Synthesis, Characterization, Crystal Structure, and Cytotoxicity of a 7-Coordinate Diorganotin(IV) Complex of 2-Acetylpyrazine N^4-Methylthiosemicarbazone

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The diorganotin(IV) complex $[Ph_2Sn(L)(CH_3COO)]$ (**1**), where HL = 2-acetylpyrazine N^4-methyl thiosemicarbazone, has been synthesized and characterized by elemental analysis, IR, UV/Vis and NMR spectroscopy, mass spectrometry, and single-crystal X-ray diffraction. Complex **1** contains mononuclear neutral molecules composed of one N_2S tridentate anionic thiosemicarbazone ligand, one acetato group, and one Ph_2Sn(IV) group with a seven-coordinated tin atom. *In vitro* biological studies have indicated that complex **1** shows effective cytotoxicity with IC_{50} = 5.4 μM against the K562 leukaemia cell line.

Key words: Thiosemicarbazone, Diorganotin(IV), Crystal Structure, Cytotoxic Activity