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Tetrahedron

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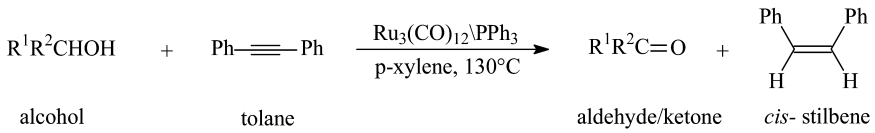
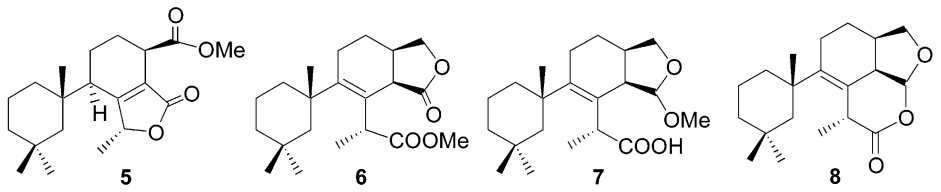
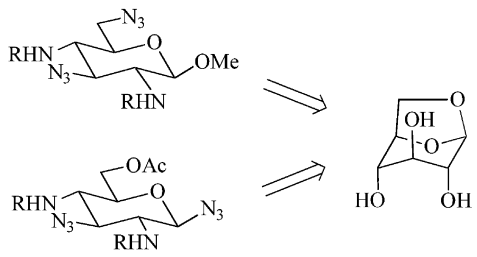
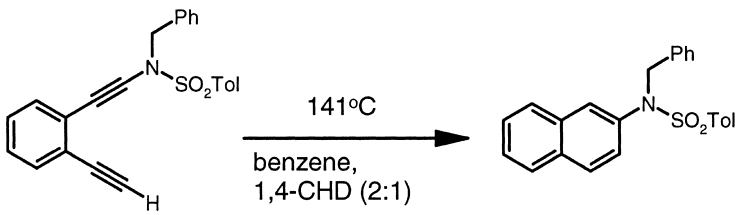


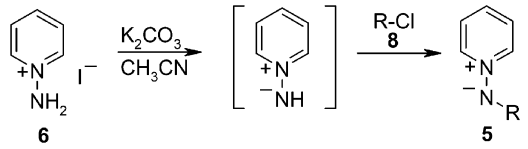
A new dehydrogenation procedure to synthesize aldehydes and ketones from alcohols using triruthenium dodecacarbonyl/ligand as catalyst is described.



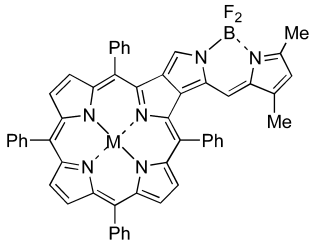




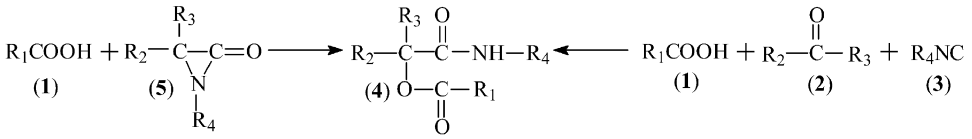
A sulfonamide alkyne substituent leads to an increase in thermal enediyne reactivity.



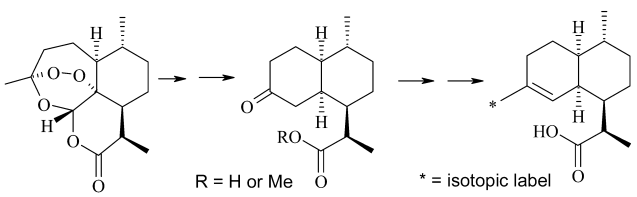
Differently substituted pyridinium *N*-heteroarylaminides **5** have been prepared in one step with good yield from *N*-aminopyridinium iodide **6** and the corresponding heteroaryl chloride **8**.

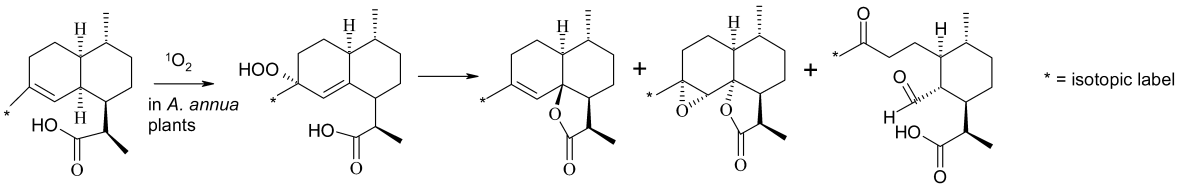


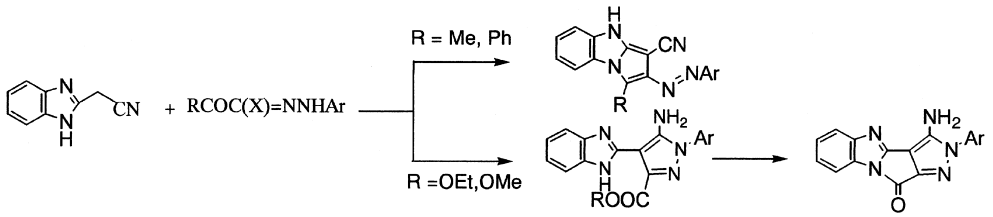
Pyrroloporphyrins react with 2-formylpyrroles to form dipyrromethenoporphyrins that give fused porphyrin-BODIPY® dyads with novel optical spectra upon reaction with BF_3 etherate.

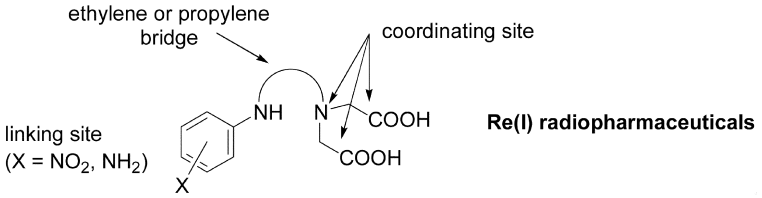


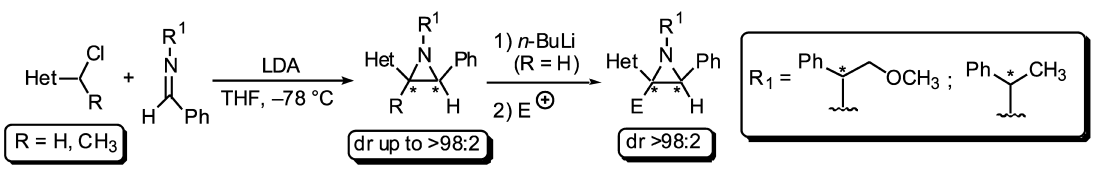
This paper demonstrates that α-lactams (**5**) can function to replace two of the three reactants in the Passerini reaction, the oxo-compound (**2**) and the isonitrile (**3**), to yield, with carboxylic acids (**1**) of a positive pK_a, α-acyloxycarboxamides (**4**).

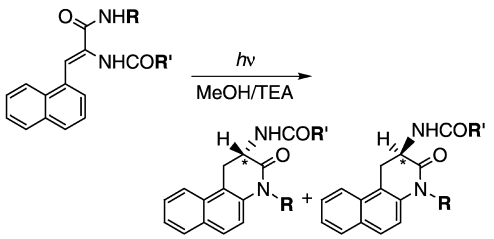




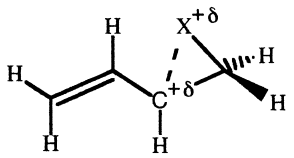




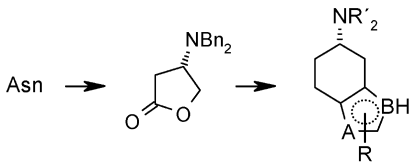




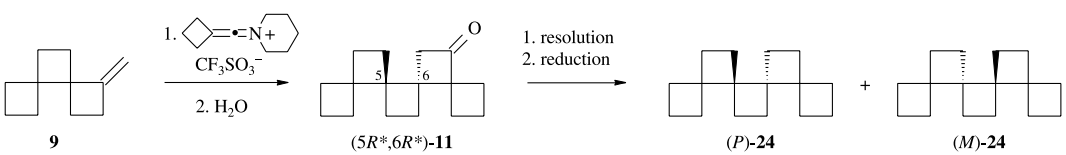
R= (*S*)-*CH(Me)CO_2Me, (*R*)-*CH(Me)CO_2Me; **R'**=Me, Ph



Conformational studies of 1-halo-2-butenylcations (X=F, Cl, Br) have been carried out by means of density functional and ab initio calculations. The presence of an adjacent vinyl group reduces the importance of bridging by halogen atoms as evidenced by geometric and energetic analyses. In several cases, eclipsed conforms were found to be energy minima.

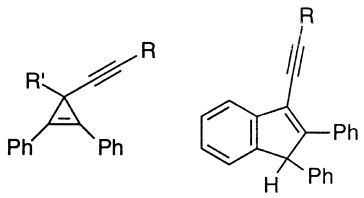


Chemo- and regioselective transformations of asparagine gave access to optically active 5-and 6-amino tetrahydroindolizines when the 3-aminobutyrolactone (*S*)-**2** was employed as a key intermediate. The target compounds were approached by a sequential and regiocontrolled bis-electrophilic attack in the positions 2 and 3 of the pyrrole ring system. Receptor binding experiments showed stereocontrolled receptor recognition leading to the D3 selective agonist (*S*)-**8** with D3 binding that is comparable to the natural neurotransmitter dopamine.

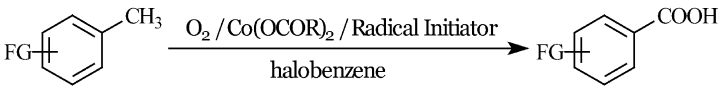


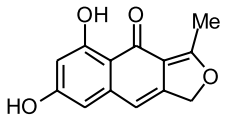
9 (5*R**,6*R**)-**11** (*P*)-**24** (*M*)-**24**

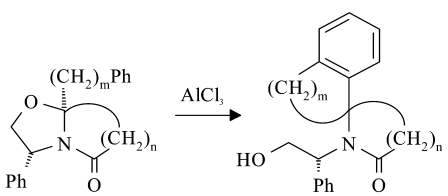
The helical hydrocarbons (*P*)- and (*M*)-**24** were synthesized via a regio- and stereoselective cycloaddition of a trimethylenketeniminium salt to the methylendispirodecane **9** and a subsequent resolution and reduction.



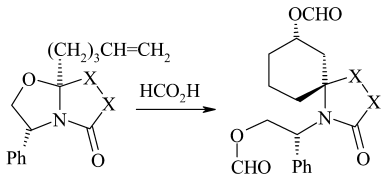
Several 3-alkynylcyclopropenes have been prepared by the reaction of acetylenic nucleophiles with cyclopropenylium salts. Single crystal X-ray structures of four of the cyclopropenes were obtained. The solution-phase thermochemistry of the 3-alkynyl-1,2,3-triphenylcyclopropenes was explored, affording 3-alkynyl-1*H*-indenes in moderate to good yields.







A series of chiral non-racemic 5,5- and 5,6-bicyclic lactams is prepared from (*R*)-phenylglycinol. These are isomerised on treatment with aluminium trichloride in 1,2-dichloroethane to give spiro lactams in high yield and >3:1 diastereoselectivity.



X--X = CH_2-CH_2 or *o*-C_6H_4

Chiral non-racemic bicyclic and tricyclic oxylactams obtained in two steps from *N*-(2-hydroxy-1(*R*)-phenylethyl)-succinimide and -phthalimide are cyclised diastereoselectively in formic acid to give spiro[cyclohexane-1,2′-pyrrolidin]-5′-ones and spiro[cyclohexane-1,1′-isoindolin]-3′-ones, respectively.

OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

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