



## REUSABLE NANOBIOCATALYSTS FOR DETECTION OF SPECIFIC ORGANOPHOSPHORUS PESTICIDES

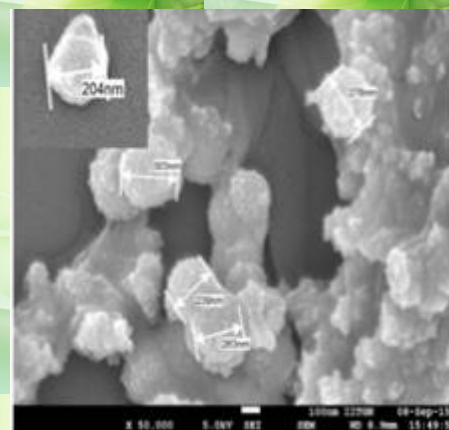
**Technology Overview:** The complex nature of food storage and distribution necessitates ease-of-use in techniques used for monitoring and detection of contaminants. This product enables the colorimetric detection of specific organophosphorous pesticides and herbicides.

**Technology features and specifications:** Colour change effected by nanobiocatalyst in response to presence of specific pesticides and herbicides can be read by the naked eye without visual aids and/or special sources of illumination. Colour development is within a few minutes (<2 mins) of sample application, and persists for a few hours afterwards. The nanobiocatalyst can operate at ambient temperatures spanning 5°C–45°C. The nanobiocatalysts are reusable across different samples/trials without any restriction on the down time between those analyses.

**Potential applications:** A simple and less expensive method for quick and sensitive visual detection of glyphosate and structurally analogous herbicides.

**Market opportunities:** Directly marketable to common end-users and industries; food-processing companies, government enterprises, regulatory bodies and non-governmental organizations.

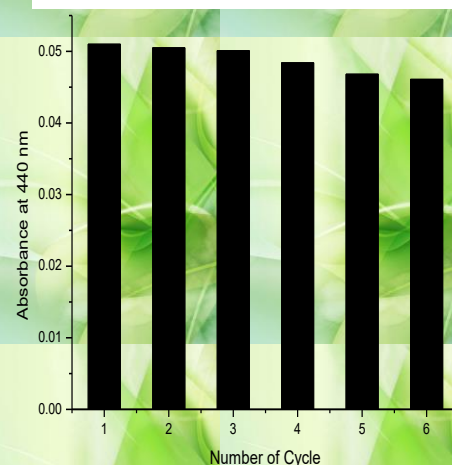
**Consumer benefits:** Allows rapid quality testing for threshold level compliance of pesticides and herbicides. User-friendly, affordable and reusable (approximate cost of strip-based kit about INR 50/strip).



Nanobiocatalysts (SEM image)



Colorimetric assay, without Herbicide(pink) with herbicide(peach)



**Type of IP: Indian Patent Application Number  
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**Current Status: Application Awaiting Examination**

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