STEREOSELECTIVE CONDENSATION REACTIONS OF 3-FORMYL-2(1H)PYRIDONES AND THIONES

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Condensations of 1-substituted-3-formyl-2(1H)-pyridinethiones with methyl ketones such as acetophenones gives the corresponding chalcones in high yields[1]. Geometry at the vinyl hydrogens are E. These chalcones can be cyclized with ethyl cyanoacetate in the presence of ammonium acetate to new 3-cyano-2(1H)pyridones. Preparation of ketoles by stereoselective aldol condensations in unpolar solvents with metal enolates is an area of great interest[2]. Normally preparation of ketoles in polar solvents occurs without stereoselectivity and very few 3-substituted pyridineketoles are known.

However we have recently found that ketoles can be prepared from 3-formyl-2(1H)pyridinethiones in a stereoselective aldol condensation in protic solvents. The scope, limitation and stereochemistry of the products from this reaction will be discussed.

1. M. A. Michael, J. Becher and I. Winckelmann, J. Heterocyclic Chem., in press.
2. W. Kreiser, Nachr. Chem. Tech. Lab. 29 555 (1981).