



Carbon Dots as Theranostic Agents for Targeting the Epithelial Adhesion Molecule, A Tumor Marker for Canine and Human Carcinomas

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Abstract

The emergence of nanomaterials has created a new field of science impacting various spheres including medicine, imaging, electronics, agriculture and a host of others. Among nanoparticles, Carbon Dots have attracted much attention due to their unique photoluminescent properties and biocompatibility. In our project we plan to synthesise Carbon Dots from naturally occurring sources using greener methods. Different techniques including microwave synthesis, solvothermal method and surface passivation will be used to prepare CDs. We will characterise our materials using NMR, FTIR, UV-Vis and fluorescence spectroscopy as well as DLS, TEM and zeta potential measurements followed by in vitro studies on different cell lines. By harnessing the luminescent properties along with their ability to act as drug delivery agents, we plan to test the capability of the prepared CDs as theranostic agents.