OAK RIDGE NATIONAL LABORATORY
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Biological, chemical, and chemical reaction sensor with detection capability for nanometer size samples

Disclosure Number

200100982

Technology Summary

The subject invention disclosed herein is a method and apparatus for detecting biological and/or chemical molecules and their associated reactions by measuring their surface potentials. The method and sensor of the subject invention has a detection limit of 10 nm sample size or greater, a value that typically corresponds to a single molecule. The method and sensor of the present invention has flexibility and accuracy that makes the subject invention very useful in field conditions to detect chemical and biological warfare agents either in air or in water. It has the same advantage for the industrial application and for environmental or process/reaction monitoring. It is also possible to use the subject invention in clinic applications for the detection of blood or body fluid composition.

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