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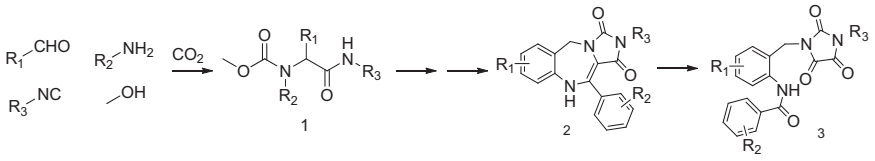
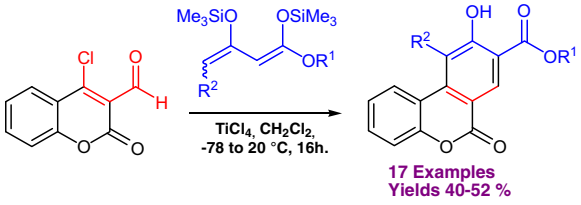
Tetrahedron Letters Vol. 51, No. 36, 2010

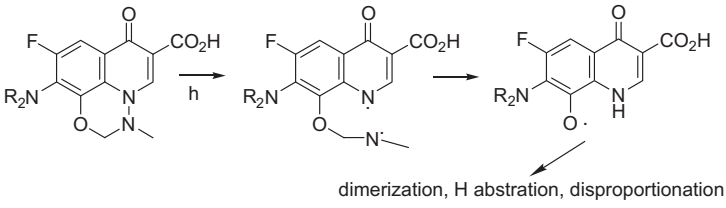
Contents

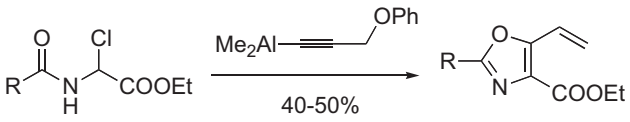
COMMUNICATIONS



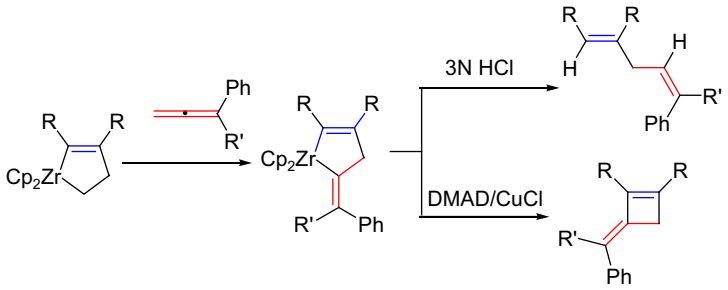
The article describes a concise synthesis of a collection of 4,5-dihydro-1*H*-benzo[*e*][1,4]diazepines fused to a hydantoin ring, generated in a mere three steps. The protocol employs the Ugi-5-component CO_2-mediated condensation, benzodiazepine formation promoted by acidic conditions and basic treatment to afford the fused hydantoin. Mechanistic caveats, dependent on the aldehydes of choice will be revealed and a facile oxidation of the final products to imidazolidenetriones is briefly discussed.



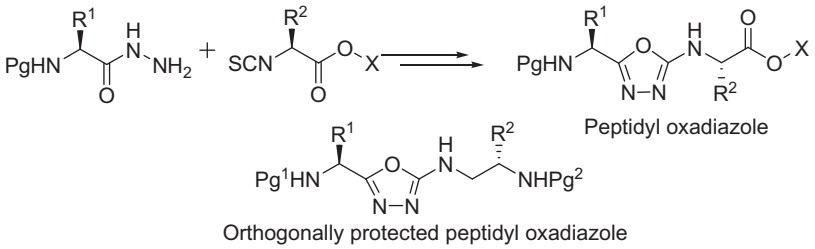




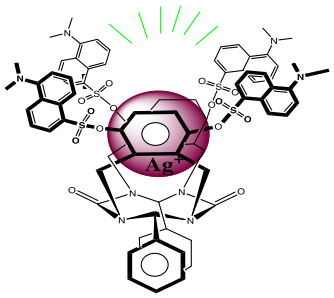
The reaction of chloroglycinates with the dimethylaluminum acetylide prepared from phenyl propargyl ether directly provides 5-vinyloxazoles in 40–50% yield.

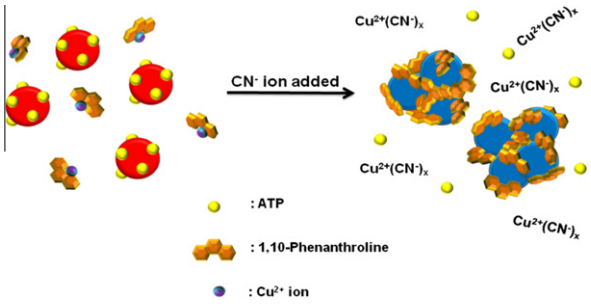


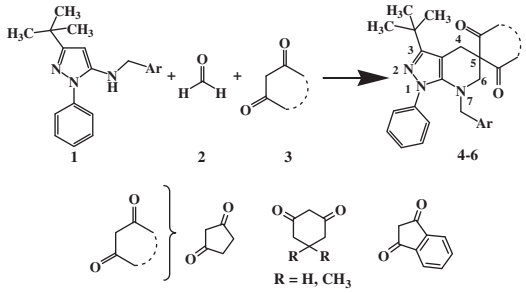
Synthesis and application of α-methylenyl zirconacyclopentene.

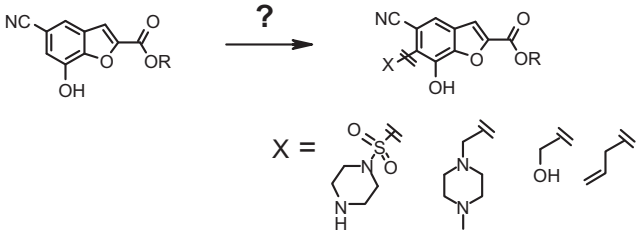


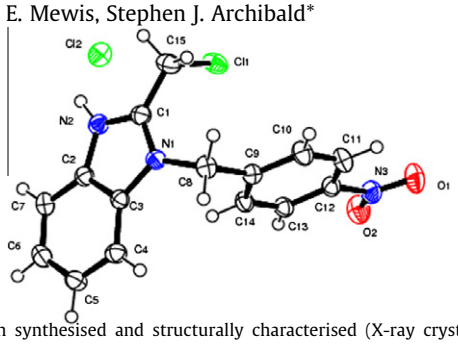
Synthesis of 1,3,4-oxadiazole containing peptidomimetics from the corresponding dipeptidyl thiosemicarbazides is reported. Further, the protocol is extended for the synthesis of orthogonally protected 1,3,4-oxadiazole tethered mimetics as well.



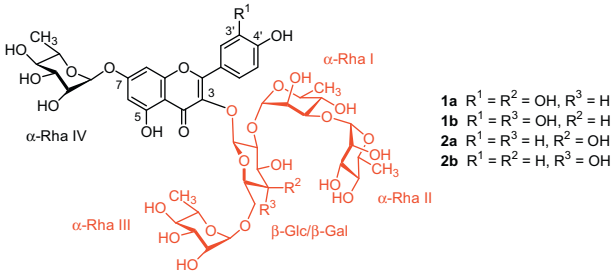




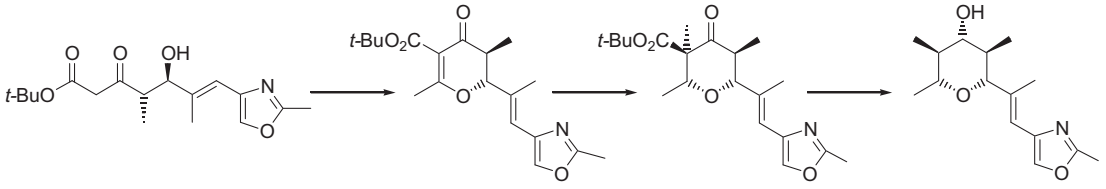


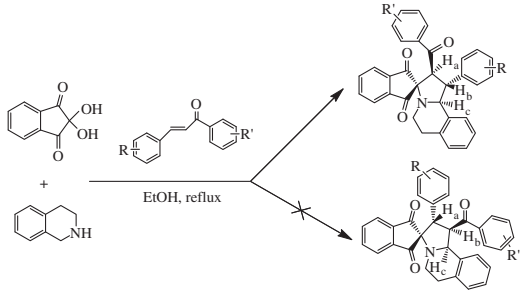


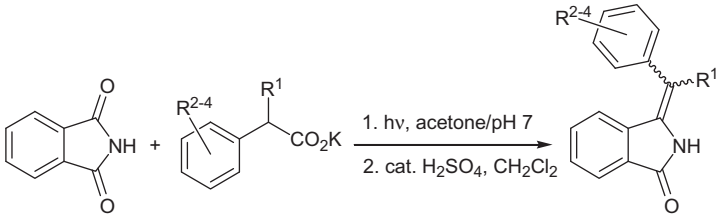
1-(4-Nitrobenzyl)-2-chloromethyl benzimidazole has been synthesised and structurally characterised (X-ray crystallography). It is a useful precursor for the synthesis of anti-virals, receptor-targeting antagonists or multifunctional chelating ligands.



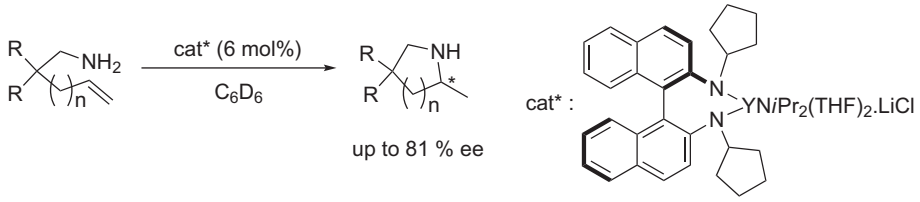
Two flavonol pentaglycosides (**1b**, **2b**) characterized by a novel O-linked branched tetrasaccharide were obtained from the pods of the legume *Bobgunnia madagascariensis*, together with the galactopyranosyl analogs **1a** and **2a**.



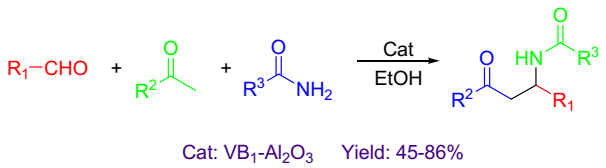


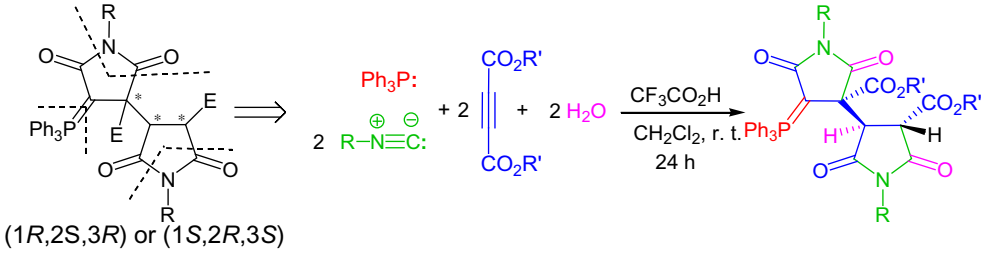


Photoadditions of phenylacetates to phthalimide in pH 7 buffer solution give the corresponding benzylated-hydroxyphthalimidines in moderate to high yields of up to 94%. Subsequent acid-catalyzed dehydration furnishes the corresponding 3-arylmethyleneisoindolin-1-ones in good to excellent yields and with high *E*-selectivities.

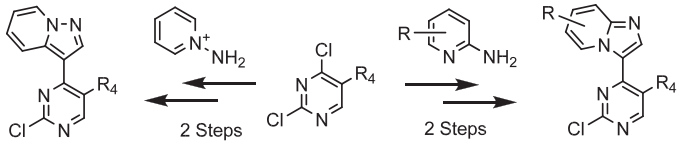


The complex Y[(*R*)-$C_{20}H_{12}(NC_5H_9)_2$][$NiPr_2$][THF]$_2$·LiCl catalyses the cyclisation of aminoolefins with ee up to 81% and reveals a more efficient catalyst for both its activity and enantioselectivity in a lesser extent than neutral alkyl, ate alkyl or ate tetraamido complexes coordinated by the same ligand.

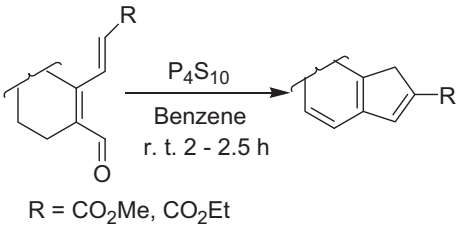


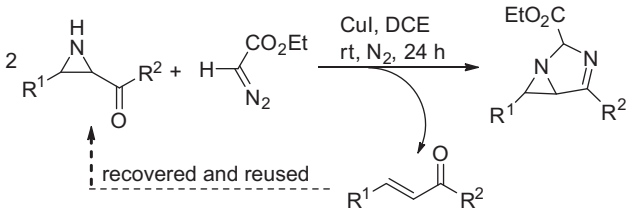


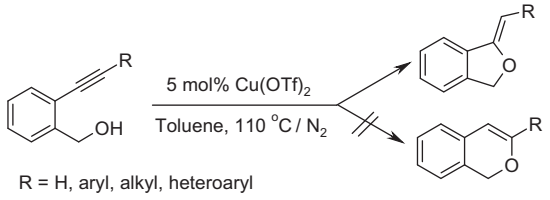
The synthesis of λ^5-phosphanylidene bis(2,5-dioxotetrahydro-1*H*-pyrrole-3-carboxylates) via the multicomponent reaction of triphenylphosphine (TPP), dialkyl acetylenedicarboxylates (DAAD), alkyl isocyanides, and water in the presence of TFA as an initial proton source is reported.

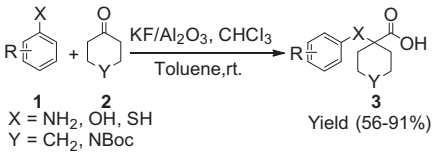


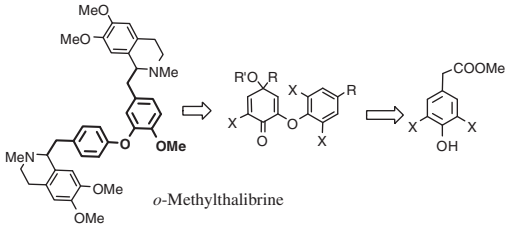
A two-step synthesis of 3-(2-chloropyrimidin-4-yl)imidazo[1,2-*a*]pyridines is presented. The late-stage elaboration of the imidazopyridine through a cyclocondensation allows a rapid access to a variety of substitution patterns. The intermediate enol ethers were obtained from inexpensive reagents in a ligand free Heck coupling. This methodology has been extended to the formation of pyrazolo[1,5-*a*]pyridines via a formal 1,3-dipolar cycloaddition.





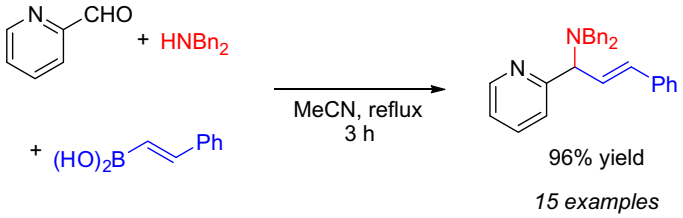






o-Methylthalibrine

Electrochemical dimerization of halogenated *p*-hydroxyphenylacetic acid derivatives, followed by Zn reduction provided the diaryl ethers. Its reductive manipulation enabled the construction of *o*-methylthalibrine, an isoquinoline-class alkaloid.



A highly efficient and improved method has been developed for Petasis reactions of various 2-pyridinecarbaldehydes with secondary amines and boronic acids under catalyst-free conditions.

*Corresponding author
Supplementary data available via ScienceDirect

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ISSN 0040-4039