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Tetrahedron Letters

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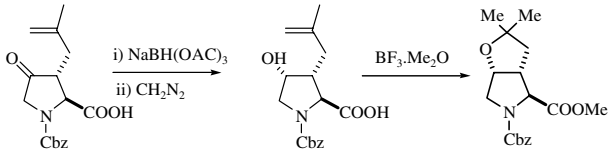
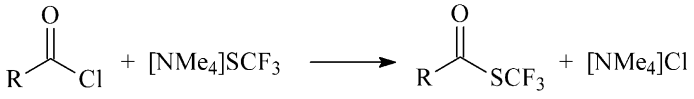
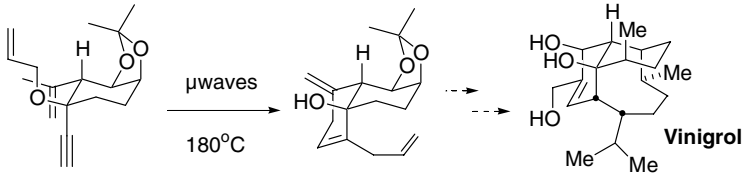
Contents

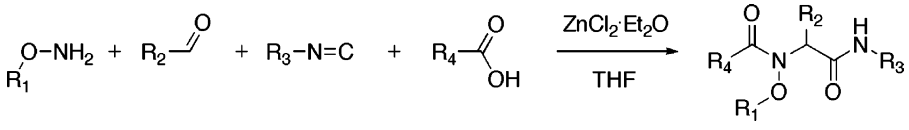
COMMUNICATIONS

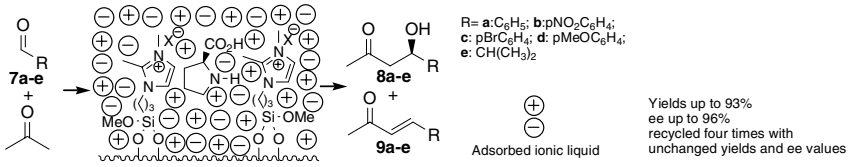


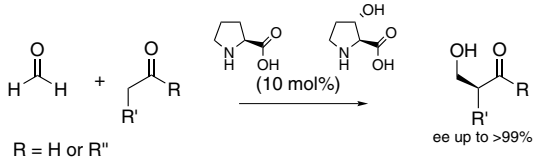


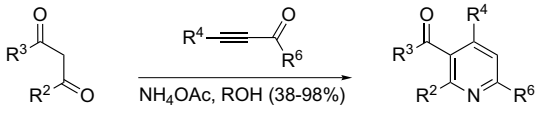
R=4-$NO_2C_6H_4$, 2-furan, 2-thiophene, 2,6-dipicolinic, *trans*-cinnamic, Et_2N, $CH_2{=}CH(CH_2)_8$,C_6F_5.



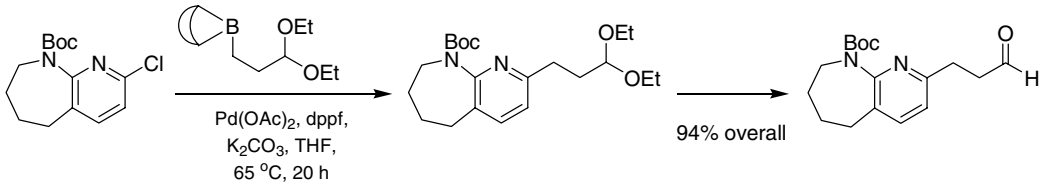


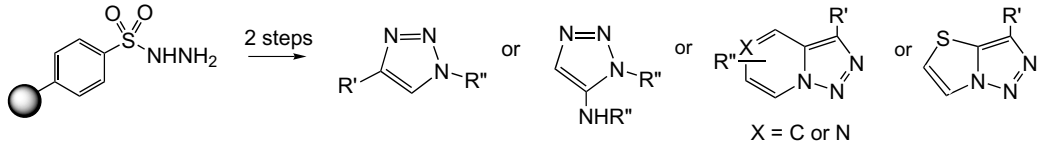


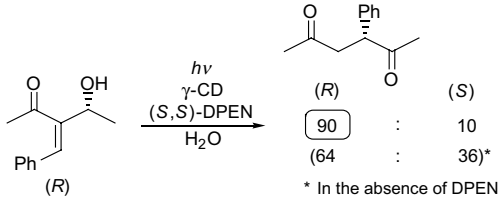


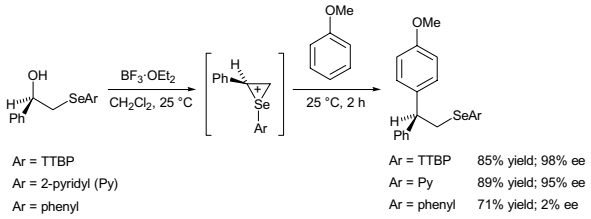


Pyridines are prepared in excellent yield by the three component reaction of an alkynone, 1,3-dicarbonyl compound and ammonia in alcoholic solvent with total regiocontrol.

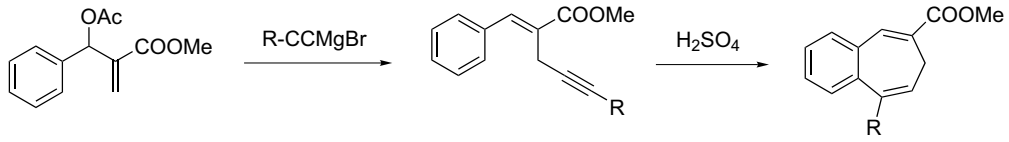


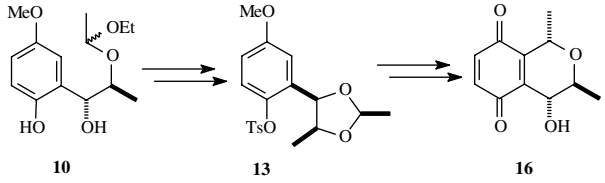






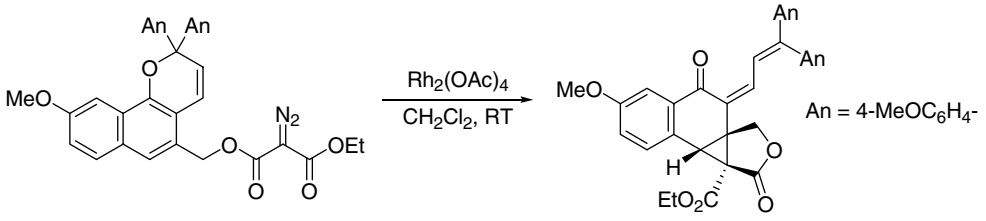
The stereospecific exchange of a hydroxyl group of chiral alcohols bearing a pyridylseleno group on the adjacent carbon atom with aromatic compounds occurred smoothly in the presence of Lewis acid.

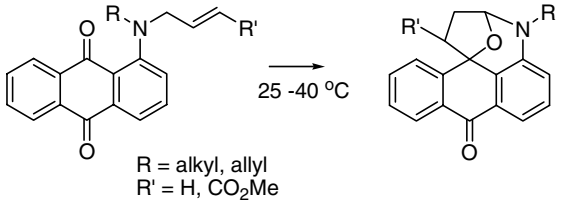


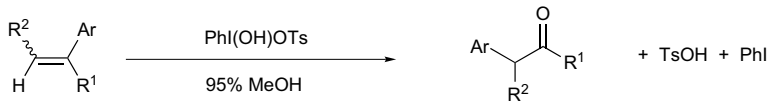


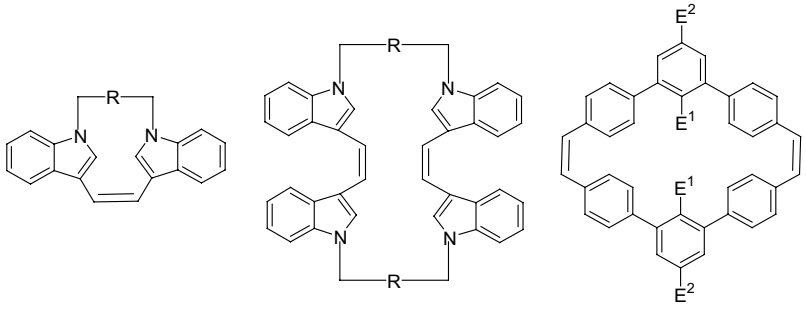
10 **13** **16**

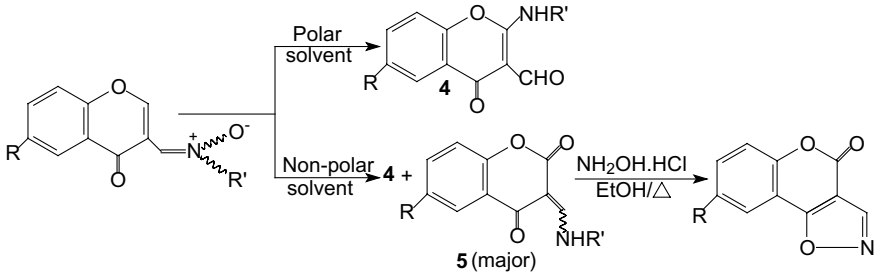
As an example, the adduct **10**, obtained by reaction of a titanium phenolate of 4-methoxyphenol and ethoxyethyl-protected (*S*)-lactaldehyde, is readily transformed into the enantiopure dioxolane **13** and thence into the quinone **16**.

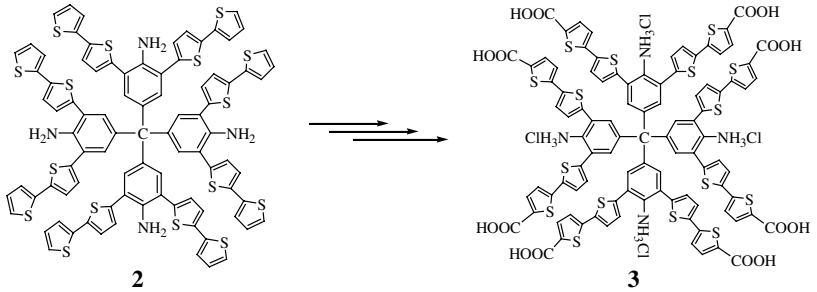




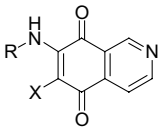




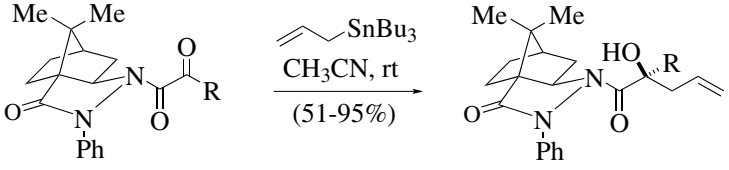




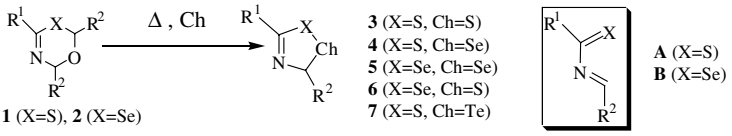
The synthesis and optical properties of the first eight-armed fluorescent compounds derived from tetraphenylmethane and bithiophene are reported.



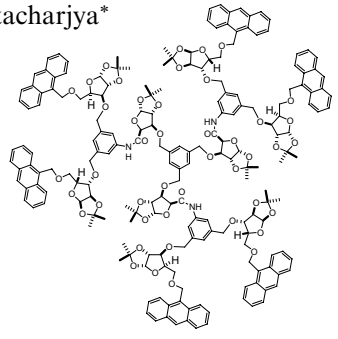
Caulibugulone A: R = CH_3 X = H IC_{50}= 0.34 μg/mL
Caulibugulone B: R = CH_3 X = Br IC_{50}= 0.22 μg/mL
Caulibugulone C: R = CH_3 X = Cl IC_{50}= 0.28 μg/mL
Caulibugulone D: R = CH_2CH_2OH X = H IC_{50}= 1.67 μg/mL

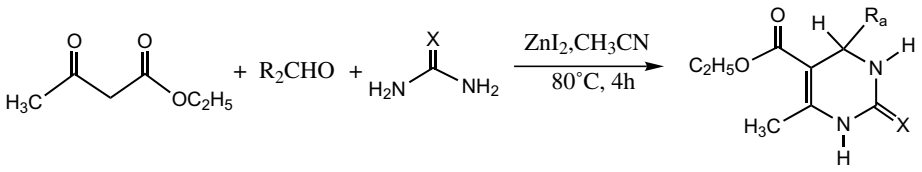


(up to >95% de)

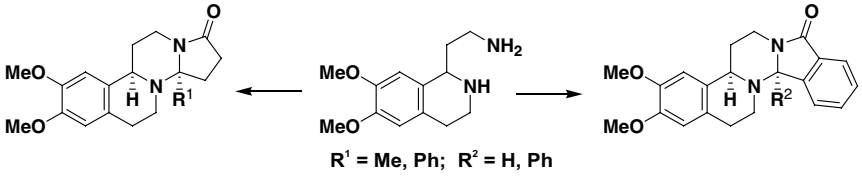


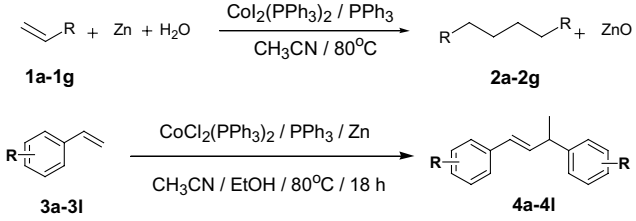
A series of 1,2,4-dichalcogenazoles were synthesized by the reaction of 6*H*-1,3,5-oxachalcozenazines with elemental chalcogen.





The pressure effect is enhanced when sterically hindered aldehydes or ureas are reacted. The study confirms an earlier mechanistic proposal.





In the presence of $CoX_2(PPh_3)_2$/3 PPh_3 and zinc metal conjugated alkenes undergo reductive tail-to-tail dimerization to yield the corresponding saturated linear products, while vinylarenes undergo head-to-tail dimerization to give *trans*-1,3-diarylbut-1-ene in good to excellent yields.

OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

During the past decades, thermal asymmetric syntheses have advanced to a great extent. In sharp contrast, only modest progress has been made for asymmetric photochemical syntheses. In this article highly enantiospecific photochemical carbon skeletal rearrangements of Morita–Baylis–Hillman products, α-hydroxymethylenones in γ-cyclodextrin as a chiral 'supercage', under photoirradiation in water is reported, wherein the asymmetric induction mechanism is discussed. Details can be found in *Tetrahedron Letters* **2004**, *45*, 6133–6135.

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