

Synthesis and structure of the complex $[\text{Ph}_3\text{BuP}]^+_2[\text{Sb}_2\text{I}_8\cdot\text{C}_4\text{H}_8\text{O}]^{2-}$

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Abstract

The interaction of equimolar amounts of iodide triphenylbutylphosphonium and iodide antimony in the solution of tetrahydrofuran was performed to synthesize the complex $[\text{Ph}_3\text{BuP}]^+_2[\text{Sb}_2\text{I}_8\cdot\text{C}_4\text{H}_8\text{O}]^{2-}$. According to the X-ray the complex cation has a little distorted tetrahedral structure, antimony atoms in the centrosymmetric anion 6-coordinated, axial positions are occupied by iodine atoms and oxygen atoms of tetrahydrofuran (THF). Solvate THF molecule disordered over two positions with equal weight, distance Sb-O is 2.811(4) Å.