

Two novel Fe(II) and Zn(II) Metal Complexes: Inhibiting Growth of Human Lung Cancer Cells

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SUMMARY. In this work, a pair of C₃-symmetric organic ligands, 4,4',4''-nitrotrisbenzoic acid (H₃NTB) and 4,4',4''-(benzene-1,3,5-triyl-tris(oxy))tribenzoic acid (H₃BTTB), were used to target two new metal-organic frameworks [Fe(NTB)(NMF)](NMF)₂ (**1**, NMF = N-Methylformamide) and [Zn₃(BTTB)₂(H₂O)₂](DMF)₂ (**2**, DMF = N,N-dimethylformamide) with diverse architectures via a one pot of solvothermal synthesis. Both of the two complexes are characterized by single-crystal X-ray diffraction and elemental analysis. In addition, *in vitro* anticancer activities of compounds **1** and **2** on four human lung cancer cell lines (H1299, MSTO-211H, PC9 and A549) was further determined.

RESUMEN. En este trabajo se utilizaron un par de ligandos orgánicos C₃-simétricos, 4,4',4''-ácido nitrilotrisbenzoico (H₃NTB) y 4,4',4''-(benceno-1,3,5-triyl-tris(oxi))ácido tribenzoico (H₃BTTB), para obtener dos nuevos marcos orgánicos de metal [Fe(NTB)(NMF)](NMF)₂ (**1**, NMF = N-metilformamida) y [Zn₃(BTTB)₂(H₂O)₂](DMF)₂ (**2**, DMF = N,N-dimetilformamida) con diversas arquitecturas a través de una sola vasija de síntesis solvotérmica. Ambos complejos se caracterizan por difracción de rayos X de monocristal y análisis elemental. Además, se determinaron adicionalmente las actividades anticancerígenas *in vitro* de los compuestos **1** y **2** en cuatro líneas celulares de cáncer de pulmón humano (H1299, MSTO-211H, PC9 y A549).

KEY WORDS: lung cancer cell, metal-organic frameworks, X-ray diffraction.

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