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Three New Similar Coordination Compounds: Crystal Structures and Anesthesia Activity Evaluation

Xin-Sheng LIU

Department of Anesthesiology, Puyang People's Hospital, Puyang 457000, China

SUMMARY. **A pre-designed molecular building block [(pzTp)Fe(CN)3] was used to target three new coordination compounds $[Ni(en)_2][(pzTp)Fe(CN)_3]_2$ (1, en = ethylenediamine), $\{[(pzTp)Fe(CN)_3]_2[CoL_2(NO_3)_2](MeO\text{-}H)_2(H_2O)_2\}n$ (2, L = 1,4-bis[2-(3-pyridyl)-2-methyl-cis-ethenyl)) and $\{[(pzTp)Fe(CN)_3]_2[MnL_2(NO_3)_2](MeO\text{-}H)_2(H_2O)_2\}$ (3) by using different metal centers and bridging organic ligands. The structures of these complexes have been successfully determined by single crystal X-ray diffraction and element analyse. In addition, the local anesthetic effect of these derivatives was assessed in comparison to lidocaine as a standard using a rabbit corneal and mouse tail anesthesia model.**

RESUMEN. Se usó un bloque de construcción molecular prediseñado [(pzTp)Fe(CN)3] para elaborar tres nuevos compuestos de coordinación $[Ni(en)_2][(pzTp)Fe(CN)_3]_2$ (1, en = etilendiamina), $\{[(pzTp)Fe(CN)_3]_2[CoL_2(NO_3)_2](MeO\text{-}H)_2(H_2O)_2\}n$ (2, L = 1,4-bis[2-(3-piridilo) -2-metil-cis-etenil) y $\{[(pzTp)Fe(CN)_3]_2[MnL2(NO_3)_2](MeO\text{-}H)_2(H_2O)_2\}$ (3) usando diferentes centros metálicos y puentes ligandos orgánicos. Las estructuras de estos complejos se han determinado con éxito mediante difracción de rayos X de un solo cristal y análisis elemental. Además, se evaluó el efecto anestésico local de estos derivados en comparación con la lidocaína como patron, usando un modelo de anestesia corneal de conejo y de cola de ratón.

KEY WORDS: anesthesia activity, coordination compounds, single crystal.

* Author to whom correspondence should be addressed. *E-mail:* xinsheng_liu666@126.com

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