

Two Vanadium Oxide Metal Coordination Complexes: Inhibiting Growth of Human Gastric Cancer Cells

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SUMMARY. Two new vanadium oxide metal coordination complexes [Zn(phen)(H₂O)V₂O₆] (**1**) and Co(bipy)(H₂O)V₂O₆ (**2**) have been isolated by hydrothermal method. Single-crystal X-ray diffraction analysis reveals that **1** consists of one-dimensional chains built up from covalently linked [V₄O₁₂]⁴⁻ rings and [Zn(phen)(H₂O)]²⁺ fragments; **2** exhibits a 2D network structure, constructed by vanadium oxide chain {V₂O₆}²ⁿ⁻ⁿ and covalently linked by Co(bipy)(H₂O)²⁺ subunits. In addition, *in vitro* anticancer activity of the title compounds **1** and **2** on three human gastric cancer line cells (SGC7901, MKN45 and BGC-823) was further determined.

RESUMEN. Se han aislado dos nuevos complejos de coordinación de metal de óxido de vanadio [Zn(phen)(H₂O)V₂O₆] (**1**) y Co(bipy)(H₂O)V₂O₆ (**2**) por el método hidrotermal. El análisis de difracción de rayos X de monocristal revela que **1** consiste en cadenas unidimensionales formadas a partir de anillos [V₄O₁₂]⁴⁻ enlazados covalentemente y fragmentos [Zn(phen)(H₂O)]²⁺; **2** exhibe una estructura de red 2D, construida por la cadena de óxido de vanadio {V₂O₆}²ⁿ⁻ⁿ y unida covalentemente por las subunidades Co(bipy)(H₂O)²⁺. Además, se determinó adicionalmente la actividad anticancerígena *in vitro* de los compuestos **1** y **2** en tres líneas celulares de cáncer gástrico humano (SGC7901, MKN45 y BGC-823).

KEY WORDS: anticancer activity, coordination complex, single-crystal.

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