Short Communication _____ *Thematic Section:* Preparative Chemistry.
Registration Code of Publication: 10-22-12-18 Subsection: Organoelemental Chemistry.
Publication is available for discussion in the framework of the on-line Internet conference "*Novel synthetic methods, structure and application of organoelemental compounds*". http://butlerov.com/synthesys/
Contributed: November 23, 2010.

Reaction of tetraphenylphosphonium iodide with bismuth triiodide

© **Vladimir V. Sharutin**,*+ **Vladislav S. Senchurin**, **Olga K. Sharutina**, and **Olga A. Davydova**
Department of chemistry. Blagoveshchensk state pedagogical university. Lenin St., 104. Blagoveshchensk, 675000. Russia. Phone: +7 (4162) 37-61-91. E-mail: vvsharutin@rambler.ru

*Supervising author; +Corresponding author

Keywords: *reaction, iodide, bismuth, tetraphenylphosphonium.*

Abstract

By interaction of tetraphenylphosphonium iodide with bismuth triiodide (1:1, 1:1.5, 1:2 mol.) in dimethyl sulfoxide we synthesized the complex $[Ph_4P]^+_2[Bi_2I_8\cdot(Me_2S{=}O)_2]^{2-}\cdot 2Me_2S{=}O$ (**I**). The reaction of tetraphenylphosphonium iodide with bismuth triiodide (1:2 mol.) in acetone results in the formation of the compound $[Ph_4P]^+_3[Bi_5I_{18}]^{3-}$ (**II**). In dissolving bismuth iodide in DMSO complex there was formed $[(Me_2S{=}O)_8Bi]^{3+}$ $[Bi_2I_9]^{3-}$ (**III**). The product of interaction of complexes **II** and **III** with tetraphenylphosphonium iodide in DMSO is complex **I**.