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Title: Approaches Towards the Synthesis of Berkeleyacetal and Hispanin Core Architectures

Authors: Sharma, Sahil

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Abstract:

Pyranone acetate has been an important precursor for the total synthesis of numerous biologically active natural products. A synthetic approach towards Berkeleyacetal core architecture has been performed using pyranone esters. We initiated our work with the preparation of various derivatives of pyranone esters and attempted to perform intramolecular [4+2] cycloaddition by subjecting pyranone esters to various solvents and a range of temperatures. We eventually attempted to prepare cyclic diene to achieve intramolecular [4+2] cycloaddition and synthesize the desired core present in Berkeleyacetals. Hispanins are another biologically important class of molecules which can be prepared using pyranone acetate. There was no previous report towards the total synthesis of Hispanins. We tried to perform the Total synthesis of Hispanin C using model studies on Pyranones. For that, we converted Pyranone acetate into Benzyloxy pyranone and pyranone. We further devised a strategy to perform aldol reaction in C5 substituted pyranones, and have tried to employ it in the total synthesis of Hispanin C.

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