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Ultrasensitive non-enzymatic glucose sensors based on different copper oxide nanostructures by in-situ growth

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Highlights

- With the in-situ growth method, three CuO nanostructures are synthesized, respectively.
- Highly conductive carbon clothes with multiple channels are selected as substrate, providing more sites for active substance.
- The method performs its superiority due to its low-cost, simple procedure.
- All electrodes display a high sensitivity, fast response and low detection limit towards glucose.
- On basis of in-situ growth method, the relationship between nanostructures and sensitivity as well as stability has been explored.

Abstract

Different nanostructures of copper oxide (CuO) by in-situ growth on carbon clothes (CC) are prepared to develop ultrasensitive non-enzymatic glucose sensors. The electrochemical performance of the CuO-based electrodes for detecting glucose has been investigated by cyclic voltammetry (CV) and chronoamperometry. The CuO

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