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Tetrahedron Letters

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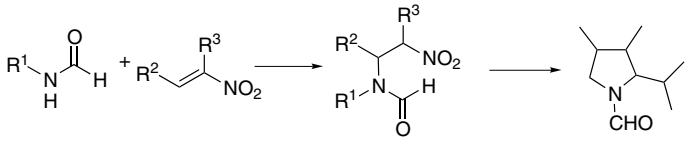
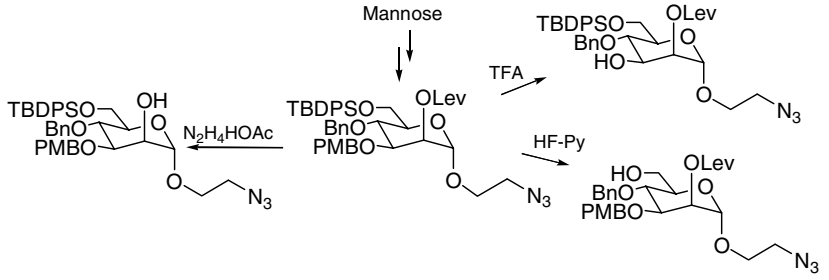
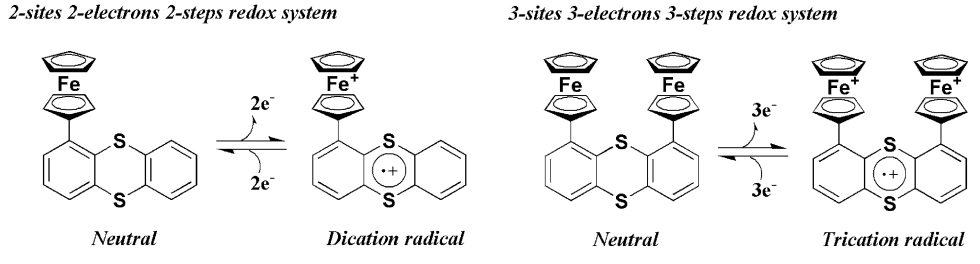
Contents

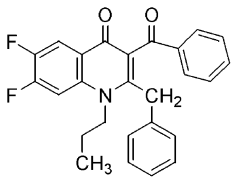
COMMUNICATIONS



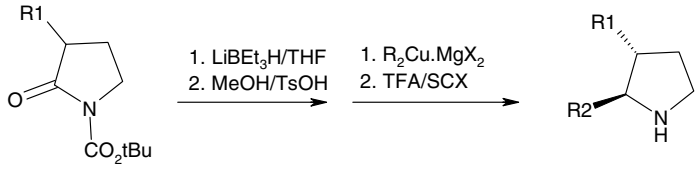


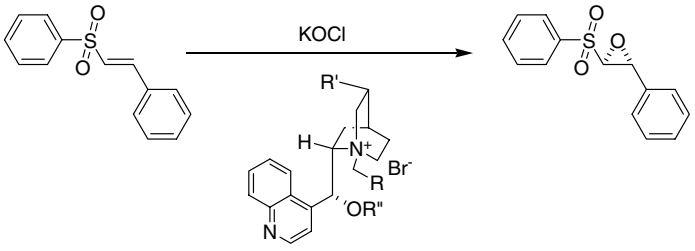
The synthesis and subsequent selective deprotections of a fully orthogonally protected mannopyranose is described.

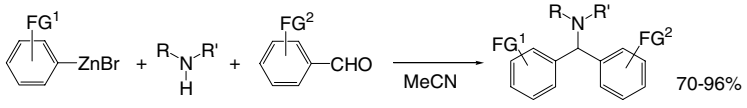


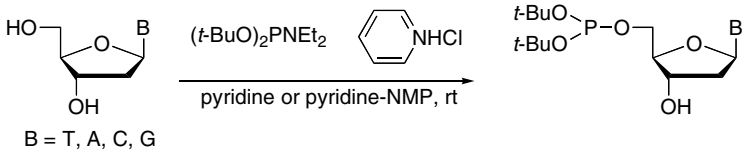


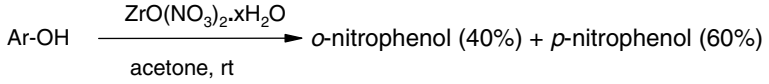
The whole photochromic reaction, photocolouration, thermal bleaching and photodegradation, of a quinolone derivative has been kinetically monitored by product-by-product NMR spectroscopy. The mechanism of reactions has been established from quantitative kinetic data analysis.

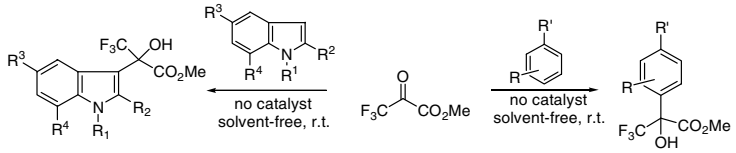


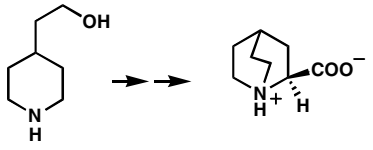


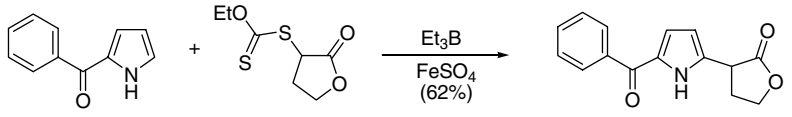


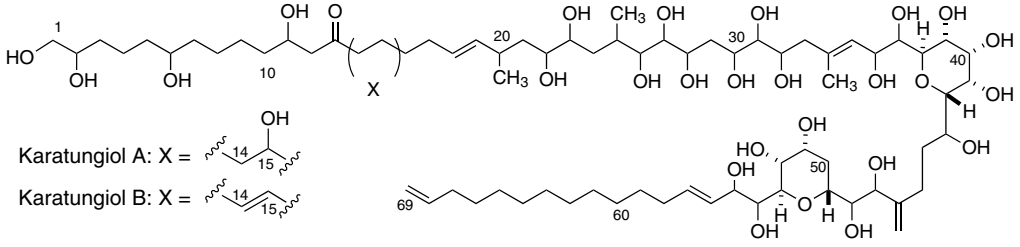


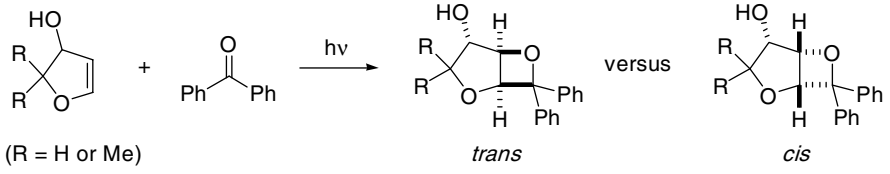




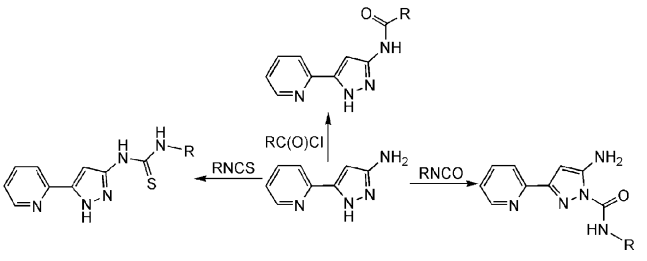


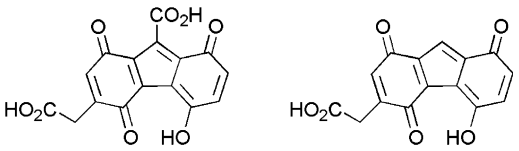




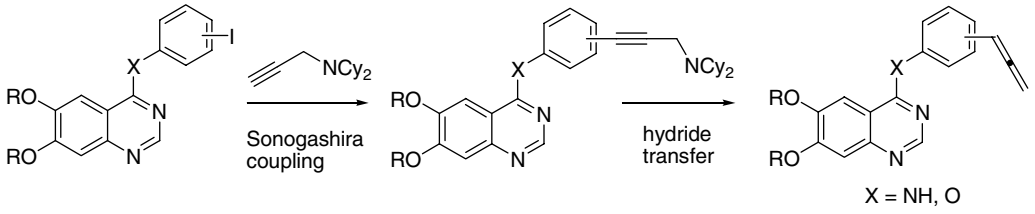


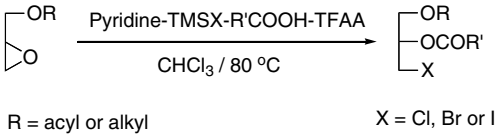
An improved synthesis of 3{5}-amino-5{3}-(pyrid-2-yl)-1*H*-pyrazole is described, which affords the compound on a multi-gram scale. Reaction of this compound with acid chlorides, isocyanate and isothiocyanate electrophiles in MeCN cleanly yields the products shown. The amide and thiourea compounds are good candidates as proligands for the simultaneous complexation of metal cations and anions.



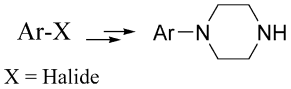


Hipposudoric acid Norhipposudoric acid

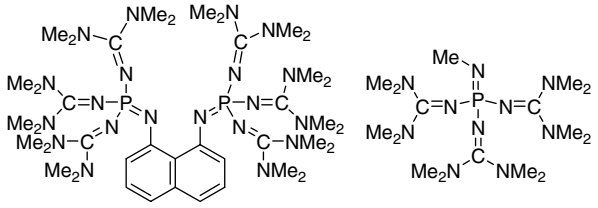




The title compounds can be obtained in one-step from the corresponding glycidyl derivatives using a pyridine–trimethylsilyl halide–carboxylic acid–trifluoroacetic anhydride reagent system.

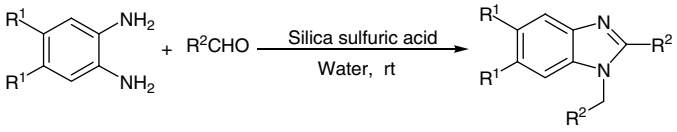


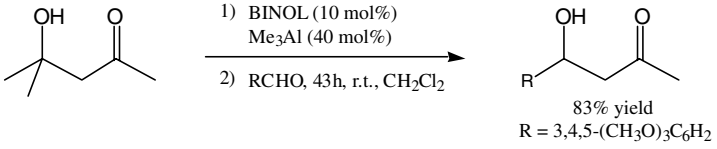
A series of *N*-arylpiperazines were prepared in a parallel fashion using palladium-catalyzed cross-coupling, or nucleophilic aromatic displacement chemistries, and polymer-assisted sequestration and purification techniques as key steps.

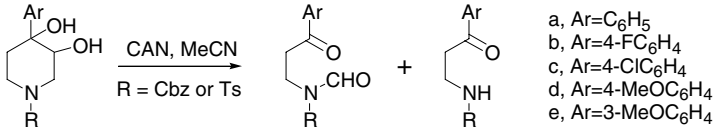


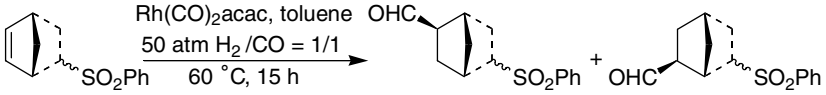
4 6

It is shown by reliable DFT calculations that compounds **4** and **6** are very powerful neutral organic superbases as evidenced by the calculated proton affinities in the gas phase and the corresponding calculated pK_a values in acetonitrile.

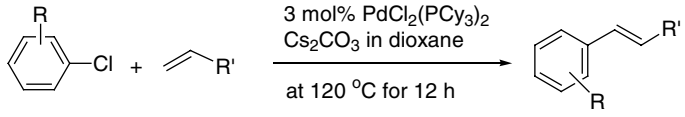




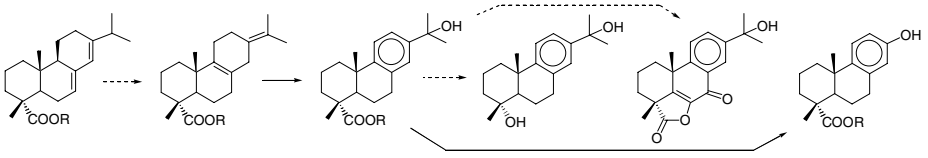


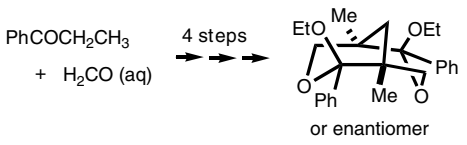


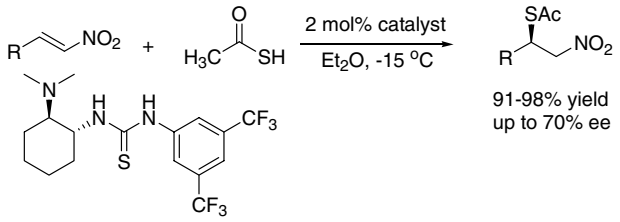
The preliminary results of the hydroformylation of some 2-phenylsulfonylbicyclo[2.2.1] derivatives catalyzed by the unmodified system $Rh(CO)_2acac$ are reported.

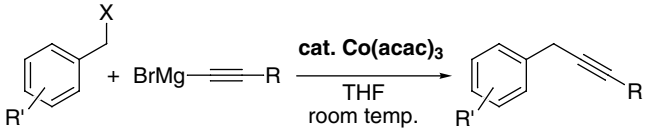


Catalyst system $PdCl_2(PCy_3)_2/Cs_2CO_3$ in dioxane was found to be the efficient catalyst system for Heck cross-coupling reactions of deactivated, neutral and activated aryl chlorides with a variety of alkenes under mild conditions to afford selectively *E*-arylated alkenes in good to excellent yields.

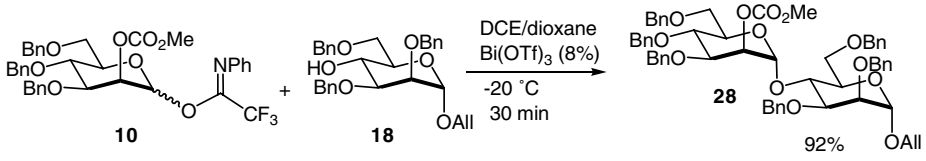


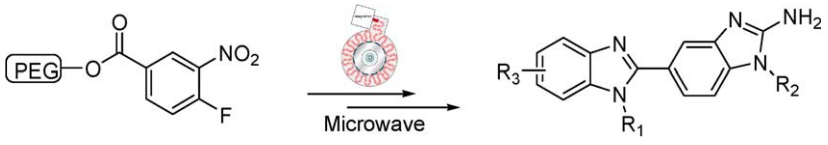


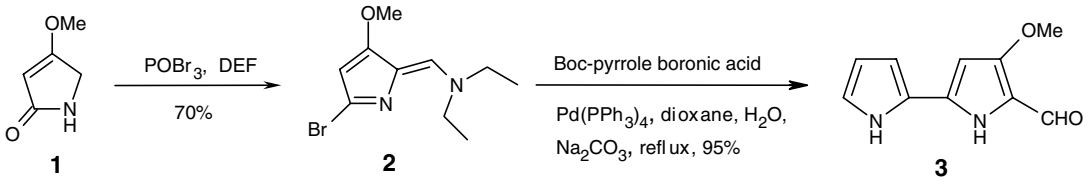


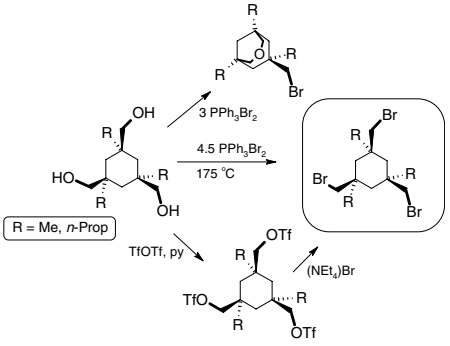


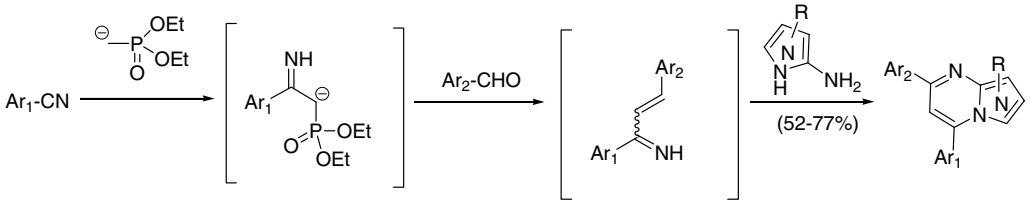
Benzylic halides coupled with 1-alkynyl Grignard reagents in the presence of Co catalyst.



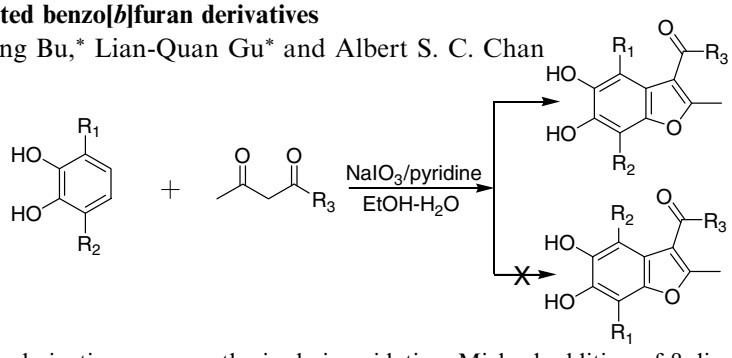




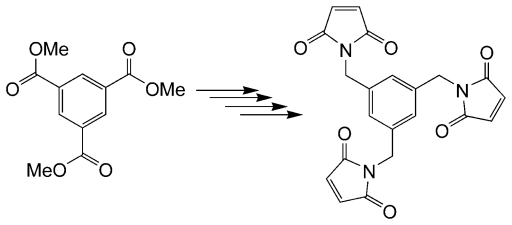


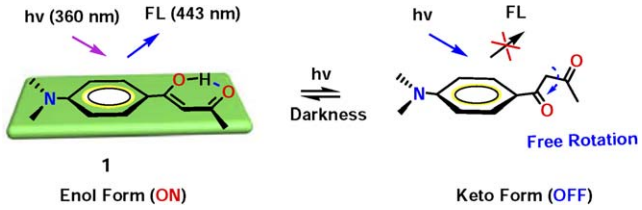


We have described a convenient regioselective one-pot approach to pyrazolo[1,5-*a*]- and imidazo[1,2-*a*]pyrimidine derivatives from α,β-unsaturated imines generated in situ and amino heterocycles. Reaction is general with respect to all three components, namely (i) nitrile, (ii) aldehyde, and (iii) amino heterocycle reagents. Good yields (52–77%), convenient isolation of the targeted molecules are the distinct characteristics of the developed protocol.

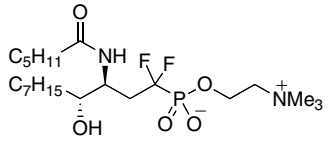


Several 5,6-dihydroxylated benzo[*b*]furan derivatives were synthesized via oxidation–Michael addition of β-dicarbonyl compounds with catechols. The mechanism different from that of electrochemical methods was proposed based on DFT.

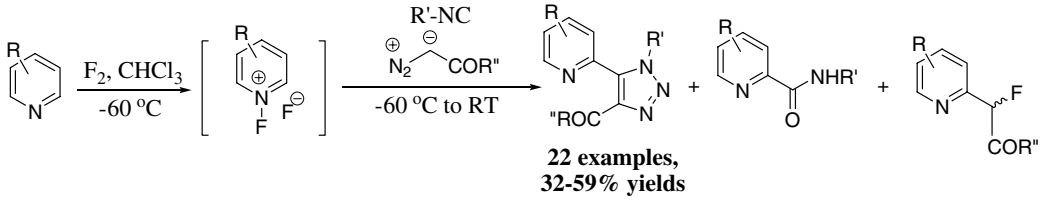




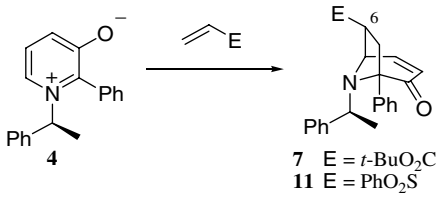
Fluorescence emission (FL) of saturated β-diketones was reversibly switched between the 'ON' state (enol form), and the 'OFF' state (keto form) based on keto-enol tautomerization.



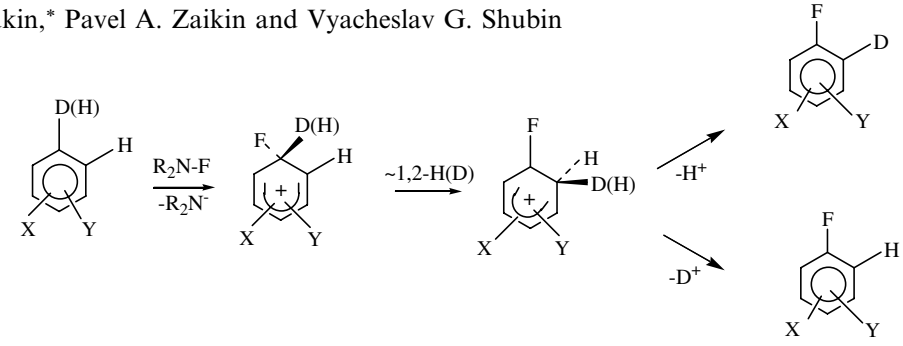
Sphingomyelin Difluoromethylene Analogue



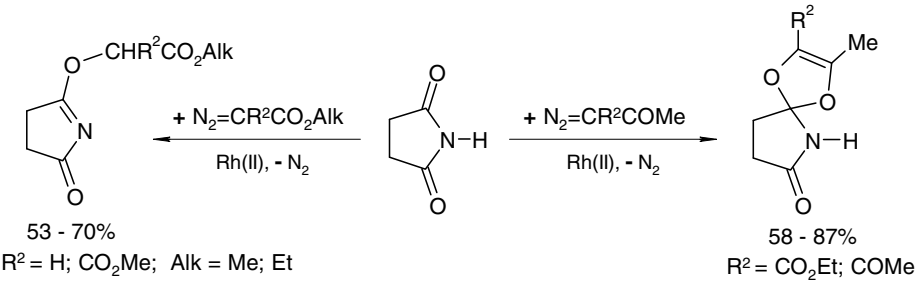
22 examples, 32-59% yields

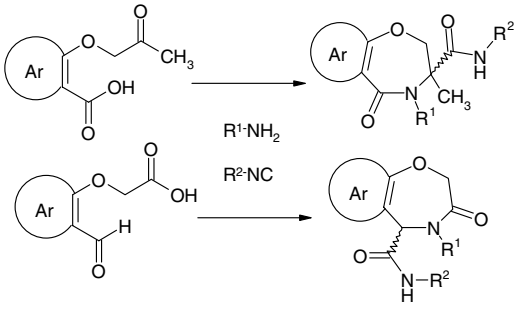


1,3-Dipolar cycloadditions of homochiral betaine **4** proceeded in moderate to good yields, with excellent diastereofacial selectivity achieved for the major 6-*exo* cycloadducts **7** and **11**. The absolute stereochemistry of **7** was confirmed by a single-crystal X-ray diffraction study.



k_H/k_D = 0.86–0.99.





*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

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