STRUCTURE AND SPECTRAL PROPERTIES OF NEW COMPOSITES BASED ON METAL ALKANOATES WITH GOLD NANOPARTICLES

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S u m m a r y

New composites with gold nanoparticles (NPs) have been chemically synthesized in the liquid crystal phase of cadmium and cobalt octanoates. Polymorphism and basic structural characteristics of metal alkanoates and nanocomposites (metal alkanoates with gold NPs) are analyzed, by using the small-angle X-ray scattering method. The structural parameters of gold NPs (their form and dimensions) are estimated by the X-ray spectroscopy and transmission electron microscopy techniques. The dependences of the NP absorption spectra on the spectral properties of cadmium- and cobalt-octanoate matrices are analyzed.