Contents lists available at ScienceDirect

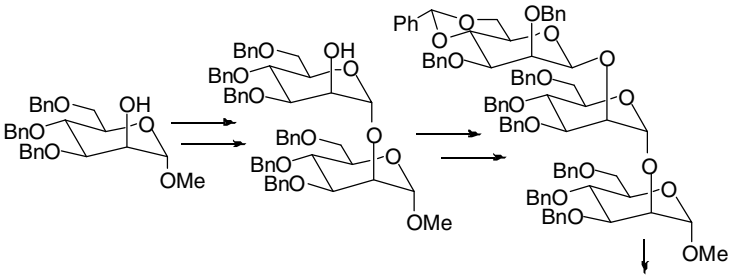
Tetrahedron Letters

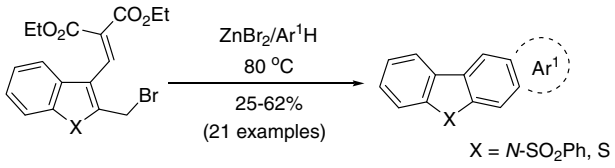
journal homepage: www.elsevier.com/locate/tetlet

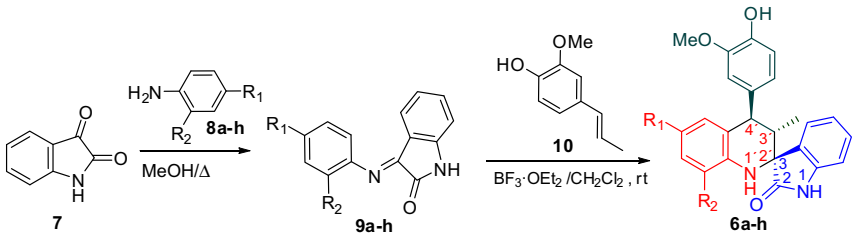
Tetrahedron Letters Vol. 49, No. 41, 2008

Contents

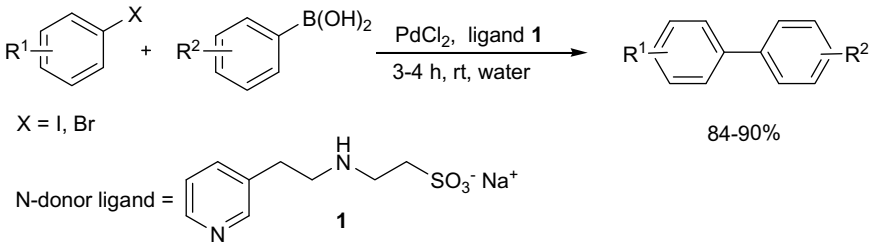
COMMUNICATIONS

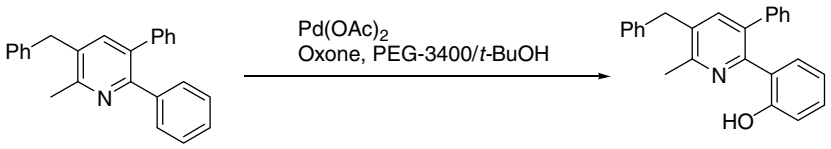


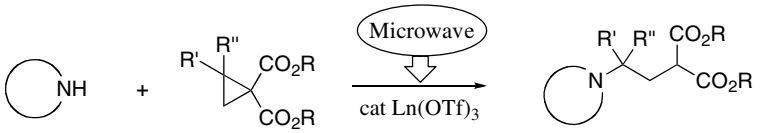




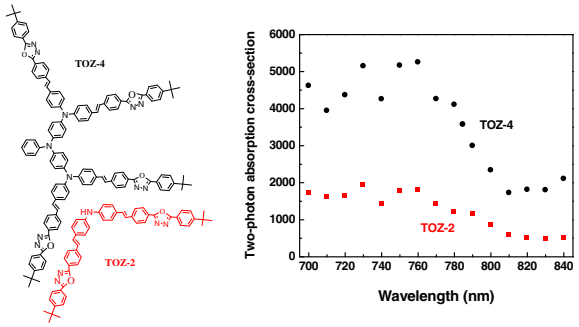
An easy, fast, and cheap way for the synthesis of the new 4′-(4-hydroxy-3-methoxyphenyl)-3′-methyl-3′,4′-dihydro-1′*H*-spiro[indoline-3,2′-quinolin]-2-ones **6a–h** using $BF_3{\cdot}OEt_2$-promoted imino Diels–Alder cycloaddition between ketimine-isatin derivatives **9a–h** and *trans*-isoeugenol **10**.

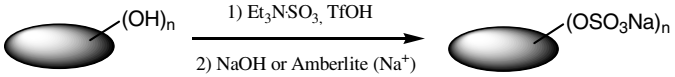


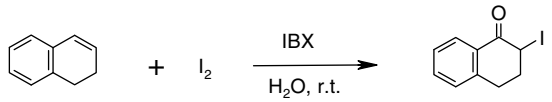


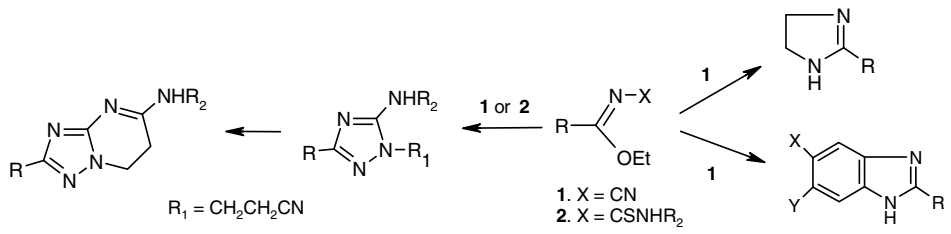


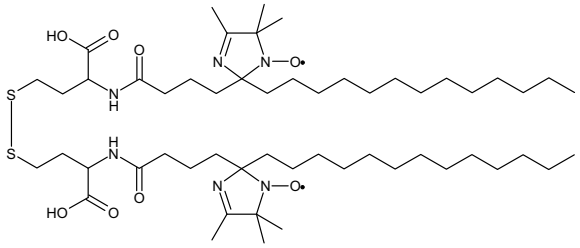
A novel four-branched chromophore **TOZ-4** with starburst linker was synthesized and showed two-photon absorption cross-section (δ) as large as 5254 GM, which was principally resulted from vibronic coupling enhancement.



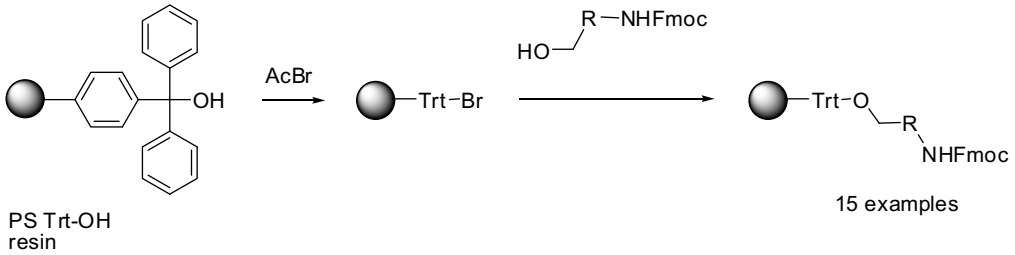


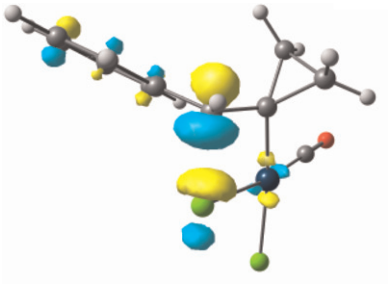




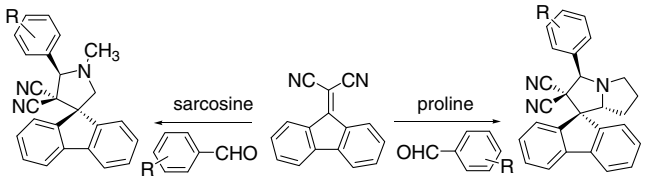


Several bisnitroxide amphiphiles connected by a disulfide bridge have been prepared. These compounds can be used to monitor thiol-disulfide exchange in colloidal assemblies.

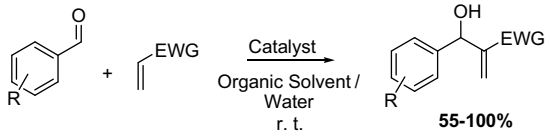


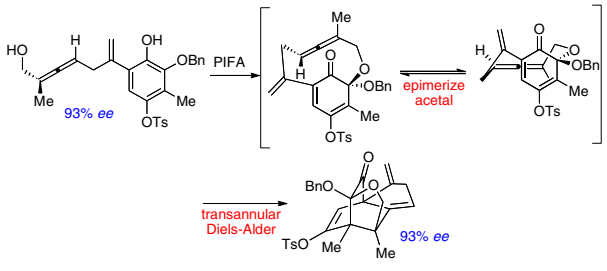


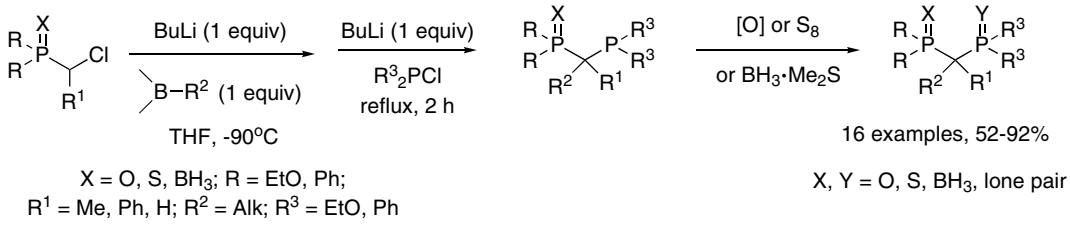
Electrophilicity index= 2.94



R: (a) 4-Me; (b) 4-OMe; (c) 4-Cl; (d) 4-Br; (e) 4-H;
(f) 3,4-OMe; (g) 3,4,5-OMe; (h) 4-NO_2

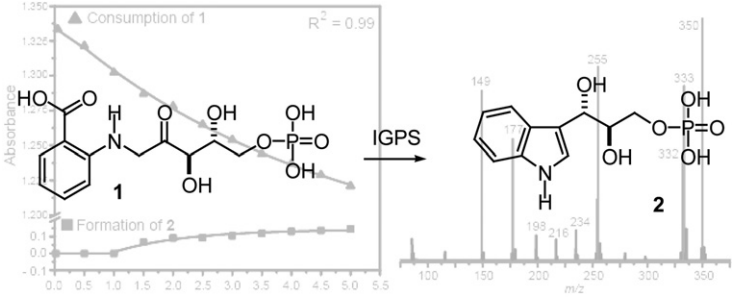


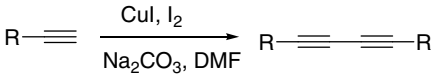




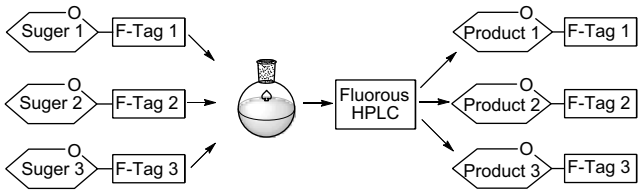
The facile synthesis of various P–C–P compounds is described, based on the reaction of phosphorus carbenoids with organoboranes, followed by reaction with phosphorus electrophiles. Using this approach, symmetrically and differentially substituted 1,1-bisphosphorus compounds can be obtained in good yields. A number of novel P–C–P motifs are described for the first time.

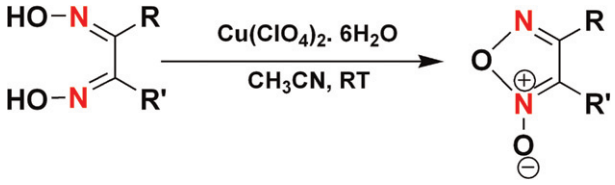
The catalytic mechanism indole ring closure promoted by IGPS enzyme was studied by ESI mass spectrometry.



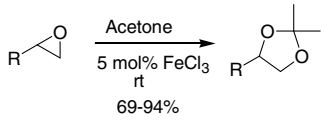


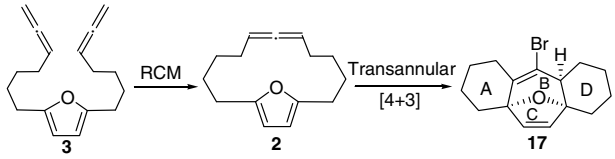
A facile and efficient pathway for CuI/iodine-mediated homocoupling reaction of terminal alkynes to symmetrical 1,4-disubstituted 1,3-diynes in good to excellent yields was reported.



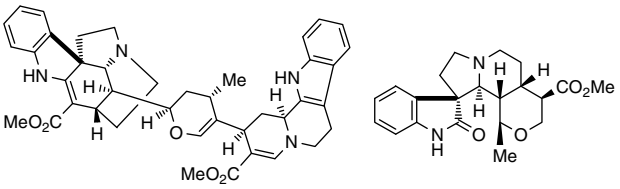


1,2-Dioximes can be oxidized efficiently to furoxans by copper(II) in acetonitrile under ambient conditions.

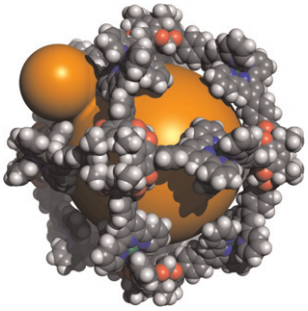




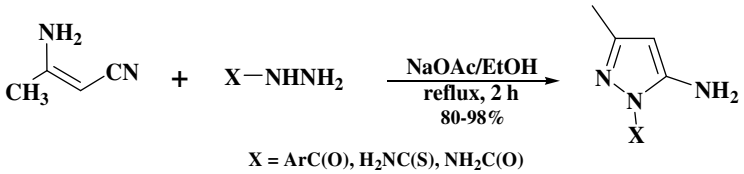
A 14-membered macrocycle with an allene and a furan is synthesized using an allene ring closing metathesis reaction. Upon treatment of the macrocycle with a catalytic amount of $Pd(OAc)_2$, the first transannular [4+3] cycloaddition occurred to yield 37% of a tetracyclic compound containing the ABCD ring structure of the natural products cortistatins.

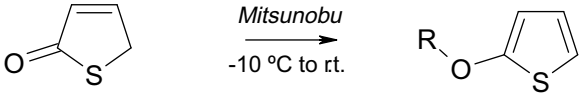


Kopsiyunnanine A (**1**) Kopsiyunnanine B (**2**)

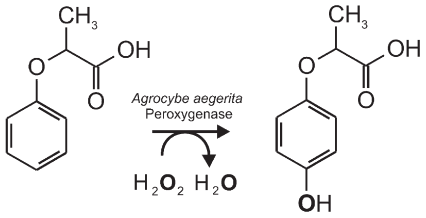


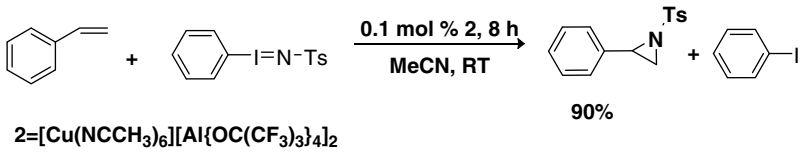
Metal-directed self-assembly of a terpyridyl-functionalized cavitand yields a large hexameric coordination cage.



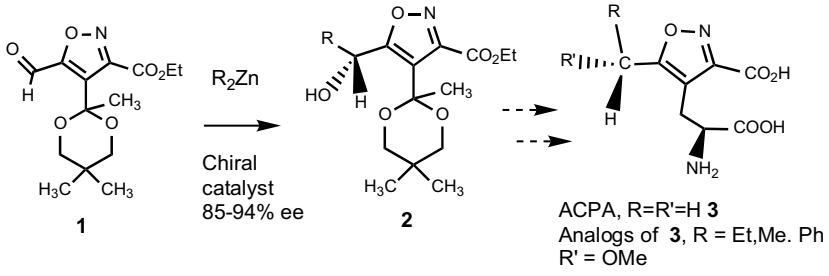


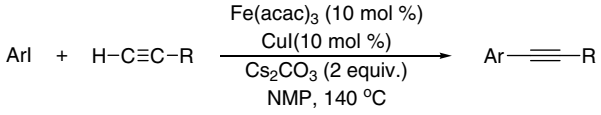
The preparation of thiophene ethers generally requires forcing conditions thus limiting the choice of alkyl substituent. Herein, we report the first successful generally applicable conditions for the selective O-alkylation of 2(5*H*)-thiophenone.



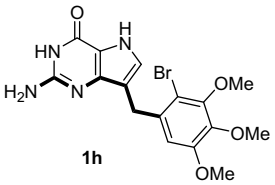


Complex $[Cu(NCCH_3)_6][Al\{OC(CF_3)_3\}_4]_2$ has been successfully synthesized and applied as catalyst in olefin aziridination, which affords good to excellent yield (up to 96%) as well as very high TOF (higher than 5000 h^{-1}).

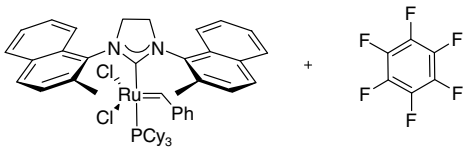




$Fe(acac)_3$ accelerates the CuI-promoted Sonogashira–Hagihara cross-coupling of aryl iodides with terminal alkynes, without requiring special ligands, in *N*-methylpyrrolidone as solvent.

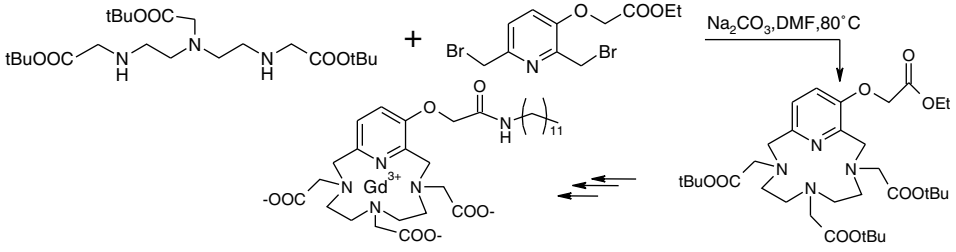


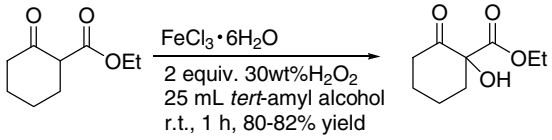
A synthetic route for the preparation of 4,5-dihydro-3*H*-pyrrolo[3,2-*d*]pyrimidin-4-ones characterized by a decorated benzyl moiety at different positions of the five-membered ring has been developed, and the new compounds have been tested as Hsp90 ligands. One of them displayed IC_{50} = 50 μM representing an interesting starting point for further investigation.



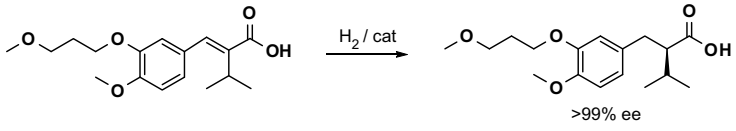
2

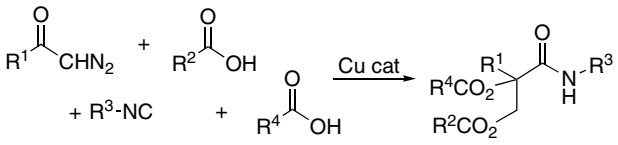
Ring-closing metathesis (RCM) using catalyst **2** in presence of hexafluorobenzene led to tetrasubstituted olefins in high yields and very short reaction times.

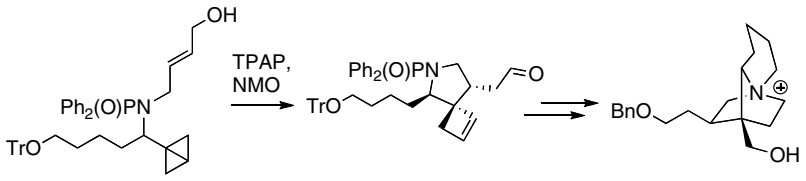


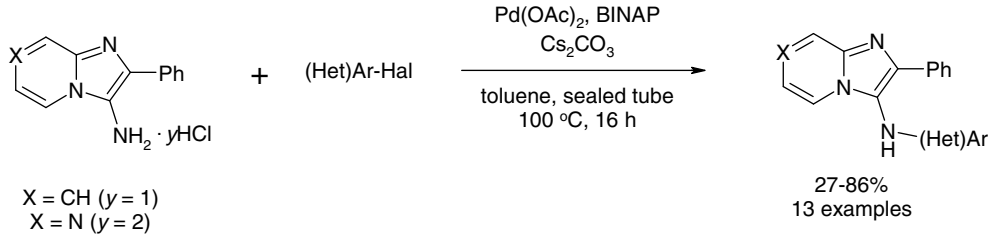


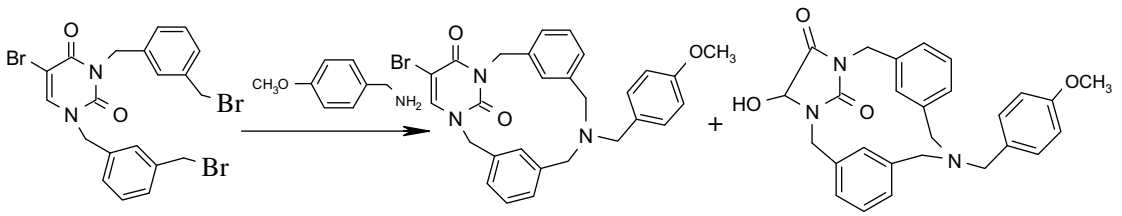
The selective hydroxylation of β-ketoesters was realized using hydrogen peroxide as oxidant catalyzed by iron(III) chloride. 75–90% yield could be achieved for the hydroxylation of cyclic ketoesters.

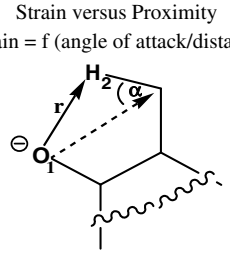


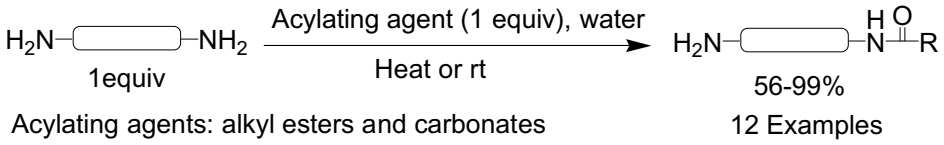


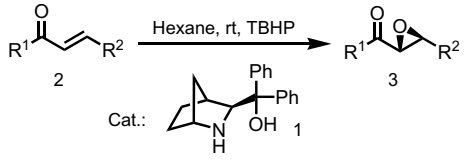




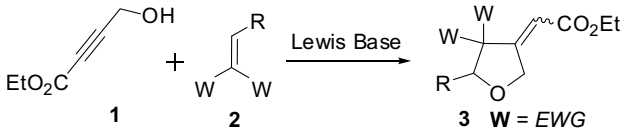








(1*R*,3*S*,4*S*)-2-Azanorbornyl-3-methanol was synthesized from (*R*)-1-phenylethylamine and used as a catalyst for the enantioselective epoxidation of α,β-enones to afford the corresponding epoxides in good yields and high enantioselectivities at room temperature.



OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

Abstracted/indexed in: AGRICOLA, Beilstein, BIOSIS Previews, CAB Abstracts, Chemical Abstracts, Chemical Engineering and Biotechnology Abstracts, Current Biotechnology Abstracts, Current Contents: Life Sciences, Current Contents: Physical, Chemical and Earth Sciences, Current Contents Search, Derwent Drug File, Ei Compendex, EMBASE/Excerpta Medica, Medline, PASCAL, Research Alert, Science Citation Index, SciSearch. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®

ELSEVIER

ISSN 0040-4039