

## Biosynthesis of Au–Ag Alloy Nanoparticles for Sensitive Electrochemical Determination of Paracetamol

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This study reports the bio-preparation of Au–Ag alloy nanoparticles using yeast cells, along with their application in preparing a sensitive electrochemical paracetamol sensor. The sensitive electrochemical detection of paracetamol was performed using a glassy carbon electrode (GCE) after modification of the cellulose diacetate (CDA)/Au–AgNP nanocomposite. The results of cyclic voltammetry (CV) analysis showed the remarkable capacity of CDA/Au–AgNPs to enhance the electrochemical response to paracetamol, which was ascribed to their desirable electronic features. The parameters were studied and optimized. The amperometric oxidation currents in response to paracetamol, recorded under optimal conditions, were found to be linearly proportional to the concentration (0.01 - 0.1 mM). Limit of detection (LOD): 2.6  $\mu$ M (S/N = 3).

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**Keywords:** Au–Ag alloy; Cellulose diacetate; Paracetamol; Electrochemical determination; Biosynthesis

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