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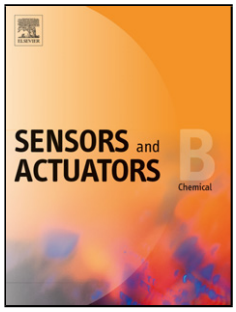

Title: Fluorescent Black Phosphorus Quantum Dots as Label-free Sensing probes for Evaluation of Acetylcholinesterase Activity

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ACCEPTED MANUSCRIPT

Fluorescent Black Phosphorus Quantum Dots as Label-free Sensing probes for Evaluation of Acetylcholinesterase Activity

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Highlights

Black phosphorus QDs were synthesized through sonication-assisted solvothermal method;

Green fluorescence QDs exhibit relative high quantum yield, good photostability and pH resistance

A sensitive and label-free platform for fluorescent evaluation of the acetylcholinesterase activity was developed based on inner filter effect.

Abstract:

In this work, a fast, sensitive and label-free fluorescence sensing platform for evaluating the acetylcholinesterase (AChE) activity was developed based on the inner filter effect (IFE) between black phosphorus quantum dots (BP QDs) and 2-nitro-5-thiobenzoate anion (TNB). BP QDs were successfully

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