

**The crystal structure and cytotoxicity of centrosymmetric copper(II) complex derived from S-methyldithiocarbazate with isatin.**

ABSTRACT

Copper(II) complex of S-methyldithiocarbazate with isatin has been prepared and screened for their cytotoxic activities against MCF-7 (Human non-metastatic mammary gland adenocarcinoma cell line) and MDA-MB-231 (Human metastatic mammary gland adenocarcinoma cell line). The compound crystallized in an orthorhombic crystal system with a space group C 2cb and was found to be selectively active against MCF-7 cell line (Human non-metastatic mammary gland adenocarcinoma cell line) with an IC<sub>50</sub> value 0.45 µg/mL. The crystal structure of this centrosymmetric Cu(SMISA)<sub>2</sub> complex (SMISA = Schiff base formed by condensation reaction of S-methyldithiocarbazate with isatin) showed that the copper atom has a distorted square-planar geometry with the Schiff base coordinated to the metal ion as a uninegatively charged bidentate ligand through the azomethine nitrogen and thiolate sulfur.

**Keyword:** Copper(II); Centrosymmetric; Dithiocarbazate; MCF-7; Schiff base.