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Nano-biosensor for continuous environmental monitoring system

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Public concern and legislation are nowadays demanding better environment control, and various types of sensor, especially biosensor, is the essential technology which meets to current and future tendency of the environmental monitoring system. It is important that pollutants must be sensed in real-time, so that can make decision fast and inexpensively. In fact, monitoring systems for environment has encouraged the development of new technologies and more suitable methodologies, the ability to monitor the increasing number of analysis of environmental relevance as quickly as possible, and even the possibility of allowing on-site field monitoring.

The atmospheric monitoring field, which is less explored than water environment, seems needed more research for managing diversiform toxic chemicals as Volatile organic compounds (VOCs) and suspended bacteria. Suspended bacteria are found widely in the environment.

We classified all types of biosensor according to method of signal transaction, and reviewed among of them, which are actively researched for the environmental monitoring. As a result of that, in this paper, we propose a new method of the monitoring of the pollutants using nano-biosensor with the change of the microbes by metabolism in a simple culture and matrix for attaching infectious aerosol. Using this method, we have accomplished for use as continuous monitoring systems that canprovide easy, rapid and on-side measurement for analyzing multiple pollutants.

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