Editorial　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**OMICS International**

Graphene and Carbon Nanotubes Used as Electrode Modifiers for Pharmaceutical Drug Sensors

Srikanth Cheemalapati*

Analytical R&D, Novitium Labs Private Limited, India

***Corresponding author:** Srikanth Cheemalapati, Analytical R&D, Novitium Labs Private Limited, India, E-mail: cjsrikanth@gmail.com

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Introduction

Graphene (GP) and Carbon nanotubes (CNTs) are the up-to-the-minute materials used presently in the nanoscience and nanotechnology field. These nanomaterial's are attractive materials in electrochemistry and fascinated strong scientific, technological interest in the recent years because of having high thermal conductivity, more surface area and having outstanding ability to mediate fast electron transfer kinetics for a wide range of electro active species these property made these nanomaterial's in wide applications, specifically in the Biosensors and Pharmaceutical drug sensors (electrochemical sensors) fields [1,2]. In general CNTs classified in to SWCNTs (Single), DWCNTs (Double), MWCNTs (Multiwalled) and there is a new category called functionalized CNTs based on the structures. Similarly the Graphene and Graphene Oxide are hottest materials in the nanotechnology field due to their excellent chemical properties.

In recent years these materials were attracted more in electrochemical field and used for the modified electrodes for the detection of pharmaceutical drugs. In adding up the modified electrode were used in an electrochemical fields are high sensitive, rapid response and offers good recovery and has wide linear range with moderately low-priced and these sensing devices are growing rapidly in recent years in the field of electrochemical sensors. These graphene and carbon nanotube materials were used as a modifier for the electrode for sensing the drugs directly and eventually these materials were used for the nanocomposite preparation with polymers. For instance the Polyaniline and graphene oxide used for the electrochemical detection, the new type of polymer nanocomposite were prepared and utilized for the non steroidal drug detection in blood serum with good specificity levels [3].

As stated above, in the same manner graphene oxide and carbon nanotubes nanocomposites were prepared by simple dispersion techniques and using for the concurrent detection of multilevel drugs in the biological levels, there are so many articles are available in this category for instance Paracetamol and Dopamine drugs were quantified using the graphene oxide and carbon nanotubes modified electrodes [4].

The graphene and carbon nanotubes were chemically treated and new nanocomposite was prepared called Carboxyl-functionalized graphene oxide composite and these composites were used as modifiers for the glassy carbon electrodes in electrochemical field, further used for the detection of various nonsteroidal anti-inflammatory drugs such as diclofenac [5]. In addition, these methods can be used in Hospitals and pharmaceutical industries in near future, because chromatographic methods were more time consuming methods compared to electrochemical methods. These carbon nanotubes are having fast electron transfer activity and used as a biosensor with metal oxides too, Zinc oxide modified electrodes with immobilization of haemoglobin used for the peroxide detection [6].

Hence, these nanomaterial's were playing a key role in recent years specially Pharmaceutical and clinical industry. And I could say that these tiny nanomaterials will change the new dimension in the world, it's already started in many fields batteries, automobiles, electronics.

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