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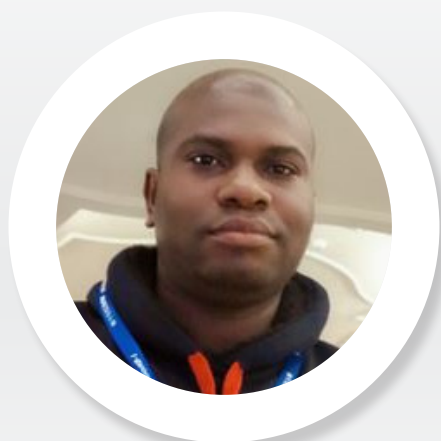
Detoxification and biodegradation of an azo dye, Eriochrome black T by  
*Penicillium citrinum*

Filamentous fungi are known for their effective and efficient biosorbent properties. In this study, *Penicillium citrinum* strain LAG decolorized Eriochrome black T dye within five days. Maximum decolorization (98%) was achieved at a concentration (10 mg L<sup>-1</sup>), temperature (35 °C), pH 6 and 2.0 g cell biomass during optimization scale up studies. The enzymes activities showed 63% and 55% induction of laccase and lignin peroxidase respectively. UV-Vis spectroscopy, HPLC and gas chromatography-mass spectrometry was used in analyzing the degraded products of the dye. The GCMS analysis revealed the production of three metabolites; naphthalen-1-ol, 2-nitronaphthalene and naphthalene after degradation of Eriochrome black T dye. A possible metabolic pathway for the degradation of Eriochrome black T dye by *Penicillium citrinum* was proposed. The detoxified status of the dye metabolites were confirmed with significant growth of plumule and radicle coupled with increase in germination percentage of *Phaseolus mungo* and *Triticum aestivum*.

**Biography**

Paul Olusegun Bankole has completed his PhD from University of Lagos, Lagos State, Nigeria and Post-doctoral studies from Middle East Technical University, Ankara, Turkey. He is currently holding the position of Assistant Professor at the Federal University of Agriculture Abeokuta, Ogun State, Nigeria. He has published more than nine papers in reputed journals and has been a Reviewer of many high impact journals.

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