PURDUE INNOVATES | Office of Technology Commercialization

High-performance Piezo-electrocatalytic Sensing of Ascorbic Acid with Nanostructured Wurtzite Zinc Oxide

Nanostructured ZnO piezo-electrocatalyst detects ascorbic acid with high sensitivity at low cost.

Researchers at Purdue University have discovered a low-cost piezo-electrocatalytic sensor that detects ascorbic acid, a chemical involved in the metabolic processes of humans and other organisms. Detection of ascorbic acid is relevant for the medical, pharmaceutical and agricultural industries. Electrochemical sensors currently used for detection of this chemical are expensive and inefficient, owing to the scarcity of the materials used and the destructivity of the chemical process. The piezo-electrocatalytic sensor discovered by Purdue researchers is made from zinc oxide, which is cheap, and is 4 to 5 times more sensitive than electrochemical sensors. Greater sensitivity provides the sensor a wide detection range.

Advantages:

-Cheap

-Scalable

Potential Applications:

-Wearables

-Sensors for pharmaceutical and agricultural applications

Recent Publication:

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Authors

Wenzhuo Wu

Further information

Aaron Taggart
adtaggart@prf.org

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