



## A Co(II)-Schiff Base Complex: Crystal Structure and Application Values on SARS-COV-2 Induced Acute Lung Injury

You-Fa QIN<sup>1</sup>\*, Tao DENG<sup>2</sup>, Cui-E LI<sup>3</sup>, Jun LU<sup>4</sup>, Yong-Kun ZHU<sup>1</sup>

<sup>1</sup> Department of Clinical Pharmacy, <sup>2</sup> Department of Intensive Care Unit, <sup>4</sup> Department of Cardiothoracic Surgery, SSL Central Hospital of Dongguan City, Affiliated Dongguan Shilong People's Hospital of Southern Medical University, Dongguan, Guangdong, China

<sup>3</sup> Laboratory Animal Research Center of Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, Guangdong, China

**SUMMARY.** In the present study, a new Co(II)-Schiff base complex, [Co(HL)<sub>2</sub>Cl<sub>2</sub>] (**1**), [Schiff base (HL) = 2-(2-methoxybenzylideneamino)phenol] has been successfully prepared by reaction of Co(II) chloride hexahydrate with the Schiff base ligand HL in a mixed solvent of aqueous-methanolic solution via a slow evaporation synthesis method. For the treatment of SARS-COV-2 induced acute lung injury, the ELISA detection kit was performed in the research to measure the content of inflammatory cytokines TNF- $\alpha$  and IFN- $\gamma$  released into the alveolar lavage fluid. In addition to this, the activation levels of the prolyl carboxypeptidase in the alveolar epithelial cells were determined with real time RT-PCR.

**RESUMEN.** En el presente estudio, se preparó con éxito un nuevo complejo de base de Co (II) -Schiff, [Co(HL)<sub>2</sub>Cl<sub>2</sub>] (**1**), [base de Schiff (HL) = 2- (2-metoxibencilidenamino) fenol] mediante la reacción de cloruro de Co (II) hexahidratado con el ligando de base de Schiff HL en un disolvente mixto de solución acuosa-metanólica mediante un método de síntesis por evaporación lenta. Para el tratamiento de la lesión pulmonar aguda inducida por SARS-COV-2, el kit de detección de ELISA se realizó en la investigación para medir el contenido de citocinas inflamatorias TNF- $\alpha$  e IFN- $\gamma$  liberadas en el líquido de lavado alveolar. Además de esto, se determinaron los niveles de activación de la proil carboxipeptidasa en las células epiteliales alveolares con RT-PCR en tiempo real.

**KEY WORDS:** acute lung injury, coordination complex, RT-PCR.

\* Author to whom correspondence should be addressed. *E-mail:* qinyoufaqwerty@163.com