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Synthesis and crystal structure of tetrachloroaurate butyltriphenylphosphonium $[Ph_3BuP]^+[AuBr_4]^-$

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Abstract

By interaction of butyltriphenylphosponium bromide with $HAuBr_4 \cdot 9H_2O$ in acetone we obtained the complex $[Ph_3BuP]^+ [AuBr_4]^-$ (**I**). According to the data of X-ray, the complex **I** is presented by the crystalline tetrahedral cations $[Ph_3BuP]^+$ (bond lengths P-C_{Ph} and P-C_{Bu} 1.790(8)-1.799(8) and 1.790(8) Å, respectively, the angles CPC 107.9(4)°-110.7(4)°) and planar centrosymmetric anions $[AuBr_4]^-$ (angles BrAuBr 88.91(4)°-91.09(4)° and 177.64(5)°-180°), the bond lengths Au-Br are 2.4104(10)-2.4246(11) Å).