INTRODUCTION

Alzheimer’s Disease (AD) is a neurodegenerative disorder which is many times associated with aging being the most prevalent form of dementia. The pathogenesis of AD is not yet fully elucidated, but it is known that it is caused by a number of genetic, environmental and endogenous factors that act in an interconnected way. One of the current therapies for AD is based on the inhibition of acetylcholinesterase (AChE) and the consequent prevention of the degradation of acetylcholine. Therefore, several acetylcholinesterase inhibitors have been approved. However, these drugs have low selectivity and they cause a variety of side effects, suggesting that there is a considerable need for the development of new AChE inhibitors [1,2,3].

The multifactorial nature of AD requires new therapeutic strategies, especially based on the ‘one molecule, multiple targets’ paradigm. In this framework, the association between cholinesterase inhibition and antioxidant activity has been considered as an attractive approach for the treatment of AD [1].

Based on these precedents, this work aims to obtain new AChE inhibitors with antioxidant activity based on the xanthone scaffold.

Herein, we describe the synthesis of the building blocks 1,3,8-trihydroxyxanthone (X1) by two methodologies (Eaton’s reaction and Grover, Shah and Shah’s reaction) and the methoxy derivative (X2) [4].

RESULTS

Synthesis of buildings blocks

Structure elucidation by NMR

Part 1: Synthesis of buildings blocks

Part 2: Synthesis of Mannich base derivatives

FUTURE WORK

• Evaluation of Biological Activity:

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REFERENCES