The aim of this work was to develop methods of synthesis of phosphonic derivatives of the isoindolinone B, in which the phosphonic moiety would be connected to the heterocyclic ring through one, two or three methylene groups.

The synthesis of 17a-b and 18a-c containing phosphonic moiety attached to the isoindolinone block through three methylene bridges was achieved by exploiting reactions of organolithium derivatives 13a-b or 14a-c with 16b\textsuperscript{135].}

To synthesize 20a-b and 21a-c with two methylene groups between the phosphonic and the isoindolinone moieties an addition of organolithium derivatives 13a-b or 14a-c to diethyl vinylphosphonate (19) was performed. In case of the derivative 14c formation of a bis-phosphonic compound 22 apart from the expected product 21c was observed\textsuperscript{135].}

Product 26 in which the linker between the phosphonic and the isoindolinone fragments is one methylene group was synthesized by means of reduction of unsaturated phosphonate 24, which has been obtained by addition of dimethyl methane phosphonate lithium salt to N-methylphthalimide (4a)\textsuperscript{194-195].}

It was established, that N-substituted phtalides 4b-c and 4i-k undergo reactions with lithium salt of dimethylmethanephosphonate (23) giving products 24-25, 27-40 and 41. The type of the product obtained depends on the substituents on substrate\textsuperscript{196].}