

Title: **Applications of multifunctional organometallic compounds derived from cyrhetrene and cymantrene.**

Aplicaciones de los compuestos organometálicos multifuncionales derivados del ciretreno y cimantreno

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Organometallic compounds derived from $[\text{Re}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_3]$ (*cyrhetrene*) or $[\text{Mn}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_3]$ (*cymantrene*) are attracting a great deal of interest due to their outstanding properties (i.e. high stability, lipophilicity, low toxicity, interesting electrochemical behaviour and photo-physical properties) which are very useful in different areas such as catalysis and biotechnology, for the manufacture of bio- and chemical sensors, luminescent devices and for the design of new materials.

In this work, the chemical properties such as reactivity, electrochemistry and toxicity shall be presented and discussed. In the medical field, the possibility of use of cyrhetrene and cymantrene derivatives in the treatment of diseases such as Chagas' disease will be studied. Furthermore, their possible anti-cancer agent against breast cancer, ovarian tumours, hepatocellular carcinoma, alveolar epithelial cells cancer and glioblastoma.

Keywords: Cyrhetrene, cymantrene, organometallic chemistry, Chagas disease, anticancer activity.