NANOMATERIALS FOR ENVIRONMENTAL TOXIN DETECTION: PROMISES AND CHALLENGES

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Abstract: By 2025, when world population is projected to be 8 billion, improving living standards without destroying the environment is a global challenge. Contamination of the environment with pathogens and heavy metal ions has been an important concern throughout the world for decades. Development of sensors for real-time detection of toxic metals and bacterial contamination in water supplies is a high priority with applications in national security and domestic preparedness and for ensuring the safety of municipal and recreational water supplies. Here we will discuss our recent effort on the development of a compact nanomaterials based probe for screening chemical and biological toxin from environmental sample, which has excellent sensitivity and selectivity which are difficult to achieve by conventional methods.

Keywords: Nanomaterial, Sensor, Chemical Toxin, Biological Toxin