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# Molybdenum Sulfide/Nitrogen-doped Carbon Nanowire-based Electrochemical Sensor for Hydrogen Peroxide in Living Cells

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## Highlights:

- MoS<sub>2</sub>/C<sub>N</sub> nanowires were synthesized by hydrothermal and annealing processes.
- MoS<sub>2</sub>/C<sub>N</sub> nanowires modified electrode has a good catalytic performance toward H<sub>2</sub>O<sub>2</sub>.
- The biosensor performed monitoring of H<sub>2</sub>O<sub>2</sub> released from A549 living cells.

## Abstract

Molybdenum sulfide nanosheets on nitrogen-doped carbon nanowires (MoS<sub>2</sub>/C<sub>N</sub> NWs) were utilized to construct an electrochemical biosensor for hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>). Polypyrrole nanowires (PPy NWs) were synthesized using a

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