

Triiodide tetraorganylphosphonium $[\text{Ph}_3\text{RP}]^+ [\text{I}_3]^-$ (R = Et, Pr, Am, *i*-Am, Ph, CH_2Ph) и $[\text{Ph}_3\text{PCH}_2\text{CH}_2\text{PPh}_3]^{2+} [\text{I}_3]^-_2 \cdot \text{DMSO}$. Synthesis and Structure.

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Abstract

The reaction of iodides tetraorganylphosphonium Ph_3RPI (R = Et, Pr, *n*-Am, *i*-Am, Ph, CH_2Ph), $[\text{Ph}_3\text{PCH}_2\text{CH}_2\text{PPh}_3]^{2+} [\text{I}_3]^-$ with hexaiodoplatinate potassium in dimethyl sulfoxide were synthesized complexes $[\text{Ph}_3\text{EtP}]^+ [\text{I}_3]^-$ (**I**), $[\text{Ph}_3\text{PrP}]^+ [\text{I}_3]^-$ (**II**), $[\text{Ph}_3\text{AmP}]^+ [\text{I}_3]^-$ (**III**), $[\text{Ph}_3(i\text{-Am})\text{P}]^+ [\text{I}_3]^-$ (**IV**), $[\text{Ph}_4\text{P}]^+ [\text{I}_3]^-$ (**V**), $[\text{Ph}_3(\text{PhCH}_2)\text{P}]^+ [\text{I}_3]^-$ (**VI**) and $[\text{Ph}_3\text{PCH}_2\text{CH}_2\text{PPh}_3]^{2+} [\text{I}_3]^-_2 \cdot \text{DMSO}$ (**VII**). According to date X-ray, phosphorus atoms in the cations of complexes **I-VII** have a tetrahedral coordination (CPC 104.1(4)-118.6(4)° P-C 1.740(8)-1.985(15) Å). In the linear $[\text{I}_3]^-$ anions angle I-I-I varies in the ranges 176.2(7)-179.7(2)°, bond lengths I-I are 2.830-2.944 Å. Cations and anions in the complexes **I, III-VII** are related to each other by weak hydrogen bonds $\text{H}\cdots\text{I}$ 2.95-3.18 Å.