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# Fluorine activation of promising platinum compounds as anticancer drugs against orphan tumors

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Glioblastoma (GBM) and pancreatic cancer are classified as orphan tumors. For both, the only available treatment includes maximal safe surgical resection, followed by radiotherapy and chemotherapy based on platinum drugs. Unfortunately, neither of these therapies can offer a high survival rate (5-6% maximum).[1,2]

For this reason, nowadays, many studies have been focused on the synthesis of new platinum compounds with the aim to increase the efficacy against these kinds of tumors. Since one of the main issues in cancer treatment is the bioavailability, starting from an already published complex (**Pt-IV**)[3] we decided to synthesized two new molecules (**1** and **2**) in which we modified the diamine core adding a fluorine in different positions in order to change the solubility of the complex and its biological activity.[4]

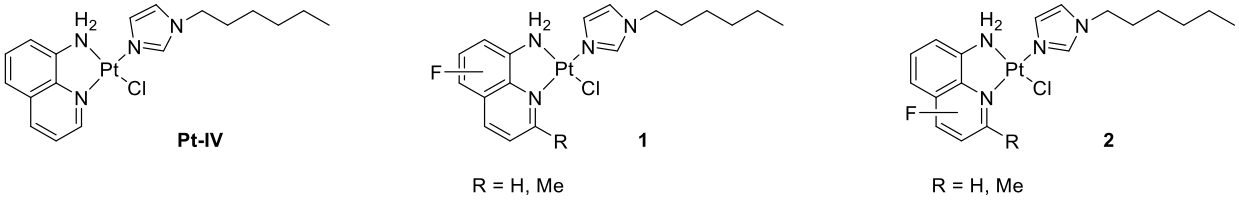


**Figure 1**: The already published complex (**Pt-IV**) and the new ones (**1** and **2**).

Pt-IV was already tested for its antitumoral activity against glioblastoma cell lines (U87-MG) and the $IC_{50}$, evaluated in terms of ability to affect cell proliferation, was 5.3 ± 0.55 μM.[5]

The influence of introducing the fluorine atom in the diamine skeleton will be evaluated in terms of cytotoxicity against orphan tumors.

**References:**

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