

ABSTRACT

THESIS: The Optimization of the Allylation of Phenols *via* Oxypyridinium Salts

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Over the last few years, oxypyridinium salts have proven to be an efficient reagent in allowing the transfer of functional groups, especially 2-benzyloxy-1-methylpyridinium triflate (BnOPT). BnOPT allows for the transfer of benzyl groups to both alcohols and carboxylic acids to synthesize the corresponding benzyl ethers and benzyl esters, respectively. The reaction was investigated to determine whether the mechanistic pathway was more S_N1 or S_N2 -favored. After investigating the successful transfer of *t*-butyl groups, possibly due to cation stabilization, it became logical to attempt to transfer other possible functional groups. If the reaction is mostly S_N1 -favored, then allyl groups reactivity would be in between that of benzyl and *t*-butyl groups. Allyl groups were tested because of the vast usefulness in protecting group chemistry and in 3,3-rearrangements. 2-Allyloxy-1-methylpyridinium triflate (AMPT) allowed for the transfer of allyl protecting groups to carboxylic acids under relatively milder conditions effectively. Allyl transfers to phenols and alcohols were explored. This thesis accomplished the transfer of allyl groups to phenols to synthesize the corresponding allyl ethers efficiently *via* oxypyridinium salts under relatively mild conditions.