

ABSTRACT

Charles University, Faculty of Pharmacy in Hradci Králové

Department of Organic and Bioorganic Chemistry

Candidate: Petr Makaj

Supervisor: PharmDr. Petr Matouš, Ph.D

Title of Thesis: Synthesis of Ortho-Condensed Nitrogen Heterocycles Using Gold Complexes

This diploma thesis is focused on the preparation of pyridopyridine derivatives using gold-catalyzed cyclizations. The synthesis is based on MBS-protected propargylamine, which after substitution with aryl using Sonogashira coupling reacts with tert-butyl (3-oxopent-4-ynyl)carbamate to form substituted 1,5-enyne.

The enyne thus prepared then undergoes cycloisomerization using tris(2-furanyl)phosphinegold(I)chloride as a catalyst to form pyridopyridine. Substances with this scaffold can be further used to synthesize potentially biologically active structures.

Keywords: gold catalysis, cyclization, pyridopyridine derivatives, 1,8-naphthyridine derivatives