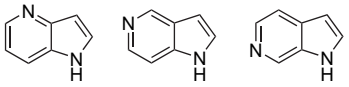
ELSEVIER

Tetrahedron

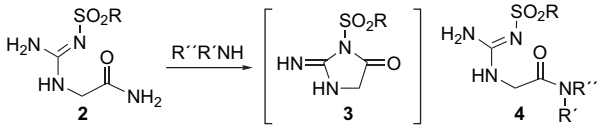
Tetrahedron Vol. 63, No. 36, 2007

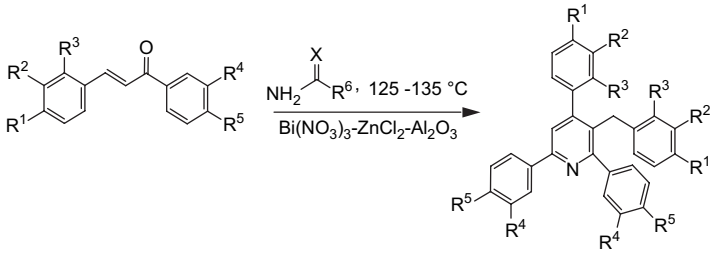
Contents

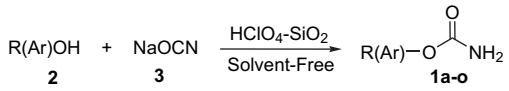
REPORT



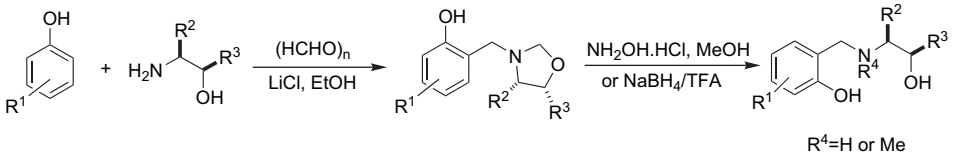
ARTICLES

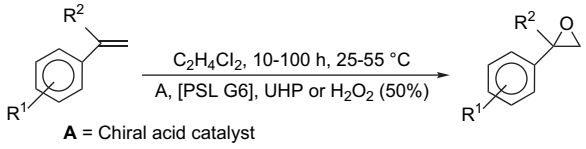


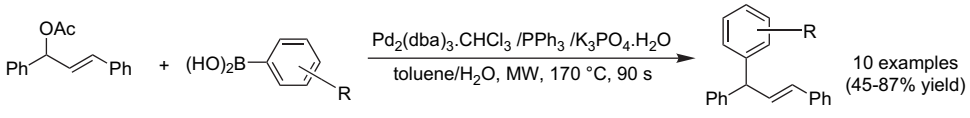


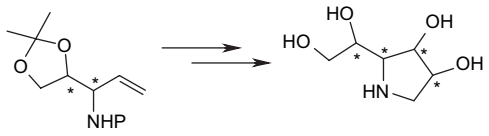


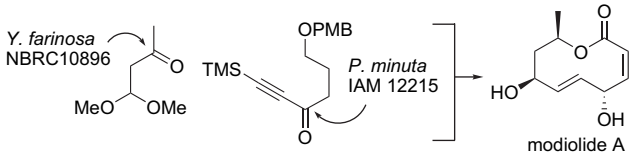
The synthesis of primary carbamates from structurally diverse compounds containing a hydroxyl group has been performed in high yields and purity, and without any epimerization under solvent-free conditions using $HClO_4$–SiO_2 as a mild, convenient, and effective reagent. The procedure is operationally simple, efficient, and environmentally benign.

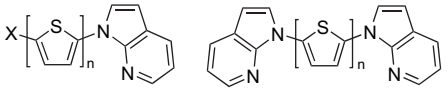








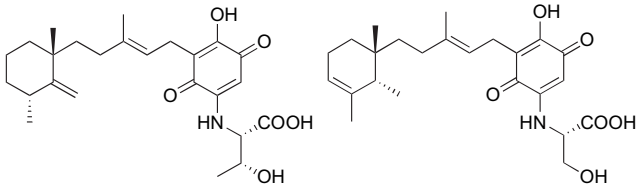




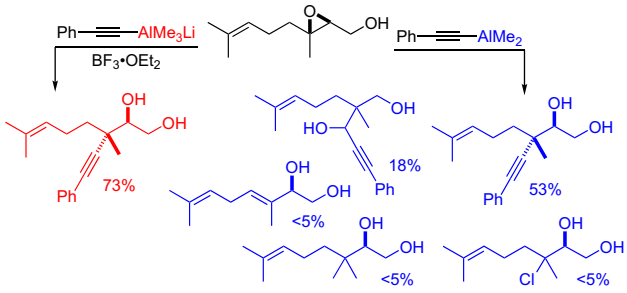
1: n = 1; X = H
2a: n = 1; X = Br
3a: n = 2; X = Br
4a: n = 3; X = Br

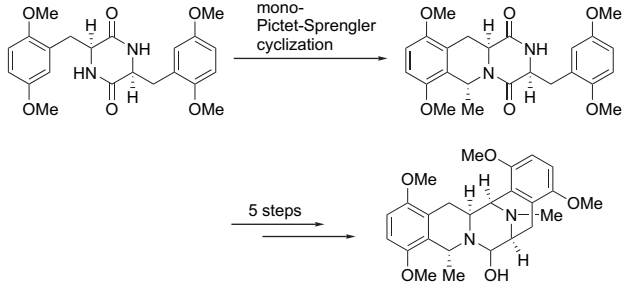
2b: n = 1
3b: n = 2
4b: n = 3

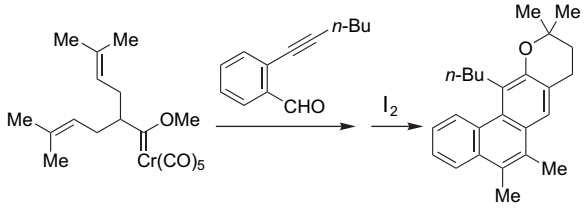
A new series of mono- and oligothiophenes capped by 7-azaindoles such as 2-(*N*-azaindolyl)thiophene (**1**), 2-(*N*-azaindolyl)-5′-(bromo)oligothiophenes (**2a**–**4a**), and 2,5′-bis(*N*-azaindolyl)oligothiophenes (**2b**–**4b**) have been prepared and characterized. The crystal structures of **2b**, **3b**, and **4b** have been determined by single-crystal X-ray diffractions. The thermal, photophysical, and electrochemical properties of all new compounds have been measured.

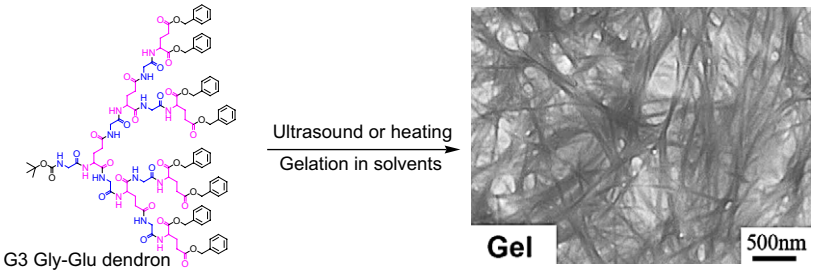


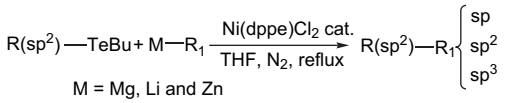
Metachromin N Metachromin Q

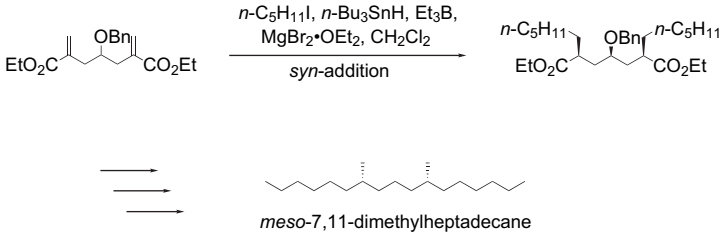




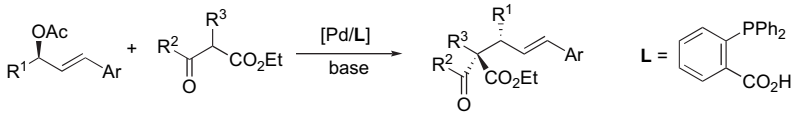


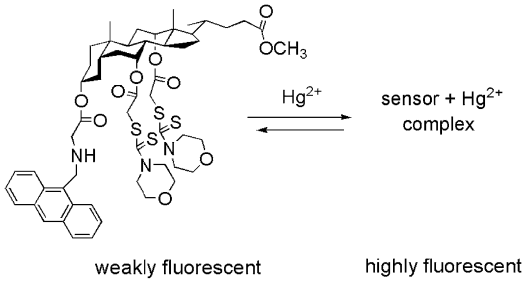


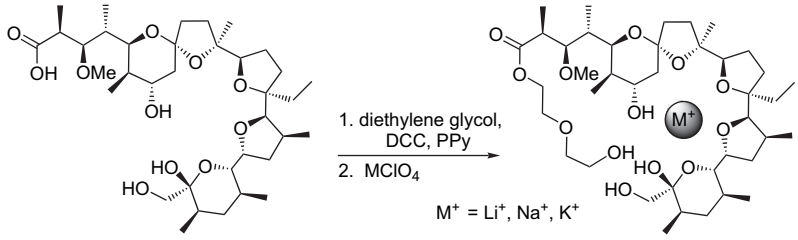


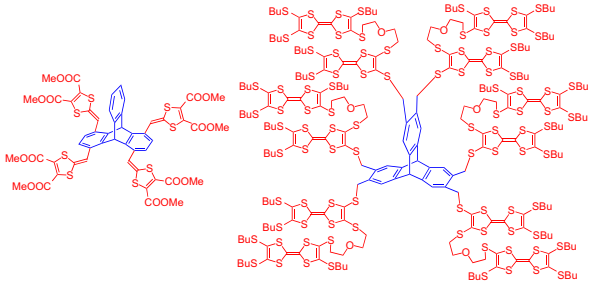


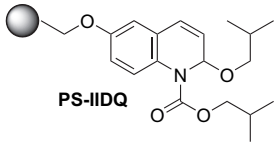
The title compound was synthesized from ethyl 2-(bromomethyl)propenoate in nine steps and 14% overall yield. The key step in the synthesis is the depicted chelation-controlled diastereoselective radical reaction.

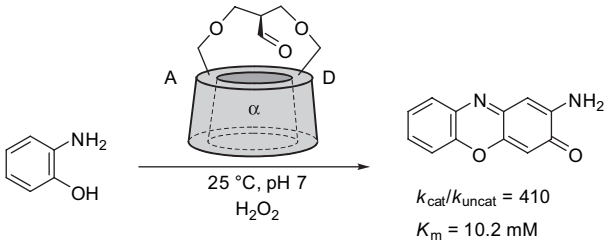


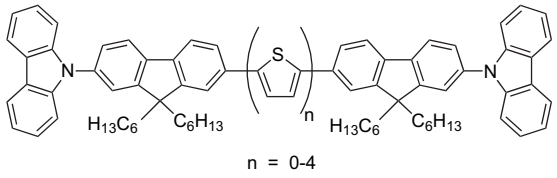


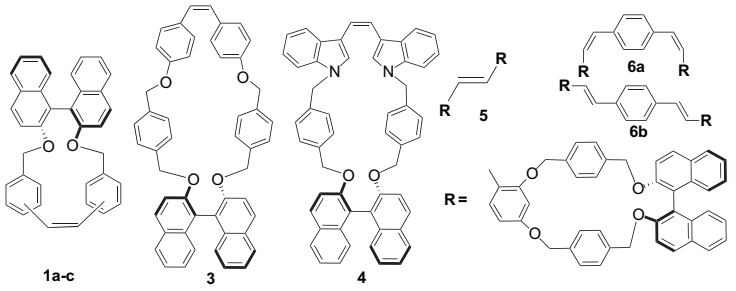


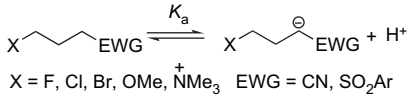




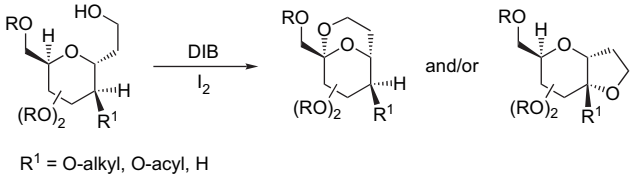


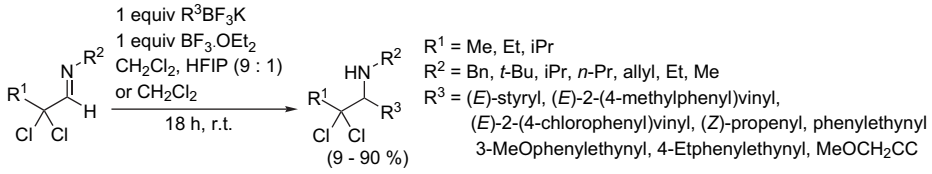


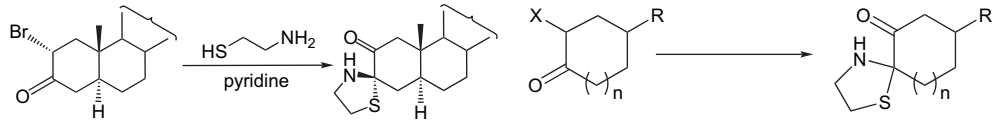


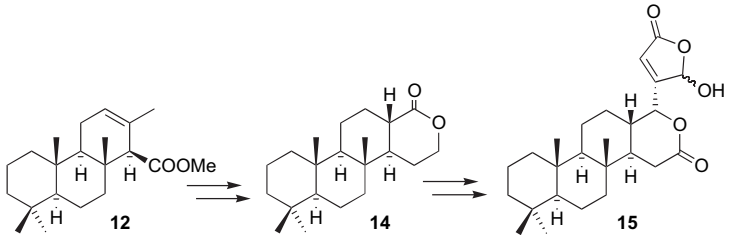


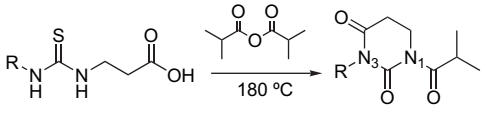
On the basis of measurement of the rates of base-catalyzed deuterium exchange, values of pK_a of the series of 3-halopropyl aryl sulfones and 4-halobutyronitriles were estimated.



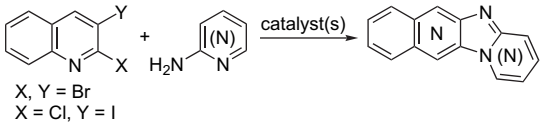


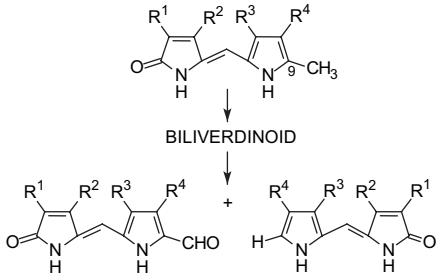




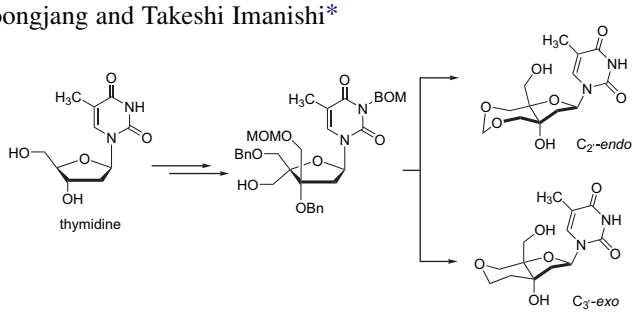


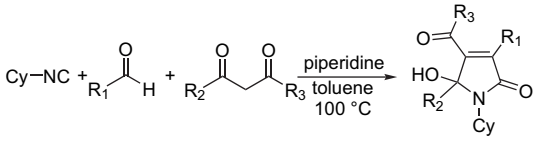
Cyclization of *N*-3 substituted 3-thioureidopropanoic acids in isobutyric anhydride at high temperature resulted in the unexpected formation of *N*-3,*N*-1-substituted dihydrouracils, as confirmed by thorough spectroscopic characterization. A mechanism based on the identification of intermediates observed at lower reaction temperatures is proposed.

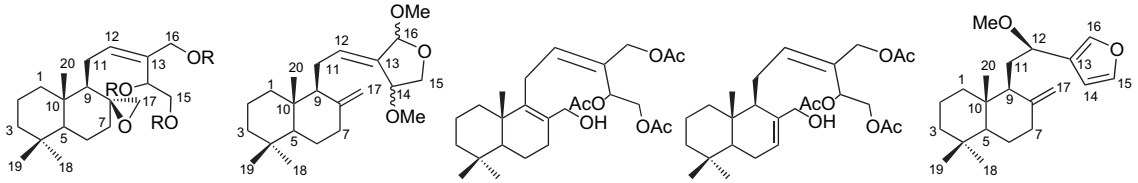


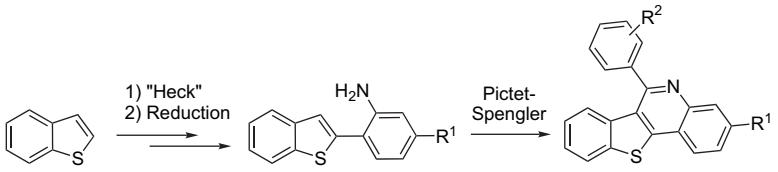


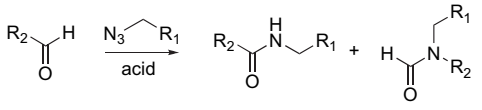
9-Methyldipyrrinones can be cycled through biliverdinoids and converted into 9-H and 9-CHO dipyrrinones by cleavage with thiobarbituric acid as well as other carbon acids, new reaction conditions, and a reverse Knövenagel reaction.



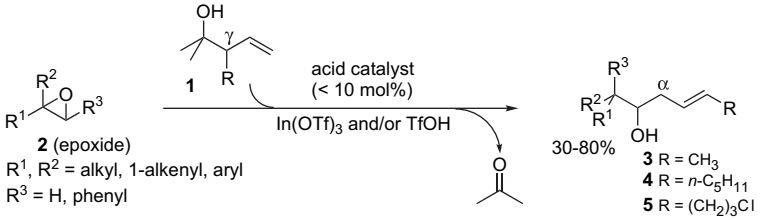








The acid-promoted reactions of alkyl azides to form amides were studied in both intramolecular and intermolecular settings.



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*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

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