

## CRYSTAL STRUCTURE OF $\{[\text{La}_2(\text{CNCH}_2\text{COO})_6(\text{H}_2\text{O})_4]\cdot\text{H}_2\text{O}\}_n$ COMPLEX

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**Abstract.** The lanthanum(III) cyanoacetate complex of formula  $\{[\text{La}_2(\text{CNCH}_2\text{COO})_6(\text{H}_2\text{O})_4]\cdot\text{H}_2\text{O}\}_n$  (**1**), has been prepared and characterized by X-ray diffraction analysis. Compound crystallizes in the triclinic centrosymmetric space group *P*-1 (No.2),  $a=8.997(5)$  Å,  $b=9.251(5)$  Å,  $c=9.728(5)$  Å,  $\alpha=67.849(5)^\circ$ ,  $\beta=84.224(5)^\circ$ ,  $\gamma=81.351(5)^\circ$ . Single-crystal X-ray diffraction study reveals that crystals of **1** exhibits one-dimensional coordination polymer structure, which is composed of cyanoacetate bridged lanthanum (III) ions. The  $\text{O}_9$  coordination surrounding of La cation is completed by oxygen atoms of six carboxylate ligands that are coordinated in the bidentate bridging and tridentate-chelating bridging mode and two water molecules. The cations are bridged in a polymeric chain by four exo-bidentate cyanoacetate ligands or through  $\mu_2$ -O function of two other chelato-bridging cyanoacetate ligands. The La...La separation along the polymer is equal to 4.754(3) Å and 4.608(2) Å.

**Keywords:** coordination polymers, lanthanum (III), cyanoacetic acid, crystal structure.

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