

Dye-incorporated electrospun fiber for the colorimetric detection of aspartate aminotransferase

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The presentation will discuss results from a study that entails a dye incorporated polymer composite for the colorimetric detection of aspartate aminotransferase (AST) from biological fluids. Such an analyte is very important especially as it is a good indicator for liver toxicity associated with alcoholism or high dose of drug intake associated with HIV/AIDS. Elevated levels of AST in serum have been used to detect if the heart or liver is damaged. Several good but sophisticated techniques including chemiluminescence, spectrophotometric and fluorescence have been employed for detecting the biomarker enzymes. With the intent to reduce the use of complex and expensive instrumentation and also based on the principle of colorimetric analysis we ventured into developing a cheaper probe. The dye employed is inexpensive and known to be selective towards the product of AST. Furthermore the chromophore produced from the interaction of the dye and the analyte gives a colour visible to the naked eye. In order to harness the solution-based reaction a facile electrospinning technique was employed to fabricate fibers as a platform for the colorimetric reaction.

Biography

Bellah O. Pule is a final year Ph.D. student in Analytical Chemistry at Rhodes University under the supervision of Prof. Nelson Torto. She received her B. Ed. Sc. (Chemistry) degree in 2001 from University of Botswana. In 2010 she attained an M.Sc. in Analytical Chemistry at Rhodes University, South Africa. Her current research interest focus is on evaluating electrospun fiber based colorimetric probes as important diagnostic platform for biological and environmental samples.

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