

Synthesis and *In Vitro* Evaluation of Antibacterial Activity of a Novel Ca(II) Coordination Polymer

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SUMMARY. A new Ca(II) coordination polymer, namely $[\text{Ca}(\text{H}_2\text{btc})(\text{CH}_3\text{OH})]_n$ (1 H₃btc = 1,3,5-benzenetricarboxylic acid), has been synthesized by the self-assemble reactions of $\text{Ca}(\text{NO}_3)_2 \cdot 4 \text{H}_2\text{O}$ and H₃btc. Single crystal X-ray structural analysis reveals that compound **1** features a two-dimensional (2D) layered structure, and these 2D layers are further bridged into a 3D supramolecular framework via the intermolecular hydrogen bonding interactions. In addition, the antibacterial activity of the title compound and its organic ligand (H₃btc) were then evaluated.

RESUMEN. Ha sido sintetizado un nuevo polímero de coordinación de Ca(II), $[\text{Ca}(\text{H}_2\text{btc})(\text{CH}_3\text{OH})]_n$ (1 H₃btc = ácido 1,3,5-benzenotricarboxílico), por reacciones de autoensamblado de $\text{Ca}(\text{NO}_3)_2 \cdot 4 \text{H}_2\text{O}$ y H₃btc. El análisis estructural por cristal único de rayos X revela que el compuesto **1** cuenta con una estructura bidimensional (2D) en capas y que estas capas 2D están unidas por puentes en un marco supramolecular 3D a través de interacciones de enlaces de hidrógeno intermoleculares. Además, se evaluaron la actividad antibacteriana del compuesto del título y su ligando orgánico (H₃btc).

KEY WORDS: antibacterial, coordination polymer, supramolecular framework.

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