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Tris(4-fluorophenyl)antimony *bis*(trichloroacetate) And *tris*(4-fluorophenyl)antimony *bis*(bromoacetate): synthesis and crystal structures

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Abstract

Tris(4-fluorophenyl)antimony *bis*(trichloroacetate) (**I**) and *tris*(4-fluorophenyl)antimony *bis*(bromoacetate) (**II**) were synthesized by the reaction of *tris*(4-fluorophenyl)antimony with trichloroacetic and bromoacetic acids in the presence of *tert*-butylhydroperoxide. According to the X-ray diffraction data, the antimony atoms in two crystallographically independent molecules **I** have a distorted trigonal bipyramidal geometry with carboxylate ligands in axial positions. The OSbO and CSbC angles are 171.62(17)° (A), 177.97(16)° (B) и 113.8(2)°-127.4(2)° (A), 118.1(2)-123.0(2)° (B). The Sb–O and Sb–C bond lengths are 2.117(4), 2.123(4) и 2.100(6)-2.105(5) Å (A); 2.107(4), 2.115(4) и 2.098(6)-2.106(6) Å (B). In the trigonal bipyramidal molecules **II**, the OSbO and CSbC angles are 176.2(3)° and 107.1(4)°, 110.9(3)°, 142.0(4)°. The Sb–O and Sb–C bond lengths are 2.130(7), 2.130(7) and 2.101(9), 2.102(9), 2.121(9) Å, respectively. The intramolecular $Sb\cdots O_{=C}$ distances in **I** (2.879(6), 2.946(6) Å) are shorter than the analogous distances in **II** (3.197(6), 3.337(6) Å (A), 3.176(6), 3.196(6) Å (B)).