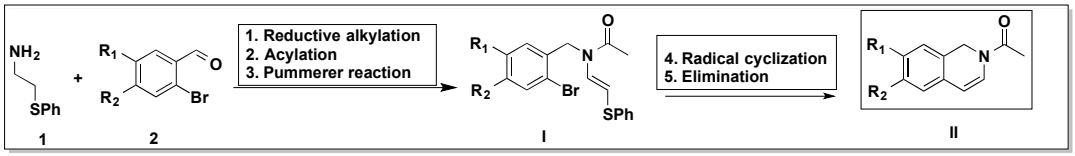
Synthesis of 1,2-dihydroisoquinolines via radical cyclization and elimination of (*E*)-*N*-(2-bromobenzyl)-*N*-(2-(phenylthio)vinyl)acetamide

HOLBER ZULETA PRADA[1], BENITO REYES TREJO[1], LIUS GERMAN LOPEZ VALDEZ[1], DIANA GUERRA RAMIREZ[1], JULIO MEJIA GONZALEZ[2], CRISTABEL PAULINA RAMIREZ GARCIA[2]

[1]UNIVERSIDAD AUTONOMA CHAPINGO, TEXCOCO DE MORA .ESTADO DE MEXICO, Mexico, [2]UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO, MEXICO DF, Mexico

Isoquinoline and its derivatives are very important compounds due to their pharmacological and biological activities. The development of practically simple and efficient strategies for the synthesis of these compounds remains a very important challenge for modern organic synthesis. Several strategies have been reported for the construction of this class of heterocycles. Herein, we developed a methodology of synthesis using a Pummerer processes with the intention of assessing its viability as a general strategy for the preparation of (*E*)-*N*-(2-bromobenzyl)-*N*-(2-(phenylthio)vinyl)acetamide **I**. These compounds allowed the development of a methodology of synthesis focused on access to different alkaloids of type 1,2-dihydroisoquinoline **II**. The major achievement of this work, was the obtaining of the (*E*)-*N*-(2-bromobenzyl)-*N*-(2-(phenylthio)vinyl)acetamide, like as a precursor for a radical cyclization reaction followed by elimination reaction to generating 1,2 dihydroisoquinoline in acceptable yields (40-60%). We describe the results of the reactions involved in the preparation of three examples of this family of compounds, the process of elaboration of these compounds was carried out in 5 steps of synthesis, using raw materials from easy availability, such as 2-(phenylthio)ethan-1-amine **1** and 2-bromobenzaldehydes **2**. Scheme 1. In the poster, all the steps of the reaction and the mechanisms involved in the process will be discussed.



Scheme 1. Preparation of 1,2-dihydroisoquinolines