عنوان مقاله:

The Ability of Conducting Polyaniline/Multiwall Carbon Nanotubes/Gold Nanoparticle Nanocomposite for Cholesterol Measurment

محل انتشار:

کنفرانس بین المللی یافته های نوین پژوهشی در علوم،مهندسی و فناوری با محوریت پژوهشهای نیاز محور (سال: 1394)

تعداد صفحات اصل مقاله: 6

نویسندگان:

S haghjoo - *Qorveh Andishe street*

Faazeh Shahdost - *ph.D Student in Analytical Chemistry at Ilam University*

خلاصه مقاله:

Cholesterol oxidase (ChOx) has been immobilized on polyaniline (PANI) and multiwall carbon nanotubes (MWCNTs) glad nanoparticle (AuNPs) nanocomposite film by using physical absorption method. Electrochemical behavior of PANI/MWCNTs/AuNPS films has been studied using cyclic voltammetry (CV) and PANI/MWCNTs/AuNPs/ChOx enzyme film Ampromertic (AMP) techniques, respectively. In this work, the amperometric response of a Pencil graphite disk electrode (PGDE) modified with ChOx/MWCNTs/PANI was studied in the presence of AuNPs. The response of AMP in constant potential 0.7 V, in buffer phosphate solution (PBS) 0.1M (pH 7.5 and T 40 C○) was applied to measuring of various cholesterol concentrations. The optimized condition for the determination of cholesterol shows linear range of 0.01-6.01 mM, sensivivty 204 nA mM -1 a response time of about 2s. The biosensor showed only 20% loss in its initial response after 60 days when stored at 4 C○.

کلمات کلیدی:

Gold Nanoparticle, Polyaniline, Multiwall Carbon Nanotubes, Cholesterol Oxidase, Immobilization, Cholesterol