

Title: **Advances in the stereoselective synthesis of pyran rings**

Student: Ferran Barrera Martínez

Date: January 2019

Supervisor/s: Dr. Pedro Romea García
Department of Inorganic and Organic Chemistry

Six-membered oxygenated rings, called pyrans are found in some metabolites with an important biological activity which makes them an important topic in the organic synthesis.

On the first part of this report a brief review about pyrans and the importance of stereochemistry is done, followed by a retrosynthetic analysis of the strategies to synthesize pyrans, introducing the Prins reaction, an elegant method to obtain the six-membered oxygenated rings.

It involves a catalysed addition of an aldehyde on an alkene catalysed by an acid with high yields and a great control of the asymmetric synthesis. In the second part of this review four articles of remarkable advances in the Prins stereoselective synthesis of pyrans are carefully analysed.

Keywords: Pyrans, Stereochemistry, Prins, Asymmetric synthesis, Advances.