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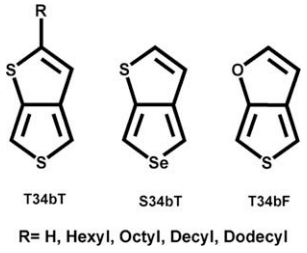
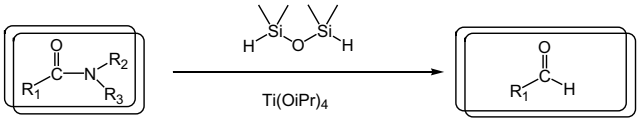
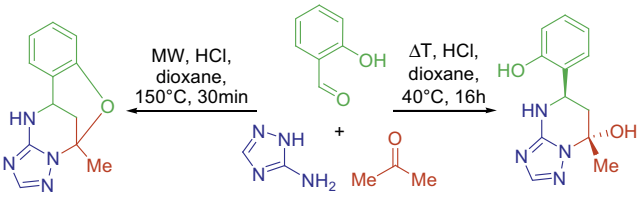
Contents

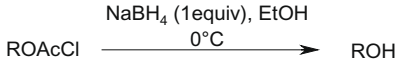
COMMUNICATIONS

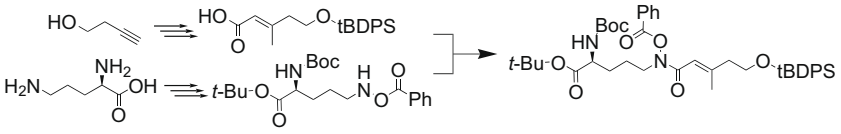


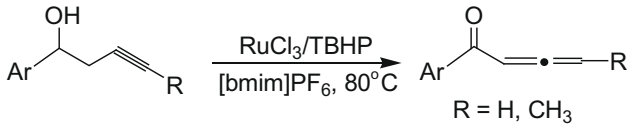
Structures of the fused heterocycles prepared herein.

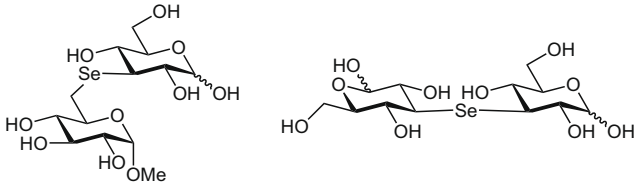


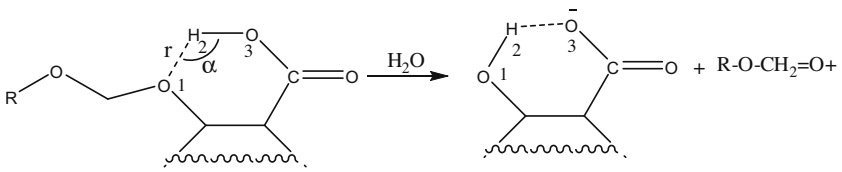






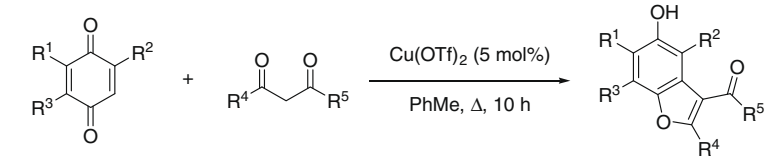




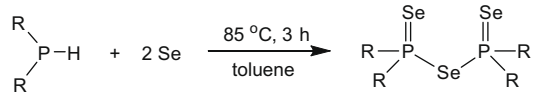


$$\text{Rate} = k \times \sin\alpha \times r^2$$
k is constant

Proximity orientation due to hydrogen bonding in the ground state and transition state is the sole driving force for the remarkable acceleration of proton transfer in Kirby's system.

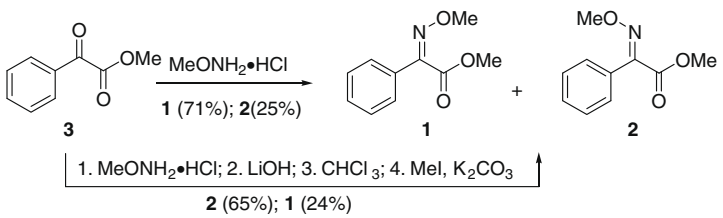


R^1-R^3 = H, Me, OMe R^4-R^5 = alkyl, aryl 40-95% yield

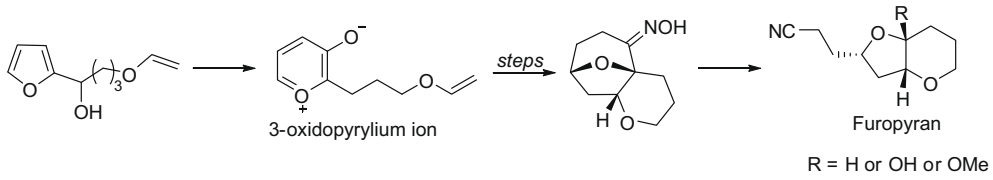


75-92%

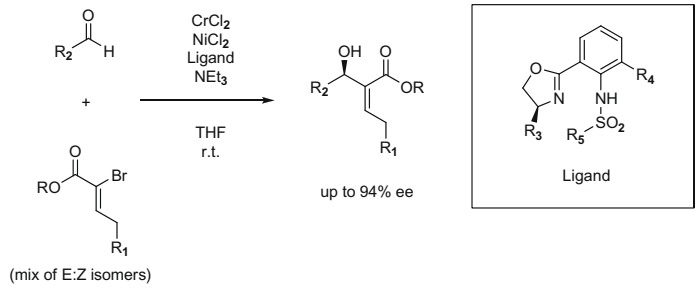
R = $Ph(CH_2)_2$, 4-*t*-$BuC_6H_4(CH_2)_2$, 4-$MeOC_6H_4(CH_2)_2$, 2-$Napht(CH_2)_2$

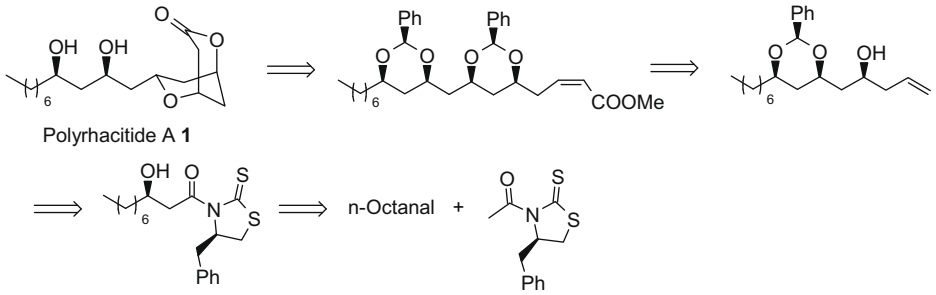


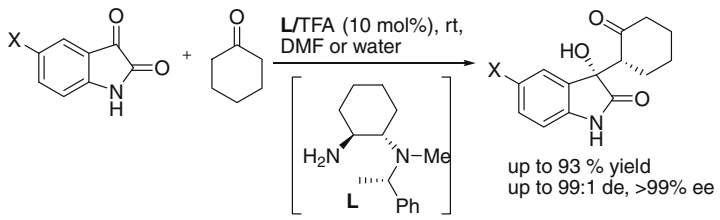
Direct oximation of 2-oxo-2-phenylacetate (**3**) gave the (*Z*)-methyl 2-(methoxyimino)-2-phenylacetate (**1**) in 71% yield, while the *E* oxime **2** was prepared from **3** in 65% yield via oxime isomerization of 2-(methoxyimino)-2-phenylacetic acid (**5**). Computational studies suggest that the isomerization of **5** is thermodynamically driven, while the direct oximation of ketoester **3** is kinetically controlled.



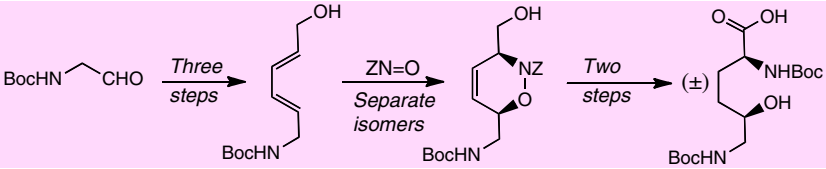
Stereocontrolled synthesis of furopyran building blocks was achieved employing a novel intramolecular [5+2] cycloaddition and Beckmann fragmentation as key steps.



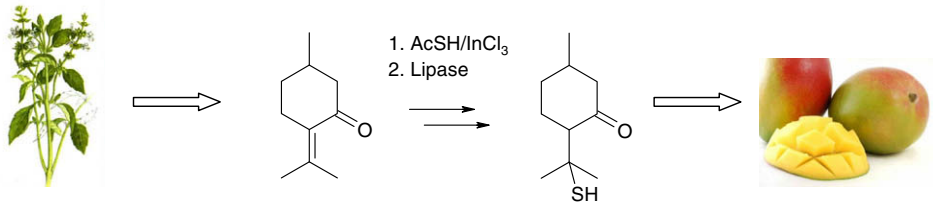


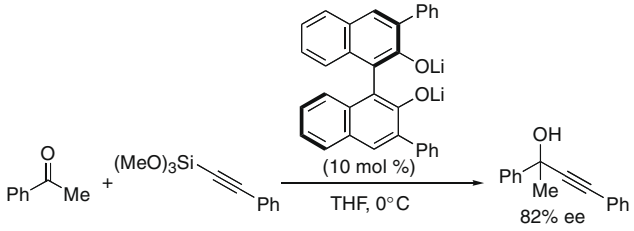


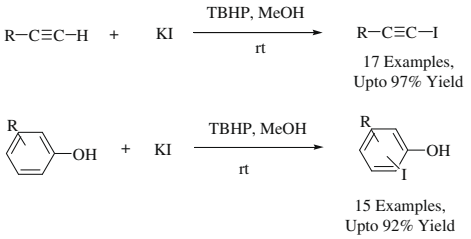
Highly enantioselective catalytic synthesis of 3-cycloalkanone-3-hydroxy-2-oxindoles was achieved by using primary-tertiary diamine-Brønsted acid catalyst in both organic medium and aqueous medium.



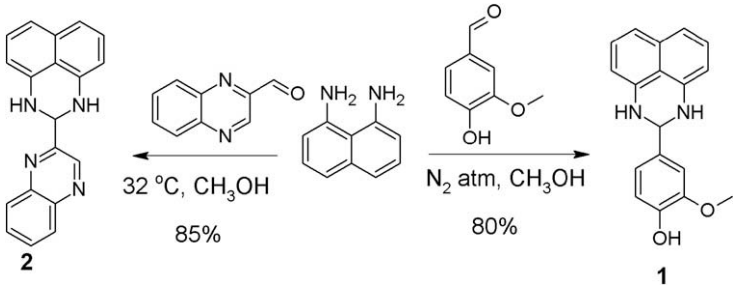
The acyl nitroso Diels–Alder reaction is ideally suited to the synthesis of diverse amino acids, as it introduces *N* and *O* functionalities in a 1,4-relationship with full control of relative stereochemistry. We have utilised this reaction in a short synthesis of (±)-δ-hydroxylysine, an important constituent of collagen, and describe two further syntheses together with corroborative X-ray structural data.



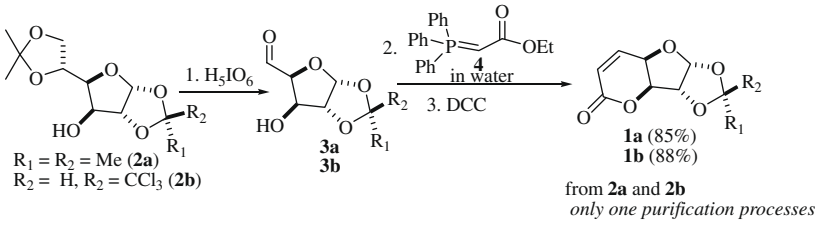




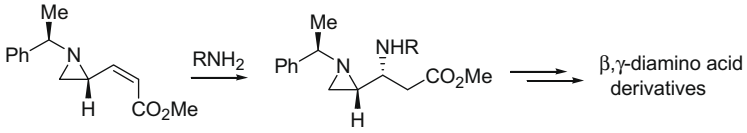
An efficient synthesis of 1-iodoalkynes and iodophenols was easily achieved by employing simple KI and TBHP. The reaction does not involve the use of a metal and base combination. A variety of substituted alkynes and phenols were prepared with good to excellent yield.

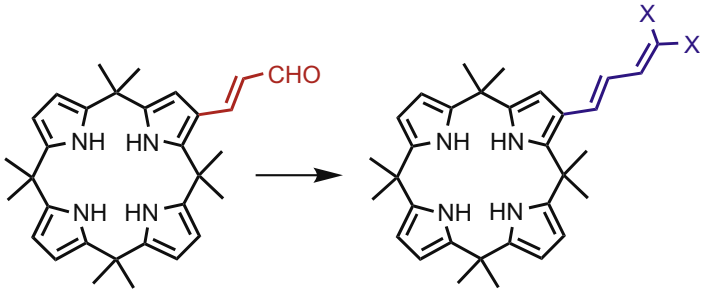


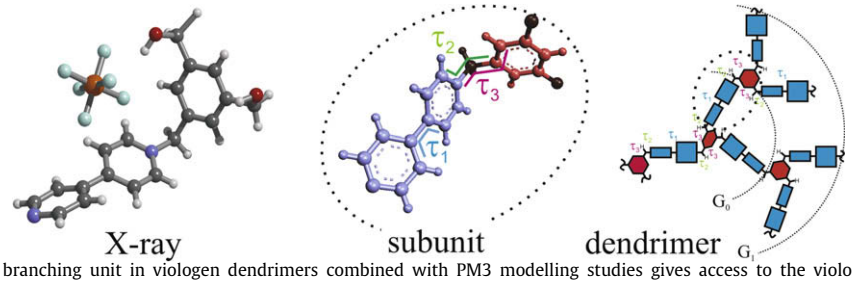
An efficient one-pot synthesis of two new heterocyclic perimidines in good yields is presented. This methodology provides a simple, straightforward synthetic route to these interesting classes of heterocycles. Crystal structure, solvatochromism, and antibacterial activity of these organic compounds are discussed.



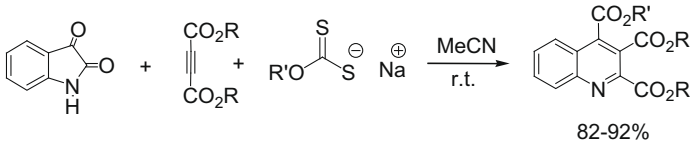
A selective and aqueous Wittig olefination was developed for the rapid preparation of unsaturated 7,3-lactone-α-D-xylofuranose derivatives.

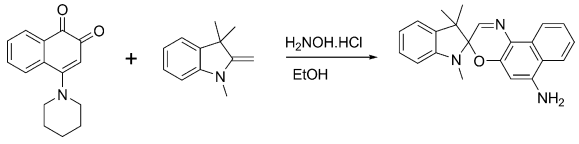






The X-ray structure of a formal branching unit in viologen dendrimers combined with PM3 modelling studies gives access to the viologen dendrimer conformation.





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Supplementary data available via ScienceDirect

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