (AP). The structure formed (honeycomb-like structure vs. isolated dots) can be controlled by changing the size of the latex spheres in the masking step, as well as by adjusting the conditions for the admicellar polymerization. Sample characterization includes atomic force microscopy (AFM), scanning electron microscopy (SEM), transmission electron microscopy (TEM), and X-ray photoelectron spectroscopy (XPS). Structures obtained by this technique are compared to patterns obtained from masking with latex spheres coupled with adsorption of the polymer in the interstitial spaces. In addition, results on mica are presented.