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## Preparation of PbO nano-powders using nano-structured lead(II) coordination polymer as a novel precursor

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### Abstract

In this work, nano-structures of Pb(II) coordination polymer,  $\{[Pb(pydc)(pydc.H_2)(H_2O)_2]_2\}_n$  (**1**), where  $[pyda.H_2]^{2+}$  = 2,6-diaminopyridinium, and  $[pydc]^{2-}$  = 2,6-pyridinedicarboxylate, were synthesized by sonochemical method and characterized by field emission scanning electron microscope (FESEM), X-ray powder diffraction (XRD) and elemental analyses. This polymeric precursor has been used to prepare PbO nanoparticles by direct thermal decomposition in a programmable furnace up to 600 °C under argon atmosphere. The obtained PbO nano-structure was characterized by XRD and FESEM analyses.

**Keywords:** Coordination polymer, Nano-structure, Lead(II) oxide, Thermal decomposition, Sonochemical method.

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