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A New Interpenetrated Metal-Carboxylate Zn(II) Complex: for Inhibiting Growth of Human Cervical Cancer Cells

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SUMMARY. A new interpenetrated metal-carboxylate framework, namely $\{[Zn_2(bpydb)_2H_2O](DMA)_3\}_n$ (**1**, H_2bpydb = 4,4'-(4,4'-bipyridine-2,6-diyl)dibenzoic acid, DMA = N,N-Dimethylacetamide) was synthesized by solvothermal reaction. Single-crystal X-ray diffraction indicated that **1** is composed of two different frameworks with 2D 6^3 bilayers and a rare 4-connected 3D crb net giving an interesting 2D + 3D framework. In addition, the antitumor effects of the title compound 1 and its corresponding organic ligand H_2bpydb were studied on three human cervical cancer cells (HeLa, CaSki and SiHa). The results showed that compared with organic ligand H_2bpydb, compound **1** displayed efficient antitumor activity.

RESUMEN. Una nueva estructura de metal carboxilato interpenetrada, $\{[Zn_2(bpydb)_2H_2O]\ (DMA)_3\}_n$ (**1**, H_2bpydb = 4,4-(4,4'-bipiridina-2,6-diilo) dibenzoico, DMA = N,N-dimetilacetamida) se sintetizó por reacción solvotermal. La difracción de rayos X monocristal indicó que **1** se compone de dos estructuras diferentes con 6^3 bicapas 2D y una rara red 3D crb 4-conectada, dando una interesante estructura 2D + 3D. Además, se estudiaron los efectos antitumorales del compuesto 1 y su correspondiente ligando orgánico H_2bpydb en tres líneas celulares de cáncer cervical humano (HeLa, CaSki y SiHa). Los resultados mostraron que en comparación con ligando orgánico H_2bpydb, el compuesto **1** muestra eficiente actividad antitumoral.

KEY WORDS: antitumor, metal-carboxylate, X-ray.

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