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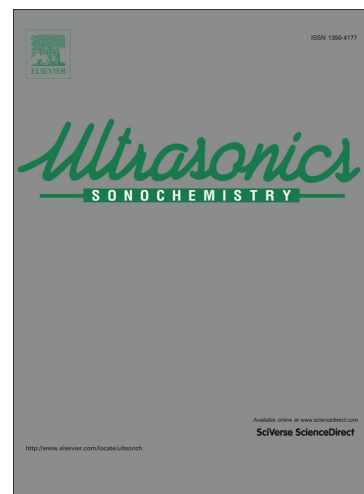
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Sonochemical Synthesis of Two Novel Pb(II) 2D Metal Coordination Polymer Complexes: New Precursor for Facile Fabrication of Lead(II) Oxide/Bromide micro-nanostructures

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Abstract

Two new lead(II) coordination polymer complexes (CSCs) (2D), $[\text{Pb}_2(\text{L})_2(\text{Br})_2]_n \cdot \text{H}_2\text{O}$ (**1**), $[\text{Pb}_2(\text{HL}')(\text{L}')(\text{H}_2\text{O})_2]_n \cdot \text{H}_2\text{O}$ (**2**), where $\text{L} = \text{C}_6\text{H}_5\text{NO}_2$ (2-pyridinecarboxylic acid) and $\text{L}' = \text{C}_9\text{H}_6\text{O}_6$ (1,3,5-tricarboxylic acid), have been synthesized under different experimental conditions. Micrometric crystals (bulk) or micro-sized materials have been obtained depending on using the branch tube method or sonochemical irradiation. All materials have been characterized by scanning electron microscopy (SEM), powder X-ray diffraction (PXRD) and FT-IR spectroscopy. Single crystal X-ray analyses on complexes **1** and **2** shows that Pb^{2+} ions are 8-coordinated, 7 and 9-coordinated, respectively. Topological analysis shows that the compound **1**

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