

## Carbon-based nanomaterials for drugs sensing: a review

### ABSTRACT

Carbon-based nanomaterials such as graphene, carbon nanotubes, carbon nanofibers and nanodiamonds have been fascinated considerable attention as promising materials for drug sensing. These materials have tremendous amount of attraction due to some extraordinary features such as excellent electrical and thermal conductivities as well as high mechanical strength. Hence, these nanomaterials have been used extensively in sensor technology in order to achieved desired sensitivities. To date, carbon based nanomaterials have been exploit in the development of various drug sensing due to their simple preparation methods, and cost effectiveness. The aim of this review is to focus upon carbon based nanomaterials predominantly on drugs sensing applications. This review has been written in summary form including properties, fabrication method, and analytical performances. Abbreviation: Au, Gold; CNFs, Carbon Nanofibers; CNTs, Carbon Nanotubes; CVD, Chemical Vapour Deposition; D-, Dextrorotatory enantiomer; D, Dimensional; DNase, deoxyribonuclease; ESD, Electrospinning deposition; GCE, Glassy Carbon Electrode; Gr, Graphene; GrO, Graphene Oxide; ILs, ionic liquids; L-, Levorotatory enantiomer; LOD, Limit of Detection; MTase, Methyltransferases; MW, Microwave; MWCNTs, Multi-walled Carbon nanotubes; NDs, Nanodiamonds; NPs, Nanoparticles; PECVD, Plasma Enhanced Chemical Vapour Deposition; RGO, Reduced Graphene Oxide; SPE, Screen-Printed Electrode; SPR, Surface Plasmon resonance; ssDNA, single-stranded DNA; SWCNTs, Single-walled Carbon nanotubes.

**Keyword:** Biosensors; Carbon nanofibers; Carbon nanotube (CN); Drugs Sensing; Graphene; Nanodiamonds