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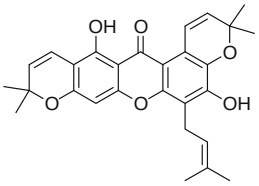
# Tetrahedron Letters Vol. 50, No. 11, 2009

# Contents

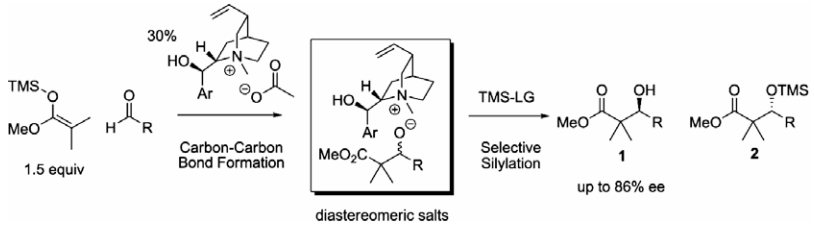
## Communications



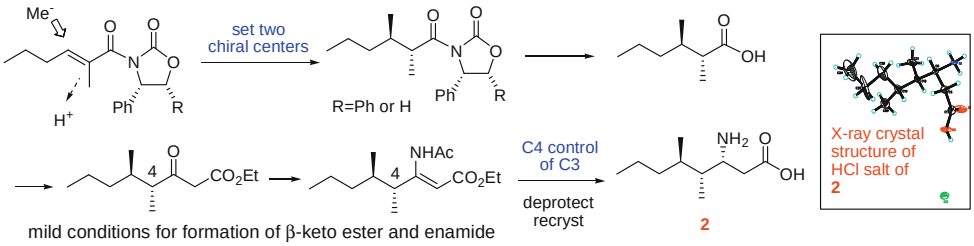


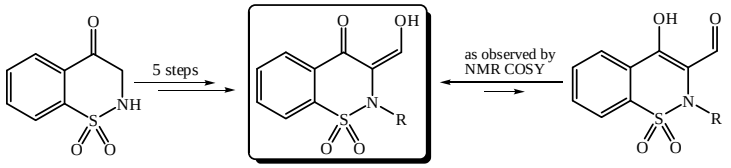
The first total synthesis of tovophyllin B (**2**), an antimicrobial xanthone derived from mangosteen, has been accomplished.





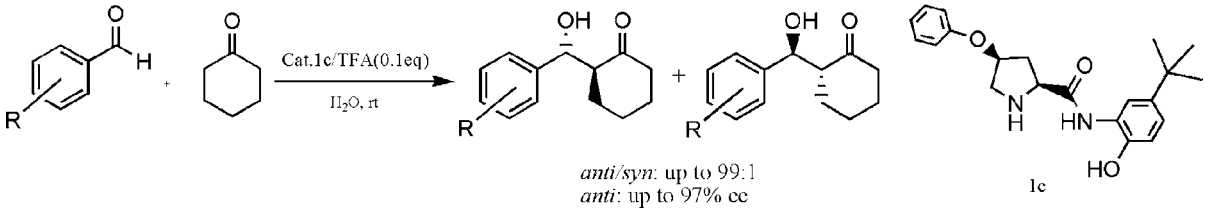


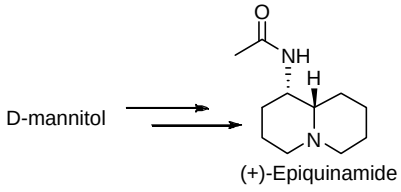



A synthetic route to *N*-alkyl benzothiazinones, involving protection-deprotection steps, is developed and their reactivity is investigated. Novel β-aminovinylketones, hydroxymethylene ketones and pyrazolobenzothiazines are obtained.

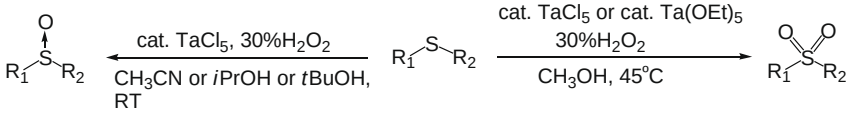


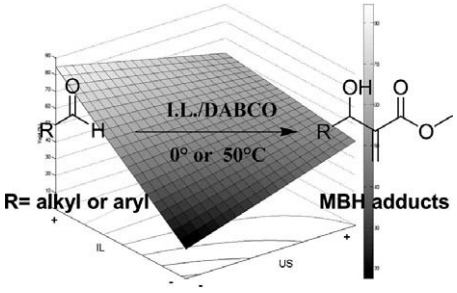




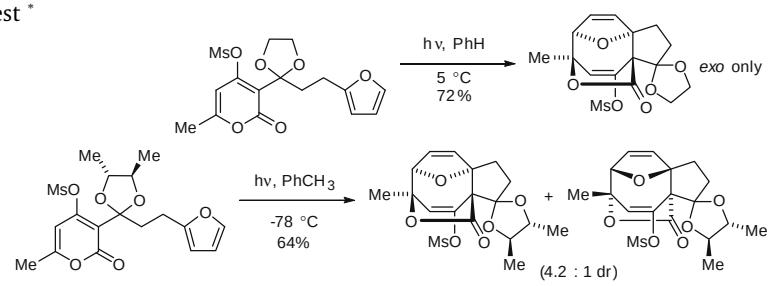





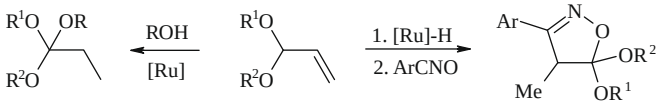




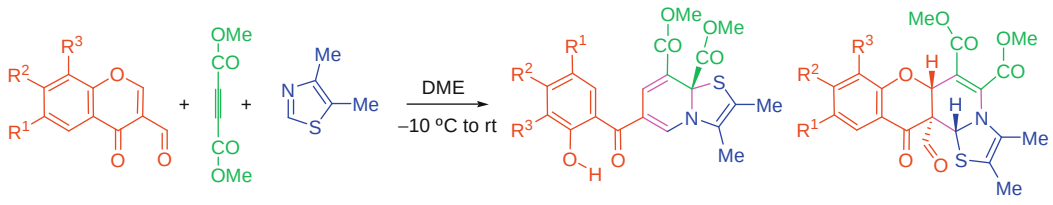

Photochemical [4+4]-cycloadditions of 4-mesyloxypyran-2-ones with pendent furans occurred with high *exo* selectivity and displayed moderate diastereocontrol when substituted with a $C_2$-symmetric ketal in the three-carbon tether ketal.



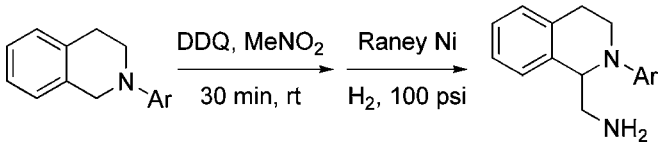



Mixed orthoesters of the type $(R^1O)(R^2O)(RO)CCH_2CH_3$ were prepared via addition of ROH (R = Bu or *m*-methylphenyl) to acrolein acetals catalyzed by ruthenium complexes. Dihydroisoxazoles containing an orthoester moiety were obtained via tandem isomerization of *O*-allyl acetals to *O*-vinyl acetals catalyzed by Ru complexes followed by cycloaddition to nitrile oxides.

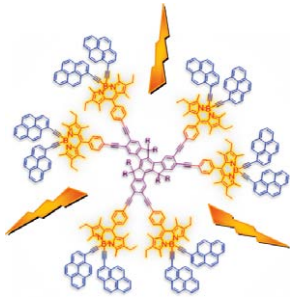





The 1,4-dipole derived from 4,5-dimethylthiazole and DMAD has been shown to react readily with chromone-3-carboxaldehydes resulting, after an unusual rearrangement, in the facile synthesis of thiazolo[3,2-*a*]pyridine derivatives. In some cases tetracyclic chromenothiazolopyridines have been obtained.

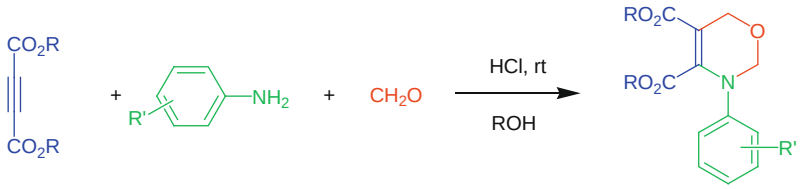




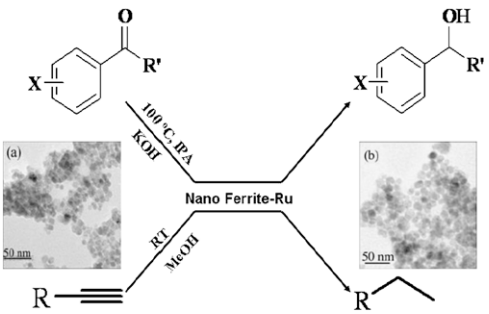
Multifunctional truxene dyes with fluorescent Bodipy and phosphorescent Pt complexes have been engineered.

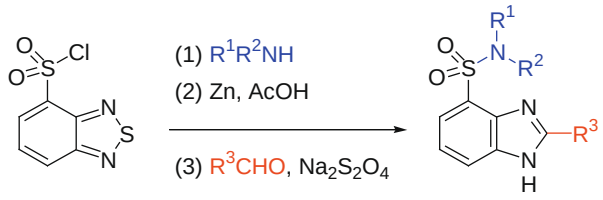




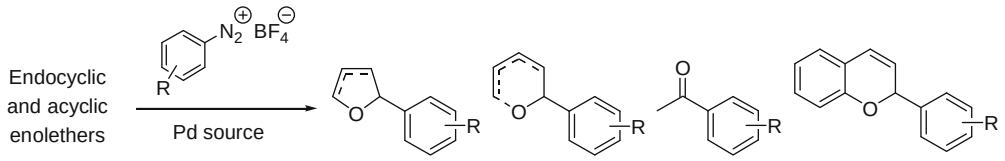

An efficient and novel one-pot synthesis of 3,4,5-trisubstituted-3,6-dihydro-2*H*-1,3-oxazine from alkynoates, anilines, and formaldehyde is described. The six-membered *N*,*O*-heterocyclic skeleton was constructed via Brønsted acid-promoted domino hydroamination/Prins reaction/cyclization/dehydration reactions.



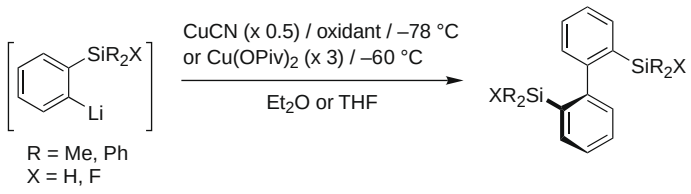




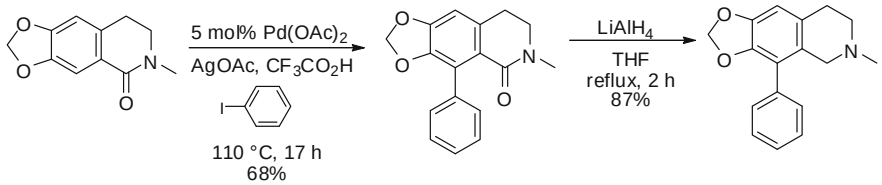


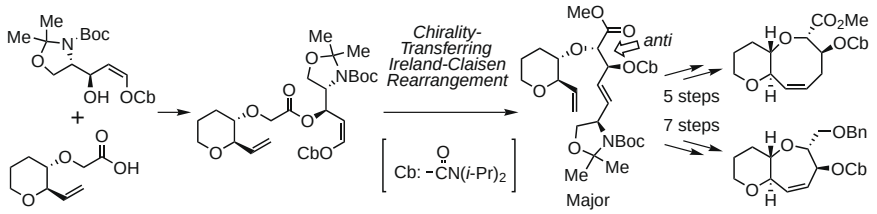


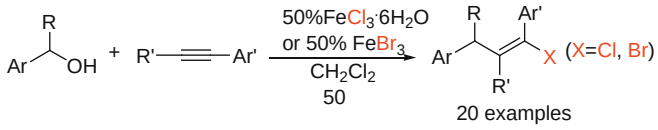



An efficient route to synthesize biologically interesting 8-aryl-1,2,3,4-tetrahydroisoquinoline has been developed. It involves the Pd-catalyzed direct arylation of 3,4-dihydroisoquinolones via C–H bond activation with aryl iodides to afford a variety of 8-arylated cross-coupling products, which are subsequently reduced to 8-aryl-1,2,3,4-tetrahydroisoquinolines in good to excellent yields.

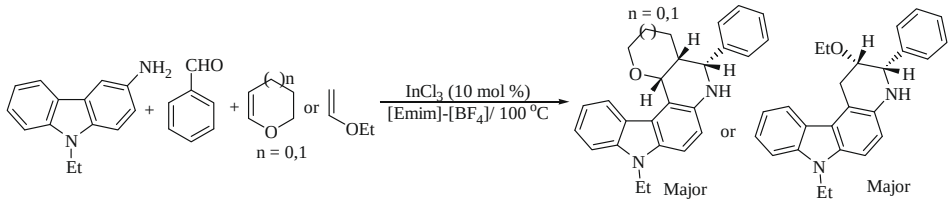




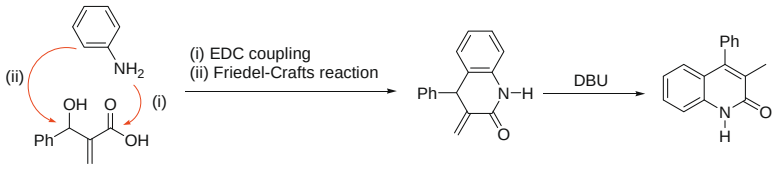

This work demonstrated an efficient and mild method for preparing various substituted alkenyl halides via direct C–C bond formation of benzyl alcohols and aryl alkynes in $CH_2Cl_2$ at 50 °C by using 50 mol % of $FeCl_3·6H_2O$ or $FeBr_3$. Compared with the systems using excessive boron trihalides and stoichiometric *n*-BuLi to prepare substituted alkenyl halides, the present procedure would provide an excellent alternative due to the environmentally benign system and atom efficiency.






An efficient, three component, one-pot synthesis of new isomeric ellipticine derivatives prepared through an intermolecular imino Diels–Alder reaction of 3-aminocarbazoles and substituted benzaldehydes with electron-rich alkenes such as 3,4-dihydro-2*H*-pyran, 2,3- dihydrofuran and ethyl vinyl ether catalyzed by $InCl_3$ (10 mol %) in ionic liquid is reported. In the case of substituted benzaldehydes, reductive amination is observed.





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Supplementary data available via ScienceDirect

## COVER

Tovophyllin B cascade featuring aldol reaction, dehydration and 6π electrocyclization to cast the final ring of the molecule in the first total synthesis of this natural product.
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