

## Two Mixed-Ligand Coordination Polymers: Crystal Structures and Treatment on Alzheimer's Disease Treatment

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**SUMMARY.** In the present study, via using the mixed-ligand synthesis approach, two Co(II) coordination polymers (CPs), [Co(5-NIP)(L)(H<sub>2</sub>O)]<sub>n</sub> (1) and [Co(1,4-PDA)(L)(H<sub>2</sub>O)]<sub>n</sub> (2) (L = 1,3-bis(benzimidazol-1-yl)propane, 5-H<sub>2</sub>NIP = 5-nitroisophthalic acid, 1,4-H<sub>2</sub>PDA = 1,4-phenylenediacetic acid) were hydrothermally synthesized by reaction of Co(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O with the L ligand in the presence of different carboxylic acid ligands. For the treatment of the Alzheimer's disease, the volume and weight of the brain was measured after the compound treatment. In addition to this, the enzyme-linked immunosorbent assay (ELISA) detection was conducted and the content of the β-amyloid (Aβ) peptides in the cerebrospinal fluid was detected.

**RESUMEN.** En el presente estudio, mediante el uso del enfoque de síntesis de ligandos mixtos, dos polímeros de coordinación (CP) de Co(II), [Co(5-NIP)(L)(H<sub>2</sub>O)]<sub>n</sub> (1) y [Co(1,4-PDA)(L)(H<sub>2</sub>O)]<sub>n</sub> (2) (L = 1,3-bis(benzimidazol-1-il)propano, 5-H<sub>2</sub>NIP = ácido 5-nitroisoftálico, 1,4-H<sub>2</sub>PDA = 1,4-ácido fenilendiacético) se sintetizaron hidrotérmicamente mediante la reacción de Co(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O con el ligando L en presencia de diferentes ligandos de ácido carboxílico. Para el tratamiento de la enfermedad de Alzheimer, se midió el volumen y el peso del cerebro después del tratamiento compuesto. Además de esto, se realizó la detección del ensayo inmunoabsorbente ligado a enzimas (ELISA) y se detectó el contenido de los péptidos β-amiloide (Aβ) en el líquido cefalorraquídeo.

**KEY WORDS:** Alzheimer's disease, coordination polymers, ELISA.

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