

Two Novel Cd(II) and La(III) Complexes: Inhibiting Growth of Human Ovarian Tumor Cells

Chun CHEN¹, Wei-Chao ZHONG², Hui-Min SHEN¹, Xiao-Hua HUANG¹,
Dai-Fei SHEN¹, Wen-Feng CAI¹ & Gang-Gang SHI^{1*}

¹ Department of Pharmacology, Shantou University Medical College, Shantou, Guangdong, China

² Department of Liver Diseases, Shenzhen Traditional Chinese Medicine Hospital,
Shenzhen, Guangdong, China

SUMMARY. In this study, two new coordination polymers, $\{[Cd_3(L_1)2(H_2O)_2](H_2O)_2(CH_3CN)_2\}_n$ (**1**, $H_3L_1 = 4,4',4''$ -[1,3,5-benzenetriyltris(carbonylimino)]trisbenzoic acid) and $[La(L_2)(H_2O)_2](MeOH)_2(H_2O)_3$ (**2**, $H_3L_2 = 2,4,6$ -tris[1-(3-carboxylphenoxy)ylmethyl]mesitylene) has been successfully constructed under solvothermal conditions. Single-crystal structural analysis revealed that **1** is a (4,4)-grid layered architecture which is composed of linear Cd₃ clusters and trisbenzoic acid ligands and **2** is a 3D neutral framework with 1D channels running along the *c* axis, whose structure could be simplified into a six-connected **sqc885** topology. In addition, *in vitro* anticancer activities of compounds **1** and **2** on three human ovarian tumor cell lines (SKOV3, A2780 and OVCAR) was further determined.

RESUMEN. En este estudio, dos nuevos polímeros de coordinación, $\{[Cd_3(L_1)2(H_2O)_2](H_2O)_2(CH_3CN)_2\}_n$ (**1**, $H_3L_1 = 4,4',4''$ -[1,3, ácido 5-benzenotriltris(carbonilimino)]trisbenzoico) y $[La(L_2)(H_2O)_2](MeOH)_2(H_2O)_3$ (**2**, $H_3L_2 = 2,4,6$ -tris[1-(3-carboxilfenoxi)ilmetilo]mesitileno) se han construido con éxito en condiciones solvotermales. El análisis estructural monocristalino reveló que **1** posee una arquitectura en capas de cuadrícula (4,4) que está compuesta por grupos lineales de Cd₃ y ligandos de ácido trisbenzoico; **2** es un marco neutro 3D con canales 1D a lo largo del eje *c*, cuya estructura podría simplificarse en una topología **sqc885** con seis conexiones. Adicionalmente se determinó la actividad anticancerígena *in vitro* de los compuestos **1** y **2** en tres líneas celulares tumorales ováricas humanas (SKOV3, A2780 y OVCAR).

KEY WORDS: coordination polymer, ovarian tumor, single-crystal.

* Author to whom correspondence should be addressed. E-mail: ganggang_shi567@yeah.net