

Investigate Electronic Property of N-doped Plasma-Polymer Thin Films for Applied Biosensors

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In this studying, we investigated the basic properties of N-doped plasma polymer. The N-doped plasma polymer thin films were deposited by radio frequency (13.56 MHz) plasma-enhanced chemical vapor deposition method. Various carbon-source were used as organic precursor with hydrogen gas as the precursor bubbler gas. Additionally, ammonia gas [NH₃] was used as nitrogen dopant. The as-grown polymerized thin films were analyzed using cyclic voltammetry, ellipsometry, Fourier-transform infrared [FT-IR] spectroscopy, Raman spectroscopy, FE-SEM, and water contact angle measurement. Electronic property of N-doped plasma thin film is changed as flow rate of the NH₃ gas.

Keywords: PECVD, Plasma, Thin film