

Synthesis of zinc oxide doped- poly(8-anilino-1-naphthene sulphonic acid) (ZnO/PANSA) as conducting platforms for TB drug biosensors

Rachel Ajayi*, Anovuyo Jonas and Emmanuel Iwuoha
University of the Western Cape, South Africa

In this study we described a potential isoniazid (INH) biosensor platform based on zinc oxide doped- poly(8-anilino-1-naphthene sulphonic acid) (ZnO/PANSA) as a diffusional mediator and N-acetyltransferase (NAT2) on gold electrodes. To acknowledge the health complications amongst TB diagnosed patients as a result of the inappropriate dosing of isoniazid; devices with fast response times with enhanced performances and increased sensitivities are essential. This study reports the synthesis and characterization of electroactive platforms for application in the development of nanobiosensors suitable for the appropriate dosing of clinically diagnosed patients by promptly quantifying the levels of the TB drug Isoniazid.

Biography:

Dr Ajayi is a senior lecturer at the Chemistry Department and a research leader at the Enzyme Sensor Laboratory, SensorLab at the University of the Western Cape (UWC). She teaches Physical Chemistry at second, third year and honours level and is involved in postgraduate research supervisions. At SensorLab she specializes in research that involves the development of drug (particularly HIV and TB treatment drugs) metabolism biosensors and the synthesis of various conducting polymeric and metallic nanomaterials. DrAjayi is the recipient of various grant awards and has research collaborations in South Africa, France and the US.