

Synthesis and Anti-Cancer Evaluation of Uranyl Complexes

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Abstract : In this research, some of the inorganic complexes of uranyl with N- donor ligands were synthesized. Complexes were characterized by FT-IR and UV spectra, ^1H NMR, ^{13}C NMR and some physical properties. The uranyl unit (UO_2) is composed of a center of uranium atom with the charge (+6) and two oxygen atom by forming two $\text{U}=\text{O}$ double bonds. The structure is linear ($\text{O}=\text{U}=\text{O}$, 180) and usually stable. So other ligands often coordinate to the U atom in the plane perpendicularly to the $\text{O}=\text{U}=\text{O}$ axis. The antitumor activity of some of ligand and their complexes against a panel of human tumor cell lines (HT29: Haman colon adenocarcinoma cell line T47D: human breast adenocarcinoma cell line) were determined by MTT(3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyl-tetrazolium bromide) assay. These data suggest that some of these compounds provide good models for the further design of potent antitumor compounds.

Keywords : inorganic, uranyl complex-donor ligands, Schiff bases, anticancer activity

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