Abstract

Chevalinulin A is a novel compound obtained from fungal strain *Aspergillus chevalieri* isolated from deep sea cold seeps in 2022. Based on structural characterizations, the compound exhibits an unusual and synthetically challenging combination of structural motifs; indole, diketopiperazine and bicyclo[2.2.2]octane core. This compound demonstrates remarkable proangiogenic properties, suggesting its potential as a therapeutic agent for conditions linked to inadequate angiogenesis, such as ischemic heart disease, coronary artery disease, and stroke. The elaboration of the first total synthesis of this compound is essential for further biological investigations, facilitating studies on structure-activity relationships and the development of its analogues. This diploma thesis focuses on elaboration of the synthesis of the key fragment useful for the total synthesis of chevalinulin A and its analogues.
Key words: chevalinulin A, synthesis