

# CHEMISTRY AND EURO GREEN CHEMISTRY

May 22-23, 2019 | Rome, Italy

Oluwatobi S Oluwafemi, J Ind Environ Chem 2019, Volume 3 | DOI: 10.4066/2591-7331-C2-011

## SYNTHESIS OF FLUORESCENT TERNARY CORE-SHELL QUANTUM DOTS-PORPHYRIN CONJUGATES AND ITS CELL VIABILITY AGAINST LEUKEMIA (THP-1) CANCER CELL LINES

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Porphyrins are photosensitisers (PSs) used in Photo Dynamic Therapy (PDT) due to their tumor localisation and *in situ* singlet oxygen generation. However, their limited absorption, insolubility and aggregation in aqueous medium limited their effective application in PDT. In this presentation, a large scale aqueous synthesis of CuInS<sub>2</sub>/ZnS core-shell, ternary quantum dots (QDs) and its conjugation to 5, 10, 15, 20-meso (4-hydroxyphenyl) porphyrin as an efficient way to overcome photosensitizer shortcoming will be discussed. The singlet oxygen generation of this highly aqueous soluble novel conjugate and its cell viability, which shows its potential for PDT applications will also be discussed.

## BIOGRAPHY

Oluwatobi S Oluwafemi is a National Research Foundation (NRF); South Africa rated researcher and a Full Professor at the Department of Applied Chemistry, University of Johannesburg, South Africa. His research is in the broad area of nanotechnology and include green synthesis of semiconductor and metal nanomaterials for different applications which include but not limited to biological (Imaging, labelling, therapeutic-PDT and PTT), optical, environmental and water treatment. He is the author and co-author of many journal publications, book chapter and books. He is a reviewer for many international journals in the field of nanotechnology and has won many accolades both national and international.

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