

A green synthesis of silver nanocubes anchored on glucose-reduced graphene oxide for non-enzymatic glucose sensor

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A novel of silver nanocubes (NC) attached on graphene oxide reduced by glucose (grGO) is developed for glucose detection, which is prepared by a facile and green hydrothermal method. The structural, morphological characteristics of the as-prepared hydrogel were analyzed by X-ray photoelectron spectroscopy (XPS), Transmission electron microscopy (TEM) and field emission-scanning electron microscopy (FESEM). The electrocatalytic activity of silver NC/ grGO towards glucose oxidation was investigated by fabricating a non-enzymatic glucose sensor and the sensor performance was studied by cyclic voltammetry (CV) and amperometry. The fabricated sensor show the excellent sensitivity of $853\mu\text{A}\cdot\text{cm}^{-2}\cdot\text{mM}^{-1}$ with the response time of $< 8\text{s}$.