

ABSTRACT

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Titel of Doctoral Thesis Gold-Catalyzed Cyclizations of 1,5-Enynes

This Ph.D. thesis deals with the development of gold(I)-catalyzed cyclizations of propargylamino acrylates (3-aza-1,5-enynes) in the presence of an external nucleophile. A library of tetrahydropyridines with an unusual hemiaminal ether functional group was thus prepared via the cyclization of a series of substituted enynes. The influence of the protective group as well as the substitution on the chemoselectivity of the reaction was demonstrated.

The tetrahydropyridines were further utilized as precursors for the preparation of pharmaceutically important nitrogen heterocycles. The reduction of selected compounds furnished substituted piperidines, while Diels-Alder cycloaddition of alkenylated tetrahydropyridines gave rise to isoquinoline derivatives. Additional *ortho*-fused heterocycles (furopyridine, pyrrolopyridine and chromenopyridine) were prepared by the intramolecular version of the cyclizations of enynes with pending internal nucleophiles.