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Synthesis and crystal structure of acetonyltriphenylphosphonium tetrachloroaurate $[Ph_3PCH_2C(O)CH_3]^+[AuCl_4]^-$

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Abstract

Reaction of hexahydrate tetrachloroauratehydrogen acid with acetonylphenylphosphonium chloride in acetone resulted in obtaining a complex $[Ph_3PCH_2C(O)CH_3]^+[AuCl_4]^-$ (**I**). According to X-ray data, the crystal of complex **I** consists of four crystallographically independent tetrahedral cations $[Ph_3PCH_2C(O)CH_3]^+$ (bond lengths P-C_{Ph} and P-C_{Alk} are 1.787(6)-1.801(5) and 1.793(6)-1.803(6) Å respectively, angles CPC 106.9(4)°-112.7(3)° and four crystallographically independent planar anions $[AuCl_4]^-$ (angles ClAuCl 88.24(10)°-91.66(9)° and 177.97(9)-179.56(8)°, Au-Cl bond lengths are 2.252(2)-2.281(2) Å).