

Two New Polyoxometalate-Based Transition Metal Complexes: Crystal Structure and Inhibition of Human Renal Tumor Cells

Qiang FU & Liqiu LIU*

Department of Nephrology, Affiliated Hospital of Qingdao University,
Qingdao, Shandong, China

SUMMARY. Two new polyoxometalate-based transition metal complexes $[\text{Cu}(\text{En})_2(\text{As}_{2.5}\text{V}_{3.5}\text{Mo}_9\text{O}_{40.5})]$ $[\text{Cu}(\text{En})_2](\text{H}_2\text{O})_2$ (**1**, En = ethylenediamine) and $[\text{Cu}(\text{HBz})_2]_3[\text{AsMo}_{12}\text{V}_2\text{O}_{42}](\text{H}_2\text{O})$ (**2**, HBz = protonated benzimidazole) have been hydrothermally synthesized by using molybdenum–vanadium arsenate and different N donor organic compounds. The both complexes are characterized by elemental analyses and single-crystal X-ray diffraction analyses. In addition, *in vitro* anticancer activity of compounds **1** and **2** on three human renal tumor cell lines (OS-RC-2, CAKI-2 and 786-O) was further determined.

RESUMEN. Dos nuevos complejos de metales de transición basados en polioxometalato $[\text{Cu}(\text{En})_2(\text{As}_{2.5}\text{V}_{3.5}\text{Mo}_9\text{O}_{40.5})]$ $[\text{Cu}(\text{En})_2](\text{H}_2\text{O})_2$ (**1**, En = etilendiamina) y $[\text{Cu}(\text{HBz})_2]_3[\text{AsMo}_{12}\text{V}_2\text{O}_{42}](\text{H}_2\text{O})$ (**2**, HBz = bencimidazol protonado) se han sintetizado hidrotérmicamente mediante el uso de arseniato de molibdeno-vanadio y diferentes compuestos orgánicos donadores de N. Ambos complejos se caracterizaron por análisis elemental y análisis de difracción de rayos X de cristal único. Además, se determinó adicionalmente la actividad anticancerígena *in vitro* de los compuestos **1** y **2** en tres líneas celulares tumorales renales humanas (OS-RC-2, CAKI-2 y 786-O).

KEY WORDS: Metal-organic complex, molybdenum arsenate, renal tumor.

* Author to whom correspondence should be addressed. *E-mail:* liqiu_liu666@yeah.net