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Tetrahedron Letters

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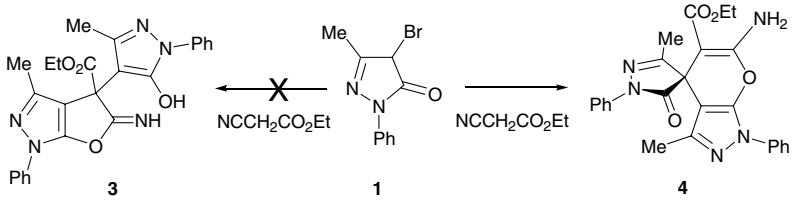
# Contents

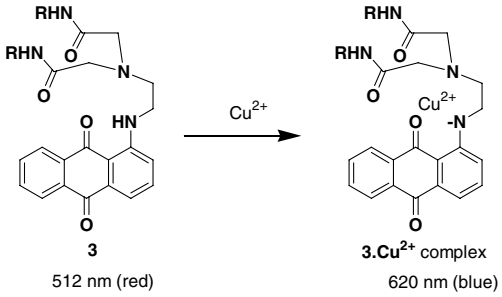
## COMMUNICATIONS



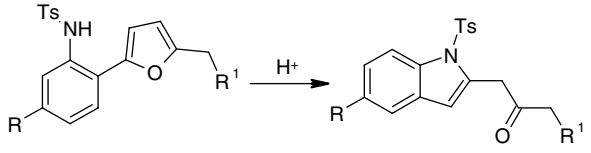


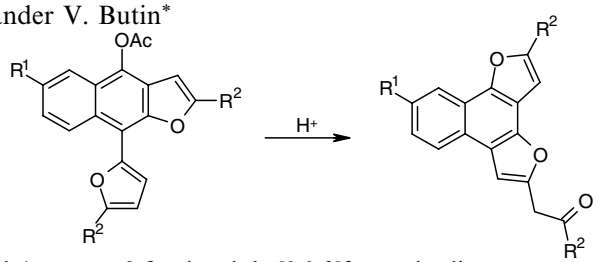



A diamide–diamine based sensor possessing anthracene-9,10-dione as a chromogenic moiety has been synthesized, which demonstrates a highly selective colour change from red to blue with $Cu^{2+}$ for visual detection of $Cu^{2+}$ (5–50 μM). The selective deprotonation of an aryl amine NH by $Cu^{2+}$ is responsible for a bathochromic shift and significant colour change.



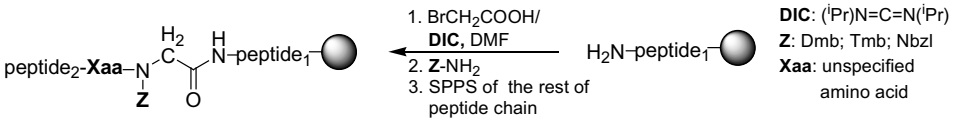


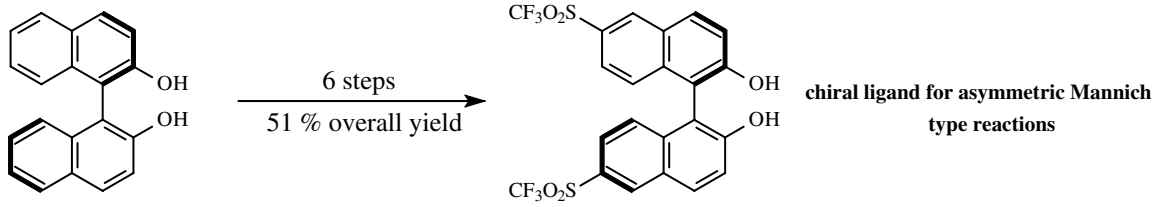



The cascade rearrangement of novel 4-acetoxy-9-furylnaphtho[2,3-*b*]furans leading to tetracyclic naphthodifurans derivatives has been developed. The reaction proceeds via double recyclization of both furan rings of the initial molecule, one of the furan rings serving as a 1,3-dicarbonyl compound equivalent.

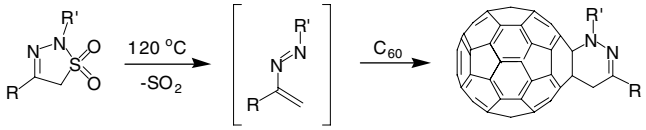


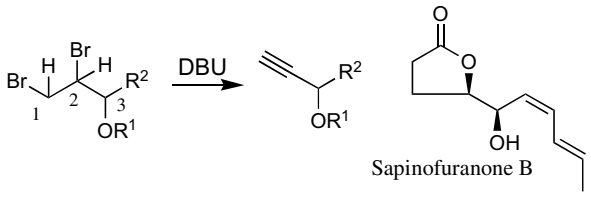




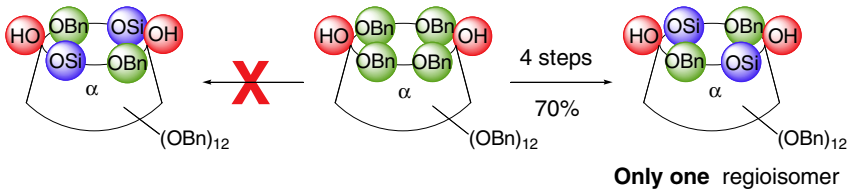





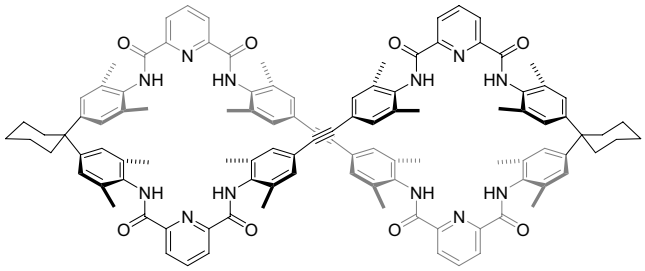







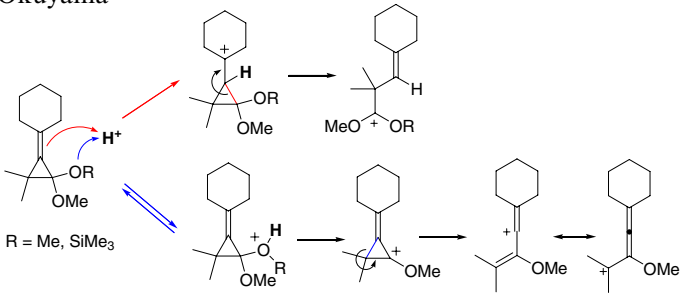


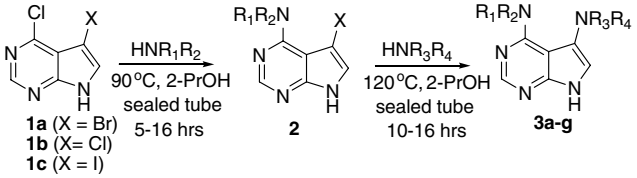




A macrocycle that possesses two binding subcavities was prepared and positive homotropic cooperativity was demonstrated on the binding event.



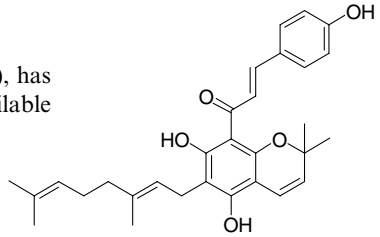
Regioselectivity of ring opening of alkylidenecyclopropanone acetal with hydrogen chloride changes from >99:1 to <1:99 depending on the solvent. The switching may be controlled by competition of protonations of oxygen the and the olefinic carbon.





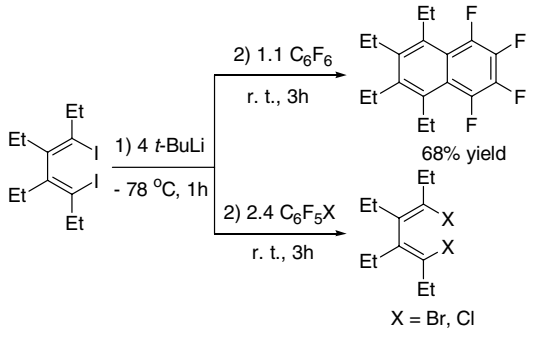



The first total synthesis of a bioactive natural product, mallotophilippen C (**1**), has been achieved. The synthesis was accomplished from commercially available phloroacetophenone (**4**) in 11 linear steps with an overall yield of 28%.

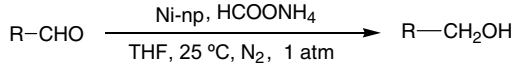


mallotophilippen C (**1**)

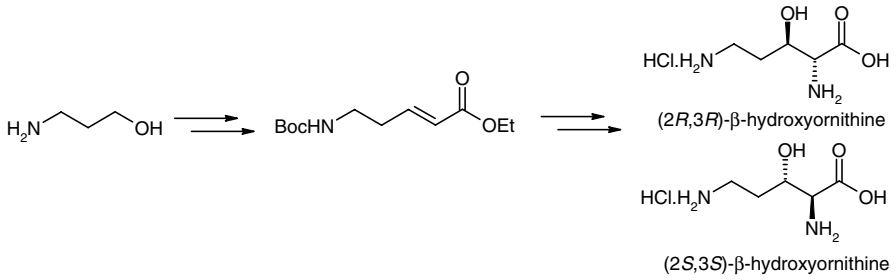




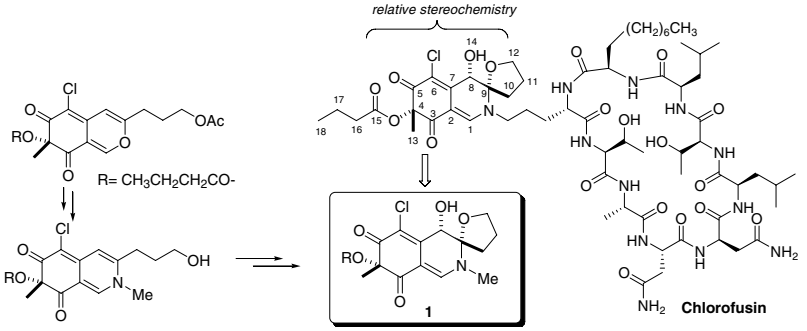


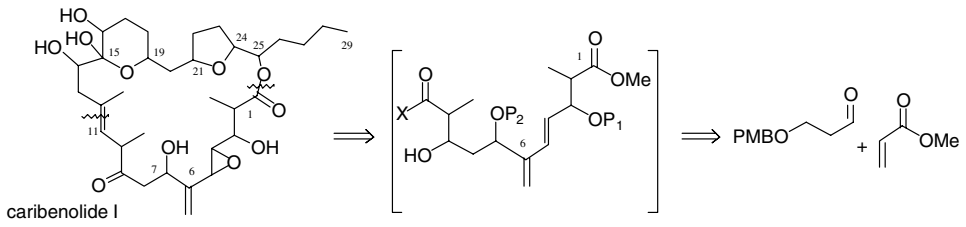

A novel method for reduction of aromatic and heteroaromatic aldehydes with ammonium formate using Ni-nanoparticles is described. The Ni-nanoparticles act as a green catalyst for selective reduction of the aldehydic group in the presence of other functional groups, viz.: $-NO_2$, –CN and alkenes to give the corresponding alcohols in excellent yields.





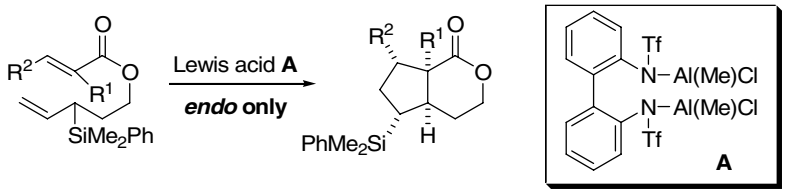



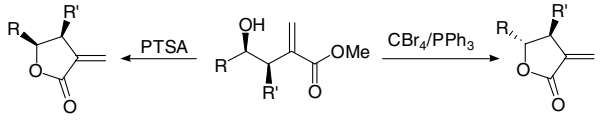



The $C_1$–$C_{11}$ fragment of caribenolide I was prepared from 3-paramethoxybenzyloxypropanal, with an excellent control of the configuration of stereogenic centres. The key steps rely on an asymmetric aldolisation and a Baylis–Hillman reaction.

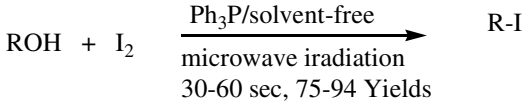






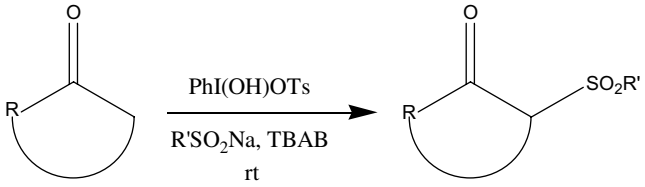

*syn*-Homoallylic alcohols prepared from Baylis–Hillman adducts react with $CBr_4/PPh_3$ to give *trans*-α-methylene-γ-lactones. Notably, the same alcohols yield the *cis*-α-methylene-γ-lactones in the presence of traces of *p*-toluenesulfonic acid.





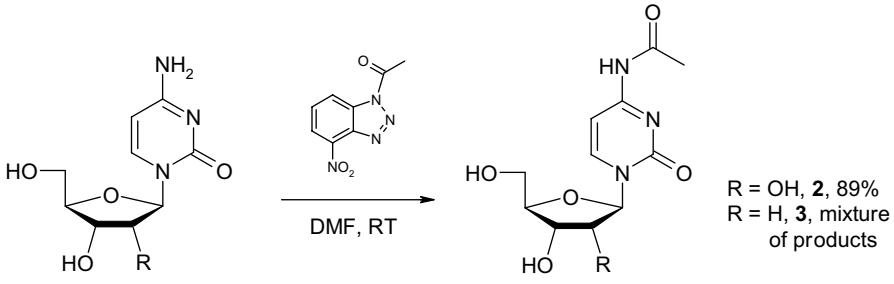

R = Aliphatic, Benzylic and Allylic

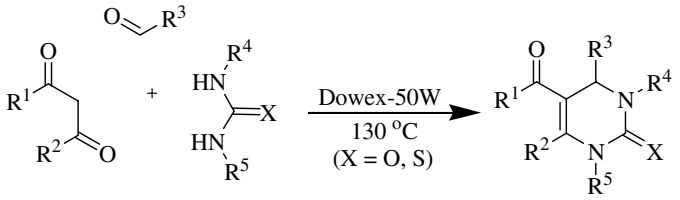





An easy solvent-free method is described for the conversion of ketones into β-keto sulfones in high yields via in situ generation of α-tosyloxyketones, followed by nucleophilic substitution with sodium arene sulfinate in the presence of tetra-butylammonium bromide.

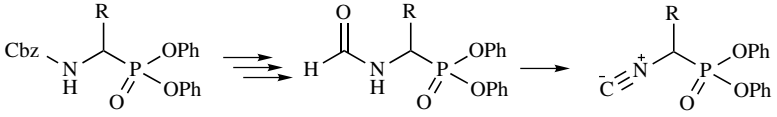






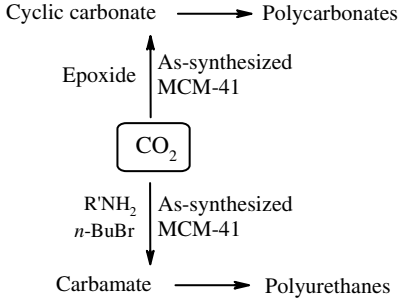

Dowex-50W ion exchange resin-promoted solvent-free heating of an intimate mixture of an aldehyde, an active methylene compound and *N*,*N*′-dimethylurea furnished the title compounds in moderate to good yields.



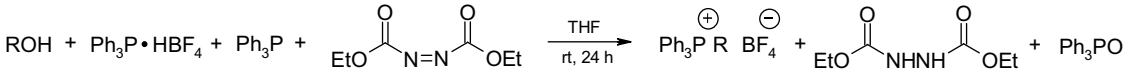



The synthesis of isocyanide derivatives of α-aminoalkylphosphonate diphenyl esters as well as their possible application in multicomponent condensations are presented.

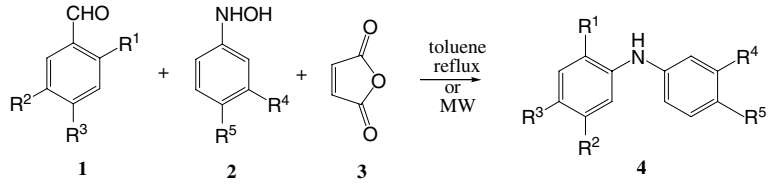




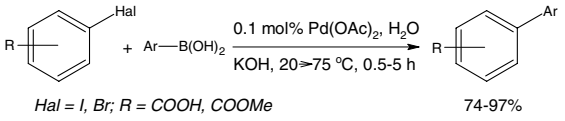


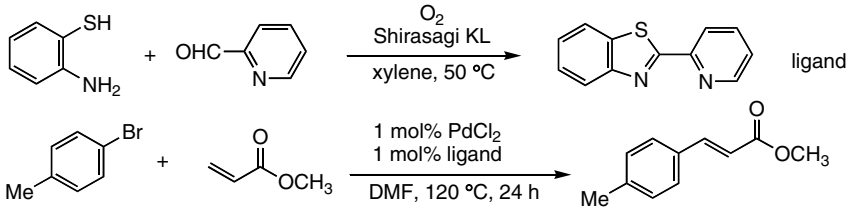

The Mitsunobu reaction of methanol or primary alcohols with triphenylphosphonium tetrafluoroborate in the presence of DEAD and $Ph_3P$ gives the respective alkyltriphenylphosphonium salts in good yields. The reaction also worked for the conversion of *N*-acyl-2-hydroxyglycinates into *N*-acyl-2-triphenylphosphonioglycinates.



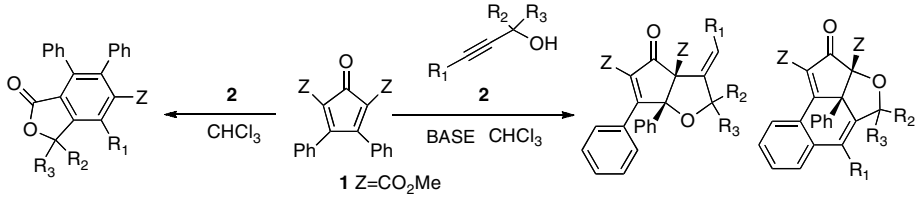


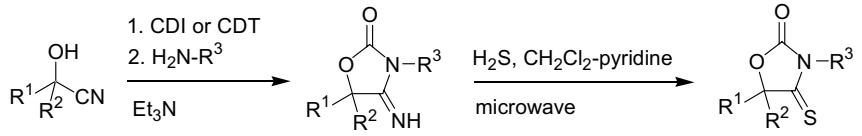





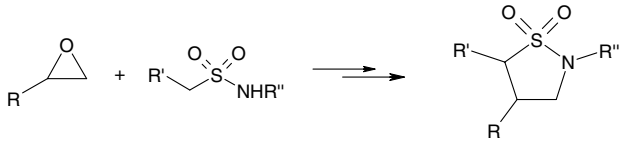





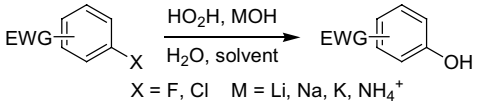





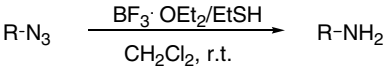


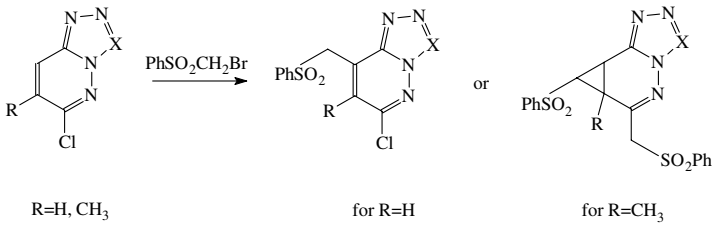





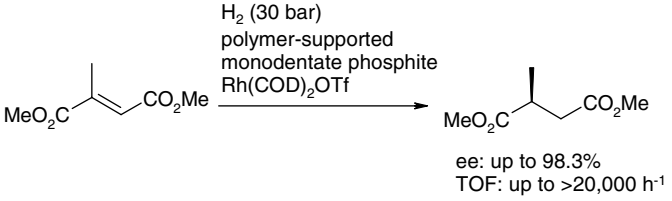




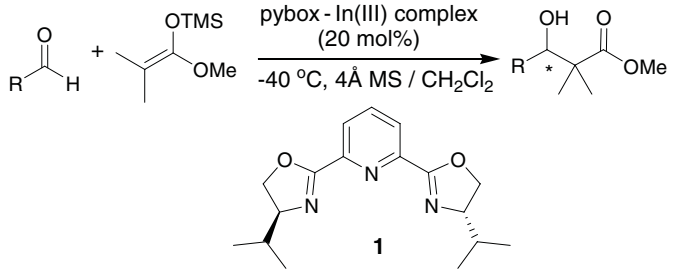




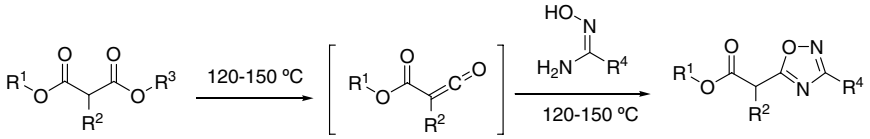



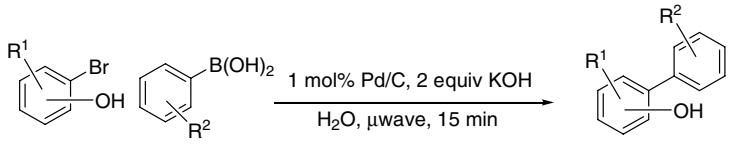



A chiral indium(III) complex prepared from indium triflate and pybox ligand **1** has been developed to afford good yields and enantioselectivities (up to 92% ee) in the addition of (1-methoxy-2-methyl-propenyloxy)-trimethylsilane to various aromatic and aliphatic aldehydes via the Mukaiyama aldol reaction.



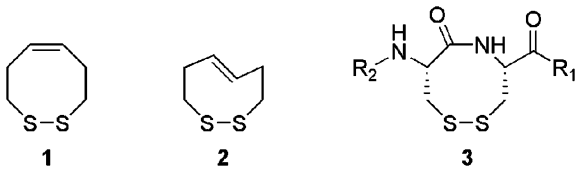


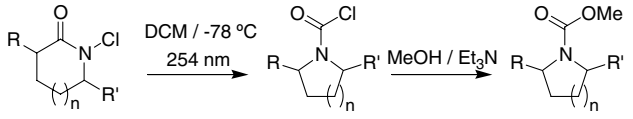



The development of a novel Suzuki–Miyaura method has been achieved to allow the efficient arylation of bromophenols, featuring microwave reaction technology, inexpensive Pd/C as the catalyst and water as the solvent.



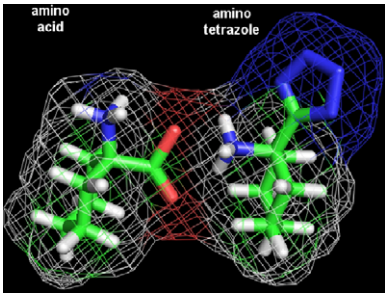


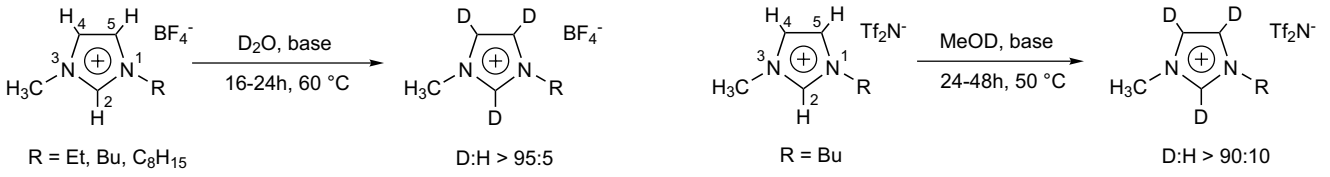


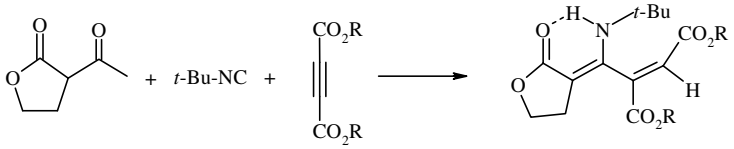

Upon photolysis in methylene chloride at −78 °C, different *N*-chlorolactams underwent a novel ring contraction to the corresponding carbamoyl chlorides, which were converted to the methyl carbamates. The rearrangement is 100% stereoselective, occurring with retention of configuration at the migrating carbon center. The yields of isolated carbamates ranged from 40% to 57%, the other product being the parent lactam, 18% to 38%.







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*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect



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