Hydrothermal Synthesis and Crystal Structure of a Novel Pb(II) Coordination Polymer

Xiu-Yan Wang¹, Shuai Ma¹, Ting Li¹, and Ng Seik Weng²

¹ Department of Chemistry, Jilin Normal University, Siping 136000, China
² Department of Chemistry, University of Malaya, 50603 Kuala Lumpur, Malaysia

Reprint requests to Prof. Xiu-Yan Wang.
E-mail: wangxiuyan2001@yahoo.com.cn

Z. Naturforsch. 2011, 66b, 103 – 106;
received August 24, 2010

The novel coordination polymer, [Pb(1,4-chdc)(L)], 1, (1,4-H₂chdc = cyclohexane-1,4-dicarboxylic acid and L = 11-fluoro-dipyrido[3,2-a:2′,3′-c]phenazine), has been synthesized using a hydrothermal method and characterized by elemental analysis, IR spectroscopy and single-crystal X-ray diffraction. Crystal data: C₂₆H₁₉FN₄O₄Pb, triclinic, space group P1, a = 9.074(5), b = 9.499(5), c = 13.853(5) Å, α = 85.640(5), β = 76.127(5), γ = 74.730(5)°, V = 1118.2(9) Å³, Z = 2. The 1,4-chdc ligands link the Pb(II) atoms to form a 1D chain structure. The L ligands are attached on both sides of the chains. Further, π-π interactions among neighboring chains lead to a two-dimensional supramolecular layer.

Key words: Coordination Polymer, Crystal Structure, Cyclohexane-1,4-dicarboxylic Acid, 11-Fluoro-dipyrido[3,2-a:2′,3′-c]phenazine