Tris(2-methoxyphenyl)bismuth. Structure and reaction of oxidative addition.

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Abstract

According to X-ray analysis of bismuth atoms in the molecules of tris(2-methoxyphenyl)bismuth have tetragonal coordination with carbon atoms of aryl substituents and unshared electron pairs at the vertices of the tetrahedron. Lengths of bonds Bi-C angles of CBiC are equal to 2.243(15)-2.255(18) Å and 92.5(5)-95.3(8)° respectively. Distances between atoms of bismuth and oxygen of methoxygroups (Bi···OCH₃) make up 3.055(17)-3.129(18) Å, due to which the coordination number of Bi atom increases to six. By interaction of tris(2-methoxyphenyl)bismuth, phenylpropionic acid and hydrogen peroxide (molar ratio 1:2:1 with the yield 92% we have obtained bis(phenylpropionate) tris(2-methoxyphenyl)bismuth and defined its structure.