

Synthesis and Analgesic Effects of a New Ni(II) Coordination Polymer

Xia HU¹, Wo LI², Shaihong ZHU^{3*} & Dong HUANG¹

¹ Department of Anesthesiology & ³ General Surgery Department,
Third Xiangya Hospital of Central South University, Changsha 410013, China

² Department of Anesthesiology, Hunan Provincial People's Hospital, Changsha 410005, China

SUMMARY. A new Ni(II) coordination polymer, namely [Ni(Hcpbda)(2,2'-bipy)(H₂O)₂]_n (**1**), have been synthesized by using a rigid bidentate N-donor ligand 2,2'-bipyridine (bpy) and a flexible ligand 4,4'-[(5-carboxy-1,3-phenylene)bis(oxy)] dibenzoic acid (H₃cpbda). The compound has been characterized by single-crystal analyses, thermogravimetry analyses and powder X-ray diffraction measurements. In addition, antinociceptive effects of the title compound and its corresponding organic ligands in mice were further determined.

RESUMEN. Se ha sintetizado un nuevo polímero de coordinación de Ni (II), [Ni(Hcpbda)(2,2'-bipy) (H₂O)₂]_n (**1**), mediante el uso de un ligando bidentado rígido N-donante 2,2'-bipyridine (bpy) y un ligando flexible de 4,4'-[(5-carboxi-1,3-fenileno)bis(oxi)] dibenzoico (H₃cpbda). El compuesto ha sido caracterizado mediante análisis mono-cristal, análisis termogravimétrico y mediciones de difracción de rayos X en polvo. Además, se determinaron aún más los efectos antinociceptivos del compuesto del título y de sus ligandos orgánicos correspondientes en ratones.

KEY WORDS: antinociceptive, coordination, X-ray.

* Author to whom correspondence should be addressed. E-mail: zhu_shaihong66@yeah.net