

Abstract Submitted
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Fluorescent nanodiamonds for biomedical thermal imaging JUAN ENRIQUE RAMIREZ HERNANDEZ, JOSE GARCIA SOLE, MARTIN RAFAEL PEDROZA MONTERO, MARCELINO BARBOZA FLORES, DANIEL JAQUE, LAURA MARTINEZ MAESTRO, KARLA JOSEFINA SANTACRUZ GOMEZ, FRANCISCO SANZ RODRIGUEZ, NINGNING DONG, TOMAS CALDERON, None — The use of nanoparticles designed for a particular purpose in biological research has increased exponentially in the last ten years. Nanoscale particles have dimensions similar to those of most biological systems and present exceptional physical, chemical and optical properties. The optical absorption and emission of nanoparticles may be tuned by varying their shape, size and composition and recent advances in their synthesis and design suggest their potential use as probes in the detection and treatment of diseases such as cancer. One of these promising materials is nanodiamond which possesses excellent surface modification capacity and high biocompatibility. In addition to being compatible with the human body, nanodiamonds can be used as radiation sensors. In this report, the ability of nanodiamonds to be used as nanothermometers was studied by the obtention of a nanothermic scale (temperature dependence of nanodiamond's emission spectrum) to accurately measure temperature in small volumes.

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None

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