



Document details - Photo-degradation of CT-DNA with a series of carbothioamide ruthenium (II) complexes – Synthesis and structural analysis

1 of 1

[Export](#) [Download](#) [More...](#) >

Journal of Molecular Structure
Volume 1157, 5 April 2018, Pages 201-209

Photo-degradation of CT-DNA with a series of carbothioamide ruthenium (II) complexes – Synthesis and structural analysis(Article)

Muthuraj, V., Umadevi, M.

^aP.G and Research Department of Chemistry, V.H.N.S.N. College, Virudhunagar, Tamil Nadu, India^bP.G and Research Department of Chemistry, Nehru Memorial College, Puthanampatti, Tiruchirappalli, Tamil Nadu, India

Abstract

The present research article is related with the method of preparation, structure and spectroscopic properties of a series of carbothioamide ruthenium (II) complexes with N and S donor ligands namely, 2-((6-chloro-4-oxo-4H-chromen-3-yl)methylene)hydrazine carbothioamide (ClChrTs)/2-((6-methoxy-4-oxo-4H-chromen-3-yl)methylene)hydrazine carbothioamide (MeOChrTS). The synthesized complexes were characterized by several techniques using analytical methods as well as by spectral techniques such as FT-IR, ¹HNMR, ¹³CNMR, ESI mass and thermogravimetry/differential thermal analysis (TG-DTA). The IR spectra shows that the ligand acts as a neutral bidentate with N and S donor atoms. The biological activity of the prepared compounds and metal complexes were tested against cell line of calf-thymus DNA via an intercalation mechanism (MCF-7). In addition, the interaction of Ru(II) complexes and its free ligands with CT-DNA were also investigated by titration with UV-Vis spectra, fluorescence spectra, and Circular dichroism studies. Results suggest that both of the two Ru(II) complexes can bind with calf-thymus DNA via an intercalation mechanism. © 2017 Elsevier B.V.

Author keywords

Calf thymus-DNA Cell line Chromonal Fluorescence UV-Visible

Indexed keywords

Engineering controlled terms:

Bioactivity Cell culture Dichroism DNA Fluorescence Hydrazine Ligands
Metal complexes Nitrogen compounds Ruthenium Ruthenium compounds
Thermoanalysis Thermogravimetric analysis Thymus

Engineering uncontrolled terms

Calf thymus DNA Cell lines Chromonal Fluorescence spectra Intercalation mechanisms
Ruthenium complexes Spectral techniques Spectroscopic property

Engineering main heading:

Synthesis (chemical)

Cited by 9 documents

Nihath Nazleen, A. , Umadevi, M.

Biological function of sulfapyridine derivatives and their manganese(II) complexes

(2023) Journal of Coordination Chemistry

Mi, Y. , Wang, S. , Wang, M.

DNA interaction, photocleavage and theoretical calculations of a ruthenium(II) complex with hydroxyquinoline derivative

(2021) Revue Roumaine de Chimie

Umadevi, M. , Muthuraj, V. , Vanajothi, R.

Structural, cytotoxicity and molecular docking studies of some quinoline schiff bases and their Pd(II), Mn(II) and Ru(II) complexes

(2020) Journal of Molecular Structure

View details of all 9 citations

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

Related documents

Find more related documents in Scopus based on:

Authors > Keywords >

SciVal Topic Prominence

Topic:

Prominence percentile:



ISSN: 00222860

CODEN: JMOSB

Source Type: Journal

Original language: English

DOI: 10.1016/j.molstruc.2017.10.103

Document Type: Article

Publisher: Elsevier B.V.

