

عنوان مقاله:

Synthesis and Crystal Structural of a Novel Lead (II) metal-organic system with hemidirected coordination sphere

محل انتشار:

بیست و یکمین سمینار شیمی معدنی انجمن شیمی ایران (سال: 1398)

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خلاصه مقاله:

The design of crystal structures and control of molecular arrangements of coordination polymers has attracted much attention in recent years [1], The coordination chemistry of lead (II) with donor ligands has been investigated in the past decade and frequently discussed in regard to the coordination and stereoactivity of the valence shell lone electron pairs [2]. Herein we report the preparation and crystal structure of novel metal-organic lead (II) coordination polymer $[Pb(4-ptsc)_2(OAc)_2]_n$ and describe a simple synthetic sonochemical preparation of nano-structures of $[Pb(4-ptsc)_2(OAc)_2]_n$ coordination polymer. The composite was categorized by elemental analysis, scanning electron microscopy (SEM), FT-IR spectroscopy, powder X-ray diffraction (PXRD), and single crystal X-ray analysis. The coordination numbers of lead (II) centers are six with hemidirected coordination sphere. The adjoining chains are linked by $\pi-\pi$ interactions of adjacent aromatic ligands rings and several other relatively weak interactions. As a result, weak interactions further enable the self-assembly of compound construction to formulate a 3D metal-organic coordination polymer

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/960693>

