*Title:* **Towards the synthesis of the Stemokerrine**

*Student:* Elisenda Passola Lizandra

*Date:* October 2019

*Supervisor/s:* Martin Morgenstern
*Chair of Organic Chemistry I*
Prof. Dr. Thorsten Bach
*Technische Universität München*

The synthesis of natural products is an indispensable field within organic chemistry, which is currently gaining strength day after day. Not only is it intended to synthesize highly complex compounds to test the limits of organic synthesis itself, but also its results are used in many other fields related to chemistry, for example the pharmacy to innovate therapeutic agents. For these reasons, Stemona alkaloids derivatives are such highly valuated chemical targets. Firstly because of their chemical complexity and instability and secondly because of their antitussive and antiparasitic properties. Within this scientific paradigm, is pretended to synthesize Stemokerrine, a Stemona derivative that belongs to the Prostemonine-type group derivatives and is characterized by a pyrido(1,2)azepine core. This nucleus is the reason why the synthesis of this compound starts from the D-pipecolic (1) acid and the 2-methylfuronoate (10), being the objective of the work to optimize the Stille reaction between its derivate fragments: N-(tert-Butoxycarbonyl)-(R)-2-{(R)-1'-[(tertbutyldimethylsilyloxy) propyl]}-6-(trifluormethylsulfonyl) oxy-3, 4-dihydropyridin (9) and (E)-3-(3'Tributylzinnfuran-2'-yl) prop-2-enmethylester (15).