

## SOLVOTHERMAL SYNTHESIS, CRYSTAL STRUCTURE AND PHOTOLUMINESCENCE OF Cd(II) COORDINATION POLYMER DERIVED FROM A 1,2,3-TRIAZOLE-BASED TRICARBOXYLATE LIGAND

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**Abstract.** A new polymeric complex of cadmium (II) was synthesized under solvothermal conditions by the reaction of 5-(4-carboxy-5-methyl-1*H*-1,2,3-triazol-1-yl) isophthalic acid (H<sub>3</sub>L) with cadmium nitrate tetrahydrate in a mixture of *N,N*-dimethylacetamide and water. The obtained compound was investigated using single crystal X-ray diffraction, thermogravimetry, infrared and photoluminescence spectroscopies. The polymeric complex is an infinite 2D coordination polymer with the general formula {[Cd<sub>3</sub>L<sub>2</sub>(H<sub>2</sub>O)<sub>6</sub>]·2H<sub>2</sub>O}<sub>*n*</sub> (**1**). The intense photoluminescence emission of cadmium (II) complex was observed in the blue-violet region of the spectrum.

**Keywords:** coordination polymer, 1,2,3-triazole, thermogravimetry, photoluminescence.