Supporting Information

Amperometric Glucose Sensing at Nanomolar Level Using MOF Encapsulated TiO_2 Platform

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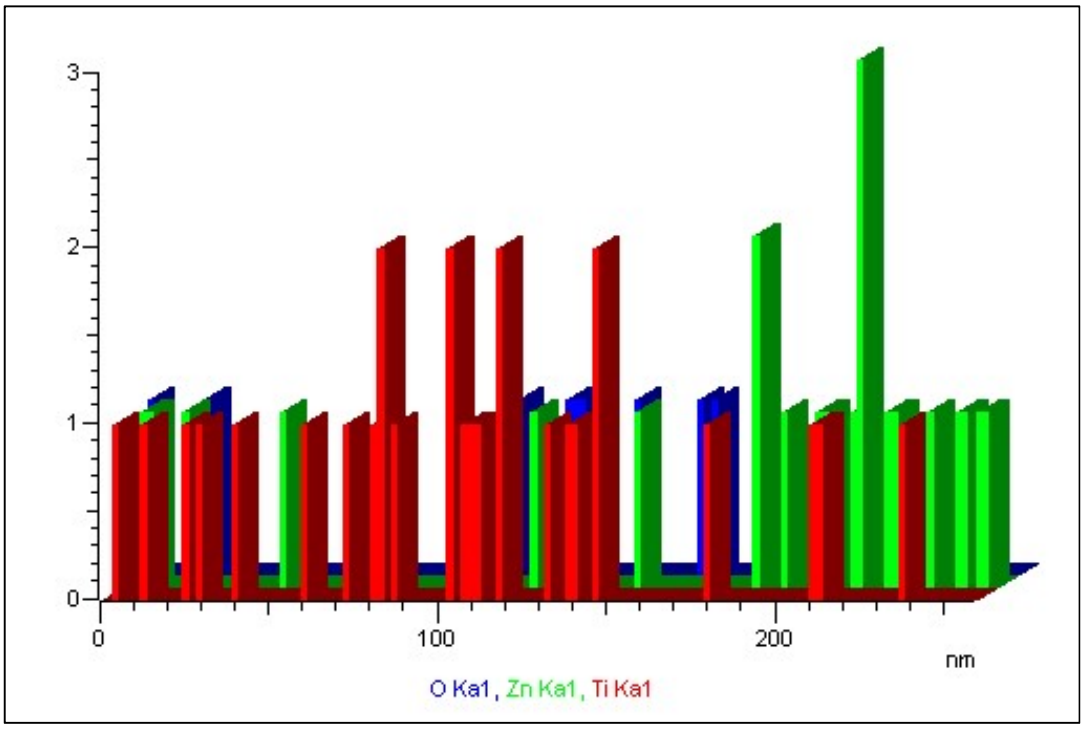

Figure S1. STEM-EDX mapping of TiO_2 (red colour building block) over ZIF-8 layers (green colour building block) showing equal spatial distribution of TiO_2.

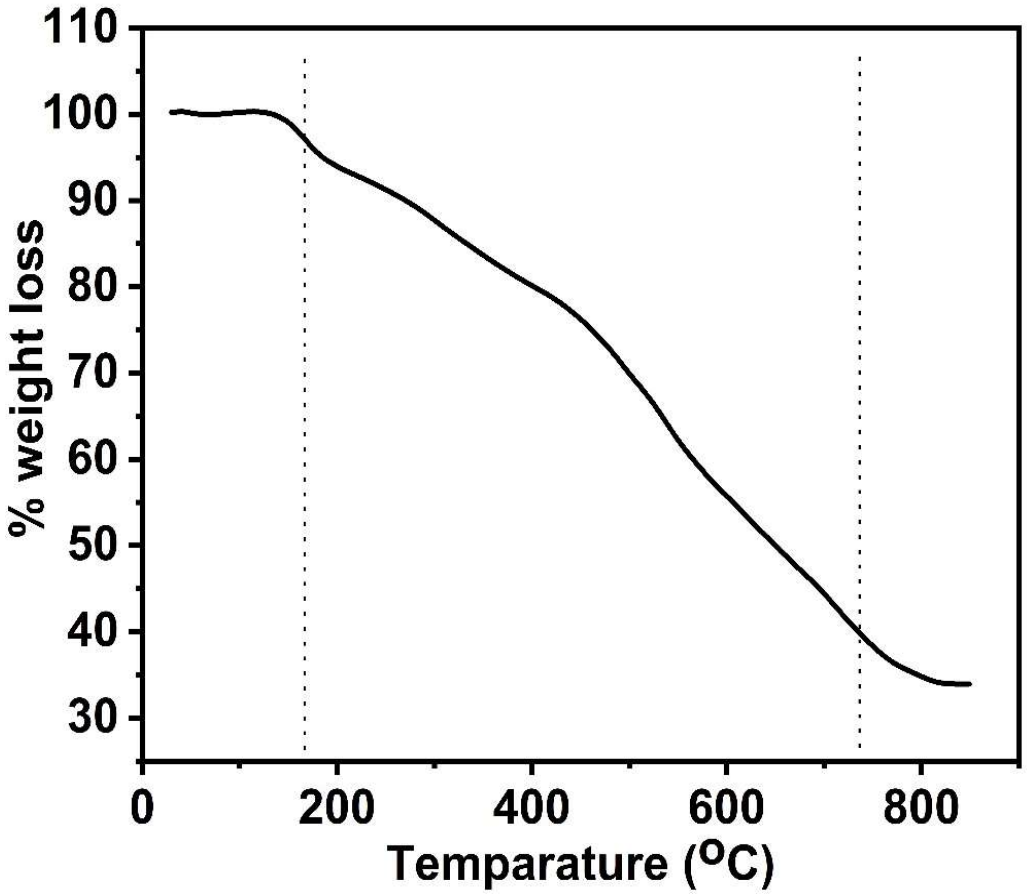

Figure S2. Thermogravimetric analysis of GO_x@ZIF-8(TiO_2) showing distinct degradation region at different temperature.

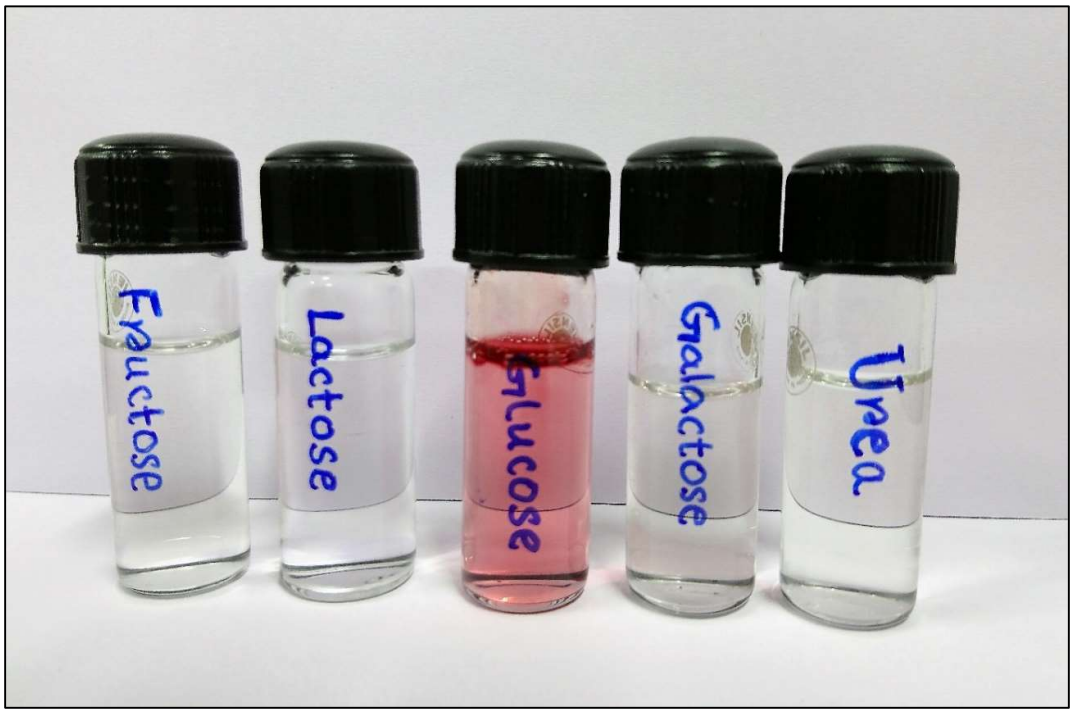

Figure S3. Optical image of the GOD-POD assay test output of the synthesized probe towards different interferent analyte.

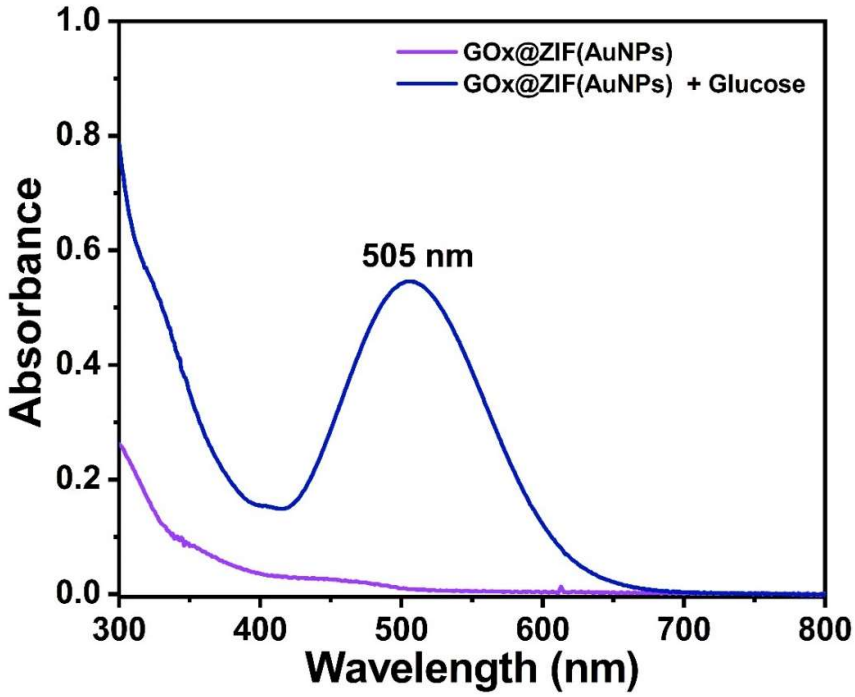

Figure S4. UV-VIS result of the probe GO_x@ZIF-8(TiO_2) upon GOD-POD assay test showing characteristic 505 nm peak for presence of GO_x.

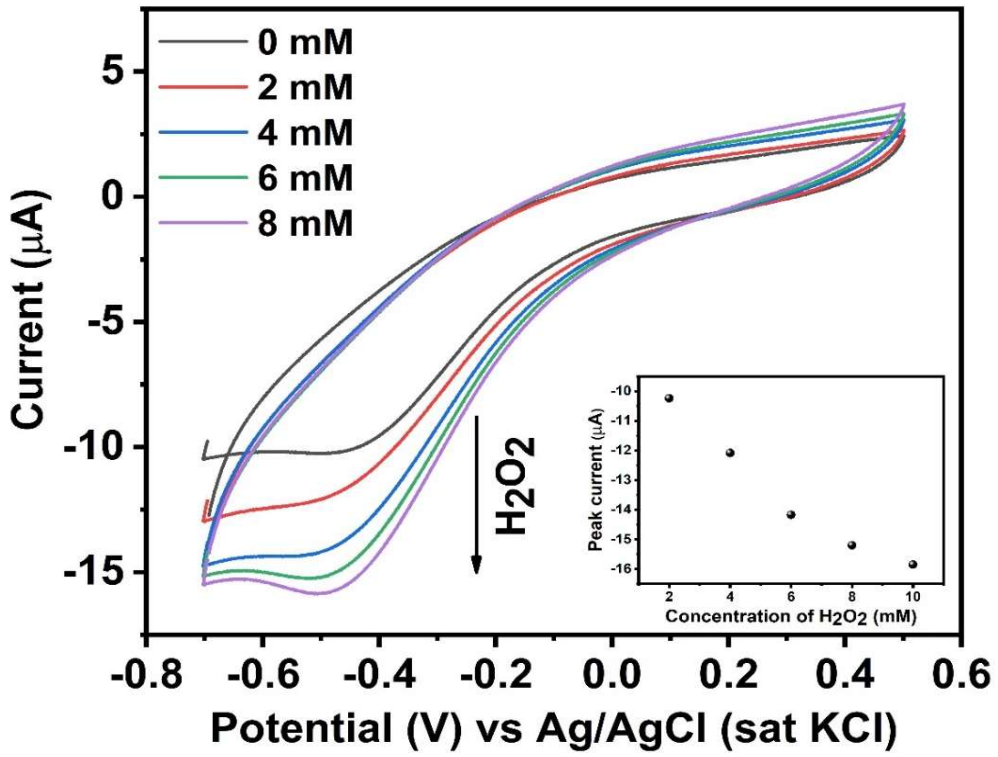

Figure S5. Cyclic voltammetry of synthesized probe with different concentration of H_2O_2 in pH 7.4 PBS using three electrode cell setups. Calibration of cathodic peak current versus H_2O_2 concentration is depicted inset.

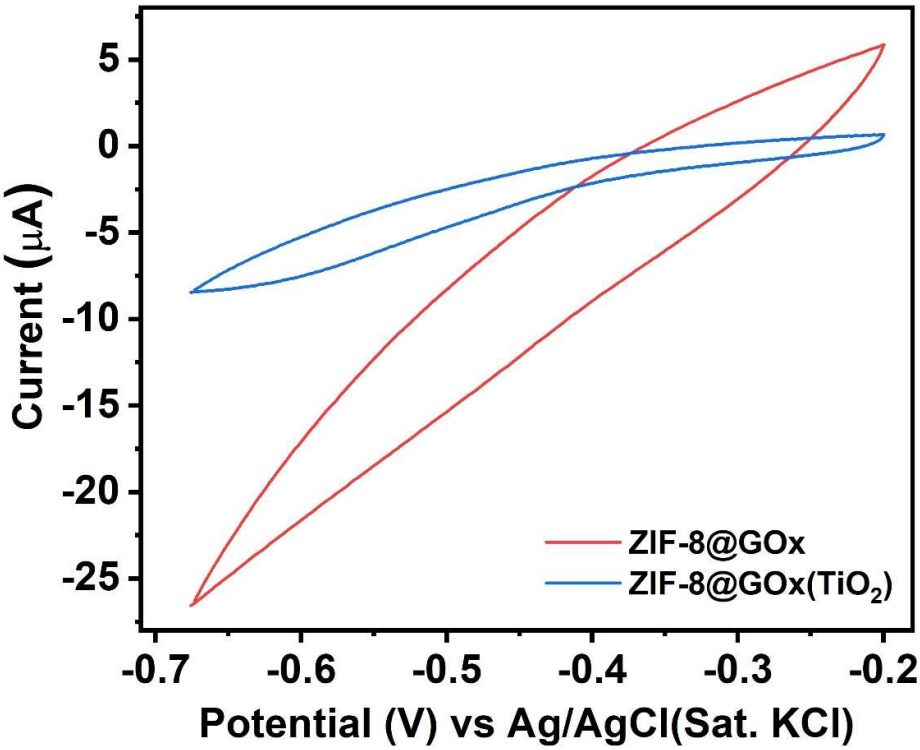

Figure S6. Comparative CV of ZIF-8@GOx and ZIF-8@GOx(TiO_2) showing almost linear I-V type result for ZIF-8@GOx due to absence of capacitance provided by TiO_2 in as synthesized catalyst.

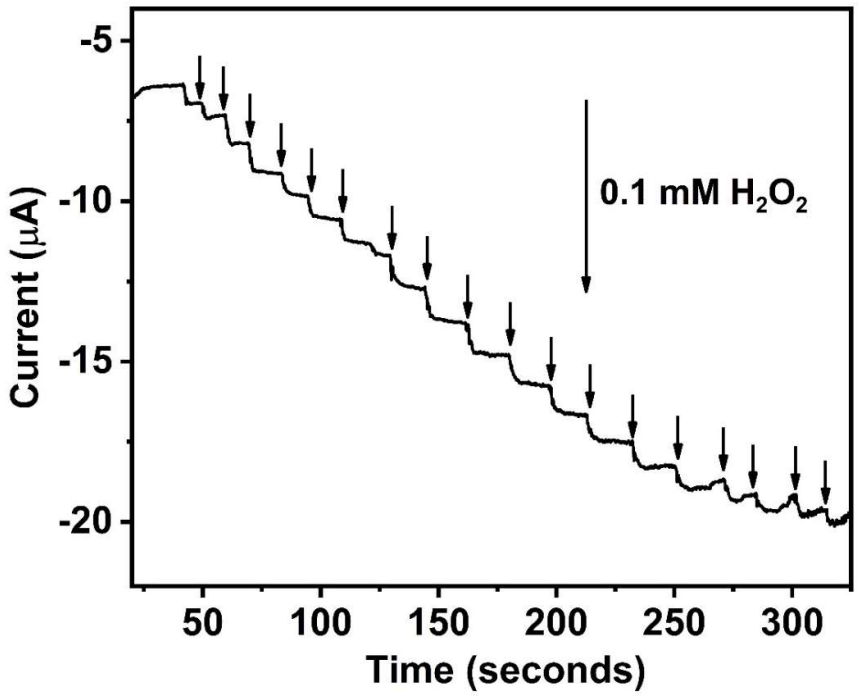

Figure S7. Amperometric response of synthesized probe at -0.45V vs Ag/AgCl (Sat. KCl) by successive addition of 0.1 mM H_2O_2 in air saturated pH 7.4 PBS resulting a dynamic stair with quick steady state of current.