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THE REACTIONS OF ALKYLATION OF CARBOXYLATE PHOSPHABETAINES

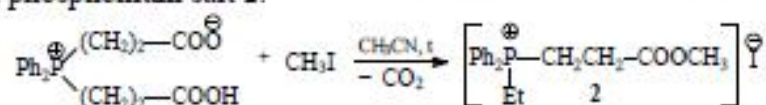
Aksunova A.F., Bakhtiyarov D.I., Morozov M.V., Minnullin R.R., Galkina I.V., Galkin V.I., Bakhtiyarova Yu.V.

Kazan Federal University
Kazan, Russia
Graduate student
alfiya-nizamieva@mail.ru

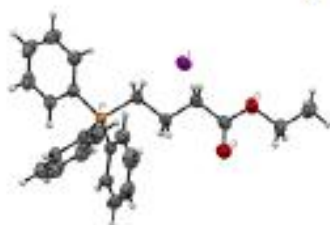
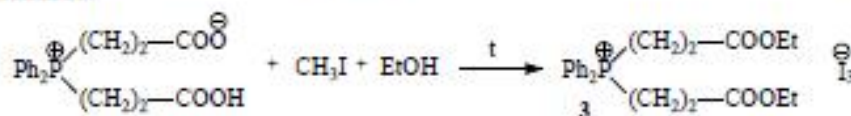
Alkylation of monocarboxylate betaine leads to the formation of phosphonium salt 1. The structure of obtained compound has been confirmed by spectral methods and X-ray diffraction analysis (pic.1).



In the case of reaction proceeding in the media of acetonitrile under heating, decarboxylation occurs with the formation of phosphonium salt 2.



Similar reaction of dicarboxylate phosphobetaine proceeds slightly different. The final product of the reaction of alkylation depends on conditions. In the case of using of ethanol as a solvent the alkylation reaction of dicarboxylate betaine with methyl iodide leads to the formation of phosphonium salt which contains two ester groups. The structure of phosphonium salt 3 has been confirmed by a single crystal X-ray diffraction studies.



Picture 1. Molecular structure of (+-ethoxy-4-oxobutyl)triphenylphosphonium iodide 1 in the crystal



Picture 2. Molecular structure of bis(3-ethoxy-3-oxopropyl)diphenylphosphonium triiodide 3 in the crystal

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.