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Tetrahedron Letters

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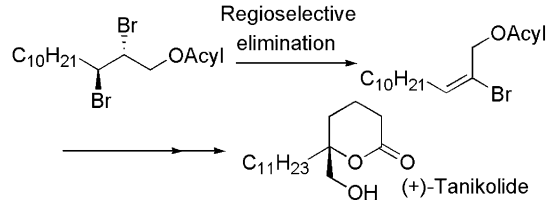
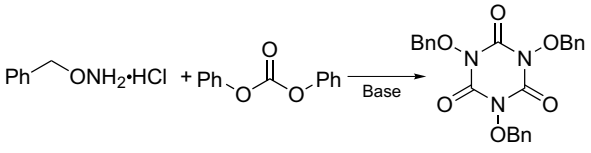
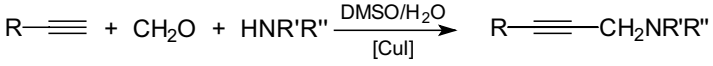
Contents

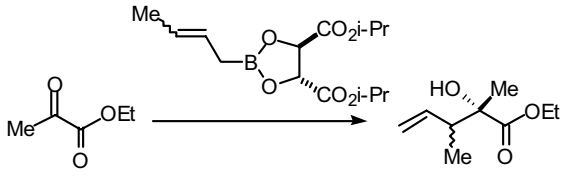
COMMUNICATIONS



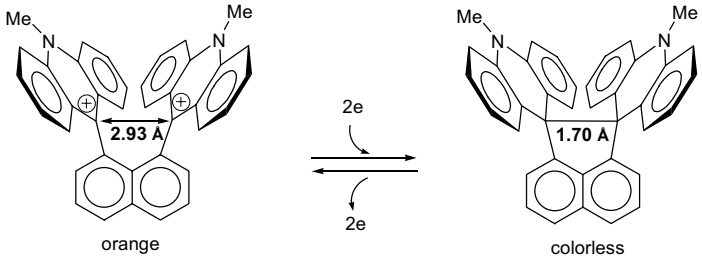


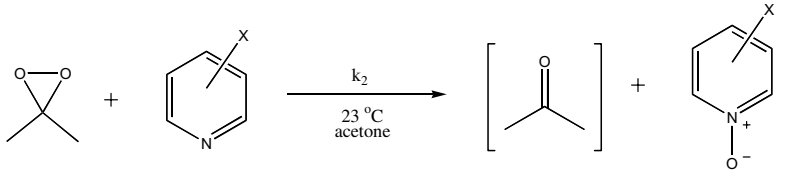


Terminal alkynes can be condensed with aqueous formaldehyde and primary or secondary amines to give secondary and tertiary propargylamines. The reaction is best carried out in DMSO under CuI catalysis.



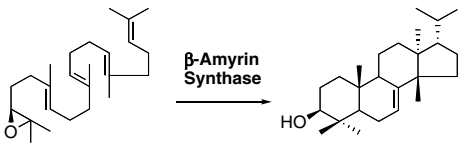
d.e. > 98%, *e.e.*=73%



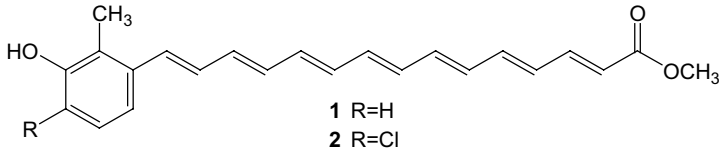


1 **2** [**a** X = 4-CN; **b** X = 4-CF_3; **c** X = 3-Br; **d** X = H; **e** X = 4-Ph **f** X = 4-Me; **g** X = 4-OMe] **3a-g**

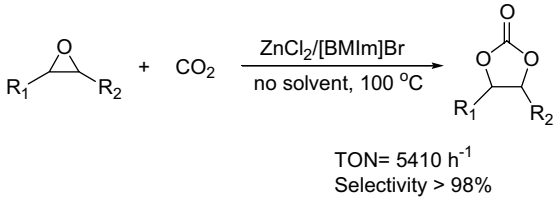
The second order rate constants for the oxidation of substituted pyridines by dimethyldioxirane at 23 °C in dried acetone were found to correlate with sigma values ($\rho = -2.91$). The reaction was shown to be very sensitive to protic, polar solvents.



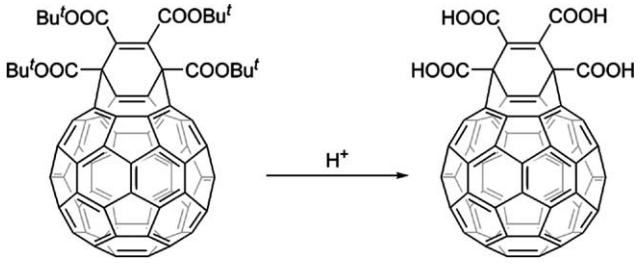
A C_{25} oxidopolyprene was enzymatically converted to a novel unnatural tetracyclic sesterterpene by recombinant β-amyrin synthase from *Pisum sativum*, while a C_{35} analogue did not afford any cyclization product.

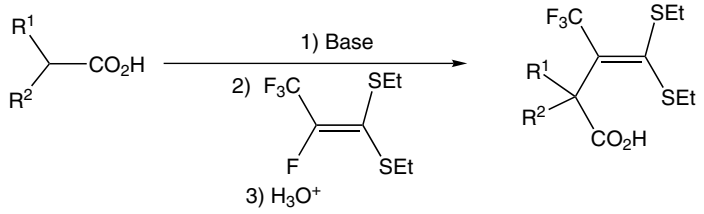


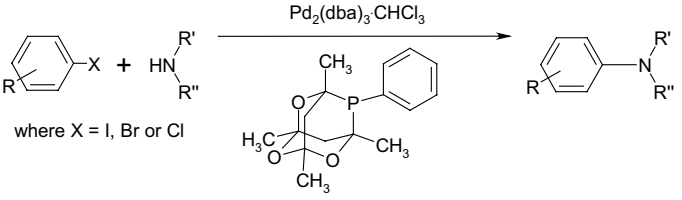
Two novel membrane-bound yellow pigments natronochrome (**1**) and chloronatronochrome (**2**) were isolated from the obligately chemolithoautotrophic sulfur-oxidizing natrono(alkali)philic bacterium *Thialkalivibrio versutus* strain ALJ 15.

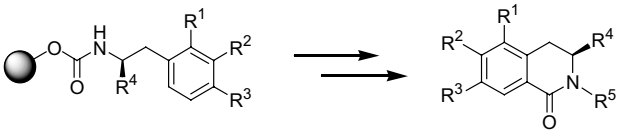


Chemical fixation of CO_2 with epoxides to form cyclic carbonates under the $ZnCl_2$/[BMIm]Br catalyst system without using additional organic solvents was achieved in excellent selectivity (>98%) and TOF ($5410\,h^{-1}$) and the catalyst could be used six times.

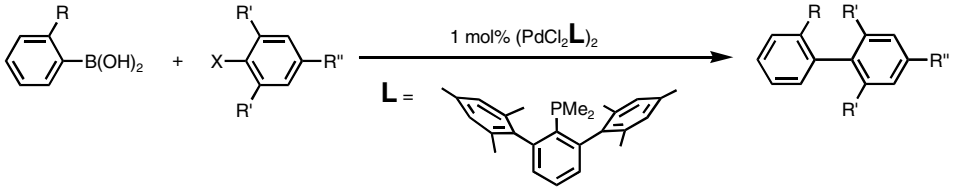




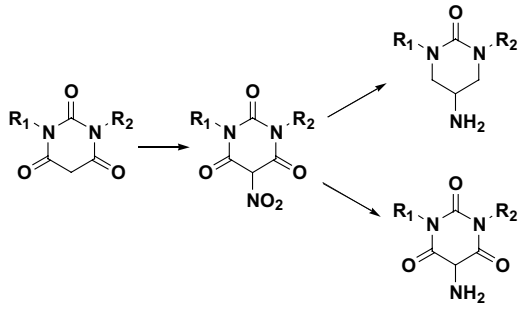




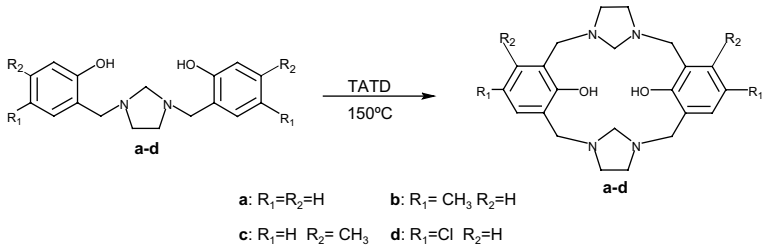
A traceless solid-phase synthetic approach to isoquinolinones is described here. This approach allows introducing both electron-donating as well as electron-withdrawing moieties on the benzene nuclei of isoquinolinones with high yields and purities.

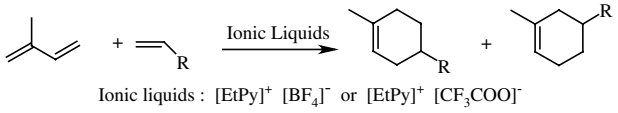


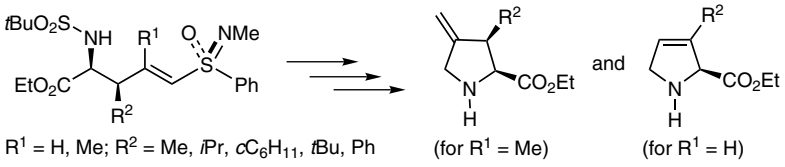
Good yields for coupling of aryl halides with arylboronic acids are achieved utilizing a (*m*-terphenyl)dialkylphosphine palladium complex.

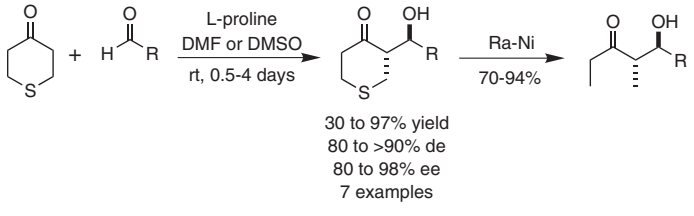


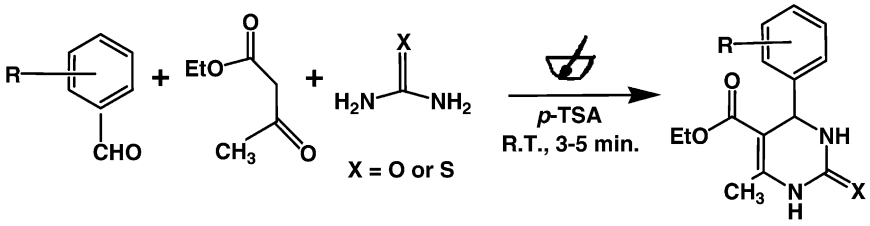
The synthesis of novel, 5-amino 1,3-disubstituted tetrahydropyrimidinones, and 5-aminobarbiturates are presented.



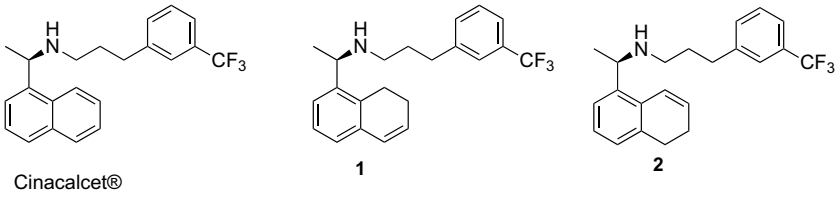




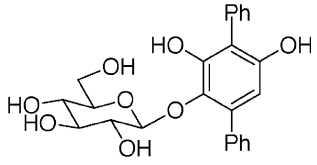




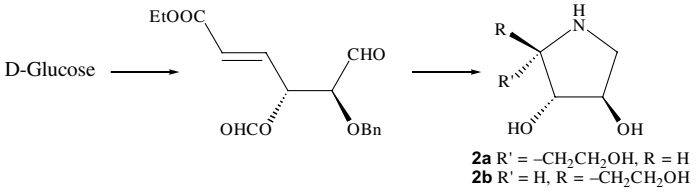
Solvent-free reactions that are complete in a few minutes.

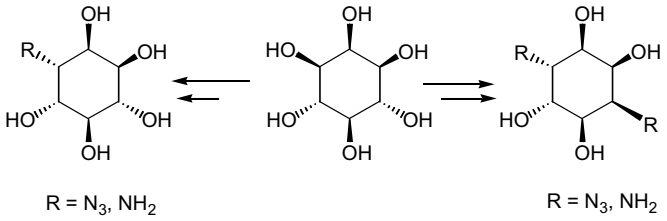


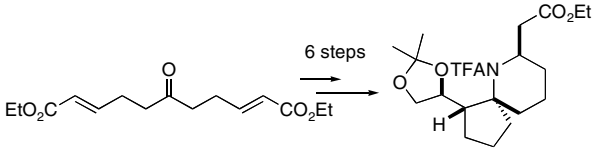
Two related substances **1** and **2** of Cinacalet were prepared.

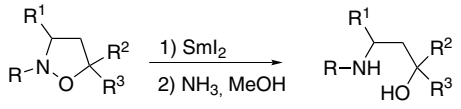


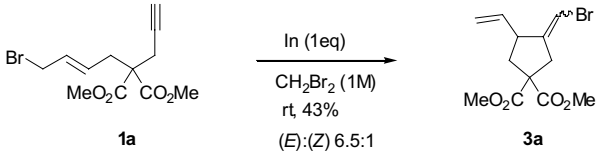
The structure of terfestatin A was determined to be *p*-terphenyl β-glucoside on the basis of spectroscopic analyses, chemical degradation, and total synthesis.



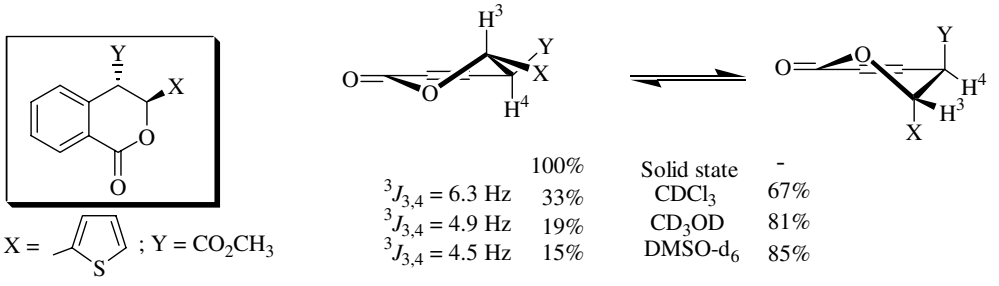


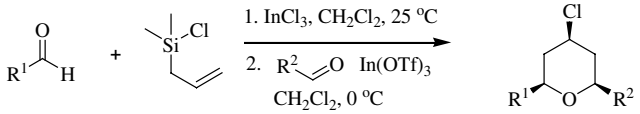




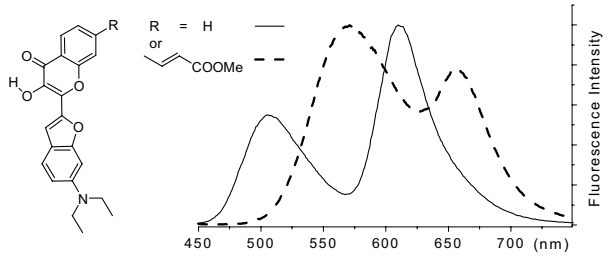


Treatment of tethered alkyne–allyl halides **1** with sub-stoichiometric quantities of indium metal in halogenated solvents affords carbocyclic vinyl halides **3** via a novel atom-transfer reaction. Use of a halogenated solvent containing a different halide than that in the substrate leads to formation of products arising from exchange and retention of halide.

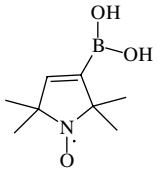


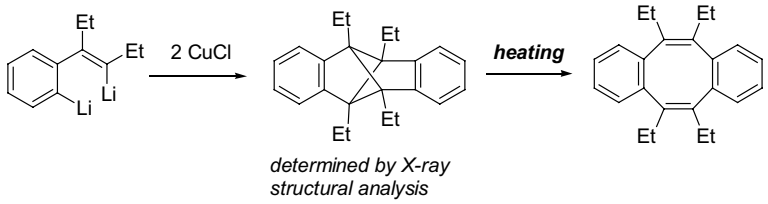


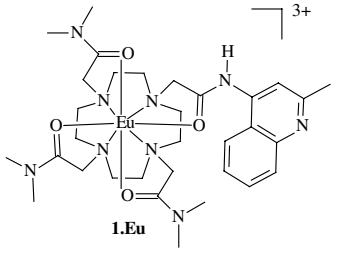
A one-pot multi-component Lewis acid-catalyzed Prins cyclization was developed with high yield and selectivity. The crossed 2,4,6-trisubstituted tetrahydropyran products were formed with high stereoselectivity. This catalytic method could also be used with α,β-unsaturated aldehydes affording moderate yields of products.

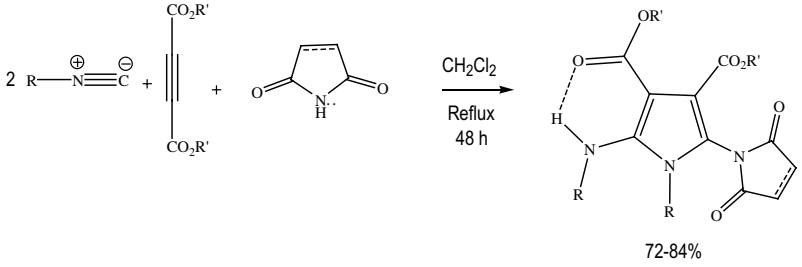


The titled compounds, synthesized by Heck coupling reaction, demonstrate strongly red shifted absorption and dual emission as well as enhanced solvatochromism.

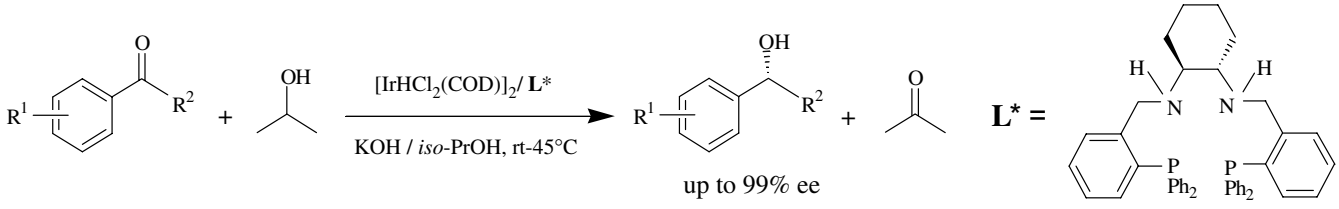


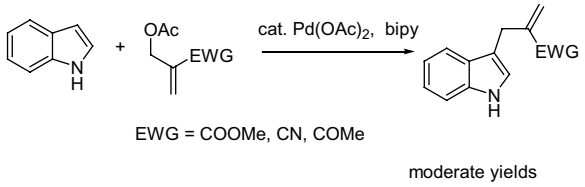




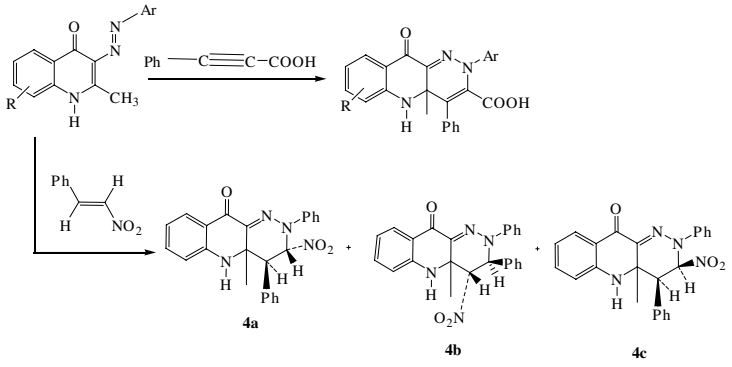


A novel pseudo four-component reaction of isocyanides and dialkyl acetylenedicarboxylates in the presence of acidic N–H compounds is described. Unexpectedly, during the course of this reaction densely functionalized pyrroles are formed.





The Pd-catalyzed cross coupling of indole with 2-acetoxymethyl-substituted electron-deficient alkenes under mild conditions was reported.



OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

Despite the manageable nature of acetone cyanohydrin, Meerwein–Ponndorf–Verley (MPV) cyanation, especially the asymmetric version, with it as the cyanide source, remains unexplored except for the study by Maruoka et al. This figure explains the features of catalytic enantioselective MPV cyanation using oxovanadium(V) (salen) complex as catalyst, as reported in *Tetrahedron Letters* **2004**, *45*, 6229–6233.

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