

Optical, electro and photo optical properties of liquid crystalline structures doped with gold nanoparticles

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Will be prepared and investigated new type of nanocomposites in which synergistically will be combined the properties of gold nanoparticles and photonic cholesteric liquid crystals. By the selection of such parameters of gold nanoparticles and cholesteric liquid crystals, as sizes, shapes, spectral position of surface-plasmon resonance peaks, concentration, refractive indices, optical and dielectric anisotropy, spectral position of selective reflections and viscosity, it will be possible to obtain nanocomposites with desirable properties. Such kinds of nanostructures can find versatile application In: Medicine, energy saving systems, new kinds of reflective displays, detection of chemical and biological substances, "smart" coatings, information recording.