

Abstract

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Title of Doctoral Thesis Synthesis and application of polysubstituted pyranones

This Thesis deals with the development of the isomerization of 5-alkyliden-5,6-dihydro-2*H*-pyran-2-ones to 6-alkyl-5-methylidene-5,6-dihydro-2*H*-pyran-2-ones. This process is an unusual version of the intramolecular Tsuji-Trost reaction, the products of which are seemingly thermodynamically unfavourable. The methodology developed through the optimization of the reaction conditions tolerated a broad range of functional groups. Quantum chemistry calculations identified the formation of the pyramidal η^2 -complex as the key step of the reaction, which made the formation of the final products possible.