

Amperometric glucose biosensor based on single-walled carbon nanotube (SWNT) film

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A novel amperometric glucose biosensor based on the single walled carbon nanotube (SWNT) film, gold nanoparticle, and glucose oxidase. SWNTs were purified and acid-treated, and prepared as a film on gold substrate by vacuum filtration method. Glucose oxidase was immobilized on SWNT film via EDC/NHS reaction. 3 types of specimens were prepared depending on further process steps - enzyme precipitation, enzyme cross-linking, and so on. Cyclic voltammetry and amperometric response measurements were done for each specimen.