

## عنوان مقاله:

Synthesis and characterization of platinum compounds with ferrocenyl ligand

## محل انتشار:

بیست و یکمین سمینار شیمی معدنی انجمن شیمی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

Platinum complexes are one of the most important compounds in cancer research and therapy. They target DNA molecules in cancerous cells and prevent these molecules from transcription and replication and thus result in cancer cell death. On the other hand, compounds having ferrocenyl moieties are widely used in several drugs including antiproliferative and antimalaria agents [1]; by combining these two promising compounds, platinum core and ferrocenyl moiety, we expect to build a stronger and more flexible antiproliferative drug [2]. In this project, we try to synthesis and investigate properties of a new series of platinum complexes with coordinated ferrocenyl imine ligand. We started from the ferrocene and it was transformed to its aldehyde and then to imine derivatives, finally combined with  $Pt(Me)_2(dmsO)_2$  and  $Pt(Cl)_2(dmsO)_2$  precursors (Scheme. 1). For biologic investigations of the new cyclometalated and monocoordinated platinum complexes, the Ligand-DNA binding via UV-Vis titration and also docking simulations were studied. The NMR spectra show formation of cyclometalated  $Pt(Me)(imine)(dmsO)$  and monocoordinated  $Pt(Cl)_2(imine)(dmsO)$  complexes. Experimental data from UV-Vis titration and docking simulations are in good agreement. In conclusion, some of the new Platinum complexes with coordinated / cyclometalated ferrocenyl imine ligand were synthesized. Their structures were identified by NMR spectra. Based on DNA titration and docking simulations, highest docking score to ct-DNA was for cyclometalated  $Pt(Cl)(imine)(dmsO)$ .

## کلمات کلیدی:

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