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CONTENT

INTERACTION BETWEEN GOLD NANOPARTICLES AND SELECTED ANTITUMOR GOLD COMPLEXES

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ABSTRACT

The paper presents the results of study of interaction between citrate capped gold nanoparticles (AuNPs) and some antitumor gold complexes with pyridine ligands (AubipyC, AubipyOH and AupyOAc), in order to elucidate the possibility for their tracking in physiological fluids using NPs. The surface plasmon absorption band of AuNPs at 524 nm decreased in the presence of selected complexes, while the new broad band appeared at ~ 640 nm, which showed the increase in intensity with time upon the addition of complex. The spectral changes were followed by its red shift of to 750 nm and could be ascribed to aggregation and precipitation of AuNPs caused by the adsorption of selected gold complexes. Transmission electron microscopy (TEM) images showed that prepared AuNPs were monodisperse spheres with the average size of ~ 27 nm before and after the addition of selected gold complexes. Dynamic light scattering (DLS) and zeta potential measurements also confirmed the adsorption of complexes on the surface of AuNPs.