

LETTERS
TO THE EDITOR

Synthesis of Triphenylantimony Bis(phenylcarboranylacetate)

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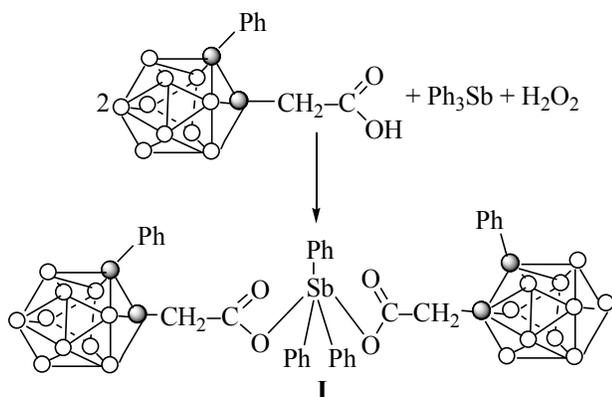
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Reaction of triphenylantimony with arylsulfonic acid ArSO₂OH (where Ar is a bulky organic substituent like α -naphthyl), which proceeds as oxidative addition in the presence of hydrogen peroxide, is known to afford triphenylantimony disulfonate in 25% yield [1]. It was shown also that the yield of triphenylantimony bis(arylsulfonates) increases in this reaction to 94% at the use of an arylsulfonic acid containing less bulky substituent.

In this work we studied the reaction of oxidative addition of triphenylantimony to O–H acid phenylcarboranylacetic acid involving a bulky phenylcarboranyl group. In this case the yield of the target reaction product, triphenylantimony bis(phenylcarboranylacetate) **I**, was shown to be 47%.



Colorless crystals of compound **I**, well soluble in organic solvents, precipitated from the reaction mixture over several hours.

Therefore, it is possible to conclude that in the reaction of oxidative addition of such type the steric factor affects the yield of the target product: more bulky substituent in the initial acid leads to a decrease in the end product yield.

Triphenylantimony bis(phenylcarboranylacetate) (I). To a solution of 0.40 g of triphenylantimony in 30 ml of diethyl ether were added 0.58 g of phenylcarboranylacetic acid and 0.10 ml of 37% hydrogen peroxide aqueous solution. The reaction mixture was kept for 12 h at 20°C. After the solvent removal the residue was recrystallized from hexane-benzene mixture. Yield 0.46 g (47%), colorless crystals, mp 208°C. IR spectrum, ν , cm⁻¹: 3063, 2578, 1653, 1480, 1436, 1347, 1206, 1072, 996, 950, 758, 733, 689, 665, 459. Found, %: C 47.04; H 5.76. C₃₄H₄₉B₂₀O₄Sb. Calculated, %: C 47.28; H 5.68.

REFERENCES

1. Platonova, T.P., *Candidate Sci. (Chem.) Dissertation*, Vladivostok, 2002.