

Abstract Submitted
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Characterization of Gold Nanoparticles for Radiotherapy Applications YOSHI ARAKI, JAMES ROONEY, TABBETHA DOBBINS, Rowan University — Gold nanoparticles (AuNPs) are able to conjoin with biological molecules and efficiently absorb light for conversion into heat energy. Thus, they are being investigated for treatment of near surface carcinomas. In this research, we synthesize AuNPs using two different approaches to yield variation in particle size and monodispersity. Transmission electron microscopy was used to characterize particle size and shape while UV-Visible spectrophotometry characterized their absorption wavelength. Presently, fibroblast cells are being used to establish protocols for cell growth, exposure to nanoparticles, irradiation, and cell viability. The future direction of this work is to synthesize a variety of nanoparticles in order to determine the optimal shape, size and composition for photothermal radiotherapy treatment.

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