

Therapeutic Effect and Mechanism of Co(II) Complex on Endometrial Hyperplasia by Inducing Endometrial Cell Apoptosis

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SUMMARY. In this paper, a novel Co(II) coordination complex (CP), namely, $[\text{Co}(\text{oba})_2(\text{phen})_2] \cdot 4\text{H}_2\text{O}$ (**1**) has been created in success with the reaction between 1,10-phenanthroline, o-benzoylbenzoic acid and $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ in the mixture of water and acetonitrile solvents. The as-created CP **1** has been investigated through the EA and SXCRD. The CP's biological activity against the endometrial hyperplasia was assessed and next the detailed mechanism was also discussed. The simulation of molecular docking displays that only the carbonyl and carboxyl containing moiety exhibits activity towards the given probe protein, however, 1,10-phenanthroline monohydrate functional group has been used as the structural moiety that supports for the formation of the Co complex.

RESUMEN. En este artículo se ha creado con éxito un nuevo complejo de coordinación (CP) de Co(II), a saber, $[\text{Co}(\text{oba})_2(\text{phen})_2] \cdot 4\text{H}_2\text{O}$ (**1**) con la reacción entre 1,10-fenantrolina, ácido o-benzoilbenzoico y $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ en la mezcla de disolventes agua y acetonitrilo. El CP **1** creado ha sido investigado a través de EA y SXCRD. Se evaluó la actividad biológica de la CP contra la hiperplasia endometrial y, a continuación, también se discutió el mecanismo detallado. La simulación del acoplamiento molecular muestra que solo el resto que contiene carbonilo y carboxilo exhibe actividad hacia la proteína sonda dada, sin embargo, el grupo funcional monohidrato de 1,10-fenantrolina se ha utilizado como el resto estructural que apoya la formación del complejo Co.

KEY WORDS: Coordination complex, endometrial hyperplasia, molecular docking

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