

Synthesis and structure of complexes of antimony $[\text{Me}_3\text{NH}]^+_3[\text{Sb}_2\text{I}_9]^{3-}$ и $[\text{Ph}_3\text{PrP}]^+_3[\text{Sb}_3\text{I}_{12}]^{3-}\cdot\text{MeCN}$

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Abstract

Interaction trimethylammonium iodide and antimony iodide (molar ratio 3:2, respectively) in a solution of acetone synthesized complex $[\text{Me}_3\text{NH}]^+_3[\text{Sb}_2\text{I}_9]^{3-}$ (**I**). From equimolar amounts of iodide triphenylpropylphosphonium and antimony iodide in acetonitrile was obtained complex $[\text{Ph}_3\text{PrP}]^+_3[\text{Sb}_3\text{I}_{12}]^{3-}\cdot\text{MeCN}$ (**II**). Structure **I**, **II** found by X-ray. Cations of the complexes have a little distorted tetrahedral structure (CNC 109.6(6)°, 111.1(6)°, 112.5(6)° in **I**, CPC- 107.6(3)°- 110.85 (18)° in **II**), antimony atoms in the anions $[\text{Sb}_2\text{I}_9]^{3-}$ and $[\text{Sb}_3\text{I}_{12}]^{3-}$ have a coordination number of 6 (distances Sb-I_{brid} and Sb-I_{term} are 3.1904(5), 3.3745(5) and 2.8893(5), 2.8292(5) Å in **I**, (3.0090(5)-3.5120(5) and 2.7810(5)-2.8671(5) Å in **II**).