

## **Enzymatic glucose biosensor based on flower-shaped copper oxide nanostructures composed of thin nanosheets**

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### **Abstract:**

Well-crystallized flower-shaped copper oxide nanostructures composed of thin nanosheets has been synthesized by simple low-temperature hydrothermal process and used to fabricate highly sensitive amperometric glucose biosensor which exhibited a high and reproducible sensitivity of  $47.19 \mu\text{A mmol}^{-1} \text{Lcm}^{-2}$ , response time less than 5s, linear dynamic range from 0.01 to 10.0 mM, correlation coefficient of  $R=0.9986$ , and limit of detection (LOD), based on S/N ratio ( $S/N=3$ ) of  $1.37 \mu\text{M}$ . This work opens a way to utilize simply-grown CuO nanostructures as an efficient electron mediator to fabricate efficient glucose biosensors.

**Electrochemistry Communications 11 (2009) 278**