

The reaction of 4-formyl benzoic acid (2B) with dihydrolevoglucosenone (DHGL) resulted in the expected *exo*-cyclic enone (4) in pure crystalline form. When 2-formyl benzoic acid () reacted with dihydrolevoglucosenone, (DHGL) we detected by TLC, formation of two products with $R_f = 0.67$ and $R_f = 0.87$ respectively. (Table 1).

Our attempts to interpret the results of the reaction and identify the second product with $R_f = 0.67$ are underway. One of the possible explanations is that during the prolonged heating the thermodynamically stable *E*-enone is forming first, and then slowly isomerizes to *Z* enone with the formation of a cyclic minor co-product. However, the NMR analysis of mixture of both products () is not conclusive and will require additional separation techniques such as preparative TLC or HPLC for complete separation of both components. Scheme 2 shows a suggested mechanism for this reaction.

Enantioselective synthesis often utilizes carbohydrates as chiral starting materials because of their availability and affordability.² Dihydrolevoglucosenone, a chiral, bicyclic enone produced from the pyrolysis of cellulose, has significant potential for the synthesis of pharmacore containing compounds.

So far, dihydrolevoglucosenone has been successfully reacted with numerous aromatic aldehydes *via* aldol condensation.^{1,3} These reactions, for the most part, produce a single,