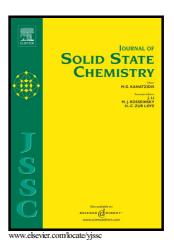
## Author's Accepted Manuscript

A 3D Metal-Organic Framework with a pcu Net Constructed from Lead(II) and Thiophene-2, 5dicarboxylic Acid: Synthesis, Structure and Ferroelectric Property

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### **ACCEPTED MANUSCRIPT**

A 3D Metal-Organic Framework with a pcu Net Constructed from Lead(II) and Thiophene-2, 5-dicarboxylic Acid: Synthesis, Structure and Ferroelectric Property

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#### **Abstract**

Self-assembly reaction of Pb(NO<sub>3</sub>)<sub>2</sub> with thiophene-2, 5-dicarboxylic acid (H<sub>2</sub>TDC) led to an acentric three-dimensional (3D) metal-organic framework under solvothermal conditions, namely, Pb(TDC) (1). The 3D framework of 1 is a pillared-layer structure with the  $I^2O^1$  type which is composed of a 2D inorganic Pb–O–Pb substructural layer and two independent  $\mu_6$ -TDC<sup>2-</sup> anions pillars. This 3D framework shows a six-connected **pcu** topological net according to the topological analysis. Compound 1 crystallizes in an acentric space group and displays potential ferroelectric property which could be due to the swing of the thiophene rings. The

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