

Abstract

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Title of thesis: Synthesis of Chromeno[3,4-*c*]pyridines with New All-Carbon Quaternary Centre

This diploma thesis focuses on the synthesis of 3,4-disubstituted pyridine derivatives and their subsequent cyclization to form chromeno[3,4-*c*]pyridine derivatives with a new all-carbon quaternary center.

Phenyl-propiolate reacts with an aryl-substituted propargyl amine protected with 4-methoxybenzenesulfonyl group to form a 1,5-enyne.

Substituted 1,5-enyne undergoes intramolecular cyclization catalyzed by tri(2-furyl)phosphinogold(I)chloride [AuCl(TFP)] to form the corresponding dihydropyridine. In the presence of concentrated H₂SO₄, dihydropyridine undergoes carbocyclization forming the corresponding chromenopyridine with a new all-carbon quaternary center. The compounds prepared and their derivatives could find application as potentially biologically active substances and intermediates in organic synthesis.