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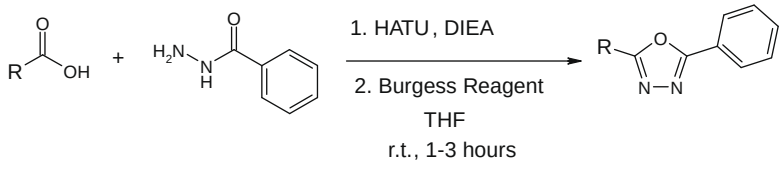
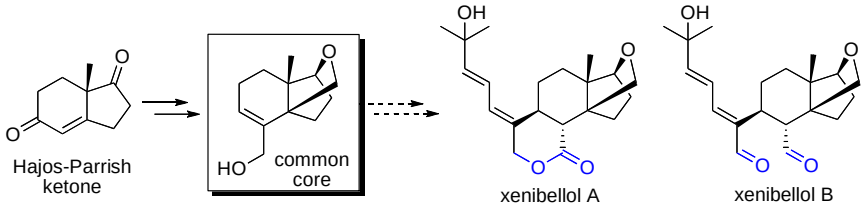
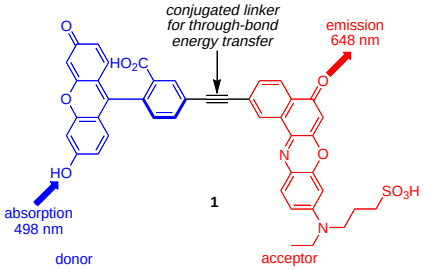
Contents

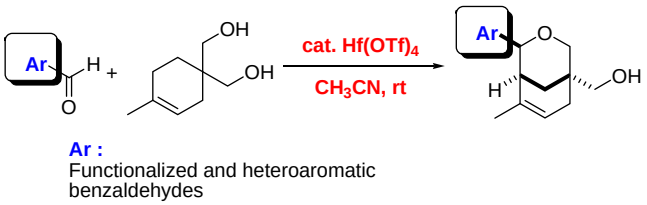
COMMUNICATIONS



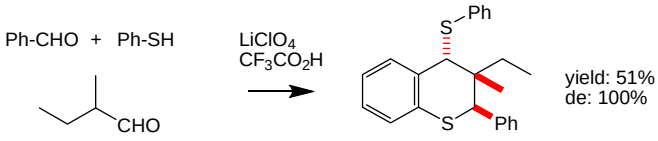


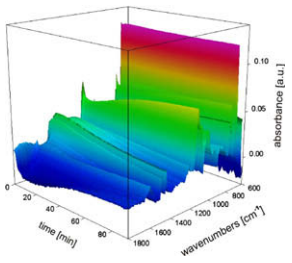


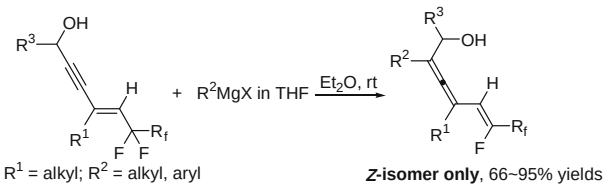
Nile Red derivatives were used as acceptor fragments to construct energy transfer dyads such as **1**; the 'energy transfer efficiencies' of these were 77–97% in organic solvents.



A versatile method for the synthesis of 4-substituted 6-methyl-3-oxabicyclo[3.3.1]non-6-ene-1-methanol derivatives has been developed using Prins-type cyclization reaction by hafnium triflate between various aldehydes and O-protected/unprotected cyclohex-3-ene-1,1-dimethanol in high yields.



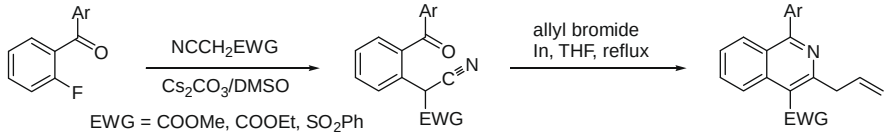


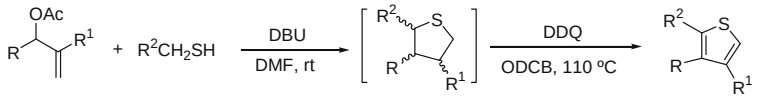


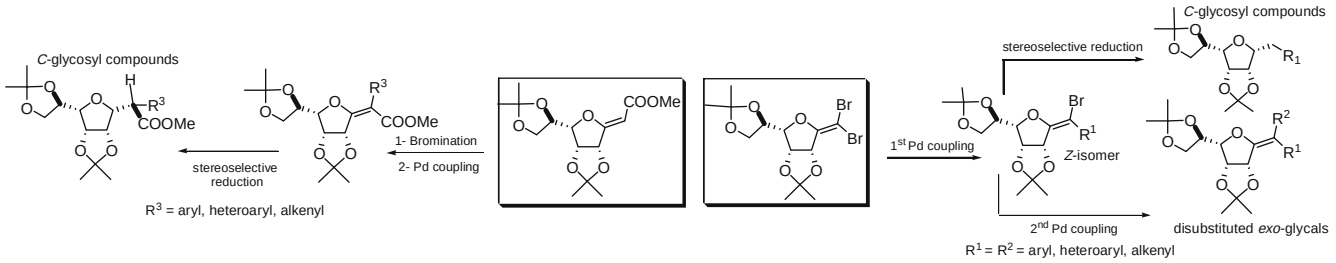
R^1 = alkyl; R^2 = alkyl, aryl

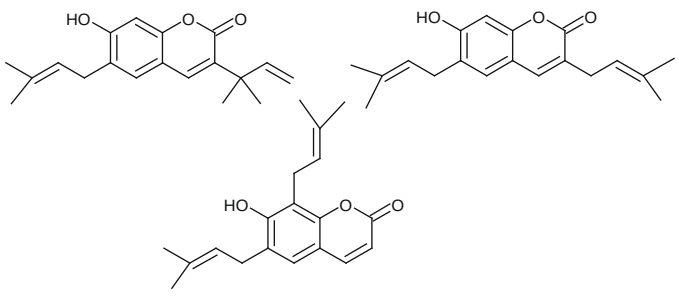
***Z*-isomer only**, 66~95% yields

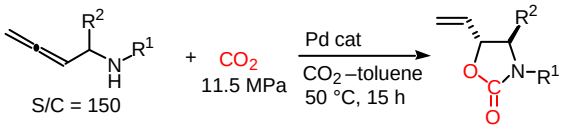
A highly regio- and stereoselective sequential carbometallation and *Z*-selective β-elimination reaction of 5-perfluoroalkyl-4(*E*)-en-2-ynols with Grignard reagents in Et_2O has been developed to afford various 6-perfluoroalkyl-6-fluoroalka-2,3,5(*Z*)-trienols in good to excellent yields. Primary or secondary alkyl or aryl Grignard reagents may be used to introduce the R^2 group to the 2-position of the starting materials referring to the hydroxyl group. A mechanism for this transformation has been proposed.



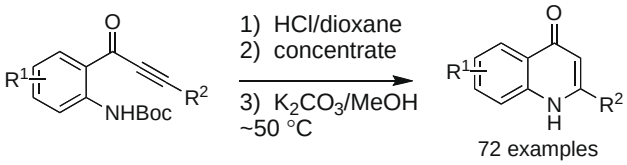


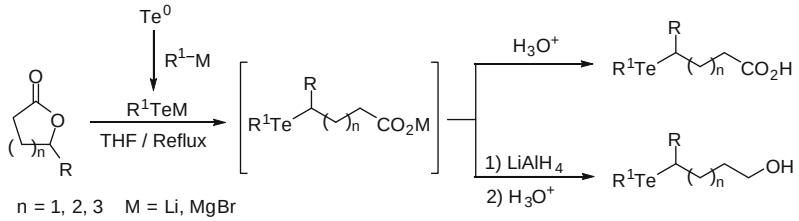


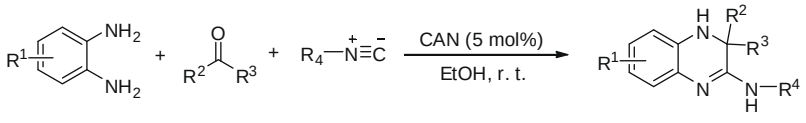




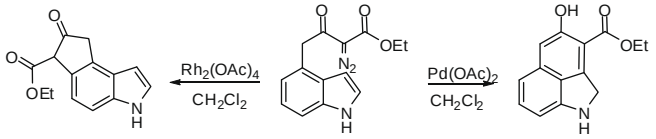
Carboxylative transformation of 2,3-allenic amines into 5-vinyl-1,3-oxazolidin-2-ones was promoted by palladium catalysts under a pressurized CO_2 condition.

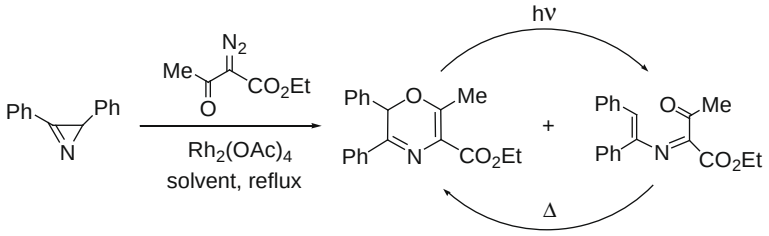


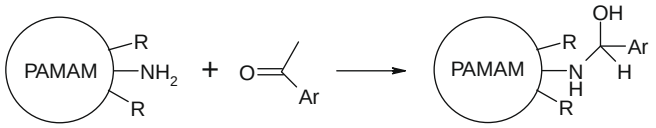


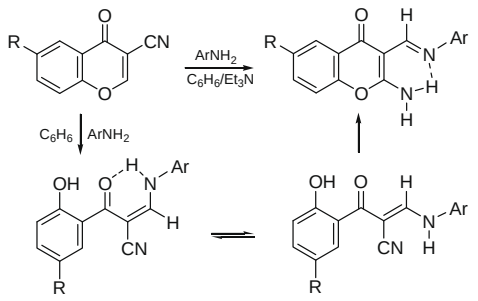


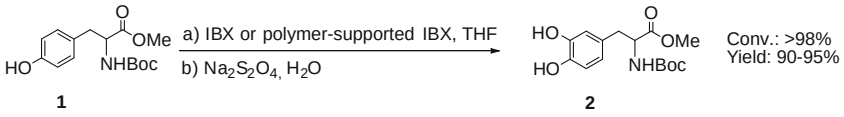
Starting from readily available *o*-phenylenediamines **1**, ketones **2** and isocyanides **3**, a variety of highly substituted 3,4-dihydroquinoxalin-2-amine derivatives **4** were efficiently synthesized in the presence of catalytic amount of cerium(IV) ammonium nitrate at room temperature. The flexibility of this protocol also opens a new route to the structurally unique spirocyclic analogs when cyclic ketones are employed.





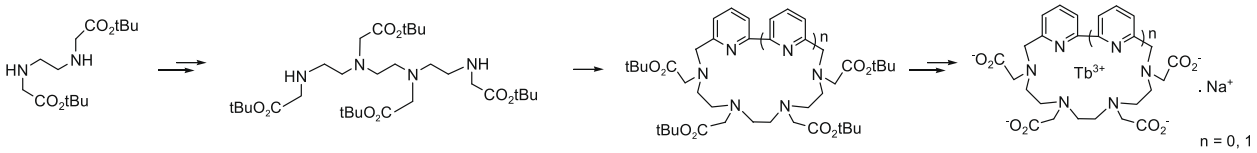


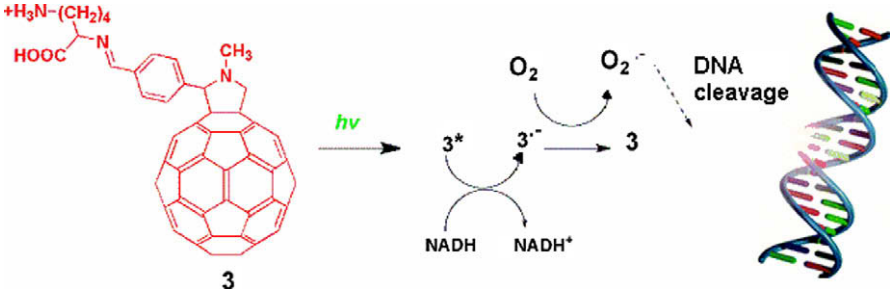




1 2

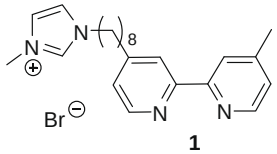
Chemo- and regioselective oxidation reactions of tyrosine and peptides containing tyrosine residues were performed with IBX. The corresponding catecholic compounds (DOPA and DOPA residues) were obtained in very good yields. Polymer-supported IBX maintained the efficiency and selectivity with economic and environmental benefits.



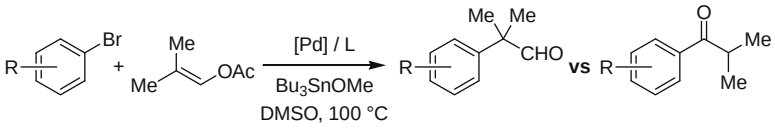


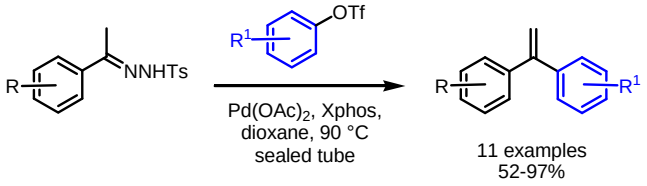
3

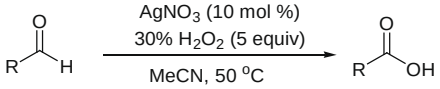
The presence of positive charge as well as of photoactive fullerene moiety made the synthesized fullerene–lysine conjugate highly efficient in photoinduced cleavage of DNA in the presence of NADH.



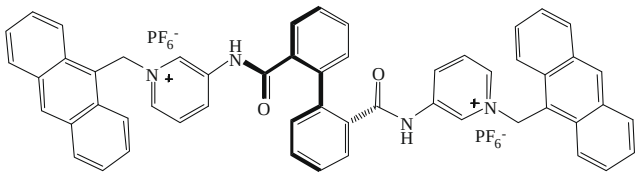
1





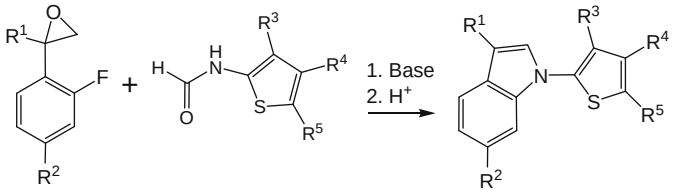


An inexpensive and efficient method for the oxidation of a variety of aromatic, aliphatic and conjugated aldehydes with 30% H_2O_2 as oxidant in the presence of catalytic amounts of $AgNO_3$ is described.

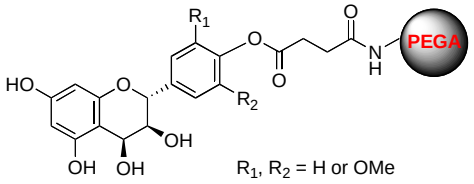


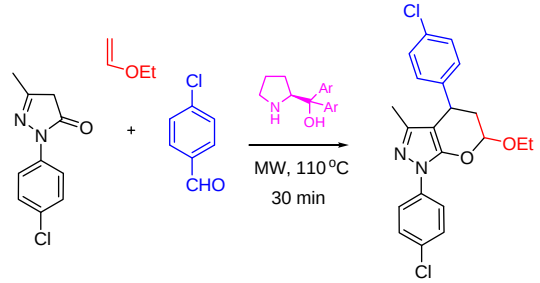
1

A new fluorescent receptor **1** built on biphenyl motif has been designed and synthesized. Pyridinium amide moiety in **1** acts as binding site and shows selective complexation of $H_2PO_4^-$ under the mastery of biphenyl spacer. Binding-induced increase in emission was used to determine the selectivity and sensitivity of **1** toward a series of anions such as different dicarboxylates, HSO_4^-, and $H_2PO_4^-$.

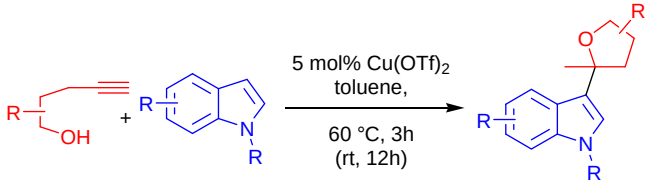


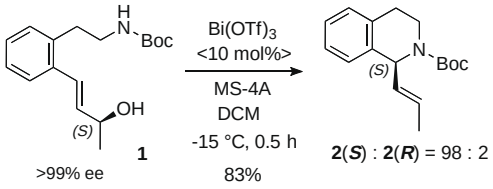
Various 3,6-disubstituted *N*-2-thienyl/aryl-indoles were prepared by a short synthetic strategy involving reaction of substituted 2,4-difluoro/dichloro-styrene epoxide with substituted 2-formylaminothiophene/*N*-formylaniline in the presence of a base followed by treatment with an acid.



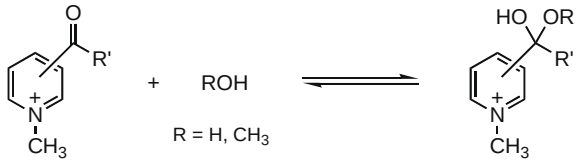


A rapid protocol for the multicomponent microwave-assisted organocatalytic Knoevenagel/hetero Diels–Alder reaction (KHDA) has been developed.

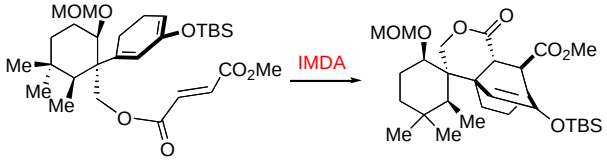


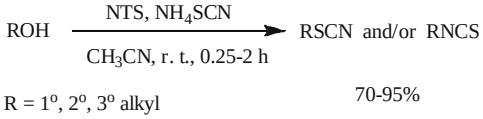


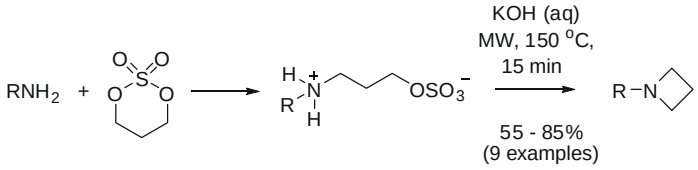
Direct intramolecular amination of the chiral non-racemic allylic alcohol **1** conjugated with a benzene ring afforded the tetrahydro-isoquinoline **2** possessing a newly formed (*E*)-alkene in the presence of a catalytic amount of Lewis acid.

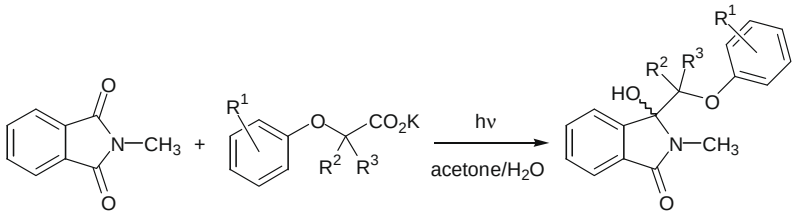


Pyridinium ketones have been found to exist as hydrates and hemiacetals in considerable amount in aqueous and alcoholic solutions, respectively. The relative position of the pyridinium positive charge has a large effect on the equilibrium constants. The polar substituent constants, σ^*, of the pyridinium group substituted at different positions can be estimated from the hydration constants.

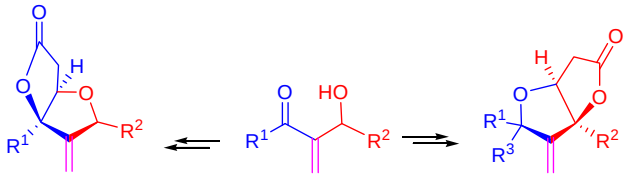


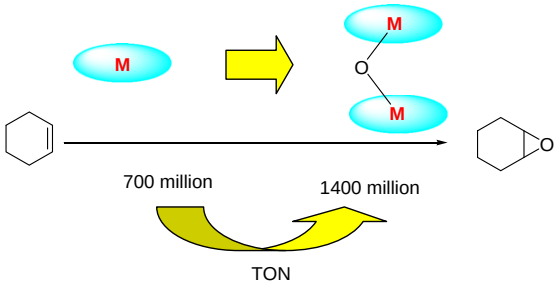


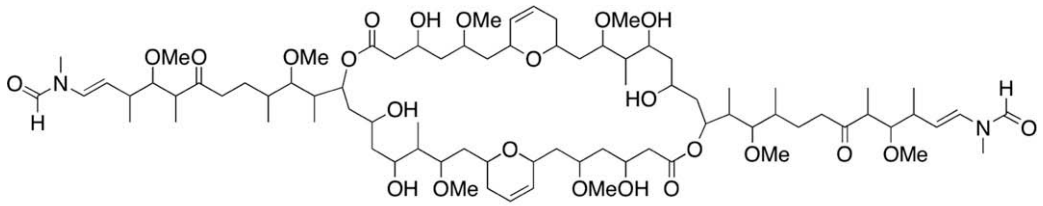




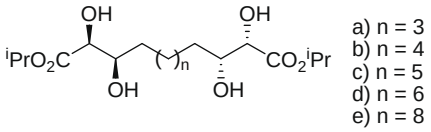
Photoaddition of various phenoxyacetates to *N*-methylphthalimide affords the corresponding hydroxyphthalimidines in yields of 21–93%. The diastereoselectivity of the intermolecular addition is studied for a series of 2-substituted phenoxyacetates with low diastereoselectivities being observed. Comparison experiments with anisole and ether-containing phthalimide confirm that the crucial electron-transfer step occurs from the carboxylate functionality.







Luminaolide (**1**)



The hydroxy diesters shown are powerful organogelators, capable of forming stable gels from a diversity of solvents including toluene and water at very low concentrations.

*Corresponding author
Supplementary data available via ScienceDirect

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