

Functional Nanomaterials in Catalysis and Sensing Applications

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Abstract: *The role of nanomaterials is very important due to the fact that they possess large surface area to volume ratio, ease of functionalization, fast electron transfer kinetics, catalytic activity and biocompatibility and also selectivity and specificity. With the advent of nanotechnology, its application in catalysis and sensing is entering to a new era for the design of innovative sensors that can sense low level concentration of analyte by portable sensor device which was hardly possible earlier. Sensors have fascinated much consideration in the recent time because of potential applications of these devices in the clinical diagnosis, pharmaceuticals, environmental monitoring and food processing industries etc. The main focus of present paper is the investigations of metal nanomaterials such as silver, gold, platinum, palladium and carbon-based nanomaterials to develop efficient catalyst and sensors for early and accurate detection of biomolecules, drugs and pollutants. These materials showed enormous potential to use as active material for catalysis and sensing applications.*

Keywords: Role of Nanomaterials

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