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Synthesis and structure of 2-nitrobenzoate tetraphenylantimony

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Abstract

Interaction of Pentaphenylantimony with 2-nitrobenzoic acid or *bis*(2-nitrobenzoate) triphenylantimony in toluene was carried out and 2-nitrobenzoate tetraphenylantimony $Ph_4SbOC(O)C_6H_4NO_2$-2 (**I**) was obtained with the yield up to 93%. *Bis*(2-nitrobenzoate) of triphenylantimony was synthesized with the yield of 90% by the reaction of oxidative addition of hydrogen peroxide and 2-nitrobenzoic acid in ether from triphenylantimony. According to the X-ray data the Sb atom in **I** has a distorted trigonal-bipyramidal coordination with phenyl and carboxylate ligands in axial positions (angle C_aSbO 176.39 (8))°. Bond lengths of Sb-O, Sb-C_a, Sb-C_e are equal to 2.325(2), 2.167 (2) and 2.115(3), 2.116(2), 2.122(2) Å, respectively. In molecule **I** there is observed intramolecular contact between atoms of Sb and O carbonyl group (3.318 (3) Å). Structural organization in the crystal is conditioned by the weak C···H interactions.