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# Efficient Bacterial Disinfection Based on an Integrated Nanoporous Titanium Dioxide and Ruthenium Oxide Bifunctional Approach

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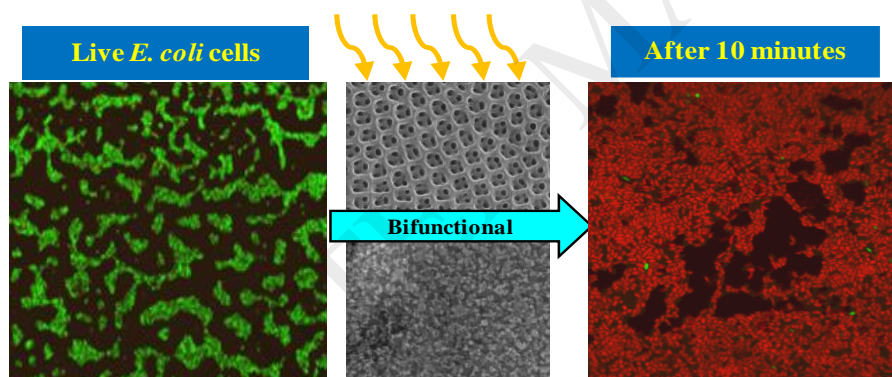
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## Graphical Abstract



## Highlights:

- Novel bifunctional electrode based on nanoporous TiO<sub>2</sub> and RuO<sub>2</sub> nanoparticles;
- Synergistic approach of integrating photochemistry and electrochemistry;
- A high disinfection rate at 0.62 min<sup>-1</sup> with >99.99% of bacterial removal within 20 min;
- Providing insights in highly efficient for complete bacterial disinfection.

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