

عنوان مقاله:

Crystal structure and luminescence properties of a new nanostructure lead(II) complex: a precursor for preparation of pure phase nanosized PbO

محل انتشار:

اولین کنفرانس ملی میکرو نانو فناوری (سال: 1397)

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خلاصه مقاله:

The reaction of 1,3-diphenylpropane-1,3-dione (HL) ligand with lead(II) nitrate under hydrothermal conditions led to the formation of a novel lead complex with singular structural features. The characterization of title complex was performed by spectroscopy methods such as ¹H NMR, UV, and IR and elemental analyses (CHN) and crystal structure of prepared lead (II) complex was determined by single-crystal X-ray diffraction. The facile and productive sonochemical method was used to prepare nano-size particles of the title complex at room temperature. The prepared nano-size-complex was characterized by elemental analysis, scanning electron microscopy (SEM), IR spectroscopy and X-ray powder diffraction (XRD). The nano-size lead oxides that prepared by calcination of the nano the nano the nano the nano -size complex and size complex and size complex and size complex and size complex and size complex and size complex and size complex and size complex and size complex and size complex and size complex and crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex crystalline bulk complex showed showed showed showed showed showed the initial particle size of the precursor is influential on the particle size of the derived PbO nanoparticles. Optical property investigation of the PbO nanoparticles at room temperature showed that the size of PbO nanoparticles has an important role on .their optical behavior.

کلمات کلیدی:

Coordination polymer; Nanosize lead complex; Photoluminescence; Lead(II) oxide

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