

Simple Synthesis, Characterization and Structure of Diorganotin(IV) Complexes Containing the *N*-(2-Salicylidene)-*N'*-benzoylhydrazone Ligand

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Two diorganotin(IV) complexes of general formula $R_2Sn[2-OC_6H_4CH=N-N=C(O)Ph]$ ($R = Ph$, **1**; $R = Me$, **2**) have been synthesized from the corresponding diorganotin(IV) dichloride and the Schiff base derived from salicylaldehyde and benzoyl hydrazide. The two compounds have been characterized by elemental analysis, IR and NMR (1H , ^{13}C , ^{15}N , ^{119}Sn) spectra, and their structures have been confirmed by single crystal X-ray structure analysis. Crystals of complex **1** are triclinic, space group $P\bar{1}$, $a = 11.1631(5)$, $b = 13.462(2)$, $c = 16.511(1)$ Å, $\alpha = 106.193(9)$, $\beta = 106.379(8)$, $\gamma = 94.932(8)^\circ$, $Z = 4$, $R_1 = 0.0461$, $wR_2 = 0.0939$ for 13194 unique reflections. Crystals of **2** are monoclinic, space group $P2_1$, $a = 10.2073(5)$, $b = 14.645(2)$, $c = 10.411(3)$ Å, $\beta = 92.572(9)^\circ$, $Z = 4$, $R_1 = 0.0395$, $wR_2 = 0.0835$ for 5050 unique reflections. The central tin atom of either complex adopts a distorted trigonal bipyramidal coordination with two ligand oxygen atoms in axial positions, the nitrogen atom of the ligand and two organic groups on tin occupying equatorial sites. The $\delta(^{119}Sn)$ values for the complexes **1** and **2** are -329.2 and -150.3 , respectively, thus indicating penta-coordinated tin centres.

Key words: Diorganotin(IV) Complexes, Hydrazone Ligand