**[Synthesis and characterization of polymer stabilized quantum dots-nanocomposite materials for photocatalytic applications](Abstract-Template%20(1).docx)**

**[Author,](Abstract-Template%20(1).docx)[a](Abstract-Template%20(1).docx) [Author,](Abstract-Template%20(1).docx)[b](Abstract-Template%20(1).docx) [Author,\*](Abstract-Template%20(1).docx)[c](Abstract-Template%20(1).docx)**

*[a](Abstract-Template%20(1).docx)[Affiliation (Department, Institution, City, Country)](Abstract-Template%20(1).docx)*

*[b](Abstract-Template%20(1).docx)[Affiliation (Department, Institution, City, Country)](Abstract-Template%20(1).docx)*

*[c](Abstract-Template%20(1).docx)[Affiliation (Department, Institution, City, Country)](Abstract-Template%20(1).docx)*

[\*Corresponding author E-mail address:](Abstract-Template%20(1).docx)

**[Abstract](Abstract-Template%20(1).docx)**

[In this work, we report the synthesis of the polymer-based nanocomposites and their use in the photocatalytic degradation of an organic dye. Copper oxide nanoparticles (NPs) are a multifaceted large band gap metal oxide semiconductor that has been subjected to innumerable research studies in the past decades. CuO NPs exhibit characteristic properties depending upon their morphology, crystal structure, size and the method of synthesis that makes them suitable and efficient for different applications. The synthesized QDs were then used to sensitize CuO NPS in order to form QDs-CuO nanocomposites. The morphology of the QDs were investigated by high resolution-transmission electron microscopy. Fluorescence spectroscopy studies were performed to determine the absorption and emission peaks of the QDs. The XRD pattern of the synthesized nanocomposites depicted the formation of anatase phase of CuO. These nanocomposites were then used for the photocatalytic degradation of malachite green (MG) dye.](Abstract-Template%20(1).docx)

**[Keywords:](Abstract-Template%20(1).docx)** [Copper oxide, Nanocomposites, Photocatalytic, Degradation, Malachite green](Abstract-Template%20(1).docx)

|  |
| --- |
| **[Note:](Abstract-Template%20(1).docx)**   * [Text font & style: 12, Times New Roman](Abstract-Template%20(1).docx) * [Line spacing: 1.5](Abstract-Template%20(1).docx) * [Abstracts should](Abstract-Template%20(1).docx) *[not](Abstract-Template%20(1).docx)* [exceed 200 words. Please ensure your abstract is written so that it can be read in isolation, with all abbreviations defined.](Abstract-Template%20(1).docx) * [Please provide up to 5 keywords divided by comma](Abstract-Template%20(1).docx) |