

**Title: Synthesis of imine cyclopalladated compounds. Part II.**

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At this moment, one of the most powerful tool to fight cancer is the cis-platin, a coordination compound of formula  $\text{cis-}[\text{PtCl}_2(\text{NH}_3)_2]$  that was discovered in the middle of the 60's and used for clinical treatment, in different types of cancer, since the late 70's [1]. However, other coordination or organometallic compounds of platinum(II), palladium(II), iridium(III), gold(III) and ruthenium(II) are proving to have similar anti-cancer properties with less side effects [2][3].

For this reason, the *Research Group on Synthesis and Applications of Cyclometallated Compounds* of the *Department of Inorganic and Organic Chemistry* of the *University of Barcelona*, has been studying and synthesizing new cyclopalladated compounds.

The aim of this project is to synthesize new cyclometallated palladium compounds, some forming a 5 membered-ring and others a 6 membered-ring, but all of them with an imine N-donor ligand.

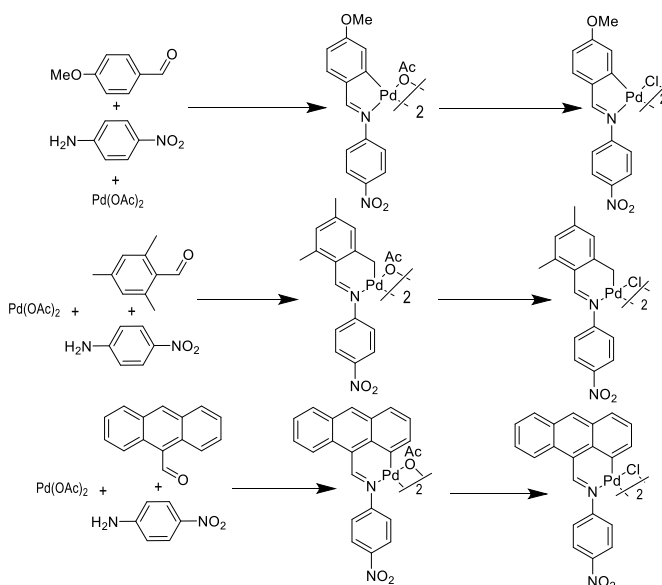


Figure 1. Scheme of the synthetic routes.

Additionally, the reactivity of the new cyclometallated compounds synthesized towards neutral mono- or bidentate Lewis bases, for instance  $\text{PPh}_3$ ,  $\text{py-d}_5$  and  $\text{dppe}$  will be studied.

All reactions start from the organic compounds mixed with palladium(II) acetate to make the dinuclear compound with acetato bridge ligands, then follow with the synthesis of the dinuclear with chlorido bridge ligands, and finish with the formation of mononuclear compounds with phosphanes. The compounds are characterized by IR,  $^1\text{H}$  NMR and  $^{31}\text{P}\{\text{H}\}$  NMR.

**Keywords:** Imine, cyclometallated, synthesis, palladium, anti-cancer.