

ABSTRACT

A general method for bisannulation of heteroaromatic compounds was developed. The method involved the reaction of heteroaromatic compounds, 2-chloromethylbenzoyl chloride with trimethylsilyl cyanide in methylene chloride to form the appropriate Reissert compounds. Upon treatment with sodium hydroxide in dimethylformamide, the Reissert compounds smoothly underwent intramolecular alkylation to give the cyano-intermediates which lost hydrogen cyanide in the above reaction condition to give the required bisannulation products. By the above methodology, 6,7-methylene dioxy-3,4-dihydroisoquinoline was converted to the corresponding 8-oxoprotoberberine. The procedure was extended to successful bisannulation of quinoline, phthalazine and phenanthridine derivatives. The synthesis of oxygenated 2-chloromethylbenzoyl chloride was also reported.

The rearrangement of quinoline Reissert compounds to 2-aryl quinoline derivatives was found to be conveniently effected by Triton B in methylene chloride. This finding led us to develop a 'one pot' synthesis of many 2-arylquinoline derivatives.

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