New fluorinated platinum compounds as promising anticancer warriors against orphan tumors

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Orphan tumours are characterized by limitation or lack of efficacy of the standard chemotherapeutics. Among them, Glioblastoma (GBM) and pancreatic cancer are two of the main aggressive orphan tumours, considering that the only available treatment includes maximal safe surgical resection, followed by radiotherapy and chemotherapy based on classical platinum drugs, as cisplatin. Unfortunately, the survival rate remains very poor (5-6% maximum).[1][2]
Based on this consideration, the design and synthesis of platinum compounds characterized by unconventional structures could represent a promising strategy for increasing the efficacy against these kinds of tumors.
Recently we projected and evaluated new cationic platinum complexes based on the 8-aminoquinoline core with (**Pt-IV**)[3] showing a very interesting *in vitro* activity against GBM (U87-MG IC_{50} 5.3 ± 0.55 μM). Considering that the main issues in cancer treatment stems from a reduced bioavailability, starting from the lead compound **Pt-IV**, we decided to expand the synthetic scope to two new series (**1** and **2**) in which the diamine core has been modified adding a fluorine atom in different positions in order to change the solubility of the complex and its biological activity with the aim to develop new therapeutic warriors against orphan tumors.[4] (Figure 1)

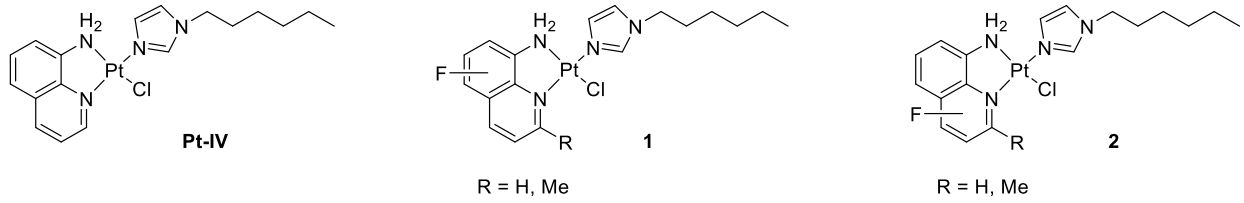

Figure 1: The already published complex (**Pt-IV**) and the new fluorinated series (**1** and **2**).

References:
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